

## FCC Test Report

**Report No.:** RF180928C18-1

**FCC ID:** Q3N-RS51

**Test Model:** RS51

**Received Date:** Sep. 28, 2018

**Test Date:** Oct. 30 ~ Nov. 28, 2018

**Issued Date:** Dec. 04, 2018

**Applicant:** CIPHERLAB CO., LTD

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

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**Test Location:** No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN (R.O.C.)

**FCC Registration /  
Designation Number:** 788550 / TW0003



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### Release Control Record

Issue No.	Description	Date Issued
RF180928C18-1	Original release.	Dec. 04, 2018

## 1 Certificate of Conformity

**Product:** Mobile Computer  
**Brand:** CIPHERLAB  
**Test Model:** RS51  
**Sample Status:** Engineering sample  
**Applicant:** CIPHERLAB CO., LTD  
**Test Date:** Oct. 30 ~ Nov. 28, 2018  
**Standards:** 47 CFR FCC Part 15, Subpart E (Section 15.407)  
ANSI C63.10:2013

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

**Prepared by :**           *Polly Chien*           , **Date:**           Dec. 04, 2018            
Polly Chien / Specialist

**Approved by :**           *Bruce Chen*           , **Date:**           Dec. 04, 2018            
Bruce Chen / Project Engineer

## 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 -14.70dB at 0.56406MHz.
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 -3.1dB at 11440.00MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	Pass	Meet the requirement of limit.
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(e)	6dB bandwidth	Pass	Meet the requirement of limit.
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	Antenna connector is Spring not a standard connector.

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

### 2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.94 dB
Radiated Emissions up to 1 GHz	30MHz ~ 200MHz	3.63 dB
	200MHz ~ 1000MHz	3.64 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	2.29 dB
	18GHz ~ 40GHz	2.29 dB

### 2.2 Modification Record

There were no modifications required for compliance.

### 3 General Information

#### 3.1 General Description of EUT

Product	Mobile Computer
Brand	CIPHERLAB
Test Model	RS51
Sample Status	Engineering sample
Nominal Voltage	5Vdc (adapter) 3.75Vdc (battery)
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 150Mbps 802.11ac: up to 433.3Mbps
Operating Frequency	5180~5240MHz, 5260~5320MHz, 5500~5720MHz, 5745~5825MHz
Number of Channel	5180~5240MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 4 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1 5260~5320MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 4 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1 5500~5720MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 12 802.11n (HT40), 802.11ac (VHT40): 6 802.11ac (VHT80): 3 5745~5825MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 5 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1
Output Power	5180~5240MHz: 35.400mW 5260~5320MHz: 28.576mW 5500~5700MHz: 28.119mW 5745~5825MHz: 17.701mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	Refer to Note
Cable Supplied	1.6m non-shielded snapon cable with one core

Note:

1. The EUT provides 1 completed transmitter and 1 receiver.

Modulation Mode	TX Function
802.11a	1TX
802.11n (HT20)	1TX
802.11n (HT40)	1TX
802.11ac (VHT20)	1TX
802.11ac (VHT40)	1TX
802.11ac (VHT80)	1TX

- \* The modulation and bandwidth are similar for 802.11n mode for HT20/HT40 and 802.11ac mode for VHT20/VHT40. After pre-testing, 802.11ac (VHT20/VHT40) power is lower than 802.11n (HT20/HT40), therefore 802.11n (HT20/HT40) is the worst case to representative mode in test report. (Final test mode refer section 3.2.1)

2. The EUT uses following antenna.

WLAN / BT EDR / BT LE					
Antenna Type	PIFA		Antenna Connector	Spring	
Gain (dBi)	Frequency (MHz)				
	2400	2442	2484	5150	5875
	2.35	2.68	2.72	2.08	1.82

3. The EUT uses following accessory devices.

Component	Vendor	Model	Specification
Adapter	Sunny COMPUTER TECHNOLOGY CO.,LTD.	SYS1561-1005	I/P: 100-240Vac, 1.0A MAX, 50-60Hz O/P: +5Vdc, 2A, 10W MAX.
Battery	CIPHERLAB	BA-0115A3	Rating: 3.75Vdc, 5300mAh, 19.88Wh



### 3.2 Description of Test Modes

#### 5180~5240MHz:

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

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

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

Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
42	5210MHz

#### 5260~5320MHz:

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

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

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

Channel	Frequency	Channel	Frequency
54	5270 MHz	62	5310 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
58	5290MHz

### 5500~5720MHz:

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

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

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

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

3 channels are provided for 802.11ac (VHT80):

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

### 5745~5825MHz:

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

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

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

Channel	Frequency	Channel	Frequency
151	5755MHz	159	5795MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
155	5775MHz

### 3.2.1 Test Mode Applicability and Tested Channel Detail

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

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

Note:

1. The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Z-plane**.
2. "-" means no effect.

#### 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
	802.11n (HT20)		36 to 48	36, 40, 48	OFDM	6.5
	802.11n (HT40)		38 to 46	38, 46	OFDM	13.5
	802.11ac (VHT80)		42	42	OFDM	29.3
-	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6.0
	802.11n (HT20)		52 to 64	52, 60, 64	OFDM	6.5
	802.11n (HT40)		54 to 62	54, 62	OFDM	13.5
	802.11ac (VHT80)		58	58	OFDM	29.3
-	802.11a	5500-5720	100 to 144	100, 116, 120, 140, 144	OFDM	6.0
	802.11n (HT20)		100 to 144	100, 116, 120, 140, 144	OFDM	6.5
	802.11n (HT40)		102 to 142	102, 110, 118, 134, 142	OFDM	13.5
	802.11ac (VHT80)		106 to 138	106, 122, 138	OFDM	29.3
-	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0
	802.11n (HT20)		149 to 165	149, 157, 165	OFDM	6.5
	802.11n (HT40)		151 to 159	151, 159	OFDM	13.5
	802.11ac (VHT80)		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)
-	802.11a	5180-5240	36 to 48	40	OFDM	6.0
		5260-5320	52 to 64		OFDM	6.0
		5500-5720	100 to 144		OFDM	6.0
		5745-5825	149 to 165		OFDM	6.0

**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)
-	802.11a	5180-5240	36 to 48	40	OFDM	6.0
		5260-5320	52 to 64		OFDM	6.0
		5500-5720	100 to 144		OFDM	6.0
		5745-5825	149 to 165		OFDM	6.0

**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
	802.11n (HT20)		36 to 48	36, 40, 48	OFDM	6.5
	802.11n (HT40)		38 to 46	38, 46	OFDM	13.5
	802.11ac (VHT80)		42	42	OFDM	29.3
-	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6.0
	802.11n (HT20)		52 to 64	52, 60, 64	OFDM	6.5
	802.11n (HT40)		54 to 62	54, 62	OFDM	13.5
	802.11ac (VHT80)		58	58	OFDM	29.3
-	802.11a	5500-5720	100 to 144	100, 116, 120, 140, 144	OFDM	6.0
	802.11n (HT20)		100 to 144	100, 116, 120, 140, 144	OFDM	6.5
	802.11n (HT40)		102 to 142	102, 110, 118, 134, 142	OFDM	13.5
	802.11ac (VHT80)		106 to 138	106, 122, 138	OFDM	29.3
-	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0
	802.11n (HT20)		149 to 165	149, 157, 165	OFDM	6.5
	802.11n (HT40)		151 to 159	151, 159	OFDM	13.5
	802.11ac (VHT80)		155	155	OFDM	29.3

**Test Condition:**

Applicable to	Environmental Conditions	Input Power	Tested by
RE $\geq$ 1G	25 deg. C, 70% RH	120Vac, 60Hz	Luis Lee
RE<1G	25 deg. C, 70% RH	120Vac, 60Hz	Noah Chang
PLC	25 deg. C, 66% RH	120Vac, 60Hz	Jones Chang
APCM	25 deg. C, 60% RH	120Vac, 60Hz	Alan Wu

### 3.3 Duty Cycle of Test Signal

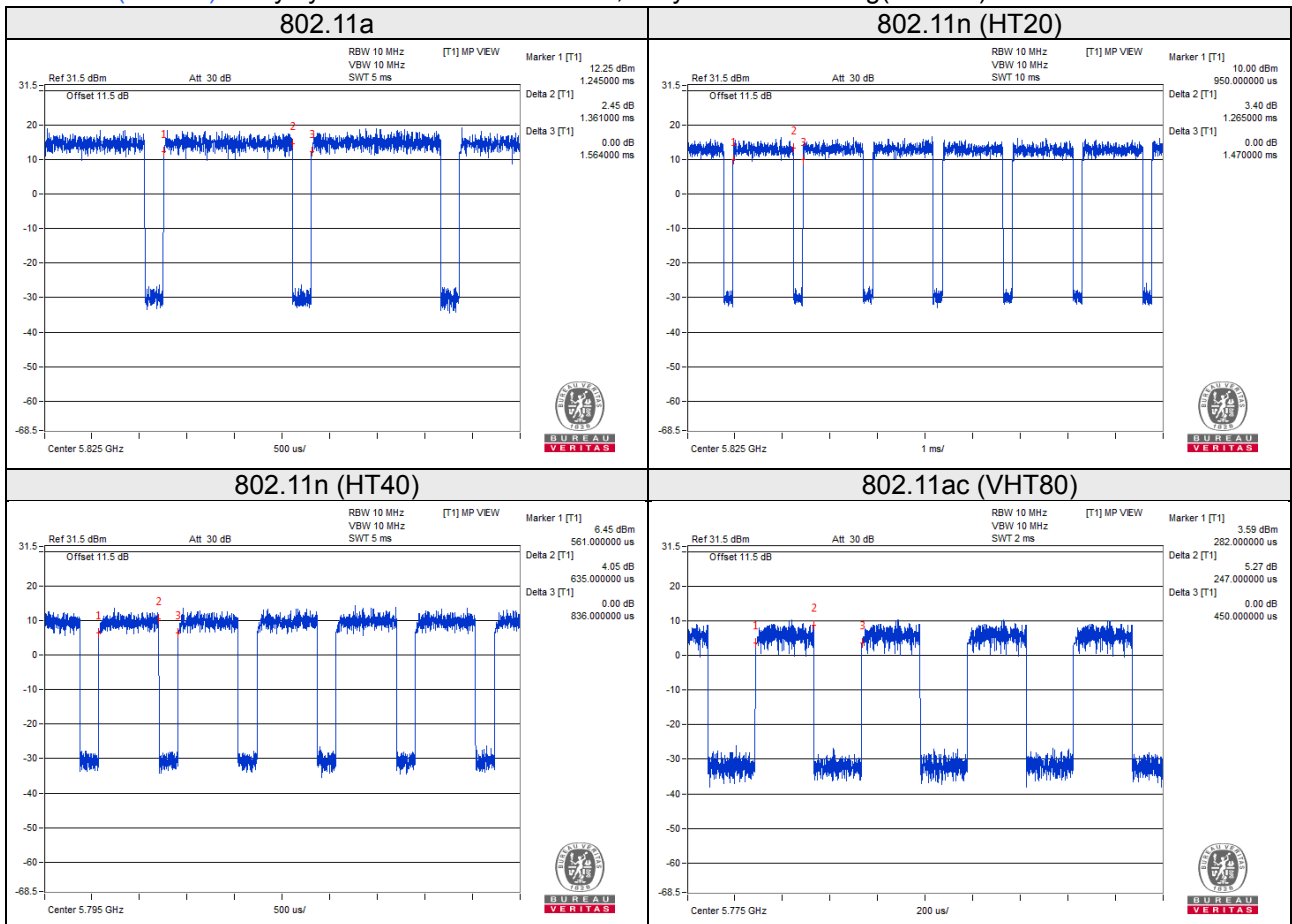
Duty cycle of test signal is < 98 %, duty factor is required

802.11a: Duty cycle =  $1.361/1.564 = 0.870$ , Duty factor =  $10 * \log(1/0.870) = 0.60$

802.11n (HT20): Duty cycle =  $1.265/1.470 = 0.861$ , Duty factor =  $10 * \log(1/0.861) = 0.65$

802.11n (HT40): Duty cycle =  $0.635/0.836 = 0.760$ , Duty factor =  $10 * \log(1/0.760) = 1.19$

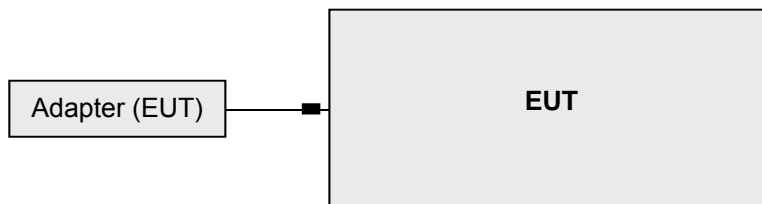
802.11ac (VHT80): Duty cycle =  $0.247/0.450 = 0.549$ , Duty factor =  $10 * \log(1/0.549) = 2.61$



### 3.4 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units.

#### 3.4.1 Configuration of System under Test



### 3.5 General Description of Applied Standards

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**

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 (dBµV/m)	AV: 54 (dBµV/m)
Frequency Band	Applicable To	EIRP Limit	Equivalent Field Strength at 3m
5150~5250 MHz	15.407(b)(1)	PK: -27 (dBm/MHz)	PK: 68.2(dBµV/m)
5250~5350 MHz	15.407(b)(2)		
5470~5725 MHz	15.407(b)(3)		
5725~5850 MHz	<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>*3</sup> below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.		<sup>*2</sup> below the band edge increasing linearly to 10 dBm/MHz at 25 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:

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

#### 4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESIB7	100187	May 29, 2018	May 28, 2019
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100040	Sep. 25, 2018	Sep. 24, 2019
BILOG Antenna SCHWARZBECK	VULB9168	9168-155	Dec. 11, 2017	Dec. 10, 2018
			Nov. 21, 2018	Dec. 20, 2019
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-1170	Dec. 13, 2017	Dec. 12, 2018
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Dec. 01, 2017	Nov. 30, 2018
Loop Antenna TESEQ	HLA 6121	45745	Jun. 14, 2018	Jun. 13, 2019
Preamplifier Agilent (Below 1GHz)	8447D	2944A10631	Aug. 08, 2018	Aug. 07, 2019
Preamplifier KEYSIGHT (Above 1GHz)	83017A	MY53270295	Jul. 02, 2018	Jul. 01, 2019
RF signal cable HUBER+SUHNER	SUCOFLEX 104	MY 13380+295012/04	Aug. 08, 2018	Aug. 07, 2019
RF signal cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH4-03 (250724)	Aug. 08, 2018	Aug. 07, 2019
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	010303	NA	NA
Antenna Tower Controller BV ADT	AT100	AT93021703	NA	NA
Turn Table BV ADT	TT100	TT93021703	NA	NA
Turn Table Controller BV ADT	SC100	SC93021703	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
USB Wideband Power Sensor KEYSIGHT	U2021XA	MY55050005/MY5519000 4/MY55190007/MY55210 005	Jul. 17, 2018	Jul. 16, 2019
Pre-amplifier (18GHz- 40GHz) EMC	EMC184045B	980175	Nov. 14, 2017	Nov. 13, 2018
			Nov. 14, 2018	Nov. 13, 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 HwaYa Chamber 4.
3. The FCC Designation Number is TW0003. The number will be varied with the Lab location and scope as attached.
4. The IC Site Registration No. is 7450F-4.



