FCC Test Report

Report No.:	RF120328C12J
FCC ID:	RYK-WPEA127NI
Test Model:	WPEA-127NI
Received Date:	Apr. 13, 2016
Test Date:	Apr. 25 ~ May 12, 2016
Issued Date:	May 16, 2016
Applicant:	SparkLAN Communications, Inc.
Address:	8F., No.257, Sec. 2, Tiding Blvd., Neihu District, Taipei City 11493, Taiwan (R.O.C.)
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan, R.O.C.
Test Location:	No.19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN (R.O.C.)

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Release Control Record

Issue No.	Description	Date Issued
RF120328C12J	Original release	May 16, 2016

1 Certificate of Conformity

Product:	802.11a/b/g/n 3T3R Mini PCIe Module
Brand:	SparkLAN
Test Model:	WPEA-127NI
Sample Status:	Engineering Sample
Applicant:	SparkLAN Communications, Inc.
Test Date:	Apr. 25 ~ May 12, 2016
Standards:	47 CFR FCC Part 15, Subpart E (Section 15.407) ANSI C63.10:2013

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

Prepared by : _____ , **Date:** May 16, 2016

Polly Chien / Specialist

Approved by : _____ , **Date:** May 16, 2016

Ken Liu / Senior Manager

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	Test Item	Result	Remarks
15.207 15.407(b)(6)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -23.67dB at 4.00917MHz.
15.407(b) (1/2/3/4/6)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -0.7dB at 5714.90MHz.
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	Antenna connector is RP-SMA not a standard connector.

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expended Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.44 dB
Radiated Emissions up to 1 GHz	30MHz ~ 200MHz	3.59 dB
	200MHz ~1000MHz	3.60 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	2.29 dB
	18GHz ~ 40GHz	2.29 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	802.11a/b/g/n 3T3R Mini PCIe Module
Brand	SparkLAN
Test Model	WPEA-127NI
Status of EUT	Engineering Sample
Power Supply Rating	3.3Vdc from host equipment
Modulation Type	64QAM, 16QAM, QPSK, BPSK
Modulation Technology	OFDM
Transfer Rate	802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11n: up to 450Mbps
Operating Frequency	5180 ~ 5240MHz, 5260 ~ 5320MHz, 5500 ~ 5700MHz & 5745 ~ 5825MHz
Number of Channel	5180MHz ~ 5240MHz 802.11a, 802.11n (HT20): 4 802.11n (HT40): 2 5260MHz ~ 5320MHz: 802.11a, 802.11n (HT20): 4 802.11n (HT40): 2 5500MHz ~ 5700MHz: 802.11a, 802.11n (HT20): 11 802.11n (HT40): 5 5745MHz ~ 5825MHz: 802.11a, 802.11n (HT20): 5 802.11n (HT40): 2
Output Power	5180MHz ~ 5240MHz: 27.606mW 5260MHz ~ 5320MHz: 51.282mW 5500MHz ~ 5700MHz: 48.962mW 5745MHz ~ 5825MHz: 128.95mW
Antenna Type	Dipole antenna with 5dBi gain
Antenna Connector	RP-SMA
Accessory Device	N/A
Data Cable Supplied	N/A

Note:

1. This report is prepared for FCC class II permissive change. This report is issued as a supplementary report of the original report no.: RF120328C12 & RF120328C12-1. The difference compared with original report is updating standard to new rule version for all U-NII band. Therefore, test item for 5G bands had been re-tested.
2. The EUT incorporates a MIMO function. Physically, the EUT provides 3 completed transmitters and 3 receivers.

Modulation Mode	TX Function
802.11a	1TX
802.11n (HT20)	3TX
802.11n (HT40)	3TX

3. The EUT has disabled the 5600-5650MHz band by S/W to avoid 5600-5650MHz band for FCC certification.

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		

For 5745 ~ 5825MHz:

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

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

2 channels are provided for 802.11n (HT40):

Channel	Frequency	Channel	Frequency
151	5755 MHz	159	5795 MHz

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE≥1G	RE<1G	PLC	APCM	
-	√	√	√	√	-

Where **RE≥1G:** Radiated Emission above 1GHz & Bandedge Measurement **RE<1G:** Radiated Emission below 1GHz

PLC: Power Line Conducted Emission **APCM:** Antenna Port Conducted Measurement

Radiated Emission Test (Above 1GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	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)
-	802.11n (HT20)	5180-5240	36 to 48	149	OFDM	BPSK	7.2
-	802.11n (HT20)	5260-5320	52 to 64		OFDM	BPSK	7.2
-	802.11n (HT20)	5500-5700	100 to 140		OFDM	BPSK	7.2
-	802.11n (HT20)	5745-5825	149 to 165		OFDM	BPSK	7.2

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)
-	802.11n (HT20)	5180-5240	36 to 48	149	OFDM	BPSK	7.2
-	802.11n (HT20)	5260-5320	52 to 64		OFDM	BPSK	7.2
-	802.11n (HT20)	5500-5700	100 to 140		OFDM	BPSK	7.2
-	802.11n (HT20)	5745-5825	149 to 165		OFDM	BPSK	7.2

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	21deg. C, 67%RH	120Vac, 60Hz	Jones Chang
	26deg. C, 68%RH	120Vac, 60Hz	Alan Wu
RE<1G	24deg. C, 66%RH	120Vac, 60Hz	Chris Lin
PLC	25deg. C, 69%RH	120Vac, 60Hz	Alan Wu
APCM	24deg. C, 64%RH	120Vac, 60Hz	Match Tsui

3.3 Duty Cycle of Test Signal

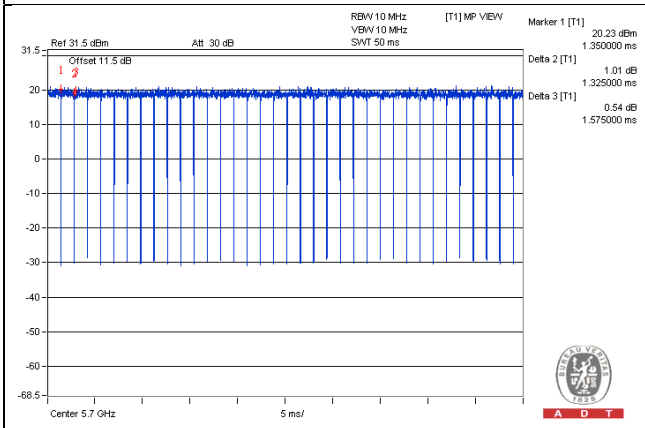
Duty cycle of test signal is < 98 %, duty factor shall be considered.

802.11a: Duty cycle = 1.325/1.575 = 0.841, Duty factor = 10 * log(1/0.841) = 0.75

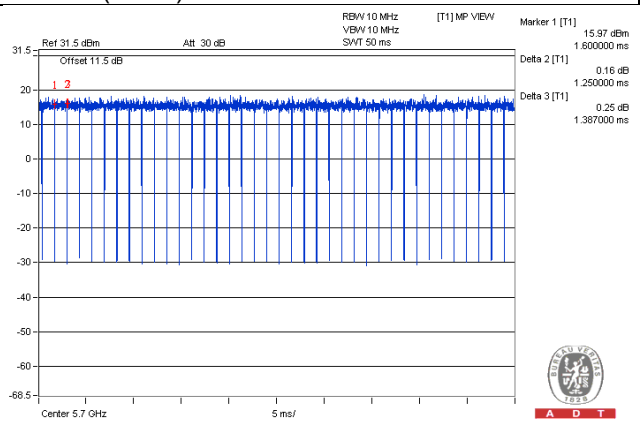
802.11n (HT20): Duty cycle = 1.250/1.387 = 0.901, Duty factor = 10 * log(1/0.901) = 0.45

802.11n (HT40): Duty cycle = 0.588/0.700 = 0.840, Duty factor = 10 * log(1/0.840) = 0.76

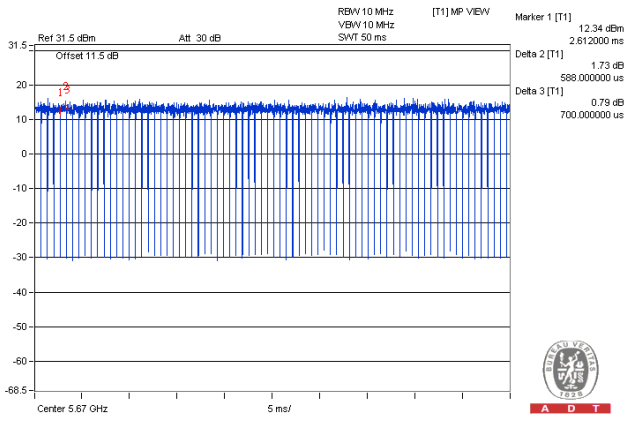
802.11a



802.11n (HT20)



802.11n (HT40)



3.4 Description of Support Units

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

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Notebook	DELL	E5410	6RP2YM1	FCC DoC Approved	-

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

3.4.1 Configuration of System under Test

EUT	Notebook (A)

3.5 General Description of Applied Standards

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

FCC Part 15, Subpart E (15.407)

789033 D02 General UNII Test Procedure New Rules v01r02

662911 D01 Multiple Transmitter Output v02r01

ANSI C63.10-2013

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

Note: The EUT 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.

LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

APPLICABLE TO	LIMIT	
789033 D02 General UNII Test Procedures New Rules v01r02	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) [*1] PK:-17 (dBm/MHz) [*2]	PK:68.2 (dBμV/m) [*1] PK:78.2 (dBμV/m) [*2]

Note: [*1] beyond 10MHz of the band edge [*2] within 10 MHz of band edge

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

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

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCI	100424	Oct. 12, 2015	Oct. 11, 2016
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100040	Jul. 08, 2015	Jul. 07, 2016
BILOG Antenna SCHWARZBECK	VULB9168	9168-155	Jan. 07, 2016	Jan. 06, 2017
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-1170	Jan. 08, 2016	Jan. 07, 2017
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Jan. 18, 2016	Jan. 17, 2017
Preamplifier Agilent	8449B	3008A01960	Aug. 09, 2015	Aug. 08, 2016
Preamplifier Agilent	8447D	2944A10631	Aug. 09, 2015	Aug. 08, 2016
RF signal cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH4-02(295012+ 309220)	Aug. 09, 2015	Aug. 08, 2016
RF signal cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH4-03(250724)	Aug. 09, 2015	Aug. 08, 2016
Software BV ADT	ADT_Radiated_ V7.6.15.9.4	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	010303	NA	NA
Antenna Tower Controller BV ADT	AT100	AT93021703	NA	NA
Turn Table BV ADT	TT100	TT93021703	NA	NA
Turn Table Controller BV ADT	SC100.	SC93021703	NA	NA
26GHz ~ 40GHz Amplifier	EM26400	815221	Oct. 18, 2015	Oct. 17, 2016
High Speed Peak Power Meter	ML2495A	0824011	Jul. 09, 2015	Jul. 08, 2016
Power Sensor	MA2411B	0738171	Jul. 09, 2015	Jul. 08, 2016
WIT Standard Temperature And Humidity Chamber	TH-4S-C	W981030	Jun. 08, 2015	Jun. 07, 2016

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

4.1.3 Test Procedures

a. The EUT was placed on the top of a rotating table 0.8 meters (for below 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

f. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

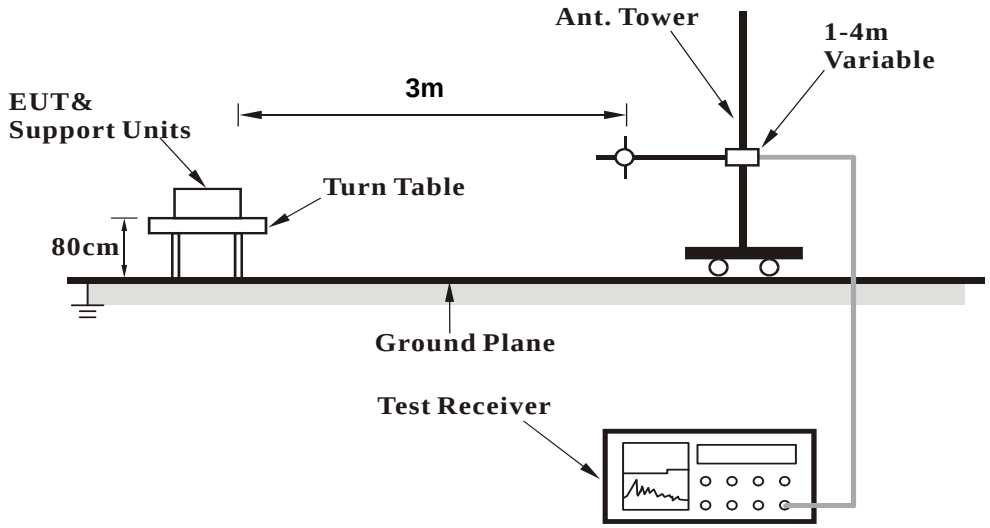
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for RMS Average (Duty cycle < 98%) for Average detection (AV) at frequency above 1GHz, then the measurement results was added to a correction factor (10 log(1/duty cycle)).
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz (Duty cycle ≥ 98%) for Average detection (AV) at frequency above 1GHz.
5. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

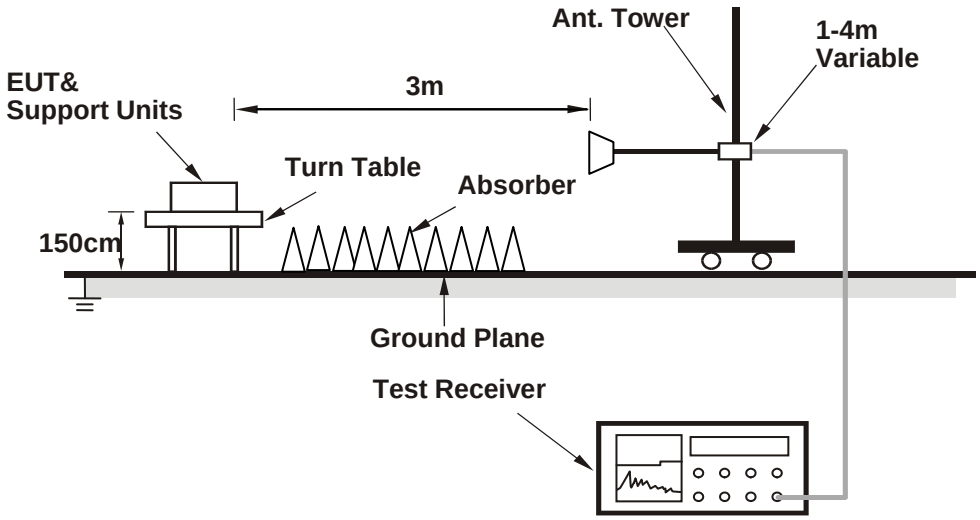
No deviation.

4.1.5 Test Set Up

<Frequency Range below 1GHz>



<Frequency Range above 1GHz>



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

4.1.6 EUT Operating Conditions

Plugged the EUT into the notebook and set the EUT under transmission condition continuously at specific channel frequency.

