

## FCC Test Report

**Report No.:** RF170505C03A

**FCC ID:** 2AHBNAP21

**Test Model:** AP21

**Received Date:** May 05, 2017

**Test Date:** May 17 ~ Dec. 19, 2017

**Issued Date:** Dec. 20, 2017

**Applicant:** Mist Systems, Inc.

**Address:** 1601 South De Anza Blvd. Suite 248 Cupertino California United States  
95014

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

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R.O.C.

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

**FCC Registration:** 788550

**Designation Number:** TW0003



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### Release Control Record

Issue No.	Description	Date Issued
RF170505C03A	Original release	Dec. 20, 2017

## 1 Certificate of Conformity

**Product:** Wi-Fi & BLE Array AP

**Brand:** Mist

**Test Model:** AP21

**Sample Status:** Engineering sample

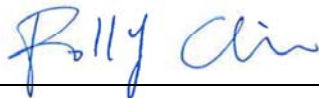
**Applicant:** Mist Systems, Inc.

**Test Date:** May 17 ~ Dec. 19, 2017

**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 / Specialist

**Date:**

Dec. 20, 2017

**Approved by :**



Ken Liu / Senior Manager

**Date:**

Dec. 20, 2017

## 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 -9.96dB at 0.38600MHz.
15.407(b)(1/2/3/4/6)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -0.5dB at 5470.00MHz & 5725.00MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	Antenna connector is IPEX not a standard connector.

### 2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) ( $\pm$ )
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.94 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	Wi-Fi & BLE Array AP
Brand	Mist
Test Model	AP21
Status of EUT	Engineering sample
Power Supply Rating	12Vdc (adapter) 50~57Vdc (POE)
Modulation Type	256QAM, 64QAM, 16QAM, QPSK, BPSK
Modulation Technology	OFDM
Transfer Rate	802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11n: up to 300.0Mbps 802.11ac: up to 866.7Mbps
Operating Frequency	5250 ~ 5350MHz, 5470 ~ 5725MHz
Number of Channel	5250 ~ 5350MHz: 4 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 2 for 802.11n (HT40), 802.11ac (VHT40) 1 for 802.11ac (VHT80) 5470 ~ 5725MHz: 12 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 6 for 802.11n (HT40), 802.11ac (VHT40) 3 for 802.11ac (VHT80)
Output Power	CDD Mode, 1TX: 5250 ~ 5350MHz: 154.170mW 5470 ~ 5725MHz: 221.820mW CDD Mode, 2TX: 5250 ~ 5350MHz: 241.298mW 5470 ~ 5725MHz: 206.552mW Beamforming Mode 5250 ~ 5350MHz: 150.236mW 5470 ~ 5725MHz: 156.509mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	NA
Data Cable Supplied	NA

**Note:**

1. This report is prepared for FCC class II permissive change. This report is issued as a supplementary report of the original report no.: RF170505C03-1. The differences compared with original report are updating firmware and adding 5.25GHz to 5.35GHz and 5.47GHz to 5.725GHz by software.

2. The EUT incorporates a MIMO function. Physically, the EUT provides 2 completed transmitters and 2 receivers.

Modulation Mode	TX Function	Beamforming
802.11a	1TX, 2TX	Not Support
802.11n (HT20)	1TX, 2TX	Support
802.11n (HT40)	1TX, 2TX	Support
802.11ac (VHT20)	1TX, 2TX	Support
802.11ac (VHT40)	1TX, 2TX	Support
802.11ac (VHT80)	1TX, 2TX	Support

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

\* For 802.11n and 802.11ac, CDD mode and Beamforming mode are presented in power output test item. For other test items, Beamforming mode is the worst case for final tests after pretesting.

3. There are three radios for the EUT.

Radio	Antenna	Brand	Model	Function	Band
Radio 1	WIFI Ant. 1	WNC	81EAAH15.GEP	WLAN 2.4G	2.4G
	WIFI Ant. 2	WNC	81EAAH15.GEQ	5G (RX only)	U-NII-1/ U-NII-2A /UNII-2C/UNII-3
Radio 2	WIFI Ant. 1	WNC	81EAAH15.GER	WLAN 5G	U-NII-1/ U-NII-2A /UNII-2C/UNII-3
	WIFI Ant. 2	WNC	81EAAH15.GES		
Radio 3	BT-Omni Ant.	WNC	81EAAH15.GET	BT LE	2.4G

4. The EUT uses following adapter & PoE. (Support unit only)

Adapter	
Brand	Channel Well Technology
Model	2ABN036F US
Input Power	100-240Vac~50/60Hz 1.0A
Output Power	12.0Vdc / 3.0A
Power Line	1.45m DC cable without core attached on adapter

PoE	
Brand	Microsemi
Model	PD-9001GR/AT/AC
Input Power	100-240Vac~50/60Hz 0.67A
Output Power	55Vdc / 0.6A

5. The following antennas were provided to the EUT.

Antenna Type	PIFA			
Antenna Connector	IPEX			
Gain (dBi)	Frequency			
	2.4~2.5GHz	5.15GHz	5.55GHz	5.85GHz
Radio 1: WIFI Ant. 1	3.43	4.85	4.86	4.91
Radio 1: WIFI Ant. 2	3.63	3.61	4.45	4.95
Radio 2: WIFI Ant. 1	-	4.93	4.51	4.96
Radio 2: WIFI Ant. 2	-	4.78	4.62	4.96

6. Spurious emission of the simultaneous operation (2.4GHz, 5GHz and BT) has been evaluated and no non-compliance was found.



### 3.2 Description of Test Modes

#### For 5250 ~ 5350MHz

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

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

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

Channel	Frequency	Channel	Frequency
54	5270 MHz	62	5310 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
58	5290 MHz

#### For 5470 ~ 5725MHz

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

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

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

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

3 channels are provided for 802.11ac (VHT80):

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

### 3.2.1 Test Mode Applicability and Tested Channel Detail

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE $\geq$ 1G	RE<1G	PLC	APCM	
A	√	√	√	√	Power from adapter
B	-	√	√	-	Power from PoE

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 X-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)	Remark
A	802.11a	5250-5350	52 to 64	52, 60, 64	OFDM	6.0	1TX / 2TX
	802.11n (HT20)		52 to 64	52, 60, 64	OFDM	6.5 / 7.2	1TX / 2TX
	802.11n (HT40)		54 to 62	54, 62	OFDM	13.5 / 15.0	1TX / 2TX
	802.11ac (VHT80)		58	58	OFDM	29.3 / 65.0	1TX / 2TX
A	802.11a	5470-5725	100 to 144	100, 116, 140, 144	OFDM	6.0	1TX / 2TX
	802.11n (HT20)		100 to 144	100, 116, 140, 142	OFDM	6.5 / 7.2	1TX / 2TX
	802.11n (HT40)		102 to 142	102, 110, 134, 142	OFDM	13.5 / 15.0	1TX / 2TX
	802.11ac (VHT80)		106 to 138	106, 122, 138	OFDM	29.3 / 65.0	1TX / 2TX

#### **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)	Remark
A, B	802.11a	5250-5350	52 to 64	52	OFDM	6.0	2TX
		5470-5725	100 to 140		OFDM	6.0	2TX

### **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)	Remark
A, B	802.11a	5250-5350	52 to 64	52	OFDM	6.0	2TX
		5470-5725	100 to 140		OFDM	6.0	2TX

### **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)	Remark
A	802.11a	5250-5350	52 to 64	52, 60, 64	OFDM	6.0	1TX / 2TX
	802.11n (HT20)		52 to 64	52, 60, 64	OFDM	6.5 / 7.2	1TX / 2TX
	802.11n (HT40)		54 to 62	54, 62	OFDM	13.5 / 15.0	1TX / 2TX
	802.11ac (VHT80)		58	58	OFDM	29.3 / 65.0	1TX / 2TX
A	802.11a	5470-5725	100 to 144	100, 116, 140, 144	OFDM	6.0	1TX / 2TX
	802.11n (HT20)		100 to 144	100, 116, 140, 142	OFDM	6.5 / 7.2	1TX / 2TX
	802.11n (HT40)		102 to 142	102, 110, 134, 142	OFDM	13.5 / 15.0	1TX / 2TX
	802.11ac (VHT80)		106 to 138	106, 122, 138	OFDM	29.3 / 65.0	1TX / 2TX

### **Test Condition:**

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
<b>RE<sub>≥</sub>1G</b>	20 deg. C, 69% RH 25 deg. C, 70% RH	120Vac, 60Hz	Bayu Chen, Bond Tseng, Luis Lee
<b>RE&lt;1G</b>	20 deg. C, 69% RH	120Vac, 60Hz 55Vdc	Matthew Yang
<b>PLC</b>	25 deg. C, 70% RH	120Vac, 60Hz 55Vdc	Matthew Yang
<b>APCM</b>	25 deg. C, 60% RH	120Vac, 60Hz	Ted Wu, Chris Lin

### 3.3 Duty Cycle of Test Signal

Duty cycle of test signal is > 98%, duty factor is not required

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

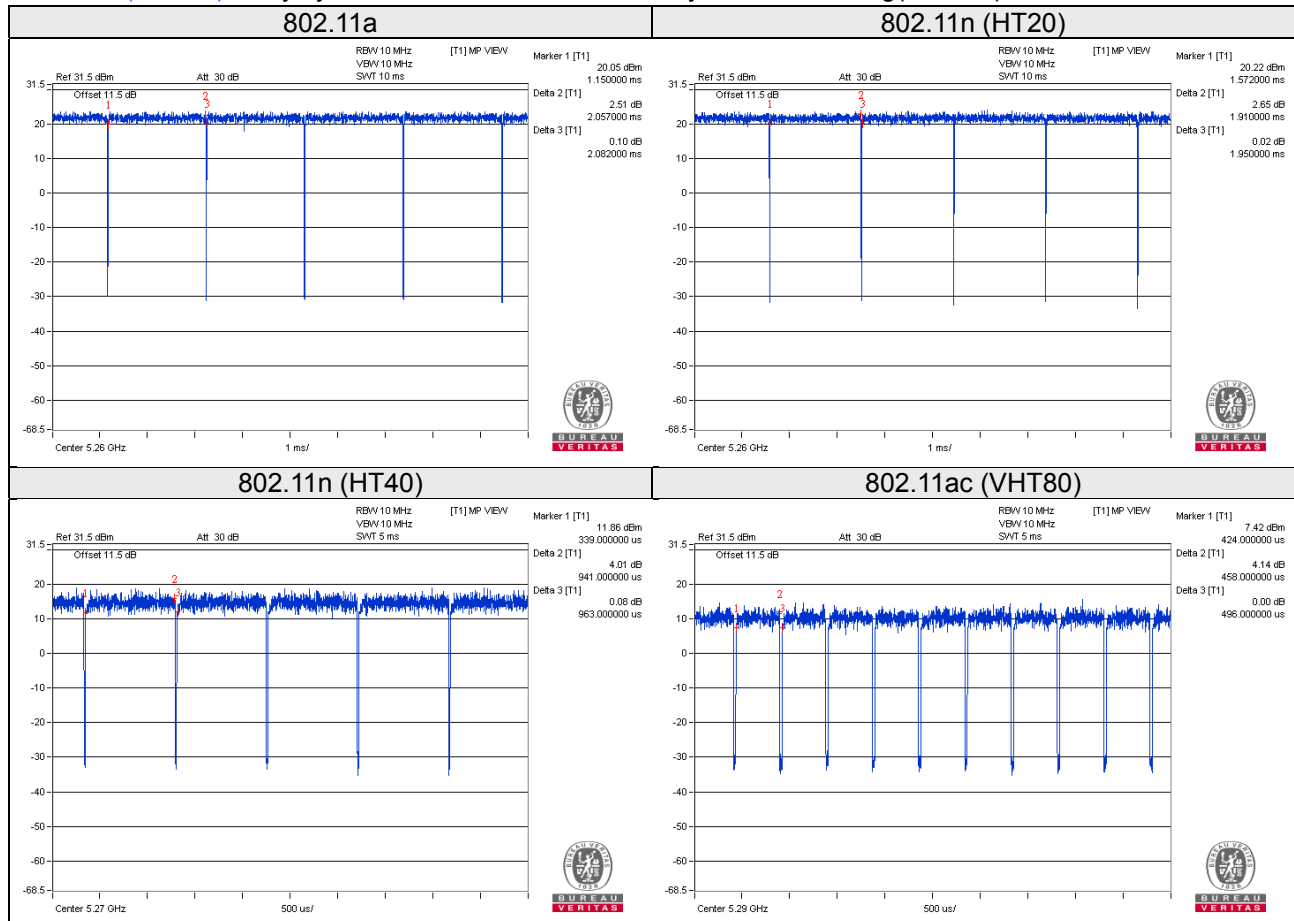
1TX

802.11a: Duty cycle =  $2.057/2.082 = 0.988$

802.11n (HT20): Duty cycle =  $1.910/1.950 = 0.979$ , Duty factor =  $10 * \log(1/0.979) = 0.09$

802.11n (HT40): Duty cycle =  $0.941/0.963 = 0.977$ , Duty factor =  $10 * \log(1/0.977) = 0.10$

802.11ac (VHT80): Duty cycle =  $0.458/0.496 = 0.923$ , Duty factor =  $10 * \log(1/0.923) = 0.35$



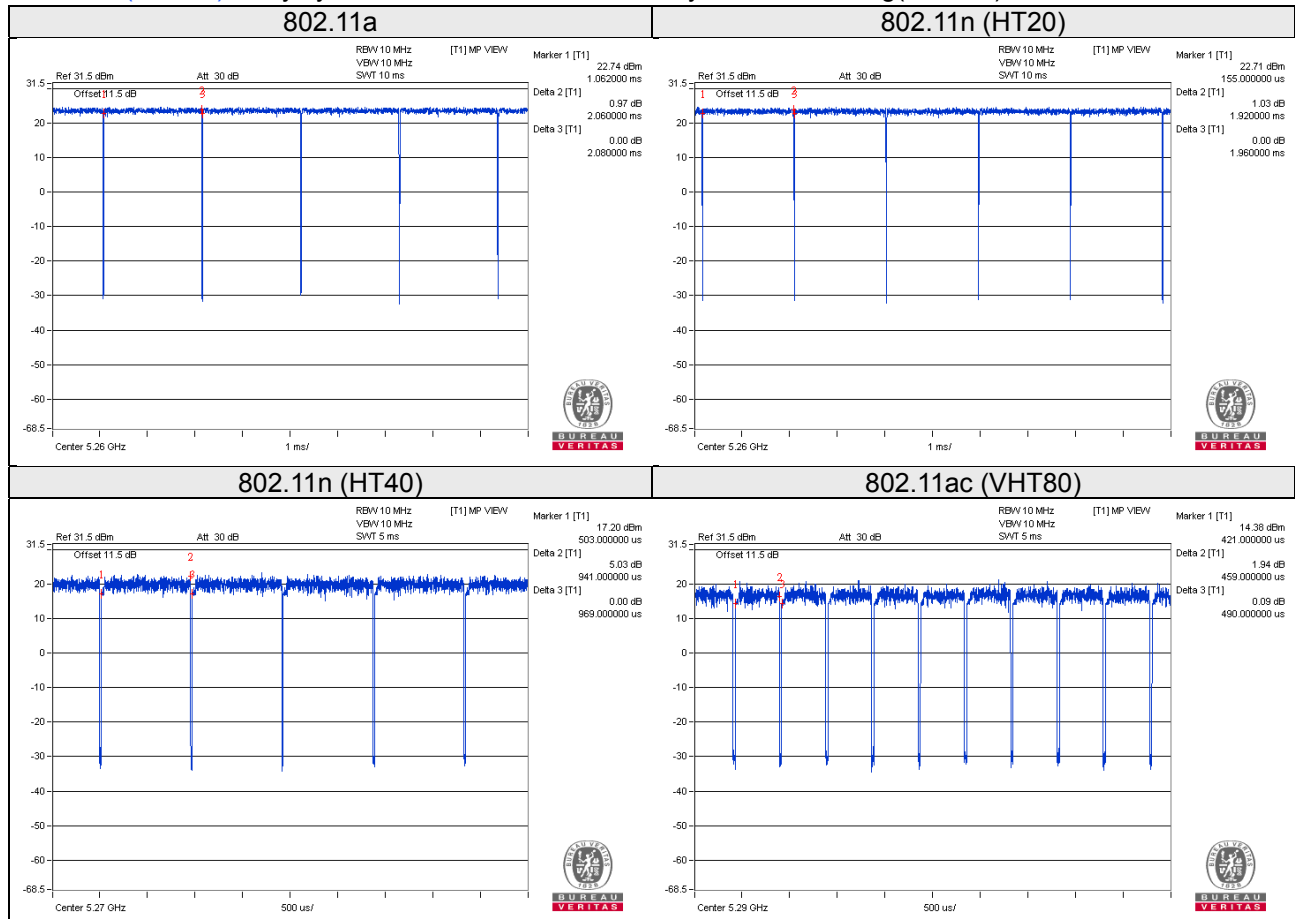
## 2TX

802.11a: Duty cycle =  $2.060/2.080 = 0.990$

802.11n (HT20): Duty cycle =  $1.920/1.960 = 0.980$

802.11n (HT40): Duty cycle =  $0.941/0.969 = 0.971$ , Duty factor =  $10 * \log(1/0.971) = 0.13$

802.11ac (VHT80): Duty cycle =  $0.459/0.490 = 0.937$ , Duty factor =  $10 * \log(1/0.937) = 0.28$



### 3.4 Description of Support Units

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

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Notebook	DELL	E5410	6RP2YM1	FCC DoC Approved	-
B.	Adapter	Channel Well Technology	2ABN036F US	N/A	N/A	Provided by client
C.	Load	N/A	N/A	N/A	N/A	-
D.	PoE	Microsemi	PD-9001GR/AT/AC	N/A	N/A	Provided by client

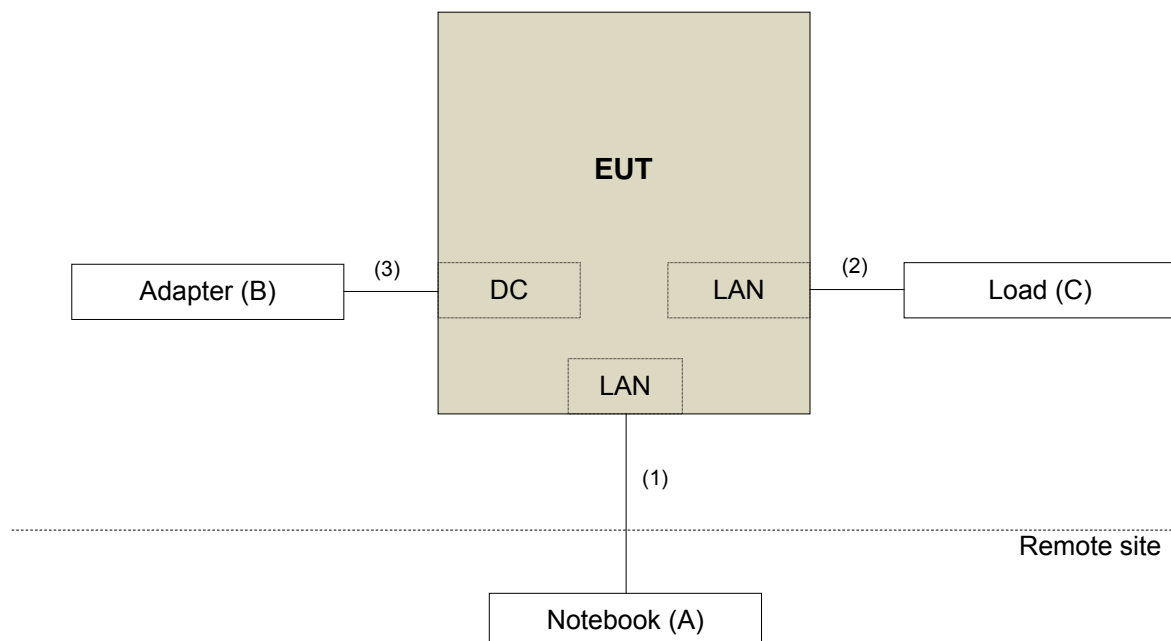
Note:

1. All power cords of the above support units are non-shielded (1.8m).
2. Items A acted as communication partners to transfer data.

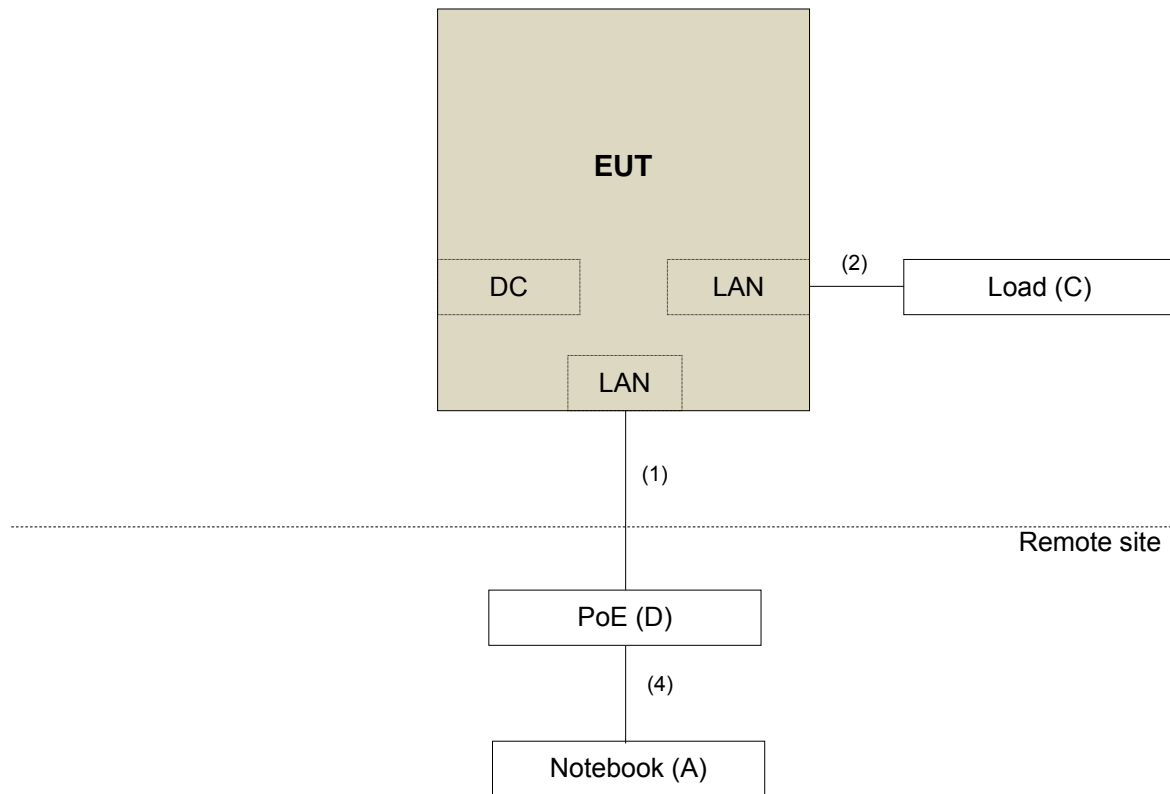
ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	RJ45 cable	1	10	N	0	-
2.	RJ45 cable	1	1.8	N	0	-
3.	DC cable	1	1.45	-	0	attached on adapter
4.	RJ45 cable	1	3	N	0	-

#### 3.4.1 Configuration of System under Test

Test Mode A



## Test Mode B



### 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**

**KDB 662911 D01 Multiple Transmitter Output v02r01**

**ANSI C63.10-2013**

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

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

## 4 Test Types and Results

### 4.1 Radiated Emission and Bandedge Measurement

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

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

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

#### NOTE:

- 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>*2</sup> below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.	
<sup>*3</sup> below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.			<sup>*4</sup> from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.	

