



# FCC TEST REPORT (15.407)

**REPORT NO.:** RF140730C07-1

**MODEL NO.:** WNDA3100v3

**FCC ID:** PY314400296

**RECEIVED:** Jul. 29, 2014

**TESTED:** Aug. 15 ~ Oct. 17, 2014

**ISSUED:** Oct. 20, 2014

**APPLICANT:** NETGEAR INC.

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

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## RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF140730C07-1	Original release.	Oct. 20, 2014



## 1. CERTIFICATION

**PRODUCT:** NETGEAR N600 WiFi USB Adapter  
**MODEL:** WNDA3100v3  
**BRAND:** NETGEAR  
**APPLICANT:** NETGEAR INC.  
**TESTED:** Aug. 15 ~ Oct. 17, 2014  
**TEST SAMPLE:** ENGINEERING SAMPLE  
**STANDARDS:** **FCC Part 15, Subpart E (Section 15.407)**  
ANSI C63.10-2009

The above equipment (model: WNDA3100v3) 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 :** Celine Chou , **DATE :** Oct. 20, 2014  
Celine Chou / Specialist

**APPROVED BY :** Ken Liu , **DATE :** Oct. 20, 2014  
Ken Liu / Senior Manager

## 2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC PART 15, SUBPART E (SECTION 15.407)			
STANDARD SECTION	TEST TYPE	RESULT	REMARK
15.407(b)(6)	AC Power Conducted Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -10.65dB at 0.40391MHz.
15.407(b)(1/2/3/4/6)	Radiated Emissions & Band Edge Measurement	PASS	Meet the requirement of limit. Minimum passing margin is -0.2dB at 5470.00 and 5722.90MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	PASS	Meet the requirement of limit.
15.407(a)(1/2/3)	Peak Power Spectral Density	PASS	Meet the requirement of limit.
15.407(e)	6dB bandwidth	PASS	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	No antenna connector is used.

### 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	UNCERTAINTY
Conducted emissions	9kHz~30MHz	2.44 dB
Radiated emissions	30MHz ~ 200MHz	3.59 dB
	200MHz ~1000MHz	3.60 dB
	1GHz ~ 18GHz	2.29 dB
	18GHz ~ 40GHz	2.29 dB

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of  $k = 2$ .

### 3. GENERAL INFORMATION

#### 3.1 GENERAL DESCRIPTION OF EUT

<b>EUT</b>	NETGEAR N600 WiFi USB Adapter
<b>MODEL NO.</b>	WNDA3100v3
<b>POWER SUPPLY</b>	5Vdc (host equipment)
<b>MODULATION TYPE</b>	64QAM, 16QAM, QPSK, BPSK
<b>MODULATION TECHNOLOGY</b>	OFDM
<b>TRANSFER RATE</b>	802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11n: up to 300.0Mbps
<b>OPERATING FREQUENCY</b>	5180 ~ 5240MHz, 5260 ~ 5320MHz, 5500 ~ 5700MHz & 5745 ~ 5825MHz
<b>NUMBER OF CHANNEL</b>	5180 ~ 5240MHz: 4 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40) 5260 ~ 5320MHz: 4 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40) 5500 ~ 5700MHz: 8 for 802.11a, 802.11n (HT20) 3 for 802.11n (HT40) 5745 ~ 5825MHz: 5 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40)
<b>OUTPUT POWER</b>	5180 ~ 5240MHz: 168.893mW 5260 ~ 5320MHz: 136.627mW 5500 ~ 5700MHz: 130.719mW 5745 ~ 5825MHz: 119.164mW
<b>ANTENNA TYPE</b>	Refer to note
<b>ANTENNA CONNECTOR</b>	Refer to note
<b>DATA CABLE</b>	0.9m non-shielded USB cable with one core
<b>I/O PORTS</b>	Refer to user's manual
<b>ACCESSORY DEVICES</b>	NA

**NOTE:**

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

MODULATION MODE	TX FUNCTION
802.11a	2TX
802.11n (HT20)	2TX
802.11n (HT40)	2TX

2. There are 2 antennas for the EUT.

NO.	TYPE	GAIN(dBi)										CONNECTOR
		2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	
1	Printed	-1.21	-1.50	-1.58	-1.69	-1.65	-1.82	-1.93	-2.07	-2.40	-2.47	NA
2	Printed	1.03	1.28	1.20	1.23	1.38	1.31	1.30	1.12	0.77	0.63	NA

NO.	TYPE	GAIN(dBi)									CONNECTOR
		5100	5200	5300	5400	5500	5600	5700	5800	5900	
1	Printed	2.73	0.60	1.02	-0.22	0.25	-0.98	0.90	1.79	3.02	NA
2	Printed	0.66	-1.14	0.63	-0.46	0.55	-0.27	0.93	1.62	2.67	NA

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



### 3.2 DESCRIPTION OF TEST MODES

#### FOR 5180 ~ 5240MHz

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
36	5180 MHz	44	5220 MHz
40	5200 MHz	48	5240 MHz

2 channels are provided for 802.11n (HT40):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
38	5190 MHz	46	5230 MHz

#### FOR 5260 ~ 5320MHz

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
52	5260 MHz	60	5300 MHz
56	5280 MHz	64	5320 MHz

2 channels are provided for 802.11n (HT40):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
54	5270 MHz	62	5310 MHz

#### FOR 5500 ~ 5700MHz

8 channels are provided for 802.11a, 802.11n (HT20):

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

3 channels are provided for 802.11n (HT40):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
102	5510 MHz	134	5670 MHz
110	5550 MHz		



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### FOR 5745 ~ 5825MHz

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
149	5745MHz	161	5805MHz
153	5765MHz	165	5825MHz
157	5785MHz		

2 channels are provided for 802.11n (HT40):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
151	5755MHz	159	5795MHz

### 3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE $\geq$ 1G	RE $<$ 1G	PLC	APCM	
-	√	√	√	√	-

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

**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	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	BPSK	6.0
-	802.11n (HT20)		36 to 48	36, 40, 48	OFDM	BPSK	7.2
-	802.11n (HT40)		38 to 46	38, 46	OFDM	BPSK	15.0
-	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6.0
-	802.11n (HT20)		52 to 64	52, 60, 64	OFDM	BPSK	7.2
-	802.11n (HT40)		54 to 62	54, 62	OFDM	BPSK	15.0
-	802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	BPSK	6.0
-	802.11n (HT20)		100 to 140	100, 116, 140	OFDM	BPSK	7.2
-	802.11n (HT40)		102 to 134	102, 110, 134	OFDM	BPSK	15.0
-	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6.0
-	802.11n (HT20)		149 to 165	149, 157, 165	OFDM	BPSK	7.2
-	802.11n (HT40)		151 to 159	151, 159	OFDM	BPSK	15.0

**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	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11a	5180-5240	36 to 48	36	OFDM	BPSK	6.0
-	802.11a	5260-5320	52 to 64		OFDM	BPSK	6.0
-	802.11a	5500-5700	100 to 140		OFDM	BPSK	6.0
-	802.11a	5745-5825	149 to 165		OFDM	BPSK	6.0

**POWER LINE CONDUCTED EMISSION TEST:**

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

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11a	5180-5240	36 to 48	36	OFDM	BPSK	6.0
-	802.11a	5260-5320	52 to 64		OFDM	BPSK	6.0
-	802.11a	5500-5700	100 to 140		OFDM	BPSK	6.0
-	802.11a	5745-5825	149 to 165		OFDM	BPSK	6.0

**ANTENNA PORT CONDUCTED MEASUREMENT:**

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

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	BPSK	6.0
-	802.11n (HT20)		36 to 48	36, 40, 48	OFDM	BPSK	7.2
-	802.11n (HT40)		38 to 46	38, 46	OFDM	BPSK	15.0
-	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6.0
-	802.11n (HT20)		52 to 64	52, 60, 64	OFDM	BPSK	7.2
-	802.11n (HT40)		54 to 62	54, 62	OFDM	BPSK	15.0
-	802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	BPSK	6.0
-	802.11n (HT20)		100 to 140	100, 116, 140	OFDM	BPSK	7.2
-	802.11n (HT40)		102 to 134	102, 110, 134	OFDM	BPSK	15.0
-	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6.0
-	802.11n (HT20)		149 to 165	149, 157, 165	OFDM	BPSK	7.2
-	802.11n (HT40)		151 to 159	151, 159	OFDM	BPSK	15.0

**TEST CONDITION:**

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (SYSTEM)	TESTED BY
RE≥1G	27deg. C, 64%RH	120Vac, 60Hz	Alan Wu
RE<1G	27deg. C, 63%RH	120Vac, 60Hz	Alan Wu
PLC	27deg. C, 64%RH	120Vac, 60Hz	Alan Wu
APCM	24deg. C, 64%RH	120Vac, 60Hz	Match Tsui

### 3.3 DUTY CYCLE OF TEST SIGNAL

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

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

**802.11a:** Duty cycle =  $1.440/1.473 = 0.978$ , Duty factor =  $10 * \log(1/0.978) = 0.10$

**802.11n (HT20):** Duty cycle =  $1.340/1.372 = 0.977$ , Duty factor =  $10 * \log(1/0.977) = 0.10$

**802.11n (HT40):** Duty cycle =  $0.647/0.687 = 0.942$ , Duty factor =  $10 * \log(1/0.942) = 0.26$





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### For U-NII-3 Band:

**802.11a, 802.11n (HT40):** Duty cycle of test signal is < 98 %, duty factor is required.

**802.11a:** Duty cycle =  $1.430/1.462 = 0.978$ , Duty factor =  $10 * \log(1/0.978) = 0.10$

**802.11n (HT20):** Duty cycle =  $1.348/1.375 = 0.980$ , Duty cycle of test signal is > 98 %, duty factor is not required.

**802.11n (HT40):** Duty cycle =  $0.655/0.681 = 0.961$ , Duty factor =  $10 * \log(1/0.962) = 0.17$



### 3.4 DESCRIPTION OF SUPPORT UNITS

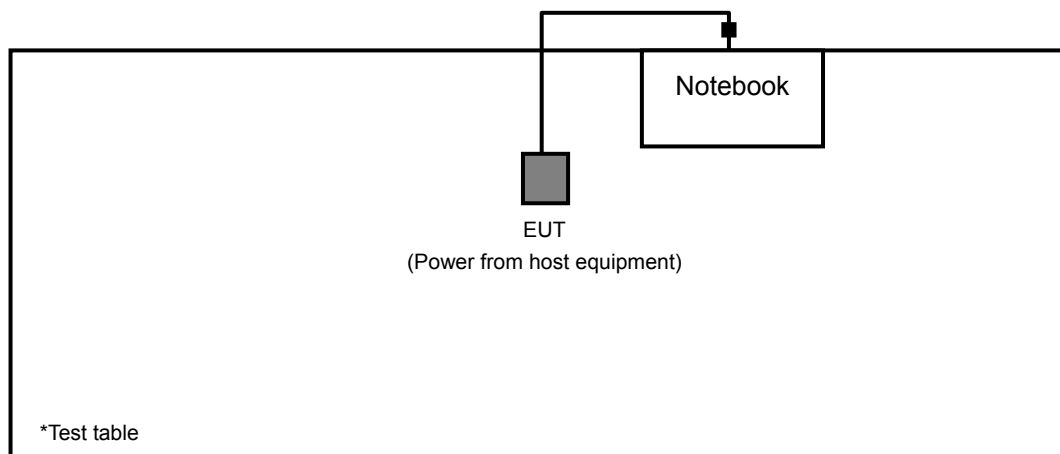
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NOTEBOOK	DELL	E5410	1HC2XM1	FCC Doc Approved

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	0.9m USB cable with one core

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

#### 3.4.1 CONFIGURATION OF SYSTEM UNDER TEST



### 3.5 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

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

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

**662911 D01 Multiple Transmitter Output v02r01**

ANSI C63.10-2009

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

**NOTE:** The EUT is also considered as a kind of computer peripheral, because the connection to computer is necessary for typical use. It has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.