### 4.1.3 Test Procedures

#### 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 detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

#### Note:

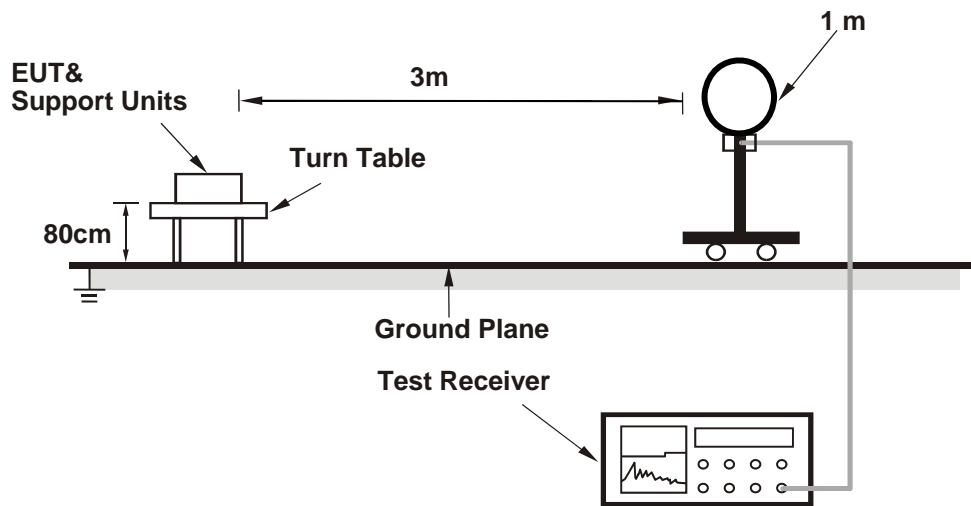
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

#### 4.1.4 Deviation from Test Standard

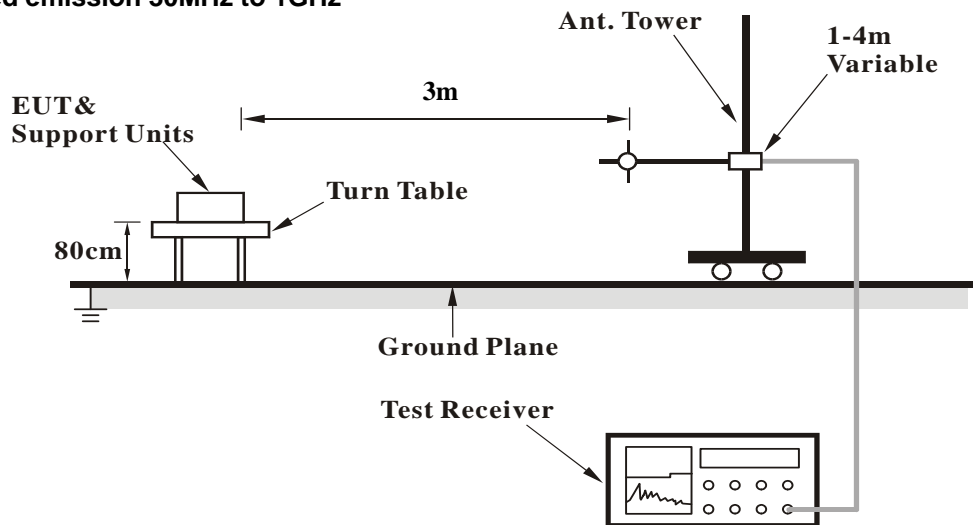
No deviation.

#### 4.1.5 Test Set Up

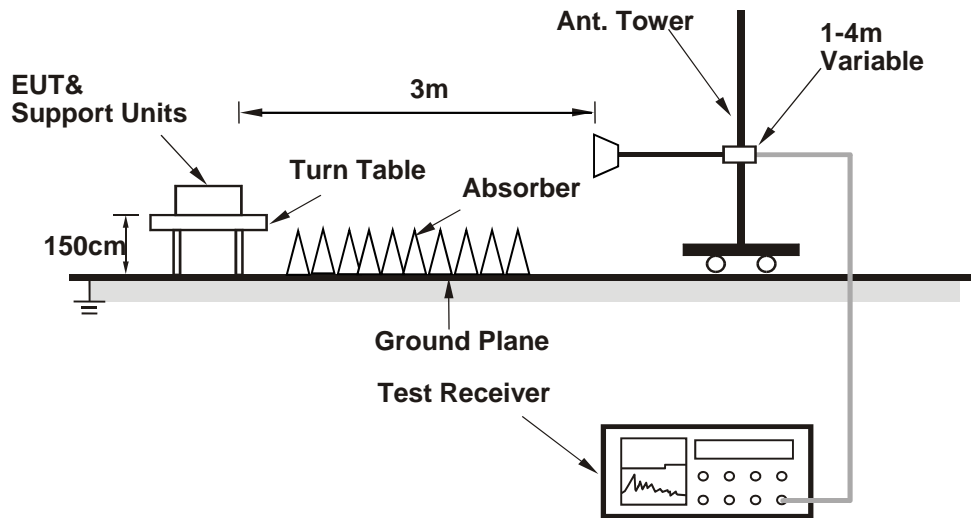
##### For Radiated emission below 30MHz



##### 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 Conditions

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

#### 4.1.7 Test Results

Above 1GHz data:

802.11a

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

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

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	60.6 PK	74.0	-13.4	1.09 H	89	48.8	11.8
2	5150.00	48.1 AV	54.0	-5.9	1.09 H	89	36.3	11.8
3	*5180.00	107.4 PK			1.00 H	84	66.6	40.8
4	*5180.00	97.1 AV			1.00 H	84	56.3	40.8
5	#10360.00	63.0 PK	68.2	-5.2	1.65 H	277	40.9	22.1

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

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	60.1 PK	74.0	-13.9	1.03 V	75	48.3	11.8
2	5150.00	47.6 AV	54.0	-6.4	1.03 V	75	35.8	11.8
3	*5180.00	99.0 PK			1.00 V	82	58.2	40.8
4	*5180.00	89.5 AV			1.00 V	82	48.7	40.8
5	#10360.00	62.3 PK	68.2	-5.9	2.38 V	142	40.2	22.1

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	107.6 PK			1.00 H	85	66.8	40.8
2	*5200.00	97.2 AV			1.00 H	85	56.4	40.8
3	#10400.00	64.7 PK	68.2	-3.5	1.47 H	236	42.3	22.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	99.5 PK			1.06 V	89	58.7	40.8
2	*5200.00	89.0 AV			1.06 V	89	48.2	40.8
3	#10400.00	62.6 PK	68.2	-5.6	2.36 V	185	40.2	22.4

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	108.0 PK			1.00 H	82	67.5	40.5
2	*5240.00	97.5 AV			1.00 H	82	57.0	40.5
3	5350.00	60.7 PK	74.0	-13.3	1.05 H	89	48.8	11.9
4	5350.00	47.2 AV	54.0	-6.8	1.05 H	89	35.3	11.9
5	#10480.00	62.7 PK	68.2	-5.5	1.84 H	259	40.5	22.2

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	99.5 PK			1.00 V	83	59.0	40.5
2	*5240.00	89.3 AV			1.00 V	83	48.8	40.5
3	5350.00	59.8 PK	74.0	-14.2	1.16 V	73	47.9	11.9
4	5350.00	46.9 AV	54.0	-7.1	1.16 V	73	35.0	11.9
5	#10480.00	62.3 PK	68.2	-5.9	2.74 V	199	40.1	22.2

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	60.5 PK	74.0	-13.5	1.06 H	88	48.7	11.8
2	5150.00	47.7 AV	54.0	-6.3	1.06 H	88	35.9	11.8
3	*5260.00	107.3 PK			1.00 H	84	66.8	40.5
4	*5260.00	97.4 AV			1.00 H	84	56.9	40.5
5	#10520.00	63.5 PK	68.2	-4.7	1.63 H	258	41.2	22.3

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	60.0 PK	74.0	-14.0	1.07 V	93	48.2	11.8
2	5150.00	47.2 AV	54.0	-6.8	1.07 V	93	35.4	11.8
3	*5260.00	99.1 PK			1.00 V	80	58.6	40.5
4	*5260.00	89.2 AV			1.00 V	80	48.7	40.5
5	#10520.00	63.1 PK	68.2	-5.1	2.19 V	186	40.8	22.3

Remarks:

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

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

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

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	107.3 PK			1.00 H	83	66.9	40.4
2	*5300.00	97.2 AV			1.00 H	83	56.8	40.4
3	10600.00	63.1 PK	74.0	-10.9	1.87 H	264	40.8	22.3
4	10600.00	49.3 AV	54.0	-4.7	1.87 H	264	27.0	22.3

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

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	99.2 PK			1.00 V	86	58.8	40.4
2	*5300.00	89.0 AV			1.00 V	86	48.6	40.4
3	10600.00	62.8 PK	74.0	-11.2	2.88 V	143	40.5	22.3
4	10600.00	49.0 AV	54.0	-5.0	2.88 V	143	26.7	22.3

**Remarks:**

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



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	107.9 PK			1.00 H	82	67.3	40.6
2	*5320.00	96.9 AV			1.00 H	82	56.3	40.6
3	5350.00	60.6 PK	74.0	-13.4	1.07 H	95	48.7	11.9
4	5350.00	48.3 AV	54.0	-5.7	1.07 H	95	36.4	11.9
5	10640.00	63.4 PK	74.0	-10.6	1.78 H	225	40.9	22.5
6	10640.00	49.6 AV	54.0	-4.4	1.78 H	225	27.1	22.5
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	101.4 PK			1.00 V	85	60.8	40.6
2	*5320.00	90.5 AV			1.00 V	85	49.9	40.6
3	5350.00	60.1 PK	74.0	-13.9	1.12 V	86	48.2	11.9
4	5350.00	47.3 AV	54.0	-6.7	1.12 V	86	35.4	11.9
5	10640.00	63.0 PK	74.0	-11.0	2.69 V	192	40.5	22.5
6	10640.00	49.4 AV	54.0	-4.6	2.69 V	192	26.9	22.5

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	60.1 PK	74.0	-13.9	1.22 H	103	47.6	12.5
2	5460.00	47.1 AV	54.0	-6.9	1.22 H	103	34.6	12.5
3	#5470.00	61.9 PK	68.2	-6.3	1.02 H	93	49.4	12.5
4	*5500.00	106.4 PK			1.00 H	87	64.9	41.5
5	*5500.00	96.3 AV			1.00 H	87	54.8	41.5
6	11000.00	63.9 PK	74.0	-10.1	2.63 H	299	41.2	22.7
7	11000.00	49.1 AV	54.0	-4.9	2.63 H	299	26.4	22.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	58.3 PK	74.0	-15.7	1.70 V	42	45.8	12.5
2	5460.00	46.3 AV	54.0	-7.7	1.70 V	42	33.8	12.5
3	#5470.00	59.9 PK	68.2	-8.3	1.60 V	35	47.4	12.5
4	*5500.00	101.9 PK			1.65 V	39	60.4	41.5
5	*5500.00	91.4 AV			1.65 V	39	49.9	41.5
6	11000.00	63.6 PK	74.0	-10.4	3.26 V	177	40.9	22.7
7	11000.00	48.9 AV	54.0	-5.1	3.26 V	177	26.2	22.7

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	105.5 PK			1.00 H	75	63.7	41.8
2	*5580.00	94.7 AV			1.00 H	75	52.9	41.8
3	11160.00	63.6 PK	74.0	-10.4	2.63 H	315	40.9	22.7
4	11160.00	49.5 AV	54.0	-4.5	2.63 H	315	26.8	22.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	103.5 PK			1.29 V	44	61.7	41.8
2	*5580.00	92.7 AV			1.29 V	44	50.9	41.8
3	11160.00	63.0 PK	74.0	-11.0	3.19 V	145	40.3	22.7
4	11160.00	48.9 AV	54.0	-5.1	3.19 V	145	26.2	22.7

Remarks:

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

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

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

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5600.00	107.3 PK			1.00 H	92	65.6	41.7
2	*5600.00	96.9 AV			1.00 H	92	55.2	41.7
3	#5725.00	61.6 PK	68.2	-6.6	1.05 H	99	48.8	12.8
4	11200.00	62.8 PK	74.0	-11.2	1.78 H	210	40.3	22.5
5	11200.00	49.5 AV	54.0	-4.5	1.78 H	210	27.0	22.5

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

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5600.00	105.2 PK			1.60 V	36	63.5	41.7
2	*5600.00	94.5 AV			1.60 V	36	52.8	41.7
3	#5725.00	61.0 PK	68.2	-7.2	1.58 V	49	48.2	12.8
4	11200.00	62.3 PK	74.0	-11.7	2.03 V	255	39.8	22.5
5	11200.00	49.0 AV	54.0	-5.0	2.03 V	255	26.5	22.5

**Remarks:**

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	105.3 PK			1.00 H	77	63.2	42.1
2	*5700.00	93.7 AV			1.00 H	77	51.6	42.1
3	#5725.00	61.3 PK	68.2	-6.9	1.08 H	96	48.5	12.8
4	11400.00	64.1 PK	74.0	-9.9	2.65 H	296	40.3	23.8
5	11400.00	50.3 AV	54.0	-3.7	2.65 H	296	26.5	23.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	103.1 PK			1.29 V	45	61.0	42.1
2	*5700.00	93.2 AV			1.29 V	45	51.1	42.1
3	#5725.00	60.0 PK	68.2	-8.2	1.32 V	53	47.2	12.8
4	11400.00	63.6 PK	74.0	-10.4	2.08 V	332	39.8	23.8
5	11400.00	49.8 AV	54.0	-4.2	2.08 V	332	26.0	23.8

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	60.8 PK	68.2	-7.4	1.12 H	89	48.3	12.5
2	*5720.00	104.6 PK			1.04 H	85	62.5	42.1
3	*5720.00	93.8 AV			1.04 H	85	51.7	42.1
4	#5850.00	62.1 PK	68.2	-6.1	1.38 H	101	48.3	13.8
5	11440.00	63.7 PK	74.0	-10.3	2.05 H	174	40.1	23.6
6	11440.00	50.5 AV	54.0	-3.5	2.05 H	174	26.9	23.6

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	61.1 PK	68.2	-7.1	1.72 V	55	48.6	12.5
2	*5720.00	102.2 PK			1.59 V	34	60.1	42.1
3	*5720.00	91.9 AV			1.59 V	34	49.8	42.1
4	#5850.00	61.8 PK	68.2	-6.4	1.49 V	58	48.0	13.8
5	11440.00	63.4 PK	74.0	-10.6	1.62 V	305	39.8	23.6
6	11440.00	50.1 AV	54.0	-3.9	1.62 V	305	26.5	23.6

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5602.40	63.3 PK	68.2	-4.9	1.00 H	93	50.7	12.6
2	*5745.00	104.4 PK			1.00 H	93	62.2	42.2
3	*5745.00	93.4 AV			1.00 H	93	51.2	42.2
4	#5990.40	63.2 PK	68.2	-5.0	1.00 H	93	49.5	13.7
5	11490.00	62.6 PK	74.0	-11.4	1.85 H	239	39.1	23.5
6	11490.00	49.5 AV	54.0	-4.5	1.85 H	239	26.0	23.5

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5608.80	61.8 PK	68.2	-6.4	1.00 V	40	49.2	12.6
2	*5745.00	102.2 PK			1.00 V	40	60.0	42.2
3	*5745.00	92.0 AV			1.00 V	40	49.8	42.2
4	#5975.20	62.3 PK	68.2	-5.9	1.00 V	40	48.6	13.7
5	11490.00	63.0 PK	74.0	-11.0	2.36 V	147	39.5	23.5
6	11490.00	49.3 AV	54.0	-4.7	2.36 V	147	25.8	23.5

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5636.80	62.1 PK	68.2	-6.1	1.00 H	97	49.6	12.5
2	*5785.00	103.0 PK			1.00 H	97	60.5	42.5
3	*5785.00	92.4 AV			1.00 H	97	49.9	42.5
4	#5945.60	63.1 PK	68.2	-5.1	1.00 H	97	49.5	13.6
5	11570.00	62.2 PK	74.0	-11.8	1.76 H	241	39.0	23.2
6	11570.00	49.1 AV	54.0	-4.9	1.76 H	241	25.9	23.2

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5640.80	62.0 PK	68.2	-6.2	1.00 V	45	49.5	12.5
2	*5785.00	102.4 PK			1.00 V	45	59.9	42.5
3	*5785.00	91.8 AV			1.00 V	45	49.3	42.5
4	#5965.60	63.2 PK	68.2	-5.0	1.00 V	45	49.4	13.8
5	11570.00	62.4 PK	74.0	-11.6	2.86 V	135	39.2	23.2
6	11570.00	49.3 AV	54.0	-4.7	2.86 V	135	26.1	23.2

Remarks:

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



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5638.40	62.5 PK	68.2	-5.7	1.00 H	83	50.0	12.5
2	*5825.00	102.4 PK			1.00 H	83	59.6	42.8
3	*5825.00	91.3 AV			1.00 H	83	48.5	42.8
4	#5945.60	63.0 PK	68.2	-5.2	1.00 H	83	49.4	13.6
5	11650.00	62.2 PK	74.0	-11.8	1.81 H	236	39.3	22.9
6	11650.00	49.0 AV	54.0	-5.0	1.81 H	236	26.1	22.9
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5623.20	62.7 PK	68.2	-5.5	1.00 V	46	50.1	12.6
2	*5825.00	102.0 PK			1.00 V	46	59.2	42.8
3	*5825.00	90.9 AV			1.00 V	46	48.1	42.8
4	#5955.20	63.3 PK	68.2	-4.9	1.00 V	46	49.6	13.7
5	11650.00	61.8 PK	74.0	-12.2	2.18 V	105	38.9	22.9
6	11650.00	48.8 AV	54.0	-5.2	2.18 V	105	25.9	22.9

Remarks:

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

## 802.11n (HT20)

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

## ANTENNA POLARITY &amp; 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	60.4 PK	74.0	-13.6	1.00 H	92	48.6	11.8
2	5150.00	47.7 AV	54.0	-6.3	1.00 H	92	35.9	11.8
3	*5180.00	104.7 PK			1.00 H	83	63.9	40.8
4	*5180.00	94.3 AV			1.00 H	83	53.5	40.8
5	#10360.00	63.4 PK	68.2	-4.8	1.86 H	263	41.3	22.1

## ANTENNA POLARITY &amp; 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	59.9 PK	74.0	-14.1	1.06 V	89	48.1	11.8
2	5150.00	47.0 AV	54.0	-7.0	1.06 V	89	35.2	11.8
3	*5180.00	98.0 PK			1.00 V	80	57.2	40.8
4	*5180.00	87.2 AV			1.00 V	80	46.4	40.8
5	#10360.00	62.6 PK	68.2	-5.6	2.66 V	187	40.5	22.1

## Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	105.7 PK			1.00 H	83	64.9	40.8
2	*5200.00	95.1 AV			1.00 H	83	54.3	40.8
3	#10400.00	63.2 PK	68.2	-5.0	1.63 H	228	40.8	22.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	98.6 PK			1.00 V	85	57.8	40.8
2	*5200.00	88.3 AV			1.00 V	85	47.5	40.8
3	#10400.00	62.8 PK	68.2	-5.4	2.85 V	174	40.4	22.4

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	105.6 PK			1.00 H	84	65.1	40.5
2	*5240.00	95.1 AV			1.00 H	84	54.6	40.5
3	5350.00	61.9 PK	74.0	-12.1	1.12 H	90	50.0	11.9
4	5350.00	47.2 AV	54.0	-6.8	1.12 H	90	35.3	11.9
5	#10480.00	62.9 PK	68.2	-5.3	1.21 H	239	40.7	22.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	98.9 PK			1.00 V	86	58.4	40.5
2	*5240.00	87.8 AV			1.00 V	86	47.3	40.5
3	5350.00	60.5 PK	74.0	-13.5	1.09 V	80	48.6	11.9
4	5350.00	46.8 AV	54.0	-7.2	1.09 V	80	34.9	11.9
5	#10480.00	62.5 PK	68.2	-5.7	2.54 V	193	40.3	22.2

Remarks:

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

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

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

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	60.3 PK	74.0	-13.7	1.10 H	86	48.5	11.8
2	5150.00	47.5 AV	54.0	-6.5	1.10 H	86	35.7	11.8
3	*5260.00	105.6 PK			1.00 H	83	65.1	40.5
4	*5260.00	94.8 AV			1.00 H	83	54.3	40.5
5	#10520.00	63.2 PK	68.2	-5.0	1.75 H	249	40.9	22.3

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

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	60.0 PK	74.0	-14.0	1.15 V	89	48.2	11.8
2	5150.00	47.0 AV	54.0	-7.0	1.15 V	89	35.2	11.8
3	*5260.00	99.1 PK			1.00 V	86	58.6	40.5
4	*5260.00	88.4 AV			1.00 V	86	47.9	40.5
5	#10520.00	62.8 PK	68.2	-5.4	2.69 V	177	40.5	22.3

**Remarks:**

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	105.7 PK			1.00 H	85	65.3	40.4
2	*5300.00	94.6 AV			1.00 H	85	54.2	40.4
3	10600.00	63.1 PK	74.0	-10.9	1.66 H	230	40.8	22.3
4	10600.00	49.3 AV	54.0	-4.7	1.66 H	230	27.0	22.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	98.6 PK			1.00 V	81	58.2	40.4
2	*5300.00	87.8 AV			1.00 V	81	47.4	40.4
3	10600.00	62.6 PK	74.0	-11.4	2.37 V	184	40.3	22.3
4	10600.00	49.1 AV	54.0	-4.9	2.37 V	184	26.8	22.3

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	106.2 PK			1.00 H	85	65.6	40.6
2	*5320.00	95.1 AV			1.00 H	85	54.5	40.6
3	5350.00	60.2 PK	74.0	-13.8	1.05 H	94	48.3	11.9
4	5350.00	47.8 AV	54.0	-6.2	1.05 H	94	35.9	11.9
5	10640.00	63.2 PK	74.0	-10.8	1.95 H	280	40.7	22.5
6	10640.00	49.3 AV	54.0	-4.7	1.95 H	280	26.8	22.5
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	88.8 PK			1.00 V	85	48.2	40.6
2	*5320.00	88.0 AV			1.00 V	85	47.4	40.6
3	5350.00	59.9 PK	74.0	-14.1	1.01 V	74	48.0	11.9
4	5350.00	47.0 AV	54.0	-7.0	1.01 V	74	35.1	11.9
5	10640.00	62.7 PK	74.0	-11.3	2.94 V	176	40.2	22.5
6	10640.00	49.2 AV	54.0	-4.8	2.94 V	176	26.7	22.5

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	58.5 PK	74.0	-15.5	1.10 H	75	46.0	12.5
2	5460.00	46.4 AV	54.0	-7.6	1.10 H	75	33.9	12.5
3	#5470.00	60.2 PK	68.2	-8.0	1.21 H	93	47.7	12.5
4	*5500.00	102.8 PK			1.09 H	85	61.3	41.5
5	*5500.00	92.6 AV			1.09 H	85	51.1	41.5
6	11000.00	63.6 PK	74.0	-10.4	2.96 H	233	40.9	22.7
7	11000.00	49.5 AV	54.0	-4.5	2.96 H	233	26.8	22.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	58.3 PK	74.0	-15.7	1.43 V	56	45.8	12.5
2	5460.00	46.6 AV	54.0	-7.4	1.43 V	56	34.1	12.5
3	#5470.00	60.0 PK	68.2	-8.2	1.29 V	55	47.5	12.5
4	*5500.00	100.2 PK			1.38 V	40	58.7	41.5
5	*5500.00	89.0 AV			1.38 V	40	47.5	41.5
6	11000.00	63.3 PK	74.0	-10.7	2.68 V	274	40.6	22.7
7	11000.00	48.8 AV	54.0	-5.2	2.68 V	274	26.1	22.7

Remarks:

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



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	103.1 PK			1.00 H	75	61.3	41.8
2	*5580.00	91.8 AV			1.00 H	75	50.0	41.8
3	11160.00	63.4 PK	74.0	-10.6	2.99 H	177	40.7	22.7
4	11160.00	49.1 AV	54.0	-4.9	2.99 H	177	26.4	22.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	101.0 PK			1.37 V	44	59.2	41.8
2	*5580.00	90.0 AV			1.37 V	44	48.2	41.8
3	11160.00	62.9 PK	74.0	-11.1	2.11 V	233	40.2	22.7
4	11160.00	48.9 AV	54.0	-5.1	2.11 V	233	26.2	22.7

Remarks:

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

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

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

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5600.00	104.4 PK			1.07 H	82	62.7	41.7
2	*5600.00	93.9 AV			1.07 H	82	52.2	41.7
3	#5725.00	60.9 PK	68.2	-7.3	1.25 H	64	48.1	12.8
4	11200.00	62.7 PK	74.0	-11.3	1.98 H	225	40.2	22.5
5	11200.00	49.6 AV	54.0	-4.4	1.98 H	225	27.1	22.5

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

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5600.00	102.1 PK			1.62 V	40	60.4	41.7
2	*5600.00	91.9 AV			1.62 V	40	50.2	41.7
3	#5725.00	60.8 PK	68.2	-7.4	1.25 V	311	48.0	12.8
4	11200.00	62.2 PK	74.0	-11.8	2.15 V	143	39.7	22.5
5	11200.00	49.4 AV	54.0	-4.6	2.15 V	143	26.9	22.5

**Remarks:**

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	101.6 PK			1.00 H	74	59.5	42.1
2	*5700.00	91.3 AV			1.00 H	74	49.2	42.1
3	#5725.00	61.1 PK	68.2	-7.1	1.20 H	89	48.3	12.8
4	11400.00	64.5 PK	74.0	-9.5	2.77 H	211	40.7	23.8
5	11400.00	50.6 AV	54.0	-3.4	2.77 H	211	26.8	23.8

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	101.4 PK			1.35 V	43	59.3	42.1
2	*5700.00	91.1 AV			1.35 V	43	49.0	42.1
3	#5725.00	60.6 PK	68.2	-7.6	1.40 V	49	47.8	12.8
4	11400.00	64.0 PK	74.0	-10.0	3.61 V	222	40.2	23.8
5	11400.00	49.9 AV	54.0	-4.1	3.61 V	222	26.1	23.8

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	60.6 PK	68.2	-7.6	1.15 H	93	48.1	12.5
2	*5720.00	102.2 PK			1.03 H	86	60.1	42.1
3	*5720.00	91.3 AV			1.03 H	86	49.2	42.1
4	#5850.00	62.4 PK	68.2	-5.8	1.14 H	85	48.6	13.8
5	11440.00	63.5 PK	74.0	-10.5	1.63 H	225	39.9	23.6
6	<b>11440.00</b>	<b>50.9 AV</b>	<b>54.0</b>	<b>-3.1</b>	<b>1.63 H</b>	<b>225</b>	<b>27.3</b>	<b>23.6</b>

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	60.4 PK	68.2	-7.8	1.63 V	31	47.9	12.5
2	*5720.00	100.4 PK			1.72 V	52	58.3	42.1
3	*5720.00	89.6 AV			1.72 V	52	47.5	42.1
4	#5850.00	62.0 PK	68.2	-6.2	1.58 V	29	48.2	13.8
5	11440.00	62.4 PK	74.0	-11.6	2.97 V	188	38.8	23.6
6	11440.00	50.5 AV	54.0	-3.5	2.97 V	188	26.9	23.6

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5604.80	62.3 PK	68.2	-5.9	1.00 H	96	49.7	12.6
2	*5745.00	101.8 PK			1.00 H	96	59.6	42.2
3	*5745.00	90.5 AV			1.00 H	96	48.3	42.2
4	#5977.60	63.0 PK	68.2	-5.2	1.00 H	96	49.3	13.7
5	11490.00	63.0 PK	74.0	-11.0	1.47 H	224	39.5	23.5
6	11490.00	49.8 AV	54.0	-4.2	1.47 H	224	26.3	23.5
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5616.80	62.3 PK	68.2	-5.9	1.00 V	40	49.7	12.6
2	*5745.00	100.7 PK			1.00 V	40	58.5	42.2
3	*5745.00	89.8 AV			1.00 V	40	47.6	42.2
4	#5992.80	63.4 PK	68.2	-4.8	1.00 V	40	49.7	13.7
5	11490.00	62.7 PK	74.0	-11.3	2.48 V	116	39.2	23.5
6	11490.00	49.2 AV	54.0	-4.8	2.48 V	116	25.7	23.5

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5622.40	62.9 PK	68.2	-5.3	1.00 H	83	50.3	12.6
2	*5785.00	100.8 PK			1.00 H	83	58.3	42.5
3	*5785.00	89.6 AV			1.00 H	83	47.1	42.5
4	#5935.20	64.2 PK	68.2	-4.0	1.00 H	83	50.6	13.6
5	11570.00	62.7 PK	74.0	-11.3	1.79 H	251	39.5	23.2
6	11570.00	49.0 AV	54.0	-5.0	1.79 H	251	25.8	23.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5648.00	61.3 PK	68.2	-6.9	1.00 V	47	48.9	12.4
2	*5785.00	101.0 PK			1.00 V	47	58.5	42.5
3	*5785.00	89.6 AV			1.00 V	47	47.1	42.5
4	#5954.40	62.8 PK	68.2	-5.4	1.00 V	47	49.1	13.7
5	11570.00	62.1 PK	74.0	-11.9	2.27 V	169	38.9	23.2
6	11570.00	48.8 AV	54.0	-5.2	2.27 V	169	25.6	23.2

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5620.80	63.0 PK	68.2	-5.2	1.00 H	98	50.4	12.6
2	*5825.00	100.3 PK			1.00 H	98	57.5	42.8
3	*5825.00	89.5 AV			1.00 H	98	46.7	42.8
4	#5928.00	62.7 PK	68.2	-5.5	1.00 H	98	49.1	13.6
5	11650.00	62.5 PK	74.0	-11.5	1.79 H	244	39.6	22.9
6	11650.00	48.7 AV	54.0	-5.3	1.79 H	244	25.8	22.9

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5616.00	61.9 PK	68.2	-6.3	1.00 V	47	49.3	12.6
2	*5825.00	99.4 PK			1.00 V	47	56.6	42.8
3	*5825.00	88.9 AV			1.00 V	47	46.1	42.8
4	#5955.20	63.1 PK	68.2	-5.1	1.00 V	47	49.4	13.7
5	11650.00	61.9 PK	74.0	-12.1	2.36 V	155	39.0	22.9
6	11650.00	49.0 AV	54.0	-5.0	2.36 V	155	26.1	22.9

Remarks:

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

## 802.11n (HT40)

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

## ANTENNA POLARITY &amp; 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	61.3 PK	74.0	-12.7	1.03 H	81	49.5	11.8
2	5150.00	48.3 AV	54.0	-5.7	1.03 H	81	36.5	11.8
3	*5190.00	102.8 PK			1.00 H	84	62.0	40.8
4	*5190.00	91.7 AV			1.00 H	84	50.9	40.8
5	#10380.00	63.0 PK	68.2	-5.2	1.77 H	215	40.7	22.3

## ANTENNA POLARITY &amp; 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	60.4 PK	74.0	-13.6	1.06 V	88	48.6	11.8
2	5150.00	47.7 AV	54.0	-6.3	1.06 V	88	35.9	11.8
3	*5190.00	96.0 PK			1.00 V	93	55.2	40.8
4	*5190.00	84.3 AV			1.00 V	93	43.5	40.8
5	#10380.00	62.8 PK	68.2	-5.4	2.14 V	115	40.5	22.3

## Remarks:

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



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5230.00	103.0 PK			1.03 H	81	62.4	40.6
2	*5230.00	92.6 AV			1.03 H	81	52.0	40.6
3	5350.00	59.8 PK	74.0	-14.2	1.24 H	87	47.9	11.9
4	5350.00	47.0 AV	54.0	-7.0	1.24 H	87	35.1	11.9
5	#10460.00	63.6 PK	68.2	-4.6	1.92 H	241	41.3	22.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5230.00	95.8 PK			1.00 V	80	55.2	40.6
2	*5230.00	85.6 AV			1.00 V	80	45.0	40.6
3	5350.00	59.4 PK	74.0	-14.6	1.09 V	86	47.5	11.9
4	5350.00	46.7 AV	54.0	-7.3	1.09 V	86	34.8	11.9
5	#10460.00	63.1 PK	68.2	-5.1	2.33 V	165	40.8	22.3

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	60.9 PK	74.0	-13.1	1.25 H	89	49.1	11.8
2	5150.00	46.9 AV	54.0	-7.1	1.25 H	89	35.1	11.8
3	*5270.00	102.8 PK			1.00 H	82	62.4	40.4
4	*5270.00	92.5 AV			1.00 H	82	52.1	40.4
5	#10540.00	63.1 PK	68.2	-5.1	1.89 H	263	40.9	22.2

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	60.2 PK	74.0	-13.8	1.18 V	93	48.4	11.8
2	5150.00	46.6 AV	54.0	-7.4	1.18 V	93	34.8	11.8
3	*5270.00	95.6 PK			1.00 V	81	55.2	40.4
4	*5270.00	85.4 AV			1.00 V	81	45.0	40.4
5	#10540.00	62.8 PK	68.2	-5.4	2.51 V	163	40.6	22.2

