

## FCC Test Report (WLAN)

**Report No.:** RF190802D01-2

**FCC ID:** RFHAF0BOT2

**Test Model:** AfoBot 2

**Received Date:** Aug. 2, 2019

**Test Date:** Sep. 5 to Oct. 7, 2019

**Issued Date:** Oct. 22, 2019

**Applicant:** IEI Integration Corp.

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**Issued By:** Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch  
Lin Kou Laboratories

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**FCC Registration /  
Designation Number:** 198487 / TW2021



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## Table of Contents

<b>Release Control Record</b> .....	<b>4</b>
<b>1 Certificate of Conformity</b> .....	<b>5</b>
<b>2 Summary of Test Results</b> .....	<b>6</b>
2.1 Measurement Uncertainty.....	6
2.2 Modification Record.....	6
<b>3 General Information</b> .....	<b>7</b>
3.1 General Description of EUT.....	7
3.2 Description of Test Modes.....	9
3.2.1 Test Mode Applicability and Tested Channel Detail.....	11
3.3 Duty Cycle of Test Signal.....	13
3.4 Description of Support Units.....	14
3.4.1 Configuration of System under Test.....	14
3.5 General Description of Applied Standard.....	15
<b>4 Test Types and Results</b> .....	<b>16</b>
4.1 Radiated Emission and Bandedge Measurement.....	16
4.1.1 Limits of Radiated Emission and Bandedge Measurement.....	16
4.1.2 Test Instruments.....	17
4.1.3 Test Procedure.....	18
4.1.4 Deviation from Test Standard.....	18
4.1.5 Test Setup.....	19
4.1.6 EUT Operating Condition.....	20
4.1.7 Test Results.....	21
4.2 Conducted Emission Measurement.....	61
4.2.1 Limits of Conducted Emission Measurement.....	61
4.2.2 Test Instruments.....	61
4.2.3 Test Procedure.....	62
4.2.4 Deviation from Test Standard.....	62
4.2.5 Test Setup.....	62
4.2.6 EUT Operating Condition.....	62
4.2.7 Test Results.....	63
4.3 Transmit Power Measurement.....	65
4.3.1 Limits of Transmit Power Measurement.....	65
4.3.2 Test Setup.....	66
4.3.3 Test Instruments.....	66
4.3.4 Test Procedure.....	66
4.3.5 Deviation from Test Standard.....	67
4.3.6 EUT Operating Condition.....	67
4.3.7 Test Result.....	68
4.4 Occupied Bandwidth Measurement.....	75
4.4.1 Test Setup.....	75
4.4.2 Test Instruments.....	75
4.4.3 Test Procedure.....	75
4.4.4 Test Results.....	76
4.5 Peak Power Spectral Density Measurement.....	79
4.5.1 Limits of Peak Power Spectral Density Measurement.....	79
4.5.2 Test Setup.....	79
4.5.3 Test Instruments.....	79
4.5.4 Test Procedure.....	79
4.5.5 Deviation from Test Standard.....	79
4.5.6 EUT Operating Condition.....	79
4.5.7 Test Results.....	80
4.6 Frequency Stability Measurement.....	87

4.6.1	Limits of Frequency Stability Measurement .....	87
4.6.2	Test Setup.....	87
4.6.3	Test Instruments .....	87
4.6.4	Test Procedure .....	87
4.6.5	Deviation from Test Standard .....	87
4.6.6	EUT Operating Condition .....	87
4.6.7	Test Results .....	88
4.7	6dB Bandwidth Measurement.....	89
4.7.1	Limits of 6dB Bandwidth Measurement.....	89
4.7.2	Test Setup.....	89
4.7.3	Test Instruments .....	89
4.7.4	Test Procedure .....	89
4.7.5	Deviation from Test Standard .....	89
4.7.6	EUT Operating Condition .....	89
4.7.7	Test Results .....	90
<b>5</b>	<b>Pictures of Test Arrangements.....</b>	<b>92</b>
	<b>Annex A- Radiated Out of Band Emission (OOBE) Measurement (For U-NII-3 band).....</b>	<b>93</b>
	<b>Appendix – Information of the Testing Laboratories .....</b>	<b>96</b>

### Release Control Record

Issue No.	Description	Date Issued
RF190802D01-2	Original release.	Oct. 22, 2019

## 1 Certificate of Conformity

**Product:** Smart Video Device

**Brand:** iEi, QNAP

**Test Model:** AfoBot 2

**Sample Status:** Engineering sample

**Applicant:** IEI Integration Corp.

**Test Date:** Sep. 5 to Oct. 7, 2019

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

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

**Prepared by :** Annie Chang, **Date:** Oct. 22, 2019  
Annie Chang / Senior Specialist

**Approved by :** Rex Lai, **Date:** Oct. 22, 2019  
Rex Lai / Associate Technical Manager

## 2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	Test Item	Result	Remarks
15.407(b)(6)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -6.98dB at 0.36094MHz.
15.407(b)(1/2/3/4(i/ii)/6)	Radiated Emissions & Band Edge Measurement*	Pass	Meet the requirement of limit. Minimum passing margin is -1.46dB at 5470.00MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	-	Reference only.
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6dB bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	Antenna connector is I-PEX not a standard connector.

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

Note:

Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

### 2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.79 dB
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	2.38 dB
	30MHz ~ 1GHz	5.43 dB
Radiated Emissions above 1 GHz	Above 1GHz	5.42 dB

### 2.2 Modification Record

There were no modifications required for compliance.

### 3 General Information

#### 3.1 General Description of EUT

Product	Smart Video Device
Brand	iEi, QNAP
Test Model	AfoBot 2
Status of EUT	Engineering sample
Power Supply Rating	12Vdc from Adapter
Modulation Type	256QAM, 64QAM, 16QAM, QPSK, BPSK
Modulation Technology	OFDM
Transfer Rate	802.11a: 54/48/36/24/18/12/9/6Mbps 802.11n: up to 300Mbps 802.11ac: up to 867Mbps
Operating Frequency	5180~5240MHz, 5260~5320MHz, 5500~5700MHz, 5745~5825MHz
Number of Channel	5180~5240MHz: 802.11a, 802.11n (20MHz), 802.11ac (20MHz): 4 802.11n (40MHz), 802.11ac (40MHz): 2 802.11ac (80MHz): 1 5260~5320MHz: 802.11a, 802.11n (20MHz), 802.11ac (20MHz): 4 802.11n (40MHz), 802.11ac (40MHz): 2 802.11ac (80MHz): 1 5500~5700MHz: 802.11a, 802.11n (20MHz), 802.11ac (20MHz): 8 802.11n (40MHz), 802.11ac (40MHz): 3 802.11ac (80MHz): 1 5745~5825MHz: 802.11a, 802.11n (20MHz), 802.11ac (20MHz): 5 802.11n (40MHz), 802.11ac (40MHz): 2 802.11ac (80MHz): 2
Output Power	5180~5240MHz: 31.700mW 5260~5320MHz: 31.975mW 5500~5700MHz: 32.065mW 5745~5825MHz: 32.325mW
Antenna Type	PCB antenna with 3dBi gain
Antenna Connector	I-PEX
Accessory Device	Adapter
Data Cable Supplied	N/A

Note:

- 2.4GHz & 5GHz technologies cannot transmit at same time.  
WLAN & BT technologies cannot transmit at same time.

2. The EUT provides 2 completed transmitters and 2 receivers.

Modulation Mode	TX FUNCTION
802.11a	1TX
802.11n (20MHz)	2TX
802.11n (40MHz)	2TX
802.11ac (20MHz)	2TX
802.11ac (40MHz)	2TX
802.11ac (80MHz)	2TX

\* 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)

3. The EUT uses following adapter.

Brand	FSP
Model	FSP040-DHMN3
Input Power	100-240V, 1.2A, 50-60Hz
Output Power	12.0V, 3.34A
Power Cord	AC 2-Pin, Non-shielded DC cable (1.5m)

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



### 3.2 Description of Test Modes

#### 5180~5240MHz:

4 channels are provided for 802.11a, 802.11n (20MHz), 802.11ac (20MHz):

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

2 channels are provided for 802.11n (40MHz), 802.11ac (40MHz):

Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz

1 channel is provided for 802.11ac (80MHz):

Channel	Frequency
42	5210MHz

#### 5260~5320MHz:

4 channels are provided for 802.11a, 802.11n (20MHz), 802.11ac (20MHz):

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

2 channels are provided for 802.11n (40MHz), 802.11ac (40MHz):

Channel	Frequency	Channel	Frequency
54	5270 MHz	62	5310 MHz

1 channel is provided for 802.11ac (80MHz):

Channel	Frequency
58	5290MHz

**5500~5700MHz:**

8 channels are provided for 802.11a, 802.11n (20MHz), 802.11ac (20MHz):

Channel	Frequency	Channel	Frequency
100	5500 MHz	116	5580 MHz
104	5520 MHz	132	5660 MHz
108	5540 MHz	136	5680 MHz
112	5560 MHz	140	5700 MHz

3 channels are provided for 802.11n (40MHz), 802.11ac (40MHz):

Channel	Frequency	Channel	Frequency
102	5510 MHz	134	5670 MHz
110	5550 MHz		

2 channels are provided for 802.11ac (80MHz):

Channel	Frequency	Channel	Frequency
106	5530 MHz	122	5610MHz

**5745~5825MHz:**

5 channels are provided for 802.11a, 802.11n (20MHz), 802.11ac (20MHz):

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

2 channels are provided for 802.11n (40MHz), 802.11ac (40MHz):

Channel	Frequency	Channel	Frequency
151	5755MHz	159	5795MHz

1 channel is provided for 802.11ac (80MHz):

Channel	Frequency
155	5775MHz

### 3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable To				Description
	RE $\geq$ 1G	RE $<$ 1G	PLC	APCM	
-	√	√	√	√	-

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

#### **Radiated Emission Test (Above 1GHz):**

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
-	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0
	802.11ac (20MHz)		36 to 48	36, 40, 48	OFDM	6.5
	802.11ac (40MHz)		38 to 46	38, 46	OFDM	13.5
	802.11ac (80MHz)		42	42	OFDM	29.3
-	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6.0
	802.11ac (20MHz)		52 to 64	52, 60, 64	OFDM	6.5
	802.11ac (40MHz)		54 to 62	54, 62	OFDM	13.5
	802.11ac (80MHz)		58	58	OFDM	29.3
-	802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	6.0
	802.11ac (20MHz)		100 to 140	100, 116, 140	OFDM	6.5
	802.11ac (40MHz)		102 to 134	102, 110, 134	OFDM	13.5
	802.11ac (80MHz)		106 to 122	106, 122	OFDM	29.3
-	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0
	802.11ac (20MHz)		149 to 165	149, 157, 165	OFDM	6.5
	802.11ac (40MHz)		151 to 159	151, 159	OFDM	13.5
	802.11ac (80MHz)		155	155	OFDM	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.

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
-	802.11ac (20MHz)	5180-5240	36 to 48	52	OFDM	6.5
-	802.11ac (20MHz)	5260-5320	52 to 64		OFDM	6.5
-	802.11ac (20MHz)	5500-5700	100 to 140		OFDM	6.5
-	802.11ac (20MHz)	5745-5825	149 to 165		OFDM	6.5

**Power Line Conducted Emission Test:**

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
-	802.11ac (20MHz)	5180-5240	36 to 48	52	OFDM	6.5
-	802.11ac (20MHz)	5260-5320	52 to 64		OFDM	6.5
-	802.11ac (20MHz)	5500-5700	100 to 140		OFDM	6.5
-	802.11ac (20MHz)	5745-5825	149 to 165		OFDM	6.5

**Antenna Port Conducted Measurement:**

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
-	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0
	802.11ac (20MHz)		36 to 48	36, 40, 48	OFDM	6.5
	802.11ac (40MHz)		38 to 46	38, 46	OFDM	13.5
	802.11ac (80MHz)		42	42	OFDM	29.3
-	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6.0
	802.11ac (20MHz)		52 to 64	52, 60, 64	OFDM	6.5
	802.11ac (40MHz)		54 to 62	54, 62	OFDM	13.5
	802.11ac (80MHz)		58	58	OFDM	29.3
-	802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	6.0
	802.11ac (20MHz)		100 to 140	100, 116, 140	OFDM	6.5
	802.11ac (40MHz)		102 to 134	102, 110, 134	OFDM	13.5
	802.11ac (80MHz)		106 to 122	106, 122	OFDM	29.3
-	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0
	802.11ac (20MHz)		149 to 165	149, 157, 165	OFDM	6.5
	802.11ac (40MHz)		151 to 159	151, 159	OFDM	13.5
	802.11ac (80MHz)		155	155	OFDM	29.3

**Test Condition:**

Applicable To	Environmental Conditions	Input Power	Tested By
RE≥1G	30deg. C, 66%RH	120Vac, 60Hz	Ian Chang
RE<1G	25deg. C, 76%RH	120Vac, 60Hz	Ian Chang
PLC	25deg. C, 75%RH	120Vac, 60Hz	Ian Chang
APCM	25deg. C, 76%RH	120Vac, 60Hz	Saxon Lee

### 3.3 Duty Cycle of Test Signal

Duty cycle of test signal is 100%, duty factor is not required.



### 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.

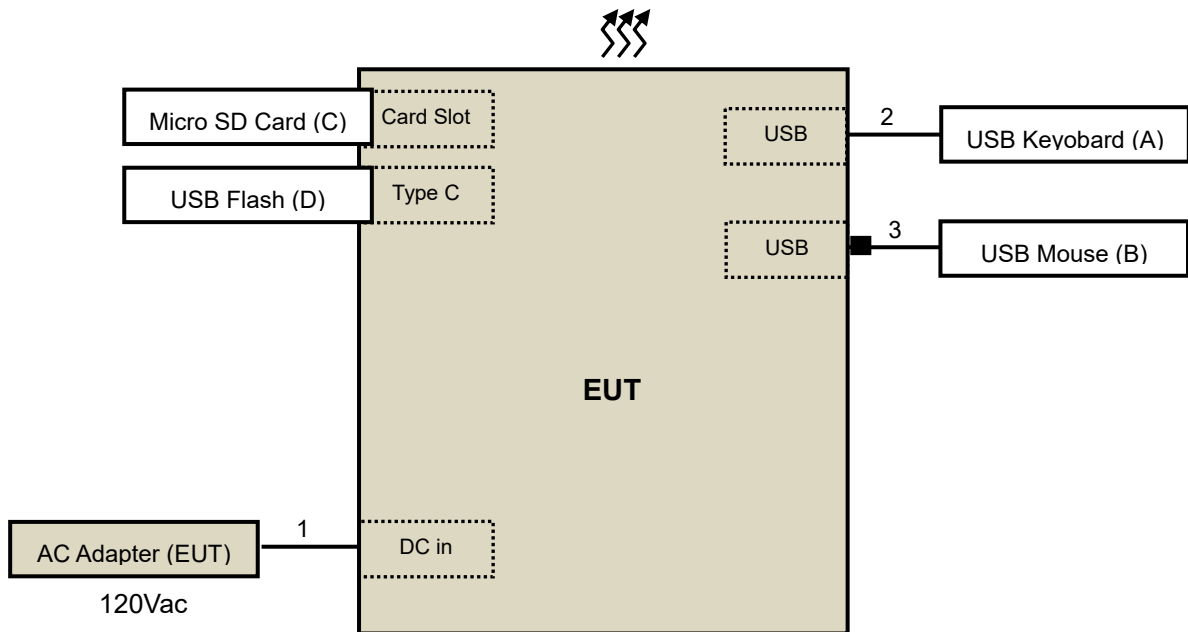
No.	Product	Brand	Model No.	Serial No.	FCC ID	Remark
A.	USB KEYBOARD	BTC	5200U	N/A	E5XKB5122U	Provided by Lab
B.	USB Mouse	Microsoft	1113	9170515772224	N/A	Provided by Lab
C.	Micro SD card	Transcend	4GB	N/A	N/A	Provided by Lab
D.	USB Flash	SanDisk	SanDisk Ultra	N/A	N/A	Provided by Lab

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

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/ No)	Cores (Qty.)	Remarks
1.	DC cable	1	1.5	N	0	Supplied by client
2.	USB cable	1	1.5	Y	0	Provided by Lab
3.	USB cable	1	1.8	Y	1	Provided by Lab

Note: The core(s) is(are) originally attached to the cable(s).