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

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



#### 4.1.2 Test Instruments

Tested data: May 17 ~ Jul. 20, 2017 & Dec. 18 ~ Dec. 19, 2017

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCI	100424	Oct. 24, 2016	Oct. 23, 2017
			Oct. 17, 2017	Oct. 16, 2018
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100040	Aug. 16, 2016	Aug. 15, 2017
			Aug. 18, 2017	Aug. 17, 2018
BILOG Antenna SCHWARZBECK	VULB9168	9168-155	Dec. 28, 2016	Dec. 27, 2017
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-1170	Dec. 15, 2016	Dec. 14, 2017
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Dec. 14, 2016	Dec. 13, 2017
Loop Antenna	EM-6879	269	Aug. 11, 2016	Aug. 10, 2017
			Aug. 11, 2017	Aug. 10, 2018
Preamplifier Agilent	8449B	3008A01960	Aug. 09, 2016	Aug. 08, 2017
			Aug. 08, 2017	Aug. 07, 2018
Preamplifier Agilent	8447D	2944A10631	Aug. 09, 2016	Aug. 08, 2017
			Aug. 08, 2017	Aug. 07, 2018
RF signal cable HUBER+SUHNER	SUCOFLEX 104	MY 13380+295012/04	Aug. 09, 2016	Aug. 08, 2017
			Aug. 08, 2017	Aug. 07, 2018
RF signal cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH4-03 (250724)	Aug. 09, 2016	Aug. 08, 2017
			Aug. 08, 2017	Aug. 07, 2018
Software BV ADT	ADT_Radiated_V7.6.15.9.4	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
26GHz ~ 40GHz Amplifier	EM26400	815221	Oct. 17, 2016	Oct. 16, 2017
	8449B	3008A1960	Aug. 08, 2017	Aug. 07, 2018
High Speed Peak Power Meter	ML2495A	0824012	Aug. 11, 2016	Aug. 10, 2017
			Aug. 18, 2017	Aug. 17, 2018
Power Sensor	MA2411B	0738171	Aug. 11, 2016	Aug. 10, 2017
			Aug. 18, 2017	Aug. 17, 2018
WIT Standard Temperature And Humidity Chamber	TH-4S-C	W981030	Jun. 08, 2016	Jun. 07, 2017
			Jun. 07, 2017	Jun. 06, 2018

- 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 horn antenna and preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
  4. The FCC Designation Number is TW0003. The number will be varied with the Lab location and scope as attached.
  5. The IC Site Registration No. is IC7450F-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. Both X and Y axes of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

##### NOTE:

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

##### For Radiated emission above 30MHz

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

##### Note:

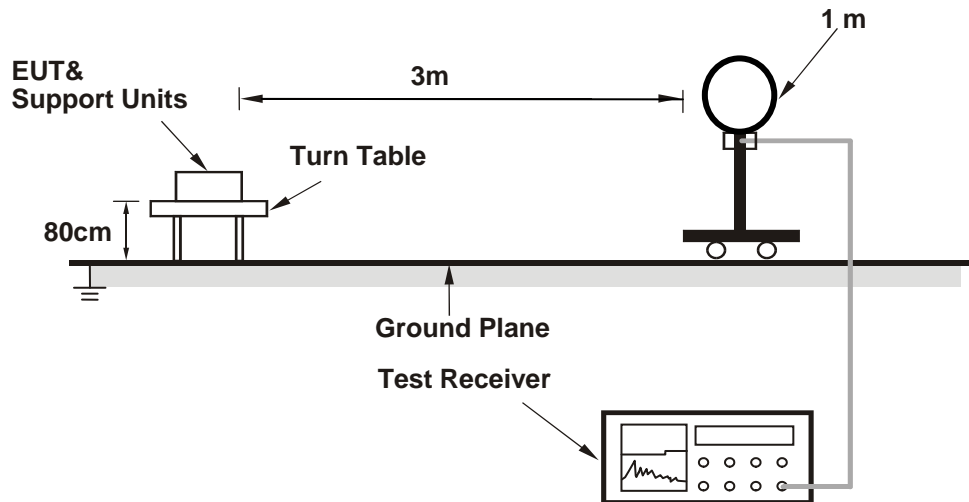
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

#### 4.1.4 Deviation from Test Standard

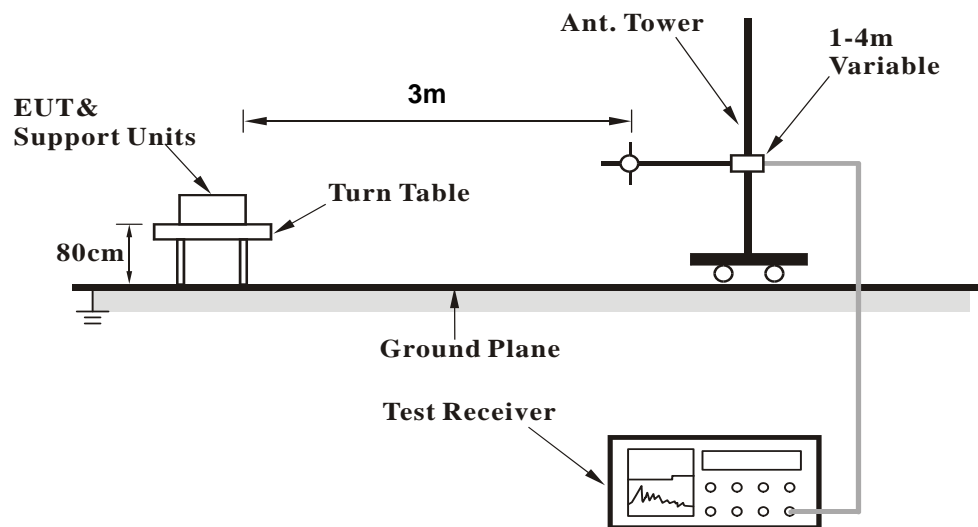
No deviation.

#### 4.1.5 Test Setup

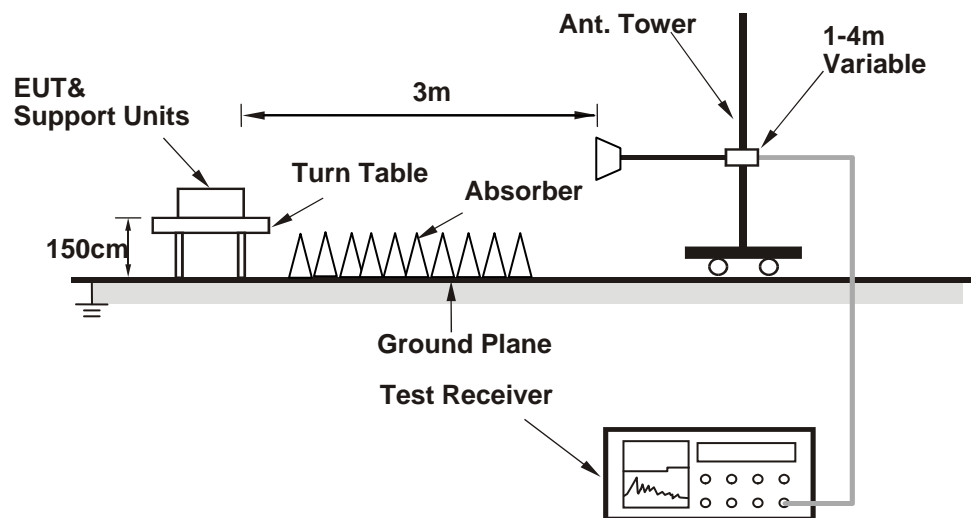
##### For Radiated emission below 30MHz



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



### For Radiated emission above 1GHz



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

#### 4.1.6 EUT Operating Conditions

- Placed the EUT on the testing table.
- Prepared a notebook to act as a communication partner and placed it outside of testing area.
- The communication partner connected with EUT via a RJ45 cable and ran a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.
- The communication partner sent data to EUT by command "PING".
- The necessary accessories enable the system in full functions.

#### 4.1.7 Test Results

Above 1GHz data:

1TX

802.11a

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	55.5 PK	74.0	-18.5	1.85 H	210	53.40	2.10
2	5150.00	43.0 AV	54.0	-11.0	1.85 H	210	40.90	2.10
3	*5260.00	102.6 PK			1.85 H	210	63.50	39.10
4	*5260.00	92.6 AV			1.85 H	210	53.50	39.10
5	5420.00	55.4 PK	74.0	-18.6	1.96 H	227	52.70	2.70
6	5420.00	43.4 AV	54.0	-10.6	1.96 H	227	40.70	2.70
7	#10520.00	57.9 PK	74.0	-16.1	3.32 H	164	43.70	14.20
8	#10520.00	44.8 AV	54.0	-9.2	3.32 H	164	30.60	14.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	57.3 PK	74.0	-16.7	2.94 V	335	55.20	2.10
2	5150.00	45.7 AV	54.0	-8.3	2.94 V	335	43.60	2.10
3	*5260.00	113.7 PK			2.94 V	335	74.60	39.10
4	*5260.00	103.6 AV			2.94 V	335	64.50	39.10
5	5420.00	61.3 PK	74.0	-12.7	2.99 V	326	58.60	2.70
6	5420.00	49.9 AV	54.0	-4.1	2.99 V	326	47.20	2.70
7	#10520.00	58.9 PK	74.0	-15.1	1.79 V	335	44.70	14.20
8	#10520.00	46.6 AV	54.0	-7.4	1.79 V	335	32.40	14.20

#### REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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	103.0 PK			1.93 H	244	63.80	39.20
2	*5300.00	92.7 AV			1.93 H	244	53.50	39.20
3	5380.00	57.3 PK	74.0	-16.7	1.94 H	214	54.70	2.60
4	5380.00	47.0 AV	54.0	-7.0	1.94 H	214	44.40	2.60
5	10600.00	58.5 PK	74.0	-15.5	1.32 H	57	43.80	14.70
6	10600.00	45.6 AV	54.0	-8.4	1.32 H	57	30.90	14.70
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	111.4 PK			3.39 V	333	72.20	39.20
2	*5300.00	101.4 AV			3.39 V	333	62.20	39.20
3	5380.00	63.3 PK	74.0	-10.7	2.97 V	330	60.70	2.60
4	5380.00	53.2 AV	54.0	-0.8	2.97 V	330	50.60	2.60
5	10600.00	59.1 PK	74.0	-14.9	1.75 V	224	44.40	14.70
6	10600.00	46.9 AV	54.0	-7.1	1.75 V	224	32.20	14.70

**REMARKS:**

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

CHANNEL	TX Channel 64	DETECTOR FUNCTION	Peak (PK)
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	102.5 PK			1.87 H	236	63.30	39.20
2	*5320.00	92.8 AV			1.87 H	236	53.60	39.20
3	5400.00	60.3 PK	74.0	-13.7	1.95 H	334	57.60	2.70
4	5400.00	50.2 AV	54.0	-3.8	1.95 H	334	47.50	2.70
5	10640.00	57.9 PK	74.0	-16.1	1.73 H	359	43.20	14.70
6	10640.00	45.3 AV	54.0	-8.7	1.73 H	359	30.60	14.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	111.8 PK			3.38 V	332	72.60	39.20
2	*5320.00	102.1 AV			3.38 V	332	62.90	39.20
3	5400.00	66.3 PK	74.0	-7.7	2.97 V	326	63.60	2.70
4	5400.00	53.2 AV	54.0	-0.8	2.97 V	326	50.50	2.70
5	10640.00	59.3 PK	74.0	-14.7	3.26 V	226	44.60	14.70
6	10640.00	46.4 AV	54.0	-7.6	3.26 V	226	31.70	14.70

**REMARKS:**

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5420.00	59.3 PK	74.0	-14.7	2.41 H	183	52.70	6.60
2	5420.00	46.9 AV	54.0	-7.1	2.41 H	183	40.30	6.60
3	5460.00	59.5 PK	74.0	-14.5	2.64 H	157	52.80	6.70
4	5460.00	45.9 AV	54.0	-8.1	2.64 H	157	39.20	6.70
5	#5470.00	63.0 PK	74.0	-11.0	2.64 H	157	56.30	6.70
6	#5470.00	47.5 AV	54.0	-6.5	2.64 H	157	40.80	6.70
7	*5500.00	107.0 PK			2.64 H	157	66.10	40.90
8	*5500.00	96.9 AV			2.64 H	157	56.00	40.90
9	11000.00	60.3 PK	74.0	-13.7	1.98 H	241	41.00	19.30
10	11000.00	46.8 AV	54.0	-7.2	1.98 H	241	27.50	19.30

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	5420.00	64.1 PK	74.0	-9.9	2.81 V	319	57.50	6.60
2	5420.00	52.9 AV	54.0	-1.1	2.81 V	319	46.30	6.60
3	5460.00	64.7 PK	74.0	-9.3	3.01 V	321	58.00	6.70
4	5460.00	48.3 AV	54.0	-5.7	3.01 V	321	41.60	6.70
5	#5470.00	71.6 PK	74.0	-2.4	3.01 V	321	64.90	6.70
6	#5470.00	53.1 AV	54.0	-0.9	3.01 V	321	46.40	6.70
7	*5500.00	115.0 PK			3.01 V	321	74.10	40.90
8	*5500.00	104.9 AV			3.01 V	321	64.00	40.90
9	11000.00	60.5 PK	74.0	-13.5	1.52 V	311	41.20	19.30
10	11000.00	47.0 AV	54.0	-7.0	1.52 V	311	27.70	19.30

#### 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	108.0 PK			2.12 H	156	67.00	41.00
2	*5580.00	98.3 AV			2.12 H	156	57.30	41.00
3	11160.00	61.2 PK	74.0	-12.8	1.58 H	239	41.40	19.80
4	11160.00	47.2 AV	54.0	-6.8	1.58 H	239	27.40	19.80
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	116.0 PK			3.16 V	328	75.00	41.00
2	*5580.00	106.5 AV			3.16 V	328	65.50	41.00
3	11160.00	61.3 PK	74.0	-12.7	1.29 V	325	41.50	19.80
4	11160.00	47.7 AV	54.0	-6.3	1.29 V	325	27.90	19.80

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 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	103.8 PK			2.96 H	342	62.30	41.50
2	*5700.00	93.6 AV			2.96 H	342	52.10	41.50
3	#5725.00	61.6 PK	74.0	-12.4	2.96 H	342	54.30	7.30
4	#5725.00	47.5 AV	54.0	-6.5	2.96 H	342	40.20	7.30
5	11400.00	63.1 PK	74.0	-10.9	1.75 H	153	42.70	20.40
6	11400.00	48.8 AV	54.0	-5.2	1.75 H	153	28.40	20.40
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	110.8 PK			2.91 V	316	69.30	41.50
2	*5700.00	100.5 AV			2.91 V	316	59.00	41.50
3	#5725.00	69.0 PK	74.0	-5.0	2.91 V	316	61.70	7.30
4	#5725.00	53.1 AV	54.0	-0.9	2.91 V	316	45.80	7.30
5	11400.00	63.4 PK	74.0	-10.6	2.93 V	187	43.00	20.40
6	11400.00	49.0 AV	54.0	-5.0	2.93 V	187	28.60	20.40

**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	56.2 PK	74.0	-17.8	2.19 H	83	53.30	2.90
2	#5470.00	43.7 AV	54.0	-10.3	2.19 H	83	40.80	2.90
3	*5720.00	112.1 PK			2.28 H	87	70.50	41.60
4	*5720.00	101.7 AV			2.28 H	87	60.10	41.60
5	#5850.00	57.8 PK	74.0	-16.2	2.36 H	105	54.10	3.70
6	#5850.00	44.0 AV	54.0	-10.0	2.36 H	105	40.30	3.70
7	11440.00	60.5 PK	74.0	-13.5	2.15 H	120	44.20	16.30
8	11440.00	49.4 AV	54.0	-4.6	2.15 H	120	33.10	16.30
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	56.6 PK	74.0	-17.4	2.11 V	106	53.70	2.90
2	#5470.00	43.4 AV	54.0	-10.6	2.11 V	106	40.50	2.90
3	*5720.00	109.6 PK			2.30 V	96	68.00	41.60
4	*5720.00	99.3 AV			2.30 V	96	57.70	41.60
5	#5850.00	57.3 PK	74.0	-16.7	2.41 V	119	53.60	3.70
6	#5850.00	43.7 AV	54.0	-10.3	2.41 V	119	40.00	3.70
7	11440.00	69.2 PK	74.0	-4.8	2.39 V	17	52.90	16.30
8	11440.00	50.2 AV	54.0	-3.8	2.39 V	17	33.90	16.30

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 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	5097.00	53.4 PK	74.0	-20.6	2.23 H	239	51.40	2.00
2	5097.00	43.3 AV	54.0	-10.7	2.23 H	239	41.30	2.00
3	*5260.00	103.7 PK			2.33 H	246	64.60	39.10
4	*5260.00	93.3 AV			2.33 H	246	54.20	39.10
5	#10520.00	57.7 PK	74.0	-16.3	2.04 H	23	43.50	14.20
6	#10520.00	45.6 AV	54.0	-8.4	2.04 H	23	31.40	14.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5097.00	57.0 PK	74.0	-17.0	3.29 V	342	55.00	2.00
2	5097.00	44.7 AV	54.0	-9.3	3.29 V	342	42.70	2.00
3	*5260.00	113.0 PK			3.23 V	339	73.90	39.10
4	*5260.00	102.2 AV			3.23 V	339	63.10	39.10
5	#10520.00	59.0 PK	74.0	-15.0	1.75 V	334	44.80	14.20
6	#10520.00	46.3 AV	54.0	-7.7	1.75 V	334	32.10	14.20

## REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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	103.8 PK			2.10 H	165	64.60	39.20
2	*5300.00	94.0 AV			2.10 H	165	54.80	39.20
3	5380.00	60.0 PK	74.0	-14.0	2.04 H	331	57.40	2.60
4	5380.00	48.9 AV	54.0	-5.1	2.04 H	331	46.30	2.60
5	10600.00	58.0 PK	74.0	-16.0	1.75 H	13	43.30	14.70
6	10600.00	45.0 AV	54.0	-9.0	1.75 H	13	30.30	14.70
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	112.7 PK			3.55 V	334	73.50	39.20
2	*5300.00	102.3 AV			3.55 V	334	63.10	39.20
3	5380.00	63.1 PK	74.0	-10.9	2.93 V	327	60.50	2.60
4	5380.00	52.2 AV	54.0	-1.8	2.93 V	327	49.60	2.60
5	10600.00	59.8 PK	74.0	-14.2	1.74 V	87	45.10	14.70
6	10600.00	47.2 AV	54.0	-6.8	1.74 V	87	32.50	14.70

**REMARKS:**

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

CHANNEL	TX Channel 64	DETECTOR FUNCTION	Peak (PK)
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	102.9 PK			2.17 H	261	63.70	39.20
2	*5320.00	92.4 AV			2.17 H	261	53.20	39.20
3	5400.00	57.0 PK	74.0	-17.0	2.47 H	158	54.30	2.70
4	5400.00	48.2 AV	54.0	-5.8	2.47 H	158	45.50	2.70
5	10640.00	58.0 PK	74.0	-16.0	2.12 H	86	43.30	14.70
6	10640.00	45.5 AV	54.0	-8.5	2.12 H	86	30.80	14.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	111.7 PK			3.33 V	327	72.50	39.20
2	*5320.00	101.1 AV			3.33 V	327	61.90	39.20
3	5400.00	73.2 PK	74.0	-0.8	3.12 V	323	70.50	2.70
4	5400.00	52.1 AV	54.0	-1.9	3.12 V	323	49.40	2.70
5	10640.00	59.1 PK	74.0	-14.9	1.29 V	33	44.40	14.70
6	10640.00	46.4 AV	54.0	-7.6	1.29 V	33	31.70	14.70

**REMARKS:**

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5420.00	59.7 PK	74.0	-14.3	2.55 H	287	53.10	6.60
2	5420.00	46.5 AV	54.0	-7.5	2.55 H	287	39.90	6.60
3	5460.00	62.0 PK	74.0	-12.0	2.38 H	156	55.30	6.70
4	5460.00	45.4 AV	54.0	-8.6	2.38 H	156	38.70	6.70
5	#5470.00	63.8 PK	74.0	-10.2	2.38 H	156	57.10	6.70
6	#5470.00	47.8 AV	54.0	-6.2	2.38 H	156	41.10	6.70
7	*5500.00	107.0 PK			2.38 H	156	66.10	40.90
8	*5500.00	96.2 AV			2.38 H	156	55.30	40.90
9	11000.00	59.4 PK	74.0	-14.6	2.67 H	334	40.10	19.30
10	11000.00	46.5 AV	54.0	-7.5	2.67 H	334	27.20	19.30

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	5420.00	63.1 PK	74.0	-10.9	2.38 V	309	56.50	6.60
2	5420.00	51.3 AV	54.0	-2.7	2.38 V	309	44.70	6.60
3	5460.00	66.9 PK	74.0	-7.1	2.56 V	322	60.20	6.70
4	5460.00	48.0 AV	54.0	-6.0	2.56 V	322	41.30	6.70
5	#5470.00	70.0 PK	74.0	-4.0	2.56 V	322	63.30	6.70
6	#5470.00	52.8 AV	54.0	-1.2	2.56 V	322	46.10	6.70
7	*5500.00	114.7 PK			2.56 V	322	73.80	40.90
8	*5500.00	104.1 AV			2.56 V	322	63.20	40.90
9	11000.00	59.6 PK	74.0	-14.4	1.29 V	234	40.30	19.30
10	11000.00	46.8 AV	54.0	-7.2	1.29 V	234	27.50	19.30

#### 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	108.6 PK			2.11 H	159	67.60	41.00
2	*5580.00	98.5 AV			2.11 H	159	57.50	41.00
3	11160.00	59.7 PK	74.0	-14.3	2.38 H	114	39.90	19.80
4	11160.00	47.0 AV	54.0	-7.0	2.38 H	114	27.20	19.80
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	117.3 PK			2.69 V	318	76.30	41.00
2	*5580.00	106.8 AV			2.69 V	318	65.80	41.00
3	11160.00	60.1 PK	74.0	-13.9	1.97 V	211	40.30	19.80
4	11160.00	47.5 AV	54.0	-6.5	1.97 V	211	27.70	19.80