## 4. TEST TYPES AND RESULTS

### 4.1 RADIATED EMISSION AND BANDEDGE MEASUREMENT

#### 4.1.1 LIMITS OF RADIATED EMISSION AND BANDEDGE MEASUREMENT

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

FREQUENCIES (MHz)	FIELD STRENGTH (microvolts/meter)	MEASUREMENT DISTANCE (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

**NOTE:**

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

#### 4.1.2 LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

APPLICABLE TO	LIMIT	
789033 D02 General UNII Test Procedures New Rules v01	FIELD STRENGTH AT 3m	
	PK: 74 (dBµV/m)	AV: 54 (dBµV/m)
APPLICABLE TO	EIRP LIMIT	EQUIVALENT FIELD STRENGTH AT 3m
15.407(b)(1)	PK: -27 (dBm/MHz)	PK: 68.2 (dBµV/m)
15.407(b)(2)		
15.407(b)(3)		
15.407(b)(4)	PK: -27 (dBm/MHz) <sup>*1</sup> PK: -17 (dBm/MHz) <sup>*2</sup>	PK: 68.2 (dBµV/m) <sup>*1</sup> PK: 78.2 (dBµV/m) <sup>*2</sup>

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

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

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

#### 4.1.3 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESCI	100424	Sep. 09, 2013	Sep. 08, 2014
Spectrum Analyzer ROHDE & SCHWARZ	FSU 43	100115	Dec. 18, 2013	Dec. 17, 2014
BILOG Antenna SCHWARZBECK	VULB9168	9168-155	Feb. 26, 2014	Feb. 25, 2015
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-404	Jan. 05, 2014	Jan. 04, 2015
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Feb. 17, 2014	Feb. 16, 2015
Preamplifier Agilent	8449B	3008A01961	Oct. 28, 2013	Oct. 27, 2014
Preamplifier Agilent	8447D	2944A10738	Oct. 18, 2013	Oct. 17, 2014
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	309220/4	Aug. 09, 2014	Aug. 08, 2015
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	250724/4	Aug. 09, 2014	Aug. 08, 2015
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	295012/4	Aug. 09, 2014	Aug. 08, 2015
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 inn-co GmbH	CO2000	019303	NA	NA
Turn Table BV ADT	TT100.	TT93021704	NA	NA
Turn Table Controller BV ADT	SC100.	SC93021704	NA	NA
26GHz ~ 40GHz Amplifier	EM26400	815221	Oct. 18, 2013	Oct. 17, 2014
High Speed Peak Power Meter	ML2495A	0824011	Jul. 26, 2014	Jul. 25, 2015
Power Sensor	MA2411B	0738171	Jul. 26, 2014	Jul. 25, 2015
WIT Standard Temperature And Humidity Chamber	TH-4S-C	W981030	Jun. 9, 2014	Jun. 08, 2015

- 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 HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
  4. The FCC Site Registration No. is 460141.
  5. The IC Site Registration No. is IC7450F-4.

#### 4.1.4 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. 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 antenna is a broadband antenna, and its height 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 Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

**NOTE:**

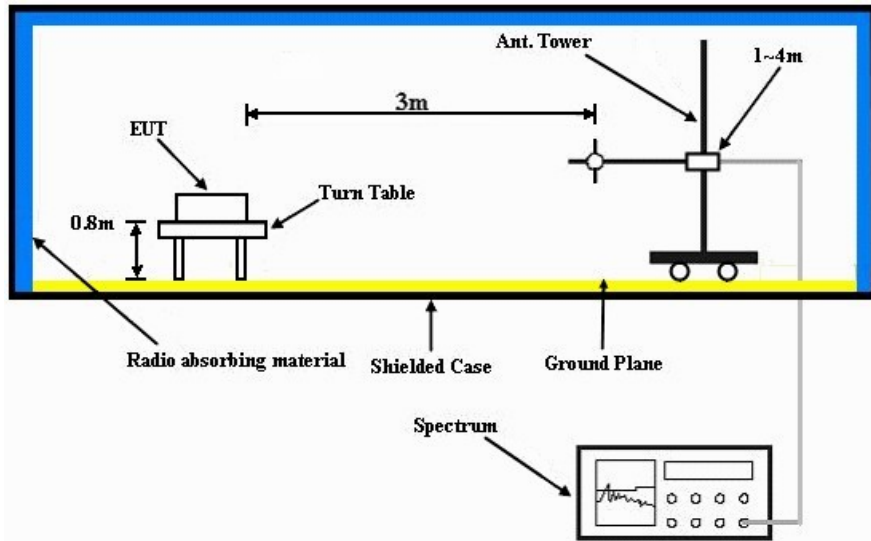
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
3. The resolution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

#### 4.1.5 DEVIATION FROM TEST STANDARD

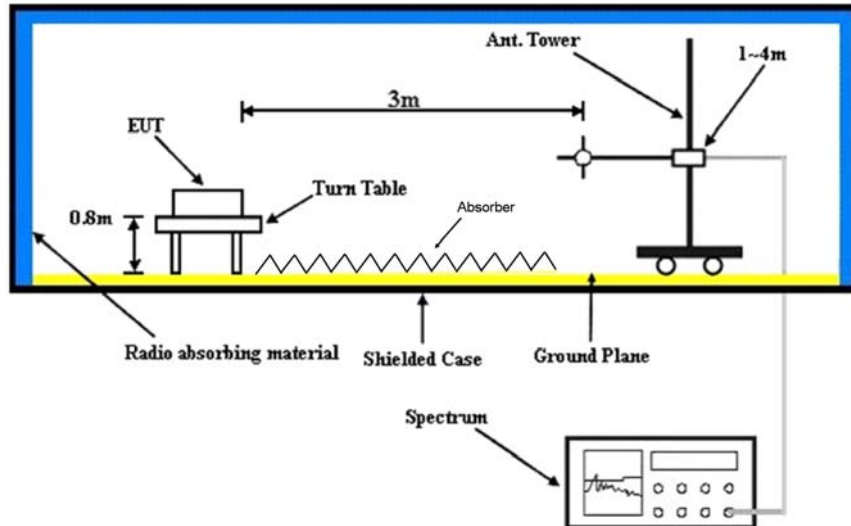
No deviation.

#### 4.1.6 TEST SETUP

##### Frequency range 30MHz~1GHz



##### Frequency range above 1GHz



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

#### 4.1.7 EUT OPERATING CONDITION

- Plugged the EUT into the notebook and placed on a testing table.
- The notebook system ran a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.

## 4.1.8 TEST RESULTS

### ABOVE 1GHz DATA

#### 802.11a

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	70.6 PK	74.0	-3.4	1.00 H	168	64.90	5.70
2	5150.00	52.1 AV	54.0	-1.9	1.00 H	168	46.40	5.70
3	*5180.00	111.4 PK			1.00 H	168	71.90	39.50
4	*5180.00	101.8 AV			1.00 H	168	62.30	39.50
5	#10360.00	59.6 PK	74.0	-14.4	1.00 H	224	41.90	17.70
6	#10360.00	45.2 AV	54.0	-8.8	1.00 H	224	27.50	17.70
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	5150.00	70.8 PK	74.0	-3.2	1.51 V	163	65.10	5.70
2	5150.00	53.3 AV	54.0	-0.7	1.51 V	163	47.60	5.70
3	*5180.00	112.7 PK			1.51 V	163	73.20	39.50
4	*5180.00	103.1 AV			1.51 V	163	63.60	39.50
5	#10360.00	61.3 PK	74.0	-12.7	1.00 V	52	43.60	17.70
6	#10360.00	47.3 AV	54.0	-6.7	1.00 V	52	29.60	17.70

#### REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	112.4 PK			1.00 H	188	72.80	39.60
2	*5200.00	101.0 AV			1.00 H	188	61.40	39.60
3	#10400.00	59.4 PK	74.0	-14.6	1.00 H	225	41.70	17.70
4	#10400.00	45.0 AV	54.0	-9.0	1.00 H	225	27.30	17.70

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	*5200.00	112.9 PK			1.65 V	144	73.30	39.60
2	*5200.00	102.2 AV			1.65 V	144	62.60	39.60
3	#10400.00	61.2 PK	74.0	-12.8	1.00 V	46	43.50	17.70
4	#10400.00	47.3 AV	54.0	-6.7	1.00 V	46	29.60	17.70

**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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	111.9 PK			1.00 H	168	72.30	39.60
2	*5240.00	100.7 AV			1.00 H	168	61.10	39.60
3	5350.00	55.2 PK	74.0	-18.8	1.00 H	168	49.40	5.80
4	5350.00	45.1 AV	54.0	-8.9	1.00 H	168	39.30	5.80
5	#10480.00	59.7 PK	74.0	-14.3	1.00 H	228	42.10	17.60
6	#10480.00	45.3 AV	54.0	-8.7	1.00 H	228	27.70	17.60
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	*5240.00	112.2 PK			1.47 V	158	72.60	39.60
2	*5240.00	101.5 AV			1.47 V	158	61.90	39.60
3	5350.00	55.7 PK	74.0	-18.3	1.47 V	158	49.90	5.80
4	5350.00	45.6 AV	54.0	-8.4	1.47 V	158	39.80	5.80
5	#10480.00	61.0 PK	74.0	-13.0	1.00 V	40	43.40	17.60
6	#10480.00	46.6 AV	54.0	-7.4	1.00 V	40	29.00	17.60

**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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	55.2 PK	74.0	-18.8	1.00 H	189	49.50	5.70
2	5150.00	44.8 AV	54.0	-9.2	1.00 H	189	39.10	5.70
3	*5260.00	111.3 PK			1.00 H	189	71.70	39.60
4	*5260.00	100.9 AV			1.00 H	189	61.30	39.60
5	#10520.00	60.5 PK	74.0	-13.5	1.00 H	202	43.00	17.50
6	#10520.00	46.4 AV	54.0	-7.6	1.00 H	202	28.90	17.50
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	5150.00	55.7 PK	74.0	-18.3	1.18 V	213	50.00	5.70
2	5150.00	45.3 AV	54.0	-8.7	1.18 V	213	39.60	5.70
3	*5260.00	111.6 PK			1.18 V	213	72.00	39.60
4	*5260.00	101.2 AV			1.18 V	213	61.60	39.60
5	#10520.00	61.1 PK	74.0	-12.9	1.00 V	33	43.60	17.50
6	#10520.00	46.8 AV	54.0	-7.2	1.00 V	33	29.30	17.50

**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.



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	110.9 PK			1.00 H	205	71.30	39.60
2	*5300.00	100.4 AV			1.00 H	205	60.80	39.60
3	10600.00	60.4 PK	74.0	-13.6	1.00 H	186	43.10	17.30
4	10600.00	46.1 AV	54.0	-7.9	1.00 H	186	28.80	17.30

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	*5300.00	111.6 PK			1.16 V	211	72.00	39.60
2	*5300.00	101.2 AV			1.16 V	211	61.60	39.60
3	10600.00	60.8 PK	74.0	-13.2	1.00 V	18	43.50	17.30
4	10600.00	46.6 AV	54.0	-7.4	1.00 V	18	29.30	17.30