#### 3.4.1 Configuration of System under Test



### 3.5 General Description of Applied Standard

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

**FCC Part 15, Subpart E (15.407)**  
**KDB 789033 D02 General UNII Test Procedure New Rules v02r01**  
**KDB 662911 D01 Multiple Transmitter Output v02r01**  
**ANSI C63.10-2013**

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

## 4 Test Types and Results

### 4.1 Radiated Emission and Bandedge Measurement

#### 4.1.1 Limits of Radiated Emission and Bandedge Measurement

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

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

#### NOTE:

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

#### Limits of unwanted emission out of the restricted bands

Applicable To		Limit	
789033 D02 General UNII Test Procedure New Rules v02r01		Field Strength at 3m	
		PK:74 (dBuV/m)	AV:54 (dBuV/m)
Frequency Band	Applicable To	EIRP Limit	Equivalent Field Strength at 3m
5150~5250 MHz	15.407(b)(1)	PK:-27 (dBm/MHz)	PK:68.2(dBμV/m)
5250~5350 MHz	15.407(b)(2)		
5470~5725 MHz	15.407(b)(3)		
5725~5850 MHz	<input checked="" type="checkbox"/> 15.407(b)(4)(i)	PK:-27 (dBm/MHz) <sup>*1</sup> PK:10 (dBm/MHz) <sup>*2</sup> PK:15.6 (dBm/MHz) <sup>*3</sup> PK:27 (dBm/MHz) <sup>*4</sup>	PK: 68.2(dBμV/m) <sup>*1</sup> PK:105.2 (dBμV/m) <sup>*2</sup> PK: 110.8(dBμV/m) <sup>*3</sup> PK:122.2 (dBμV/m) <sup>*4</sup>
	<input type="checkbox"/> 15.407(b)(4)(ii)	Emission limits in section 15.247(d)	
<sup>*1</sup> beyond 75 MHz or more above of the band edge.		<sup>*2</sup> below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.	
<sup>*3</sup> below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.		<sup>*4</sup> from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.	

#### Note:

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

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



#### 4.1.2 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
HP Preamplifier	8447D	2432A03504	Feb. 20, 2019	Feb. 19, 2020
HP Preamplifier	8449B	3008A01201	Feb. 21, 2019	Feb. 20, 2020
MITEQ Preamplifier	AMF-6F-260400-33-8P	892164	Feb. 20, 2019	Feb. 19, 2020
Agilent TEST RECEIVER	N9038A	MY51210129	Mar. 05, 2019	Mar. 04, 2020
Schwarzbeck Antenna	VULB 9168	139	Nov. 26, 2018	Nov. 25, 2019
Schwarzbeck Antenna	VHBA 9123	480	Jun. 3, 2019	Jun. 2, 2021
Schwarzbeck Horn Antenna	BBHA-9170	212	Nov. 25, 2018	Nov. 24, 2019
Schwarzbeck Horn Antenna	BBHA 9120-D1	D130	Nov. 25, 2018	Nov. 24, 2019
ADT. Turn Table	TT100	0306	NA	NA
ADT. Tower	AT100	0306	NA	NA
Software	Radiated_V7.6.15.9.5	NA	NA	NA
SUHNER RF cable With 4dB PAD	SF102	Cable-CH6-01	Jul. 10, 2019	Jul. 9, 2020
SUHNER RF cable With 3/4dB PAD	SF102	Cable-CH8-3.6m	Jul. 10, 2019	Jul. 9, 2020
KEYSIGHT MIMO Powermeasurement Test set	U2021XA	U2021XA-001	Jun. 11, 2019	Jun. 10, 2020
KEYSIGHT Spectrum Analyzer	N9030A	MY54490260	Jul. 30, 2019	Jul. 29, 2020
Loop Antenna EMCI	LPA600	270	Aug. 23, 2019	Aug. 22, 2021
EMCO Horn Antenna	3115	00028257	Nov. 25, 2018	Nov. 24, 2019
Highpass filter Wainwright Instruments	WHK 3.1/18G-10SS	SN 8	NA	NA
Temperature & Humidity Chamber	MHU-225AU	920409	May 24, 2019	May 23, 2020
DIGITAL POWER METER IDRC	CP-240	240515	Sep. 13, 2018	Sep. 12, 2019
AC Power Source ExTech	CFW-105	E000603	NA	NA

- NOTE:**
1. The calibration interval of the above test instruments is 12/24 months. And the calibrations are traceable to NML/ROC and NIST/USA.
  2. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
  3. The test was performed in Chamber No. 6.
  4. Tested Date: Sep. 5 to 6, 2019

#### 4.1.3 Test Procedure

##### **For Radiated emission below 30MHz**

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

##### **NOTE:**

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

##### **For Radiated emission above 30MHz**

- a. The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f. The test-receiver system was set to peak and average detects 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:**

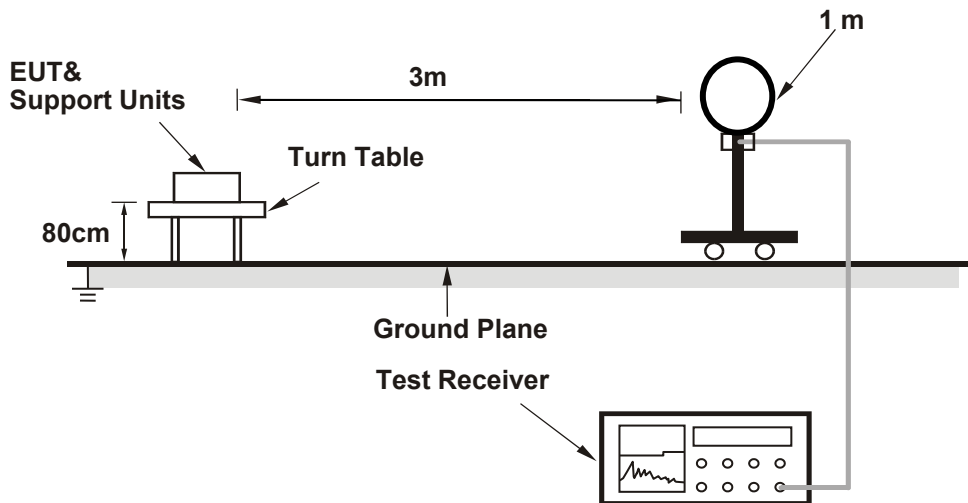
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

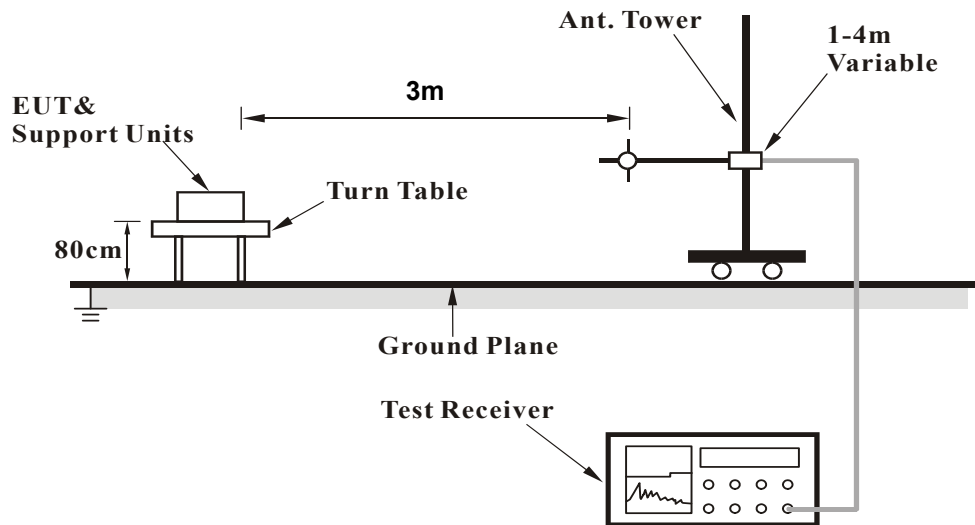
No deviation.

#### 4.1.5 Test Setup

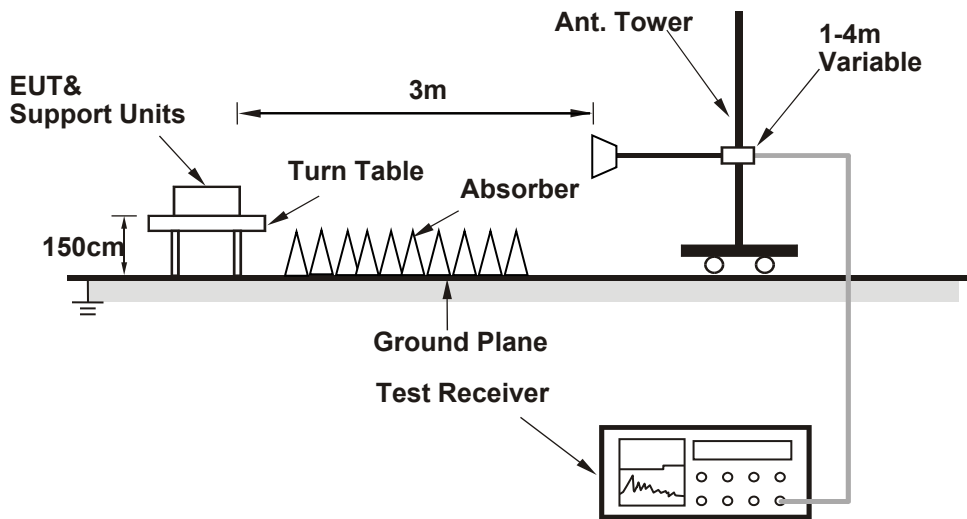
##### For Radiated emission below 30MHz



##### For Radiated emission 30MHz to 1GHz



**For Radiated emission above 1GHz**



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

**4.1.6 EUT Operating Condition**

Set the EUT under transmission condition continuously at specific channel frequency continuously.

4.1.7 Test Results

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	5150.00	61.76 PK	74.00	-12.24	3.11 H	288	52.67	9.09
2	5150.00	47.42 AV	54.00	-6.58	3.11 H	288	38.33	9.09
3	*5180.00	104.71 PK			3.11 H	288	95.53	9.18
4	*5180.00	93.09 AV			3.11 H	288	83.91	9.18
5	#10360.00	56.62 PK	68.20	-11.58	1.63 H	225	40.48	16.14

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	5150.00	60.58 PK	74.00	-13.42	3.10 V	306	51.49	9.09
2	5150.00	47.27 AV	54.00	-6.73	3.10 V	306	38.18	9.09
3	*5180.00	101.44 PK			3.10 V	306	92.26	9.18
4	*5180.00	90.36 AV			3.10 V	306	81.18	9.18
5	#10360.00	55.73 PK	68.20	-12.47	1.84 V	254	39.59	16.14

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.
6. " # ": 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	*5200.00	103.38 PK			3.09 H	282	94.16	9.22
2	*5200.00	92.03 AV			3.09 H	282	82.81	9.22
3	#10400.00	57.14 PK	68.20	-11.06	1.52 H	236	40.85	16.29

**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	*5200.00	100.86 PK			3.16 V	312	91.64	9.22
2	*5200.00	89.74 AV			3.16 V	312	80.52	9.22
3	#10400.00	55.93 PK	68.20	-12.27	1.45 V	112	39.64	16.29

**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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
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	*5240.00	104.18 PK			3.16 H	280	94.53	9.65
2	*5240.00	92.79 AV			3.16 H	280	83.14	9.65
3	5350.00	61.70 PK	74.00	-12.30	3.16 H	280	51.72	9.98
4	5350.00	47.60 AV	54.00	-6.40	3.16 H	280	37.62	9.98
5	#10480.00	57.15 PK	68.20	-11.05	1.85 H	231	40.54	16.61

**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	*5240.00	101.19 PK			3.14 V	306	91.54	9.65
2	*5240.00	89.97 AV			3.14 V	306	80.32	9.65
3	5350.00	60.32 PK	74.00	-13.68	3.14 V	306	50.34	9.98
4	5350.00	46.87 AV	54.00	-7.13	3.14 V	306	36.89	9.98
5	#10480.00	56.13 PK	68.20	-12.07	1.52 V	126	39.52	16.61

**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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
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	5150.00	60.84 PK	74.00	-13.16	3.04 H	281	51.75	9.09
2	5150.00	47.47 AV	54.00	-6.53	3.04 H	281	38.38	9.09
3	*5260.00	103.91 PK			3.04 H	281	94.15	9.76
4	*5260.00	92.34 AV			3.04 H	281	82.58	9.76
5	#10520.00	57.34 PK	68.20	-10.86	1.65 H	233	40.65	16.69

**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	59.57 PK	74.00	-14.43	3.09 V	318	50.48	9.09
2	5150.00	46.98 AV	54.00	-7.02	3.09 V	318	37.89	9.09
3	*5260.00	101.40 PK			3.09 V	318	91.64	9.76
4	*5260.00	89.65 AV			3.09 V	318	79.89	9.76
5	#10520.00	56.29 PK	68.20	-11.91	1.49 V	187	39.60	16.69

**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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
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	*5300.00	103.07 PK			2.74 H	279	93.22	9.85
2	*5300.00	91.56 AV			2.74 H	279	81.71	9.85
3	10600.00	57.17 PK	74.00	-16.83	1.55 H	208	40.51	16.66
4	10600.00	44.50 AV	54.00	-9.50	1.55 H	208	27.84	16.66

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

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	100.73 PK			3.11 V	320	90.88	9.85
2	*5300.00	88.49 AV			3.11 V	320	78.64	9.85
3	10600.00	56.30 PK	74.00	-17.70	1.39 V	336	39.64	16.66
4	10600.00	43.17 AV	54.00	-10.83	1.39 V	336	26.51	16.66

**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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
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	103.62 PK			3.17 H	277	93.72	9.90
2	*5320.00	92.06 AV			3.17 H	277	82.16	9.90
3	5350.00	61.17 PK	74.00	-12.83	3.17 H	277	51.19	9.98
4	5350.00	47.51 AV	54.00	-6.49	3.17 H	277	37.53	9.98
5	10640.00	57.13 PK	74.00	-16.87	1.74 H	154	40.55	16.58
6	10640.00	44.22 AV	54.00	-9.78	1.74 H	154	27.64	16.58

**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	*5320.00	100.38 PK			3.02 V	322	90.48	9.90
2	*5320.00	89.78 AV			3.02 V	322	79.88	9.90
3	5350.00	60.17 PK	74.00	-13.83	3.02 V	322	50.19	9.98
4	5350.00	46.83 AV	54.00	-7.17	3.02 V	322	36.85	9.98
5	10640.00	55.73 PK	74.00	-18.27	1.99 V	285	39.15	16.58
6	10640.00	43.22 AV	54.00	-10.78	1.99 V	285	26.64	16.58

**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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.

<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	5460.00	62.28 PK	74.00	-11.72	1.82 H	135	51.70	10.58
2	5460.00	48.33 AV	54.00	-5.67	1.82 H	135	37.75	10.58
3	#5470.00	62.20 PK	68.20	-6.00	1.82 H	135	51.59	10.61
4	*5500.00	104.17 PK			1.82 H	135	93.45	10.72
5	*5500.00	92.21 AV			1.82 H	135	81.49	10.72
6	11000.00	57.89 PK	74.00	-16.11	1.64 H	231	40.11	17.78
7	11000.00	45.24 AV	54.00	-8.76	1.64 H	231	27.46	17.78

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

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	61.06 PK	74.00	-12.94	2.64 V	238	50.48	10.58
2	5460.00	47.24 AV	54.00	-6.76	2.64 V	238	36.66	10.58
3	#5470.00	61.45 PK	68.20	-6.75	2.64 V	238	50.84	10.61
4	*5500.00	101.47 PK			2.64 V	238	90.75	10.72
5	*5500.00	89.37 AV			2.64 V	238	78.65	10.72
6	11000.00	57.15 PK	74.00	-16.85	1.87 V	157	39.37	17.78
7	11000.00	44.15 AV	54.00	-9.85	1.87 V	157	26.37	17.78