4.1.7 Test Results

Above 1GHz Data

802.11a

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	56.9 PK	74.0	-17.1	2.40 H	313	50.90	6.00
2	5150.00	45.0 AV	54.0	-9.0	2.40 H	313	39.00	6.00
3	*5180.00	97.9 PK			2.53 H	344	58.50	39.40
4	*5180.00	87.0 AV			2.53 H	344	47.60	39.40
5	#10360.00	59.2 PK	74.0	-14.8	2.03 H	34	41.40	17.80
6	#10360.00	46.2 AV	54.0	-7.8	2.03 H	34	28.40	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	5105.00	60.4 PK	74.0	-13.6	1.00 V	355	54.50	5.90
2	5105.00	47.3 AV	54.0	-6.7	1.00 V	355	41.40	5.90
3	*5180.00	109.9 PK			1.44 V	354	70.50	39.40
4	*5180.00	99.4 AV			1.44 V	354	60.00	39.40
5	#10360.00	59.5 PK	74.0	-14.5	1.80 V	212	41.70	17.80
6	#10360.00	46.3 AV	54.0	-7.7	1.80 V	212	28.50	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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	98.8 PK			1.26 H	59	59.30	39.50
2	*5200.00	87.7 AV			1.26 H	59	48.20	39.50
3	#10400.00	59.5 PK	74.0	-14.5	1.70 H	210	41.80	17.70
4	#10400.00	46.5 AV	54.0	-7.5	1.70 H	210	28.80	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	110.9 PK			1.30 V	1	71.40	39.50
2	*5200.00	99.6 AV			1.30 V	1	60.10	39.50
3	#10400.00	59.5 PK	74.0	-14.5	2.16 V	113	41.80	17.70
4	#10400.00	46.4 AV	54.0	-7.6	2.16 V	113	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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	100.2 PK			2.48 H	341	60.60	39.60
2	*5240.00	89.1 AV			2.48 H	341	49.50	39.60
3	5350.00	57.1 PK	74.0	-16.9	2.45 H	354	50.60	6.50
4	5350.00	45.6 AV	54.0	-8.4	2.45 H	354	39.10	6.50
5	#10480.00	60.2 PK	74.0	-13.8	1.42 H	36	41.50	18.70
6	#10480.00	47.1 AV	54.0	-6.9	1.42 H	36	28.40	18.70
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	*5240.00	110.9 PK			1.31 V	3	71.30	39.60
2	*5240.00	100.7 AV			1.31 V	3	61.10	39.60
3	5350.00	62.0 PK	74.0	-12.0	1.40 V	288	55.50	6.50
4	5350.00	47.8 AV	54.0	-6.2	1.40 V	288	41.30	6.50
5	#10480.00	60.9 PK	74.0	-13.1	1.56 V	321	42.20	18.70
6	#10480.00	47.9 AV	54.0	-6.1	1.56 V	321	29.20	18.70

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	55.6 PK	74.0	-18.4	1.71 H	10	49.60	6.00
2	5150.00	44.5 AV	54.0	-9.5	1.71 H	10	38.50	6.00
3	*5260.00	102.3 PK			2.36 H	339	62.70	39.60
4	*5260.00	91.1 AV			2.36 H	339	51.50	39.60
5	#10520.00	60.6 PK	74.0	-13.4	2.00 H	70	41.70	18.90
6	#10520.00	47.6 AV	54.0	-6.4	2.00 H	70	28.70	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	5150.00	56.6 PK	74.0	-17.4	1.70 V	201	50.60	6.00
2	5150.00	45.9 AV	54.0	-8.1	1.70 V	201	39.90	6.00
3	*5260.00	112.3 PK			1.72 V	358	72.70	39.60
4	*5260.00	101.5 AV			1.72 V	358	61.90	39.60
5	#10520.00	61.0 PK	74.0	-13.0	1.88 V	73	42.10	18.90
6	#10520.00	48.2 AV	54.0	-5.8	1.88 V	73	29.30	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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	101.3 PK			2.48 H	338	61.60	39.70
2	*5300.00	91.1 AV			2.48 H	338	51.40	39.70
3	10600.00	60.7 PK	74.0	-13.3	1.78 H	333	41.80	18.90
4	10600.00	47.7 AV	54.0	-6.3	1.78 H	333	28.80	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	*5300.00	111.9 PK			1.78 V	0	72.20	39.70
2	*5300.00	101.2 AV			1.78 V	0	61.50	39.70
3	10600.00	61.4 PK	74.0	-12.6	2.01 V	123	42.50	18.90
4	10600.00	48.5 AV	54.0	-5.5	2.01 V	123	29.60	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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	101.3 PK			2.25 H	338	61.60	39.70
2	*5320.00	91.4 AV			2.25 H	338	51.70	39.70
3	5400.00	58.4 PK	74.0	-15.6	2.01 H	338	51.70	6.70
4	5400.00	46.4 AV	54.0	-7.6	2.01 H	338	39.70	6.70
5	10640.00	60.5 PK	74.0	-13.5	2.12 H	44	41.70	18.80
6	10640.00	47.6 AV	54.0	-6.4	2.12 H	44	28.80	18.80
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	*5320.00	111.3 PK			1.51 V	334	71.60	39.70
2	*5320.00	101.4 AV			1.51 V	334	61.70	39.70
3	5350.00	66.0 PK	74.0	-8.0	1.77 V	1	59.50	6.50
4	5350.00	50.2 AV	54.0	-3.8	1.77 V	1	43.70	6.50
5	10640.00	61.1 PK	74.0	-12.9	1.99 V	312	42.30	18.80
6	10640.00	48.2 AV	54.0	-5.8	1.99 V	312	29.40	18.80

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	57.2 PK	74.0	-16.8	2.33 H	316	50.30	6.90
2	5460.00	45.7 AV	54.0	-8.3	2.33 H	316	38.80	6.90
3	#5470.00	58.0 PK	74.0	-16.0	2.33 H	316	51.10	6.90
4	#5470.00	46.5 AV	54.0	-7.5	2.33 H	316	39.60	6.90
5	*5500.00	97.9 PK			2.41 H	341	57.70	40.20
6	*5500.00	87.6 AV			2.41 H	341	47.40	40.20
7	11000.00	61.7 PK	74.0	-12.3	1.41 H	259	41.80	19.90
8	11000.00	48.9 AV	54.0	-5.1	1.41 H	259	29.00	19.90
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	63.5 PK	74.0	-10.5	1.79 V	330	56.60	6.90
2	5460.00	47.6 AV	54.0	-6.4	1.79 V	330	40.70	6.90
3	#5470.00	69.0 PK	74.0	-5.0	1.79 V	330	62.10	6.90
4	#5470.00	51.0 AV	54.0	-3.0	1.79 V	330	44.10	6.90
5	*5500.00	112.1 PK			1.68 V	332	71.90	40.20
6	*5500.00	101.5 AV			1.68 V	332	61.30	40.20
7	11000.00	62.4 PK	74.0	-11.6	1.52 V	126	42.50	19.90
8	11000.00	49.3 AV	54.0	-4.7	1.52 V	126	29.40	19.90

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	96.8 PK			2.41 H	110	56.50	40.30
2	*5580.00	86.6 AV			2.41 H	110	46.30	40.30
3	11160.00	61.4 PK	74.0	-12.6	1.95 H	311	42.00	19.40
4	11160.00	48.3 AV	54.0	-5.7	1.95 H	311	28.90	19.40
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	*5580.00	111.6 PK			1.80 V	330	71.30	40.30
2	*5580.00	101.0 AV			1.80 V	330	60.70	40.30
3	11160.00	61.5 PK	74.0	-12.5	1.66 V	158	42.10	19.40
4	11160.00	48.7 AV	54.0	-5.3	1.66 V	158	29.30	19.40

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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	95.7 PK			2.35 H	109	55.30	40.40
2	*5700.00	85.1 AV			2.35 H	109	44.70	40.40
3	#5725.00	58.3 PK	74.0	-15.7	2.35 H	110	50.90	7.40
4	#5725.00	46.8 AV	54.0	-7.2	2.35 H	110	39.40	7.40
5	11400.00	60.3 PK	74.0	-13.7	2.02 H	221	41.50	18.80
6	11400.00	47.3 AV	54.0	-6.7	2.02 H	221	28.50	18.80
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	*5700.00	110.7 PK			1.79 V	319	70.30	40.40
2	*5700.00	100.4 AV			1.79 V	319	60.00	40.40
3	#5725.00	70.2 PK	74.0	-3.8	2.03 V	321	62.80	7.40
4	#5725.00	52.8 AV	54.0	-1.2	2.03 V	321	45.40	7.40
5	11400.00	60.4 PK	74.0	-13.6	1.98 V	201	41.60	18.80
6	11400.00	47.5 AV	54.0	-6.5	1.98 V	201	28.70	18.80

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5714.90	56.4 PK	74.0	-17.6	2.10 H	64	50.20	6.20
2	#5714.90	43.5 AV	54.0	-10.5	2.10 H	64	37.30	6.20
3	#5722.90	49.6 PK	78.2	-28.6	2.10 H	64	43.30	6.30
4	#5725.00	29.3 PK	78.2	-48.9	2.10 H	64	23.00	6.30
5	*5745.00	93.6 PK			2.10 H	65	53.20	40.40
6	*5745.00	83.0 AV			2.10 H	65	42.60	40.40
7	11490.00	59.9 PK	74.0	-14.1	1.00 H	224	40.60	19.30
8	11490.00	46.8 AV	54.0	-7.2	1.00 H	224	27.50	19.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5714.90	66.8 PK	74.0	-7.2	1.95 V	139	60.60	6.20
2	#5714.90	47.2 AV	54.0	-6.8	1.95 V	139	41.00	6.20
3	#5722.90	72.9 PK	78.2	-5.3	1.95 V	139	66.60	6.30
4	#5725.00	58.2 PK	78.2	-20.0	1.95 V	139	51.90	6.30
5	*5745.00	107.5 PK			1.98 V	136	67.10	40.40
6	*5745.00	96.8 AV			1.98 V	136	56.40	40.40
7	11490.00	60.2 PK	74.0	-13.8	1.00 V	315	40.90	19.30
8	11490.00	47.0 AV	54.0	-7.0	1.00 V	315	27.70	19.30