**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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	111.4 PK			1.00 H	190	71.80	39.60
2	*5320.00	101.3 AV			1.00 H	190	61.70	39.60
3	5350.00	63.9 PK	74.0	-10.1	1.00 H	190	58.10	5.80
4	5350.00	47.9 AV	54.0	-6.1	1.00 H	190	42.10	5.80
5	10640.00	60.3 PK	74.0	-13.7	1.00 H	225	42.90	17.40
6	10640.00	46.4 AV	54.0	-7.6	1.00 H	225	29.00	17.40
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	*5320.00	111.8 PK			1.18 V	161	72.20	39.60
2	*5320.00	101.8 AV			1.18 V	161	62.20	39.60
3	5350.00	64.5 PK	74.0	-9.5	1.18 V	161	58.70	5.80
4	5350.00	48.1 AV	54.0	-5.9	1.18 V	161	42.30	5.80
5	10640.00	60.9 PK	74.0	-13.1	1.00 V	57	43.50	17.40
6	10640.00	46.9 AV	54.0	-7.1	1.00 V	57	29.50	17.40

**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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	59.3 PK	74.0	-14.7	1.00 H	167	53.20	6.10
2	5460.00	45.9 AV	54.0	-8.1	1.00 H	167	39.80	6.10
3	#5470.00	69.1 PK	74.0	-4.9	1.00 H	167	63.00	6.10
4	#5470.00	49.2 AV	54.0	-4.8	1.00 H	167	43.10	6.10
5	*5500.00	111.8 PK			1.00 H	167	71.90	39.90
6	*5500.00	101.7 AV			1.00 H	167	61.80	39.90
7	11000.00	62.7 PK	74.0	-11.3	1.00 H	274	43.60	19.10
8	11000.00	48.5 AV	54.0	-5.5	1.00 H	274	29.40	19.10
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	5460.00	59.8 PK	74.0	-14.2	1.53 V	152	53.70	6.10
2	5460.00	46.1 AV	54.0	-7.9	1.53 V	152	40.00	6.10
3	#5470.00	69.5 PK	74.0	-4.5	1.53 V	152	63.40	6.10
4	#5470.00	49.9 AV	54.0	-4.1	1.53 V	152	43.80	6.10
5	*5500.00	114.1 PK			1.53 V	152	74.20	39.90
6	*5500.00	103.6 AV			1.53 V	152	63.70	39.90
7	11000.00	63.0 PK	74.0	-11.0	1.00 V	57	43.90	19.10
8	11000.00	48.8 AV	54.0	-5.2	1.00 V	57	29.70	19.10

**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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	111.6 PK			1.00 H	162	71.50	40.10
2	*5580.00	101.5 AV			1.00 H	162	61.40	40.10
3	11160.00	62.3 PK	74.0	-11.7	1.00 H	217	42.80	19.50
4	11160.00	47.6 AV	54.0	-6.4	1.00 H	217	28.10	19.50

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	*5580.00	113.2 PK			1.50 V	151	73.10	40.10
2	*5580.00	102.4 AV			1.50 V	151	62.30	40.10
3	11160.00	62.6 PK	74.0	-11.4	1.00 V	59	43.10	19.50
4	11160.00	48.1 AV	54.0	-5.9	1.00 V	59	28.60	19.50

**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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	112.5 PK			1.00 H	146	72.10	40.40
2	*5700.00	101.7 AV			1.00 H	146	61.30	40.40
3	#5725.00	70.0 PK	74.0	-4.0	1.00 H	146	63.50	6.50
4	#5725.00	50.9 AV	54.0	-3.1	1.00 H	146	44.40	6.50
5	11400.00	61.8 PK	74.0	-12.2	1.00 H	210	43.90	17.90
6	11400.00	47.4 AV	54.0	-6.6	1.00 H	210	29.50	17.90
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	112.9 PK			1.47 V	152	72.50	40.40
2	*5700.00	102.2 AV			1.47 V	152	61.80	40.40
3	#5725.00	70.4 PK	74.0	-3.6	1.47 V	152	63.90	6.50
4	#5725.00	51.8 AV	54.0	-2.2	1.47 V	152	45.30	6.50
5	11400.00	62.0 PK	74.0	-12.0	1.00 V	60	44.10	17.90
6	11400.00	47.8 AV	54.0	-6.2	1.00 V	60	29.90	17.90

**REMARKS:**

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5714.90	63.1 PK	74.0	-10.9	1.00 H	186	56.60	6.50
2	#5714.90	45.6 AV	54.0	-8.4	1.00 H	186	39.10	6.50
3	#5722.90	72.3 PK	78.2	-5.9	1.00 H	186	65.80	6.50
4	*5745.00	110.3 PK			1.00 H	186	69.90	40.40
5	*5745.00	99.2 AV			1.00 H	186	58.80	40.40
6	11490.00	61.8 PK	74.0	-12.2	1.00 H	202	44.00	17.80
7	11490.00	47.4 AV	54.0	-6.6	1.00 H	202	29.60	17.80
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	#5714.90	64.0 PK	74.0	-10.0	1.46 V	153	57.50	6.50
2	#5714.90	46.4 AV	54.0	-7.6	1.46 V	153	39.90	6.50
3	#5722.90	73.2 PK	78.2	-5.0	1.46 V	153	66.70	6.50
4	*5745.00	110.9 PK			1.46 V	153	70.50	40.40
5	*5745.00	100.0 AV			1.46 V	153	59.60	40.40
6	11490.00	62.2 PK	74.0	-11.8	1.00 V	65	44.40	17.80
7	11490.00	48.3 AV	54.0	-5.7	1.00 V	65	30.50	17.80

**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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	111.3 PK			1.00 H	207	70.70	40.60
2	*5785.00	100.9 AV			1.00 H	207	60.30	40.60
3	11570.00	61.3 PK	74.0	-12.7	1.00 H	197	43.60	17.70
4	11570.00	47.6 AV	54.0	-6.4	1.00 H	197	29.90	17.70

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	*5785.00	111.7 PK			1.44 V	154	71.10	40.60
2	*5785.00	101.1 AV			1.44 V	154	60.50	40.60
3	11570.00	61.9 PK	74.0	-12.1	1.00 V	59	44.20	17.70
4	11570.00	48.2 AV	54.0	-5.8	1.00 V	59	30.50	17.70

**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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	111.4 PK			1.00 H	191	70.70	40.70
2	*5825.00	101.1 AV			1.00 H	191	60.40	40.70
3	#5852.10	64.6 PK	78.2	-13.6	1.00 H	191	57.80	6.80
4	#5860.10	57.0 PK	74.0	-17.0	1.00 H	191	50.20	6.80
5	#5860.10	43.5 AV	54.0	-10.5	1.00 H	191	36.70	6.80
6	11650.00	62.0 PK	74.0	-12.0	1.00 H	275	43.80	18.20
7	11650.00	48.0 AV	54.0	-6.0	1.00 H	275	29.80	18.20

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	*5825.00	112.0 PK			1.42 V	152	71.30	40.70
2	*5825.00	101.3 AV			1.42 V	152	60.60	40.70
3	#5852.10	64.8 PK	78.2	-13.4	1.42 V	152	58.00	6.80
4	#5860.10	57.3 PK	74.0	-16.7	1.42 V	152	50.50	6.80
5	#5860.10	44.5 AV	54.0	-9.5	1.42 V	152	37.70	6.80
6	11650.00	62.2 PK	74.0	-11.8	1.00 V	55	44.00	18.20
7	11650.00	48.4 AV	54.0	-5.6	1.00 V	55	30.20	18.20

**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.



802.11n (20MHz)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	73.5 PK	74.0	-0.5	1.00 H	167	67.80	5.70
2	5150.00	53.0 AV	54.0	-1.0	1.00 H	167	47.30	5.70
3	*5180.00	111.3 PK			1.00 H	167	71.80	39.50
4	*5180.00	101.3 AV			1.00 H	167	61.80	39.50
5	#10360.00	59.7 PK	74.0	-14.3	1.00 H	287	42.00	17.70
6	#10360.00	45.6 AV	54.0	-8.4	1.00 H	287	27.90	17.70
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	5150.00	73.7 PK	74.0	-0.3	1.83 V	153	68.00	5.70
2	5150.00	53.2 AV	54.0	-0.8	1.83 V	153	47.50	5.70
3	*5180.00	112.1 PK			1.83 V	153	72.60	39.50
4	*5180.00	101.5 AV			1.83 V	153	62.00	39.50
5	#10360.00	60.1 PK	74.0	-13.9	1.00 V	59	42.40	17.70
6	#10360.00	46.4 AV	54.0	-7.6	1.00 V	59	28.70	17.70

**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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	112.3 PK			1.00 H	168	72.70	39.60
2	*5200.00	101.9 AV			1.00 H	168	62.30	39.60
3	#10400.00	59.1 PK	74.0	-14.9	1.00 H	291	41.40	17.70
4	#10400.00	45.1 AV	54.0	-8.9	1.00 H	291	27.40	17.70

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	*5200.00	112.8 PK			1.99 V	154	73.20	39.60
2	*5200.00	102.3 AV			1.99 V	154	62.70	39.60
3	#10400.00	60.0 PK	74.0	-14.0	1.00 V	41	42.30	17.70
4	#10400.00	46.1 AV	54.0	-7.9	1.00 V	41	28.40	17.70

**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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	112.4 PK			1.00 H	168	72.80	39.60
2	*5240.00	101.4 AV			1.00 H	168	61.80	39.60
3	5350.00	55.8 PK	74.0	-18.2	1.00 H	168	50.00	5.80
4	5350.00	45.7 AV	54.0	-8.3	1.00 H	168	39.90	5.80
5	#10480.00	58.6 PK	74.0	-15.4	1.00 H	293	41.00	17.60
6	#10480.00	45.6 AV	54.0	-8.4	1.00 H	293	28.00	17.60
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	*5240.00	113.0 PK			1.97 V	154	73.40	39.60
2	*5240.00	102.5 AV			1.97 V	154	62.90	39.60
3	5350.00	56.2 PK	74.0	-17.8	1.97 V	154	50.40	5.80
4	5350.00	46.1 AV	54.0	-7.9	1.97 V	154	40.30	5.80
5	#10480.00	59.0 PK	74.0	-15.0	1.00 V	43	41.40	17.60
6	#10480.00	46.0 AV	54.0	-8.0	1.00 V	43	28.40	17.60

**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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	55.8 PK	74.0	-18.2	1.00 H	188	50.10	5.70
2	5150.00	45.3 AV	54.0	-8.7	1.00 H	188	39.60	5.70
3	*5260.00	110.0 PK			1.00 H	188	70.40	39.60
4	*5260.00	100.5 AV			1.00 H	188	60.90	39.60
5	#10520.00	60.4 PK	74.0	-13.6	1.00 H	243	42.90	17.50
6	#10520.00	46.2 AV	54.0	-7.8	1.00 H	243	28.70	17.50
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	5150.00	56.2 PK	74.0	-17.8	1.62 V	152	50.50	5.70
2	5150.00	45.8 AV	54.0	-8.2	1.62 V	152	40.10	5.70
3	*5260.00	110.8 PK			1.62 V	152	71.20	39.60
4	*5260.00	100.7 AV			1.62 V	152	61.10	39.60
5	#10520.00	60.9 PK	74.0	-13.1	1.00 V	43	43.40	17.50
6	#10520.00	46.8 AV	54.0	-7.2	1.00 V	43	29.30	17.50

**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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	109.7 PK			1.00 H	189	70.10	39.60
2	*5300.00	99.3 AV			1.00 H	189	59.70	39.60
3	10600.00	60.4 PK	74.0	-13.6	1.00 H	217	43.10	17.30
4	10600.00	46.1 AV	54.0	-7.9	1.00 H	217	28.80	17.30

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	*5300.00	110.7 PK			1.77 V	152	71.10	39.60
2	*5300.00	100.3 AV			1.77 V	152	60.70	39.60
3	10600.00	60.6 PK	74.0	-13.4	1.00 V	47	43.30	17.30
4	10600.00	46.5 AV	54.0	-7.5	1.00 V	47	29.20	17.30