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	103.2 PK			1.00 H	86	62.7	40.5
2	*5310.00	92.4 AV			1.00 H	86	51.9	40.5
3	5350.00	62.6 PK	74.0	-11.4	1.07 H	93	50.7	11.9
4	5350.00	47.2 AV	54.0	-6.8	1.07 H	93	35.3	11.9
5	10620.00	63.0 PK	74.0	-11.0	1.55 H	269	40.7	22.3
6	10620.00	49.2 AV	54.0	-4.8	1.55 H	269	26.9	22.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	95.8 PK			1.00 V	80	55.3	40.5
2	*5310.00	85.3 AV			1.00 V	80	44.8	40.5
3	5350.00	60.5 PK	74.0	-13.5	1.20 V	94	48.6	11.9
4	5350.00	46.8 AV	54.0	-7.2	1.20 V	94	34.9	11.9
5	10620.00	62.8 PK	74.0	-11.2	2.36 V	188	40.5	22.3
6	10620.00	49.0 AV	54.0	-5.0	2.36 V	188	26.7	22.3

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	50.9 PK	74.0	-23.1	1.29 H	81	38.4	12.5
2	5460.00	46.5 AV	54.0	-7.5	1.29 H	81	34.0	12.5
3	#5470.00	61.6 PK	68.2	-6.6	1.11 H	80	49.1	12.5
4	*5510.00	101.1 PK			1.00 H	75	59.5	41.6
5	*5510.00	90.6 AV			1.00 H	75	49.0	41.6
6	11020.00	63.7 PK	74.0	-10.3	2.99 H	214	41.0	22.7
7	11020.00	49.8 AV	54.0	-4.2	2.99 H	214	27.1	22.7

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	57.3 PK	74.0	-16.7	1.49 V	56	44.8	12.5
2	5460.00	46.4 AV	54.0	-7.6	1.49 V	56	33.9	12.5
3	#5470.00	60.2 PK	68.2	-8.0	1.51 V	29	47.7	12.5
4	*5510.00	96.9 PK			1.61 V	41	55.3	41.6
5	*5510.00	86.6 AV			1.61 V	41	45.0	41.6
6	11020.00	63.2 PK	74.0	-10.8	2.69 V	102	40.5	22.7
7	11020.00	49.0 AV	54.0	-5.0	2.69 V	102	26.3	22.7

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5550.00	99.5 PK			1.00 H	87	57.8	41.7
2	*5550.00	89.5 AV			1.00 H	87	47.8	41.7
3	11100.00	63.4 PK	74.0	-10.6	1.77 H	48	40.5	22.9
4	11100.00	49.4 AV	54.0	-4.6	1.77 H	48	26.5	22.9
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5550.00	97.2 PK			1.30 V	44	55.5	41.7
2	*5550.00	86.8 AV			1.30 V	44	45.1	41.7
3	11100.00	63.0 PK	74.0	-11.0	3.19 V	316	40.1	22.9
4	11100.00	48.7 AV	54.0	-5.3	3.19 V	316	25.8	22.9

Remarks:

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

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

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

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	61.4 PK	68.2	-6.8	1.15 H	96	48.9	12.5
2	*5590.00	102.0 PK			1.06 H	83	60.3	41.7
3	*5590.00	92.0 AV			1.06 H	83	50.3	41.7
4	#5725.00	61.1 PK	68.2	-7.1	1.36 H	87	48.3	12.8
5	11180.00	62.3 PK	74.0	-11.7	1.72 H	206	39.8	22.5
6	11180.00	49.0 AV	54.0	-5.0	1.72 H	206	26.5	22.5

## ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	60.7 PK	68.2	-7.5	1.66 V	48	48.2	12.5
2	*5590.00	99.7 PK			1.60 V	39	58.0	41.7
3	*5590.00	89.8 AV			1.60 V	39	48.1	41.7
4	#5725.00	60.8 PK	68.2	-7.4	1.43 V	49	48.0	12.8
5	11180.00	62.0 PK	74.0	-12.0	1.15 V	290	39.5	22.5
6	11180.00	48.8 AV	54.0	-5.2	1.15 V	290	26.3	22.5

## Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	99.1 PK			1.29 H	73	57.4	41.7
2	*5670.00	88.0 AV			1.29 H	73	46.3	41.7
3	#5725.00	60.7 PK	68.2	-7.5	1.33 H	80	47.9	12.8
4	11340.00	63.4 PK	74.0	-10.6	2.63 H	233	40.1	23.3
5	11340.00	49.9 AV	54.0	-4.1	2.63 H	233	26.6	23.3

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	98.7 PK			1.23 V	43	57.0	41.7
2	*5670.00	88.2 AV			1.23 V	43	46.5	41.7
3	#5725.00	60.9 PK	68.2	-7.3	1.20 V	35	48.1	12.8
4	11340.00	62.8 PK	74.0	-11.2	3.26 V	188	39.5	23.3
5	11340.00	49.4 AV	54.0	-4.6	3.26 V	188	26.1	23.3

Remarks:

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

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

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

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	61.6 PK	68.2	-6.6	1.16 H	91	49.1	12.5
2	*5710.00	100.5 PK			1.06 H	84	58.4	42.1
3	*5710.00	89.6 AV			1.06 H	84	47.5	42.1
4	#5850.00	62.1 PK	68.2	-6.1	1.07 H	79	48.3	13.8
5	11420.00	63.4 PK	74.0	-10.6	1.98 H	201	39.6	23.8
6	11420.00	50.6 AV	54.0	-3.4	1.98 H	201	26.8	23.8

## ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	61.3 PK	68.2	-6.9	1.61 V	39	48.8	12.5
2	*5710.00	98.3 PK			1.55 V	38	56.2	42.1
3	*5710.00	87.4 AV			1.55 V	38	45.3	42.1
4	#5850.00	61.9 PK	68.2	-6.3	1.63 V	47	48.1	13.8
5	11420.00	62.9 PK	74.0	-11.1	3.10 V	157	39.1	23.8
6	11420.00	50.3 AV	54.0	-3.7	3.10 V	157	26.5	23.8

## Remarks:

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



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5612.00	62.2 PK	68.2	-6.0	1.00 H	96	49.6	12.6
2	*5755.00	98.1 PK			1.00 H	96	55.8	42.3
3	*5755.00	87.8 AV			1.00 H	96	45.5	42.3
4	#5989.60	63.4 PK	68.2	-4.8	1.00 H	96	49.7	13.7
5	11510.00	62.7 PK	74.0	-11.3	1.96 H	255	39.4	23.3
6	11510.00	49.7 AV	54.0	-4.3	1.96 H	255	26.4	23.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5629.60	62.0 PK	68.2	-6.2	1.00 V	40	49.4	12.6
2	*5755.00	97.8 PK			1.00 V	40	55.5	42.3
3	*5755.00	87.3 AV			1.00 V	40	45.0	42.3
4	#5932.00	63.2 PK	68.2	-5.0	1.00 V	40	49.6	13.6
5	11510.00	62.1 PK	74.0	-11.9	2.85 V	138	38.8	23.3
6	11510.00	49.2 AV	54.0	-4.8	2.85 V	138	25.9	23.3

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5632.00	62.3 PK	68.2	-5.9	1.00 H	48	49.7	12.6
2	*5795.00	97.7 PK			1.00 H	48	55.1	42.6
3	*5795.00	87.7 AV			1.00 H	48	45.1	42.6
4	#5999.20	63.4 PK	68.2	-4.8	1.00 H	48	49.7	13.7
5	11590.00	62.7 PK	74.0	-11.3	1.66 H	243	39.8	22.9
6	11590.00	49.4 AV	54.0	-4.6	1.66 H	243	26.5	22.9
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5624.80	62.1 PK	68.2	-6.1	1.00 V	44	49.5	12.6
2	*5795.00	98.2 PK			1.00 V	44	55.6	42.6
3	*5795.00	87.2 AV			1.00 V	44	44.6	42.6
4	#5992.80	63.0 PK	68.2	-5.2	1.00 V	44	49.3	13.7
5	11590.00	61.9 PK	74.0	-12.1	2.91 V	187	39.0	22.9
6	11590.00	49.0 AV	54.0	-5.0	2.91 V	187	26.1	22.9

Remarks:

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

## 802.11ac (VHT80)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	60.6 PK	74.0	-13.4	1.03 H	78	48.8	11.8
2	5150.00	50.2 AV	54.0	-3.8	1.03 H	78	38.4	11.8
3	*5210.00	99.0 PK			1.00 H	81	58.3	40.7
4	*5210.00	89.0 AV			1.00 H	81	48.3	40.7
5	5350.00	60.1 PK	74.0	-13.9	1.10 H	92	48.2	11.9
6	5350.00	47.0 AV	54.0	-7.0	1.10 H	92	35.1	11.9
7	#10420.00	62.9 PK	68.2	-5.3	1.85 H	240	40.6	22.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	60.0 PK	74.0	-14.0	1.14 V	73	48.2	11.8
2	5150.00	50.2 AV	54.0	-3.8	1.14 V	73	38.4	11.8
3	*5210.00	91.9 PK			1.00 V	89	51.2	40.7
4	*5210.00	81.7 AV			1.00 V	89	41.0	40.7
5	5350.00	59.5 PK	74.0	-14.5	1.07 V	80	47.6	11.9
6	5350.00	46.8 AV	54.0	-7.2	1.07 V	80	34.9	11.9
7	#10420.00	62.6 PK	68.2	-5.6	2.58 V	194	40.3	22.3

## Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	60.1 PK	74.0	-13.9	1.17 H	80	48.3	11.8
2	5150.00	49.0 AV	54.0	-5.0	1.17 H	80	37.2	11.8
3	*5290.00	100.9 PK			1.00 H	84	60.5	40.4
4	*5290.00	90.9 AV			1.00 H	84	50.5	40.4
5	5350.00	62.9 PK	74.0	-11.1	1.05 H	86	51.0	11.9
6	5350.00	50.0 AV	54.0	-4.0	1.05 H	86	38.1	11.9
7	#10580.00	62.8 PK	68.2	-5.4	1.39 H	208	40.6	22.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	59.8 PK	74.0	-14.2	1.24 V	89	48.0	11.8
2	5150.00	48.5 AV	54.0	-5.5	1.24 V	89	36.7	11.8
3	*5290.00	94.2 PK			1.00 V	81	53.8	40.4
4	*5290.00	84.0 AV			1.00 V	81	43.6	40.4
5	5350.00	62.1 PK	74.0	-11.9	1.06 V	95	50.2	11.9
6	5350.00	49.5 AV	54.0	-4.5	1.06 V	95	37.6	11.9
7	#10580.00	62.4 PK	68.2	-5.8	2.69 V	187	40.2	22.2

Remarks:

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

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

## ANTENNA POLARITY &amp; 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	60.7 PK	74.0	-13.3	1.02 H	80	48.2	12.5
2	5460.00	49.7 AV	54.0	-4.3	1.02 H	80	37.2	12.5
3	#5470.00	61.4 PK	68.2	-6.8	1.09 H	83	48.9	12.5
4	*5530.00	97.5 PK			1.00 H	74	55.8	41.7
5	*5530.00	88.4 AV			1.00 H	74	46.7	41.7
6	#5725.00	60.7 PK	68.2	-7.5	1.15 H	88	47.9	12.8
7	11060.00	64.1 PK	74.0	-9.9	1.88 H	322	41.3	22.8
8	11060.00	50.0 AV	54.0	-4.0	1.88 H	322	27.2	22.8

## ANTENNA POLARITY &amp; 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	59.5 PK	74.0	-14.5	1.55 V	39	47.0	12.5
2	5460.00	46.9 AV	54.0	-7.1	1.55 V	39	34.4	12.5
3	#5470.00	60.7 PK	68.2	-7.5	1.50 V	43	48.2	12.5
4	*5530.00	94.4 PK			1.52 V	39	52.7	41.7
5	*5530.00	85.0 AV			1.52 V	39	43.3	41.7
6	#5725.00	60.9 PK	68.2	-7.3	1.66 V	56	48.1	12.8
7	11060.00	62.9 PK	74.0	-11.1	2.96 V	255	40.1	22.8
8	11060.00	48.7 AV	54.0	-5.3	2.96 V	255	25.9	22.8

## Remarks:

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

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

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

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	59.0 PK	74.0	-15.0	1.11 H	63	46.5	12.5
2	5460.00	48.2 AV	54.0	-5.8	1.11 H	63	35.7	12.5
3	#5470.00	60.6 PK	68.2	-7.6	1.11 H	80	48.1	12.5
4	*5610.00	94.9 PK			1.00 H	72	53.2	41.7
5	*5610.00	86.6 AV			1.00 H	72	44.9	41.7
6	#5725.00	60.8 PK	68.2	-7.4	1.21 H	69	48.0	12.8
7	11220.00	62.9 PK	74.0	-11.1	3.21 H	188	40.3	22.6
8	11220.00	49.1 AV	54.0	-4.9	3.21 H	188	26.5	22.6

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

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	58.1 PK	74.0	-15.9	1.19 V	20	45.6	12.5
2	5460.00	46.7 AV	54.0	-7.3	1.19 V	20	34.2	12.5
3	#5470.00	60.2 PK	68.2	-8.0	1.02 V	50	47.7	12.5
4	*5610.00	94.2 PK			1.00 V	44	52.5	41.7
5	*5610.00	86.0 AV			1.00 V	44	44.3	41.7
6	#5725.00	60.4 PK	68.2	-7.8	1.20 V	54	47.6	12.8
7	11220.00	62.8 PK	74.0	-11.2	1.55 V	210	40.2	22.6
8	11220.00	48.9 AV	54.0	-5.1	1.55 V	210	26.3	22.6

**Remarks:**

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	61.4 PK	68.2	-6.8	1.09 H	92	48.9	12.5
2	*5690.00	97.3 PK			1.07 H	82	55.3	42.0
3	*5690.00	86.5 AV			1.07 H	82	44.5	42.0
4	#5850.00	62.5 PK	68.2	-5.7	1.29 H	101	48.7	13.8
5	11380.00	63.7 PK	74.0	-10.3	1.35 H	205	40.1	23.6
6	11380.00	50.4 AV	54.0	-3.6	1.35 H	205	26.8	23.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	61.1 PK	68.2	-7.1	1.71 V	46	48.6	12.5
2	*5690.00	95.1 PK			1.67 V	45	53.1	42.0
3	*5690.00	84.2 AV			1.67 V	45	42.2	42.0
4	#5850.00	62.3 PK	68.2	-5.9	1.54 V	32	48.5	13.8
5	11380.00	63.3 PK	74.0	-10.7	2.95 V	178	39.7	23.6
6	11380.00	50.0 AV	54.0	-4.0	2.95 V	178	26.4	23.6

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5631.20	62.5 PK	68.2	-5.7	1.00 H	45	49.9	12.6
2	*5775.00	94.7 PK			1.00 H	45	52.2	42.5
3	*5775.00	84.6 AV			1.00 H	45	42.1	42.5
4	#5979.20	63.3 PK	68.2	-4.9	1.00 H	45	49.6	13.7
5	11550.00	62.2 PK	74.0	-11.8	1.42 H	280	39.0	23.2
6	11550.00	48.9 AV	54.0	-5.1	1.42 H	280	25.7	23.2

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5644.80	62.3 PK	68.2	-5.9	1.00 V	41	49.8	12.5
2	*5775.00	94.7 PK			1.00 V	41	52.2	42.5
3	*5775.00	84.2 AV			1.00 V	41	41.7	42.5
4	#5932.80	62.6 PK	68.2	-5.6	1.00 V	41	49.0	13.6
5	11550.00	62.1 PK	74.0	-11.9	2.91 V	126	38.9	23.2
6	11550.00	49.1 AV	54.0	-4.9	2.91 V	126	25.9	23.2

Remarks:

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



Below 1GHz Worst-Case Data:

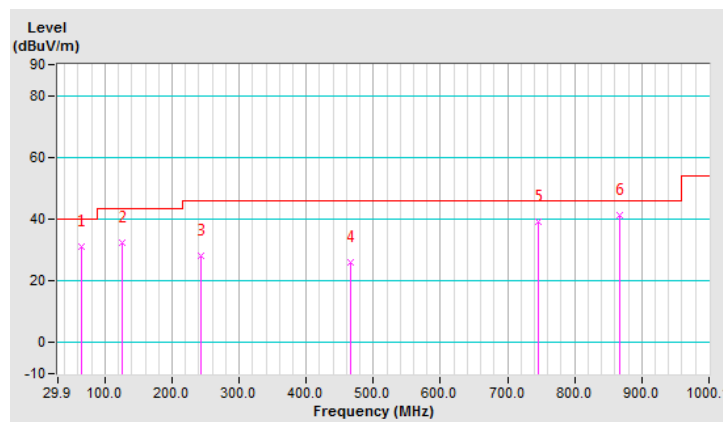
802.11a

CHANNEL	TX Channel 40	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	64.83	31.3 QP	40.0	-8.7	1.50 H	51	41.0	-9.7
2	124.98	32.5 QP	43.5	-11.0	1.00 H	9	43.2	-10.7
3	243.34	28.3 QP	46.0	-17.7	1.00 H	130	38.2	-9.9
4	466.49	26.1 QP	46.0	-19.9	1.00 H	263	31.4	-5.3
5	745.91	39.1 QP	46.0	-6.9	1.50 H	13	38.1	1.0
6	866.21	41.1 QP	46.0	-4.9	1.00 H	267	38.2	2.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20dB below the permissible value to be report.