**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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

<b>CHANNEL</b>	TX Channel 116	<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	*5580.00	103.18 PK			1.73 H	132	92.83	10.35
2	*5580.00	91.76 AV			1.73 H	132	81.41	10.35
3	11160.00	57.37 PK	74.00	-16.63	1.59 H	241	40.19	17.18
4	11160.00	44.41 AV	54.00	-9.59	1.59 H	241	27.23	17.18

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

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	100.02 PK			2.54 V	248	89.67	10.35
2	*5580.00	88.33 AV			2.54 V	248	77.98	10.35
3	11160.00	56.61 PK	74.00	-17.39	1.84 V	264	39.43	17.18
4	11160.00	43.31 AV	54.00	-10.69	1.84 V	264	26.13	17.18

**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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.

<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	102.06 PK			2.66 H	331	92.23	9.83
2	*5700.00	90.75 AV			2.66 H	331	80.92	9.83
3	#5725.00	61.72 PK	68.20	-6.48	2.66 H	331	51.96	9.76
4	11140.00	57.79 PK	74.00	-16.21	1.57 H	189	40.61	17.18
5	11140.00	44.54 AV	54.00	-9.46	1.57 H	189	27.36	17.18

**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	99.62 PK			2.64 V	305	89.79	9.83
2	*5700.00	87.41 AV			2.64 V	305	77.58	9.83
3	#5725.00	60.19 PK	68.20	-8.01	2.64 V	305	50.43	9.76
4	11400.00	57.34 PK	74.00	-16.66	1.87 V	154	39.34	18.00
5	11400.00	44.52 AV	54.00	-9.48	1.87 V	154	26.52	18.00

**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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
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	#5615.88	62.59 PK	68.20	-5.61	2.14 H	273	52.40	10.19
2	*5745.00	103.36 PK			2.14 H	273	93.65	9.71
3	*5745.00	91.17 AV			2.14 H	273	81.46	9.71
4	#5961.26	63.91 PK	68.20	-4.29	2.14 H	273	53.83	10.08
5	11490.00	58.15 PK	74.00	-15.85	1.58 H	56	40.25	17.90
6	11490.00	45.89 AV	54.00	-8.11	1.58 H	56	27.99	17.90

**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	#5649.39	62.35 PK	68.20	-5.85	2.95 V	303	52.29	10.06
2	*5745.00	100.15 PK			2.95 V	303	90.44	9.71
3	*5745.00	88.17 AV			2.95 V	303	78.46	9.71
4	#5940.70	62.75 PK	68.20	-5.45	2.95 V	303	52.70	10.05
5	11490.00	57.62 PK	74.00	-16.38	2.34 V	165	39.72	17.90
6	11490.00	44.84 AV	54.00	-9.16	2.34 V	165	26.94	17.90

**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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
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	#5639.81	62.27 PK	68.20	-5.93	2.23 H	268	52.17	10.10
2	*5785.00	102.91 PK			2.23 H	268	93.23	9.68
3	*5785.00	91.13 AV			2.23 H	268	81.45	9.68
4	#5939.16	63.61 PK	68.20	-4.59	2.23 H	268	53.56	10.05
5	11570.00	58.69 PK	74.00	-15.31	1.99 H	55	40.64	18.05
6	11570.00	45.39 AV	54.00	-8.61	1.99 H	55	27.34	18.05

**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	#5628.16	62.66 PK	68.20	-5.54	2.89 V	296	52.52	10.14
2	*5785.00	100.01 PK			2.89 V	296	90.33	9.68
3	*5785.00	87.84 AV			2.89 V	296	78.16	9.68
4	#5970.89	62.71 PK	68.20	-5.49	2.89 V	296	52.62	10.09
5	11570.00	57.26 PK	74.00	-16.74	1.88 V	203	39.21	18.05
6	11570.00	44.56 AV	54.00	-9.44	1.88 V	203	26.51	18.05

**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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
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	#5619.28	62.24 PK	68.20	-5.96	2.19 H	265	52.06	10.18
2	*5825.00	103.12 PK			2.19 H	265	93.36	9.76
3	*5825.00	91.04 AV			2.19 H	265	81.28	9.76
4	#5958.51	62.95 PK	68.20	-5.25	2.19 H	265	52.87	10.08
5	11650.00	59.03 PK	74.00	-14.97	2.13 H	223	40.81	18.22
6	11650.00	45.91 AV	54.00	-8.09	2.13 H	223	27.69	18.22

**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	#5618.95	62.75 PK	68.20	-5.45	2.88 V	297	52.57	10.18
2	*5825.00	100.30 PK			2.88 V	297	90.54	9.76
3	*5825.00	88.42 AV			2.88 V	297	78.66	9.76
4	#6020.75	63.10 PK	68.20	-5.10	2.88 V	297	52.90	10.20
5	11650.00	57.73 PK	74.00	-16.27	1.55 V	220	39.51	18.22
6	11650.00	44.65 AV	54.00	-9.35	1.55 V	220	26.43	18.22

**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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



802.11ac (20MHz)

<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	5150.00	61.38 PK	74.00	-12.62	2.93 H	281	52.29	9.09
2	5150.00	47.52 AV	54.00	-6.48	2.93 H	281	38.43	9.09
3	*5180.00	106.23 PK			2.93 H	281	97.05	9.18
4	*5180.00	94.05 AV			2.93 H	281	84.87	9.18
5	#10360.00	56.77 PK	68.20	-11.43	1.67 H	251	40.63	16.14

**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	5150.00	60.73 PK	74.00	-13.27	3.12 V	298	51.64	9.09
2	5150.00	46.97 AV	54.00	-7.03	3.12 V	298	37.88	9.09
3	*5180.00	103.96 PK			3.12 V	298	94.78	9.18
4	*5180.00	90.84 AV			3.12 V	298	81.66	9.18
5	#10360.00	55.56 PK	68.20	-12.64	1.52 V	184	39.42	16.14

**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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.
6. " # ": 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	*5200.00	106.04 PK			2.98 H	282	96.82	9.22
2	*5200.00	93.82 AV			2.98 H	282	84.60	9.22
3	#10400.00	57.03 PK	68.20	-11.17	1.99 H	136	40.74	16.29

**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	*5200.00	102.80 PK			3.09 V	300	93.58	9.22
2	*5200.00	89.88 AV			3.09 V	300	80.66	9.22
3	#10400.00	56.13 PK	68.20	-12.07	1.48 V	44	39.84	16.29

**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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
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	*5240.00	106.43 PK			3.04 H	277	96.78	9.65
2	*5240.00	94.07 AV			3.04 H	277	84.42	9.65
3	5350.00	60.95 PK	74.00	-13.05	3.04 H	277	50.97	9.98
4	5350.00	47.46 AV	54.00	-6.54	3.04 H	277	37.48	9.98
5	#10480.00	57.25 PK	68.20	-10.95	1.82 H	251	40.64	16.61

**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	*5240.00	103.17 PK			3.15 V	305	93.52	9.65
2	*5240.00	91.20 AV			3.15 V	305	81.55	9.65
3	5350.00	60.19 PK	74.00	-13.81	3.15 V	305	50.21	9.98
4	5350.00	46.73 AV	54.00	-7.27	3.15 V	305	36.75	9.98
5	#10480.00	56.13 PK	68.20	-12.07	1.44 V	188	39.52	16.61

**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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
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	5150.00	61.44 PK	74.00	-12.56	2.59 H	275	52.35	9.09
2	5150.00	47.29 AV	54.00	-6.71	2.59 H	275	38.20	9.09
3	*5260.00	107.78 PK			2.59 H	275	98.02	9.76
4	*5260.00	95.66 AV			2.59 H	275	85.90	9.76
5	#10520.00	57.28 PK	68.20	-10.92	1.55 H	228	40.59	16.69

**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	60.53 PK	74.00	-13.47	2.94 V	321	51.44	9.09
2	5150.00	46.76 AV	54.00	-7.24	2.94 V	321	37.67	9.09
3	*5260.00	105.44 PK			2.94 V	321	95.68	9.76
4	*5260.00	92.35 AV			2.94 V	321	82.59	9.76
5	#10520.00	56.37 PK	68.20	-11.83	1.85 V	248	39.68	16.69

**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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
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	*5300.00	107.03 PK			2.65 H	273	97.18	9.85
2	*5300.00	95.27 AV			2.65 H	273	85.42	9.85
3	10600.00	57.24 PK	74.00	-16.76	1.49 H	225	40.58	16.66
4	10600.00	44.25 AV	54.00	-9.75	1.49 H	225	27.59	16.66

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

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	104.50 PK			3.05 V	311	94.65	9.85
2	*5300.00	91.31 AV			3.05 V	311	81.46	9.85
3	10600.00	56.08 PK	74.00	-17.92	1.77 V	149	39.42	16.66
4	10600.00	43.05 AV	54.00	-10.95	1.77 V	149	26.39	16.66

**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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
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	107.11 PK			2.44 H	269	97.21	9.90
2	*5320.00	95.11 AV			2.44 H	269	85.21	9.90
3	5350.00	61.08 PK	74.00	-12.92	2.44 H	269	51.10	9.98
4	5350.00	47.69 AV	54.00	-6.31	2.44 H	269	37.71	9.98
5	10640.00	57.40 PK	74.00	-16.60	1.68 H	159	40.82	16.58
6	10640.00	44.52 AV	54.00	-9.48	1.68 H	159	27.94	16.58

**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	*5320.00	104.57 PK			3.11 V	309	94.67	9.90
2	*5320.00	91.01 AV			3.11 V	309	81.11	9.90
3	5350.00	60.47 PK	74.00	-13.53	3.11 V	309	50.49	9.98
4	5350.00	46.87 AV	54.00	-7.13	3.11 V	309	36.89	9.98
5	10640.00	55.97 PK	74.00	-18.03	1.81 V	219	39.39	16.58
6	10640.00	43.19 AV	54.00	-10.81	1.81 V	219	26.61	16.58

**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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.

<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	5460.00	62.11 PK	74.00	-11.89	2.54 H	277	51.53	10.58
2	5460.00	48.39 AV	54.00	-5.61	2.54 H	277	37.81	10.58
3	#5470.00	62.26 PK	68.20	-5.94	2.54 H	277	51.65	10.61
4	*5500.00	107.25 PK			2.54 H	277	96.53	10.72
5	*5500.00	95.33 AV			2.54 H	277	84.61	10.72
6	11000.00	58.62 PK	74.00	-15.38	1.52 H	291	40.84	17.78
7	11000.00	45.37 AV	54.00	-8.63	1.52 H	291	27.59	17.78

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

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	61.02 PK	74.00	-12.98	2.15 V	306	50.44	10.58
2	5460.00	47.54 AV	54.00	-6.46	2.15 V	306	36.96	10.58
3	#5470.00	60.89 PK	68.20	-7.31	3.15 V	306	50.28	10.61
4	*5500.00	104.56 PK			3.15 V	306	93.84	10.72
5	*5500.00	92.00 AV			3.15 V	306	81.28	10.72
6	11000.00	57.23 PK	74.00	-16.77	1.88 V	220	39.45	17.78
7	11000.00	44.16 AV	54.00	-9.84	1.88 V	220	26.38	17.78

**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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

<b>CHANNEL</b>	TX Channel 116	<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	*5580.00	107.12 PK			2.29 H	271	96.77	10.35
2	*5580.00	95.15 AV			2.29 H	271	84.80	10.35
3	11160.00	57.55 PK	74.00	-16.45	1.50 H	314	40.37	17.18
4	11160.00	44.61 AV	54.00	-9.39	1.50 H	314	27.43	17.18

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

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	104.09 PK			3.09 V	298	93.74	10.35
2	*5580.00	91.84 AV			3.09 V	298	81.49	10.35
3	11160.00	56.63 PK	74.00	-17.37	2.15 V	173	39.45	17.18
4	11160.00	43.31 AV	54.00	-10.69	2.15 V	173	26.13	17.18

**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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.



<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	105.39 PK			2.50 H	275	95.56	9.83
2	*5700.00	92.73 AV			2.50 H	275	82.90	9.83
3	#5725.00	61.57 PK	68.20	-6.63	2.50 H	275	51.81	9.76
4	11400.00	58.84 PK	74.00	-15.16	1.96 H	266	40.84	18.00
5	11400.00	45.91 AV	54.00	-8.09	1.96 H	266	27.91	18.00

**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	102.24 PK			3.06 V	311	92.41	9.83
2	*5700.00	89.40 AV			3.06 V	311	79.57	9.83
3	#5725.00	60.31 PK	68.20	-7.89	3.06 V	311	50.55	9.76
4	11400.00	57.13 PK	74.00	-16.87	2.14 V	258	39.13	18.00
5	11400.00	44.55 AV	54.00	-9.45	2.14 V	258	26.55	18.00

**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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
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	#5612.85	63.95 PK	68.20	-4.25	2.19 H	282	53.74	10.21
2	*5745.00	106.55 PK			2.19 H	282	96.84	9.71
3	*5745.00	94.24 AV			2.19 H	282	84.53	9.71
4	#5950.73	63.90 PK	68.20	-4.30	2.19 H	282	53.84	10.06
5	11490.00	58.16 PK	74.00	-15.84	1.89 H	145	40.26	17.90
6	11490.00	45.29 AV	54.00	-8.71	1.89 H	145	27.39	17.90

**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	#5619.62	61.78 PK	68.20	-6.42	2.96 V	305	51.60	10.18
2	*5745.00	103.24 PK			2.96 V	305	93.53	9.71
3	*5745.00	91.00 AV			2.96 V	305	81.29	9.71
4	#5981.68	62.91 PK	68.20	-5.29	2.96 V	305	52.80	10.11
5	11490.00	57.48 PK	74.00	-16.52	1.37 V	128	39.58	17.90
6	11490.00	44.54 AV	54.00	-9.46	1.37 V	128	26.64	17.90

**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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
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	#5618.69	62.30 PK	68.20	-5.90	2.23 H	287	52.12	10.18
2	*5785.00	106.37 PK			2.23 H	287	96.69	9.68
3	*5785.00	94.43 AV			2.23 H	287	84.75	9.68
4	#5935.13	63.52 PK	68.20	-4.68	2.23 H	287	53.47	10.05
5	11570.00	58.86 PK	74.00	-15.14	1.86 H	69	40.81	18.05
6	11570.00	45.99 AV	54.00	-8.01	1.86 H	69	27.94	18.05

**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	#5620.69	61.93 PK	68.20	-6.27	2.89 V	312	51.75	10.18
2	*5785.00	103.10 PK			2.89 V	312	93.42	9.68
3	*5785.00	91.49 AV			2.89 V	312	81.81	9.68
4	#5955.78	62.62 PK	68.20	-5.58	2.89 V	312	52.56	10.06
5	11570.00	57.24 PK	74.00	-16.76	2.18 V	210	39.19	18.05
6	11570.00	44.35 AV	54.00	-9.65	2.18 V	210	26.30	18.05

**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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
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	#5630.93	62.33 PK	68.20	-5.87	2.04 H	277	52.20	10.13
2	*5825.00	105.99 PK			2.04 H	277	96.23	9.76
3	*5825.00	94.15 AV			2.04 H	277	84.39	9.76
4	#5933.12	63.00 PK	68.20	-5.20	2.04 H	277	52.95	10.05
5	11650.00	59.04 PK	74.00	-14.96	2.26 H	139	40.82	18.22
6	11650.00	45.41 AV	54.00	-8.59	2.26 H	139	27.19	18.22

**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	#5596.72	62.64 PK	68.20	-5.56	3.03 V	327	52.37	10.27
2	*5825.00	103.22 PK			3.03 V	327	93.46	9.76
3	*5825.00	91.38 AV			3.03 V	327	81.62	9.76
4	#5977.90	62.65 PK	68.20	-5.55	3.03 V	327	52.56	10.09
5	11650.00	57.54 PK	74.00	-16.46	1.44 V	112	39.32	18.22
6	11650.00	44.48 AV	54.00	-9.52	1.44 V	112	26.26	18.22

**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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

802.11ac (40MHz)

<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	68.30 PK	74.00	-5.70	2.54 H	278	59.21	9.09
2	5150.00	51.59 AV	54.00	-2.41	2.54 H	278	42.50	9.09
3	*5190.00	103.46 PK			2.54 H	278	94.27	9.19
4	*5190.00	90.41 AV			2.54 H	278	81.22	9.19
5	#10380.00	56.76 PK	68.20	-11.44	1.52 H	236	40.55	16.21