**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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	111.1 PK			1.00 H	191	71.50	39.60
2	*5320.00	100.2 AV			1.00 H	191	60.60	39.60
3	5350.00	66.8 PK	74.0	-7.2	1.00 H	191	61.00	5.80
4	5350.00	47.7 AV	54.0	-6.3	1.00 H	191	41.90	5.80
5	10640.00	60.6 PK	74.0	-13.4	1.00 H	240	43.20	17.40
6	10640.00	46.5 AV	54.0	-7.5	1.00 H	240	29.10	17.40
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	*5320.00	111.7 PK			1.60 V	150	72.10	39.60
2	*5320.00	101.3 AV			1.60 V	150	61.70	39.60
3	5350.00	67.5 PK	74.0	-6.5	1.60 V	150	61.70	5.80
4	5350.00	48.5 AV	54.0	-5.5	1.60 V	150	42.70	5.80
5	10640.00	61.2 PK	74.0	-12.8	1.00 V	40	43.80	17.40
6	10640.00	47.2 AV	54.0	-6.8	1.00 V	40	29.80	17.40

**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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	58.0 PK	74.0	-16.0	1.00 H	148	51.90	6.10
2	5460.00	44.9 AV	54.0	-9.1	1.00 H	148	38.80	6.10
3	#5470.00	66.1 PK	74.0	-7.9	1.00 H	148	60.00	6.10
4	#5470.00	46.8 AV	54.0	-7.2	1.00 H	148	40.70	6.10
5	*5500.00	111.7 PK			1.00 H	148	71.80	39.90
6	*5500.00	102.0 AV			1.00 H	148	62.10	39.90
7	11000.00	62.0 PK	74.0	-12.0	1.00 H	240	42.90	19.10
8	11000.00	48.1 AV	54.0	-5.9	1.00 H	240	29.00	19.10
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	5460.00	59.4 PK	74.0	-14.6	1.54 V	152	53.30	6.10
2	5460.00	45.2 AV	54.0	-8.8	1.54 V	152	39.10	6.10
3	#5470.00	67.4 PK	74.0	-6.6	1.54 V	152	61.30	6.10
4	#5470.00	47.8 AV	54.0	-6.2	1.54 V	152	41.70	6.10
5	*5500.00	113.2 PK			1.54 V	152	73.30	39.90
6	*5500.00	102.5 AV			1.54 V	152	62.60	39.90
7	11000.00	62.3 PK	74.0	-11.7	1.00 V	30	43.20	19.10
8	11000.00	48.8 AV	54.0	-5.2	1.00 V	30	29.70	19.10

**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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	111.7 PK			1.00 H	146	71.60	40.10
2	*5580.00	101.3 AV			1.00 H	146	61.20	40.10
3	11160.00	61.7 PK	74.0	-12.3	1.00 H	232	42.20	19.50
4	11160.00	47.8 AV	54.0	-6.2	1.00 H	232	28.30	19.50
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	*5580.00	112.8 PK			1.51 V	150	72.70	40.10
2	*5580.00	102.2 AV			1.51 V	150	62.10	40.10
3	11160.00	62.2 PK	74.0	-11.8	1.00 V	52	42.70	19.50
4	11160.00	48.2 AV	54.0	-5.8	1.00 V	52	28.70	19.50

**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.



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	110.7 PK			1.00 H	164	70.30	40.40
2	*5700.00	100.5 AV			1.00 H	164	60.10	40.40
3	#5725.00	71.0 PK	74.0	-3.0	1.00 H	164	64.50	6.50
4	#5725.00	52.6 AV	54.0	-1.4	1.00 H	164	46.10	6.50
5	11400.00	62.1 PK	74.0	-11.9	1.00 H	290	44.20	17.90
6	11400.00	47.2 AV	54.0	-6.8	1.00 H	290	29.30	17.90
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	111.6 PK			1.46 V	152	71.20	40.40
2	*5700.00	101.2 AV			1.46 V	152	60.80	40.40
3	#5725.00	71.7 PK	74.0	-2.3	1.46 V	152	65.20	6.50
4	#5725.00	53.4 AV	54.0	-0.6	1.46 V	152	46.90	6.50
5	11400.00	62.4 PK	74.0	-11.6	1.00 V	58	44.50	17.90
6	11400.00	47.9 AV	54.0	-6.1	1.00 V	58	30.00	17.90

**REMARKS:**

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5714.90	60.9 PK	74.0	-13.1	1.00 H	207	54.40	6.50
2	#5714.90	45.0 AV	54.0	-9.0	1.00 H	207	38.50	6.50
3	#5722.90	77.0 PK	78.2	-1.2	1.00 H	207	70.50	6.50
4	*5745.00	110.0 PK			1.00 H	207	69.60	40.40
5	*5745.00	99.4 AV			1.00 H	207	59.00	40.40
6	11490.00	62.4 PK	74.0	-11.6	1.00 H	210	44.60	17.80
7	11490.00	47.7 AV	54.0	-6.3	1.00 H	210	29.90	17.80

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	#5714.90	62.1 PK	74.0	-11.9	1.44 V	152	55.60	6.50
2	#5714.90	46.0 AV	54.0	-8.0	1.44 V	152	39.50	6.50
3	#5722.90	78.0 PK	78.2	-0.2	1.44 V	152	71.50	6.50
4	*5745.00	110.4 PK			1.44 V	152	70.00	40.40
5	*5745.00	99.7 AV			1.44 V	152	59.30	40.40
6	11490.00	62.6 PK	74.0	-11.4	1.00 V	59	44.80	17.80
7	11490.00	48.3 AV	54.0	-5.7	1.00 V	59	30.50	17.80

**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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	111.1 PK			1.00 H	207	70.50	40.60
2	*5785.00	100.2 AV			1.00 H	207	59.60	40.60
3	11570.00	61.4 PK	74.0	-12.6	1.00 H	264	43.70	17.70
4	11570.00	47.9 AV	54.0	-6.1	1.00 H	264	30.20	17.70
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	*5785.00	112.0 PK			1.43 V	152	71.40	40.60
2	*5785.00	101.1 AV			1.43 V	152	60.50	40.60
3	11570.00	62.0 PK	74.0	-12.0	1.00 V	54	44.30	17.70
4	11570.00	48.2 AV	54.0	-5.8	1.00 V	54	30.50	17.70

**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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	109.7 PK			1.00 H	188	69.00	40.70
2	*5825.00	99.5 AV			1.00 H	188	58.80	40.70
3	#5852.10	65.1 PK	78.2	-13.1	1.00 H	188	58.30	6.80
4	#5860.10	57.2 PK	74.0	-16.8	1.00 H	188	50.40	6.80
5	#5860.10	43.6 AV	54.0	-10.4	1.00 H	188	36.80	6.80
6	11650.00	62.5 PK	74.0	-11.5	1.00 H	218	44.30	18.20
7	11650.00	48.1 AV	54.0	-5.9	1.00 H	218	29.90	18.20

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	*5825.00	110.8 PK			1.41 V	154	70.10	40.70
2	*5825.00	100.4 AV			1.41 V	154	59.70	40.70
3	#5852.10	66.0 PK	78.2	-12.2	1.41 V	154	59.20	6.80
4	#5860.10	57.6 PK	74.0	-16.4	1.41 V	154	50.80	6.80
5	#5860.10	44.5 AV	54.0	-9.5	1.41 V	154	37.70	6.80
6	11650.00	62.6 PK	74.0	-11.4	1.00 V	58	44.40	18.20
7	11650.00	48.4 AV	54.0	-5.6	1.00 V	58	30.20	18.20

**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.

802.11n (40MHz)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	69.6 PK	74.0	-4.4	1.00 H	167	63.90	5.70
2	5150.00	53.0 AV	54.0	-1.0	1.00 H	167	47.30	5.70
3	*5190.00	103.2 PK			1.00 H	167	63.70	39.50
4	*5190.00	92.5 AV			1.00 H	167	53.00	39.50
5	#10380.00	58.8 PK	74.0	-15.2	1.00 H	226	41.10	17.70
6	#10380.00	44.8 AV	54.0	-9.2	1.00 H	226	27.10	17.70
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	5150.00	69.8 PK	74.0	-4.2	1.37 V	173	64.10	5.70
2	5150.00	53.2 AV	54.0	-0.8	1.37 V	173	47.50	5.70
3	*5190.00	103.7 PK			1.37 V	173	64.20	39.50
4	*5190.00	92.8 AV			1.37 V	173	53.30	39.50
5	#10380.00	59.6 PK	74.0	-14.4	1.00 V	56	41.90	17.70
6	#10380.00	46.1 AV	54.0	-7.9	1.00 V	56	28.40	17.70

**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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5230.00	108.1 PK			1.00 H	167	68.50	39.60
2	*5230.00	97.7 AV			1.00 H	167	58.10	39.60
3	5350.00	58.2 PK	74.0	-15.8	1.00 H	167	52.40	5.80
4	5350.00	45.0 AV	54.0	-9.0	1.00 H	167	39.20	5.80
5	#10460.00	59.2 PK	74.0	-14.8	1.00 H	244	41.60	17.60
6	#10460.00	45.4 AV	54.0	-8.6	1.00 H	244	27.80	17.60
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	*5230.00	109.1 PK			1.35 V	147	69.50	39.60
2	*5230.00	97.9 AV			1.35 V	147	58.30	39.60
3	5350.00	58.4 PK	74.0	-15.6	1.35 V	147	52.60	5.80
4	5350.00	45.5 AV	54.0	-8.5	1.35 V	147	39.70	5.80
5	#10460.00	60.4 PK	74.0	-13.6	1.00 V	22	42.80	17.60
6	#10460.00	46.6 AV	54.0	-7.4	1.00 V	22	29.00	17.60

**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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	63.9 PK	74.0	-10.1	1.00 H	189	58.20	5.70
2	5150.00	47.3 AV	54.0	-6.7	1.00 H	189	41.60	5.70
3	*5270.00	107.2 PK			1.00 H	189	67.60	39.60
4	*5270.00	96.8 AV			1.00 H	189	57.20	39.60
5	#10540.00	61.2 PK	74.0	-12.8	1.00 H	253	43.80	17.40
6	#10540.00	46.7 AV	54.0	-7.3	1.00 H	253	29.30	17.40
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	5150.00	64.5 PK	74.0	-9.5	1.34 V	147	58.80	5.70
2	5150.00	47.6 AV	54.0	-6.4	1.34 V	147	41.90	5.70
3	*5270.00	108.1 PK			1.34 V	147	68.50	39.60
4	*5270.00	97.4 AV			1.34 V	147	57.80	39.60
5	#10540.00	61.5 PK	74.0	-12.5	1.00 V	32	44.10	17.40
6	#10540.00	47.0 AV	54.0	-7.0	1.00 V	32	29.60	17.40

**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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	105.1 PK			1.00 H	191	65.50	39.60
2	*5310.00	94.7 AV			1.00 H	191	55.10	39.60
3	5350.00	71.8 PK	74.0	-2.2	1.00 H	191	66.00	5.80
4	5350.00	52.9 AV	54.0	-1.1	1.00 H	191	47.10	5.80
5	10620.00	60.2 PK	74.0	-13.8	1.00 H	218	43.00	17.20
6	10620.00	46.1 AV	54.0	-7.9	1.00 H	218	28.90	17.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	105.4 PK			1.32 V	149	65.80	39.60
2	*5310.00	95.0 AV			1.32 V	149	55.40	39.60
3	5350.00	72.4 PK	74.0	-1.6	1.32 V	149	66.60	5.80
4	5350.00	53.5 AV	54.0	-0.5	1.32 V	149	47.70	5.80
5	10620.00	60.6 PK	74.0	-13.4	1.00 V	38	43.40	17.20
6	10620.00	46.5 AV	54.0	-7.5	1.00 V	38	29.30	17.20