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 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	103.5 PK			2.69 H	357	62.00	41.50
2	*5700.00	92.9 AV			2.69 H	357	51.40	41.50
3	#5725.00	63.8 PK	74.0	-10.2	2.69 H	357	56.50	7.30
4	#5725.00	48.4 AV	54.0	-5.6	2.69 H	357	41.10	7.30
5	11400.00	61.5 PK	74.0	-12.5	2.18 H	154	41.10	20.40
6	11400.00	49.0 AV	54.0	-5.0	2.18 H	154	28.60	20.40
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	109.7 PK			2.75 V	345	68.20	41.50
2	*5700.00	99.4 AV			2.75 V	345	57.90	41.50
3	#5725.00	71.5 PK	74.0	-2.5	2.75 V	345	64.20	7.30
4	#5725.00	52.8 AV	54.0	-1.2	2.75 V	345	45.50	7.30
5	11400.00	61.8 PK	74.0	-12.2	1.99 V	286	41.40	20.40
6	11400.00	49.2 AV	54.0	-4.8	1.99 V	286	28.80	20.40

**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	57.5 PK	74.0	-16.5	2.28 H	87	54.60	2.90
2	#5470.00	44.1 AV	54.0	-9.9	2.28 H	87	41.20	2.90
3	*5720.00	113.2 PK			2.27 H	89	71.60	41.60
4	*5720.00	101.7 AV			2.27 H	89	60.10	41.60
5	#5850.00	58.0 PK	74.0	-16.0	2.10 H	81	54.30	3.70
6	#5850.00	44.5 AV	54.0	-9.5	2.10 H	81	40.80	3.70
7	11440.00	59.2 PK	74.0	-14.8	2.00 H	116	42.90	16.30
8	11440.00	49.8 AV	54.0	-4.2	2.00 H	116	33.50	16.30
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	56.5 PK	74.0	-17.5	2.10 V	84	53.60	2.90
2	#5470.00	42.7 AV	54.0	-11.3	2.10 V	84	39.80	2.90
3	*5720.00	110.8 PK			2.24 V	98	69.20	41.60
4	*5720.00	99.7 AV			2.24 V	98	58.10	41.60
5	#5850.00	57.6 PK	74.0	-16.4	2.36 V	114	53.90	3.70
6	#5850.00	44.0 AV	54.0	-10.0	2.36 V	114	40.30	3.70
7	11440.00	60.8 PK	74.0	-13.2	2.39 V	38	44.50	16.30
8	11440.00	50.7 AV	54.0	-3.3	2.39 V	38	34.40	16.30

**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 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	55.4 PK	74.0	-18.6	1.86 H	203	53.30	2.10
2	5150.00	43.0 AV	54.0	-11.0	1.86 H	203	40.90	2.10
3	*5270.00	101.9 PK			1.86 H	203	62.70	39.20
4	*5270.00	91.8 AV			1.86 H	203	52.60	39.20
5	#10540.00	58.0 PK	74.0	-16.0	1.89 H	96	43.70	14.30
6	#10540.00	44.9 AV	54.0	-9.1	1.89 H	96	30.60	14.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	56.4 PK	74.0	-17.6	2.91 V	335	54.30	2.10
2	5150.00	44.2 AV	54.0	-9.8	2.91 V	335	42.10	2.10
3	*5270.00	109.7 PK			2.91 V	335	70.50	39.20
4	*5270.00	99.6 AV			2.91 V	335	60.40	39.20
5	#10540.00	59.0 PK	74.0	-15.0	3.14 V	28	44.70	14.30
6	#10540.00	46.5 AV	54.0	-7.5	3.14 V	28	32.20	14.30

## 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	97.7 PK			1.87 H	169	58.50	39.20
2	*5310.00	87.8 AV			1.87 H	169	48.60	39.20
3	5350.00	68.0 PK	74.0	-6.0	1.87 H	169	65.40	2.60
4	5350.00	48.9 AV	54.0	-5.1	1.87 H	169	46.30	2.60
5	10620.00	58.2 PK	74.0	-15.8	1.34 H	26	43.50	14.70
6	10620.00	45.4 AV	54.0	-8.6	1.34 H	26	30.70	14.70
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	106.5 PK			2.59 V	329	67.30	39.20
2	*5310.00	95.9 AV			2.59 V	329	56.70	39.20
3	5350.00	72.2 PK	74.0	-1.8	2.59 V	329	69.60	2.60
4	5350.00	53.3 AV	54.0	-0.7	2.59 V	329	50.70	2.60
5	10620.00	59.4 PK	74.0	-14.6	1.83 V	316	44.70	14.70
6	10620.00	46.8 AV	54.0	-7.2	1.83 V	316	32.10	14.70

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	55.9 PK	74.0	-18.1	2.22 H	161	53.20	2.70
2	5460.00	43.4 AV	54.0	-10.6	2.22 H	161	40.70	2.70
3	#5470.00	61.6 PK	74.0	-12.4	2.22 H	161	58.90	2.70
4	#5470.00	44.4 AV	54.0	-9.6	2.22 H	161	41.70	2.70
5	*5510.00	97.5 PK			2.22 H	161	58.00	39.50
6	*5510.00	86.8 AV			2.22 H	161	47.30	39.50
7	11020.00	59.7 PK	74.0	-14.3	2.14 H	351	43.80	15.90
8	11020.00	46.6 AV	54.0	-7.4	2.14 H	351	30.70	15.90
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	59.1 PK	74.0	-14.9	3.50 V	321	56.40	2.70
2	5460.00	45.9 AV	54.0	-8.1	3.50 V	321	43.20	2.70
3	#5470.00	73.2 PK	74.0	-0.8	3.50 V	321	70.50	2.70
4	#5470.00	49.9 AV	54.0	-4.1	3.50 V	321	47.20	2.70
5	*5510.00	105.0 PK			3.50 V	321	65.50	39.50
6	*5510.00	94.8 AV			3.50 V	321	55.30	39.50
7	11020.00	60.6 PK	74.0	-13.4	1.38 V	244	44.70	15.90
8	11020.00	47.8 AV	54.0	-6.2	1.38 V	244	31.90	15.90

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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	5460.00	60.4 PK	74.0	-13.6	1.87 H	165	57.70	2.70
2	5460.00	47.4 AV	54.0	-6.6	1.87 H	165	44.70	2.70
3	#5470.00	58.9 PK	74.0	-15.1	1.87 H	165	56.20	2.70
4	#5470.00	49.0 AV	54.0	-5.0	1.87 H	165	46.30	2.70
5	*5550.00	101.4 PK			1.87 H	165	61.80	39.60
6	*5550.00	91.3 AV			1.87 H	165	51.70	39.60
7	11100.00	58.9 PK	74.0	-15.1	2.29 H	219	43.60	15.30
8	11100.00	46.7 AV	54.0	-7.3	2.29 H	219	31.40	15.30
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	64.7 PK	74.0	-9.3	3.33 V	325	62.00	2.70
2	5460.00	50.5 AV	54.0	-3.5	3.33 V	325	47.80	2.70
3	#5470.00	66.5 PK	74.0	-7.5	3.33 V	325	63.80	2.70
4	#5470.00	53.1 AV	54.0	-0.9	3.33 V	325	50.40	2.70
5	*5550.00	110.8 PK			3.33 V	325	71.20	39.60
6	*5550.00	100.0 AV			3.33 V	325	60.40	39.60
7	11100.00	60.2 PK	74.0	-13.8	3.13 V	183	44.90	15.30
8	11100.00	47.4 AV	54.0	-6.6	3.13 V	183	32.10	15.30

**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 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	98.6 PK			1.88 H	246	58.80	39.80
2	*5670.00	88.7 AV			1.88 H	246	48.90	39.80
3	#5725.00	58.6 PK	74.0	-15.4	1.88 H	246	55.50	3.10
4	#5725.00	49.9 AV	54.0	-4.1	1.88 H	246	46.80	3.10
5	11340.00	59.3 PK	74.0	-14.7	1.09 H	11	43.50	15.80
6	11340.00	46.6 AV	54.0	-7.4	1.09 H	11	30.80	15.80
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	107.5 PK			3.07 V	319	67.70	39.80
2	*5670.00	97.3 AV			3.07 V	319	57.50	39.80
3	#5725.00	68.8 PK	74.0	-5.2	3.07 V	319	65.70	3.10
4	#5725.00	53.3 AV	54.0	-0.7	3.07 V	319	50.20	3.10
5	11340.00	60.7 PK	74.0	-13.3	1.89 V	174	44.90	15.80
6	11340.00	47.9 AV	54.0	-6.1	1.89 V	174	32.10	15.80

**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)
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	*5710.00	108.5 PK			2.70 H	99	66.90	41.60
2	*5710.00	97.8 AV			2.70 H	99	56.20	41.60
3	#5850.00	61.6 PK	74.0	-12.4	2.53 H	108	57.90	3.70
4	#5850.00	46.9 AV	54.0	-7.1	2.53 H	108	43.20	3.70
5	11420.00	59.8 PK	74.0	-14.2	2.49 H	147	43.50	16.30
6	11420.00	48.3 AV	54.0	-5.7	2.49 H	147	32.00	16.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5710.00	107.5 PK			2.31 V	98	65.90	41.60
2	*5710.00	96.4 AV			2.31 V	98	54.80	41.60
3	#5850.00	62.5 PK	74.0	-11.5	2.28 V	104	58.80	3.70
4	#5850.00	46.0 AV	54.0	-8.0	2.28 V	104	42.30	3.70
5	11420.00	60.2 PK	74.0	-13.8	2.14 V	38	43.90	16.30
6	11420.00	49.5 AV	54.0	-4.5	2.14 V	38	33.20	16.30

REMARKS:

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



# 802.11ac (VHT80)

CHANNEL	TX Channel 58	DETECTOR FUNCTION	Peak (PK)
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	53.4 PK	74.0	-20.6	2.16 H	208	51.30	2.10
2	5150.00	43.1 AV	54.0	-10.9	2.16 H	208	41.00	2.10
3	*5290.00	92.9 PK			2.16 H	208	53.70	39.20
4	*5290.00	82.4 AV			2.16 H	208	43.20	39.20
5	5350.00	60.5 PK	74.0	-13.5	2.16 H	208	57.90	2.60
6	5350.00	50.1 AV	54.0	-3.9	2.16 H	208	47.50	2.60
7	#10580.00	58.2 PK	74.0	-15.8	1.62 H	75	43.60	14.60
8	#10580.00	45.3 AV	54.0	-8.7	1.62 H	75	30.70	14.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	55.3 PK	74.0	-18.7	2.68 V	327	53.20	2.10
2	5150.00	44.6 AV	54.0	-9.4	2.68 V	327	42.50	2.10
3	*5290.00	101.2 PK			2.68 V	327	62.00	39.20
4	*5290.00	90.4 AV			2.68 V	327	51.20	39.20
5	5350.00	68.4 PK	74.0	-5.6	2.68 V	327	65.80	2.60
6	5350.00	53.3 AV	54.0	-0.7	2.68 V	327	50.70	2.60
7	#10580.00	58.9 PK	74.0	-15.1	3.31 V	47	44.30	14.60
8	#10580.00	46.8 AV	54.0	-7.2	3.31 V	47	32.20	14.60

## 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)
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	64.4 PK	74.0	-9.6	1.80 H	224	61.70	2.70
2	5460.00	48.0 AV	54.0	-6.0	1.80 H	224	45.30	2.70
3	#5470.00	65.1 PK	74.0	-8.9	1.80 H	224	62.40	2.70
4	#5470.00	50.0 AV	54.0	-4.0	1.80 H	224	47.30	2.70
5	*5530.00	92.9 PK			1.80 H	224	53.40	39.50
6	*5530.00	82.7 AV			1.80 H	224	43.20	39.50
7	#5725.00	55.8 PK	74.0	-18.2	1.80 H	224	52.70	3.10
8	#5725.00	43.5 AV	54.0	-10.5	1.80 H	224	40.40	3.10
9	11060.00	59.3 PK	74.0	-14.7	1.26 H	33	43.60	15.70
10	11060.00	46.3 AV	54.0	-7.7	1.26 H	33	30.60	15.70

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	65.9 PK	74.0	-8.1	2.83 V	320	63.20	2.70
2	5460.00	50.8 AV	54.0	-3.2	2.83 V	320	48.10	2.70
3	#5470.00	69.4 PK	74.0	-4.6	2.83 V	320	66.70	2.70
4	#5470.00	53.1 AV	54.0	-0.9	2.83 V	320	50.40	2.70
5	*5530.00	102.5 PK			2.83 V	320	63.00	39.50
6	*5530.00	92.0 AV			2.83 V	320	52.50	39.50
7	#5725.00	57.7 PK	74.0	-16.3	2.83 V	320	54.60	3.10
8	#5725.00	45.8 AV	54.0	-8.2	2.83 V	320	42.70	3.10
9	11060.00	60.4 PK	74.0	-13.6	1.93 V	222	44.70	15.70
10	11060.00	48.2 AV	54.0	-5.8	1.93 V	222	32.50	15.70

#### 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	60.3 PK	74.0	-13.7	1.73 H	215	57.60	2.70
2	5460.00	45.5 AV	54.0	-8.5	1.73 H	215	42.80	2.70
3	#5470.00	61.6 PK	74.0	-12.4	1.73 H	215	58.90	2.70
4	#5470.00	46.2 AV	54.0	-7.8	1.73 H	215	43.50	2.70
5	*5610.00	98.9 PK			1.73 H	215	59.20	39.70
6	*5610.00	86.5 AV			1.73 H	215	46.80	39.70
7	#5725.00	65.4 PK	74.0	-8.6	1.73 H	215	62.30	3.10
8	#5725.00	49.3 AV	54.0	-4.7	1.73 H	215	46.20	3.10
9	11220.00	60.3 PK	74.0	-13.7	1.34 H	26	44.80	15.50
10	11220.00	47.5 AV	54.0	-6.5	1.34 H	26	32.00	15.50

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	65.9 PK	74.0	-8.1	2.73 V	319	63.20	2.70
2	5460.00	49.8 AV	54.0	-4.2	2.73 V	319	47.10	2.70
3	#5470.00	68.0 PK	74.0	-6.0	2.73 V	319	65.30	2.70
4	#5470.00	50.9 AV	54.0	-3.1	2.73 V	319	48.20	2.70
5	*5610.00	108.0 PK			2.73 V	319	68.30	39.70
6	*5610.00	96.4 AV			2.73 V	319	56.70	39.70
7	#5725.00	71.0 PK	74.0	-3.0	2.73 V	319	67.90	3.10
8	#5725.00	<b>53.5 AV</b>	<b>54.0</b>	<b>-0.5</b>	<b>2.73 V</b>	<b>319</b>	<b>50.40</b>	<b>3.10</b>
9	11220.00	61.8 PK	74.0	-12.2	1.84 V	213	46.30	15.50
10	11220.00	48.8 AV	54.0	-5.2	1.84 V	213	33.30	15.50

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	57.8 PK	74.0	-16.2	2.56 H	105	54.90	2.90
2	#5470.00	44.4 AV	54.0	-9.6	2.56 H	105	41.50	2.90
3	*5690.00	104.4 PK			2.72 H	98	62.80	41.60
4	*5690.00	92.9 AV			2.72 H	98	51.30	41.60
5	#5850.00	65.4 PK	74.0	-8.6	2.66 H	102	61.70	3.70
6	#5850.00	50.0 AV	54.0	-4.0	2.66 H	102	46.30	3.70
7	11380.00	60.3 PK	74.0	-13.7	2.18 H	100	44.10	16.20
8	11380.00	49.7 AV	54.0	-4.3	2.18 H	100	33.50	16.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	58.0 PK	74.0	-16.0	2.89 V	104	55.10	2.90
2	#5470.00	43.6 AV	54.0	-10.4	2.89 V	104	40.70	2.90
3	*5690.00	103.4 PK			2.71 V	83	61.80	41.60
4	*5690.00	92.9 AV			2.71 V	83	51.30	41.60
5	#5850.00	66.4 PK	74.0	-7.6	3.21 V	78	62.70	3.70
6	#5850.00	51.7 AV	54.0	-2.3	3.21 V	78	48.00	3.70
7	11380.00	61.9 PK	74.0	-12.1	2.20 V	23	45.70	16.20
8	11380.00	51.6 AV	54.0	-2.4	2.20 V	23	35.40	16.20

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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.

2TX

802.11a

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	5100.00	56.3 PK	74.0	-17.7	2.87 H	351	54.30	2.00
2	5100.00	46.7 AV	54.0	-7.3	2.87 H	351	44.70	2.00
3	*5260.00	109.5 PK			3.12 H	344	70.40	39.10
4	*5260.00	106.3 AV			3.12 H	344	67.20	39.10
5	#10540.00	58.0 PK	74.0	-16.0	2.13 H	218	43.70	14.30
6	#10540.00	45.4 AV	54.0	-8.6	2.13 H	218	31.10	14.30
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	5100.00	59.3 PK	74.0	-14.7	2.75 V	147	57.30	2.00
2	5100.00	48.1 AV	54.0	-5.9	2.75 V	147	46.10	2.00
3	*5260.00	116.4 PK			3.72 V	163	77.30	39.10
4	*5260.00	106.0 AV			3.72 V	163	66.90	39.10
5	#10540.00	59.5 PK	74.0	-14.5	2.26 V	18	45.20	14.30
6	#10540.00	46.9 AV	54.0	-7.1	2.26 V	18	32.60	14.30

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	107.6 PK			2.78 H	329	68.40	39.20
2	*5300.00	97.6 AV			2.78 H	329	58.40	39.20
3	5380.00	59.0 PK	74.0	-15.0	3.53 H	226	56.40	2.60
4	5380.00	48.9 AV	54.0	-5.1	3.53 H	226	46.30	2.60
5	10600.00	58.1 PK	74.0	-15.9	1.85 H	132	43.40	14.70
6	10600.00	45.2 AV	54.0	-8.8	1.85 H	132	30.50	14.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	113.4 PK			3.58 V	136	74.20	39.20
2	*5300.00	103.9 AV			3.58 V	136	64.70	39.20
3	5380.00	62.2 PK	74.0	-11.8	3.46 V	319	59.60	2.60
4	5380.00	53.2 AV	54.0	-0.8	3.46 V	319	50.60	2.60
5	10600.00	59.4 PK	74.0	-14.6	1.72 V	204	44.70	14.70
6	10600.00	46.5 AV	54.0	-7.5	1.72 V	204	31.80	14.70

**REMARKS:**

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

CHANNEL	TX Channel 64	DETECTOR FUNCTION	Peak (PK)
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	105.4 PK			1.79 H	321	66.20	39.20
2	*5320.00	95.9 AV			1.79 H	321	56.70	39.20
3	5400.00	59.3 PK	74.0	-14.7	1.89 H	234	56.60	2.70
4	5400.00	49.3 AV	54.0	-4.7	1.89 H	234	46.60	2.70
5	10640.00	58.1 PK	74.0	-15.9	1.56 H	223	43.40	14.70
6	10640.00	45.7 AV	54.0	-8.3	1.56 H	223	31.00	14.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	113.5 PK			3.51 V	141	74.30	39.20
2	*5320.00	103.8 AV			3.51 V	141	64.60	39.20
3	5400.00	63.2 PK	74.0	-10.8	3.45 V	326	60.50	2.70
4	5400.00	53.2 AV	54.0	-0.8	3.45 V	326	50.50	2.70
5	10640.00	59.5 PK	74.0	-14.5	1.79 V	346	44.80	14.70
6	10640.00	47.3 AV	54.0	-6.7	1.79 V	346	32.60	14.70

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5420.00	60.3 PK	74.0	-13.7	2.46 H	351	57.60	2.70
2	5420.00	50.3 AV	54.0	-3.7	2.46 H	351	47.60	2.70
3	#5470.00	67.2 PK	74.0	-6.8	2.58 H	291	64.50	2.70
4	#5470.00	48.8 AV	54.0	-5.2	2.58 H	291	46.10	2.70
5	*5500.00	111.3 PK			2.83 H	2	71.80	39.50
6	*5500.00	100.9 AV			2.83 H	2	61.40	39.50
7	11000.00	60.9 PK	74.0	-13.1	2.34 H	47	44.80	16.10
8	11000.00	47.7 AV	54.0	-6.3	2.34 H	47	31.60	16.10
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5420.00	64.5 PK	74.0	-9.5	3.56 V	330	61.80	2.70
2	5420.00	53.2 AV	54.0	-0.8	3.56 V	330	50.50	2.70
3	#5470.00	71.0 PK	74.0	-3.0	3.24 V	139	68.30	2.70
4	#5470.00	52.0 AV	54.0	-2.0	3.24 V	139	49.30	2.70
5	*5500.00	116.6 PK			2.90 V	139	77.10	39.50
6	*5500.00	106.9 AV			2.90 V	139	67.40	39.50
7	11000.00	61.4 PK	74.0	-12.6	1.73 V	82	45.30	16.10
8	11000.00	48.1 AV	54.0	-5.9	1.73 V	82	32.00	16.10

**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	5420.00	59.5 PK	74.0	-14.5	2.51 H	348	56.80	2.70
2	5420.00	46.9 AV	54.0	-7.1	2.51 H	348	44.20	2.70
3	#5470.00	57.6 PK	74.0	-16.4	2.76 H	345	54.90	2.70
4	#5470.00	44.5 AV	54.0	-9.5	2.76 H	345	41.80	2.70
5	*5580.00	111.5 PK			2.69 H	353	71.80	39.70
6	*5580.00	101.3 AV			2.69 H	353	61.60	39.70
7	#5735.00	60.6 PK	74.0	-13.4	2.55 H	347	57.50	3.10
8	#5735.00	48.1 AV	54.0	-5.9	2.55 H	347	45.00	3.10
9	11160.00	60.1 PK	74.0	-13.9	2.46 H	51	44.80	15.30
10	11160.00	46.7 AV	54.0	-7.3	2.46 H	51	31.40	15.30

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	5420.00	63.0 PK	74.0	-11.0	3.56 V	324	60.30	2.70
2	5420.00	51.7 AV	54.0	-2.3	3.56 V	324	49.00	2.70
3	#5470.00	59.5 PK	74.0	-14.5	2.84 V	165	56.80	2.70
4	#5470.00	46.9 AV	54.0	-7.1	2.84 V	165	44.20	2.70
5	*5580.00	117.7 PK			3.02 V	154	78.00	39.70
6	*5580.00	107.3 AV			3.02 V	154	67.60	39.70
7	#5735.00	63.8 PK	74.0	-10.2	3.14 V	143	60.70	3.10
8	#5735.00	52.9 AV	54.0	-1.1	3.14 V	143	49.80	3.10
9	11160.00	60.7 PK	74.0	-13.3	1.64 V	72	45.40	15.30
10	11160.00	47.6 AV	54.0	-6.4	1.64 V	72	32.30	15.30

**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	107.4 PK			2.38 H	345	67.50	39.90
2	*5700.00	96.5 AV			2.38 H	345	56.60	39.90
3	#5725.00	69.6 PK	74.0	-4.4	2.43 H	358	66.50	3.10
4	#5725.00	50.3 AV	54.0	-3.7	2.43 H	358	47.20	3.10
5	11400.00	60.4 PK	74.0	-13.6	2.21 H	58	45.10	15.30
6	11400.00	47.0 AV	54.0	-7.0	2.21 H	58	31.70	15.30
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	113.1 PK			2.92 V	143	73.20	39.90
2	*5700.00	103.3 AV			2.92 V	143	63.40	39.90
3	#5725.00	73.1 PK	74.0	-0.9	3.68 V	315	70.00	3.10
4	#5725.00	53.2 AV	54.0	-0.8	3.68 V	315	50.10	3.10
5	11400.00	60.7 PK	74.0	-13.3	1.65 V	74	45.40	15.30
6	11400.00	47.4 AV	54.0	-6.6	1.65 V	74	32.10	15.30