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	93.7 PK			2.18 H	67	53.20	40.50
2	*5785.00	83.0 AV			2.18 H	67	42.50	40.50
3	11570.00	60.0 PK	74.0	-14.0	1.00 H	226	41.00	19.00
4	11570.00	46.7 AV	54.0	-7.3	1.00 H	226	27.70	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	*5785.00	107.2 PK			1.82 V	57	66.70	40.50
2	*5785.00	96.5 AV			1.82 V	57	56.00	40.50
3	11570.00	60.4 PK	74.0	-13.6	1.00 V	314	41.40	19.00
4	11570.00	46.9 AV	54.0	-7.1	1.00 V	314	27.90	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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	93.9 PK			2.28 H	66	53.30	40.60
2	*5825.00	83.3 AV			2.28 H	66	42.70	40.60
3	#5850.00	39.5 PK	78.2	-38.7	2.20 H	67	32.90	6.60
4	#5852.10	57.9 PK	78.2	-20.3	2.20 H	67	51.30	6.60
5	#5860.10	57.0 PK	74.0	-17.0	2.20 H	67	50.40	6.60
6	#5860.10	44.6 AV	54.0	-9.4	2.20 H	67	38.00	6.60
7	11650.00	60.2 PK	74.0	-13.8	1.00 H	227	41.70	18.50
8	11650.00	47.0 AV	54.0	-7.0	1.00 H	227	28.50	18.50
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	*5825.00	106.0 PK			2.05 V	57	65.40	40.60
2	*5825.00	95.7 AV			2.05 V	57	55.10	40.60
3	#5850.00	48.3 PK	78.2	-29.9	2.08 V	51	41.70	6.60
4	#5852.10	62.4 PK	78.2	-15.8	2.08 V	51	55.80	6.60
5	#5860.10	59.4 PK	74.0	-14.6	2.08 V	51	52.80	6.60
6	#5860.10	44.9 AV	54.0	-9.1	2.08 V	51	38.30	6.60
7	11650.00	60.6 PK	74.0	-13.4	1.00 V	319	42.10	18.50
8	11650.00	47.2 AV	54.0	-6.8	1.00 V	319	28.70	18.50

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.

802.11n (HT20)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5180.00	94.5 PK			1.00 H	308	55.00	39.50
2	*5180.00	83.7 AV			1.00 H	308	44.20	39.50
3	5350.00	57.1 PK	74.0	-16.9	1.20 H	315	51.40	5.70
4	5350.00	44.1 AV	54.0	-9.9	1.20 H	315	38.40	5.70
5	#10360.00	59.2 PK	74.0	-14.8	1.10 H	220	41.70	17.50
6	#10360.00	45.8 AV	54.0	-8.2	1.10 H	220	28.30	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	*5180.00	105.7 PK			1.69 V	43	66.20	39.50
2	*5180.00	95.8 AV			1.69 V	43	56.30	39.50
3	5350.00	58.7 PK	74.0	-15.3	1.41 V	355	53.00	5.70
4	5350.00	47.3 AV	54.0	-6.7	1.41 V	355	41.60	5.70
5	#10360.00	59.7 PK	74.0	-14.3	1.00 V	190	42.20	17.50
6	#10360.00	46.5 AV	54.0	-7.5	1.00 V	190	29.00	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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	92.3 PK			1.25 H	160	52.70	39.60
2	*5200.00	81.9 AV			1.25 H	160	42.30	39.60
3	#10400.00	60.0 PK	74.0	-14.0	1.73 H	213	42.00	18.00
4	#10400.00	47.2 AV	54.0	-6.8	1.73 H	213	29.20	18.00
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	106.8 PK			1.64 V	331	67.20	39.60
2	*5200.00	96.4 AV			1.64 V	331	56.80	39.60
3	#10400.00	60.9 PK	74.0	-13.1	1.00 V	110	42.90	18.00
4	#10400.00	47.9 AV	54.0	-6.1	1.00 V	110	29.90	18.00

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	92.7 PK			1.00 H	314	53.10	39.60
2	*5240.00	82.6 AV			1.00 H	314	43.00	39.60
3	5350.00	57.5 PK	74.0	-16.5	1.00 H	255	51.80	5.70
4	5350.00	44.2 AV	54.0	-9.8	1.00 H	255	38.50	5.70
5	#10480.00	59.2 PK	74.0	-14.8	1.20 H	80	41.20	18.00
6	#10480.00	45.9 AV	54.0	-8.1	1.20 H	80	27.90	18.00
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	106.2 PK			1.32 V	321	66.60	39.60
2	*5240.00	96.4 AV			1.32 V	321	56.80	39.60
3	5350.00	57.4 PK	74.0	-16.6	1.20 V	285	51.70	5.70
4	5350.00	44.2 AV	54.0	-9.8	1.20 V	285	38.50	5.70
5	#10480.00	59.9 PK	74.0	-14.1	1.50 V	130	41.90	18.00
6	#10480.00	46.4 AV	54.0	-7.6	1.50 V	130	28.40	18.00

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	57.3 PK	74.0	-16.7	1.10 H	182	51.80	5.50
2	5150.00	44.7 AV	54.0	-9.3	1.10 H	182	39.20	5.50
3	*5260.00	95.9 PK			1.00 H	204	56.30	39.60
4	*5260.00	86.0 AV			1.00 H	204	46.40	39.60
5	#10520.00	60.4 PK	74.0	-13.6	1.10 H	78	42.30	18.10
6	#10520.00	47.1 AV	54.0	-6.9	1.10 H	78	29.00	18.10
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	59.2 PK	74.0	-14.8	1.00 V	235	53.70	5.50
2	5150.00	46.0 AV	54.0	-8.0	1.00 V	235	40.50	5.50
3	*5260.00	112.6 PK			1.69 V	179	73.00	39.60
4	*5260.00	102.3 AV			1.69 V	179	62.70	39.60
5	#10520.00	60.9 PK	74.0	-13.1	1.00 V	42	42.80	18.10
6	#10520.00	47.5 AV	54.0	-6.5	1.00 V	42	29.40	18.10

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	99.1 PK			2.40 H	314	59.50	39.60
2	*5300.00	89.4 AV			2.40 H	314	49.80	39.60
3	10600.00	59.7 PK	74.0	-14.3	1.10 H	289	41.30	18.40
4	10600.00	46.8 AV	54.0	-7.2	1.10 H	289	28.40	18.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	110.8 PK			1.58 V	176	71.20	39.60
2	*5300.00	100.3 AV			1.58 V	176	60.70	39.60
3	10600.00	60.6 PK	74.0	-13.4	1.00 V	345	42.20	18.40
4	10600.00	47.4 AV	54.0	-6.6	1.00 V	345	29.00	18.40

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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	96.2 PK			1.66 H	231	56.50	39.70
2	*5320.00	85.7 AV			1.66 H	231	46.00	39.70
3	5350.00	56.8 PK	74.0	-17.2	1.50 H	184	51.10	5.70
4	5350.00	44.2 AV	54.0	-9.8	1.50 H	184	38.50	5.70
5	10640.00	60.1 PK	74.0	-13.9	1.10 H	88	41.70	18.40
6	10640.00	46.9 AV	54.0	-7.1	1.10 H	88	28.50	18.40
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	111.4 PK			1.79 V	138	71.70	39.70
2	*5320.00	101.4 AV			1.79 V	138	61.70	39.70
3	5350.00	57.5 PK	74.0	-16.5	1.60 V	162	51.80	5.70
4	5350.00	46.9 AV	54.0	-7.1	1.60 V	162	41.20	5.70
5	10640.00	60.6 PK	74.0	-13.4	1.00 V	63	42.20	18.40
6	10640.00	47.7 AV	54.0	-6.3	1.00 V	63	29.30	18.40