**REMARKS:**

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



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	63.6 PK	74.0	-10.4	1.00 H	137	57.50	6.10
2	5460.00	46.8 AV	54.0	-7.2	1.00 H	137	40.70	6.10
3	#5470.00	70.5 PK	74.0	-3.5	1.00 H	137	64.40	6.10
4	#5470.00	53.4 AV	54.0	-0.6	1.00 H	137	47.30	6.10
5	*5510.00	107.4 PK			1.00 H	137	67.50	39.90
6	*5510.00	96.4 AV			1.00 H	137	56.50	39.90
7	11020.00	61.7 PK	74.0	-12.3	1.00 H	260	42.70	19.00
8	11020.00	47.2 AV	54.0	-6.8	1.00 H	260	28.20	19.00
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	67.4 PK	74.0	-6.6	1.39 V	149	61.30	6.10
2	5460.00	47.6 AV	54.0	-6.4	1.39 V	149	41.50	6.10
3	#5470.00	73.0 PK	74.0	-1.0	1.39 V	149	66.90	6.10
4	#5470.00	53.8 AV	54.0	-0.2	1.39 V	149	47.70	6.10
5	*5510.00	107.8 PK			1.39 V	149	67.90	39.90
6	*5510.00	96.6 AV			1.39 V	149	56.70	39.90
7	11020.00	62.2 PK	74.0	-11.8	1.00 V	79	43.20	19.00
8	11020.00	47.6 AV	54.0	-6.4	1.00 V	79	28.60	19.00

**REMARKS:**

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5550.00	108.5 PK			1.00 H	185	68.40	40.10
2	*5550.00	97.5 AV			1.00 H	185	57.40	40.10
3	11100.00	62.3 PK	74.0	-11.7	1.00 H	276	43.30	19.00
4	11100.00	47.9 AV	54.0	-6.1	1.00 H	276	28.90	19.00
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5550.00	109.8 PK			1.38 V	151	69.70	40.10
2	*5550.00	98.5 AV			1.38 V	151	58.40	40.10
3	11100.00	62.6 PK	74.0	-11.4	1.00 V	60	43.60	19.00
4	11100.00	48.2 AV	54.0	-5.8	1.00 V	60	29.20	19.00

**REMARKS:**

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	108.8 PK			1.00 H	187	68.50	40.30
2	*5670.00	98.3 AV			1.00 H	187	58.00	40.30
3	#5725.00	67.3 PK	74.0	-6.7	1.00 H	187	60.80	6.50
4	#5725.00	47.7 AV	54.0	-6.3	1.00 H	187	41.20	6.50
5	11340.00	61.2 PK	74.0	-12.8	1.00 H	298	42.30	18.90
6	11340.00	47.0 AV	54.0	-7.0	1.00 H	298	28.10	18.90
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	*5670.00	109.9 PK			1.47 V	151	69.60	40.30
2	*5670.00	99.3 AV			1.47 V	151	59.00	40.30
3	#5725.00	68.4 PK	74.0	-5.6	1.47 V	151	61.90	6.50
4	#5725.00	48.6 AV	54.0	-5.4	1.47 V	151	42.10	6.50
5	11340.00	61.9 PK	74.0	-12.1	1.00 V	80	43.00	18.90
6	11340.00	48.1 AV	54.0	-5.9	1.00 V	80	29.20	18.90

**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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5714.90	72.0 PK	74.0	-2.0	1.00 H	205	65.50	6.50
2	#5714.90	53.3 AV	54.0	-0.7	1.00 H	205	46.80	6.50
3	#5722.90	75.6 PK	78.2	-2.6	1.00 H	205	69.10	6.50
4	*5755.00	106.8 PK			1.00 H	205	66.30	40.50
5	*5755.00	95.5 AV			1.00 H	205	55.00	40.50
6	11510.00	60.0 PK	74.0	-14.0	1.00 H	232	42.20	17.80
7	11510.00	46.4 AV	54.0	-7.6	1.00 H	232	28.60	17.80

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	#5714.90	72.3 PK	74.0	-1.7	1.20 V	148	65.80	6.50
2	#5714.90	53.5 AV	54.0	-0.5	1.20 V	148	47.00	6.50
3	#5722.90	76.6 PK	78.2	-1.6	1.20 V	148	70.10	6.50
4	*5755.00	107.2 PK			1.20 V	148	66.70	40.50
5	*5755.00	96.2 AV			1.20 V	148	55.70	40.50
6	11510.00	60.6 PK	74.0	-13.4	1.00 V	22	42.80	17.80
7	11510.00	47.2 AV	54.0	-6.8	1.00 V	22	29.40	17.80

**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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5795.00	107.6 PK			1.00 H	206	67.00	40.60
2	*5795.00	97.0 AV			1.00 H	206	56.40	40.60
3	#5852.10	60.8 PK	78.2	-17.4	1.00 H	206	54.00	6.80
4	#5860.10	57.3 PK	74.0	-16.7	1.00 H	206	50.50	6.80
5	#5860.10	43.8 AV	54.0	-10.2	1.00 H	206	37.00	6.80
6	11590.00	61.2 PK	74.0	-12.8	1.00 H	225	43.40	17.80
7	11590.00	46.8 AV	54.0	-7.2	1.00 H	225	29.00	17.80
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	*5795.00	108.2 PK			1.31 V	150	67.60	40.60
2	*5795.00	97.5 AV			1.31 V	150	56.90	40.60
3	#5852.10	61.1 PK	78.2	-17.1	1.31 V	150	54.30	6.80
4	#5860.10	57.7 PK	74.0	-16.3	1.31 V	150	50.90	6.80
5	#5860.10	44.7 AV	54.0	-9.3	1.31 V	150	37.90	6.80
6	11590.00	61.3 PK	74.0	-12.7	1.00 V	57	43.50	17.80
7	11590.00	47.4 AV	54.0	-6.6	1.00 V	57	29.60	17.80

**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.

**BELOW 1GHz WORST-CASE DATA**

**802.11a**

<b>CHANNEL</b>	TX Channel 36	<b>DETECTOR FUNCTION</b>	Quasi-Peak (QP)
<b>FREQUENCY RANGE</b>	30MHz ~ 1GHz		

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

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	177.37	33.1 QP	43.5	-10.4	2.00 H	112	47.90	-14.80
2	241.40	39.6 QP	46.0	-6.4	1.24 H	93	54.30	-14.70
3	336.48	33.3 QP	46.0	-12.7	2.00 H	331	45.10	-11.80
4	478.13	38.1 QP	46.0	-7.9	2.00 H	146	47.30	-9.20
5	716.80	33.8 QP	46.0	-12.2	1.24 H	332	38.70	-4.90
6	749.79	33.8 QP	46.0	-12.2	1.24 H	154	37.40	-3.60

**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	43.48	33.9 QP	40.0	-6.1	1.49 V	57	48.20	-14.30
2	142.44	36.5 QP	43.5	-7.0	1.49 V	113	50.60	-14.10
3	239.46	39.0 QP	46.0	-7.0	1.00 V	90	53.80	-14.80
4	427.68	40.6 QP	46.0	-5.4	1.24 V	27	50.70	-10.10
5	666.35	36.6 QP	46.0	-9.4	1.49 V	67	42.30	-5.70
6	726.50	34.2 QP	46.0	-11.8	1.49 V	199	38.70	-4.50

**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

## 4.2 CONDUCTED EMISSION MEASUREMENT

### 4.2.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dB $\mu$ V)	
	Quasi-peak	Average
0.15 ~ 0.5	66 to 56	56 to 46
0.5 ~ 5	56	46
5 ~ 30	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.
  3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

### 4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESCS30	100288	Apr. 24, 2014	Apr. 23, 2015
RF signal cable Woken	5D-FB	Cable-HYCO2-0 1	Dec. 27, 2013	Dec. 26, 2014
LISN ROHDE & SCHWARZ (EUT)	ESH2-Z5	100100	Dec. 23, 2013	Dec. 22, 2014
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100312	Jul. 10, 2014	Jul. 09, 2015
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 2.
  3. The VCCI Site Registration No. is C-2047.

#### 4.2.3 TEST PROCEDURES

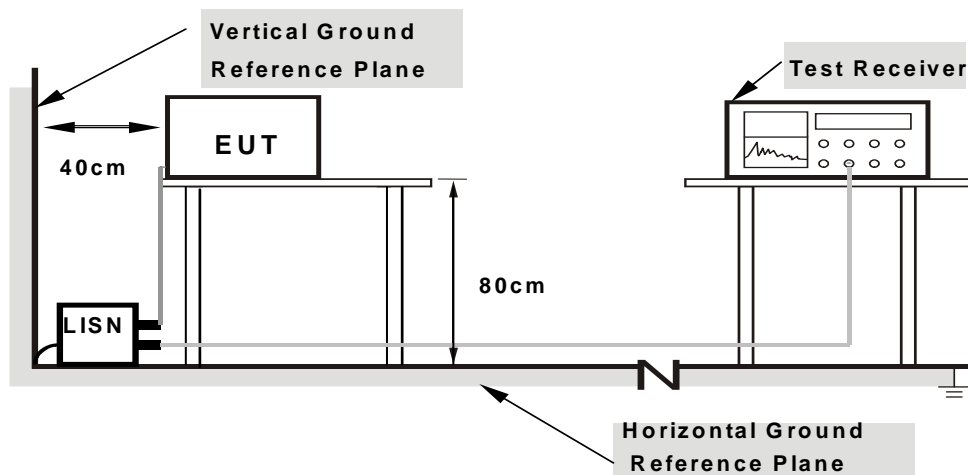
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

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

#### 4.2.4 DEVIATION FROM TEST STANDARD

No deviation.

#### 4.2.5 TEST SETUP



- Note:**
- Support units were connected to second LISN.
  - Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

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

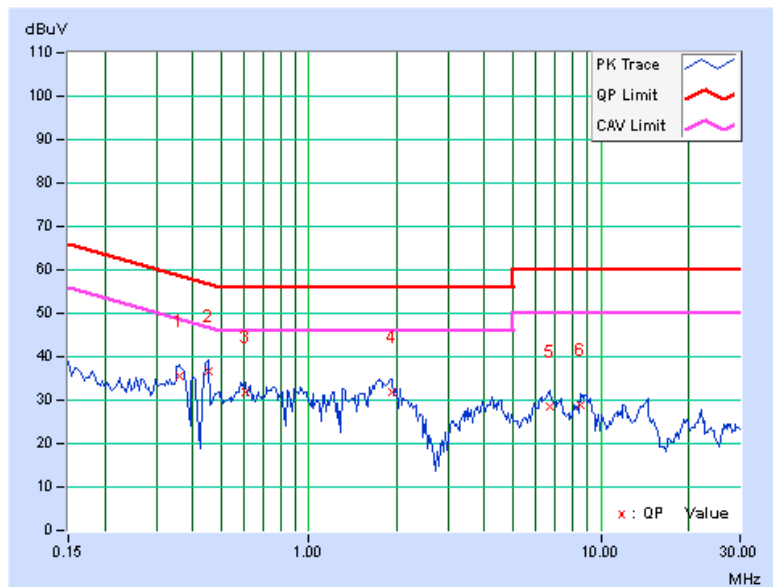
### CONDUCTED WORST-CASE DATA: 802.11a

PHASE	Line 1	6dB BANDWIDTH	9kHz
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.36094	0.30	35.12	28.96	35.42	29.26	58.71	48.71	-23.29	-19.45
2	0.45078	0.30	36.27	29.12	36.57	29.42	56.86	46.86	-20.29	-17.44
3	0.60313	0.31	31.51	22.79	31.82	23.10	56.00	46.00	-24.18	-22.90
4	1.91797	0.36	31.48	24.97	31.84	25.33	56.00	46.00	-24.16	-20.67
5	6.67188	0.46	28.13	19.91	28.59	20.37	60.00	50.00	-31.41	-29.63
6	8.53125	0.48	28.46	21.17	28.94	21.65	60.00	50.00	-31.06	-28.35