**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	56.3 PK	74.0	-17.7	2.15 H	81	53.40	2.90
2	#5470.00	43.7 AV	54.0	-10.3	2.15 H	81	40.80	2.90
3	*5720.00	114.0 PK			2.38 H	88	72.40	41.60
4	*5720.00	103.9 AV			2.38 H	88	62.30	41.60
5	#5850.00	57.8 PK	74.0	-16.2	2.36 H	94	54.10	3.70
6	#5850.00	44.8 AV	54.0	-9.2	2.36 H	94	41.10	3.70
7	11440.00	60.3 PK	74.0	-13.7	2.13 H	102	44.00	16.30
8	11440.00	50.4 AV	54.0	-3.6	2.13 H	102	34.10	16.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	57.5 PK	74.0	-16.5	2.14 V	119	54.60	2.90
2	#5470.00	45.7 AV	54.0	-8.3	2.14 V	119	42.80	2.90
3	*5720.00	113.2 PK			2.26 V	100	71.60	41.60
4	*5720.00	103.0 AV			2.26 V	100	61.40	41.60
5	#5850.00	58.2 PK	74.0	-15.8	2.38 V	120	54.50	3.70
6	#5850.00	45.8 AV	54.0	-8.2	2.38 V	120	42.10	3.70
7	11440.00	62.5 PK	74.0	-11.5	2.23 V	18	46.20	16.30
8	11440.00	52.6 AV	54.0	-1.4	2.23 V	18	36.30	16.30

**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 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	5100.00	55.3 PK	74.0	-18.7	1.65 H	15	53.30	2.00
2	5100.00	42.9 AV	54.0	-11.1	1.65 H	15	40.90	2.00
3	*5260.00	108.9 PK			1.49 H	9	69.80	39.10
4	*5260.00	98.2 AV			1.49 H	9	59.10	39.10
5	#10520.00	57.4 PK	74.0	-16.6	1.47 H	158	43.20	14.20
6	#10520.00	44.8 AV	54.0	-9.2	1.47 H	158	30.60	14.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5100.00	58.8 PK	74.0	-15.2	2.28 V	185	56.80	2.00
2	5100.00	46.9 AV	54.0	-7.1	2.28 V	185	44.90	2.00
3	*5260.00	115.0 PK			2.32 V	184	75.90	39.10
4	*5260.00	104.8 AV			2.32 V	184	65.70	39.10
5	#10520.00	58.9 PK	74.0	-15.1	3.34 V	125	44.70	14.20
6	#10520.00	46.6 AV	54.0	-7.4	3.34 V	125	32.40	14.20

## REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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	108.7 PK			1.67 H	7	69.50	39.20
2	*5300.00	98.9 AV			1.67 H	7	59.70	39.20
3	5380.00	56.2 PK	74.0	-17.8	1.75 H	349	53.60	2.60
4	5380.00	48.9 AV	54.0	-5.1	1.75 H	349	46.30	2.60
5	#10300.00	58.1 PK	74.0	-15.9	2.85 H	189	43.70	14.40
6	#10300.00	45.0 AV	54.0	-9.0	2.85 H	189	30.60	14.40
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	115.7 PK			2.67 V	182	76.50	39.20
2	*5300.00	105.0 AV			2.67 V	182	65.80	39.20
3	5380.00	63.6 PK	74.0	-10.4	2.85 V	2	61.00	2.60
4	5380.00	52.8 AV	54.0	-1.2	2.85 V	2	50.20	2.60
5	#10300.00	59.2 PK	74.0	-14.8	1.78 V	165	44.80	14.40
6	#10300.00	46.6 AV	54.0	-7.4	1.78 V	165	32.20	14.40

**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	106.9 PK			1.64 H	18	67.70	39.20
2	*5320.00	96.8 AV			1.64 H	18	57.60	39.20
3	5400.00	63.2 PK	74.0	-10.8	1.50 H	3	60.50	2.70
4	5400.00	50.0 AV	54.0	-4.0	1.50 H	3	47.30	2.70
5	10640.00	58.4 PK	74.0	-15.6	1.67 H	322	43.70	14.70
6	10640.00	45.2 AV	54.0	-8.8	1.67 H	322	30.50	14.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	114.3 PK			3.04 V	129	75.10	39.20
2	*5320.00	103.3 AV			3.04 V	129	64.10	39.20
3	5400.00	68.3 PK	74.0	-5.7	3.01 V	181	65.60	2.70
4	5400.00	53.2 AV	54.0	-0.8	3.01 V	181	50.50	2.70
5	10640.00	59.4 PK	74.0	-14.6	1.77 V	325	44.70	14.70
6	10640.00	46.5 AV	54.0	-7.5	1.77 V	325	31.80	14.70

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5420.00	60.8 PK	74.0	-13.2	2.51 H	352	58.10	2.70
2	5420.00	50.3 AV	54.0	-3.7	2.51 H	352	47.60	2.70
3	#5470.00	67.9 PK	74.0	-6.1	2.36 H	284	65.20	2.70
4	#5470.00	50.5 AV	54.0	-3.5	2.36 H	284	47.80	2.70
5	*5500.00	109.2 PK			2.74 H	342	69.70	39.50
6	*5500.00	99.0 AV			2.74 H	342	59.50	39.50
7	11000.00	60.8 PK	74.0	-13.2	2.23 H	55	44.70	16.10
8	11000.00	47.9 AV	54.0	-6.1	2.23 H	55	31.80	16.10
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5420.00	64.3 PK	74.0	-9.7	3.52 V	136	61.60	2.70
2	5420.00	53.0 AV	54.0	-1.0	3.52 V	136	50.30	2.70
3	#5470.00	73.4 PK	74.0	-0.6	3.88 V	312	70.70	2.70
4	#5470.00	53.0 AV	54.0	-1.0	3.88 V	312	50.30	2.70
5	*5500.00	114.5 PK			3.14 V	139	75.00	39.50
6	*5500.00	103.4 AV			3.14 V	139	63.90	39.50
7	11000.00	61.4 PK	74.0	-12.6	1.63 V	78	45.30	16.10
8	11000.00	48.2 AV	54.0	-5.8	1.63 V	78	32.10	16.10

**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	5420.00	59.9 PK	74.0	-14.1	2.49 H	355	57.20	2.70
2	5420.00	47.2 AV	54.0	-6.8	2.49 H	355	44.50	2.70
3	#5470.00	58.0 PK	74.0	-16.0	2.53 H	358	55.30	2.70
4	#5470.00	44.9 AV	54.0	-9.1	2.53 H	358	42.20	2.70
5	*5580.00	110.2 PK			2.72 H	341	70.50	39.70
6	*5580.00	100.9 AV			2.72 H	341	61.20	39.70
7	#5735.00	60.5 PK	74.0	-13.5	2.48 H	335	57.40	3.10
8	#5735.00	48.1 AV	54.0	-5.9	2.48 H	335	45.00	3.10
9	11160.00	59.9 PK	74.0	-14.1	2.35 H	38	44.60	15.30
10	11160.00	47.0 AV	54.0	-7.0	2.35 H	38	31.70	15.30

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	5420.00	63.1 PK	74.0	-10.9	3.55 V	136	60.40	2.70
2	5420.00	51.7 AV	54.0	-2.3	3.55 V	136	49.00	2.70
3	#5470.00	60.5 PK	74.0	-13.5	3.41 V	294	57.80	2.70
4	#5470.00	47.6 AV	54.0	-6.4	3.41 V	294	44.90	2.70
5	*5580.00	116.9 PK			3.55 V	311	77.20	39.70
6	*5580.00	106.8 AV			3.55 V	311	67.10	39.70
7	#5735.00	63.7 PK	74.0	-10.3	3.26 V	325	60.60	3.10
8	#5735.00	52.4 AV	54.0	-1.6	3.26 V	325	49.30	3.10
9	11160.00	61.1 PK	74.0	-12.9	3.55 V	311	45.80	15.30
10	11160.00	47.7 AV	54.0	-6.3	3.55 V	311	32.40	15.30

#### 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	106.2 PK			2.24 H	335	66.30	39.90
2	*5700.00	96.3 AV			2.24 H	335	56.40	39.90
3	#5725.00	67.6 PK	74.0	-6.4	2.50 H	346	64.50	3.10
4	#5725.00	50.4 AV	54.0	-3.6	2.50 H	346	47.30	3.10
5	11400.00	60.1 PK	74.0	-13.9	2.13 H	64	44.80	15.30
6	11400.00	47.0 AV	54.0	-7.0	2.13 H	64	31.70	15.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	111.9 PK			3.24 V	328	72.00	39.90
2	*5700.00	101.9 AV			3.24 V	328	62.00	39.90
3	#5725.00	72.3 PK	74.0	-1.7	3.26 V	149	69.20	3.10
4	#5725.00	53.0 AV	54.0	-1.0	3.26 V	149	49.90	3.10
5	11400.00	60.6 PK	74.0	-13.4	1.72 V	85	45.30	15.30
6	11400.00	47.3 AV	54.0	-6.7	1.72 V	85	32.00	15.30

**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	56.0 PK	74.0	-18.0	2.48 H	102	53.10	2.90
2	#5470.00	43.7 AV	54.0	-10.3	2.48 H	102	40.80	2.90
3	*5720.00	113.3 PK			2.33 H	90	71.70	41.60
4	*5720.00	103.1 AV			2.33 H	90	61.50	41.60
5	#5850.00	57.5 PK	74.0	-16.5	2.34 H	117	53.80	3.70
6	#5850.00	44.2 AV	54.0	-9.8	2.34 H	117	40.50	3.70
7	11440.00	60.1 PK	74.0	-13.9	2.19 H	114	43.80	16.30
8	11440.00	49.5 AV	54.0	-4.5	2.19 H	114	33.20	16.30
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	56.4 PK	74.0	-17.6	2.15 V	106	53.50	2.90
2	#5470.00	43.1 AV	54.0	-10.9	2.15 V	106	40.20	2.90
3	*5720.00	112.3 PK			2.36 V	97	70.70	41.60
4	*5720.00	101.9 AV			2.36 V	97	60.30	41.60
5	#5850.00	57.8 PK	74.0	-16.2	2.24 V	115	54.10	3.70
6	#5850.00	44.1 AV	54.0	-9.9	2.24 V	115	40.40	3.70
7	11440.00	60.8 PK	74.0	-13.2	2.13 V	114	44.50	16.30
8	11440.00	50.7 AV	54.0	-3.3	2.13 V	114	34.40	16.30

**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 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	54.8 PK	74.0	-19.2	1.86 H	25	52.70	2.10
2	5150.00	42.5 AV	54.0	-11.5	1.86 H	25	40.40	2.10
3	*5270.00	104.3 PK			1.91 H	9	65.10	39.20
4	*5270.00	94.1 AV			1.91 H	9	54.90	39.20
5	#10540.00	57.8 PK	74.0	-16.2	1.82 H	221	43.50	14.30
6	#10540.00	45.0 AV	54.0	-9.0	1.82 H	221	30.70	14.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	56.9 PK	74.0	-17.1	2.66 V	189	54.80	2.10
2	5150.00	44.9 AV	54.0	-9.1	2.66 V	189	42.80	2.10
3	*5270.00	113.9 PK			3.13 V	129	74.70	39.20
4	*5270.00	103.1 AV			3.13 V	129	63.90	39.20
5	#10540.00	58.8 PK	74.0	-15.2	1.35 V	13	44.50	14.30
6	#10540.00	46.5 AV	54.0	-7.5	1.35 V	13	32.20	14.30

## 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	99.3 PK			1.68 H	19	60.10	39.20
2	*5310.00	89.4 AV			1.68 H	19	50.20	39.20
3	5350.00	66.3 PK	74.0	-7.7	1.79 H	22	63.70	2.60
4	5350.00	48.2 AV	54.0	-5.8	1.79 H	22	45.60	2.60
5	10620.00	58.2 PK	74.0	-15.8	2.24 H	76	43.50	14.70
6	10620.00	45.2 AV	54.0	-8.8	2.24 H	76	30.50	14.70
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	108.2 PK			3.15 V	130	69.00	39.20
2	*5310.00	97.8 AV			3.15 V	130	58.60	39.20
3	5350.00	70.8 PK	74.0	-3.2	3.15 V	324	68.20	2.60
4	5350.00	53.1 AV	54.0	-0.9	3.15 V	324	50.50	2.60
5	10620.00	59.6 PK	74.0	-14.4	1.77 V	52	44.90	14.70
6	10620.00	47.2 AV	54.0	-6.8	1.77 V	52	32.50	14.70

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	5430.00	59.5 PK	74.0	-14.5	2.45 H	341	56.80	2.70
2	5430.00	46.1 AV	54.0	-7.9	2.45 H	341	43.40	2.70
3	#5470.00	67.2 PK	74.0	-6.8	2.34 H	312	64.50	2.70
4	#5470.00	49.5 AV	54.0	-4.5	2.34 H	312	46.80	2.70
5	*5510.00	103.2 PK			2.28 H	334	63.70	39.50
6	*5510.00	93.5 AV			2.28 H	334	54.00	39.50
7	11020.00	61.1 PK	74.0	-12.9	2.13 H	62	45.20	15.90
8	11020.00	47.6 AV	54.0	-6.4	2.13 H	62	31.70	15.90
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5430.00	63.7 PK	74.0	-10.3	3.90 V	310	61.00	2.70
2	5430.00	48.8 AV	54.0	-5.2	3.90 V	310	46.10	2.70
3	#5470.00	73.5 PK	74.0	-0.5	3.88 V	308	70.80	2.70
4	#5470.00	53.5 AV	54.0	-0.5	3.88 V	308	50.80	2.70
5	*5510.00	108.9 PK			3.82 V	314	69.40	39.50
6	*5510.00	99.0 AV			3.82 V	314	59.50	39.50
7	11020.00	61.7 PK	74.0	-12.3	1.57 V	84	45.80	15.90
8	11020.00	48.2 AV	54.0	-5.8	1.57 V	84	32.30	15.90

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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	5460.00	60.3 PK	74.0	-13.7	2.38 H	349	57.60	2.70
2	5460.00	48.5 AV	54.0	-5.5	2.38 H	349	45.80	2.70
3	#5470.00	65.1 PK	74.0	-8.9	2.24 H	315	62.40	2.70
4	#5470.00	50.3 AV	54.0	-3.7	2.24 H	315	47.60	2.70
5	*5550.00	107.1 PK			2.13 H	298	67.50	39.60
6	*5550.00	97.6 AV			2.13 H	298	58.00	39.60
7	11100.00	60.7 PK	74.0	-13.3	2.04 H	57	45.40	15.30
8	11100.00	46.9 AV	54.0	-7.1	2.04 H	57	31.60	15.30
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	64.7 PK	74.0	-9.3	3.80 V	328	62.00	2.70
2	5460.00	52.3 AV	54.0	-1.7	3.80 V	328	49.60	2.70
3	#5470.00	68.6 PK	74.0	-5.4	3.90 V	312	65.90	2.70
4	#5470.00	53.1 AV	54.0	-0.9	3.90 V	312	50.40	2.70
5	*5550.00	113.9 PK			3.74 V	313	74.30	39.60
6	*5550.00	104.0 AV			3.74 V	313	64.40	39.60
7	11100.00	61.3 PK	74.0	-12.7	1.68 V	87	46.00	15.30
8	11100.00	47.7 AV	54.0	-6.3	1.68 V	87	32.40	15.30

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	105.6 PK			2.35 H	341	65.80	39.80
2	*5670.00	96.3 AV			2.35 H	341	56.50	39.80
3	#5725.00	65.4 PK	74.0	-8.6	2.21 H	335	62.30	3.10
4	#5725.00	49.6 AV	54.0	-4.4	2.21 H	335	46.50	3.10
5	11340.00	60.5 PK	74.0	-13.5	1.96 H	62	44.70	15.80
6	11340.00	47.1 AV	54.0	-6.9	1.96 H	62	31.30	15.80
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	112.2 PK			3.49 V	331	72.40	39.80
2	*5670.00	101.4 AV			3.49 V	331	61.60	39.80
3	#5725.00	71.6 PK	74.0	-2.4	3.49 V	320	68.50	3.10
4	#5725.00	53.3 AV	54.0	-0.7	3.49 V	320	50.20	3.10
5	11340.00	61.1 PK	74.0	-12.9	1.56 V	74	45.30	15.80
6	11340.00	47.3 AV	54.0	-6.7	1.56 V	74	31.50	15.80

**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)
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	*5710.00	109.4 PK			2.08 H	94	67.80	41.60
2	*5710.00	99.3 AV			2.08 H	94	57.70	41.60
3	#5850.00	61.5 PK	74.0	-12.5	2.11 H	97	57.80	3.70
4	#5850.00	46.5 AV	54.0	-7.5	2.11 H	97	42.80	3.70
5	11420.00	59.5 PK	74.0	-14.5	2.54 H	115	43.20	16.30
6	11420.00	47.9 AV	54.0	-6.1	2.54 H	115	31.60	16.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5710.00	109.0 PK			2.16 V	97	67.40	41.60
2	*5710.00	98.8 AV			2.16 V	97	57.20	41.60
3	#5850.00	61.4 PK	74.0	-12.6	2.14 V	95	57.70	3.70
4	#5850.00	46.5 AV	54.0	-7.5	2.14 V	95	42.80	3.70
5	11420.00	60.2 PK	74.0	-13.8	2.16 V	115	43.90	16.30
6	11420.00	49.9 AV	54.0	-4.1	2.16 V	115	33.60	16.30

**REMARKS:**

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



# 802.11ac (VHT80)

CHANNEL	TX Channel 58	DETECTOR FUNCTION	Peak (PK)
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	55.5 PK	74.0	-18.5	1.94 H	19	53.40	2.10
2	5150.00	42.8 AV	54.0	-11.2	1.94 H	19	40.70	2.10
3	*5290.00	97.9 PK			2.04 H	29	58.70	39.20
4	*5290.00	88.0 AV			2.04 H	29	48.80	39.20
5	5350.00	65.9 PK	74.0	-8.1	1.88 H	355	63.30	2.60
6	5350.00	49.3 AV	54.0	-4.7	1.88 H	355	46.70	2.60
7	#10580.00	57.8 PK	74.0	-16.2	1.99 H	204	43.20	14.60
8	#10580.00	45.1 AV	54.0	-8.9	1.99 H	204	30.50	14.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	56.8 PK	74.0	-17.2	2.95 V	311	54.70	2.10
2	5150.00	44.5 AV	54.0	-9.5	2.95 V	311	42.40	2.10
3	*5290.00	104.0 PK			3.05 V	132	64.80	39.20
4	*5290.00	93.3 AV			3.05 V	132	54.10	39.20
5	5350.00	68.0 PK	74.0	-6.0	2.85 V	322	65.40	2.60
6	5350.00	53.3 AV	54.0	-0.7	2.85 V	322	50.70	2.60
7	#10580.00	59.3 PK	74.0	-14.7	1.59 V	61	44.70	14.60
8	#10580.00	46.9 AV	54.0	-7.1	1.59 V	61	32.30	14.60

## 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)
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	65.1 PK	74.0	-8.9	2.36 H	45	62.40	2.70
2	5460.00	49.4 AV	54.0	-4.6	2.36 H	45	46.70	2.70
3	#5470.00	65.0 PK	74.0	-9.0	2.21 H	349	62.30	2.70
4	#5470.00	50.4 AV	54.0	-3.6	2.21 H	349	47.70	2.70
5	*5530.00	97.2 PK			1.98 H	34	57.70	39.50
6	*5530.00	87.2 AV			1.98 H	34	47.70	39.50
7	#5725.00	55.5 PK	74.0	-18.5	1.93 H	355	52.40	3.10
8	#5725.00	43.8 AV	54.0	-10.2	1.93 H	355	40.70	3.10
9	11060.00	59.4 PK	74.0	-14.6	2.53 H	33	43.70	15.70
10	11060.00	46.4 AV	54.0	-7.6	2.53 H	33	30.70	15.70

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	65.9 PK	74.0	-8.1	3.88 V	300	63.20	2.70
2	5460.00	51.8 AV	54.0	-2.2	3.88 V	300	49.10	2.70
3	#5470.00	68.4 PK	74.0	-5.6	3.88 V	303	65.70	2.70
4	#5470.00	53.1 AV	54.0	-0.9	3.88 V	303	50.40	2.70
5	*5530.00	102.8 PK			3.16 V	177	63.30	39.50
6	*5530.00	91.9 AV			3.16 V	177	52.40	39.50
7	#5725.00	57.6 PK	74.0	-16.4	3.33 V	324	54.50	3.10
8	#5725.00	45.5 AV	54.0	-8.5	3.33 V	324	42.40	3.10
9	11060.00	60.9 PK	74.0	-13.1	2.74 V	35	45.20	15.70
10	11060.00	47.6 AV	54.0	-6.4	2.74 V	35	31.90	15.70

#### 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	60.0 PK	74.0	-14.0	1.97 H	354	57.30	2.70
2	5460.00	47.7 AV	54.0	-6.3	1.97 H	354	45.00	2.70
3	#5470.00	62.2 PK	74.0	-11.8	2.04 H	31	59.50	2.70
4	#5470.00	49.0 AV	54.0	-5.0	2.04 H	31	46.30	2.70
5	*5610.00	100.1 PK			2.14 H	351	60.40	39.70
6	*5610.00	90.5 AV			2.14 H	351	50.80	39.70
7	#5725.00	63.3 PK	74.0	-10.7	2.24 H	359	60.20	3.10
8	#5725.00	48.8 AV	54.0	-5.2	2.24 H	359	45.70	3.10
9	11220.00	60.0 PK	74.0	-14.0	2.41 H	24	44.50	15.50
10	11220.00	47.9 AV	54.0	-6.1	2.41 H	24	32.40	15.50

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	64.2 PK	74.0	-9.8	3.46 V	168	61.50	2.70
2	5460.00	50.1 AV	54.0	-3.9	3.46 V	168	47.40	2.70
3	#5470.00	67.4 PK	74.0	-6.6	3.00 V	164	64.70	2.70
4	#5470.00	50.8 AV	54.0	-3.2	3.00 V	164	48.10	2.70
5	*5610.00	110.8 PK			3.16 V	157	71.10	39.70
6	*5610.00	99.8 AV			3.16 V	157	60.10	39.70
7	#5725.00	68.6 PK	74.0	-5.4	3.20 V	319	65.50	3.10
8	#5725.00	53.2 AV	54.0	-0.8	3.20 V	319	50.10	3.10
9	11220.00	62.8 PK	74.0	-11.2	2.63 V	43	47.30	15.50
10	11220.00	50.0 AV	54.0	-4.0	2.63 V	43	34.50	15.50