**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	64.33 PK	74.00	-9.67	2.85 V	316	55.24	9.09
2	5150.00	48.03 AV	54.00	-5.97	2.85 V	316	38.94	9.09
3	*5190.00	100.73 PK			2.85 V	316	91.54	9.19
4	*5190.00	88.08 AV			2.85 V	316	78.89	9.19
5	#10380.00	55.73 PK	68.20	-12.47	1.94 V	254	39.52	16.21

**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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.
6. " # ": 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	*5230.00	104.31 PK			2.58 H	271	94.77	9.54
2	*5230.00	90.84 AV			2.58 H	271	81.30	9.54
3	5350.00	61.08 PK	74.00	-12.92	2.58 H	360	51.10	9.98
4	5350.00	49.16 AV	54.00	-4.84	2.58 H	360	39.18	9.98
5	#10460.00	57.18 PK	68.20	-11.02	1.78 H	42	40.65	16.53

**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	*5230.00	101.08 PK			2.89 V	311	91.54	9.54
2	*5230.00	87.77 AV			2.89 V	311	78.23	9.54
3	5350.00	60.42 PK	74.00	-13.58	2.89 V	311	50.44	9.98
4	5350.00	48.64 AV	54.00	-5.36	2.89 V	311	38.66	9.98
5	#10460.00	56.07 PK	68.20	-12.13	1.83 V	315	39.54	16.53

**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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
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	5150.00	60.58 PK	74.00	-13.42	2.66 H	273	51.49	9.09
2	5150.00	47.44 AV	54.00	-6.56	2.66 H	273	38.35	9.09
3	*5270.00	103.72 PK			2.66 H	273	93.93	9.79
4	*5270.00	90.89 AV			2.66 H	273	81.10	9.79
5	#10540.00	57.12 PK	68.20	-11.08	1.84 H	167	40.44	16.68

**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	59.93 PK	74.00	-14.07	3.05 V	311	50.84	9.09
2	5150.00	46.98 AV	54.00	-7.02	3.05 V	311	37.89	9.09
3	*5270.00	100.56 PK			3.05 V	311	90.77	9.79
4	*5270.00	88.38 AV			3.05 V	311	78.59	9.79
5	#10540.00	56.49 PK	68.20	-11.71	1.61 V	228	39.81	16.68

**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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
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	104.09 PK			2.65 H	275	94.22	9.87
2	*5310.00	91.24 AV			2.65 H	275	81.37	9.87
3	5350.00	64.53 PK	74.00	-9.47	2.65 H	275	54.55	9.98
4	5350.00	50.18 AV	54.00	-3.82	2.65 H	275	40.20	9.98
5	10620.00	57.21 PK	74.00	-16.79	1.92 H	237	40.59	16.62
6	10620.00	44.31 AV	54.00	-9.69	1.92 H	237	27.69	16.62

**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	*5310.00	101.53 PK			3.09 V	322	91.66	9.87
2	*5310.00	88.54 AV			3.09 V	322	78.67	9.87
3	5350.00	62.07 PK	74.00	-11.93	3.09 V	322	52.09	9.98
4	5350.00	48.97 AV	54.00	-5.03	3.09 V	322	38.99	9.98
5	10620.00	55.80 PK	74.00	-18.20	1.55 V	221	39.18	16.62
6	10620.00	42.84 AV	54.00	-11.16	1.55 V	221	26.22	16.62

**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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
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	5460.00	63.93 PK	74.00	-10.07	2.57 H	277	53.35	10.58
2	5460.00	49.42 AV	54.00	-4.58	2.57 H	277	38.84	10.58
<b>3</b>	<b>#5470.00</b>	<b>66.74 PK</b>	<b>68.20</b>	<b>-1.46</b>	<b>2.57 H</b>	<b>277</b>	<b>56.13</b>	<b>10.61</b>
4	*5510.00	103.32 PK			2.57 H	277	92.65	10.67
5	*5510.00	90.39 AV			2.57 H	277	79.72	10.67
6	11020.00	58.50 PK	74.00	-15.50	1.89 H	267	40.84	17.66
7	11020.00	45.25 AV	54.00	-8.75	1.89 H	267	27.59	17.66

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

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	63.02 PK	74.00	-10.98	2.96 V	308	52.44	10.58
2	5460.00	48.52 AV	54.00	-5.48	2.96 V	308	37.94	10.58
3	#5470.00	64.77 PK	68.20	-3.43	2.96 V	308	54.16	10.61
4	*5510.00	100.41 PK			2.96 V	308	89.74	10.67
5	*5510.00	87.55 AV			2.96 V	308	76.88	10.67
6	11020.00	57.33 PK	74.00	-16.67	1.88 V	102	39.67	17.66
7	11020.00	44.08 AV	54.00	-9.92	1.88 V	102	26.42	17.66

**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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

<b>CHANNEL</b>	TX Channel 110	<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	*5550.00	103.01 PK			2.48 H	281	92.53	10.48
2	*5550.00	90.14 AV			2.48 H	281	79.66	10.48
3	11100.00	57.94 PK	74.00	-16.06	1.78 H	255	40.75	17.19
4	11100.00	44.65 AV	54.00	-9.35	1.78 H	255	27.46	17.19

**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	*5550.00	109.11 PK			2.99 V	312	98.63	10.48
2	*5550.00	87.19 AV			2.99 V	312	76.71	10.48
3	11100.00	56.71 PK	74.00	-17.29	1.90 V	108	39.52	17.19
4	11100.00	43.52 AV	54.00	-10.48	1.90 V	108	26.33	17.19

**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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.

<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	102.40 PK			2.26 H	273	92.44	9.96
2	*5670.00	89.28 AV			2.26 H	273	79.32	9.96
3	#5725.00	61.62 PK	68.20	-6.58	2.26 H	273	51.86	9.76
4	11340.00	58.47 PK	74.00	-15.53	2.31 H	251	40.88	17.59
5	11340.00	45.20 AV	54.00	-8.80	2.31 H	251	27.61	17.59

**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	99.84 PK			3.02 V	325	89.88	9.96
2	*5670.00	86.31 AV			3.02 V	325	76.35	9.96
3	#5725.00	60.44 PK	68.20	-7.76	3.02 V	325	50.68	9.76
4	11340.00	57.15 PK	74.00	-16.85	1.99 V	228	39.56	17.59
5	11340.00	44.23 AV	54.00	-9.77	1.99 V	228	26.64	17.59

**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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
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	#5588.71	63.53 PK	68.20	-4.67	2.20 H	283	53.22	10.31
2	*5755.00	102.23 PK			2.20 H	283	92.55	9.68
3	*5755.00	89.21 AV			2.20 H	283	79.53	9.68
4	#5937.42	62.79 PK	68.20	-5.41	2.20 H	283	52.74	10.05
5	11510.00	58.34 PK	74.00	-15.66	2.24 H	216	40.42	17.92
6	11510.00	45.30 AV	54.00	-8.70	2.24 H	216	27.38	17.92

**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	#5616.17	62.28 PK	68.20	-5.92	3.10 V	328	52.09	10.19
2	*5755.00	99.44 PK			3.10 V	328	89.76	9.68
3	*5755.00	86.23 AV			3.10 V	328	76.55	9.68
4	#5971.87	63.50 PK	68.20	-4.70	3.10 V	328	53.41	10.09
5	11510.00	57.26 PK	74.00	-16.74	1.88 V	225	39.34	17.92
6	11510.00	44.35 AV	54.00	-9.65	1.88 V	225	26.43	17.92

**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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
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	#5638.85	62.76 PK	68.20	-5.44	2.31 H	291	52.66	10.10
2	*5795.00	102.47 PK			2.31 H	291	92.78	9.69
3	*5795.00	89.58 AV			2.31 H	291	79.89	9.69
4	#5954.45	62.90 PK	68.20	-5.30	2.31 H	291	52.84	10.06
5	11590.00	58.53 PK	74.00	-15.47	1.67 H	111	40.44	18.09
6	11590.00	46.01 AV	54.00	-7.99	1.67 H	111	27.92	18.09

**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	#5643.12	62.84 PK	68.20	-5.36	3.00 V	324	52.75	10.09
2	*5795.00	99.57 PK			3.00 V	324	89.88	9.69
3	*5795.00	86.11 AV			3.00 V	324	76.42	9.69
4	#5988.81	63.95 PK	68.20	-4.25	3.00 V	324	53.84	10.11
5	11590.00	57.61 PK	74.00	-16.39	2.04 V	100	39.52	18.09
6	11590.00	44.29 AV	54.00	-9.71	2.04 V	100	26.20	18.09

**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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

802.11ac (80MHz)

<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	64.66 PK	74.00	-9.34	2.60 H	273	55.57	9.09
2	5150.00	49.91 AV	54.00	-4.09	2.60 H	273	40.82	9.09
3	*5210.00	99.36 PK			2.60 H	273	90.04	9.32
4	*5210.00	84.47 AV			2.60 H	273	75.15	9.32
5	5350.00	61.31 PK	74.00	-12.69	2.60 H	273	51.33	9.98
6	5350.00	47.32 AV	54.00	-6.68	2.60 H	273	37.34	9.98
7	#10420.00	57.21 PK	68.20	-10.99	1.79 H	157	40.84	16.37

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	62.55 PK	74.00	-11.45	2.88 V	278	53.46	9.09
2	5150.00	47.75 AV	54.00	-6.25	2.88 V	278	38.66	9.09
3	*5210.00	97.21 PK			2.88 V	278	87.89	9.32
4	*5210.00	81.71 AV			2.88 V	278	72.39	9.32
5	5350.00	60.42 PK	74.00	-13.58	2.88 V	278	50.44	9.98
6	5350.00	46.87 AV	54.00	-7.13	2.88 V	278	36.89	9.98
7	#10420.00	56.15 PK	68.20	-12.05	1.68 V	297	39.78	16.37

**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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.
6. " # ": 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	61.63 PK	74.00	-12.37	2.55 H	274	52.54	9.09
2	5150.00	47.46 AV	54.00	-6.54	2.55 H	274	38.37	9.09
3	*5290.00	99.68 PK			2.55 H	274	89.84	9.84
4	*5290.00	84.93 AV			2.55 H	274	75.09	9.84
5	5350.00	62.93 PK	74.00	-11.07	2.55 H	274	52.95	9.98
6	5350.00	48.18 AV	54.00	-5.82	2.55 H	274	38.20	9.98
7	#10580.00	57.08 PK	68.20	-11.12	1.73 H	314	40.42	16.66

**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	60.51 PK	74.00	-13.49	3.04 V	326	51.42	9.09
2	5150.00	46.52 AV	54.00	-7.48	3.04 V	326	37.43	9.09
3	*5290.00	96.61 PK			3.04 V	326	86.77	9.84
4	*5290.00	82.48 AV			3.04 V	326	72.64	9.84
5	5350.00	61.76 PK	74.00	-12.24	3.04 V	326	51.78	9.98
6	5350.00	47.47 AV	54.00	-6.53	3.04 V	326	37.49	9.98
7	#10580.00	56.09 PK	68.20	-12.11	1.86 V	163	39.43	16.66

**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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.
6. " # ": 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	5460.00	64.04 PK	74.00	-9.96	2.34 H	272	53.46	10.58
2	5460.00	48.37 AV	54.00	-5.63	2.34 H	272	37.79	10.58
3	#5470.00	65.25 PK	68.20	-2.95	2.34 H	272	54.64	10.61
4	*5530.00	99.25 PK			2.34 H	272	88.67	10.58
5	*5530.00	84.16 AV			2.34 H	272	73.58	10.58
6	11060.00	57.97 PK	74.00	-16.03	1.92 H	285	40.54	17.43
7	11060.00	44.92 AV	54.00	-9.08	1.92 H	285	27.49	17.43

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

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	62.74 PK	74.00	-11.26	2.64 V	288	52.16	10.58
2	5460.00	49.03 AV	54.00	-4.97	2.64 V	288	38.45	10.58
3	#5470.00	63.50 PK	68.20	-4.70	2.64 V	288	52.89	10.61
4	*5530.00	96.07 PK			2.64 V	288	85.49	10.58
5	*5530.00	81.54 AV			2.64 V	288	70.96	10.58
6	11060.00	56.88 PK	74.00	-17.12	1.92 V	230	39.45	17.43
7	11060.00	43.59 AV	54.00	-10.41	1.92 V	230	26.16	17.43

**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)
- Margin value = Emission Level – Limit value
- The other emission levels were very low against the limit.
- " \* ": 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	98.73 PK			2.36 H	274	88.51	10.22
2	*5610.00	84.07 AV			2.36 H	274	73.85	10.22
3	#5725.00	61.25 PK	68.20	-6.95	2.36 H	274	51.49	9.76
4	11220.00	58.05 PK	74.00	-15.95	2.15 H	144	40.85	17.20
5	11220.00	44.35 AV	54.00	-9.65	2.15 H	144	27.15	17.20

**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	95.96 PK			2.85 V	299	85.74	10.22
2	*5610.00	80.58 AV			2.85 V	299	70.36	10.22
3	#5725.00	60.27 PK	68.20	-7.93	2.85 V	299	50.51	9.76
4	11220.00	56.63 PK	74.00	-17.37	1.66 V	271	39.43	17.20
5	11220.00	43.58 AV	54.00	-10.42	1.66 V	271	26.38	17.20

**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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
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	#5635.13	63.09 PK	68.20	-5.11	2.26 H	269	52.98	10.11
2	*5775.00	98.41 PK			2.26 H	269	88.71	9.70
3	*5775.00	83.22 AV			2.26 H	269	73.52	9.70
4	#5971.66	63.39 PK	68.20	-4.81	2.26 H	269	53.30	10.09
5	11550.00	58.22 PK	74.00	-15.78	1.23 H	162	40.21	18.01
6	11550.00	45.40 AV	54.00	-8.60	1.23 H	162	27.39	18.01

**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	#5597.25	62.64 PK	68.20	-5.56	3.12 V	336	52.37	10.27
2	*5775.00	95.44 PK			3.12 V	336	85.74	9.70
3	*5775.00	79.96 AV			3.12 V	336	70.26	9.70
4	#5952.05	63.41 PK	68.20	-4.79	3.12 V	336	53.35	10.06
5	11550.00	57.33 PK	74.00	-16.67	2.41 V	156	39.32	18.01
6	11550.00	44.86 AV	54.00	-9.14	2.41 V	156	26.85	18.01

**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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

**Below 1GHz Data:**

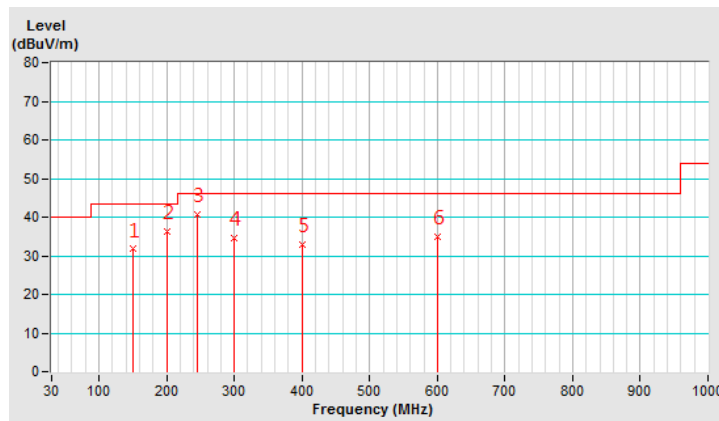
**802.11ac (20MHz)**

<b>CHANNEL</b>	TX Channel 52	<b>DETECTOR FUNCTION</b>	Quasi-Peak (QP)
<b>FREQUENCY RANGE</b>	9kHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	149.99	31.74 QP	43.50	-11.76	1.66 H	226	38.50	-6.76
2	199.99	36.22 QP	43.50	-7.28	1.98 H	212	45.14	-8.92
3	245.97	40.63 QP	46.00	-5.37	1.77 H	221	47.63	-7.00
4	300.05	34.58 QP	46.00	-11.42	2.25 H	303	39.45	-4.87
5	400.06	32.92 QP	46.00	-13.08	1.71 H	63	35.97	-3.05
6	600.02	35.02 QP	46.00	-10.98	1.09 H	119	33.23	1.79