#### 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



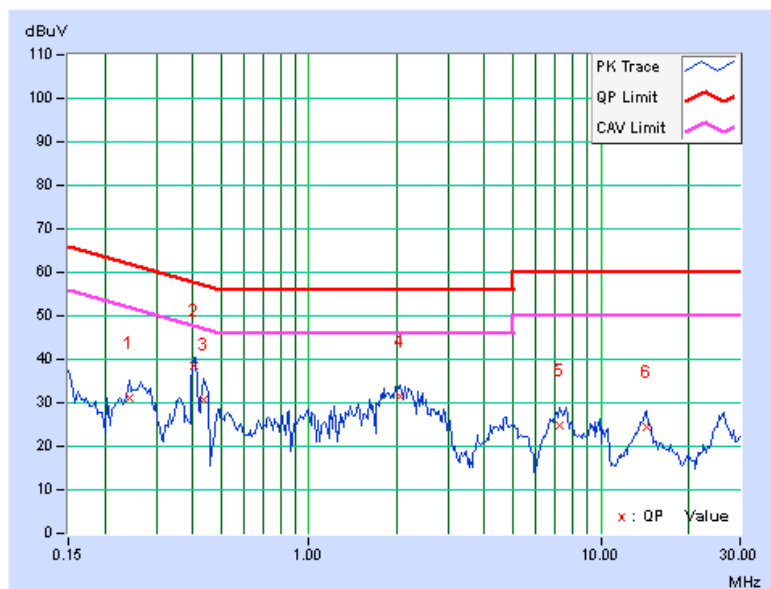


PHASE	Line 2	6dB BANDWIDTH	9kHz
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.24375	0.28	30.71	23.54	30.99	23.82	61.97	51.97	-30.97	-28.14
2	<b>0.40391</b>	<b>0.30</b>	<b>38.13</b>	<b>36.82</b>	<b>38.43</b>	<b>37.12</b>	<b>57.77</b>	<b>47.77</b>	<b>-19.34</b>	<b>-10.65</b>
3	0.43516	0.30	30.45	20.34	30.75	20.64	57.15	47.15	-26.40	-26.51
4	2.06641	0.37	30.97	25.27	31.34	25.64	56.00	46.00	-24.66	-20.36
5	7.19141	0.48	24.46	16.29	24.94	16.77	60.00	50.00	-35.06	-33.23
6	14.42188	0.56	23.85	17.79	24.41	18.35	60.00	50.00	-35.59	-31.65

**REMARKS:**

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



### 4.3 TRANSMIT POWER MEASUREMENT

#### 4.3.1 LIMITS OF TRANSMIT POWER MEASUREMENT

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

\*B is the 26 dB emission bandwidth in megahertz

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

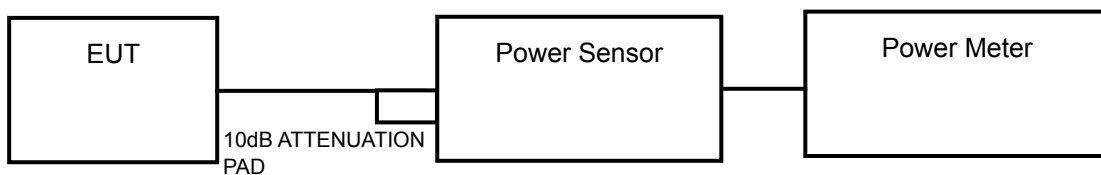
Array Gain = 0 dB (i.e., no array gain) for NANT  $\leq$  4;

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

Array Gain = 5 log(NANT/NSS) dB or 3 dB, whichever is less for 20-MHz channel widths with NANT  $\geq$  5.

For power measurements on all other devices: Array Gain = 10 log(NANT/NSS) dB.

#### 4.3.2 TEST SETUP



#### 4.3.3 TEST INSTRUMENTS

Refer to section 4.1.3 to get information of above instrument.

#### 4.3.4 TEST PROCEDURE

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

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

#### 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 specific channel frequencies individually.

### 4.3.7 TEST RESULTS

#### POWER OUTPUT:

#### 802.11a

CHAN.	FREQ. (MHz)	MAXIMUM CONDUCTED POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
36	5180	18.02	18.06	127.360	21.05	24	PASS
40	5200	18.62	18.59	145.055	21.62	24	PASS
48	5240	18.76	18.65	148.444	21.72	24	PASS
52	5260	16.60	16.21	87.492	19.42	24	PASS
60	5300	16.57	16.42	89.247	19.51	24	PASS
64	5320	16.89	16.95	98.410	19.93	24	PASS
100	5500	18.41	17.88	<b>130.719</b>	21.16	24	PASS
116	5580	18.12	18.02	128.250	21.08	24	PASS
140	5700	18.09	17.98	127.223	21.05	24	PASS
149	5745	17.72	17.55	116.041	20.65	30	PASS
157	5785	17.65	17.85	<b>119.164</b>	<b>20.76</b>	30	PASS
165	5825	17.72	17.65	117.366	20.70	30	PASS

#### NOTE:

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

#### CHAIN 0

1.  $11\text{dBm} + 10\log(27.79) = 25.44\text{ dBm} > 24\text{dBm}$ .
2.  $11\text{dBm} + 10\log(30.05) = 25.78\text{ dBm} > 24\text{dBm}$ .
3.  $11\text{dBm} + 10\log(28.29) = 25.52\text{ dBm} > 24\text{dBm}$ .
4.  $11\text{dBm} + 10\log(37.40) = 26.73\text{ dBm} > 24\text{dBm}$ .
5.  $11\text{dBm} + 10\log(31.75) = 26.02\text{ dBm} > 24\text{dBm}$ .
6.  $11\text{dBm} + 10\log(39.16) = 26.93\text{ dBm} > 24\text{dBm}$ .

#### CHAIN 1

1.  $11\text{dBm} + 10\log(28.53) = 25.55\text{ dBm} > 24\text{dBm}$ .
2.  $11\text{dBm} + 10\log(28.50) = 25.55\text{ dBm} > 24\text{dBm}$ .
3.  $11\text{dBm} + 10\log(28.70) = 25.58\text{ dBm} > 24\text{dBm}$ .
4.  $11\text{dBm} + 10\log(30.39) = 25.83\text{ dBm} > 24\text{dBm}$ .
5.  $11\text{dBm} + 10\log(29.74) = 25.73\text{ dBm} > 24\text{dBm}$ .
6.  $11\text{dBm} + 10\log(32.85) = 26.17\text{ dBm} > 24\text{dBm}$ .



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				
36	5180	19.27	19.13	166.374	22.21	24	PASS
40	5200	19.35	19.18	<b>168.893</b>	22.28	24	PASS
48	5240	19.18	19.15	165.018	22.18	24	PASS
52	5260	16.71	16.38	90.332	19.56	24	PASS
60	5300	16.68	16.53	91.537	19.62	24	PASS
64	5320	16.54	16.47	89.443	19.52	24	PASS
100	5500	17.71	17.62	116.830	20.68	24	PASS
116	5580	18.01	18.22	129.615	21.13	24	PASS
140	5700	17.65	17.22	110.933	20.45	24	PASS
149	5745	16.53	16.22	86.857	19.39	30	PASS
157	5785	17.01	17.11	101.638	20.07	30	PASS
165	5825	17.08	16.92	100.254	20.01	30	PASS

**NOTE:**

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

**CHAIN 0**

1.  $11\text{dBm} + 10\log(32.54) = 26.12\text{ dBm} > 24\text{dBm}$ .
2.  $11\text{dBm} + 10\log(29.21) = 25.66\text{ dBm} > 24\text{dBm}$ .
3.  $11\text{dBm} + 10\log(33.64) = 26.27\text{ dBm} > 24\text{dBm}$ .
4.  $11\text{dBm} + 10\log(38.21) = 26.82\text{ dBm} > 24\text{dBm}$ .
5.  $11\text{dBm} + 10\log(35.73) = 26.53\text{ dBm} > 24\text{dBm}$ .
6.  $11\text{dBm} + 10\log(39.32) = 26.95\text{ dBm} > 24\text{dBm}$ .

**CHAIN 1**

1.  $11\text{dBm} + 10\log(29.68) = 25.72\text{ dBm} > 24\text{dBm}$ .
2.  $11\text{dBm} + 10\log(30.88) = 25.90\text{ dBm} > 24\text{dBm}$ .
3.  $11\text{dBm} + 10\log(30.17) = 25.80\text{ dBm} > 24\text{dBm}$ .
4.  $11\text{dBm} + 10\log(26.51) = 25.23\text{ dBm} > 24\text{dBm}$ .
5.  $11\text{dBm} + 10\log(32.12) = 26.07\text{ dBm} > 24\text{dBm}$ .
6.  $11\text{dBm} + 10\log(36.17) = 26.58\text{ dBm} > 24\text{dBm}$ .



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				
38	5190	16.52	16.23	86.851	19.39	24	PASS
46	5230	18.86	18.76	152.075	21.82	24	PASS
54	5270	18.32	18.37	<b>136.627</b>	21.36	24	PASS
62	5310	16.13	15.86	79.568	19.01	24	PASS
102	5510	16.15	15.92	80.294	19.05	24	PASS
110	5550	17.87	17.97	123.896	20.93	24	PASS
134	5670	17.59	17.71	116.432	20.66	24	PASS
151	5755	15.93	15.82	77.368	18.89	30	PASS
159	5795	17.46	17.13	107.361	20.31	30	PASS

**NOTE:**

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

**CHAIN 0**

1.  $11\text{dBm} + 10\log(86.49) = 30.37\text{ dBm} > 24\text{dBm}$ .
2.  $11\text{dBm} + 10\log(72.03) = 29.58\text{ dBm} > 24\text{dBm}$ .
3.  $11\text{dBm} + 10\log(84.45) = 30.27\text{ dBm} > 24\text{dBm}$ .
4.  $11\text{dBm} + 10\log(82.33) = 30.16\text{ dBm} > 24\text{dBm}$ .
5.  $11\text{dBm} + 10\log(89.66) = 30.53\text{ dBm} > 24\text{dBm}$ .

**CHAIN 1**

1.  $11\text{dBm} + 10\log(87.05) = 30.40\text{ dBm} > 24\text{dBm}$ .
2.  $11\text{dBm} + 10\log(80.85) = 30.08\text{ dBm} > 24\text{dBm}$ .
3.  $11\text{dBm} + 10\log(87.87) = 30.44\text{ dBm} > 24\text{dBm}$ .
4.  $11\text{dBm} + 10\log(80.30) = 30.05\text{ dBm} > 24\text{dBm}$ .
5.  $11\text{dBm} + 10\log(89.03) = 30.50\text{ dBm} > 24\text{dBm}$ .