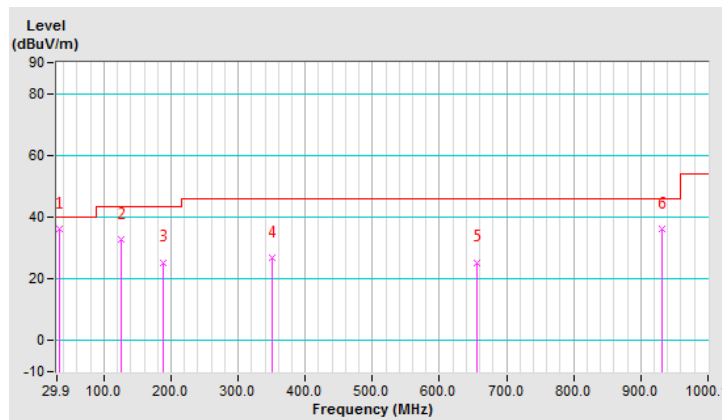
CHANNEL	TX Channel 40	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

## ANTENNA POLARITY &amp; 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	33.78	36.0 QP	40.0	-4.0	1.00 V	95	46.1	-10.1
2	124.98	32.8 QP	43.5	-10.7	1.00 V	268	43.5	-10.7
3	189.01	25.4 QP	43.5	-18.1	1.00 V	167	36.6	-11.2
4	350.07	26.8 QP	46.0	-19.2	1.00 V	326	34.1	-7.3
5	656.65	25.4 QP	46.0	-20.6	1.00 V	216	26.7	-1.3
6	932.19	36.3 QP	46.0	-9.7	1.00 V	214	32.2	4.1

## Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20dB 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

Tested date: Nov. 22, 2018

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCI	100613	Nov. 23, 2017	Nov. 22, 2018
RF signal cable Woken	5D-FB	Cable-cond1-01	Sep. 05, 2018	Sep. 04, 2019
LISN ROHDE & SCHWARZ (EUT)	ENV216	101826	Feb. 26, 2018	Feb. 25, 2019
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Aug. 19, 2018	Aug. 18, 2019
Software ADT	BV ADT_Cond_ V7.3.7.4	NA	NA	NA

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

2. The test was performed in HwaYa Shielded Room 1.

3. The VCCI Site Registration No. is C-2040.

#### 4.2.3 Test Procedures

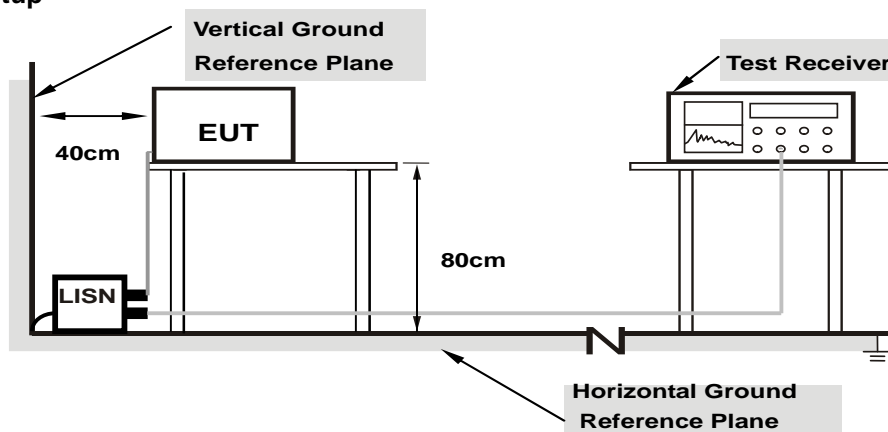
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

NOTE: The resolution bandwidth and video bandwidth of test receiver is 9kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15MHz-30MHz.

#### 4.2.4 Deviation from Test Standard

No deviation.

#### 4.2.5 Test Setup



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

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

#### 4.2.6 EUT Operating Conditions

Same as 4.1.6.

#### 4.2.7 Test Results

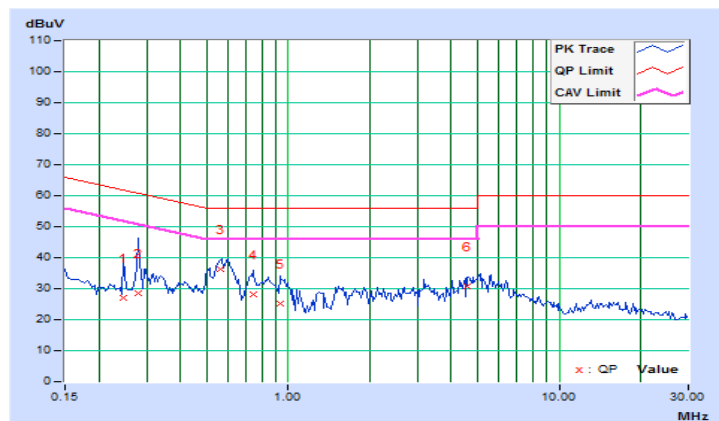
802.11a

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.24766	9.67	17.43	6.35	27.10	16.02	61.84	51.84	-34.74	-35.82
2	0.27891	9.67	18.83	11.12	28.50	20.79	60.85	50.85	-32.35	-30.06
<b>3</b>	<b>0.56406</b>	<b>9.66</b>	<b>26.73</b>	<b>21.64</b>	<b>36.39</b>	<b>31.30</b>	<b>56.00</b>	<b>46.00</b>	<b>-19.61</b>	<b>-14.70</b>
4	0.74375	9.65	18.66	13.19	28.31	22.84	56.00	46.00	-27.69	-23.16
5	0.93125	9.65	15.37	8.67	25.02	18.32	56.00	46.00	-30.98	-27.68
6	4.59766	9.74	20.97	12.79	30.71	22.53	56.00	46.00	-25.29	-23.47

#### REMARKS:

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

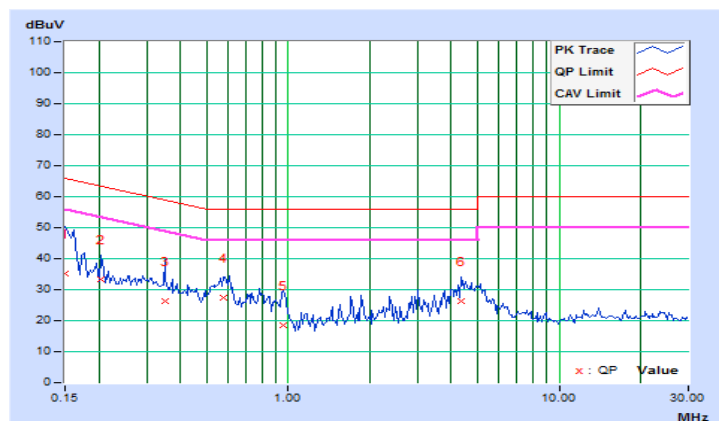


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
	1	0.15000	9.68	25.50	10.37	35.18	20.05	66.00	56.00	-30.82
2	0.20469	9.67	23.50	7.70	33.17	17.37	63.42	53.42	-30.25	-36.05
3	0.34922	9.67	16.69	5.95	26.36	15.62	58.98	48.98	-32.62	-33.36
4	0.57578	9.66	17.62	8.61	27.28	18.27	56.00	46.00	-28.72	-27.73
5	0.96250	9.65	8.99	1.55	18.64	11.20	56.00	46.00	-37.36	-34.80
6	4.33984	9.74	16.48	4.84	26.22	14.58	56.00	46.00	-29.78	-31.42

REMARKS:

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



### 4.3 Transmit Power Measurement

#### 4.3.1 Limits of Transmit Power Measurement

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

\*B is the 26 dB emission bandwidth in megahertz

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

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

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

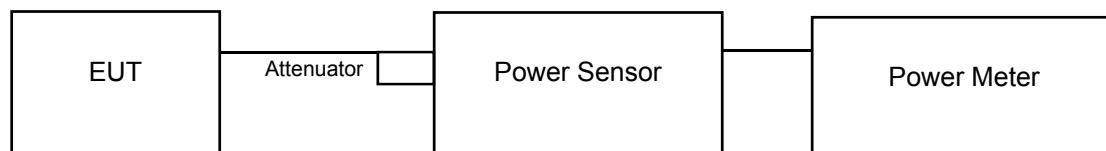
Array Gain =  $5 \log(N_{ANT}/N_{SS})$  dB or 3 dB, whichever is less for 20-MHz channel widths with  $N_{ANT} \geq 5$ .

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

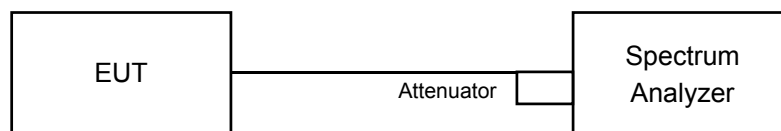
#### 4.3.2 Test Setup

For Power Output

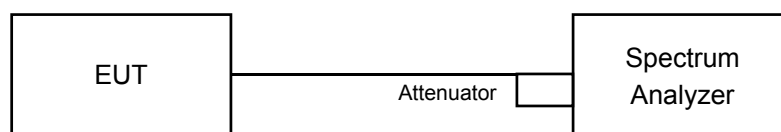
802.11a, 802.11n (HT20), 802.11n (HT40)



802.11ac (VHT80)



For 26dB and Occupied Bandwidth



### 4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

### 4.3.4 Test Procedure

#### For Average Power Measurement

##### For 802.11a, 802.11n (HT20), 802.11n (HT40)

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 (VHT80)

- a. Set span to encompass the entire 26 dB EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal.
- b. Set sweep trigger to "free run".
- c. Set RBW = 1 MHz
- d. Set VBW  $\geq$  3 MHz
- e. Number of points in sweep  $\geq$  2 Span / RBW
- f. Sweep time  $\leq$  (number of points in sweep) \* T
- g. Using emission bandwidth to determine the frequency span for integration the channel bandwidth.
- h. Detector = RMS
- i. Trace mode = max hold
- j. Allow max hold to run for at least 60 seconds, or longer as needed to allow the trace to stabilize.
- k. Compute power by integrating the spectrum across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal using the instrument's band power measurement function with band limits set equal to the EBW (or occupied bandwidth) band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at 1 MHz intervals extending across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the spectrum.

##### For 26dB Bandwidth

- a. Set RBW = approximately 1% of the emission bandwidth.
- b. Set the VBW > RBW.
- c. Detector = Peak.
- d. Trace mode = max hold.
- e. 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%.

##### For Occupied Bandwidth

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 Sampling. 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.

### 4.3.5 Deviation from Test Standard

No deviation.

### 4.3.6 EUT Operating Conditions

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



#### 4.3.7 Test Result

Power Output:

802.11a

Chan.	Freq. (MHz)	Conducted Power (mW)	Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	<b>35.400</b>	15.49	24.00	Pass
40	5200	31.477	14.98	24.00	Pass
48	5240	30.903	14.90	24.00	Pass
52	5260	<b>28.576</b>	14.56	24.00	Pass
60	5300	28.119	14.49	24.00	Pass
64	5320	28.054	14.48	24.00	Pass
100	5500	27.416	14.38	24.00	Pass
116	5580	<b>28.119</b>	14.49	24.00	Pass
120	5600	27.861	14.45	24.00	Pass
140	5700	21.727	13.37	24.00	Pass
144	5720 For U-NII-2C	14.388	11.58	24.00	Pass
144	5720 For U-NII-3	5.420	7.34	30.00	Pass
149	5745	<b>17.701</b>	12.48	30.00	Pass
157	5785	15.488	11.90	30.00	Pass
165	5825	14.158	11.51	30.00	Pass

Note:

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

1.  $11\text{dBm} + 10\log(22.74) = 24.57\text{ dBm} > 24\text{dBm}$
2.  $11\text{dBm} + 10\log(22.64) = 24.55\text{ dBm} > 24\text{dBm}$
3.  $11\text{dBm} + 10\log(22.69) = 24.56\text{ dBm} > 24\text{dBm}$
4.  $11\text{dBm} + 10\log(22.75) = 24.57\text{ dBm} > 24\text{dBm}$
5.  $11\text{dBm} + 10\log(22.72) = 24.56\text{ dBm} > 24\text{dBm}$
6.  $11\text{dBm} + 10\log(22.42) = 24.51\text{ dBm} > 24\text{dBm}$
7.  $11\text{dBm} + 10\log(22.38) = 24.50\text{ dBm} > 24\text{dBm}$
8.  $11\text{dBm} + 10\log(5725.00 - 5702.65) = 24.49\text{ dBm} > 24\text{dBm}$ .

For Reference only-Power meter value

The power value was measured by power meter with average sensor

Chan.	Freq. (MHz)	Conducted Power (mW)	Conducted Power (dBm)
144	5720	19.808	12.97

## 802.11n (HT20)

Chan.	Freq. (MHz)	Conducted Power (mW)	Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	19.724	12.95	24.00	Pass
40	5200	19.861	12.98	24.00	Pass
48	5240	19.770	12.96	24.00	Pass
52	5260	19.454	12.89	24.00	Pass
60	5300	17.498	12.43	24.00	Pass
64	5320	17.947	12.54	24.00	Pass
100	5500	19.907	12.99	24.00	Pass
116	5580	17.783	12.50	24.00	Pass
120	5600	17.458	12.42	24.00	Pass
140	5700	12.560	10.99	24.00	Pass
144	5720 For U-NII-2C	8.750	9.42	23.22	Pass
144	5720 For U-NII-3	3.357	5.26	30.00	Pass
149	5745	11.272	10.52	30.00	Pass
157	5785	9.977	9.99	30.00	Pass
165	5825	9.8860	9.95	30.00	Pass

Note:

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

1.  $11\text{dBm} + 10\log(22.62) = 24.54\text{ dBm} > 24\text{dBm}$
2.  $11\text{dBm} + 10\log(22.93) = 24.60\text{ dBm} > 24\text{dBm}$
3.  $11\text{dBm} + 10\log(23.07) = 24.63\text{ dBm} > 24\text{dBm}$
4.  $11\text{dBm} + 10\log(22.62) = 24.54\text{ dBm} > 24\text{dBm}$
5.  $11\text{dBm} + 10\log(22.91) = 24.60\text{ dBm} > 24\text{dBm}$
6.  $11\text{dBm} + 10\log(22.71) = 24.56\text{ dBm} > 24\text{dBm}$
7.  $11\text{dBm} + 10\log(22.77) = 24.57\text{ dBm} > 24\text{dBm}$
8.  $11\text{dBm} + 10\log(5725.00 - 5708.29) = 23.22\text{ dBm} < 24\text{dBm}$ .