**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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

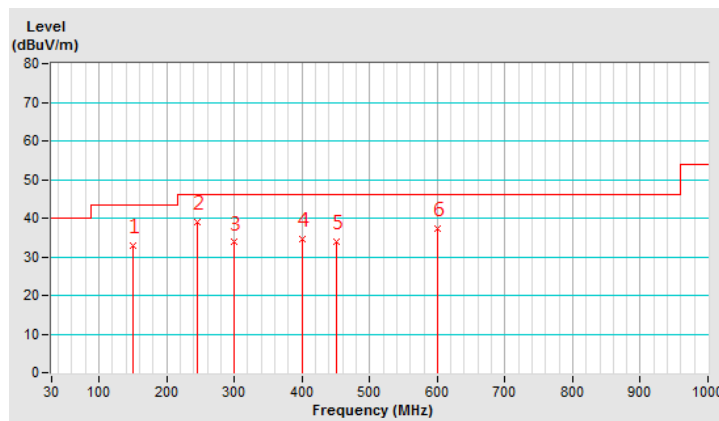


<b>CHANNEL</b>	TX Channel 52	<b>DETECTOR FUNCTION</b>	Quasi-Peak (QP)
<b>FREQUENCY RANGE</b>	9kHz ~ 1GHz		

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	149.99	32.99 QP	43.50	-10.51	1.34 V	124	39.75	-6.76
2	245.97	39.14 QP	46.00	-6.86	1.53 V	347	46.14	-7.00
3	300.00	33.75 QP	46.00	-12.25	1.15 V	134	38.62	-4.87
4	400.01	34.55 QP	46.00	-11.45	1.09 V	172	37.60	-3.05
5	450.06	34.02 QP	46.00	-11.98	1.77 V	340	35.55	-1.53
6	600.02	37.37 QP	46.00	-8.63	1.52 V	337	35.58	1.79

**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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



## 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.	Cal. Date	Cal. Due
ROHDE & SCHWARZ TEST RECEIVER	ESR3	102414	Jan. 17, 2019	Jan. 16, 2020
ROHDE & SCHWARZ Artificial Mains Network (for EUT)	ENV216	101196	Apr. 16, 2019	Apr. 15, 2020
LISN With Adapter (for EUT)	101196	NA	Apr. 16, 2019	Apr. 15, 2020
ROHDE & SCHWARZ Artificial Mains Network (for peripherals)	ESH3-Z5	100218	Nov. 30, 2018	Nov. 29, 2019
SCHWARZBECK Artificial Mains Network (For EUT)	NNLK8129	8129229	May 14, 2019	May 13, 2020
Software	Cond_V7.3.7.4	NA	NA	NA
RF cable (JYEBAO) With 10dB PAD	5D-FB	Cable-C10.01	Feb. 13, 2019	Feb. 12, 2020
LYNICS Terminator (For ROHDE & SCHWARZ LISN)	0900510	E1-011484	May 13, 2019	May 12, 2020
ROHDE & SCHWARZ Artificial Mains Network (For TV EUT)	ESH3-Z5	100220	Nov. 21, 2018	Nov. 20, 2019
LISN With Adapter (for TV EUT)	100220	NA	Nov. 21, 2018	Nov. 20, 2019

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 Shielded Room No. 10.

3. Tested Date: Sep. 6, 2019

#### 4.2.3 Test Procedure

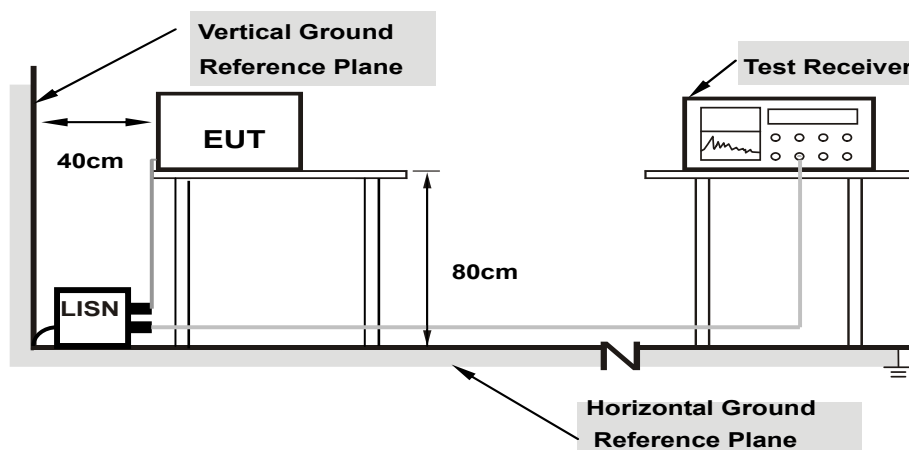
- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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

#### 4.2.4 Deviation from Test Standard

No deviation.

#### 4.2.5 Test Setup



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

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

#### 4.2.6 EUT Operating Condition

Same as 4.1.6.

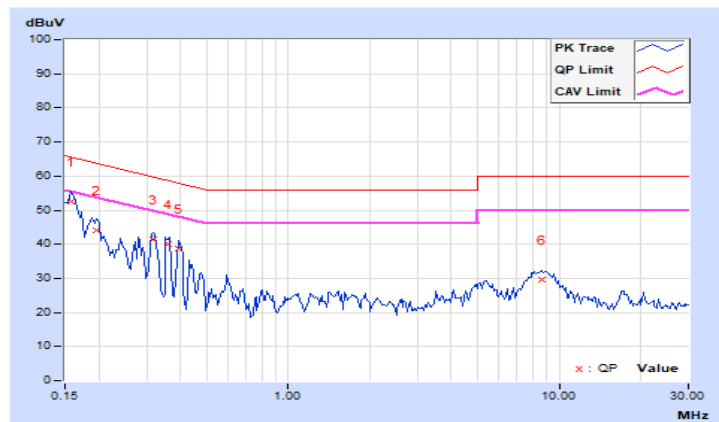
#### 4.2.7 Test Results

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor (dB)	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	
1	0.15782	9.67	42.72	30.04	52.39	39.71	65.58	55.58	-13.19	-15.87
2	0.19687	9.71	34.51	20.95	44.22	30.66	63.74	53.74	-19.52	-23.08
3	0.31925	9.74	31.63	26.53	41.37	36.27	59.73	49.73	-18.36	-13.46
4	0.36102	9.75	30.38	28.08	40.13	37.83	58.71	48.71	-18.58	-10.88
5	0.39609	9.76	29.01	24.87	38.77	34.63	57.93	47.93	-19.16	-13.30
6	8.67706	10.26	19.36	11.19	29.62	21.45	60.00	50.00	-30.38	-28.55

#### REMARKS:

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

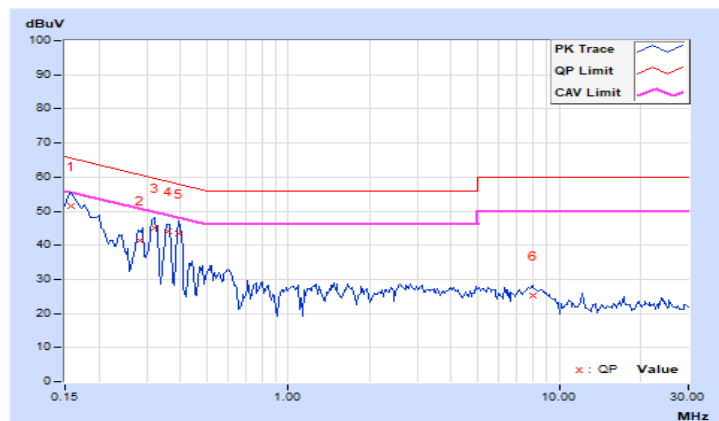


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
-------	-------------	-------------------	--------------------------------

No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	
1	0.15781	9.71	41.75	28.98	51.46	38.69	65.58	55.58	-14.12	-16.89
2	0.28490	9.77	31.71	21.62	41.48	31.39	60.67	50.67	-19.19	-19.28
3	0.32050	9.79	35.25	31.07	45.04	40.86	59.69	49.69	-14.65	-8.83
<b>4</b>	<b>0.36094</b>	<b>9.80</b>	<b>34.47</b>	<b>31.93</b>	<b>44.27</b>	<b>41.73</b>	<b>58.71</b>	<b>48.71</b>	<b>-14.44</b>	<b>-6.98</b>
5	0.39609	9.82	33.74	30.73	43.56	40.55	57.93	47.93	-14.37	-7.38
6	7.97266	10.19	15.23	9.38	25.42	19.57	60.00	50.00	-34.58	-30.43

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

\*B is the 26 dB emission bandwidth in megahertz

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

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

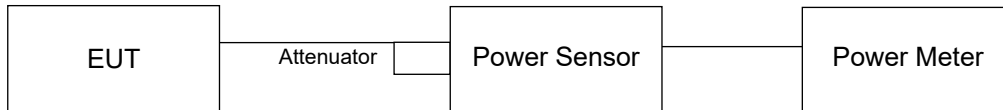
Array Gain = 0 dB (i.e., no array gain) for channel widths  $\geq 40$  MHz for any  $N_{ANT}$ ;

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

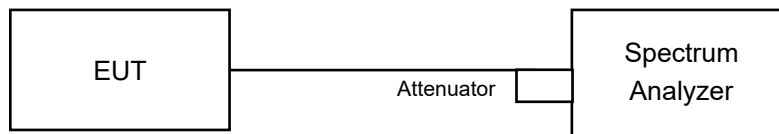
For power measurements on all other devices: Array Gain =  $10 \log(N_{ANT}/N_{SS})$  dB.

#### 4.3.2 Test Setup

##### For Power Output Measurement



##### For 26dB Occupied Bandwidth



#### 4.3.3 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
ROHDE & SCHWARZ Spectrum Analyzer	FSV40	101042	Sep. 23, 2019	Sep. 22, 2020
Anritsu Power Sensor	MA2411B	0738404	Apr. 16, 2019	Apr. 15, 2020
Anritsu Power Meter	ML2495A	0842014	Apr. 16, 2019	Apr. 15, 2020

- NOTE:** 1. The calibration interval of the above test instruments is 12/24 months. And the calibrations are traceable to NML/ROC and NIST/USA.  
2. Tested Date: Oct. 7, 2019

#### 4.3.4 Test Procedure

##### For Average Power Measurement

##### For 802.11a, 802.11ac (20MHz), 802.11ac (40MHz)

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 and set the detector to AVERAGE. Duty factor is not added to measured value.

##### For 802.11ac (80MHz)

- 1) Set span to encompass the entire 26 dB EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal.
- 2) Set sweep trigger to "free run".
- 3) Set RBW = 1 MHz.
- 4) Set VBW  $\geq$  3 MHz
- 5) Number of points in sweep  $\geq$  2 Span / RBW.
- 6) Sweep time  $\leq$  (number of points in sweep) \* T
- 7) Using emission bandwidth to determine the frequency span for integration the channel bandwidth.
- 8) Detector = RMS.
- 9) Trace mode = max hold.
- 10) Allow max hold to run for at least 60 seconds, or longer as needed to allow the trace to stabilize.

#### For 26dB Occupied Bandwidth

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

#### 4.3.5 Deviation from Test Standard

No deviation.

#### 4.3.6 EUT Operating Condition

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

#### 4.3.7 Test Result

##### Power Output: 802.11a

Channel	Channel Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass/Fail
36	5180	20.230	13.06	24	Pass
40	5200	20.749	13.17	24	Pass
48	5240	20.370	13.09	24	Pass
52	5260	20.464	13.11	24	Pass
60	5300	20.091	13.03	24	Pass
64	5320	20.606	13.14	24	Pass
100	5500	20.845	13.19	24	Pass
116	5580	19.861	12.98	24	Pass
140	5700	20.701	13.16	24	Pass
149	5745	20.654	13.15	30	Pass
157	5785	20.512	13.12	30	Pass
165	5825	19.999	13.01	30	Pass

#### NOTE:

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

1.  $11\text{dBm} + 10\log(21.85) = 24.39\text{ dBm} > 24\text{dBm}$ .
2.  $11\text{dBm} + 10\log(21.89) = 24.40\text{ dBm} > 24\text{dBm}$ .
3.  $11\text{dBm} + 10\log(21.77) = 24.38\text{ dBm} > 24\text{dBm}$ .
4.  $11\text{dBm} + 10\log(21.94) = 24.41\text{ dBm} > 24\text{dBm}$ .
5.  $11\text{dBm} + 10\log(21.87) = 24.40\text{ dBm} > 24\text{dBm}$ .
6.  $11\text{dBm} + 10\log(21.94) = 24.41\text{ dBm} > 24\text{dBm}$ .

802.11ac (20MHz)

CHAN.	FREQ. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass/Fail
		CHAIN 0	CHAIN 1				
36	5180	12.04	11.96	<b>31.700</b>	15.01	24	Pass
40	5200	12.03	11.87	31.341	14.96	24	Pass
48	5240	12.12	11.82	31.498	14.98	24	Pass
52	5260	12.25	11.76	31.785	15.02	24	Pass
60	5300	12.32	11.72	<b>31.920</b>	15.04	24	Pass
64	5320	12.24	11.68	31.472	14.98	24	Pass
100	5500	12.24	11.78	31.815	15.03	24	Pass
116	5580	12.13	11.93	31.927	15.04	24	Pass
140	5700	12.06	12.04	<b>32.065</b>	15.06	24	Pass
149	5745	12.04	12.05	<b>32.028</b>	15.06	30	Pass
157	5785	12.09	12.08	32.325	15.10	30	Pass
165	5825	12.02	12.11	32.177	15.08	30	Pass

**NOTE:**

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

**Chain 0**

1.  $11\text{dBm} + 10\log(22.09) = 24.44\text{ dBm} > 24\text{dBm}$ .
2.  $11\text{dBm} + 10\log(22.05) = 24.43\text{ dBm} > 24\text{dBm}$ .
3.  $11\text{dBm} + 10\log(22.14) = 24.45\text{ dBm} > 24\text{dBm}$ .
4.  $11\text{dBm} + 10\log(22.04) = 24.43\text{ dBm} > 24\text{dBm}$ .
5.  $11\text{dBm} + 10\log(22.08) = 24.44\text{ dBm} > 24\text{dBm}$ .
6.  $11\text{dBm} + 10\log(22.21) = 24.47\text{ dBm} > 24\text{dBm}$ .

**Chain 1**

1.  $11\text{dBm} + 10\log(22.05) = 24.43\text{ dBm} > 24\text{dBm}$ .
2.  $11\text{dBm} + 10\log(22.08) = 24.44\text{ dBm} > 24\text{dBm}$ .
3.  $11\text{dBm} + 10\log(22.13) = 24.45\text{ dBm} > 24\text{dBm}$ .
4.  $11\text{dBm} + 10\log(22.12) = 24.45\text{ dBm} > 24\text{dBm}$ .
5.  $11\text{dBm} + 10\log(22.21) = 24.47\text{ dBm} > 24\text{dBm}$ .
6.  $11\text{dBm} + 10\log(22.23) = 24.47\text{ dBm} > 24\text{dBm}$ .

### 802.11ac (40MHz)

CHAN.	FREQ. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass/Fail
		CHAIN 0	CHAIN 1				
38	5190	12.29	11.67	31.632	15.00	24	Pass
46	5230	12.30	11.59	31.403	14.97	24	Pass
54	5270	12.54	11.47	31.975	15.05	24	Pass
62	5310	12.35	11.48	31.239	14.95	24	Pass
102	5510	12.11	11.79	31.356	14.96	24	Pass
110	5550	11.96	11.84	30.980	14.91	24	Pass
134	5670	11.99	11.91	31.336	14.96	24	Pass
151	5755	12.05	12.03	31.991	15.05	30	Pass
159	5795	12.06	11.99	31.881	15.04	30	Pass

**NOTE:**

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

**Chain 0**

1.  $11\text{dBm} + 10\log(40.56) = 27.08\text{ dBm} > 24\text{dBm}$ .
2.  $11\text{dBm} + 10\log(40.52) = 27.08\text{ dBm} > 24\text{dBm}$ .
3.  $11\text{dBm} + 10\log(40.57) = 27.08\text{ dBm} > 24\text{dBm}$ .
4.  $11\text{dBm} + 10\log(40.68) = 27.09\text{ dBm} > 24\text{dBm}$ .
5.  $11\text{dBm} + 10\log(40.86) = 27.11\text{ dBm} > 24\text{dBm}$ .