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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	54.3 PK	74.0	-19.7	1.23 H	198	48.50	5.80
2	5460.00	42.7 AV	54.0	-11.3	1.23 H	198	36.90	5.80
3	#5470.00	56.2 PK	74.0	-17.8	1.10 H	211	50.30	5.90
4	#5470.00	43.6 AV	54.0	-10.4	1.10 H	211	37.70	5.90
5	*5500.00	95.5 PK			1.00 H	244	55.60	39.90
6	*5500.00	85.6 AV			1.00 H	244	45.70	39.90
7	11100.00	61.2 PK	74.0	-12.8	1.08 H	289	41.60	19.60
8	11100.00	47.5 AV	54.0	-6.5	1.08 H	289	27.90	19.60
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	5460.00	54.8 PK	74.0	-19.2	1.85 V	224	49.00	5.80
2	5460.00	43.2 AV	54.0	-10.8	1.85 V	224	37.40	5.80
3	#5470.00	59.9 PK	74.0	-14.1	1.80 V	205	54.00	5.90
4	#5470.00	46.2 AV	54.0	-7.8	1.80 V	205	40.30	5.90
5	*5500.00	110.7 PK			1.78 V	41	70.80	39.90
6	*5500.00	100.6 AV			1.78 V	41	60.70	39.90
7	11100.00	61.6 PK	74.0	-12.4	1.00 V	251	42.00	19.60
8	11100.00	48.0 AV	54.0	-6.0	1.00 V	251	28.40	19.60

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	98.8 PK			2.34 H	308	58.90	39.90
2	*5580.00	88.2 AV			2.34 H	308	48.30	39.90
3	11160.00	60.3 PK	74.0	-13.7	1.10 H	336	41.10	19.20
4	11160.00	46.9 AV	54.0	-7.1	1.10 H	336	27.70	19.20
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	*5580.00	110.8 PK			1.68 V	242	70.90	39.90
2	*5580.00	100.4 AV			1.68 V	242	60.50	39.90
3	11160.00	60.8 PK	74.0	-13.2	1.00 V	315	41.60	19.20
4	11160.00	47.6 AV	54.0	-6.4	1.00 V	315	28.40	19.20

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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	95.6 PK			2.50 H	311	55.30	40.30
2	*5700.00	85.6 AV			2.50 H	311	45.30	40.30
3	#5725.00	56.0 PK	74.0	-18.0	2.28 H	288	49.70	6.30
4	#5725.00	43.9 AV	54.0	-10.1	2.28 H	288	37.60	6.30
5	11400.00	60.9 PK	74.0	-13.1	1.00 H	334	41.20	19.70
6	11400.00	47.9 AV	54.0	-6.1	1.00 H	334	28.20	19.70
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	*5700.00	108.6 PK			1.72 V	201	68.30	40.30
2	*5700.00	98.1 AV			1.72 V	201	57.80	40.30
3	#5725.00	66.0 PK	74.0	-8.0	1.65 V	150	59.70	6.30
4	#5725.00	48.4 AV	54.0	-5.6	1.65 V	150	42.10	6.30
5	11400.00	61.6 PK	74.0	-12.4	1.20 V	302	41.90	19.70
6	11400.00	48.3 AV	54.0	-5.7	1.20 V	302	28.60	19.70

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5714.90	59.2 PK	74.0	-14.8	1.10 H	262	53.00	6.20
2	#5714.90	44.3 AV	54.0	-9.7	1.10 H	262	38.10	6.20
3	#5722.90	62.5 PK	78.2	-15.7	1.10 H	262	56.20	6.30
4	#5725.00	50.7 PK	78.2	-27.5	1.10 H	262	44.40	6.30
5	*5745.00	95.9 PK			1.00 H	238	55.50	40.40
6	*5745.00	87.3 AV			1.00 H	238	46.90	40.40
7	11490.00	59.9 PK	74.0	-14.1	1.05 H	27	40.60	19.30
8	11490.00	46.8 AV	54.0	-7.2	1.05 H	27	27.50	19.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5714.90	72.7 PK	74.0	-1.3	1.62 V	182	66.50	6.20
2	#5714.90	51.7 AV	54.0	-2.3	1.62 V	182	45.50	6.20
3	#5722.90	74.1 PK	78.2	-4.1	1.62 V	182	67.80	6.30
4	#5725.00	51.5 PK	78.2	-26.7	1.62 V	182	45.20	6.30
5	*5745.00	114.3 PK			1.52 V	315	73.90	40.40
6	*5745.00	104.2 AV			1.52 V	315	63.80	40.40
7	11490.00	60.4 PK	74.0	-13.6	1.00 V	2	41.10	19.30
8	11490.00	47.6 AV	54.0	-6.4	1.00 V	2	28.30	19.30

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	94.9 PK			1.00 H	269	54.40	40.50
2	*5785.00	85.7 AV			1.00 H	269	45.20	40.50
3	11570.00	59.3 PK	74.0	-14.7	1.10 H	67	40.30	19.00
4	11570.00	46.8 AV	54.0	-7.2	1.10 H	67	27.80	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	*5785.00	111.4 PK			1.40 V	315	70.90	40.50
2	*5785.00	101.8 AV			1.40 V	315	61.30	40.50
3	11570.00	60.1 PK	74.0	-13.9	1.00 V	34	41.10	19.00
4	11570.00	47.4 AV	54.0	-6.6	1.00 V	34	28.40	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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	94.7 PK			1.00 H	268	54.10	40.60
2	*5825.00	85.1 AV			1.00 H	268	44.50	40.60
3	#5850.00	42.7 PK	78.2	-35.5	1.10 H	242	36.10	6.60
4	#5852.10	58.7 PK	78.2	-19.5	1.10 H	242	52.10	6.60
5	#5860.10	59.1 PK	74.0	-14.9	1.10 H	242	52.50	6.60
6	#5860.10	44.6 AV	54.0	-9.4	1.10 H	242	38.00	6.60
7	11650.00	59.9 PK	74.0	-14.1	1.10 H	147	41.40	18.50
8	11650.00	46.7 AV	54.0	-7.3	1.10 H	147	28.20	18.50
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	*5825.00	113.4 PK			2.12 V	60	72.80	40.60
2	*5825.00	102.9 AV			2.12 V	60	62.30	40.60
3	#5850.00	56.2 PK	78.2	-22.0	1.98 V	45	49.60	6.60
4	#5852.10	73.7 PK	78.2	-4.5	1.98 V	45	67.10	6.60
5	#5860.10	69.2 PK	74.0	-4.8	1.98 V	45	62.60	6.60
6	#5860.10	48.3 AV	54.0	-5.7	1.98 V	45	41.70	6.60
7	11650.00	60.8 PK	74.0	-13.2	1.00 V	120	42.30	18.50
8	11650.00	47.2 AV	54.0	-6.8	1.00 V	120	28.70	18.50

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.

802.11n (HT40)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	57.0 PK	74.0	-17.0	1.20 H	273	51.50	5.50
2	5150.00	44.2 AV	54.0	-9.8	1.20 H	273	38.70	5.50
3	*5190.00	91.7 PK			1.00 H	315	52.20	39.50
4	*5190.00	81.4 AV			1.00 H	315	41.90	39.50
5	#10380.00	59.9 PK	74.0	-14.1	1.10 H	190	42.10	17.80
6	#10380.00	46.8 AV	54.0	-7.2	1.10 H	190	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	5150.00	57.1 PK	74.0	-16.9	1.00 V	280	51.60	5.50
2	5150.00	47.3 AV	54.0	-6.7	1.00 V	280	41.80	5.50
3	*5190.00	104.1 PK			1.32 V	321	64.60	39.50
4	*5190.00	93.8 AV			1.32 V	321	54.30	39.50
5	#10380.00	60.4 PK	74.0	-13.6	1.00 V	230	42.60	17.80
6	#10380.00	47.1 AV	54.0	-6.9	1.00 V	230	29.30	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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5230.00	90.5 PK			1.00 H	32	50.90	39.60
2	*5230.00	79.7 AV			1.00 H	32	40.10	39.60
3	5350.00	57.6 PK	74.0	-16.4	1.10 H	106	51.90	5.70
4	5350.00	44.1 AV	54.0	-9.9	1.10 H	106	38.40	5.70
5	#10460.00	59.1 PK	74.0	-14.9	1.20 H	290	41.10	18.00
6	#10460.00	46.9 AV	54.0	-7.1	1.20 H	290	28.90	18.00
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5230.00	102.9 PK			1.20 V	56	63.30	39.60
2	*5230.00	93.0 AV			1.20 V	56	53.40	39.60
3	5350.00	57.5 PK	74.0	-16.5	1.00 V	78	51.80	5.70
4	5350.00	43.6 AV	54.0	-10.4	1.00 V	78	37.90	5.70
5	#10460.00	59.6 PK	74.0	-14.4	1.00 V	340	41.60	18.00
6	#10460.00	47.6 AV	54.0	-6.4	1.00 V	340	29.60	18.00