For Reference only-Power meter value

The power value was measured by power meter with average sensor

Chan.	Freq. (MHz)	Conducted Power (mW)	Conducted Power (dBm)
144	5720	12.107	10.83

## 802.11n (HT40)

Chan.	Freq. (MHz)	Conducted Power (mW)	Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
38	5190	21.979	13.42	24.00	Pass
46	5230	21.928	13.41	24.00	Pass
54	5270	19.815	12.97	24.00	Pass
62	5310	19.634	12.93	24.00	Pass
102	5510	21.429	13.31	24.00	Pass
110	5550	21.727	13.37	24.00	Pass
118	5590	19.724	12.95	24.00	Pass
134	5670	15.417	11.88	24.00	Pass
142	5710 For U-NII-2C	11.940	10.77	24.00	Pass
142	5710 For U-NII-3	2.377	3.76	30.00	Pass
151	5755	11.298	10.53	30.00	Pass
159	5795	11.015	10.42	30.00	Pass

Note:

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

- $11\text{dBm} + 10\log(45.47) = 27.58\text{ dBm} > 24\text{dBm}$
- $11\text{dBm} + 10\log(46.18) = 27.64\text{ dBm} > 24\text{dBm}$
- $11\text{dBm} + 10\log(46.05) = 27.63\text{ dBm} > 24\text{dBm}$
- $11\text{dBm} + 10\log(45.80) = 27.61\text{ dBm} > 24\text{dBm}$
- $11\text{dBm} + 10\log(45.62) = 27.59\text{ dBm} > 24\text{dBm}$
- $11\text{dBm} + 10\log(46.34) = 27.66\text{ dBm} > 24\text{dBm}$
- $11\text{dBm} + 10\log(5725.00 - 5687.36) = 26.76\text{ dBm} > 24\text{dBm}$ .

For Reference only-Power meter value

The power value was measured by power meter with average sensor

Chan.	Freq. (MHz)	Conducted Power (mW)	Conducted Power (dBm)
142	5710	14.317	11.56

## 802.11ac (VHT80)

Chan.	Freq. (MHz)	Conducted Power (mW)	Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
42	5210	22.131	13.45	24.00	Pass
58	5290	19.454	12.89	24.00	Pass
106	5530	22.491	13.52	24.00	Pass
122	5610	24.660	13.92	24.00	Pass
138	5690 For U-NII-2C	14.028	11.47	24.00	Pass
138	5690 For U-NII-3	1.435	1.57	24.00	Pass
155	5775	11.169	10.48	30.00	Pass

## Note:

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

1.  $11\text{dBm} + 10\log(85.51) = 30.32\text{ dBm} > 24\text{dBm}$
2.  $11\text{dBm} + 10\log(85.47) = 30.32\text{ dBm} > 24\text{dBm}$
3.  $11\text{dBm} + 10\log(85.69) = 30.33\text{ dBm} > 24\text{dBm}$
4.  $11\text{dBm} + 10\log(5725.00 - 5647.45) = 29.90\text{ dBm} > 24\text{dBm}$ .

For Reference only-Power meter value

The power value was measured by power meter with average sensor

Chan.	Freq. (MHz)	Conducted Power (mW)	Conducted Power (dBm)
138	5690	15.463	11.89

26dB Bandwidth:

802.11a

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)
36	5180	22.95
40	5200	22.43
48	5240	22.53
52	5260	22.74
60	5300	22.64
64	5320	22.69
100	5500	22.75
120	5600	22.72
116	5580	22.42
140	5700	22.38
144	5720 For U-NII-2C	22.35

802.11n (HT20)

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)
36	5180	23.00
40	5200	22.85
48	5240	23.03
52	5260	22.62
60	5300	22.93
64	5320	23.07
100	5500	22.62
120	5600	22.91
116	5580	22.71
140	5700	22.77
144	5720 For U-NII-2C	16.71

### 802.11n (HT40)

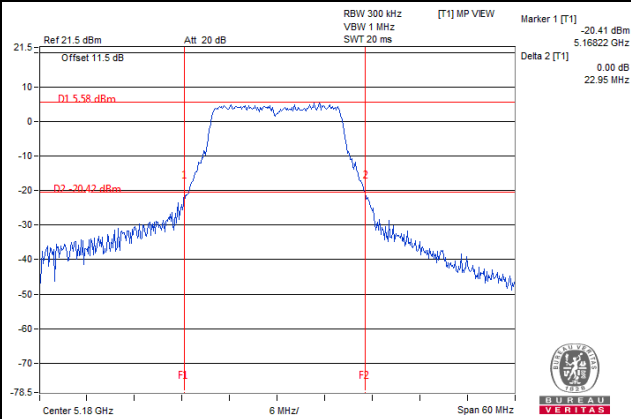
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)
38	5190	45.74
46	5230	45.95
54	5270	45.47
62	5310	46.18
102	5510	46.05
110	5550	45.80
118	5590	45.62
134	5670	46.34
142	5710 For U-NII-2C	37.64

### 802.11ac (VHT80)

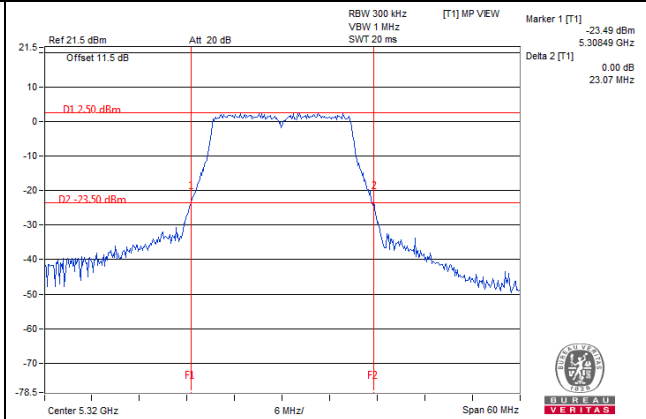
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)
42	5210	85.63
58	5290	85.51
106	5530	85.47
122	5610	85.69
138	5690 For U-NII-2C	77.55

### Spectrum Plot of Worst Value

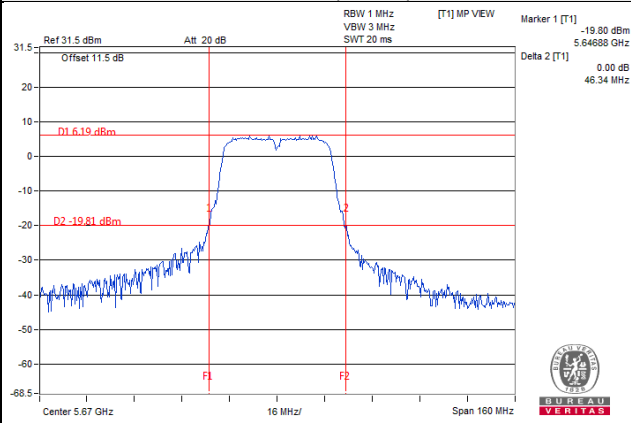
#### 802.11a



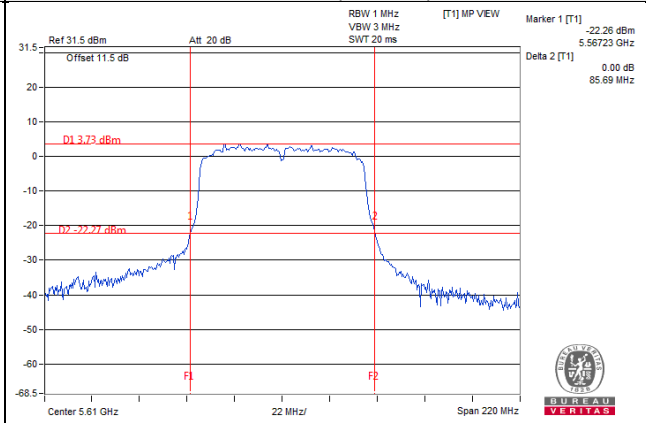
#### 802.11n (HT20)



#### 802.11n (HT40)



#### 802.11ac (VHT80)



## EUT Maximum Conducted Power

### 802.11a

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	28.576	14.56
5470~5725	28.119	14.49

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

### 802.11n (HT20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	19.454	12.89
5470~5725	19.907	12.99

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

### 802.11n (HT40)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	19.815	12.97
5470~5725	21.727	13.37

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

### 802.11ac (VHT80)

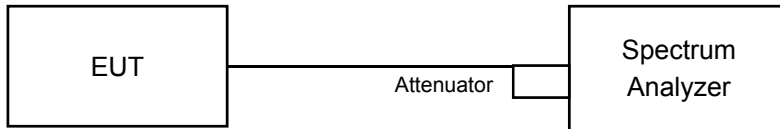
Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	19.454	12.89
5470~5725	24.660	13.92

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 4.1.2 to get information of above instrument.

### 4.4.3 Test Procedure

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with resolution bandwidth in the range of 1% to 5% of the anticipated emission bandwidth, and a video bandwidth at least 3x the resolution bandwidth and set the detector to sampling. 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 Result

##### 802.11a

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
36	5180	17.16
40	5200	17.16
48	5240	17.04
52	5260	17.16
60	5300	17.28
64	5320	17.16
100	5500	17.28
116	5580	17.16
120	5600	17.16
140	5700	17.16
144	5720 For U-NII-2C	16.56
144	5720 For U-NII-3	0.00
149	5745	17.16
157	5785	17.04
165	5825	17.16

##### 802.11n (HT20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
36	5180	18.00
40	5200	18.00
48	5240	18.24
52	5260	18.24
60	5300	18.24
64	5320	18.24
100	5500	18.12
116	5580	18.24
120	5600	18.12
140	5700	18.12
144	5720 For U-NII-2C	14.00
144	5720 For U-NII-3	3.76
149	5745	18.12
157	5785	18.00
165	5825	18.12

### 802.11n (HT40)

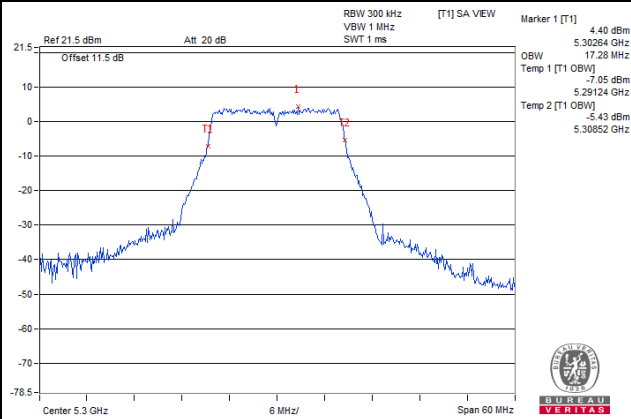
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
38	5190	36.60
46	5230	36.84
54	5270	36.72
62	5310	36.72
102	5510	36.72
110	5550	36.72
118	5590	36.84
134	5670	36.72
142	5710 For U-NII-2C	33.48
142	5710 For U-NII-3	3.12
151	5755	36.72
159	5795	36.96

### 802.11ac (VHT80)

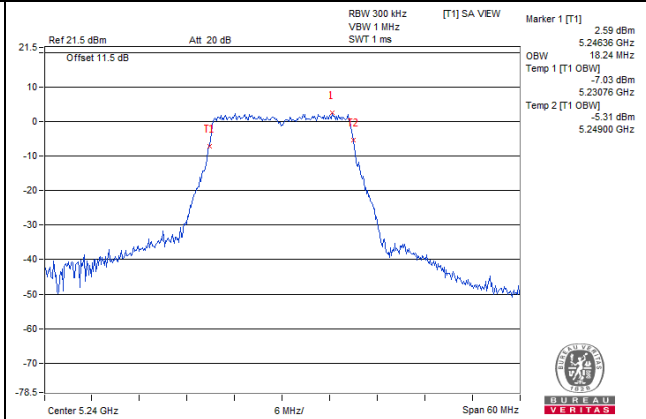
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
42	5210	75.12
58	5290	75.12
106	5530	74.88
122	5610	75.12
138	5690 For U-NII-2C	72.68
138	5690 For U-NII-3	2.44
155	5775	74.88

### Spectrum Plot of Worst Value

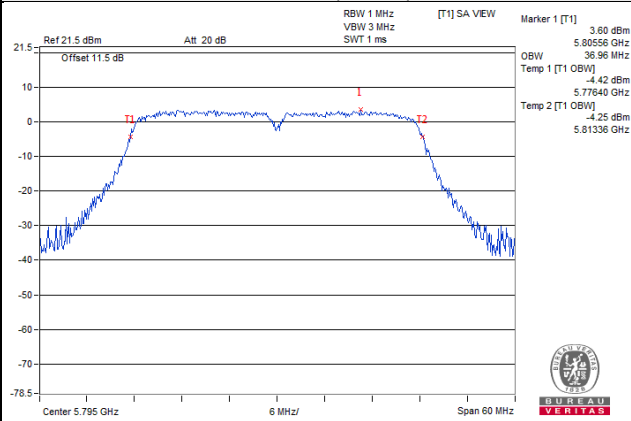
#### 802.11a



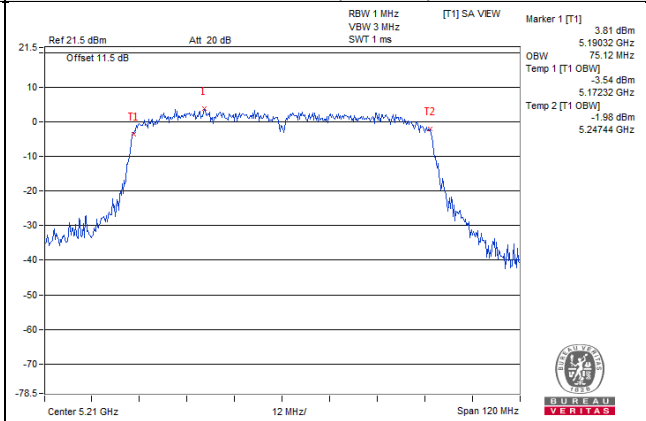
#### 802.11n (HT20)



#### 802.11n (HT40)



#### 802.11ac (VHT80)

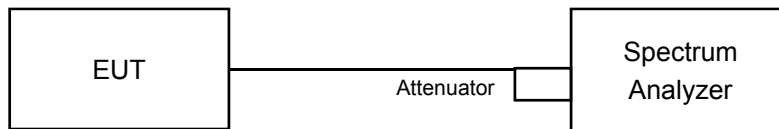


## 4.5 Peak Power Spectral Density Measurement

### 4.5.1 Limits of Peak Power Spectral Density Measurement

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

### 4.5.2 Test Setup



### 4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

#### 4.5.4 Test Procedures

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

Duty cycle of test signal is < 98%

Using method SA-2

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

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

Duty cycle of test signal is < 98%

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

#### 4.5.5 Deviation from Test Standard

No deviation.

#### 4.5.6 EUT Operating Conditions

Same as 4.3.6.

#### 4.5.7 Test Results

For U-NII-1, U-NII-2A, U-NII-2C band  
 802.11a

Chan.	Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD With Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
36	5180	0.18	0.60	0.78	11	Pass
40	5200	-0.40	0.60	0.20	11	Pass
48	5240	-0.46	0.60	0.14	11	Pass
52	5260	-0.55	0.60	0.05	11	Pass
60	5300	-0.67	0.60	-0.07	11	Pass
64	5320	-0.63	0.60	-0.03	11	Pass
100	5500	0.52	0.60	1.12	11	Pass
116	5580	0.03	0.60	0.63	11	Pass
120	5600	-0.22	0.60	0.38	11	Pass
140	5700	-1.08	0.60	-0.48	11	Pass
144	5720 For U-NII-2C	-1.89	0.60	-1.29	11	Pass

Note: Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT20)

Chan.	Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD With Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
36	5180	-1.83	0.65	-1.18	11	Pass
40	5200	-2.04	0.65	-1.39	11	Pass
48	5240	-2.59	0.65	-1.94	11	Pass
52	5260	-2.49	0.65	-1.84	11	Pass
60	5300	-2.73	0.65	-2.08	11	Pass
64	5320	-2.75	0.65	-2.10	11	Pass
100	5500	-1.85	0.65	-1.20	11	Pass
116	5580	-2.31	0.65	-1.66	11	Pass
120	5600	-2.70	0.65	-2.05	11	Pass
140	5700	-2.44	0.65	-1.79	11	Pass
144	5720 For U-NII-2C	-2.42	0.65	-1.77	11	Pass

Note: Refer to section 3.3 for duty cycle spectrum plot.