**Chain 1**

1.  $11\text{dBm} + 10\log(40.59) = 27.08\text{ dBm} > 24\text{dBm}$ .
2.  $11\text{dBm} + 10\log(40.44) = 27.07\text{ dBm} > 24\text{dBm}$ .
3.  $11\text{dBm} + 10\log(40.60) = 27.09\text{ dBm} > 24\text{dBm}$ .
4.  $11\text{dBm} + 10\log(40.75) = 27.10\text{ dBm} > 24\text{dBm}$ .
5.  $11\text{dBm} + 10\log(40.50) = 27.07\text{ dBm} > 24\text{dBm}$ .

802.11ac (80MHz)

CHAN.	FREQ. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass/Fail
		CHAIN 0	CHAIN 1				
42	5210	10.25	10.04	20.686	13.16	24	Pass
58	5290	10.62	9.52	20.489	13.12	24	Pass
106	5530	10.33	9.89	20.539	13.13	24	Pass
122	5610	10.11	9.81	19.829	12.97	24	Pass
155	5775	10.17	9.85	20.060	13.02	30	Pass

**NOTE:**

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

**Chain 0**

1.  $11\text{dBm} + 10\log(82.63) = 30.17\text{ dBm} > 24\text{dBm}$ .
2.  $11\text{dBm} + 10\log(82.65) = 30.17\text{ dBm} > 24\text{dBm}$ .
3.  $11\text{dBm} + 10\log(82.57) = 30.17\text{ dBm} > 24\text{dBm}$ .

**Chain 1**

1.  $11\text{dBm} + 10\log(82.45) = 30.16\text{ dBm} > 24\text{dBm}$ .
2.  $11\text{dBm} + 10\log(82.78) = 30.18\text{ dBm} > 24\text{dBm}$ .
3.  $11\text{dBm} + 10\log(82.43) = 30.16\text{ dBm} > 24\text{dBm}$ .

**26dB Bandwidth:**
**802.11a**

Channel	Channel Frequency (MHz)	26dBc Bandwidth (MHz)
52	5260	21.85
60	5300	21.89
64	5320	21.77
100	5500	21.94
116	5580	21.87
140	5700	21.94

**802.11ac (20MHz)**

Channel	Channel Frequency (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	22.09	22.05
60	5300	22.05	22.08
64	5320	22.14	22.13
100	5500	22.04	22.12
116	5580	22.08	22.21
140	5700	22.21	22.23

**802.11ac (40MHz)**

Channel	Channel Frequency (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
54	5270	40.56	40.59
62	5310	40.52	40.44
102	5510	40.57	40.60
110	5550	40.68	40.75
134	5670	40.86	40.50

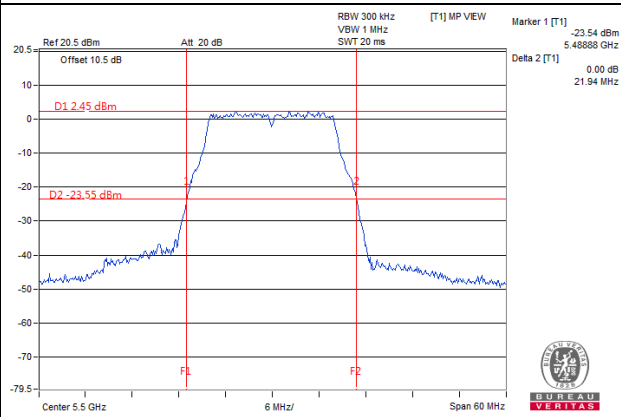
**802.11ac (80MHz)**

Channel	Channel Frequency (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
58	5290	82.63	82.45
106	5530	82.65	82.78
122	5610	82.57	82.43

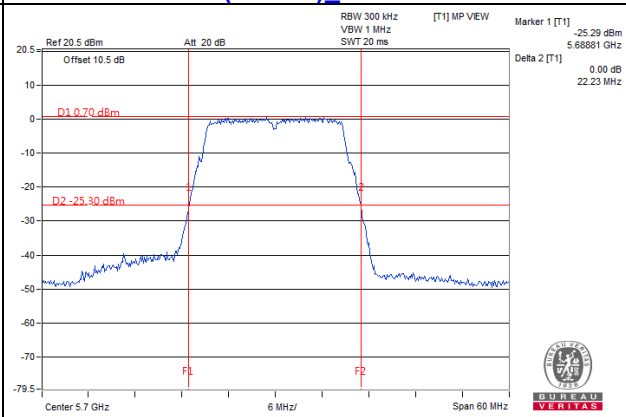


### Spectrum Plot of Worst Value

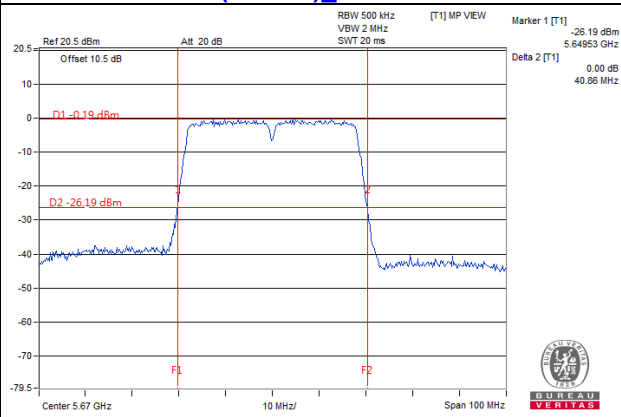
**802.11a / CH100**



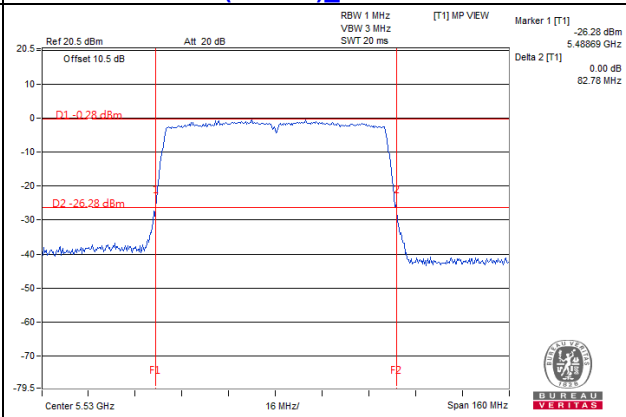
**802.11ac (20MHz) Chain1 / CH140**



**802.11ac (40MHz) Chain0 / CH134**



**802.11ac (80MHz) Chain1 / CH106**



## EUT MAXIMUM CONDUCTED POWER

### 802.11a

Frequency Band (MHz)	MAX. Power	
	Output Power(mW)	Output Power(dBm)
5250~5350	20.606	13.14
5470~5725	20.845	13.19

**NOTE:** Manufacturer provides Transmit Power Control description to meet this requirement.

### 802.11ac (20MHz)

Frequency Band (MHz)	MAX. Power	
	Output Power(mW)	Output Power(dBm)
5250~5350	31.920	15.04
5470~5725	32.065	15.06

**NOTE:** Manufacturer provides Transmit Power Control description to meet this requirement.

### 802.11ac (40MHz)

Frequency Band (MHz)	MAX. Power	
	Output Power(mW)	Output Power(dBm)
5250~5350	31.975	15.05
5470~5725	31.356	14.96

**NOTE:** Manufacturer provides Transmit Power Control description to meet this requirement.

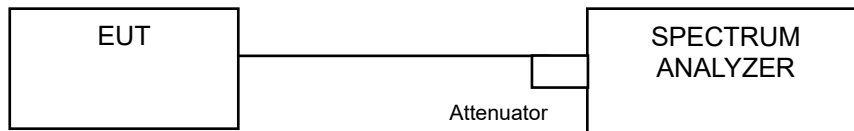
### 802.11ac (80MHz)

Frequency Band (MHz)	MAX. Power	
	Output Power(mW)	Output Power(dBm)
5250~5350	20.489	13.12
5470~5725	20.539	13.13

**NOTE:** Manufacturer provides Transmit Power Control description to meet this requirement.

## 4.4 Occupied Bandwidth Measurement

### 4.4.1 Test Setup



### 4.4.2 Test Instruments

Refer to section 4.3.3 to get information of above instrument.

### 4.4.3 Test Procedure

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with resolution bandwidth in the range of 1% to 5% of the anticipated emission bandwidth, and a video bandwidth at least 3x the resolution bandwidth and set the detector to SAMPLE. The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 %of the total mean power of a given emission.

#### 4.4.4 Test Results

##### 802.11a

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)
36	5180	17.04
40	5200	17.16
48	5240	17.16
52	5260	17.16
60	5300	17.16
64	5320	17.16
100	5500	17.16
116	5580	17.16
140	5700	17.16

##### 802.11ac (20MHz)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)	
		CHAIN 0	CHAIN 1
36	5180	18.24	18.12
40	5200	18.12	18.12
48	5240	18.24	18.12
52	5260	18.24	18.24
60	5300	18.24	18.24
64	5320	18.12	18.12
100	5500	18.24	18.24
116	5580	18.24	18.12
140	5700	18.24	18.24

**802.11ac (40MHz)**

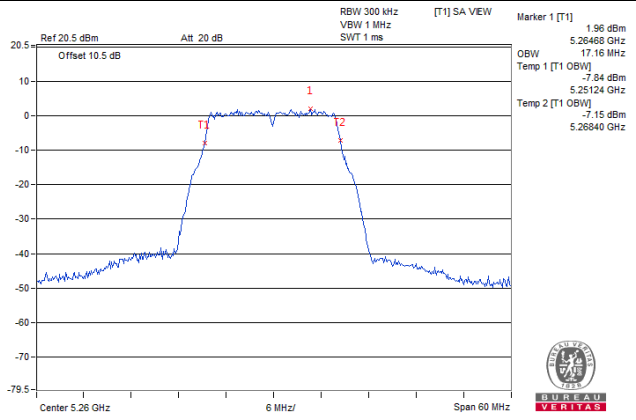
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)	
		CHAIN 0	CHAIN 1
38	5190	36.60	36.60
46	5230	36.60	36.40
54	5270	36.40	36.40
62	5310	36.40	36.40
102	5510	36.60	36.60
110	5550	36.40	36.60
134	5670	36.60	36.60

**802.11ac (80MHz)**

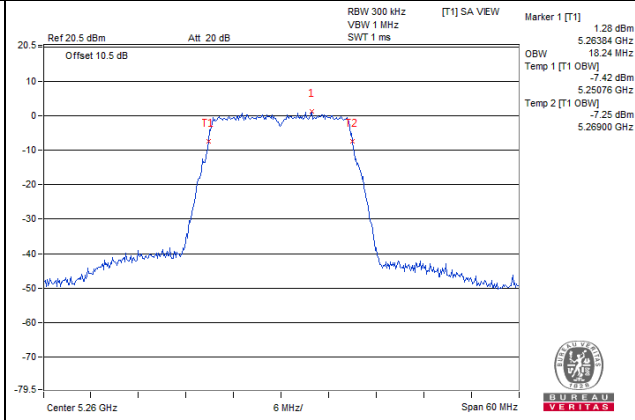
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)	
		CHAIN 0	CHAIN 1
42	5210	76.08	76.08
58	5290	75.84	76.08
106	5530	75.84	76.08
122	5610	76.08	76.08

**Spectrum Plot of Worst Value**

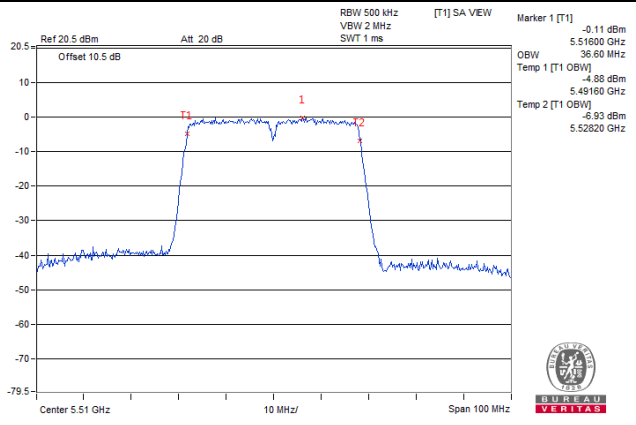
**802.11a / CH52**



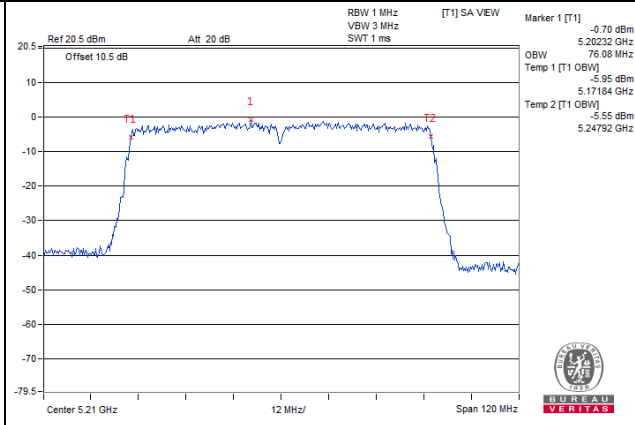
**802.11ac (20MHz) Chain0 / CH52**



**802.11ac (40MHz) Chain0 / CH102**



**802.11ac (80MHz) Chain0 / CH42**



## 4.5 Peak Power Spectral Density Measurement

### 4.5.1 Limits of Peak Power Spectral Density Measurement

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

### 4.5.2 Test Setup



### 4.5.3 Test Instruments

Refer to section 4.3.3 to get information of above instrument.

### 4.5.4 Test Procedure

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

Using method SA-1

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

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

- 1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
- 2) Set RBW = 500 kHz, Set VBW ≥ 3 RBW, 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)

### 4.5.5 Deviation from Test Standard

No deviation.

### 4.5.6 EUT Operating Condition

Same as Item 4.3.6.

4.5.7 Test Results

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

802.11a

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)	MAX. Limit (dBm/MHz)	Pass / Fail
36	5180	-2.28	11	Pass
40	5200	-2.17	11	Pass
48	5240	-2.13	11	Pass
52	5260	-2.08	11	Pass
60	5300	-2.20	11	Pass
64	5320	-2.02	11	Pass
100	5500	-2.02	11	Pass
116	5580	-2.30	11	Pass
140	5700	-2.80	11	Pass



802.11ac (20MHz)

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)		Total Power Density (dBm/MHz)	MAX. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1			
36	5180	-3.43	-3.59	-0.50	10.99	Pass
40	5200	-3.40	-3.48	-0.43	10.99	Pass
48	5240	-3.50	-3.63	-0.55	10.99	Pass
52	5260	-3.39	-3.50	-0.43	10.99	Pass
60	5300	-3.59	-3.53	-0.55	10.99	Pass
64	5320	-3.85	-3.80	-0.81	10.99	Pass
100	5500	-3.13	-3.17	-0.14	10.99	Pass
116	5580	-3.44	-3.38	-0.40	10.99	Pass
140	5700	-3.97	-4.04	-0.99	10.99	Pass

- Note:** 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain =  $3\text{dBi} + 10\log(2) = 6.01\text{dBi} > 6\text{dBi}$  , so the power density limit shall be reduced to  $11-(6.01-6) = 10.99\text{dBm}$ .

### 802.11ac (40MHz)

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)		Total Power Density (dBm/MHz)	MAX. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1			
38	5190	-6.77	-6.96	-3.85	10.99	Pass
46	5230	-6.84	-6.80	-3.81	10.99	Pass
54	5270	-6.94	-6.85	-3.88	10.99	Pass
62	5310	-7.20	-7.17	-4.17	10.99	Pass
102	5510	-6.55	-6.65	-3.59	10.99	Pass
118	5590	-6.76	-6.71	-3.72	10.99	Pass
134	5670	-7.24	-7.30	-4.26	10.99	Pass

- Note:** 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.  
 2. Directional gain =  $3\text{dBi} + 10\log(2) = 6.01\text{dBi} > 6\text{dBi}$  , so the power density limit shall be reduced to  $11-(6.01-6) = 10.99\text{dBm}$ .