#### 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	59.5 PK	74.0	-14.5	2.17 H	92	56.60	2.90
2	#5470.00	46.1 AV	54.0	-7.9	2.17 H	92	43.20	2.90
3	*5690.00	105.8 PK			2.33 H	96	64.20	41.60
4	*5690.00	95.6 AV			2.33 H	96	54.00	41.60
5	#5850.00	70.4 PK	74.0	-3.6	2.22 H	88	66.70	3.70
6	#5850.00	51.3 AV	54.0	-2.7	2.22 H	88	47.60	3.70
7	11380.00	60.4 PK	74.0	-13.6	2.19 H	100	44.20	16.20
8	11380.00	49.3 AV	54.0	-4.7	2.19 H	100	33.10	16.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	58.3 PK	74.0	-15.7	2.35 V	106	55.40	2.90
2	#5470.00	44.2 AV	54.0	-9.8	2.35 V	106	41.30	2.90
3	*5690.00	104.6 PK			2.11 V	98	63.00	41.60
4	*5690.00	95.0 AV			2.11 V	98	53.40	41.60
5	#5850.00	65.8 PK	74.0	-8.2	2.43 V	97	62.10	3.70
6	#5850.00	50.2 AV	54.0	-3.8	2.43 V	97	46.50	3.70
7	11380.00	61.8 PK	74.0	-12.2	2.25 V	21	45.60	16.20
8	11380.00	51.4 AV	54.0	-2.6	2.25 V	21	35.20	16.20

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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 52	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	A

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	30.00	28.3 QP	40.0	-11.7	1.25 H	72	44.30	-16.00
2	125.06	27.2 QP	43.5	-16.3	2.00 H	78	42.60	-15.40
3	375.32	29.8 QP	46.0	-16.2	1.01 H	248	39.20	-9.40
4	499.48	29.7 QP	46.0	-16.3	2.00 H	319	36.20	-6.50
5	625.58	36.1 QP	46.0	-9.9	1.25 H	91	39.10	-3.00
6	899.12	36.4 QP	46.0	-9.6	1.50 H	201	33.70	2.70
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	45.52	33.1 QP	40.0	-6.9	1.00 V	8	47.40	-14.30
2	74.62	29.5 QP	40.0	-10.5	1.99 V	236	46.10	-16.60
3	111.48	27.1 QP	43.5	-16.4	1.00 V	282	43.80	-16.70
4	288.02	25.3 QP	46.0	-20.7	1.50 V	32	36.70	-11.40
5	740.04	38.4 QP	46.0	-7.6	1.50 V	83	39.10	-0.70
6	833.16	34.8 QP	46.0	-11.2	1.50 V	294	33.50	1.30

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

CHANNEL	TX Channel 52	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	B

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	61.04	27.8 QP	40.0	-12.2	1.99 H	285	42.40	-14.60
2	289.96	31.1 QP	46.0	-14.9	1.00 H	229	42.50	-11.40
3	361.74	31.2 QP	46.0	-14.8	1.00 H	229	41.00	-9.80
4	460.68	28.9 QP	46.0	-17.1	1.99 H	249	36.20	-7.30
5	821.52	33.6 QP	46.0	-12.4	1.50 H	122	32.50	1.10
6	875.84	35.8 QP	46.0	-10.2	1.50 H	223	33.60	2.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	66.86	34.5 QP	40.0	-5.5	2.00 V	0	49.90	-15.40
2	109.54	25.8 QP	43.5	-17.7	1.01 V	291	42.70	-16.90
3	299.66	26.1 QP	46.0	-19.9	2.00 V	289	37.30	-11.20
4	474.26	27.5 QP	46.0	-18.5	1.26 V	219	34.50	-7.00
5	643.04	30.4 QP	46.0	-15.6	1.26 V	336	33.30	-2.90
6	885.54	35.9 QP	46.0	-10.1	1.50 V	355	33.50	2.40

Remarks:

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

## 4.2 Conducted Emission Measurement

### 4.2.1 Limits of Conducted Emission Measurement

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

**Note:** 1. The lower limit shall apply at the transition frequencies.

2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

### 4.2.2 Test Instruments

Tested date: May 20, 2017

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCI	100613	Nov. 21, 2016	Nov. 20, 2017
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond1-01	Dec. 22, 2016	Dec. 21, 2017
LISN ROHDE & SCHWARZ (EUT)	ESH3-Z5	835239/001	Mar. 10, 2017	Mar. 09, 2018
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Jul. 28, 2016	Jul. 27, 2017
Software ADT	BV ADT_Cond_ V7.3.7.3	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

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

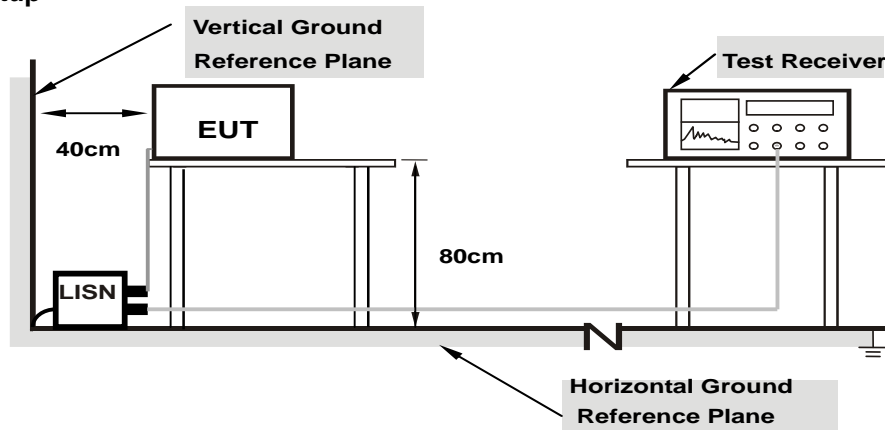
**NOTE:** The resolution bandwidth and video bandwidth of test receiver is 9kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15MHz-30MHz.

#### 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

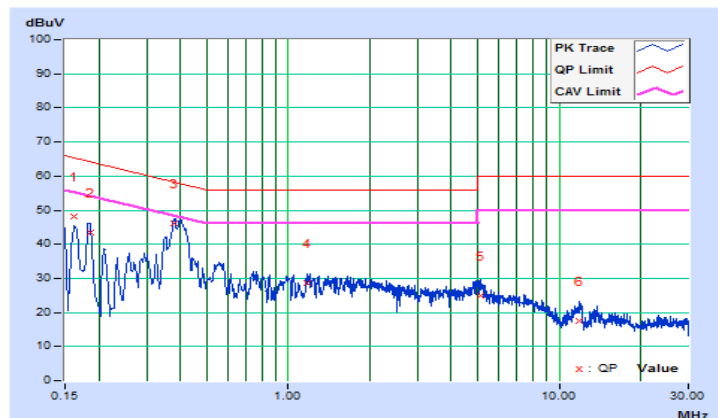
Worst-case data: 802.11a

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

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	0.16233	10.41	37.63	23.46	48.04	33.87	65.34	55.34	-17.30	-21.47
2	0.18600	10.42	33.06	19.72	43.48	30.14	64.21	54.21	-20.73	-24.07
3	0.38117	10.50	35.46	26.42	45.96	36.92	58.25	48.25	-12.29	-11.33
4	1.17800	10.47	18.01	9.82	28.48	20.29	56.00	46.00	-27.52	-25.71
5	5.12200	10.70	14.08	5.71	24.78	16.41	60.00	50.00	-35.22	-33.59
6	11.86200	10.99	6.59	0.93	17.58	11.92	60.00	50.00	-42.42	-38.08

#### 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.

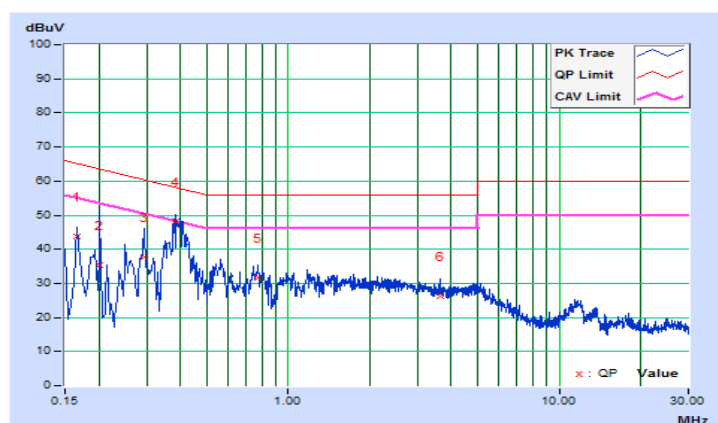


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	A		

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	0.16600	10.17	33.75	19.82	43.92	29.99	65.16	55.16	-21.24	-25.17
2	0.20201	10.20	24.99	8.48	35.19	18.68	63.53	53.53	-28.34	-34.85
3	0.29400	10.21	27.59	19.42	37.80	29.63	60.41	50.41	-22.61	-20.78
<b>4</b>	<b>0.38600</b>	<b>10.23</b>	<b>37.87</b>	<b>27.96</b>	<b>48.10</b>	<b>38.19</b>	<b>58.15</b>	<b>48.15</b>	<b>-10.05</b>	<b>-9.96</b>
5	0.77000	10.24	21.38	13.31	31.62	23.55	56.00	46.00	-24.38	-22.45
6	3.65800	10.40	15.78	8.55	26.18	18.95	56.00	46.00	-29.82	-27.05

#### 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.

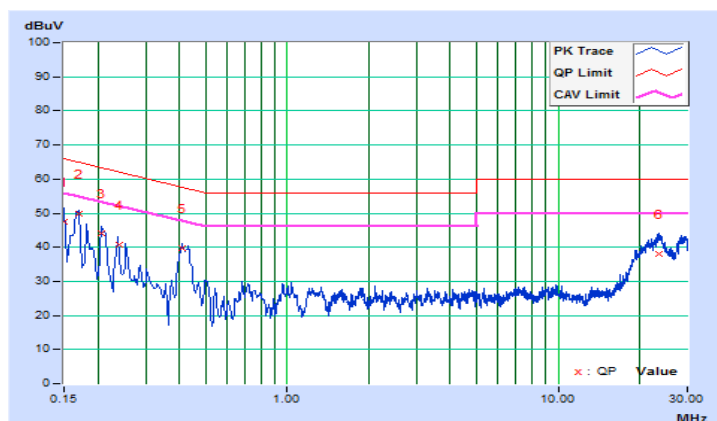


Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
	[MHz]		[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15060	10.41	37.18	21.50	47.59	31.91	65.97	55.97	-18.38	-24.06
2	0.16936	10.41	39.49	26.19	49.90	36.60	64.99	54.99	-15.09	-18.39
3	0.20601	10.43	33.75	22.25	44.18	32.68	63.36	53.36	-19.18	-20.68
4	0.23910	10.45	30.21	19.15	40.66	29.60	62.13	52.13	-21.47	-22.53
5	0.41038	10.51	29.15	22.62	39.66	33.13	57.64	47.64	-17.98	-14.51
6	23.68211	11.55	26.61	21.33	38.16	32.88	60.00	50.00	-21.84	-17.12

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.

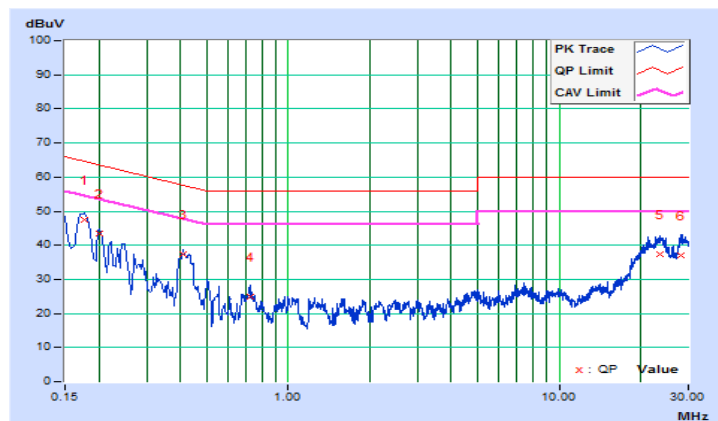


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B		

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	0.17803	10.18	37.27	23.91	47.45	34.09	64.58	54.58	-17.13	-20.49
2	0.20096	10.20	33.40	19.92	43.60	30.12	63.57	53.57	-19.97	-23.45
3	0.41010	10.23	27.15	20.84	37.38	31.07	57.65	47.65	-20.27	-16.58
4	0.72201	10.24	14.80	9.40	25.04	19.64	56.00	46.00	-30.96	-26.36
5	23.49815	11.13	26.32	20.89	37.45	32.02	60.00	50.00	-22.55	-17.98
6	28.29019	11.24	25.80	20.51	37.04	31.75	60.00	50.00	-22.96	-18.25

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 Wi-Fi & BLE Array AP	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 Wi-Fi & BLE Array AP	1 Watt (30 dBm)
	-	Indoor Wi-Fi & BLE Array AP	1 Watt (30 dBm)
	-	Mobile and Portable client device	250mW (24 dBm)
U-NII-2A	$\sqrt{\quad}$		250mW (24 dBm) or 11 dBm+10 log B*
U-NII-2C	$\sqrt{\quad}$		250mW (24 dBm) or 11 dBm+10 log B*
U-NII-3	$\sqrt{\quad}$		1 Watt (30 dBm)

\*B is the 26 dB emission bandwidth in megahertz

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

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

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

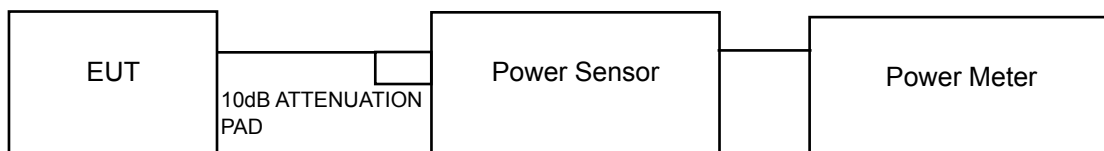
Array Gain =  $5 \log(N_{ANT}/N_{SS})$  dB or 3 dB, whichever is less for 20-MHz channel widths with  $N_{ANT} \geq 5$ .

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

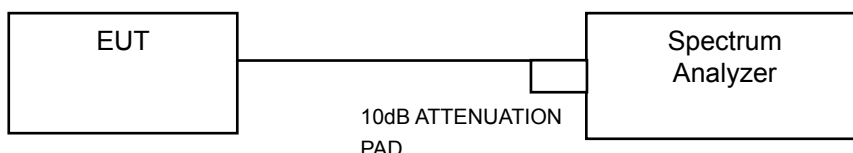
#### 4.3.2 Test Setup

For Power Output Measurement

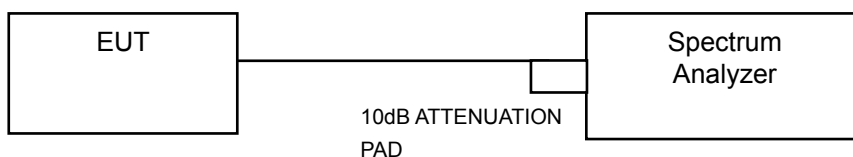
For 802.11a, 802.11n (HT20), 802.11n (HT40), 802.11ac (VHT20), 802.11ac (VHT40)



For 802.11ac (VHT80)



For 26dB 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), 802.11ac (VHT20), 802.11ac (VHT40)

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)

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

##### For 26dB Bandwidth

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

#### 4.3.5 Deviation from Test Standard

No deviation.

#### 4.3.6 EUT Operating Conditions

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

#### 4.3.7 Test Result

##### POWER OUTPUT:

CDD Mode, 1TX

802.11a

Chan.	Freq. (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
52	5260	129.420	21.12	24.00	Pass
60	5300	80.910	19.08	24.00	Pass
64	5320	93.541	19.71	24.00	Pass
100	5500	97.724	19.90	24.00	Pass
116	5580	212.324	23.27	24.00	Pass
140	5700	71.121	18.52	24.00	Pass
144	5720 For U-NII-2C	61.518	17.89	24.00	Pass
144	5720 For U-NII-3	15.849	12.00	30.00	Pass

Note:

1.  $11\text{dBm} + 10\log ( 40.31 ) = 27.05 > 24\text{dBm}$
2.  $11\text{dBm} + 10\log ( 33.25 ) = 26.22 > 24\text{dBm}$
3.  $11\text{dBm} + 10\log ( 33.38 ) = 26.23 > 24\text{dBm}$
4.  $11\text{dBm} + 10\log ( 33.17 ) = 26.21 > 24\text{dBm}$
5.  $11\text{dBm} + 10\log ( 45.37 ) = 27.57 > 24\text{dBm}$
6.  $11\text{dBm} + 10\log ( 22.27 ) = 24.48 > 24\text{dBm}$
7.  $11\text{dBm} + 10\log(5725.00 - 5697.42 ) = 25.41 \text{ dBm} > 24\text{dBm}.$



### 802.11n (HT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
52	5260	133.968	21.27	24.00	Pass
60	5300	<b>154.170</b>	21.88	24.00	Pass
64	5320	89.331	19.51	24.00	Pass
100	5500	89.950	19.54	24.00	Pass
116	5580	<b>221.820</b>	23.46	24.00	Pass
140	5700	70.795	18.50	24.00	Pass
144	5720 For U-NII-2C	63.241	18.01	24.00	Pass
144	5720 For U-NII-3	18.030	12.56	30.00	Pass

Note:

1.  $11\text{dBm} + 10\log(45.15) = 27.55 > 24\text{dBm}$
2.  $11\text{dBm} + 10\log(46.71) = 27.69 > 24\text{dBm}$
3.  $11\text{dBm} + 10\log(39.08) = 26.92 > 24\text{dBm}$
4.  $11\text{dBm} + 10\log(36.54) = 26.63 > 24\text{dBm}$
5.  $11\text{dBm} + 10\log(48.72) = 27.88 > 24\text{dBm}$
6.  $11\text{dBm} + 10\log(30.62) = 25.86 > 24\text{dBm}$
7.  $11\text{dBm} + 10\log(5725.00 - 5696.10) = 25.61\text{ dBm} > 24\text{dBm}$ .

### 802.11n (HT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
54	5270	143.219	21.56	24.00	Pass
62	5310	35.400	15.49	24.00	Pass
102	5510	34.995	15.44	24.00	Pass
110	5550	117.490	20.70	24.00	Pass
134	5670	81.283	19.10	24.00	Pass
142	5710 For U-NII-2C	67.784	18.31	24.00	Pass
142	5710 For U-NII-3	7.693	8.86	30.00	Pass

Note:

1.  $11\text{dBm} + 10\log(99.10) = 30.96\text{ dBm} > 24\text{dBm}$
2.  $11\text{dBm} + 10\log(45.52) = 27.58\text{ dBm} > 24\text{dBm}$
3.  $11\text{dBm} + 10\log(41.38) = 27.17\text{ dBm} > 24\text{dBm}$
4.  $11\text{dBm} + 10\log(95.94) = 30.82\text{ dBm} > 24\text{dBm}$
5.  $11\text{dBm} + 10\log(85.86) = 30.34\text{ dBm} > 24\text{dBm}$
6.  $11\text{dBm} + 10\log(5725.00 - 5660.00) = 29.13\text{ dBm} > 24\text{dBm}$ .

# 802.11ac (VHT80)

Chan.	Freq. (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
58	5290	28.184	14.50	24.00	Pass
106	5530	29.040	14.63	24.00	Pass
122	5610	114.288	20.58	24.00	Pass
138	5690 For U-NII-2C	55.489	17.44	24.00	Pass
138	5690 For U-NII-3	2.973	4.73	30.00	Pass

Note:

1.  $11\text{dBm} + 10\log(83.35) = 30.21\text{ dBm} > 24\text{dBm}$
2.  $11\text{dBm} + 10\log(83.14) = 30.20\text{ dBm} > 24\text{dBm}$
3.  $11\text{dBm} + 10\log(165.81) = 33.20\text{ dBm} > 24\text{dBm}$
4.  $11\text{dBm} + 10\log(5725.00 - 5593.57) = 32.19\text{ dBm} > 24\text{dBm}$ .

# CDD Mode, 2TX

## 802.11a

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
52	5260	18.22	18.21	132.596	21.23	24.00	Pass
60	5300	18.16	18.18	131.230	21.18	24.00	Pass
64	5320	17.89	17.97	124.179	20.94	24.00	Pass
100	5500	18.25	18.56	138.613	21.42	24.00	Pass
116	5580	18.44	18.55	141.437	21.51	24.00	Pass
140	5700	17.86	17.73	120.387	20.81	24.00	Pass
144	5720 For U-NII-2C	15.53	15.29	69.533	18.42	24.00	Pass
144	5720 For U-NII-3	9.57	9.74	18.476	12.67	30.00	Pass

Note:

Chain 0

1.  $11\text{dBm} + 10\log ( 29.30 ) = 25.67 > 24\text{dBm}$
2.  $11\text{dBm} + 10\log ( 23.37 ) = 24.69 > 24\text{dBm}$
3.  $11\text{dBm} + 10\log ( 28.61 ) = 25.57 > 24\text{dBm}$
4.  $11\text{dBm} + 10\log ( 22.17 ) = 24.46 > 24\text{dBm}$
5.  $11\text{dBm} + 10\log ( 21.43 ) = 24.31 > 24\text{dBm}$
6.  $11\text{dBm} + 10\log ( 21.68 ) = 24.36 > 24\text{dBm}$
7.  $11\text{dBm} + 10\log(5725.00 - 5702.32 ) = 24.56 \text{ dBm} > 24\text{dBm}.$

Chain 1

1.  $11\text{dBm} + 10\log ( 22.07 ) = 24.44 > 24\text{dBm}$
2.  $11\text{dBm} + 10\log ( 22.86 ) = 24.59 > 24\text{dBm}$
3.  $11\text{dBm} + 10\log ( 23.07 ) = 24.63 > 24\text{dBm}$
4.  $11\text{dBm} + 10\log ( 21.27 ) = 24.28 > 24\text{dBm}$
5.  $11\text{dBm} + 10\log ( 21.56 ) = 24.34 > 24\text{dBm}$
6.  $11\text{dBm} + 10\log ( 21.82 ) = 24.39 > 24\text{dBm}$
7.  $11\text{dBm} + 10\log(5725.00 - 5704.44 ) = 24.13 \text{ dBm} > 24\text{dBm}.$

### 802.11n (HT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
52	5260	18.70	18.77	149.467	21.75	24.00	Pass
60	5300	18.64	18.73	147.759	21.70	24.00	Pass
64	5320	18.70	18.67	147.752	21.70	24.00	Pass
100	5500	18.44	18.50	140.618	21.48	24.00	Pass
116	5580	18.91	18.96	156.509	21.95	24.00	Pass
140	5700	17.11	17.24	104.370	20.19	24.00	Pass
144	5720 For U-NII-2C	15.35	15.16	67.087	18.27	24.00	Pass
144	5720 For U-NII-3	9.80	9.84	19.188	12.83	30.00	Pass

Note:

Chain 0

1.  $11\text{dBm} + 10\log(33.02) = 26.19\text{ dBm} > 24\text{dBm}$
2.  $11\text{dBm} + 10\log(30.75) = 25.88\text{ dBm} > 24\text{dBm}$
3.  $11\text{dBm} + 10\log(32.83) = 26.16\text{ dBm} > 24\text{dBm}$
4.  $11\text{dBm} + 10\log(31.27) = 25.95\text{ dBm} > 24\text{dBm}$
5.  $11\text{dBm} + 10\log(29.54) = 25.70\text{ dBm} > 24\text{dBm}$
6.  $11\text{dBm} + 10\log(24.19) = 24.84\text{ dBm} > 24\text{dBm}$
7.  $11\text{dBm} + 10\log(5725.00 - 5698.74) = 25.19\text{ dBm} > 24\text{dBm}$

Chain 1

1.  $11\text{dBm} + 10\log(30.89) = 25.90\text{ dBm} > 24\text{dBm}$
2.  $11\text{dBm} + 10\log(29.89) = 25.76\text{ dBm} > 24\text{dBm}$
3.  $11\text{dBm} + 10\log(28.35) = 25.53\text{ dBm} > 24\text{dBm}$
4.  $11\text{dBm} + 10\log(26.10) = 25.17\text{ dBm} > 24\text{dBm}$
5.  $11\text{dBm} + 10\log(24.92) = 24.97\text{ dBm} > 24\text{dBm}$
6.  $11\text{dBm} + 10\log(22.32) = 24.49\text{ dBm} > 24\text{dBm}$
7.  $11\text{dBm} + 10\log(5725.00 - 5700.18) = 24.95\text{ dBm} > 24\text{dBm}$

## 802.11n (HT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
54	5270	20.77	20.86	<b>241.298</b>	23.83	24.00	Pass
62	5310	18.32	18.46	138.066	21.40	24.00	Pass
102	5510	14.48	14.54	56.4990	17.52	24.00	Pass
110	5550	20.14	20.14	<b>206.552</b>	23.15	24.00	Pass
134	5670	19.15	19.02	162.023	22.10	24.00	Pass
142	5710 For U-NII-2C	15.67	15.58	75.688	18.79	24.00	Pass
142	5710 For U-NII-3	5.85	5.71	7.845	8.95	30.00	Pass

Note:

Chain 0

1.  $11\text{dBm} + 10\log(96.37) = 30.84\text{ dBm} > 24\text{dBm}$
2.  $11\text{dBm} + 10\log(42.46) = 27.28\text{ dBm} > 24\text{dBm}$
3.  $11\text{dBm} + 10\log(41.35) = 27.16\text{ dBm} > 24\text{dBm}$
4.  $11\text{dBm} + 10\log(85.58) = 30.32\text{ dBm} > 24\text{dBm}$
5.  $11\text{dBm} + 10\log(75.10) = 29.76\text{ dBm} > 24\text{dBm}$
6.  $11\text{dBm} + 10\log(5725.00 - 5672.34) = 28.21\text{ dBm} > 24\text{dBm}$ .