### 802.11n (HT40)

Chan.	Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD With Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
38	5190	-4.89	1.19	-3.70	11	Pass
46	5230	-5.38	1.19	-4.19	11	Pass
54	5270	-5.28	1.19	-4.09	11	Pass
62	5310	-5.42	1.19	-4.23	11	Pass
102	5510	-4.77	1.19	-3.58	11	Pass
110	5550	-5.32	1.19	-4.13	11	Pass
118	5590	-5.69	1.19	-4.50	11	Pass
134	5670	-5.94	1.19	-4.75	11	Pass
142	5710 For U-NII-2C	-5.65	1.19	-4.46	11	Pass

Note: Refer to section 3.3 for duty cycle spectrum plot.

### 802.11ac (VHT80)

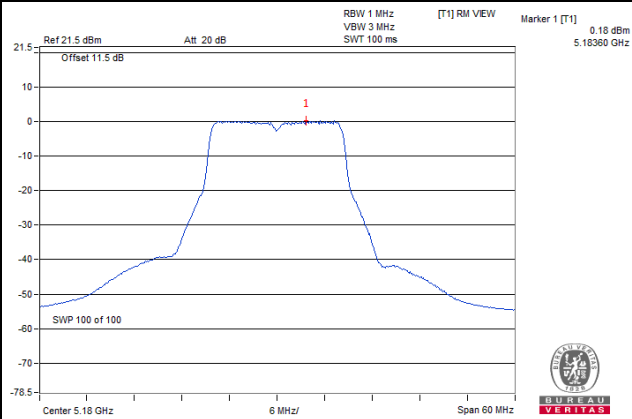
Chan.	Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD With Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
42	5210	-9.38	2.61	-6.77	11	Pass
58	5290	-9.93	2.61	-7.32	11	Pass
106	5530	-9.39	2.61	-6.78	11	Pass
122	5610	-10.07	2.61	-7.46	11	Pass
138	5690 For U-NII-2C	-10.40	2.61	-7.79	11	Pass

Note: Refer to section 3.3 for duty cycle spectrum plot.

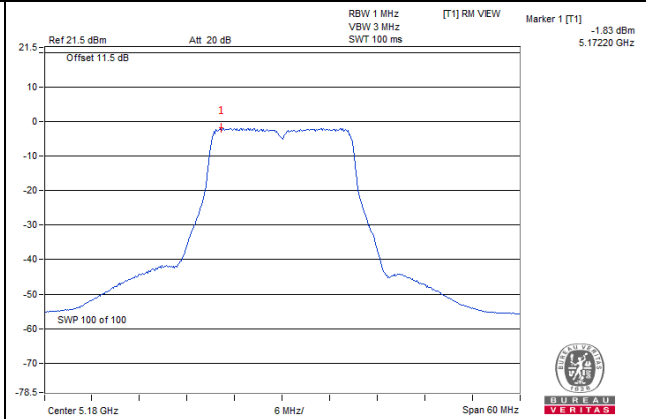


### Spectrum Plot of Worst Value

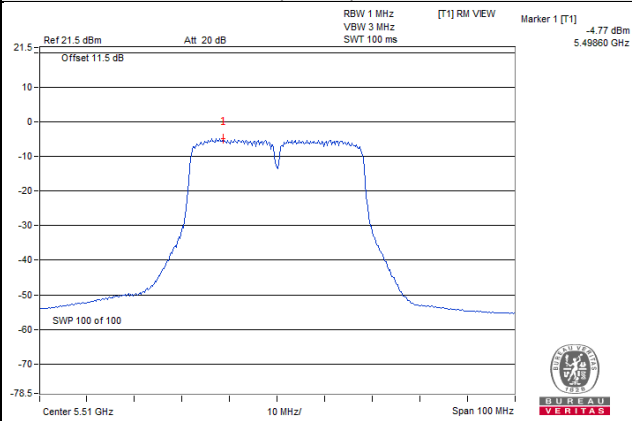
802.11a / CH 36



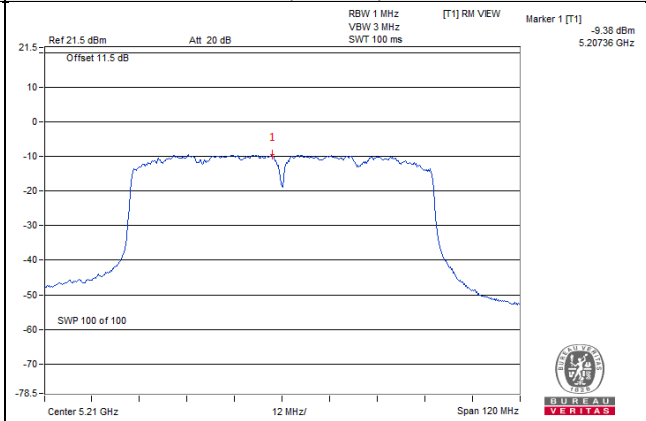
802.11n (HT20) / CH 36



802.11n (HT40) / CH 102



802.11ac (VHT80) / CH 42



For U-NII-3 band:

802.11a

Chan.	Freq. (MHz)	PSD W/O Duty Factor		Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
		(dBm/300kHz)	(dBm/500kHz)				
144	5720 For U-NII-3	-9.34	-7.12	0.60	-6.52	30	Pass
149	5745	-9.82	-7.60	0.60	-7.00	30	Pass
157	5785	-9.89	-7.67	0.60	-7.07	30	Pass
165	5825	-10.37	-8.15	0.60	-7.55	30	Pass

Note: Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT20)

Chan.	Freq. (MHz)	PSD W/O Duty Factor		Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
		(dBm/300kHz)	(dBm/500kHz)				
144	5720 For U-NII-3	-11.43	-9.21	0.65	-8.56	30	Pass
149	5745	-12.53	-10.31	0.65	-9.66	30	Pass
157	5785	-12.48	-10.26	0.65	-9.61	30	Pass
165	5825	-12.88	-10.66	0.65	-10.01	30	Pass

Note: Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT40)

Chan.	Freq. (MHz)	PSD W/O Duty Factor		Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
		(dBm/300kHz)	(dBm/500kHz)				
142	5710 For U-NII-3	-15.90	-13.68	1.19	-12.49	30	Pass
151	5755	-16.26	-14.04	1.19	-12.85	30	Pass
159	5795	-16.36	-14.14	1.19	-12.95	30	Pass

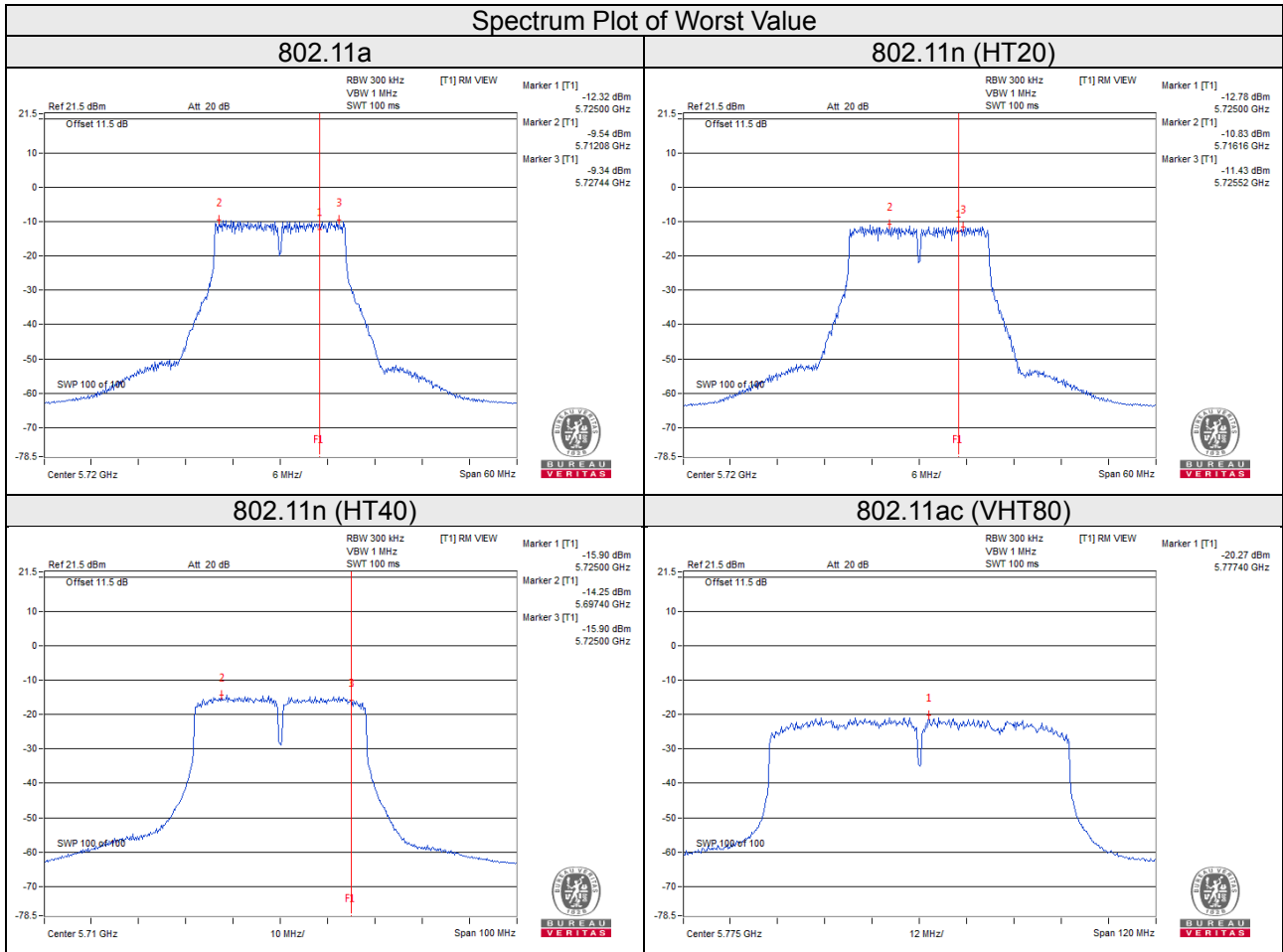
Note: Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

Chan.	Freq. (MHz)	PSD W/O Duty Factor		Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
		(dBm/300kHz)	(dBm/500kHz)				
138	5690 For U-NII-3	-22.62	-20.40	2.61	-17.79	30	Pass
155	5775	-20.27	-18.05	2.61	-15.44	30	Pass

Note: Refer to section 3.3 for duty cycle spectrum plot.

### Spectrum Plot of Worst Value

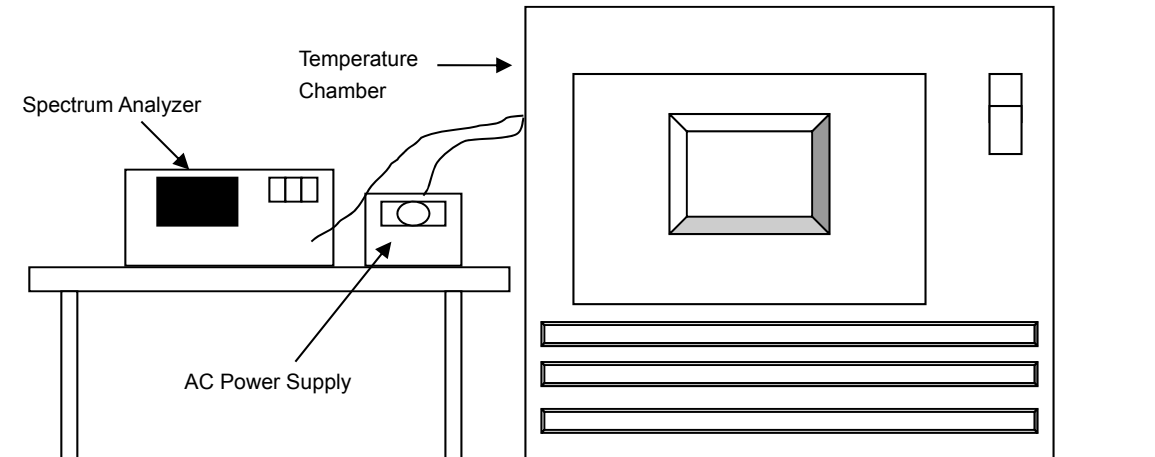


## 4.6 Frequency Stability

### 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

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100039	Jun. 11, 2018	Jun. 10, 2019
WIT Standard Temperature And Humidity Chamber	TH-4S-C	W981030	Jun. 04, 2018	Jun. 03, 2019
Digital Multimeter Fluke	87-III	70360742	Jun. 29, 2018	Jun. 28, 2019
AC Power Supply Exttech	CFW-105	E000603	NA	NA

### 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.
- Repeated step d with the temperature chamber sets to each desired temperature.
- The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

### 4.6.5 Deviation from Test Standard

No deviation.

#### 4.6.6 EUT Operating Condition

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

#### 4.6.7 Test Results

Frequency Stability Versus Temp.									
Operating Frequency: 5180MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
55	120	5180.0213	PASS	5180.0241	PASS	5180.0222	PASS	5180.0218	PASS
50	120	5179.9829	PASS	5179.9821	PASS	5179.9791	PASS	5179.983	PASS
40	120	5180.0165	PASS	5180.0133	PASS	5180.0136	PASS	5180.0155	PASS
30	120	5179.9871	PASS	5179.9873	PASS	5179.985	PASS	5179.9893	PASS
20	120	5180.0011	PASS	5180.0028	PASS	5180.0019	PASS	5180.0003	PASS
10	120	5180.0095	PASS	5180.0068	PASS	5180.0065	PASS	5180.0064	PASS
0	120	5180.0194	PASS	5180.0217	PASS	5180.0179	PASS	5180.0206	PASS
-10	120	5180.015	PASS	5180.0109	PASS	5180.0144	PASS	5180.0119	PASS
-20	120	5180.0199	PASS	5180.0206	PASS	5180.0175	PASS	5180.0176	PASS

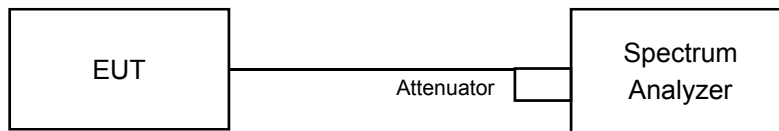
Frequency Stability Versus Voltage									
Operating Frequency: 5180MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
20	138	5180.0007	PASS	5180.0028	PASS	5180.0012	PASS	5180.0001	PASS
	120	5180.0011	PASS	5180.0028	PASS	5180.0019	PASS	5180.0003	PASS
	102	5180.0018	PASS	5180.0033	PASS	5180.0022	PASS	5179.9993	PASS

## 4.7 6dB Bandwidth Measurement

### 4.7.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

### 4.7.2 Test Setup



### 4.7.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

### 4.7.4 Test Procedure

#### Measurement Procedure REF

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

### 4.7.5 Deviation from Test Standard

No deviation.