**26dB BANDWIDTH:**

**802.11a**

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)		PASS / FAIL
		CHAIN 0	CHAIN 1	
52	5260	27.79	28.53	PASS
60	5300	30.05	28.50	PASS
64	5320	28.29	28.70	PASS
100	5500	37.40	30.39	PASS
116	5580	31.75	29.74	PASS
140	5700	39.16	32.85	PASS

**802.11n (HT20)**

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)		PASS / FAIL
		CHAIN 0	CHAIN 1	
52	5260	32.54	29.68	PASS
60	5300	29.21	30.88	PASS
64	5320	33.64	30.17	PASS
100	5500	38.21	26.51	PASS
116	5580	35.73	32.12	PASS
140	5700	39.32	36.17	PASS

**802.11n (HT40)**

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)		PASS / FAIL
		CHAIN 0	CHAIN 1	
54	5270	86.49	87.05	PASS
62	5310	72.03	80.85	PASS
102	5510	84.45	87.87	PASS
110	5550	82.33	80.30	PASS
134	5670	89.66	89.03	PASS

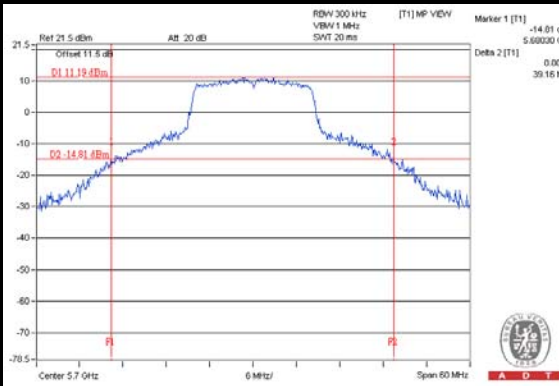




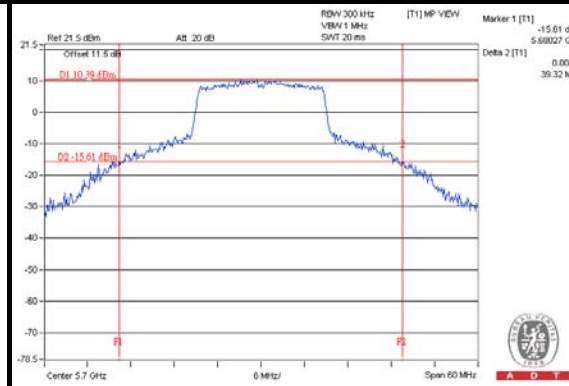
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### SPECTRUM PLOT OF WORST VALUE

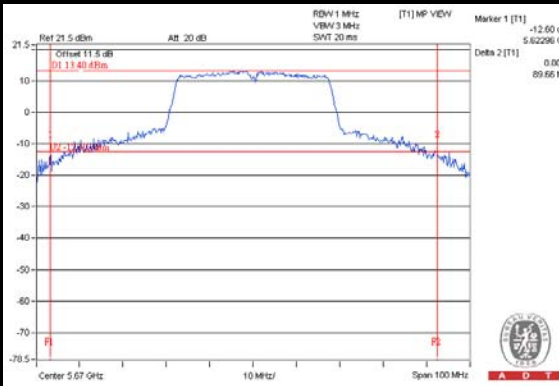
802.11a



802.11n (HT20)



802.11n (HT40)



## EUT MAXIMUM CONDUCTED POWER

### 802.11a

FREQUENCY BAND (MHz)	MAX. POWER	
	OUTPUT POWER (mW)	OUTPUT POWER (dBm)
5250~5350	98.410	19.93
5470~5725	130.719	21.16

**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	91.537	19.62
5470~5725	129.615	21.13

**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	136.627	21.36
5470~5725	123.896	20.93

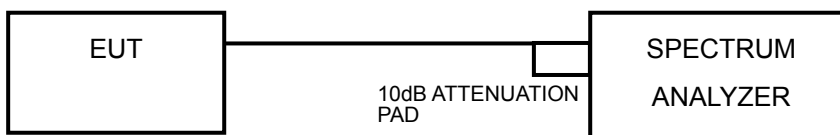
**NOTE:** Manufacturer provides Transmit Power Control description to meet this requirement.

## 4.4 PEAK POWER SPECTRAL DENSITY MEASUREMENT

### 4.4.1 LIMITS OF PEAK POWER SPECTRAL DENSITY MEASUREMENT

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

### 4.4.2 TEST SETUP



### 4.4.3 TEST INSTRUMENTS

Refer to section 4.1.3 to get information of above instrument.

### 4.4.4 TEST PROCEDURES

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

##### 802.11a:

Using method SA-1

- 1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
- 2) Set RBW = 30 kHz, Set VBW  $\geq$  1 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

**802.11n (HT20), 802.11n (HT40):**

Using method SA-2

- 1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
- 2) Set RBW = 30 kHz, Set VBW  $\geq$  1 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:**

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

**4.4.5 DEVIATION FROM TEST STANDARD**

No deviation.

**4.4.6 EUT OPERATING CONDITIONS**

Same as 4.3.6.

#### 4.4.7 TEST RESULTS

#### For U-NII-1, U-NII-2A, U-NII-2C Band

##### 802.11a

CHAN.	FREQ. (MHz)	PSD (dBm)		TOTAL PSD W/O DUTY FACTOR (dBm)	DUTY FACTOR	TOTAL PSD WITH DUTY FACTOR (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1					
36	5180	6.04	6.14	9.10	0.10	9.20	11	PASS
40	5200	6.04	6.24	9.15	0.10	9.25	11	PASS
48	5240	6.26	6.73	9.51	0.10	9.61	11	PASS
52	5260	4.58	4.01	7.31	0.10	7.41	11	PASS
60	5300	5.05	4.69	7.88	0.10	7.98	11	PASS
64	5320	5.04	5.16	8.11	0.10	8.21	11	PASS
100	5500	7.62	6.57	10.13	0.10	10.23	11	PASS
116	5580	7.64	7.29	10.48	0.10	10.58	11	PASS
140	5700	6.82	5.85	9.37	0.10	9.47	11	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.
- For U-NII-1 Band:**  
Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}] = 4.77 < 6\text{dBi}$ , so the power density limit no need to reduced.
- For U-NII-2A Band:**  
Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}] = 3.84 < 6\text{dBi}$ , so the power density limit no need to reduced.
- For U-NII-2C Band:**  
Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}] = 3.93 < 6\text{dBi}$ , so the power density limit no need to reduced.
- Refer to section 3.3 for duty cycle spectrum plot.



802.11n (HT20)

CHAN.	FREQ. (MHz)	PSD (dBm)		TOTAL PSD W/O DUTY FACTOR (dBm)	DUTY FACTOR	TOTAL PSD WITH DUTY FACTOR (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1					
36	5180	6.37	6.44	9.42	0.10	9.52	11	PASS
40	5200	6.50	6.49	9.51	0.10	9.61	11	PASS
48	5240	7.11	6.86	10.00	0.10	10.10	11	PASS
52	5260	4.46	4.47	7.48	0.10	7.58	11	PASS
60	5300	4.71	4.67	7.70	0.10	7.80	11	PASS
64	5320	4.73	4.93	7.84	0.10	7.94	11	PASS
100	5500	7.45	5.77	9.70	0.10	9.80	11	PASS
116	5580	7.68	6.20	10.01	0.10	10.11	11	PASS
140	5700	6.25	5.15	8.75	0.10	8.85	11	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.
- For U-NII-1 Band:**  
Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}] = 4.77 < 6\text{dBi}$ , so the power density limit no need to reduced.  
**For U-NII-2A Band:**  
Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}] = 3.84 < 6\text{dBi}$ , so the power density limit no need to reduced.  
**For U-NII-2C Band:**  
Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}] = 3.93 < 6\text{dBi}$ , so the power density limit no need to reduced.
- Refer to section 3.3 for duty cycle spectrum plot.

**802.11n (HT40)**

CHAN.	FREQ. (MHz)	PSD (dBm)		TOTAL PSD W/O DUTY FACTOR (dBm)	DUTY FACTOR	TOTAL PSD WITH DUTY FACTOR (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1					
38	5190	0.56	3.68	5.40	0.26	5.66	11	PASS
46	5230	2.77	2.78	5.78	0.26	6.04	11	PASS
54	5270	3.00	3.30	6.16	0.26	6.42	11	PASS
62	5310	0.51	1.18	3.87	0.26	4.13	11	PASS
102	5510	3.79	3.65	6.73	0.26	6.99	11	PASS
110	5550	4.28	4.23	7.26	0.26	7.52	11	PASS
134	5670	2.89	2.78	5.85	0.26	6.11	11	PASS

**NOTE:**

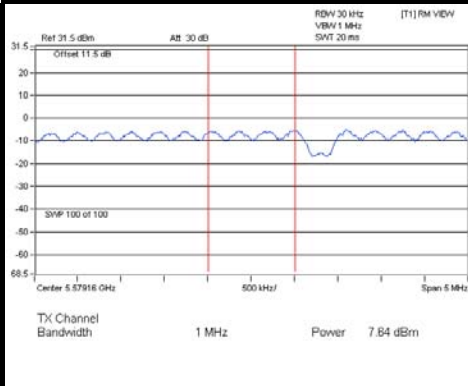
- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- For U-NII-1 Band:**  
Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}] = 4.77 < 6\text{dBi}$ , so the power density limit no need to reduced.  
**For U-NII-2A Band:**  
Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}] = 3.84 < 6\text{dBi}$ , so the power density limit no need to reduced.  
**For U-NII-2C Band:**  
Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}] = 3.93 < 6\text{dBi}$ , so the power density limit no need to reduced.
- Refer to section 3.3 for duty cycle spectrum plot.



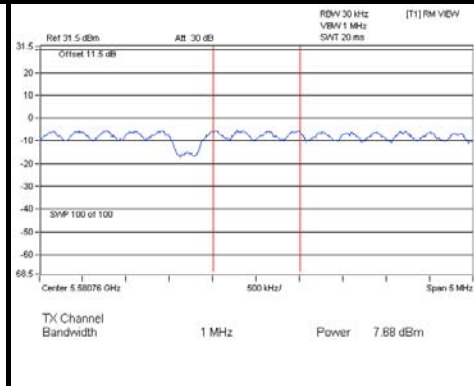
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### SPECTRUM PLOT OF WORST VALUE

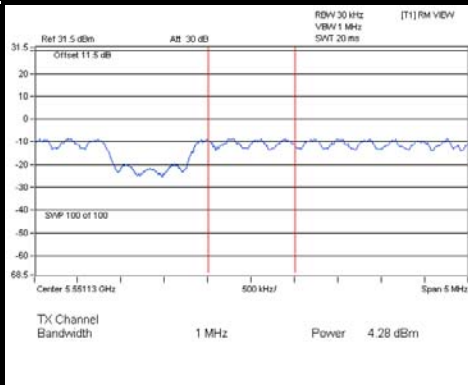
#### 802.11a



#### 802.11n (HT20)



#### 802.11n (HT40)





## For U-NII-3 Band

### 802.11a

TX chain	Channel	Freq. (MHz)	PSD (dBm/300 kHz)	PSD (dBm/500 kHz)	10 log (N=2) dB	Duty Factor	Total PSD (dBm/500 kHz)	Limit (dBm/500 kHz)	PASS /FAIL
0	149	5745	-3.84	-1.62	3.01	0.10	1.49	30	PASS
	157	5785	-3.77	-1.55	3.01	0.10	1.56	30	PASS
	165	5825	-4.15	-1.93	3.01	0.10	1.18	30	PASS
1	149	5745	-3.12	-0.90	3.01	0.10	2.21	30	PASS
	157	5785	-3.01	-0.79	3.01	0.10	2.32	30	PASS
	165	5825	-3.63	-1.41	3.01	0.10	1.70	30	PASS

**NOTE:**

- Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}] = 5.86 < 6\text{dBi}$ , so the power density limit no need to reduced.
- Refer to section 3.3 for duty cycle spectrum plot.