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	57.4 PK	74.0	-16.6	1.40 H	188	51.90	5.50
2	5150.00	44.5 AV	54.0	-9.5	1.40 H	188	39.00	5.50
3	*5270.00	92.6 PK			1.21 H	232	53.00	39.60
4	*5270.00	82.9 AV			1.21 H	232	43.30	39.60
5	#10540.00	58.9 PK	74.0	-15.1	1.10 H	313	40.80	18.10
6	#10540.00	46.1 AV	54.0	-7.9	1.10 H	313	28.00	18.10
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	57.6 PK	74.0	-16.4	1.50 V	33	52.10	5.50
2	5150.00	47.2 AV	54.0	-6.8	1.50 V	33	41.70	5.50
3	*5270.00	109.9 PK			1.68 V	5	70.30	39.60
4	*5270.00	98.7 AV			1.68 V	5	59.10	39.60
5	#10540.00	60.1 PK	74.0	-13.9	1.00 V	270	42.00	18.10
6	#10540.00	46.8 AV	54.0	-7.2	1.00 V	270	28.70	18.10

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	95.2 PK			2.49 H	313	55.60	39.60
2	*5310.00	85.3 AV			2.49 H	313	45.70	39.60
3	5350.00	57.2 PK	74.0	-16.8	1.60 H	286	51.50	5.70
4	5350.00	44.1 AV	54.0	-9.9	1.60 H	286	38.40	5.70
5	10620.00	59.4 PK	74.0	-14.6	1.10 H	161	41.10	18.30
6	10620.00	46.9 AV	54.0	-7.1	1.10 H	161	28.60	18.30
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	*5310.00	107.8 PK			1.72 V	359	68.20	39.60
2	*5310.00	97.9 AV			1.72 V	359	58.30	39.60
3	5350.00	63.5 PK	74.0	-10.5	1.60 V	317	57.80	5.70
4	5350.00	48.2 AV	54.0	-5.8	1.60 V	317	42.50	5.70
5	10620.00	60.1 PK	74.0	-13.9	1.00 V	185	41.80	18.30
6	10620.00	47.5 AV	54.0	-6.5	1.00 V	185	29.20	18.30

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	60.9 PK	74.0	-13.1	1.14 H	234	55.10	5.80
2	5460.00	44.8 AV	54.0	-9.2	1.14 H	234	39.00	5.80
3	#5470.00	61.1 PK	74.0	-12.9	1.20 H	258	55.20	5.90
4	#5470.00	46.0 AV	54.0	-8.0	1.20 H	258	40.10	5.90
5	*5510.00	90.6 PK			1.28 H	224	50.70	39.90
6	*5510.00	79.9 AV			1.28 H	224	40.00	39.90
7	11020.00	60.7 PK	74.0	-13.3	1.20 H	235	41.70	19.00
8	11020.00	47.3 AV	54.0	-6.7	1.20 H	235	28.30	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	61.6 PK	74.0	-12.4	1.64 V	330	55.80	5.80
2	5460.00	45.4 AV	54.0	-8.6	1.64 V	330	39.60	5.80
3	#5470.00	69.3 PK	74.0	-4.7	1.70 V	360	63.40	5.90
4	#5470.00	53.0 AV	54.0	-1.0	1.70 V	360	47.10	5.90
5	*5510.00	105.9 PK			1.81 V	242	66.00	39.90
6	*5510.00	95.8 AV			1.81 V	242	55.90	39.90
7	11020.00	61.1 PK	74.0	-12.9	1.40 V	280	42.10	19.00
8	11020.00	47.7 AV	54.0	-6.3	1.40 V	280	28.70	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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5550.00	91.3 PK			1.42 H	219	51.30	40.00
2	*5550.00	81.7 AV			1.42 H	219	41.70	40.00
3	11100.00	61.6 PK	74.0	-12.4	1.13 H	257	42.00	19.60
4	11100.00	47.7 AV	54.0	-6.3	1.13 H	257	28.10	19.60
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	*5550.00	107.6 PK			1.82 V	66	67.60	40.00
2	*5550.00	97.7 AV			1.82 V	66	57.70	40.00
3	11100.00	62.1 PK	74.0	-11.9	1.00 V	220	42.50	19.60
4	11100.00	48.4 AV	54.0	-5.6	1.00 V	220	28.80	19.60

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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	90.6 PK			1.00 H	234	50.40	40.20
2	*5670.00	81.0 AV			1.00 H	234	40.80	40.20
3	#5725.00	56.3 PK	74.0	-17.7	1.20 H	266	50.00	6.30
4	#5725.00	43.8 AV	54.0	-10.2	1.20 H	266	37.50	6.30
5	11340.00	61.2 PK	74.0	-12.8	1.10 H	252	41.50	19.70
6	11340.00	48.3 AV	54.0	-5.7	1.10 H	252	28.60	19.70
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	*5670.00	108.7 PK			2.05 V	196	68.50	40.20
2	*5670.00	98.1 AV			2.05 V	196	57.90	40.20
3	#5725.00	59.3 PK	74.0	-14.7	1.73 V	170	53.00	6.30
4	#5725.00	45.6 AV	54.0	-8.4	1.73 V	170	39.30	6.30
5	11340.00	61.9 PK	74.0	-12.1	1.00 V	270	42.20	19.70
6	11340.00	48.8 AV	54.0	-5.2	1.00 V	270	29.10	19.70

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5714.90	58.1 PK	74.0	-15.9	1.10 H	272	51.90	6.20
2	#5714.90	44.6 AV	54.0	-9.4	1.10 H	272	38.40	6.20
3	#5722.90	59.0 PK	78.2	-19.2	1.10 H	272	52.70	6.30
4	#5725.00	45.5 PK	78.2	-32.7	1.10 H	272	39.20	6.30
5	*5755.00	90.0 PK			1.00 H	256	49.50	40.50
6	*5755.00	80.5 AV			1.00 H	256	40.00	40.50
7	11510.00	58.3 PK	74.0	-15.7	1.00 H	103	39.20	19.10
8	11510.00	45.4 AV	54.0	-8.6	1.00 H	103	26.30	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	#5714.90	70.8 PK	74.0	-3.2	2.26 V	141	64.60	6.20
2	**#5714.90**	**53.3 AV**	**54.0**	**-0.7**	**2.26 V**	**141**	**47.10**	**6.20**
3	#5722.90	73.4 PK	78.2	-4.8	2.26 V	141	67.10	6.30
4	#5725.00	59.1 PK	78.2	-19.1	2.26 V	141	52.80	6.30
5	*5755.00	104.3 PK			2.07 V	184	63.80	40.50
6	*5755.00	94.4 AV			2.07 V	184	53.90	40.50
7	11510.00	59.2 PK	74.0	-14.8	1.86 V	76	40.10	19.10
8	11510.00	46.1 AV	54.0	-7.9	1.86 V	76	27.00	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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5795.00	95.4 PK			1.00 H	239	54.90	40.50
2	*5795.00	82.3 AV			1.00 H	239	41.80	40.50
3	#5850.00	43.9 PK	78.2	-34.3	1.10 H	257	37.30	6.60
4	#5852.10	57.8 PK	78.2	-20.4	1.10 H	257	51.20	6.60
5	#5860.10	56.9 PK	74.0	-17.1	1.10 H	257	50.30	6.60
6	#5860.10	44.5 AV	54.0	-9.5	1.10 H	257	37.90	6.60
7	11590.00	59.1 PK	74.0	-14.9	1.05 H	217	40.40	18.70
8	11590.00	45.9 AV	54.0	-8.1	1.05 H	217	27.20	18.70
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	*5795.00	111.3 PK			1.94 V	8	70.80	40.50
2	*5795.00	100.8 AV			1.94 V	8	60.30	40.50
3	#5850.00	50.2 PK	78.2	-28.0	1.82 V	339	43.60	6.60
4	#5852.10	69.6 PK	78.2	-8.6	1.82 V	339	63.00	6.60
5	#5860.10	66.5 PK	74.0	-7.5	1.82 V	339	59.90	6.60
6	#5860.10	49.2 AV	54.0	-4.8	1.82 V	339	42.60	6.60
7	11590.00	59.9 PK	74.0	-14.1	1.00 V	183	41.20	18.70
8	11590.00	46.6 AV	54.0	-7.4	1.00 V	183	27.90	18.70

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.