Chain 1

1.  $11\text{dBm} + 10\log(93.66) = 30.72\text{ dBm} > 24\text{dBm}$
2.  $11\text{dBm} + 10\log(41.12) = 27.14\text{ dBm} > 24\text{dBm}$
3.  $11\text{dBm} + 10\log(40.96) = 27.12\text{ dBm} > 24\text{dBm}$
4.  $11\text{dBm} + 10\log(86.25) = 30.36\text{ dBm} > 24\text{dBm}$
5.  $11\text{dBm} + 10\log(77.95) = 29.92\text{ dBm} > 24\text{dBm}$
6.  $11\text{dBm} + 10\log(5725.00 - 5669.93) = 28.41\text{ dBm} > 24\text{dBm}$ .

### 802.11ac (VHT80)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
58	5290	13.98	14.11	50.766	17.06	24.00	Pass
106	5530	14.16	14.27	52.792	17.23	24.00	Pass
122	5610	19.43	19.32	173.207	22.39	24.00	Pass
138	5690 For U-NII-2C	16.01	16.30	82.56	19.17	24.00	Pass
138	5690 For U-NII-3	3.01	2.97	3.982	6.00	30.00	Pass

Note:

Chain 0

1.  $11\text{dBm} + 10\log ( 83.19 ) = 30.20 > 24\text{dBm}$
2.  $11\text{dBm} + 10\log ( 82.97 ) = 30.19 > 24\text{dBm}$
3.  $11\text{dBm} + 10\log ( 144.04 ) = 32.58 > 24\text{dBm}$
4.  $11\text{dBm} + 10\log ( 5725.00 - 5614.28 ) = 31.44 \text{ dBm} > 24\text{dBm}.$

Chain 1

1.  $11\text{dBm} + 10\log ( 83.01 ) = 30.19 > 24\text{dBm}$
2.  $11\text{dBm} + 10\log ( 83.06 ) = 30.19 > 24\text{dBm}$
3.  $11\text{dBm} + 10\log ( 144.16 ) = 32.59 > 24\text{dBm}$
4.  $11\text{dBm} + 10\log ( 5725.00 - 5607.43 ) = 31.07 \text{ dBm} > 24\text{dBm}.$

## Beamforming Mode

### 802.11n (HT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
52	5260	18.70	18.77	149.467	21.75	22.13	Pass
60	5300	18.64	18.73	147.759	21.70	22.13	Pass
64	5320	18.70	18.67	147.752	21.70	22.13	Pass
100	5500	18.44	18.50	140.618	21.48	22.42	Pass
116	5580	18.91	18.96	<b>156.509</b>	21.95	22.42	Pass
140	5700	17.11	17.24	104.370	20.19	22.42	Pass
144	5720 For U-NII-2C	15.35	15.16	67.087	18.27	22.42	Pass
144	5720 For U-NII-3	9.80	9.84	19.188	12.83	28.03	Pass

\* U-NII-2A: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/N] = 7.87\text{dBi} > 6\text{dBi}$ , so the limit shall be reduced to  $24 - (7.87 - 6) = 22.13\text{dBm}$ .

U-NII-2C: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/N] = 7.58\text{dBi} > 6\text{dBi}$ , so the limit shall be reduced to  $24 - (7.58 - 6) = 22.42\text{dBm}$ .

\* For U-NII-3: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/N] = 7.97\text{dBi} > 6\text{dBi}$ , so the power limit shall be reduced to  $30 - (7.97 - 6) = 28.03\text{dBm}$ .

Note:

Chain 0

1.  $11\text{dBm} + 10\log(33.02) = 26.19\text{dBm} > 24\text{dBm}$
2.  $11\text{dBm} + 10\log(30.75) = 25.88\text{dBm} > 24\text{dBm}$
3.  $11\text{dBm} + 10\log(32.83) = 26.16\text{dBm} > 24\text{dBm}$
4.  $11\text{dBm} + 10\log(31.27) = 25.95\text{dBm} > 24\text{dBm}$
5.  $11\text{dBm} + 10\log(29.54) = 25.70\text{dBm} > 24\text{dBm}$
6.  $11\text{dBm} + 10\log(24.19) = 24.84\text{dBm} > 24\text{dBm}$
7.  $11\text{dBm} + 10\log(5725.00 - 5698.74) = 25.19\text{dBm} > 24\text{dBm}$

Chain 1

1.  $11\text{dBm} + 10\log(30.89) = 25.90\text{dBm} > 24\text{dBm}$
2.  $11\text{dBm} + 10\log(29.89) = 25.76\text{dBm} > 24\text{dBm}$
3.  $11\text{dBm} + 10\log(28.35) = 25.53\text{dBm} > 24\text{dBm}$
4.  $11\text{dBm} + 10\log(26.10) = 25.17\text{dBm} > 24\text{dBm}$
5.  $11\text{dBm} + 10\log(24.92) = 24.97\text{dBm} > 24\text{dBm}$
6.  $11\text{dBm} + 10\log(22.32) = 24.49\text{dBm} > 24\text{dBm}$
7.  $11\text{dBm} + 10\log(5725.00 - 5700.18) = 24.95\text{dBm} > 24\text{dBm}$

## 802.11n (HT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
54	5270	18.90	18.61	<b>150.236</b>	21.77	22.13	Pass
62	5310	14.85	14.73	60.266	17.80	22.13	Pass
102	5510	14.48	14.54	56.499	17.52	22.42	Pass
110	5550	18.90	18.64	150.739	21.78	22.42	Pass
134	5670	18.95	18.55	150.138	21.76	22.42	Pass
142	5710 For U-NII-2C	15.67	15.58	75.688	18.79	22.42	Pass
142	5710 For U-NII-3	5.85	5.71	7.845	8.95	28.03	Pass

\* U-NII-2A: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/N] = 7.87\text{dBi} > 6\text{dBi}$ , so the limit shall be reduced to  $24 - (7.87 - 6) = 22.13\text{dBm}$ .

U-NII-2C: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/N] = 7.58\text{dBi} > 6\text{dBi}$ , so the limit shall be reduced to  $24 - (7.58 - 6) = 22.42\text{dBm}$ .

\* For U-NII-3: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/N] = 7.97\text{dBi} > 6\text{dBi}$ , so the power limit shall be reduced to  $30 - (7.97 - 6) = 28.03\text{dBm}$ .

Note:

Chain 0

1.  $11\text{dBm} + 10\log(96.37) = 30.84\text{dBm} > 24\text{dBm}$
2.  $11\text{dBm} + 10\log(42.46) = 27.28\text{dBm} > 24\text{dBm}$
3.  $11\text{dBm} + 10\log(41.35) = 27.16\text{dBm} > 24\text{dBm}$
4.  $11\text{dBm} + 10\log(85.58) = 30.32\text{dBm} > 24\text{dBm}$
5.  $11\text{dBm} + 10\log(75.10) = 29.76\text{dBm} > 24\text{dBm}$
6.  $11\text{dBm} + 10\log(5725.00 - 5672.34) = 28.21\text{dBm} > 24\text{dBm}$ .

Chain 1

1.  $11\text{dBm} + 10\log(93.66) = 30.72\text{dBm} > 24\text{dBm}$
2.  $11\text{dBm} + 10\log(41.12) = 27.14\text{dBm} > 24\text{dBm}$
3.  $11\text{dBm} + 10\log(40.96) = 27.12\text{dBm} > 24\text{dBm}$
4.  $11\text{dBm} + 10\log(86.25) = 30.36\text{dBm} > 24\text{dBm}$
5.  $11\text{dBm} + 10\log(77.95) = 29.92\text{dBm} > 24\text{dBm}$
6.  $11\text{dBm} + 10\log(5725.00 - 5669.93) = 28.41\text{dBm} > 24\text{dBm}$ .



## 802.11ac (VHT80)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
58	5290	13.11	13.51	42.903	16.32	22.13	Pass
106	5530	13.28	13.85	45.547	16.58	22.42	Pass
122	5610	18.70	18.46	144.277	21.59	22.42	Pass
138	5690 For U-NII-2C	16.01	16.30	82.56	19.17	22.42	Pass
138	5690 For U-NII-3	3.01	2.97	3.982	6.00	28.03	Pass

\* U-NII-2A: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/N] = 7.87\text{dBi} > 6\text{dBi}$ , so the limit shall be reduced to  $24 - (7.87 - 6) = 22.13\text{dBm}$ .

U-NII-2C: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/N] = 7.58\text{dBi} > 6\text{dBi}$ , so the limit shall be reduced to  $24 - (7.58 - 6) = 22.42\text{dBm}$ .

\* For U-NII-3: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/N] = 7.97\text{dBi} > 6\text{dBi}$ , so the power limit shall be reduced to  $30 - (7.97 - 6) = 28.03\text{dBm}$ .

Note:

Chain 0

1.  $11\text{dBm} + 10\log(83.19) = 30.20 > 24\text{dBm}$
2.  $11\text{dBm} + 10\log(82.97) = 30.19 > 24\text{dBm}$
3.  $11\text{dBm} + 10\log(144.04) = 32.58 > 24\text{dBm}$
4.  $11\text{dBm} + 10\log(5725.00 - 5614.28) = 31.44 \text{ dBm} > 24\text{dBm}$ .

Chain 1

1.  $11\text{dBm} + 10\log(83.01) = 30.19 > 24\text{dBm}$
2.  $11\text{dBm} + 10\log(83.06) = 30.19 > 24\text{dBm}$
3.  $11\text{dBm} + 10\log(144.16) = 32.59 > 24\text{dBm}$
4.  $11\text{dBm} + 10\log(5725.00 - 5607.43) = 31.07 \text{ dBm} > 24\text{dBm}$ .

## 26dB BANDWIDTH:

1TX

### 802.11a

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)
52	5260	40.31
60	5300	33.25
64	5320	33.38
100	5500	33.17
116	5580	45.37
140	5700	22.27
144	5720 For U-NII-2C	27.58
144	5720 For U-NII-3	18.85

### 802.11n (HT20)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)
52	5260	45.15
60	5300	46.71
64	5320	39.08
100	5500	36.54
116	5580	48.72
140	5700	30.62
144	5720 For U-NII-2C	28.90
144	5720 For U-NII-3	19.41

### 802.11n (HT40)

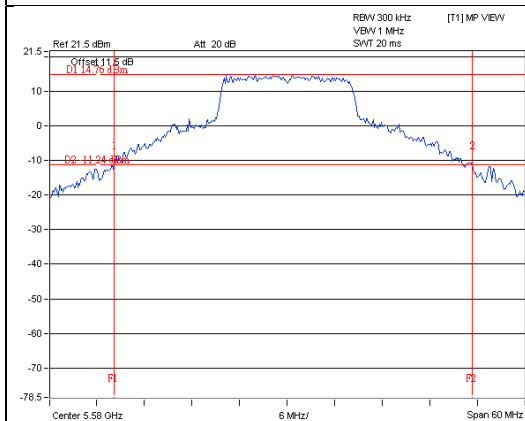
Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)
54	5270	99.10
62	5310	45.52
102	5510	41.38
110	5550	95.94
134	5670	85.86
142	5710 For U-NII-2C	65.00
142	5710 For U-NII-3	35.00

## 802.11ac (VHT80)

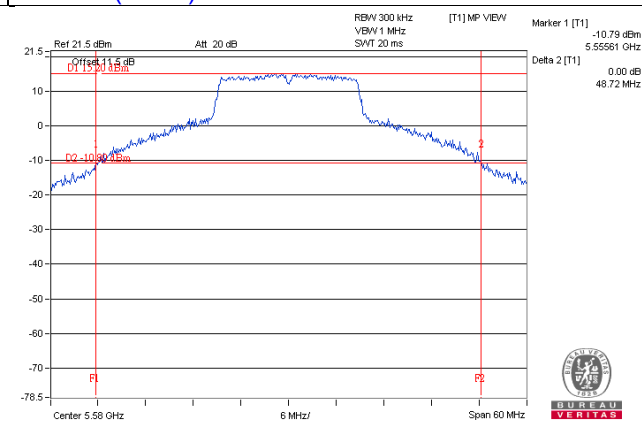
Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)
58	5290	83.35
106	5530	83.14
122	5610	165.81
138	5690 For U-NII-2C	131.43
138	5690 For U-NII-3	64.66

### Spectrum Plot of Worst Value

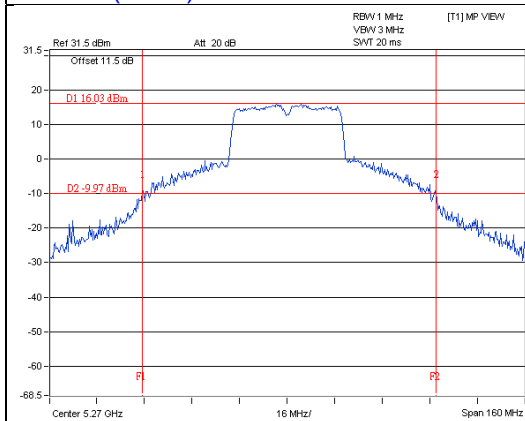
#### 802.11a



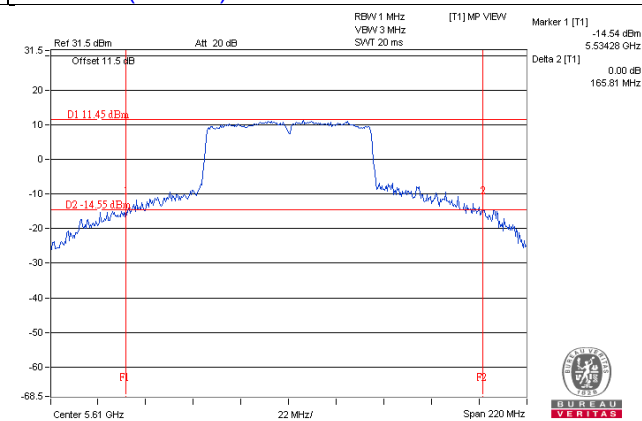
#### 802.11n (HT20)



#### 802.11n (HT40)



#### 802.11ac (VHT80)



## 2TX

### 802.11a

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	29.30	22.07
60	5300	23.37	22.86
64	5320	28.61	23.07
100	5500	22.17	21.27
116	5580	21.43	21.56
140	5700	21.68	21.82
144	5720 For U-NII-2C	22.68	20.56
144	5720 For U-NII-3	13.19	12.05

### 802.11n (HT20)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	33.02	30.89
60	5300	30.75	29.89
64	5320	32.83	28.35
100	5500	31.27	26.10
116	5580	29.54	24.92
140	5700	24.19	22.32
144	5720 For U-NII-2C	26.26	24.82
144	5720 For U-NII-3	15.82	13.85

#### 802.11n (HT40)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
54	5270	96.37	93.66
62	5310	42.46	41.12
102	5510	41.35	40.96
110	5550	85.58	86.25
134	5670	75.10	77.95
142	5710 For U-NII-2C	52.66	55.07
142	5710 For U-NII-3	30.42	32.60

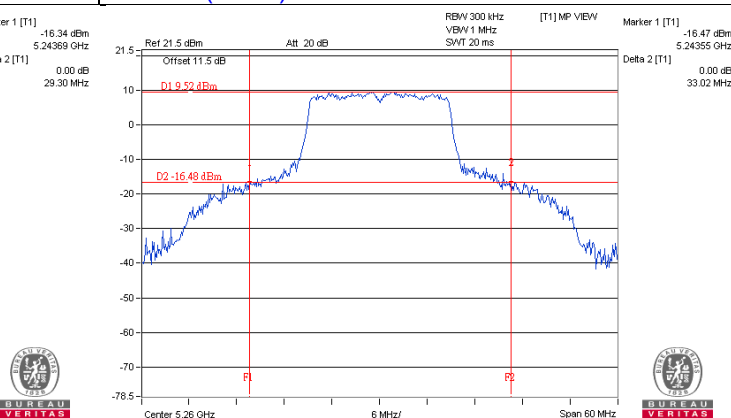
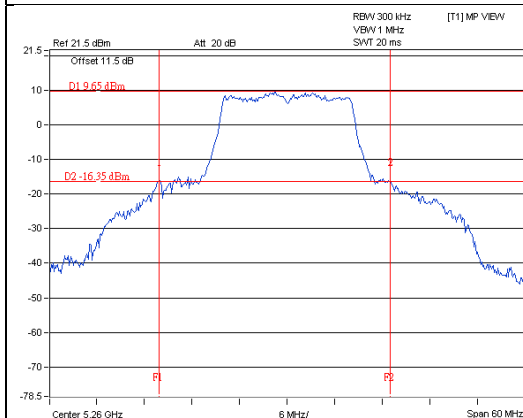
#### 802.11ac (VHT80)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
58	5290	83.19	83.01
106	5530	82.97	83.06
122	5610	144.04	144.16
138	5690 For U-NII-2C	110.72	117.57
138	5690 For U-NII-3	54.48	55.74

## Spectrum Plot of Worst Value

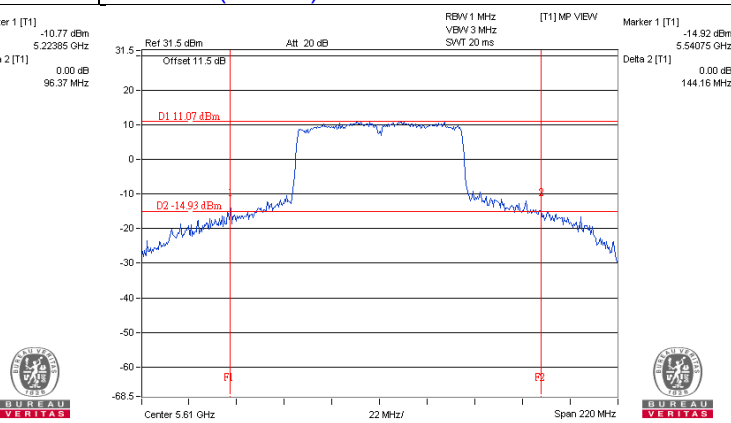
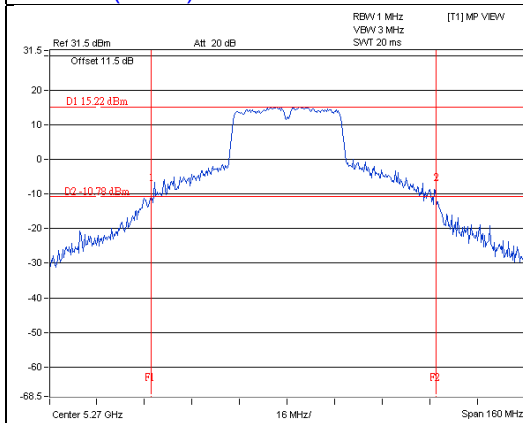
802.11a

802.11n (HT20)



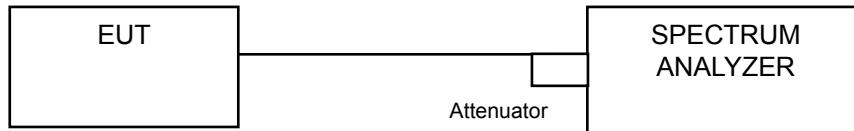
802.11n (HT40)

802.11ac (VHT80)



## 4.4 Occupied Bandwidth Measurement

### 4.4.1 Test Setup



### 4.4.2 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

### 4.4.3 Test Procedure

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

#### 4.4.4 Test Results

1TX

##### 802.11a

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)
52	5260	24.84
60	5300	17.64
64	5320	18.36
100	5500	17.64
116	5580	30.36
140	5700	17.16
144	5720 For U-NII-2C	19.28
144	5720 For U-NII-3	10.00

##### 802.11n (HT20)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)
52	5260	27.12
60	5300	27.60
64	5320	18.84
100	5500	18.36
116	5580	32.88
140	5700	18.12
144	5720 For U-NII-2C	20.48
144	5720 For U-NII-3	11.56

##### 802.11n (HT40)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)
54	5270	42.24
62	5310	36.84
102	5510	36.84
110	5550	38.52
134	5670	37.20
142	5710 For U-NII-2C	37.32
142	5710 For U-NII-3	9.36