### 4.7.6 EUT Operating Condition

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

#### 4.7.7 Test Results

##### 802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
144	5720 For U-NII-3	16.45	0.5	Pass
149	5745	16.42	0.5	Pass
157	5785	16.42	0.5	Pass
165	5825	16.43	0.5	Pass

##### 802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
144	5720 For U-NII-3	17.66	0.5	Pass
149	5745	17.67	0.5	Pass
157	5785	17.66	0.5	Pass
165	5825	17.64	0.5	Pass

##### 802.11n (HT40)

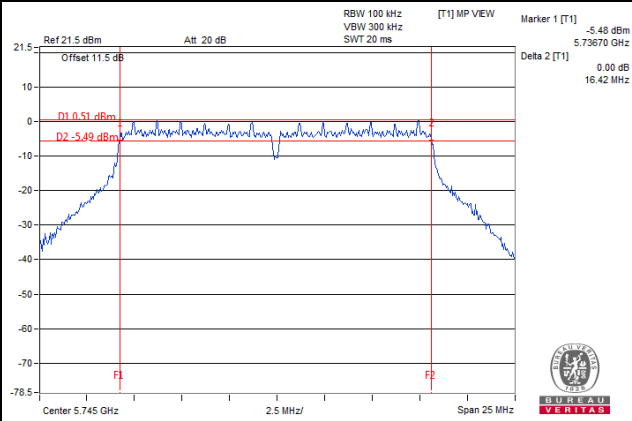
Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
142	5710 For U-NII-3	35.47	0.5	Pass
151	5755	35.36	0.5	Pass
159	5795	35.58	0.5	Pass

##### 802.11ac (VHT80)

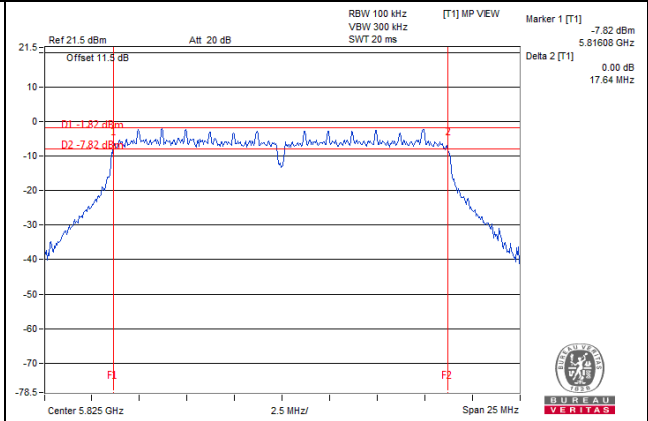
Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
138	5690 For U-NII-3	75.42	0.5	Pass
155	5775	75.45	0.5	Pass

### Spectrum Plot of Worst Value

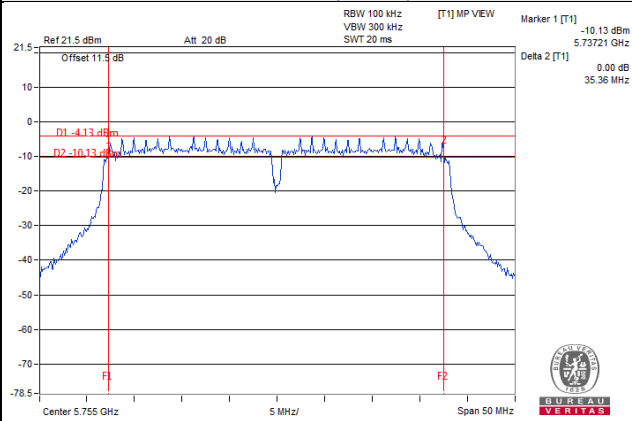
#### 802.11a



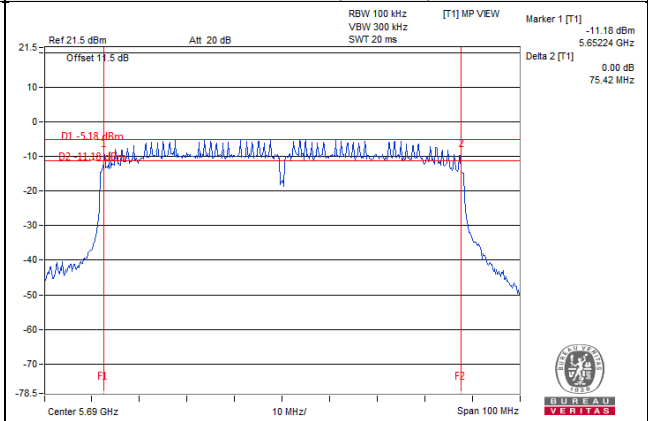
#### 802.11n (HT20)



#### 802.11n (HT40)



#### 802.11ac (VHT80)



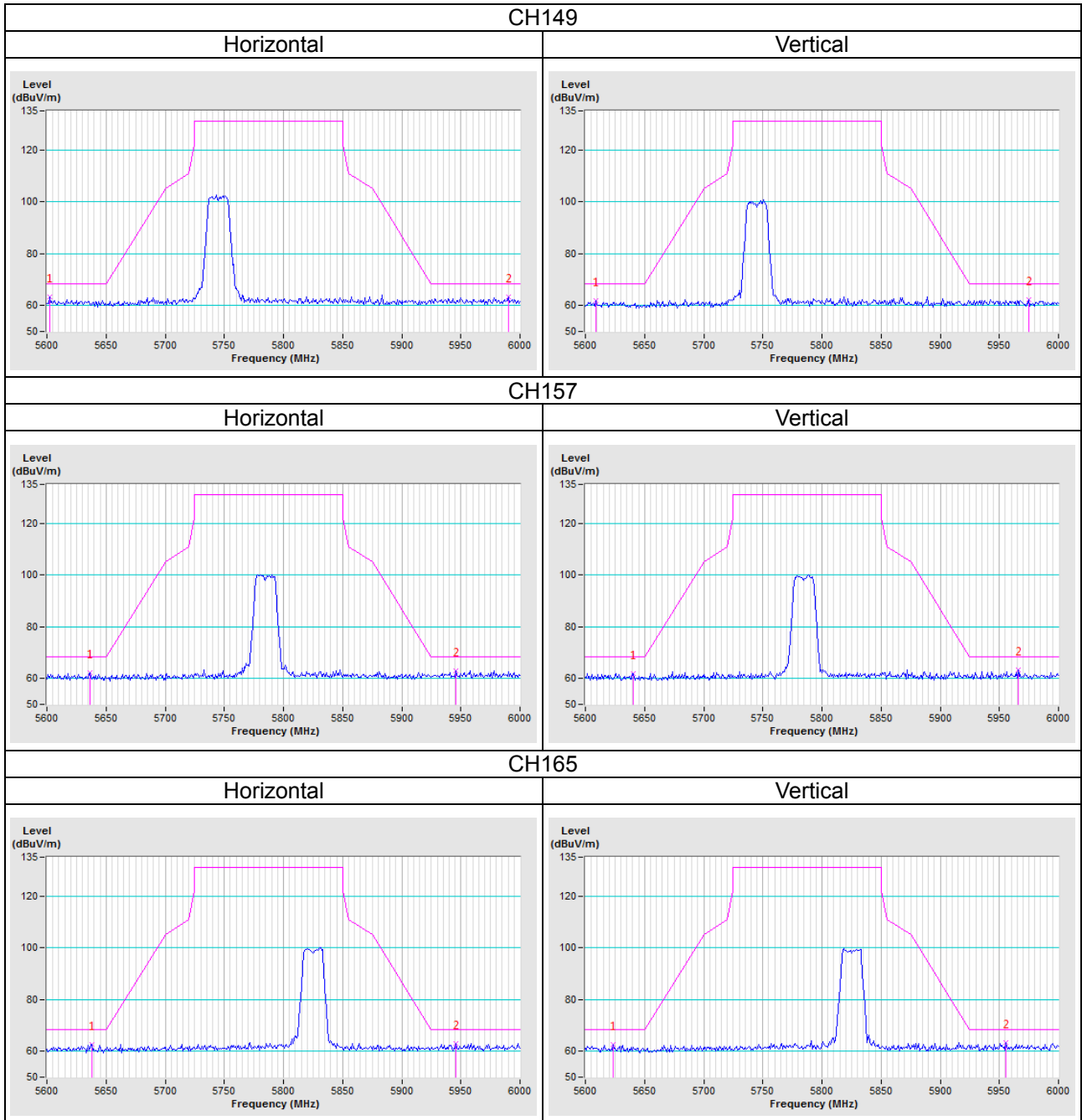


## 5 Pictures of Test Arrangements

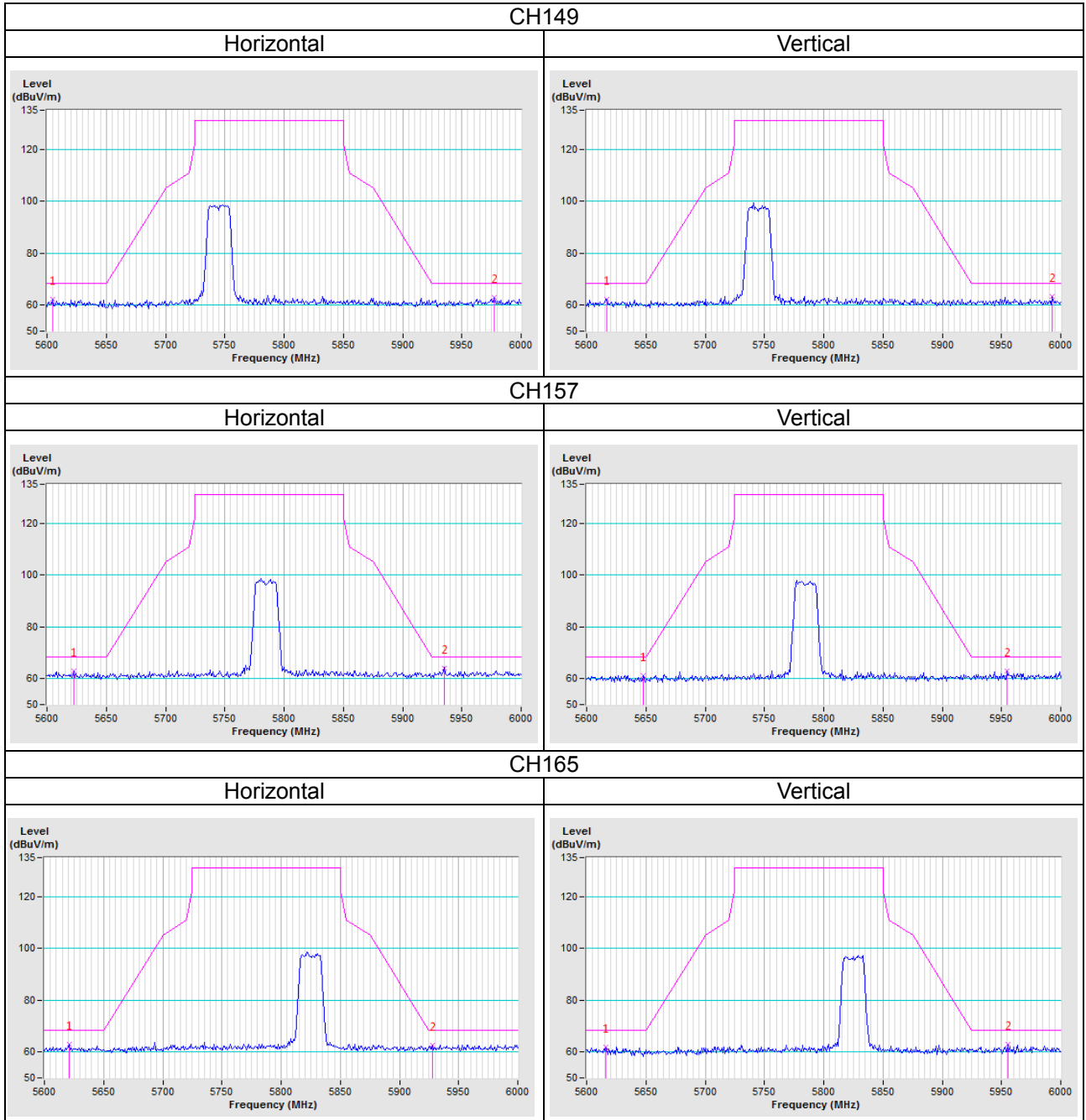
Please refer to the attached file (Test Setup Photo).

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

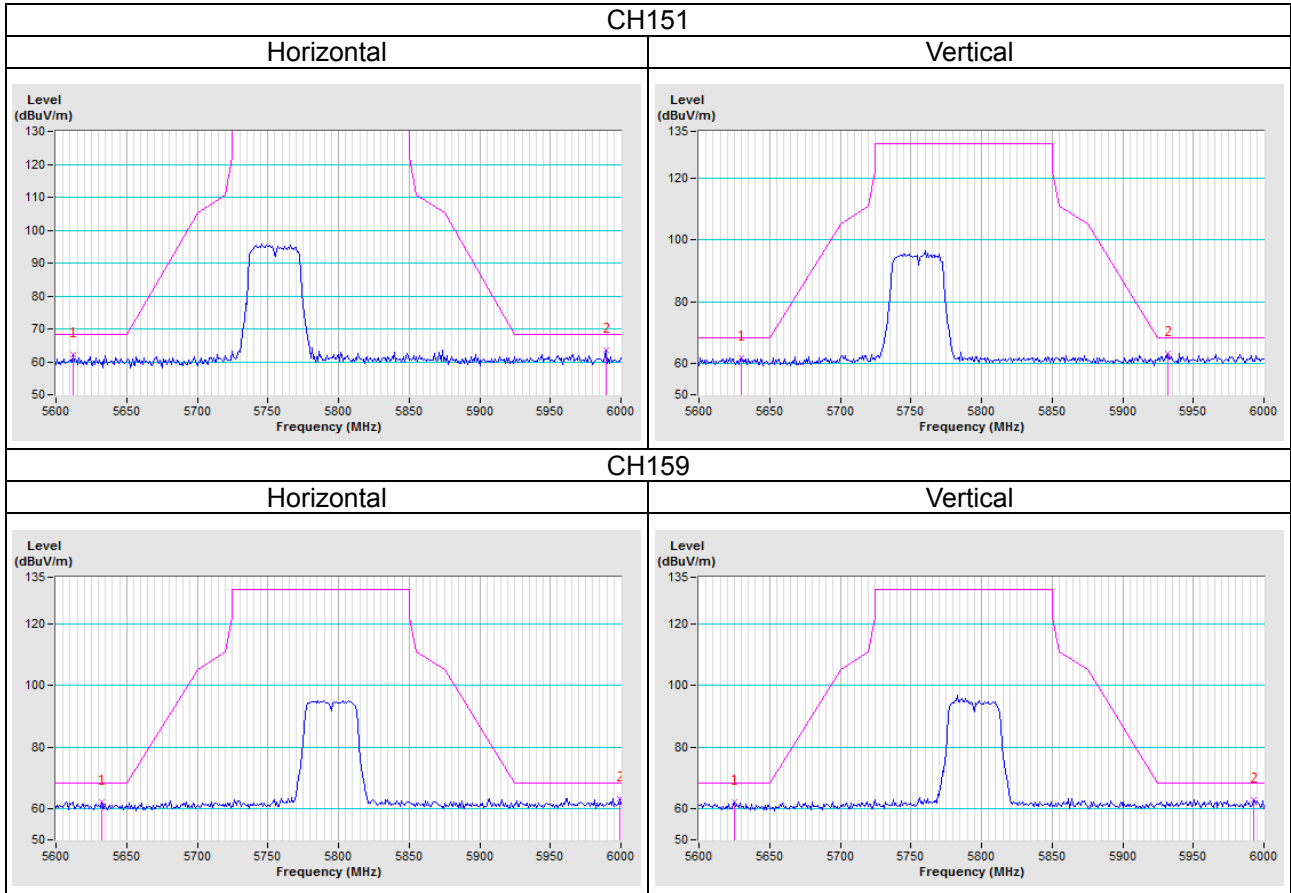
802.11a



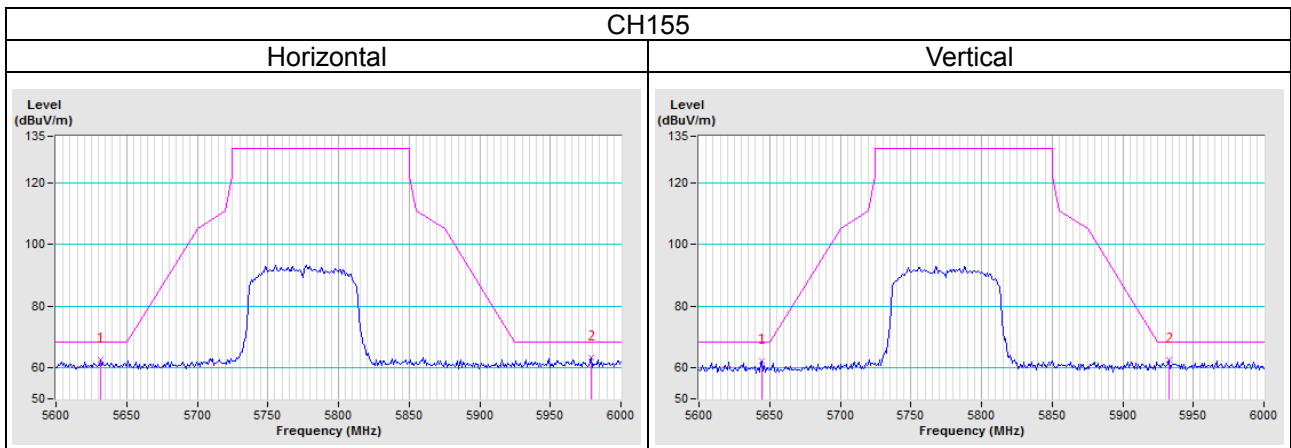
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



## Appendix – Information on the Testing Laboratories

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

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

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

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

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