Below 1GHz Data:

802.11n (HT20)

CHANNEL	TX Channel 149	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	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	142.44	30.3 QP	43.5	-13.2	1.00 H	216	44.40	-14.10
2	239.46	30.1 QP	46.0	-15.9	1.00 H	20	45.10	-15.00
3	297.68	40.4 QP	46.0	-5.6	1.00 H	8	53.30	-12.90
4	499.48	28.1 QP	46.0	-17.9	1.50 H	7	37.50	-9.40
5	530.52	29.2 QP	46.0	-16.8	1.50 H	7	38.20	-9.00
6	936.07	30.9 QP	46.0	-15.1	1.50 H	153	31.90	-1.00
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	47.36	31.9 QP	40.0	-8.1	1.00 V	256	45.90	-14.00
2	299.62	37.9 QP	46.0	-8.1	1.24 V	298	50.70	-12.80
3	379.17	31.8 QP	46.0	-14.2	1.24 V	5	43.20	-11.40
4	530.52	35.1 QP	46.0	-10.9	1.00 V	91	44.10	-9.00
5	697.40	30.0 QP	46.0	-16.0	1.49 V	284	35.50	-5.50
6	936.07	34.0 QP	46.0	-12.0	1.00 V	293	35.00	-1.00

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

4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

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

Note: 1. The lower limit shall apply at the transition frequencies.
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCI	100613	Nov. 16, 2015	Nov. 15, 2016
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond1-01	Dec. 26, 2015	Dec. 25, 2016
LISN ROHDE & SCHWARZ (EUT)	ESH3-Z5	835239/001	Feb. 26, 2016	Feb. 25, 2017
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Jul. 24, 2015	Jul. 23, 2016
Software ADT	BV ADT_Cond_ V7.3.7.3	NA	NA	NA

Notes: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Shielded Room 1.
3. The VCCI Site Registration No. is C-2040.

4.2.3 Test Procedures

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

b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

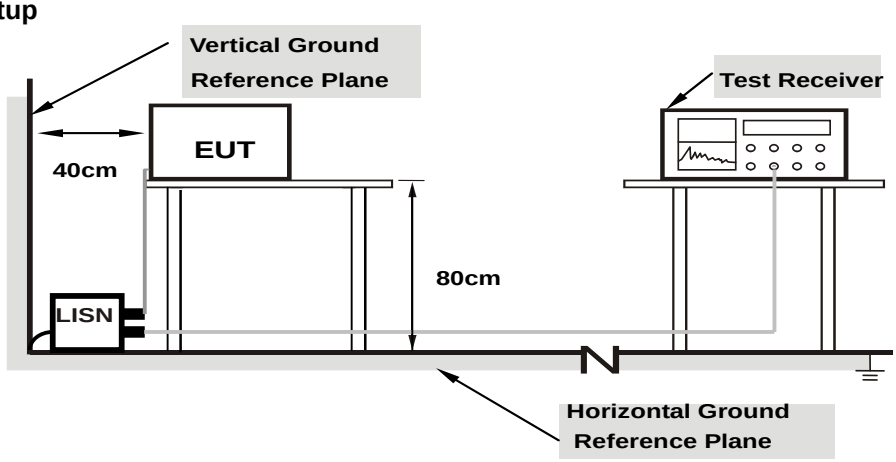
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



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

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

4.2.6 EUT Operating Conditions

Same as 4.1.6.

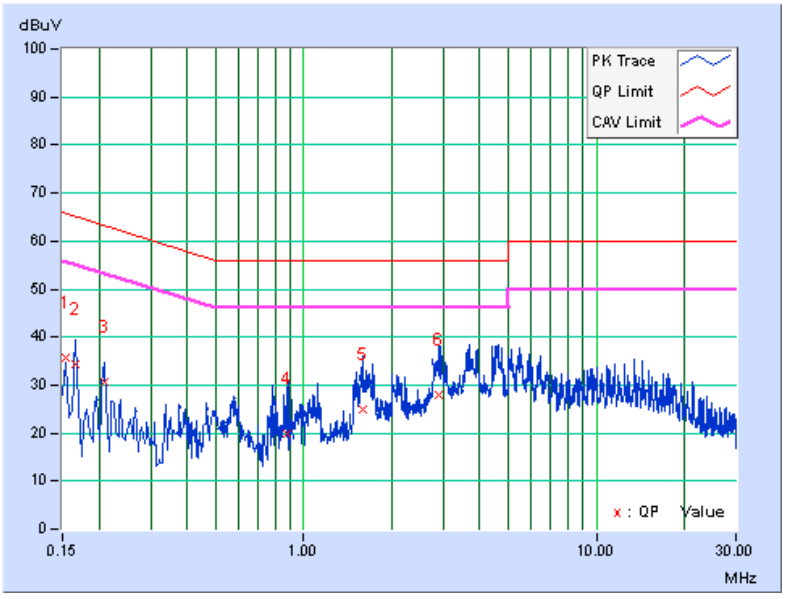
4.2.7 Test Results

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

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15391	10.02	25.62	9.84	35.64	19.86	65.79	55.79	-30.15	-35.93
2	0.16564	10.02	24.46	9.61	34.48	19.63	65.18	55.18	-30.70	-35.55
3	0.20865	10.03	20.51	9.49	30.54	19.52	63.26	53.26	-32.71	-33.73
4	0.88117	10.18	9.57	0.62	19.75	10.80	56.00	46.00	-36.25	-35.20
5	1.58903	10.24	14.62	6.24	24.86	16.48	56.00	46.00	-31.14	-29.52
6	2.90264	10.33	17.68	10.72	28.01	21.05	56.00	46.00	-27.99	-24.95

Remarks:

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

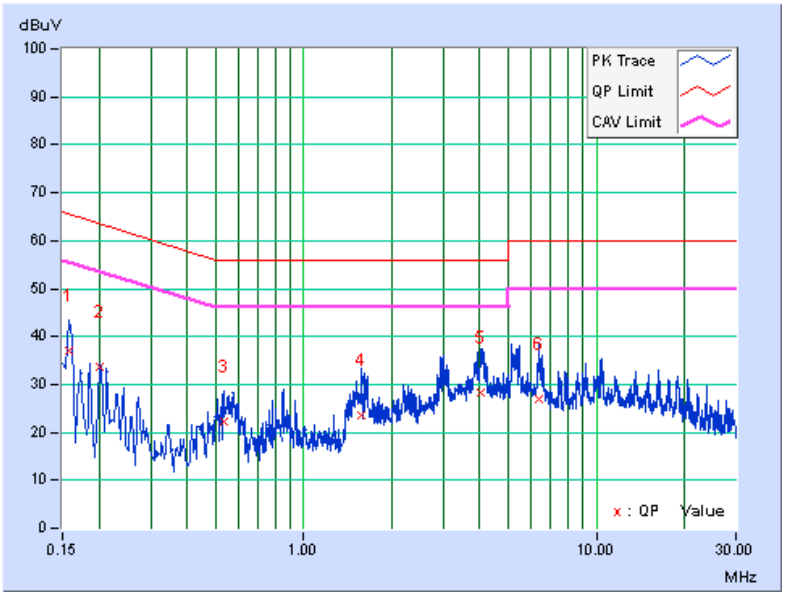


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15782	10.03	27.13	11.98	37.16	22.01	65.58	55.58	-28.42	-33.57
2	0.20084	10.04	23.69	10.97	33.73	21.01	63.58	53.58	-29.85	-32.57
3	0.53318	10.15	12.17	2.67	22.32	12.82	56.00	46.00	-33.68	-33.18
4	1.58106	10.25	13.46	4.65	23.71	14.90	56.00	46.00	-32.29	-31.10
5	**4.00917**	**10.43**	**17.90**	**11.90**	**28.33**	**22.33**	**56.00**	**46.00**	**-27.67**	**-23.67**
6	6.34344	10.57	16.38	10.29	26.95	20.86	60.00	50.00	-33.05	-29.14