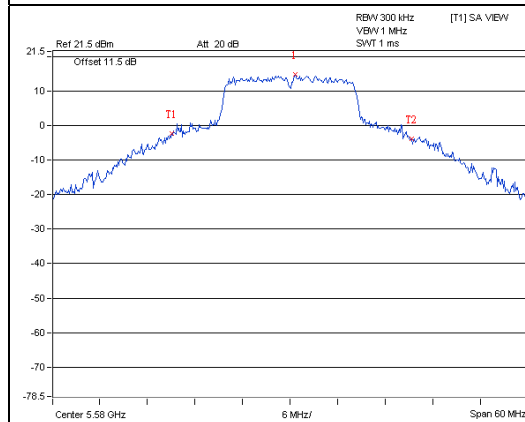


## 802.11ac (VHT80)

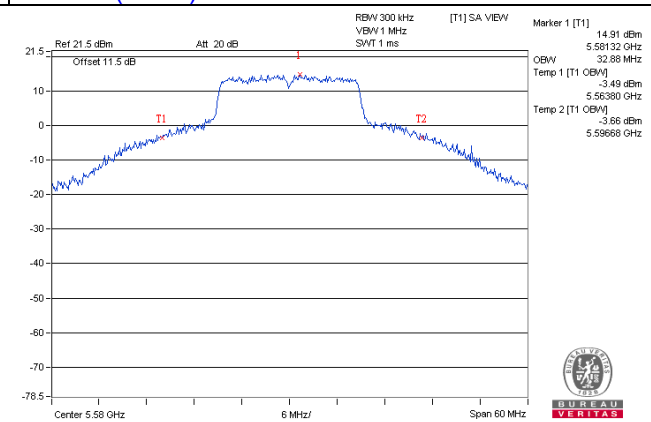
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)
58	5290	75.84
106	5530	75.84
122	5610	77.28
138	5690 For U-NII-2C	73.64
138	5690 For U-NII-3	8.44

## Spectrum Plot of Worst Value

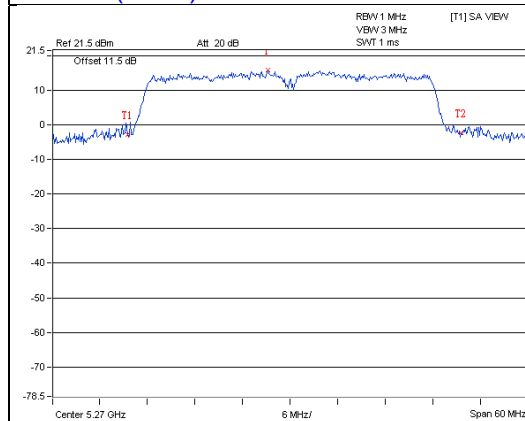
### 802.11a



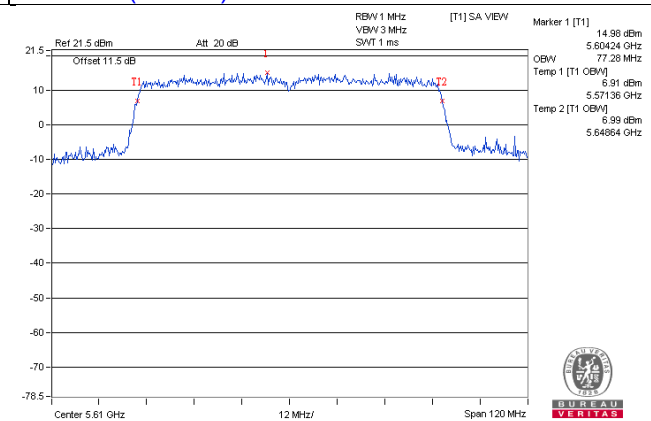
### 802.11n (HT20)



### 802.11n (HT40)



### 802.11ac (VHT80)



2TX

802.11a

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	17.16	17.04
60	5300	17.16	17.04
64	5320	17.16	16.92
100	5500	16.92	17.04
116	5580	16.92	16.92
140	5700	16.92	16.92
144	5720 For U-NII-2C	13.52	13.40
144	5720 For U-NII-3	4.00	3.40

802.11n (HT20)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	18.36	18.00
60	5300	18.12	18.12
64	5320	18.12	18.00
100	5500	18.12	17.88
116	5580	18.12	18.00
140	5700	18.12	17.88
144	5720 For U-NII-2C	14.00	14.00
144	5720 For U-NII-3	4.24	4.00

### 802.11n (HT40)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
54	5270	40.08	37.80
62	5310	36.72	36.60
102	5510	36.84	36.60
110	5550	37.44	37.20
134	5670	37.20	36.96
142	5710 For U-NII-2C	33.48	33.60
142	5710 For U-NII-3	3.48	3.48

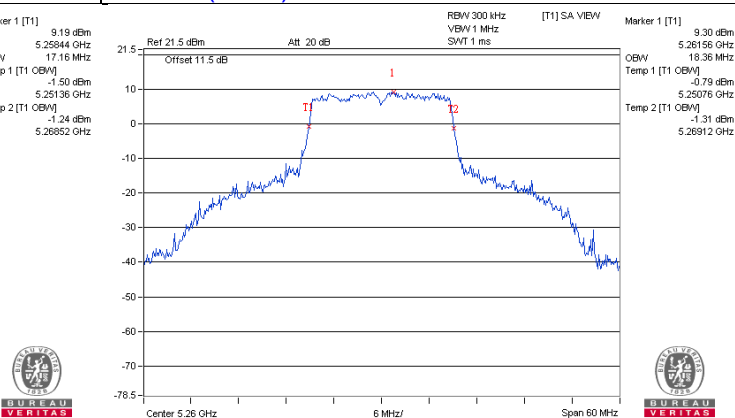
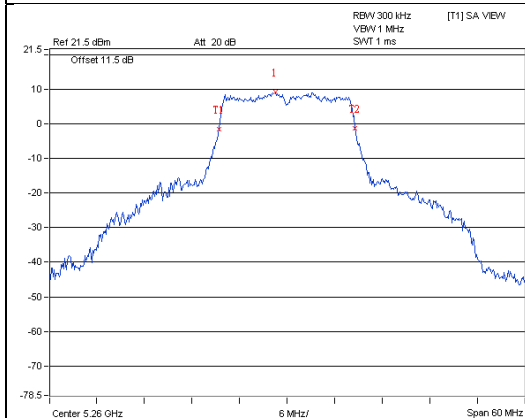
### 802.11ac (VHT80)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
58	5290	75.84	75.84
106	5530	75.84	75.84
122	5610	76.80	76.80
138	5690 For U-NII-2C	73.16	73.64
138	5690 For U-NII-3	3.40	3.40

## Spectrum Plot of Worst Value

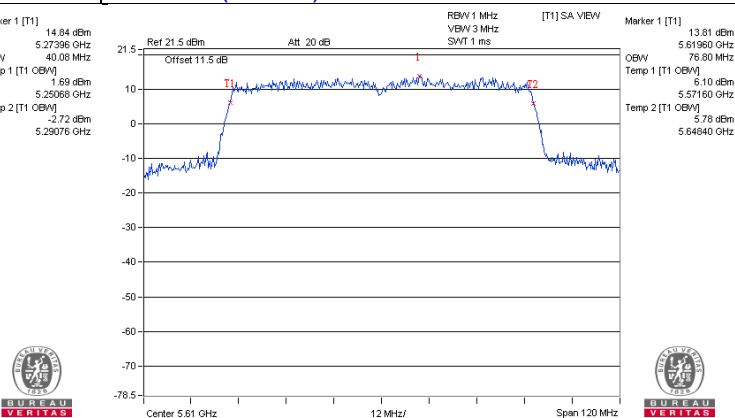
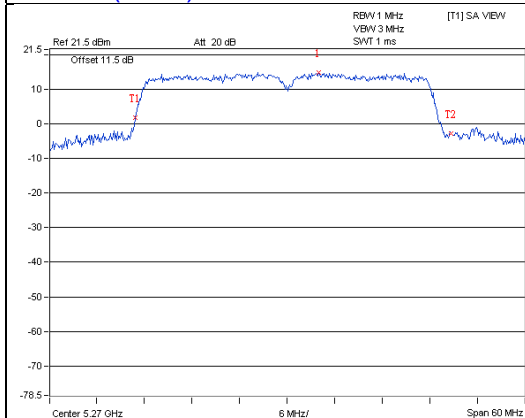
802.11a

802.11n (HT20)



802.11n (HT40)

802.11ac (VHT80)



## EUT MAXIMUM CONDUCTED POWER

CDD Mode: 1TX

### 802.11a

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	129.420	21.12
5470~5725	212.324	23.27

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	154.170	21.88
5470~5725	221.820	23.46

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	143.219	21.56
5470~5725	117.490	20.70

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	28.184	14.50
5470~5725	114.288	20.58

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

# CDD Mode: 2TX

## 802.11a

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	132.596	21.23
5470~5725	141.437	21.51

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	149.467	21.75
5470~5725	156.509	21.95

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	241.298	23.83
5470~5725	206.552	23.15

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	50.766	17.06
5470~5725	173.207	22.39

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

## Beamforming Mode

### 802.11ac (VHT20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	149.467	21.75
5470~5725	156.509	21.95

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

### 802.11ac (VHT40)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	150.236	21.77
5470~5725	150.739	21.78

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	42.903	16.32
5470~5725	144.277	21.59

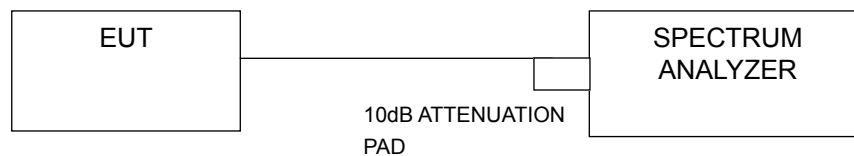
Note: Manufacturer provides Transmit Power Control description to meet this requirement.

## 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 Wi-Fi & BLE Array AP	17dBm/ MHz
	-	Fixed point-to-point Wi-Fi & BLE Array AP	
	-	Indoor Wi-Fi & BLE Array AP	
	-	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-2A, U-NII-2C band:

Duty cycle of test signal is  $\geq 98\%$

Using method SA-1

- 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

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  $\geq 98\%$

Using method SA-1

- 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  $\text{BWCF} = 10\log(500 \text{ kHz} / 300 \text{ kHz})$ .
- 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.

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  $\text{BWCF} = 10\log(500 \text{ kHz}/300\text{kHz})$
- 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 Item 4.3.6.

#### 4.5.7 Test Results

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

1TX

802.11a

Chan.	Freq. (MHz)	PSD (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
52	5260	8.49	11.00	Pass
60	5300	6.51	11.00	Pass
64	5320	7.14	11.00	Pass
100	5500	7.33	11.00	Pass
116	5580	10.69	11.00	Pass
140	5700	6.06	11.00	Pass
144	5720 For U-NII-2C	8.44	11.00	Pass

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
52	5260	8.58	0.09	8.67	11.00	Pass
60	5300	8.75	0.09	8.84	11.00	Pass
64	5320	6.76	0.09	6.85	11.00	Pass
100	5500	6.62	0.09	6.71	11.00	Pass
116	5580	10.59	0.09	10.68	11.00	Pass
140	5700	5.78	0.09	5.87	11.00	Pass
144	5720 For U-NII-2C	8.18	0.09	8.27	11.00	Pass

802.11n (HT40)

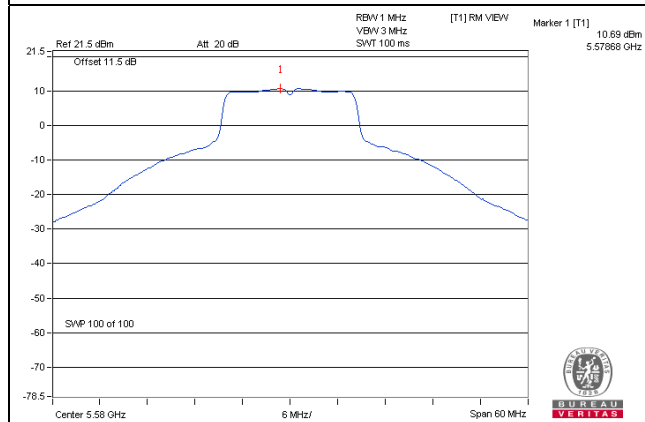
Chan.	Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD With Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
54	5270	5.47	0.10	5.57	11.00	Pass
62	5310	-0.20	0.10	-0.10	11.00	Pass
102	5510	-0.37	0.10	-0.27	11.00	Pass
110	5550	5.71	0.10	5.81	11.00	Pass
134	5670	4.20	0.10	4.30	11.00	Pass
142	5710 For U-NII-2C	4.67	0.10	4.77	11.00	Pass

## 802.11ac (VHT80)

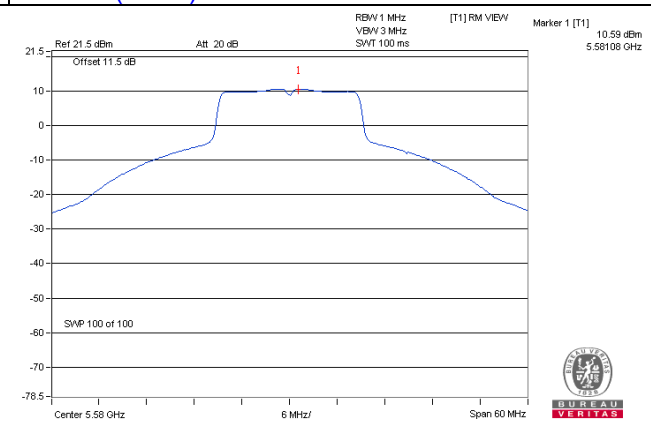
Chan.	Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD With Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
58	5290	-3.88	0.35	-3.53	11.00	Pass
106	5530	-4.04	0.35	-3.69	11.00	Pass
122	5610	0.79	0.35	1.14	11.00	Pass
138	5690 For U-NII-2C	0.27	0.35	0.62	11.00	Pass

### Spectrum Plot of Worst Value

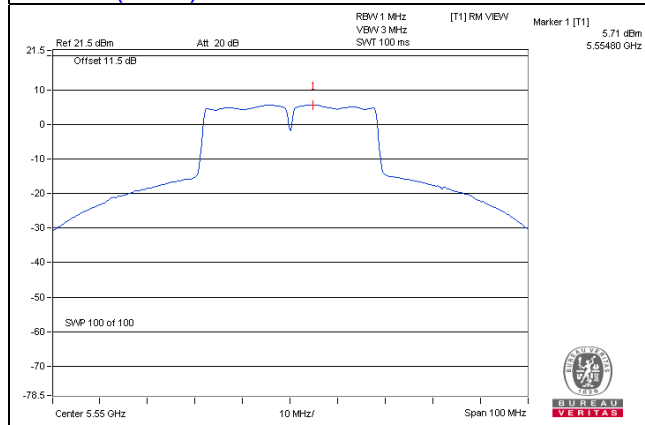
#### 802.11a / Ch 116



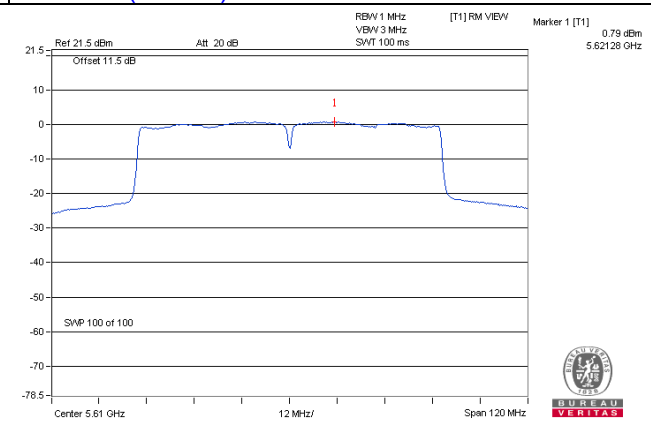
#### 802.11n (HT20) / Ch 116



#### 802.11n (HT40) / Ch 110



#### 802.11ac (VHT80) / Ch 122



## 2TX

### 802.11a

Chan.	Freq. (MHz)	PSD (dBm/MHz)		Total PSD (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1			
52	5260	5.71	5.62	8.68	9.13	Pass
60	5300	5.67	5.55	8.62	9.13	Pass
64	5320	5.94	5.81	8.89	9.13	Pass
100	5500	5.73	5.69	8.72	9.42	Pass
116	5580	6.02	5.58	8.82	9.42	Pass
140	5700	5.98	5.52	8.77	9.42	Pass
144	5720 For U-NII-2C	5.81	6.77	9.33	9.42	Pass

Note:

- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- U-NII-2A: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/N]$  = 7.87dBi > 6dBi, so the limit shall be reduced to 11-(7.87-6) = 9.13dBm.  
U-NII-2C: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/N]$  = 7.58dBi > 6dBi, so the limit shall be reduced to 11-(7.58-6) = 9.42dBm.

### 802.11n (HT20)

Chan.	Freq. (MHz)	PSD (dBm/MHz)		Total PSD (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1			
52	5260	5.79	5.66	8.74	9.13	Pass
60	5300	5.85	5.53	8.70	9.13	Pass
64	5320	5.76	5.62	8.70	9.13	Pass
100	5500	5.66	5.22	8.46	9.42	Pass
116	5580	5.92	5.87	8.91	9.42	Pass
140	5700	4.69	4.56	7.64	9.42	Pass
144	5720 For U-NII-2C	5.89	5.87	8.89	9.42	Pass

Note:

- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- U-NII-2A: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/N]$  = 7.87dBi > 6dBi, so the limit shall be reduced to 11-(7.87-6) = 9.13dBm.  
U-NII-2C: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/N]$  = 7.58dBi > 6dBi, so the limit shall be reduced to 11-(7.58-6) = 9.42dBm.

## 802.11n (HT40)

Chan.	Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD With Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
54	5270	5.13	4.91	0.13	8.16	9.13	Pass
62	5310	-0.40	-0.53	0.13	2.67	9.13	Pass
102	5510	-0.96	-1.70	0.13	1.82	9.42	Pass
110	5550	4.73	4.23	0.13	7.63	9.42	Pass
134	5670	3.51	3.07	0.13	6.43	9.42	Pass
142	5710 For U-NII-2C	2.11	3.00	0.13	5.72	9.42	Pass

Note:

- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- U-NII-2A: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/N]$  = 7.87dBi > 6dBi, so the limit shall be reduced to 11-(7.87-6) = 9.13dBm.  
U-NII-2C: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/N]$  = 7.58dBi > 6dBi, so the limit shall be reduced to 11-(7.58-6) = 9.42dBm.
- 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)	Total PSD With Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
58	5290	-4.52	-4.79	0.28	-1.36	9.13	Pass
106	5530	-4.73	-5.35	0.28	-1.74	9.42	Pass
122	5610	-0.43	-0.25	0.28	2.95	9.42	Pass
138	5690 For U-NII-2C	-0.99	0.11	0.28	2.89	9.42	Pass

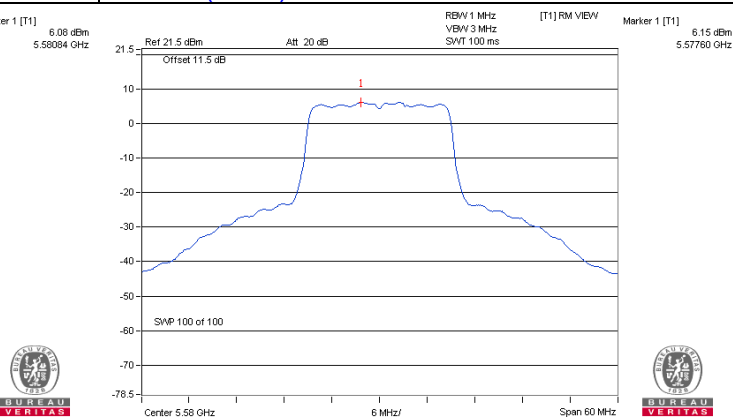
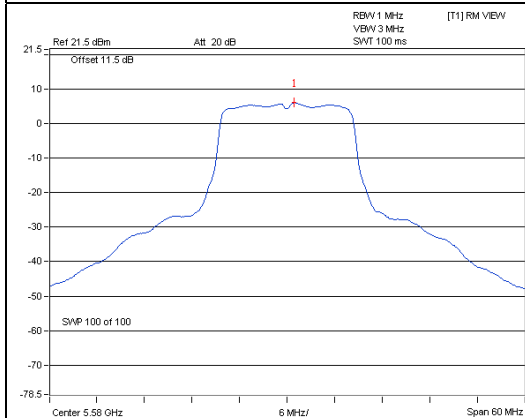
Note:

- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- U-NII-2A: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/N]$  = 7.87dBi > 6dBi, so the limit shall be reduced to 11-(7.87-6) = 9.13dBm.  
U-NII-2C: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/N]$  = 7.58dBi > 6dBi, so the limit shall be reduced to 11-(7.58-6) = 9.42dBm.
- Refer to section 3.3 for duty cycle spectrum plot.