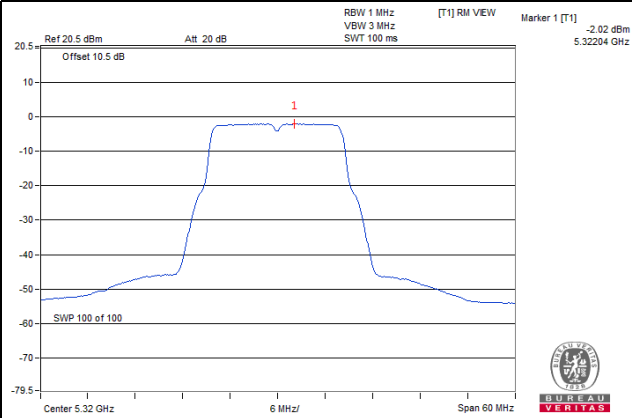
### 802.11ac (80MHz)

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)		Total Power Density (dBm/MHz)	MAX. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1			
42	5210	-11.19	-11.37	-8.27	10.99	Pass
58	5290	-11.75	-11.85	-8.79	10.99	Pass
106	5530	-11.31	-11.38	-8.33	10.99	Pass
122	5610	-11.81	-11.93	-8.86	10.99	Pass

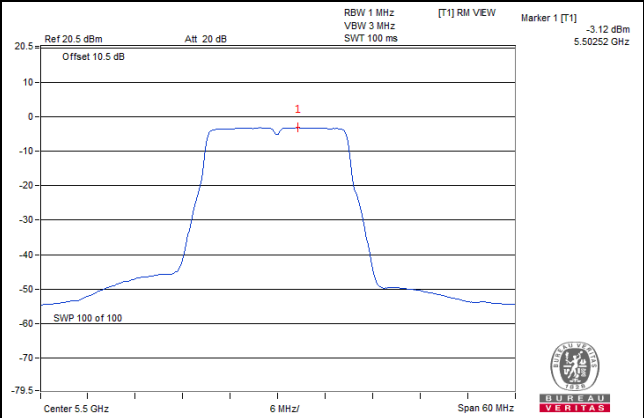
- Note:** 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.  
 2. Directional gain =  $3\text{dBi} + 10\log(2) = 6.01\text{dBi} > 6\text{dBi}$  , so the power density limit shall be reduced to  $11-(6.01-6) = 10.99\text{dBm}$ .

Spectrum Plot of Worst Value

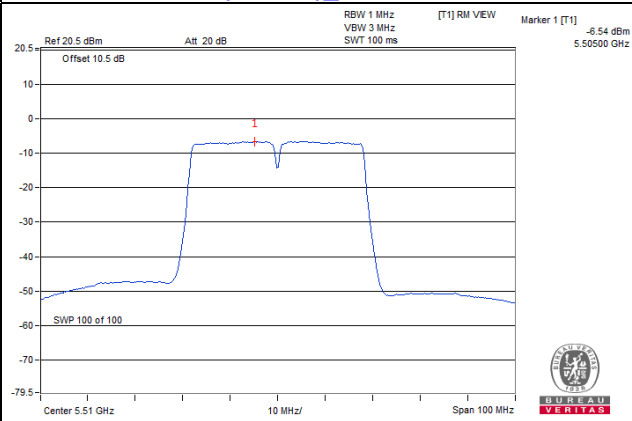
802.11a / CH64



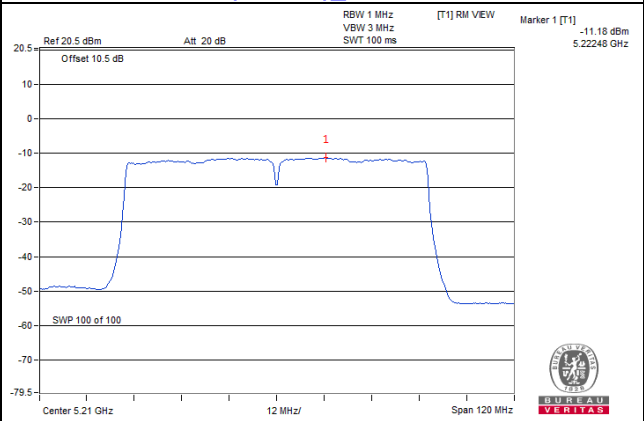
802.11ac (20MHz)\_Chain 0 / CH100



802.11ac (40MHz)\_Chain 0 / CH102



802.11ac (80MHz)\_Chain 0 / CH42



**For U-NII-3:**

**802.11a**

Chan.	Chan. Freq. (MHz)	PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
149	5745	-10.68	30	Pass
157	5785	-10.75	30	Pass
165	5825	-10.99	30	Pass

**802.11ac (20MHz)**

TX chain	Chan.	Chan. Freq. (MHz)	PSD (dBm/500kHz)	10 log (N=2) dB	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
0	149	5745	-12.16	3.01	-9.15	29.99	Pass
	157	5785	-12.22	3.01	-9.21	29.99	Pass
	165	5825	-12.25	3.01	-9.24	29.99	Pass
1	149	5745	-12.21	3.01	-9.20	29.99	Pass
	157	5785	-12.15	3.01	-9.14	29.99	Pass
	165	5825	-12.25	3.01	-9.24	29.99	Pass

Note: Directional gain =  $3\text{dBi} + 10\log(2) = 6.01\text{dBi} > 6\text{dBi}$  , so the power density limit shall be reduced to  $30-(6.01-6) = 29.99\text{dBm}$ .

### 802.11ac (40MHz)

TX chain	Chan.	Chan. Freq. (MHz)	PSD (dBm/500kHz)	10 log (N=2) dB	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
0	151	5755	-15.45	3.01	-12.44	29.99	Pass
	159	5795	-15.57	3.01	-12.56	29.99	Pass
1	151	5755	-15.35	3.01	-12.34	29.99	Pass
	159	5795	-15.56	3.01	-12.55	29.99	Pass

Note: Directional gain =  $3\text{dBi} + 10\log(2) = 6.01\text{dBi} > 6\text{dBi}$  , so the power density limit shall be reduced to  $30-(6.01-6) = 29.99\text{dBm}$ .

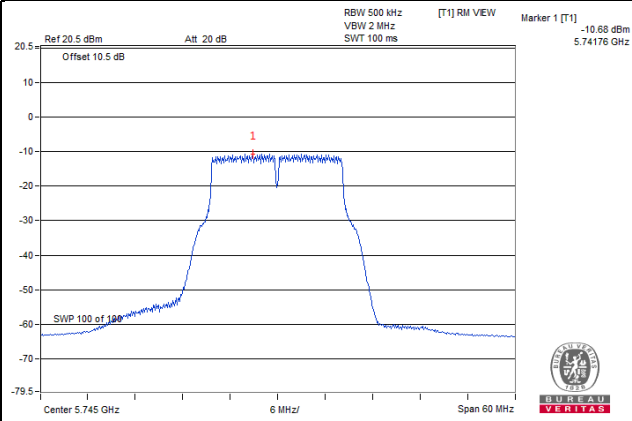
### 802.11ac (80MHz)

TX chain	Chan.	Chan. Freq. (MHz)	PSD (dBm/500kHz)	10 log (N=2) dB	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
0	155	5775	-20.38	3.01	-17.37	29.99	Pass
1	155	5775	-20.50	3.01	-17.49	29.99	Pass

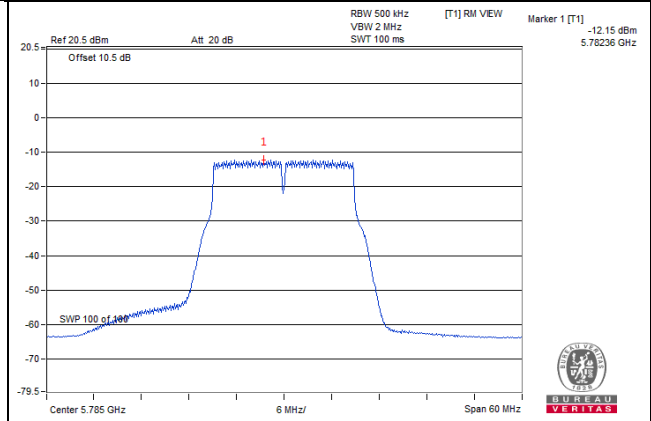
Note: Directional gain =  $3\text{dBi} + 10\log(2) = 6.01\text{dBi} > 6\text{dBi}$  , so the power density limit shall be reduced to  $30-(6.01-6) = 29.99\text{dBm}$ .

Spectrum Plot of Worst Value

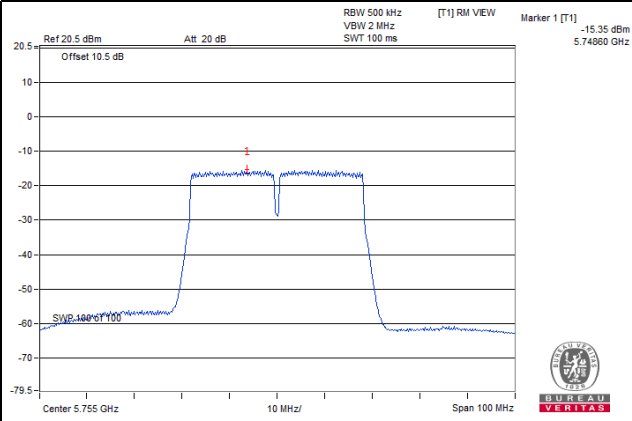
802.11a / CH149



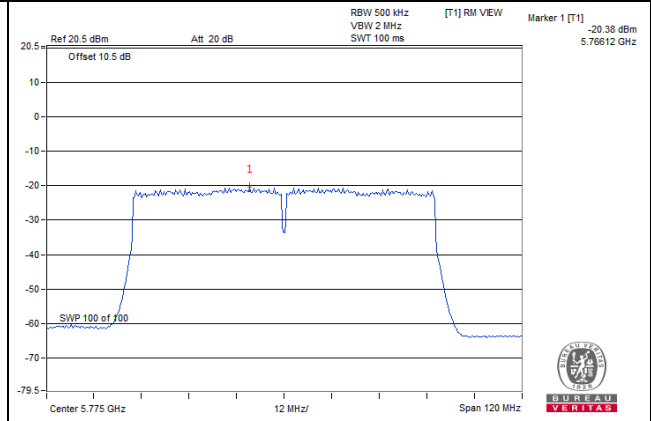
802.11ac (20MHz)\_Chain 1 / CH157



802.11ac (40MHz)\_Chain 1 / CH151



802.11ac (80MHz)\_Chain 0 / CH155

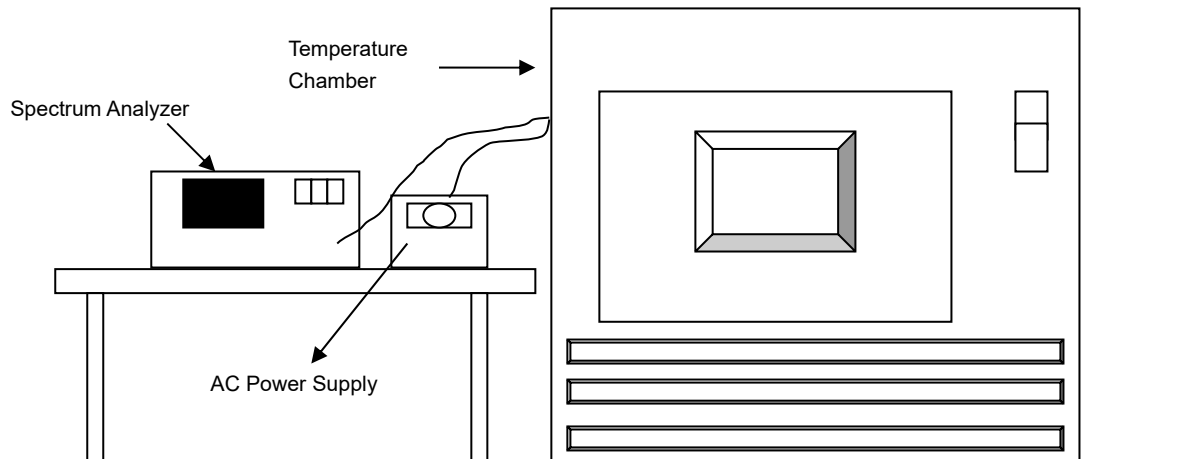


## 4.6 Frequency Stability Measurement

### 4.6.1 Limits of Frequency Stability Measurement

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

### 4.6.2 Test Setup



### 4.6.3 Test Instruments

Refer to section 4.3.3 to get information of above instrument.

### 4.6.4 Test Procedure

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

### 4.6.5 Deviation from Test Standard

No deviation.

### 4.6.6 EUT Operating Condition

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

4.6.7 Test Results

Frequency Stability Versus Temp.									
Operating Frequency: 5180 MHz									
TEMP. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
50	120	5179.9848	Pass	5179.9864	Pass	5179.9824	Pass	5179.9873	Pass
40	120	5180.013	Pass	5180.0118	Pass	5180.0121	Pass	5180.0134	Pass
30	120	5179.9814	Pass	5179.9835	Pass	5179.9816	Pass	5179.9825	Pass
20	120	5180.0094	Pass	5180.0074	Pass	5180.0075	Pass	5180.0088	Pass
10	120	5180.0005	Pass	5179.9954	Pass	5179.9962	Pass	5179.9964	Pass
0	120	5179.9744	Pass	5179.9751	Pass	5179.9735	Pass	5179.9735	Pass
-10	120	5180.0144	Pass	5180.0115	Pass	5180.0122	Pass	5180.0116	Pass
-20	120	5180.0045	Pass	5180.0024	Pass	5180.0029	Pass	5180.0028	Pass
-30	120	5179.9826	Pass	5179.9812	Pass	5179.9779	Pass	5179.98	Pass

Frequency Stability Versus Voltage									
Operating Frequency: 5180 MHz									
TEMP. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
20	138	5180.0088	Pass	5180.0069	Pass	5180.0084	Pass	5180.0094	Pass
	120	5180.0094	Pass	5180.0074	Pass	5180.0075	Pass	5180.0088	Pass
	102	5180.0095	Pass	5180.0084	Pass	5180.0073	Pass	5180.009	Pass

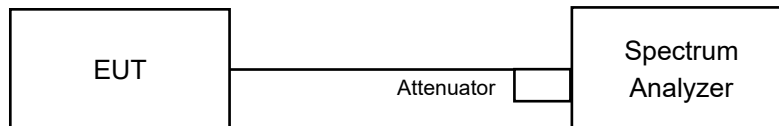


## 4.7 6dB Bandwidth Measurement

### 4.7.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

### 4.7.2 Test Setup



### 4.7.3 Test Instruments

Refer to section 4.3.3 to get information of above instrument.

### 4.7.4 Test Procedure

#### MEASUREMENT PROCEDURE REF

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

### 4.7.5 Deviation from Test Standard

No deviation.