### 802.11n (HT20)

TX chain	Channel	Freq. (MHz)	PSD (dBm/300k Hz)	PSD (dBm/500k Hz)	10 log (N=2) dB	Total PSD (dBm/500k Hz)	Limit (dBm/500k Hz)	PASS /FAIL
0	149	5745	-4.07	-1.85	3.01	1.16	30	PASS
	157	5785	-3.70	-1.48	3.01	1.53	30	PASS
	165	5825	-4.08	-1.86	3.01	1.15	30	PASS
1	149	5745	-3.66	-1.44	3.01	1.57	30	PASS
	157	5785	-3.92	-1.70	3.01	1.31	30	PASS
	165	5825	-3.80	-1.58	3.01	1.43	30	PASS

**NOTE:** Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}] = 5.86 < 6\text{dBi}$ , so the power density limit no need to reduced.

### 802.11n (HT40)

TX chain	Channel	Freq. (MHz)	PSD (dBm/300 kHz)	PSD (dBm/500 kHz)	10 log (N=2) dB	Duty Factor	Total PSD (dBm/500 kHz)	Limit (dBm/500 kHz)	PASS /FAIL
0	151	5755	-7.79	-5.57	3.01	0.17	-2.39	30	PASS
	159	5795	-7.44	-5.22	3.01	0.17	-2.04	30	PASS
1	151	5755	-9.88	-7.66	3.01	0.17	-4.48	30	PASS
	159	5795	-8.39	-6.17	3.01	0.17	-2.99	30	PASS

**NOTE:**

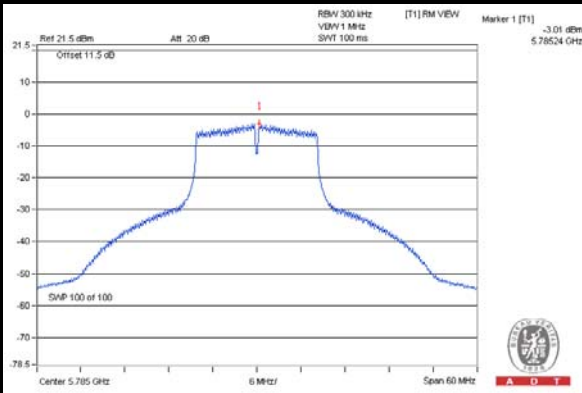
- Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}] = 5.86 < 6\text{dBi}$ , so the power density limit no need to reduced.
- Refer to section 3.3 for duty cycle spectrum plot.



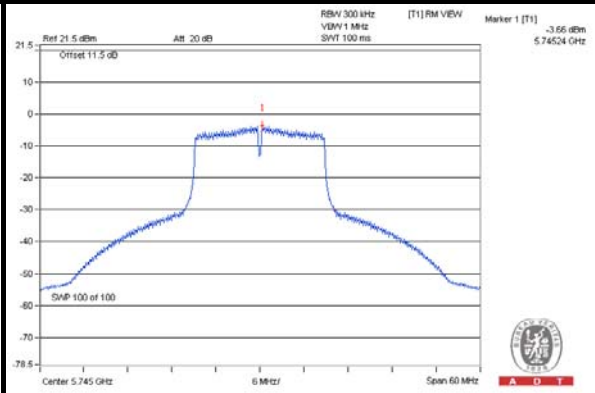
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### SPECTRUM PLOT OF WORST VALUE

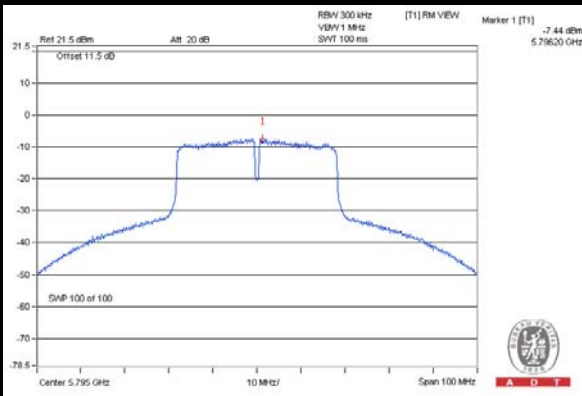
**802.11a**



**802.11n (HT20)**



**802.11n (HT40)**

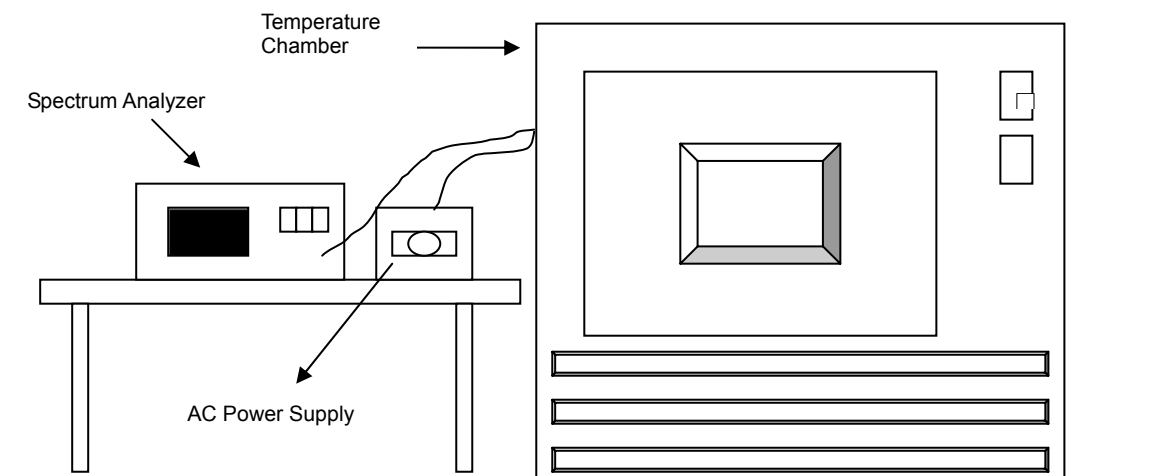


## 4.5 FREQUENCY STABILITY

### 4.5.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

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

### 4.5.2 TEST SETUP



### 4.5.3 TEST INSTRUMENTS

Refer to section 4.1.3 to get information of above instrument.

#### 4.5.4 TEST PROCEDURE

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

#### 4.5.5 DEVIATION FROM TEST STANDARD

No deviation.

#### 4.5.6 EUT OPERATING CONDITION

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

#### 4.5.7 TEST RESULTS

FREQUENCY STABILITY VERSUS TEMP.									
OPERATING FREQUENCY: 5320MHz									
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	5320.0234	0.00044	5320.0279	0.00052	5320.0258	0.00048	5320.028	0.00053
40	120	5319.9769	-0.00043	5319.9768	-0.00044	5319.9736	-0.00050	5319.9771	-0.00043
30	120	5320.0056	0.00011	5320.006	0.00011	5320.0052	0.00010	5320.0073	0.00014
20	120	5319.9861	-0.00026	5319.9835	-0.00031	5319.9859	-0.00027	5319.9862	-0.00026
10	120	5320.0258	0.00048	5320.026	0.00049	5320.0238	0.00045	5320.0281	0.00053
0	120	5320.0139	0.00026	5320.0105	0.00020	5320.014	0.00026	5320.0124	0.00023
-10	120	5319.9991	-0.00002	5320.0017	0.00003	5320.002	0.00004	5319.9993	-0.00001
-20	120	5319.9888	-0.00021	5319.9859	-0.00027	5319.9877	-0.00023	5319.9844	-0.00029
-30	120	5319.9996	-0.00001	5319.9994	-0.00001	5319.9983	-0.00003	5319.9997	-0.00001

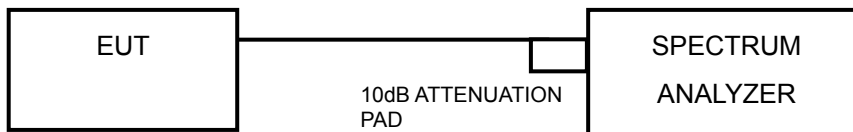
FREQUENCY STABILITY VERSUS TEMP.									
OPERATING FREQUENCY: 5320MHz									
TEMP. (°C)	POWER SUPPLY (Vac)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)
20	138	5319.9851	-0.00028	5319.9827	-0.00033	5319.9866	-0.00025	5319.9869	-0.00025
	120	5319.9861	-0.00026	5319.9835	-0.00031	5319.9859	-0.00027	5319.9862	-0.00026
	102	5319.9861	-0.00026	5319.9842	-0.00030	5319.9867	-0.00025	5319.9857	-0.00027

## 4.6 6dB BANDWIDTH MEASUREMENT

### 4.6.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

### 4.6.2 TEST SETUP



### 4.6.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

### 4.6.4 TEST PROCEDURE

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

### 4.6.5 DEVIATION FROM TEST STANDARD

No deviation.

### 4.6.6 EUT OPERATING CONDITIONS

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



### 4.6.7 TEST RESULTS

#### 802.11a

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
149	5745	16.34	16.33	0.5	PASS
157	5785	16.37	16.35	0.5	PASS
165	5825	16.36	16.35	0.5	PASS

#### 802.11n (HT20)

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
149	5745	17.03	17.00	0.5	PASS
157	5785	16.97	17.32	0.5	PASS
165	5825	17.20	16.96	0.5	PASS

#### 802.11n (HT40)

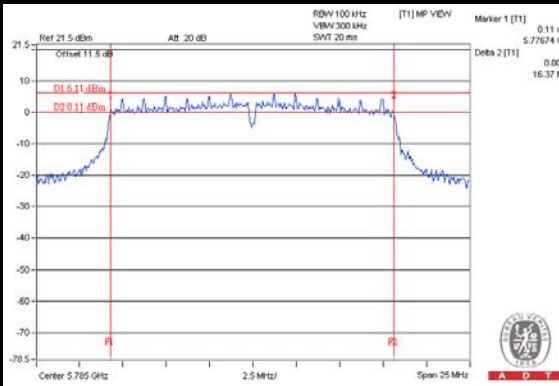
CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
151	5755	35.25	35.28	0.5	PASS
159	5795	35.26	35.33	0.5	PASS



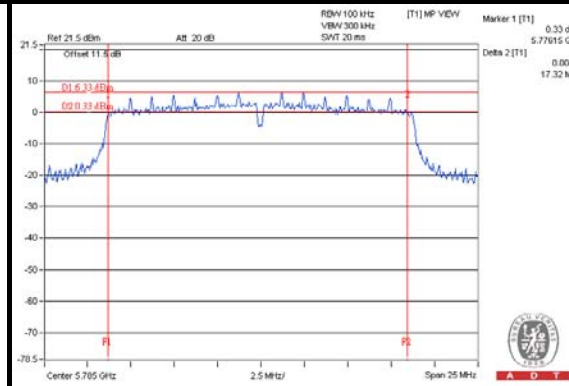
A D T

### SPECTRUM PLOT OF WORST VALUE

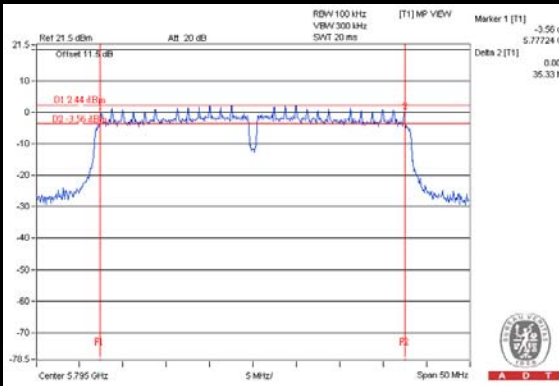
802.11a



802.11n (HT20)



802.11n (HT40)





## 5. PHOTOGRAPHS OF THE TEST CONFIGURATION

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



## 6. INFORMATION ON THE TESTING LABORATORIES

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

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

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

## **7. APPENDIX A – MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB**

No modifications were made to the EUT by the lab during the test.

**---END---**