## Spectrum Plot of Worst Value

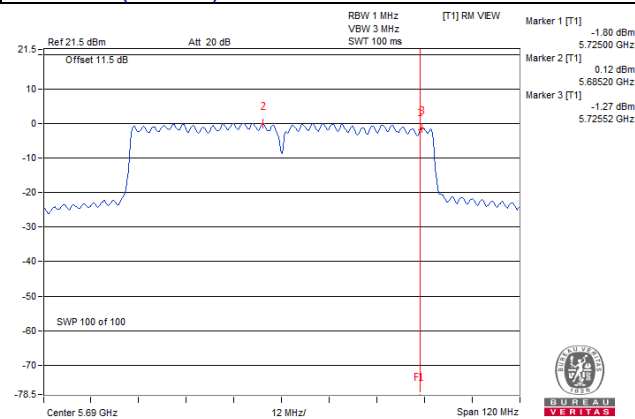
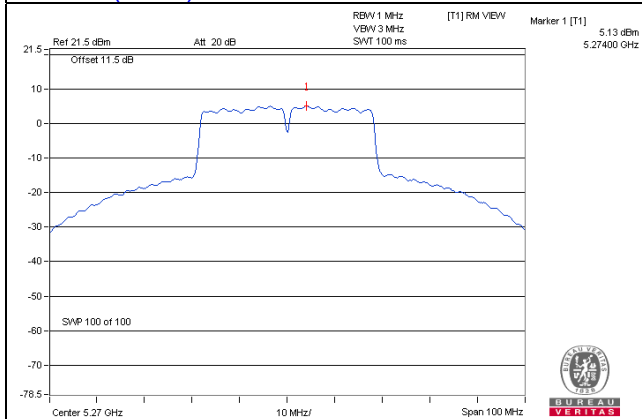
802.11a / Chain 0 / Ch 116

802.11n (HT20) / Chain 0 / Ch 116



802.11n (HT40) / Chain 0 / Ch 54

802.11ac (VHT80) / Chain 1 / Ch 138



For U-NII-3 band:

1TX

802.11a

Chan.	Freq. (MHz)	PSD		Limit (dBm/500kHz)	Pass / Fail
		(dBm/300kHz)	(dBm/500kHz)		
144	5720 For U-NII-3	-0.38	1.84	30.00	Pass

802.11n (HT20)

Chan.	Freq. (MHz)	PSD		Limit (dBm/500kHz)	Pass / Fail
		(dBm/300kHz)	(dBm/500kHz)		
144	5720 For U-NII-3	-0.34	1.88	30.00	Pass

802.11n (HT40)

Chan.	Freq. (MHz)	PSD		Duty factor	Total PSD (dBm /500kHz)	Limit (dBm /500kHz)	Pass / Fail
		(dBm/300kHz)	(dBm/500kHz)				
142	5710 For U-NII-3	-4.31	-2.09	0.10	-1.99	30.00	Pass

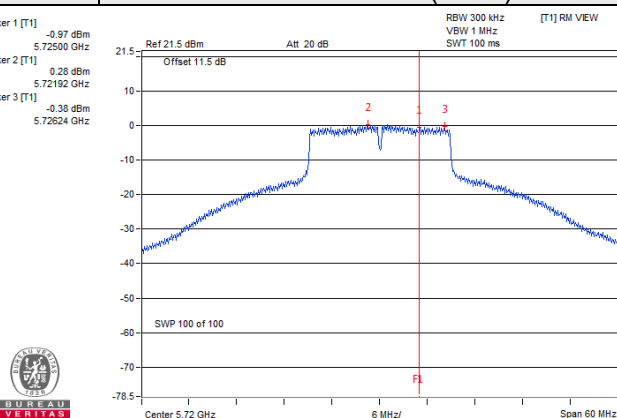
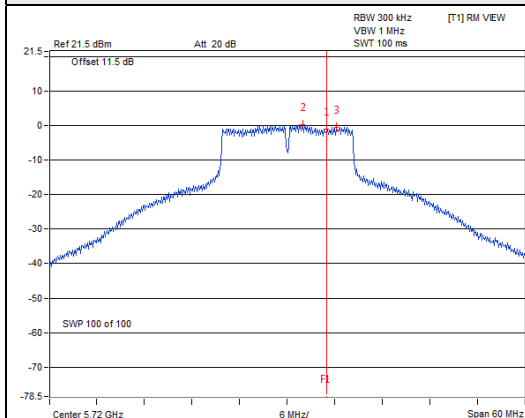
802.11ac (VHT80)

Chan.	Freq. (MHz)	PSD		Duty factor	Total PSD (dBm /500kHz)	Limit (dBm /500kHz)	Pass / Fail
		(dBm/300kHz)	(dBm/500kHz)				
138	5690 For U-NII-3	-9.28	-7.06	0.35	-6.71	30.00	Pass

# Spectrum Plot of Worst Value

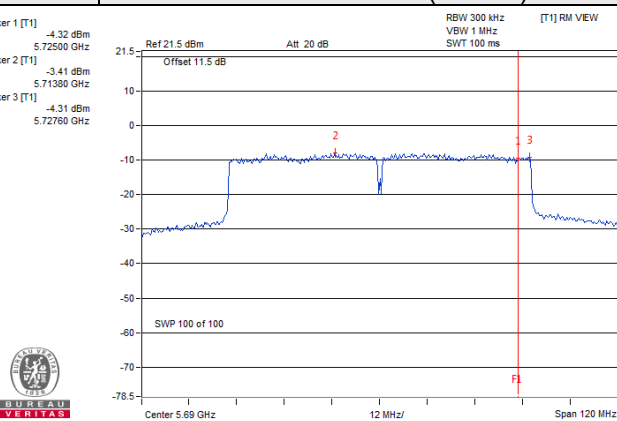
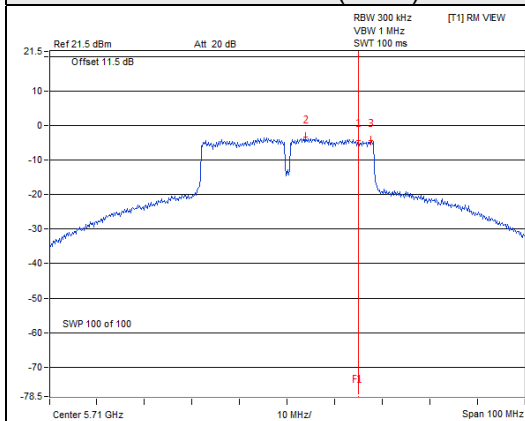
802.11a

802.11n (HT20)



802.11n (HT40)

802.11ac (VHT80)





## 2TX

### 802.11a

TX chain	Chan.	Freq. (MHz)	PSD w/o Duty Factor		10 log (N=2) dB	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)				
0	144	5720 For U-NII-3	-2.33	-0.11	3.01	2.90	28.03	Pass
1	144	5720 For U-NII-3	-1.73	0.49	3.01	3.50	28.03	Pass

Note:

- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/N] = 7.97\text{dBi} > 6\text{dBi}$ , so the power limit shall be reduced to  $30-(7.97-6) = 28.03\text{dBm}$ .

### 802.11n (HT20)

TX chain	Chan.	Freq. (MHz)	PSD w/o Duty Factor		10 log (N=2) dB	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)				
0	144	5720 For U-NII-3	-3.04	-0.82	3.01	2.19	28.03	Pass
1	144	5720 For U-NII-3	-2.16	0.06	3.01	3.07	28.03	Pass

Note:

- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/N] = 7.97\text{dBi} > 6\text{dBi}$ , so the power limit shall be reduced to  $30-(7.97-6) = 28.03\text{dBm}$ .

### 802.11n (HT40)

TX chain	Chan.	Freq. (MHz)	PSD w/o Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	142	5710 For U-NII-3	-6.55	-4.33	3.01	0.13	-1.19	28.03	Pass
1	142	5710 For U-NII-3	-6.08	-3.86	3.01	0.13	-0.72	28.03	Pass

Note:

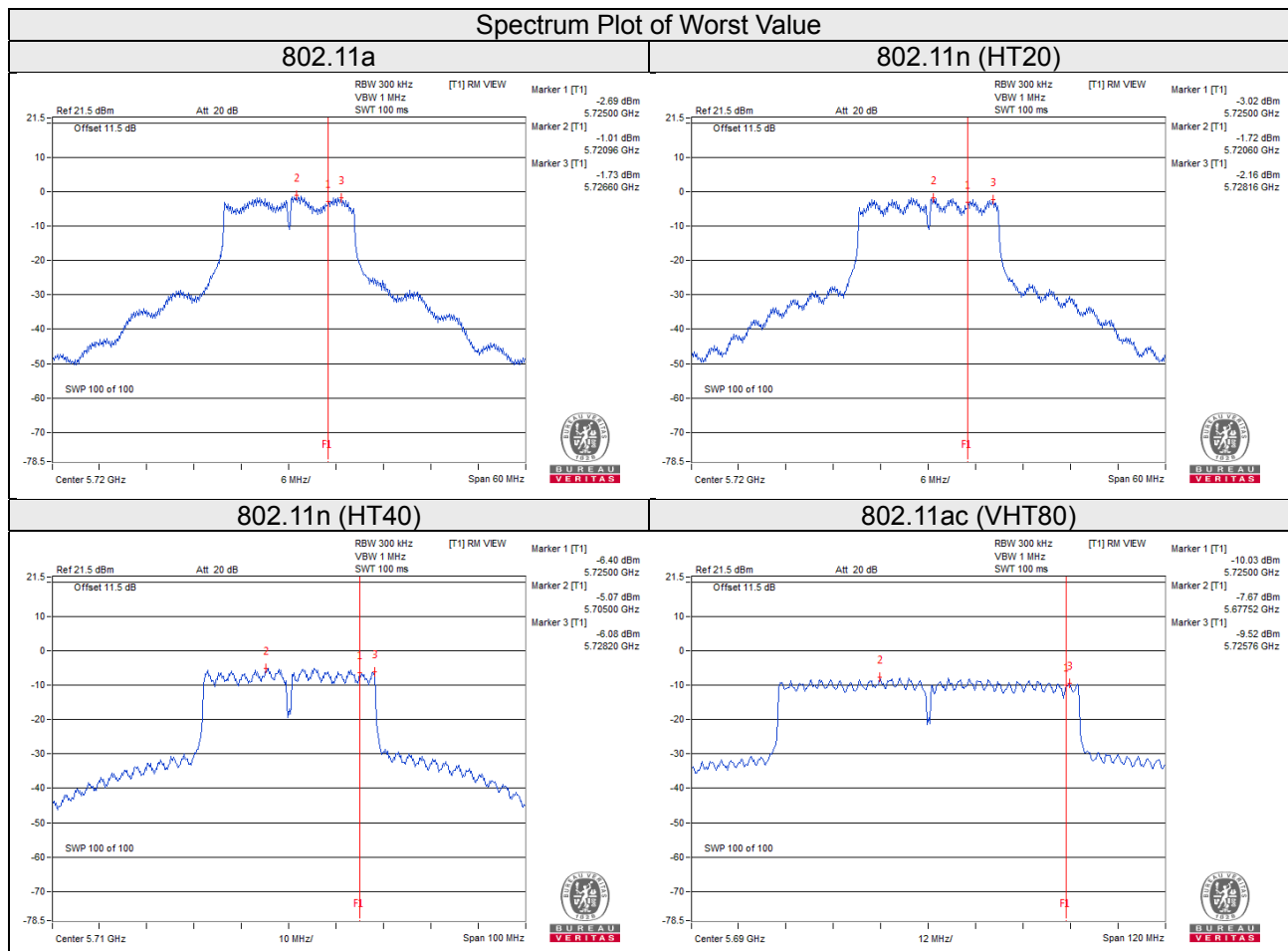
- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/N] = 7.97\text{dBi} > 6\text{dBi}$ , so the power limit shall be reduced to  $30-(7.97-6) = 28.03\text{dBm}$ .
- Refer to section 3.3 for duty cycle spectrum plot.

## 802.11ac (VHT80)

TX chain	Chan.	Freq. (MHz)	PSD w/o Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	138	5690 For U-NII-3	-9.80	-7.58	3.01	0.28	-4.29	28.03	Pass
1	138	5690 For U-NII-3	-9.52	-7.30	3.01	0.28	-4.01	28.03	Pass

Note:

- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/N] = 7.97\text{dBi} > 6\text{dBi}$ , so the power limit shall be reduced to  $30-(7.97-6) = 28.03\text{dBm}$ .
- Refer to section 3.3 for duty cycle spectrum plot.

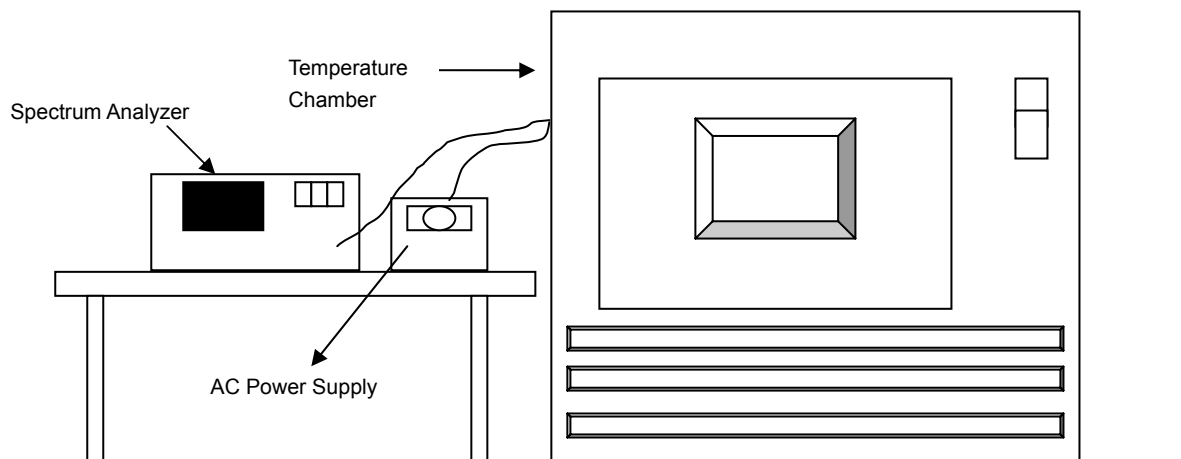


## 4.6 Frequency Stability

### 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

Tested date: May 25, 2017

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100040	Aug. 16, 2016	Aug. 15, 2017
WIT Standard Temperature And Humidity Chamber	TH-4S-C	W981030	Jun. 08, 2016	Jun. 07, 2017
Digital Multimeter Fluke	87-III	70360742	Jul. 01, 2016	Jun. 30, 2017
AC Power Supply Extech	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.
- Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
- The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

### 4.6.5 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

1TX

Frequency Stability Versus Temp.									
Operating Frequency: 5260MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)
50	120	5259.9911	-0.00017	5259.9932	-0.00013	5259.9949	-0.00010	5259.9903	-0.00018
40	120	5259.9938	-0.00012	5259.9921	-0.00015	5259.993	-0.00013	5259.9918	-0.00016
30	120	5259.985	-0.00029	5259.9861	-0.00026	5259.9853	-0.00028	5259.9866	-0.00025
20	120	5260.0055	0.00010	5260.0048	0.00009	5260.0061	0.00012	5260.0063	0.00012
10	120	5260.0161	0.00031	5260.0155	0.00029	5260.0125	0.00024	5260.0131	0.00025
0	120	5260.0064	0.00012	5260.008	0.00015	5260.0065	0.00012	5260.0061	0.00012
-10	120	5259.9927	-0.00014	5259.9934	-0.00013	5259.9908	-0.00017	5259.9909	-0.00017
-20	120	5259.9842	-0.00030	5259.9847	-0.00029	5259.9862	-0.00026	5259.9856	-0.00027
-30	120	5259.9957	-0.00008	5259.9953	-0.00009	5259.9967	-0.00006	5259.9953	-0.00009

Frequency Stability Versus Voltage									
Operating Frequency: 5260MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)
20	138	5260.0048	0.00009	5260.0048	0.00009	5260.0064	0.00012	5260.0063	0.00012
	120	5260.0055	0.00010	5260.0048	0.00009	5260.0061	0.00012	5260.0063	0.00012
	102	5260.0059	0.00011	5260.0051	0.00010	5260.0061	0.00012	5260.0067	0.00013

## 2TX

Frequency Stability Versus Temp.									
Operating Frequency: 5260MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)
50	120	5260.0031	0.00006	5260.0055	0.00010	5260.0039	0.00007	5260.0019	0.00004
40	120	5260.0015	0.00003	5260.0001	0.00000	5260.0015	0.00003	5260.0012	0.00002
30	120	5259.9878	-0.00023	5259.9884	-0.00022	5259.9874	-0.00024	5259.9906	-0.00018
20	120	5259.9972	-0.00005	5259.9972	-0.00005	5259.999	-0.00002	5259.9964	-0.00007
10	120	5260.019	0.00036	5260.0217	0.00041	5260.0218	0.00041	5260.0178	0.00034
0	120	5260.0103	0.00020	5260.0079	0.00015	5260.0084	0.00016	5260.0073	0.00014
-10	120	5259.987	-0.00025	5259.9852	-0.00028	5259.9872	-0.00024	5259.9883	-0.00022
-20	120	5260.0154	0.00029	5260.0193	0.00037	5260.0164	0.00031	5260.018	0.00034
-30	120	5260.0104	0.00020	5260.0103	0.00020	5260.0131	0.00025	5260.0124	0.00024

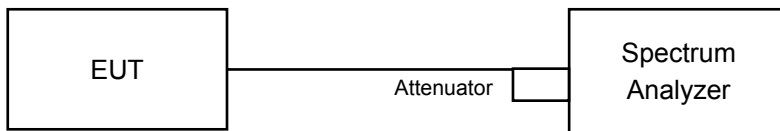
Frequency Stability Versus Voltage									
Operating Frequency: 5260MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)
20	138	5259.9975	-0.00005	5259.998	-0.00004	5259.9993	-0.00001	5259.9962	-0.00007
	120	5259.9972	-0.00005	5259.9972	-0.00005	5259.999	-0.00002	5259.9964	-0.00007
	102	5259.9971	-0.00006	5259.9978	-0.00004	5259.9981	-0.00004	5259.9961	-0.00007

## 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

1TX

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
144	5720 For U-NII-3	3.20	0.5	Pass

802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
144	5720 For U-NII-3	3.83	0.5	Pass

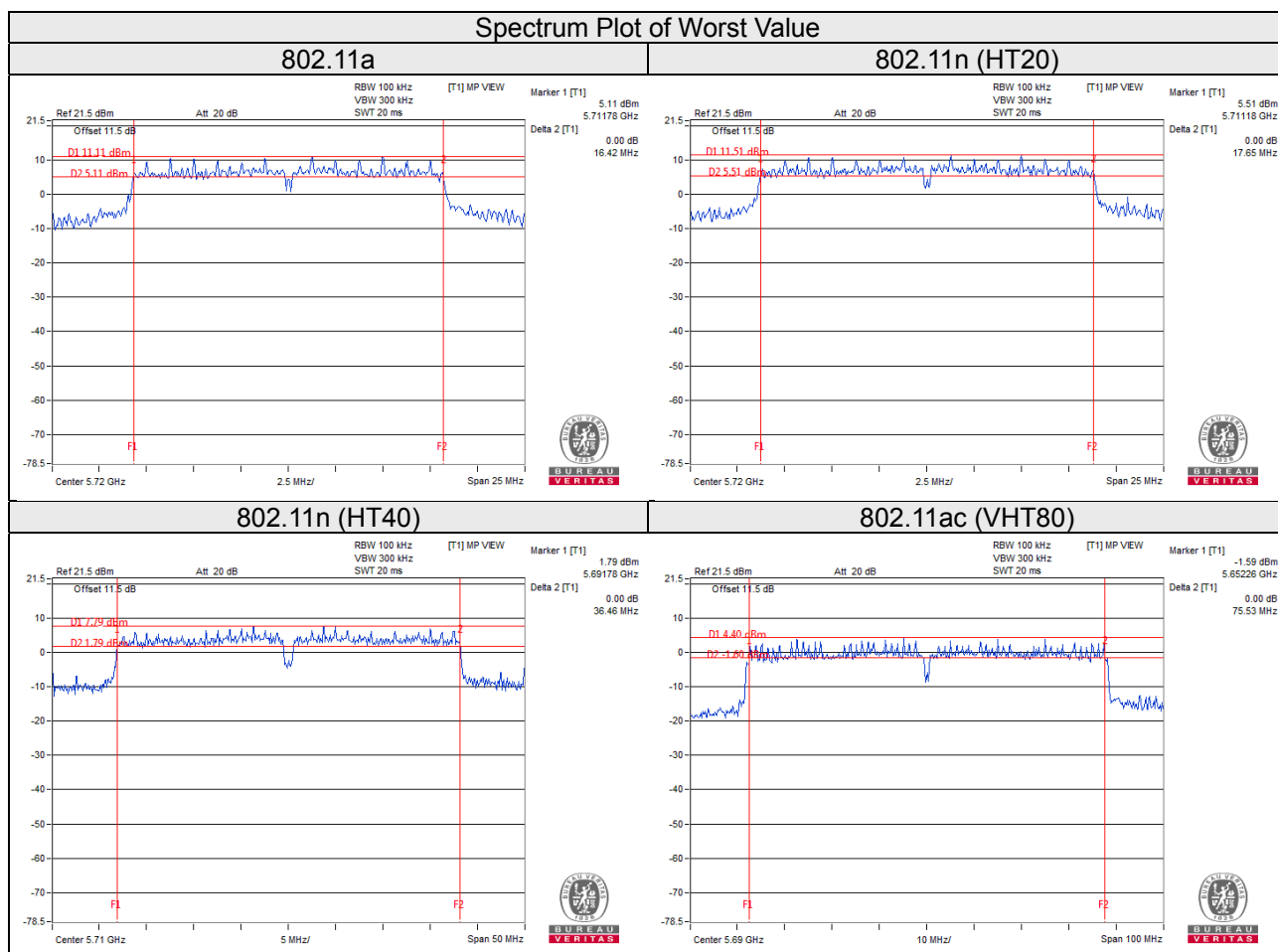
802.11n (HT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
142	5710 For U-NII-3	3.24	0.5	Pass

802.11ac (VHT80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
138	5690 For U-NII-3	2.79	0.5	Pass





**Note:**

For CH144 (UNII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

For CH142 (UNII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

For CH138 (UNII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

2TX

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
144	5720 For U-NII-3	3.19	2.91	0.5	Pass

802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
144	5720 For U-NII-3	3.82	3.56	0.5	Pass

802.11n (HT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
142	5710 For U-NII-3	3.26	3.25	0.5	Pass

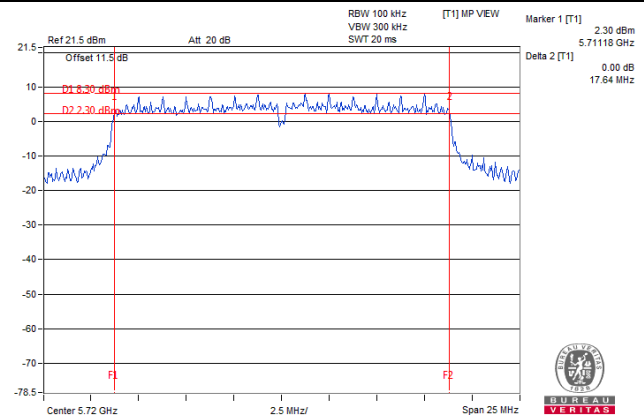
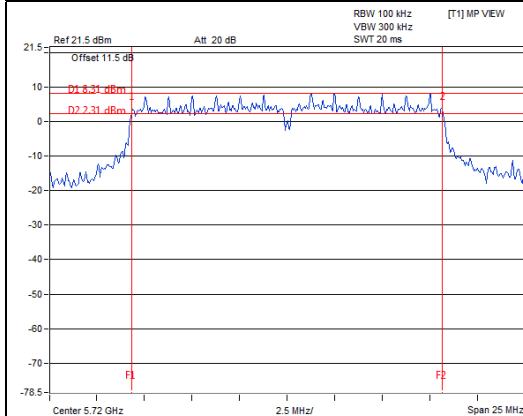
802.11ac (VHT80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
138	5690 For U-NII-3	3.26	2.87	0.5	Pass

## Spectrum Plot of Worst Value

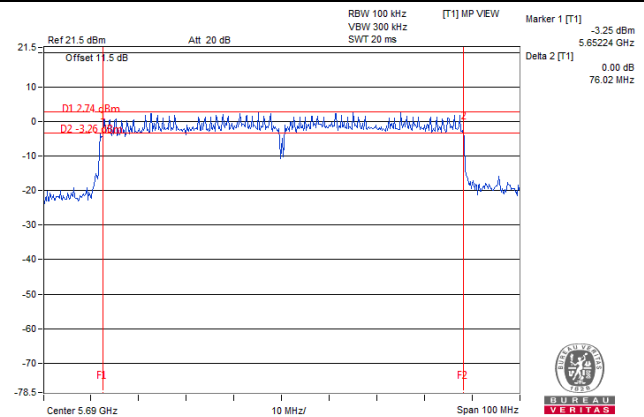
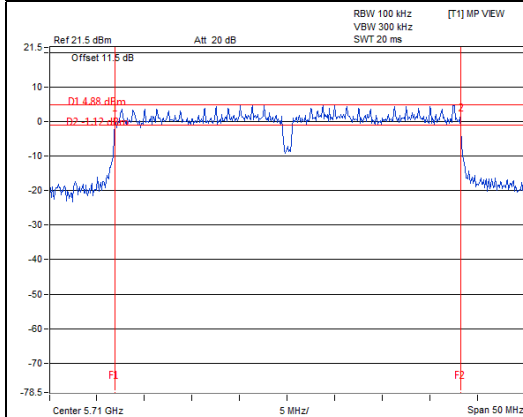
**802.11a**

**802.11n (HT20)**



**802.11n (HT40)**

**802.11ac (VHT80)**



### Note:

For CH144 (UNII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

For CH142 (UNII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

For CH138 (UNII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

## 5 Pictures of Test Arrangements

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

## Appendix – Information on the Testing Laboratories

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

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

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