### 4.7.6 EUT Operating Condition

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

#### 4.7.7 Test Results

##### 802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
149	5745	16.39	0.5	PASS
157	5785	16.40	0.5	PASS
165	5825	16.40	0.5	PASS

##### 802.11ac (20MHz)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	17.63	17.64	0.5	PASS
157	5785	17.66	17.65	0.5	PASS
165	5825	17.66	17.64	0.5	PASS

##### 802.11ac (40MHz)

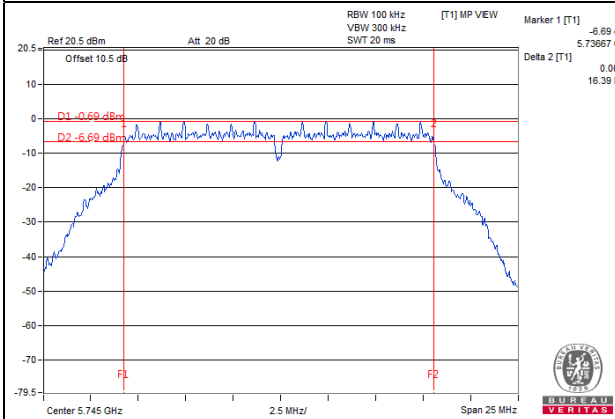
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
151	5755	36.42	36.47	0.5	PASS
159	5795	36.47	36.49	0.5	PASS

##### 802.11ac (80MHz)

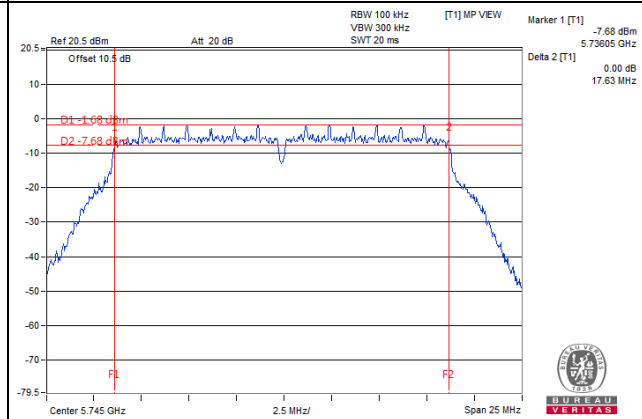
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
155	5775	76.34	76.61	0.5	PASS

Spectrum Plot of Worst Value

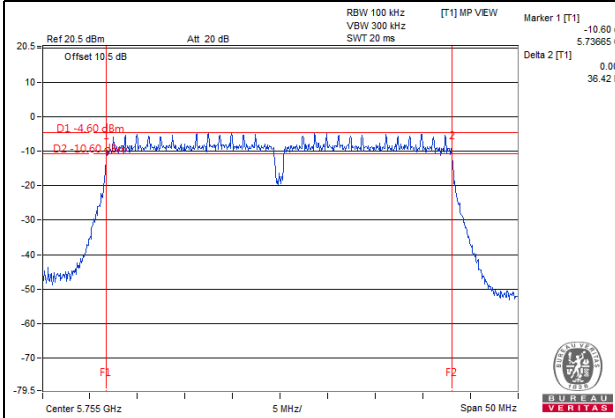
802.11a / CH149



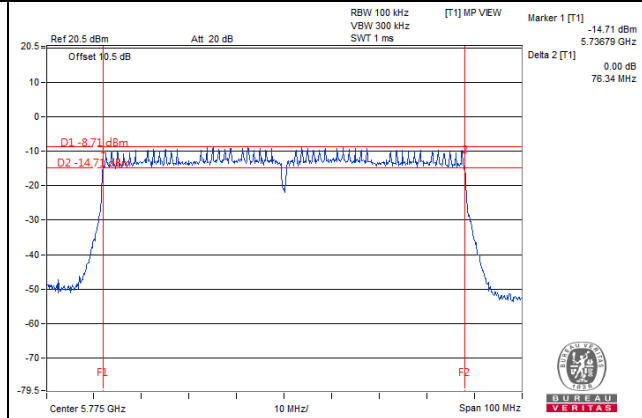
802.11ac (20MHz)\_Chain 0 / CH149



802.11ac (40MHz)\_Chain 0 / CH151



802.11ac (80MHz)\_Chain 0 / CH155



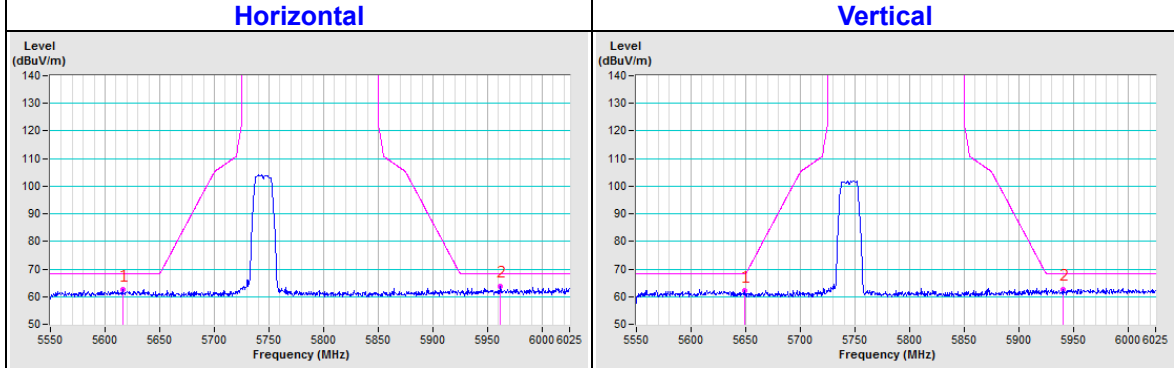
## 5 Pictures of Test Arrangements

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

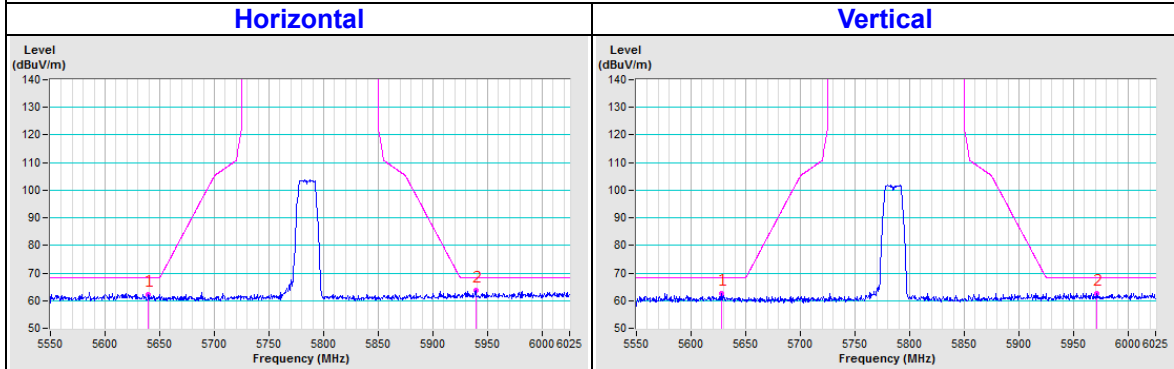
## Annex A- Radiated Out of Band Emission (OOBE) Measurement (For U-NII-3 band)

### 802.11a

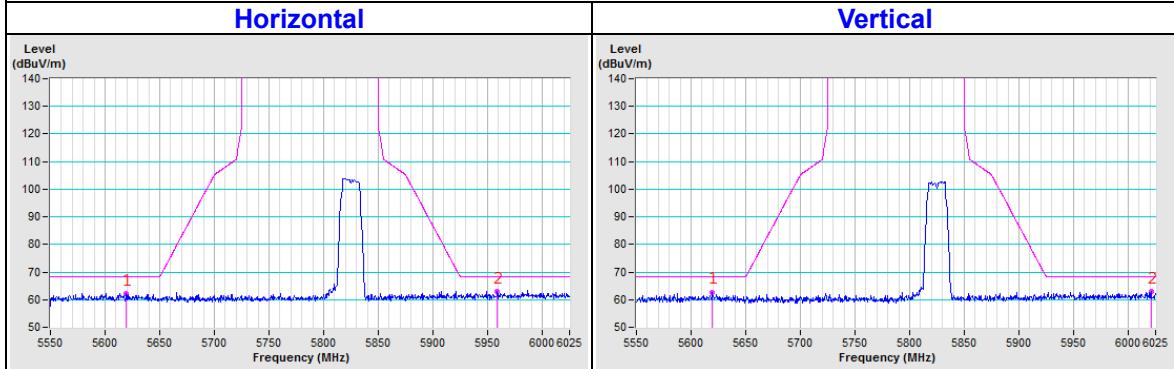
#### CH149



#### CH157

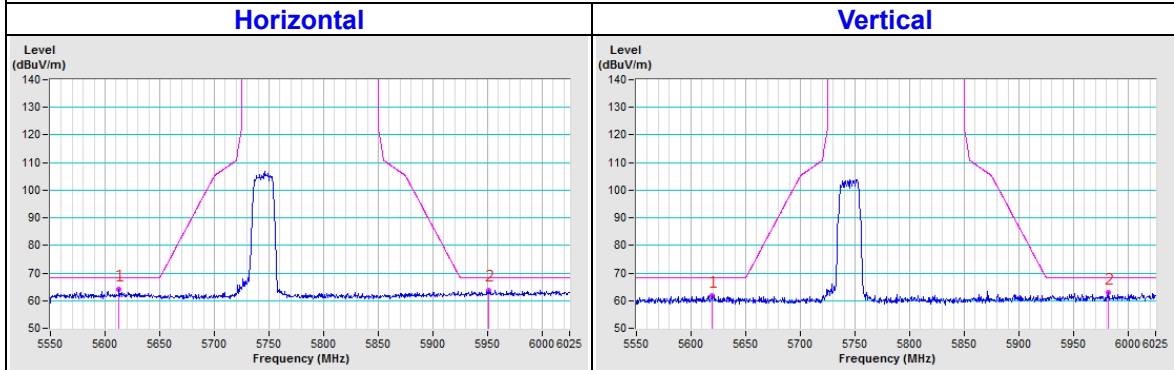


#### CH165

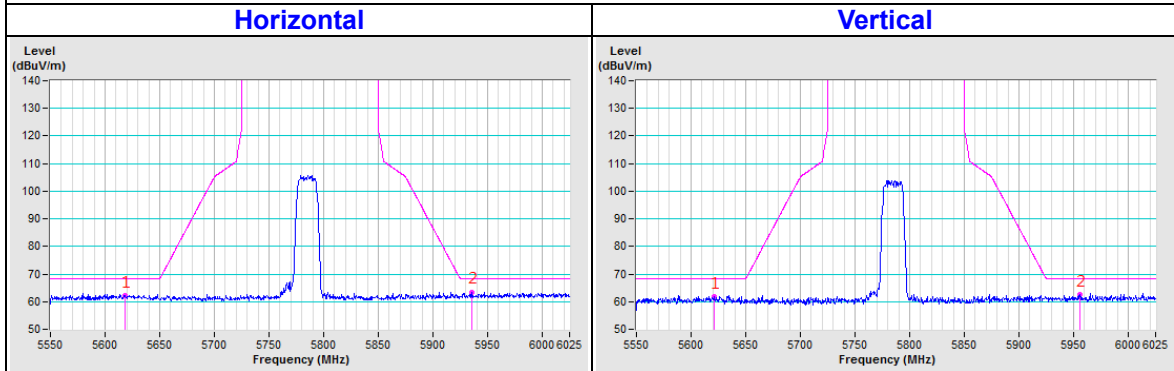


## 802.11ac (20MHz)

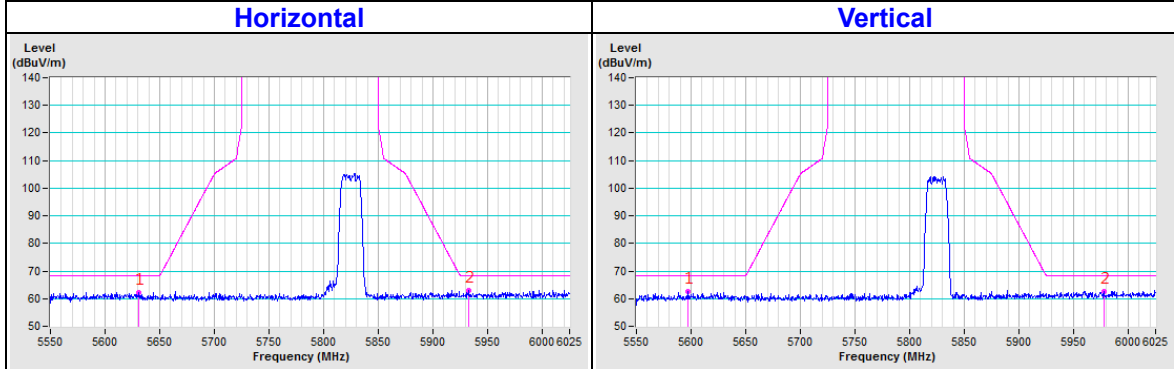
### CH149



### CH157

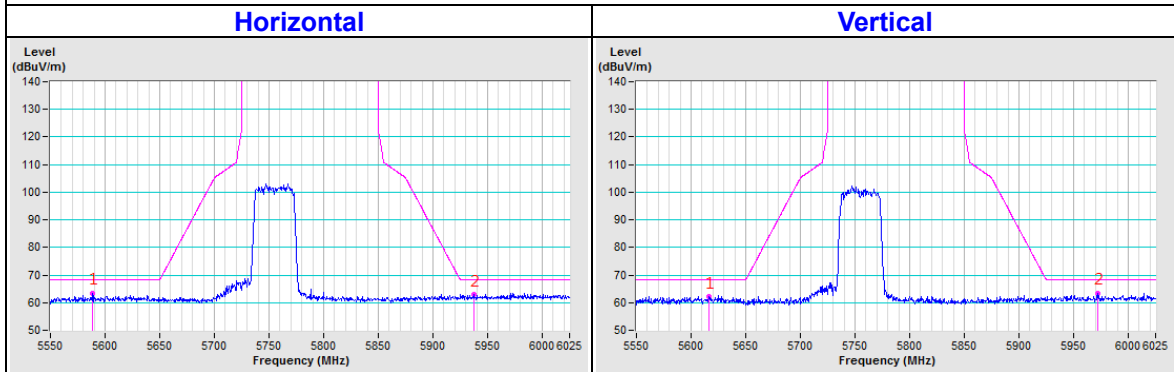


### CH165

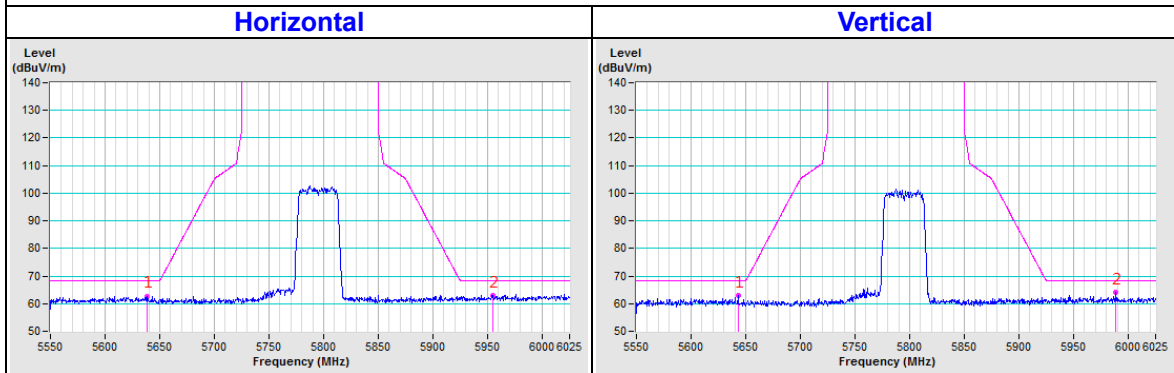


### 802.11ac (40MHz)

#### CH151

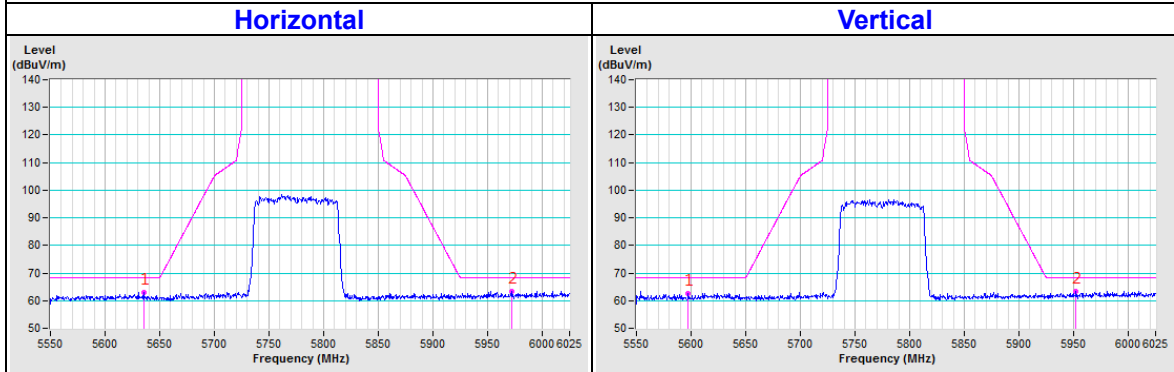


#### CH159



### 802.11ac (80MHz)

#### CH155



## Appendix – Information of the Testing Laboratories

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

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**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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