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

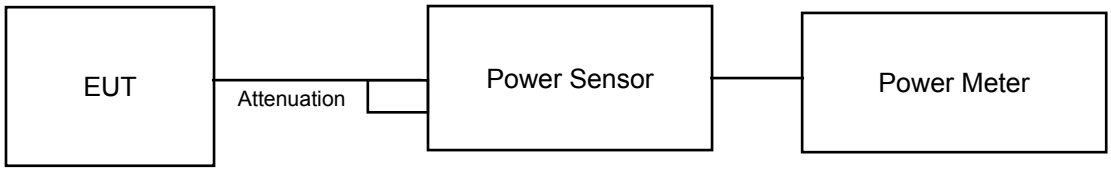
Operation Band	EUT Category		LIMIT
U-NII-1		Outdoor Access Point	1 Watt (30 dBm) (Max. e.i.r.p ≦ 125mW(21 dBm) at any elevation angle above 30 degrees as measured from the horizon)
		Fixed point-to-point Access Point	1 Watt (30 dBm)
		Indoor Access Point	1 Watt (30 dBm)
	√	Mobile and Portable client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

*B is the 26 dB emission bandwidth in megahertz

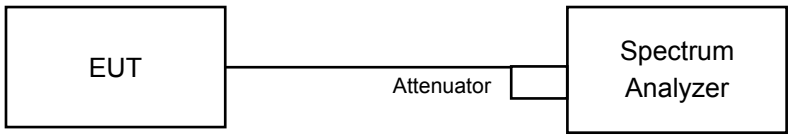
Per KDB 662911 Method of conducted output power measurement on IEEE 802.11 devices,
Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT};
Array Gain = 5 log(N_{ANT}/N_{SS}) dB or 3 dB, whichever is less for 20-MHz channel widths with $N_{ANT} \geq 5$.
For power measurements on all other devices: Array Gain = 10 log(N_{ANT}/N_{SS}) dB.

4.3.2 Test Setup

For Power Output Measurement



For 26dB and Occupied Bandwidth



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

For Average Power Measurement

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

For Occupied Bandwidth

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

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Conditions

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

4.3.7 Test Result

Power Output:

802.11a

Chan.	Freq. (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	26.792	14.28	24.00	Pass
40	5200	26.915	14.30	24.00	Pass
48	5240	**27.606**	14.41	24.00	Pass
52	5260	36.898	15.67	24.00	Pass
60	5300	33.574	15.26	24.00	Pass
64	5320	32.211	15.08	24.00	Pass
100	5500	32.659	15.14	24.00	Pass
116	5580	32.211	15.08	24.00	Pass
140	5700	32.509	15.12	24.00	Pass
149	5745	33.113	15.20	30.00	Pass
157	5785	32.137	15.07	30.00	Pass
165	5825	35.727	15.53	30.00	Pass

Note:
For U-NII-2A, U-NII-2C Band:
1. 11dBm + 10log (25.24) = 25.02 > 24dBm
2. 11dBm + 10log (25.00) = 24.98 > 24dBm
3. 11dBm + 10log (25.40) = 25.05 > 24dBm
4. 11dBm + 10log (25.08) = 24.99 > 24dBm
5. 11dBm + 10log (25.35) = 25.04 > 24dBm
6. 11dBm + 10log (28.42) = 25.54 > 24dBm

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	Chain 2				
36	5180	6.19	5.04	6.90	12.249	10.88	24.00	Pass
40	5200	6.44	5.79	6.70	12.876	11.10	24.00	Pass
48	5240	6.18	6.34	6.91	13.364	11.26	24.00	Pass
52	5260	12.05	12.04	12.37	49.286	16.93	24.00	Pass
60	5300	11.40	11.93	12.78	48.367	16.85	24.00	Pass
64	5320	11.61	12.50	12.79	**51.282**	17.10	24.00	Pass
100	5500	12.69	10.98	11.16	44.171	16.45	24.00	Pass
116	5580	11.98	11.50	12.63	48.224	16.83	24.00	Pass
140	5700	11.26	12.32	12.68	**48.962**	16.90	24.00	Pass
149	5745	16.16	15.77	16.98	**128.950**	21.10	30.00	Pass
157	5785	16.19	14.93	16.21	114.491	20.59	30.00	Pass
165	5825	15.71	14.45	15.82	103.294	20.14	30.00	Pass

Note:
For U-NII-2A, U-NII-2C Band:
Chain 0
1. 11dBm + 10log (25.52) = 25.07 > 24dBm
2. 11dBm + 10log (25.76) = 25.11 > 24dBm
3. 11dBm + 10log (25.37) = 25.04 > 24dBm
4. 11dBm + 10log (25.35) = 25.04 > 24dBm
5. 11dBm + 10log (25.26) = 25.02 > 24dBm
6. 11dBm + 10log (25.10) = 25.00 > 24dBm
Chain 1
1. 11dBm + 10log (25.68) = 25.10 > 24dBm
2. 11dBm + 10log (25.77) = 25.11 > 24dBm
3. 11dBm + 10log (25.43) = 25.05 > 24dBm
4. 11dBm + 10log (25.63) = 25.09 > 24dBm
5. 11dBm + 10log (26.06) = 25.16 > 24dBm
6. 11dBm + 10log (26.08) = 25.16 > 24dBm
Chain 2
1. 11dBm + 10log (25.06) = 24.99 > 24dBm
2. 11dBm + 10log (25.79) = 25.11 > 24dBm
3. 11dBm + 10log (24.71) = 24.93 > 24dBm
4. 11dBm + 10log (24.93) = 24.97 > 24dBm
5. 11dBm + 10log (24.96) = 24.97 > 24dBm
6. 11dBm + 10log (25.79) = 25.11 > 24dBm

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	Chain 2				
38	5190	8.40	6.95	8.50	18.952	12.78	24.00	Pass
46	5230	7.44	7.40	8.71	18.471	12.66	24.00	Pass
54	5270	11.63	12.23	12.27	48.132	16.82	24.00	Pass
62	5310	10.87	12.01	12.17	44.585	16.49	24.00	Pass
102	5510	11.70	10.11	10.64	36.636	15.64	24.00	Pass
110	5550	12.98	11.38	11.80	48.737	16.88	24.00	Pass
134	5670	12.17	11.07	11.87	44.658	16.50	24.00	Pass
151	5755	11.12	11.38	11.52	40.873	16.11	30.00	Pass
159	5795	16.33	14.61	16.14	112.976	20.53	30.00	Pass

Note:
For U-NII-2A, U-NII-2C Band:
Chain 0
1. 11dBm + 10log (54.85) = 28.39 > 24dBm
2. 11dBm + 10log (54.72) = 28.38 > 24dBm
3. 11dBm + 10log (54.46) = 28.36 > 24dBm
4. 11dBm + 10log (55.17) = 28.42 > 24dBm
5. 11dBm + 10log (53.70) = 28.30 > 24dBm
Chain 1
1. 11dBm + 10log (51.57) = 28.12 > 24dBm
2. 11dBm + 10log (52.17) = 28.17 > 24dBm
3. 11dBm + 10log (52.69) = 28.22 > 24dBm
4. 11dBm + 10log (52.24) = 28.18 > 24dBm
5. 11dBm + 10log (52.47) = 28.20 > 24dBm
Chain 2
1. 11dBm + 10log (51.48) = 28.12 > 24dBm
2. 11dBm + 10log (52.65) = 28.21 > 24dBm
3. 11dBm + 10log (52.51) = 28.20 > 24dBm
4. 11dBm + 10log (52.19) = 28.18 > 24dBm
5. 11dBm + 10log (52.48) = 28.20 > 24dBm

26dB Bandwidth:

802.11a

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	Pass / Fail
36	5180	25.23	Pass
40	5200	24.14	Pass
48	5240	24.85	Pass
52	5260	25.24	Pass
60	5300	25.00	Pass
64	5320	25.40	Pass
100	5500	25.08	Pass
116	5580	25.35	Pass
140	5700	28.42	Pass

802.11n (HT20)

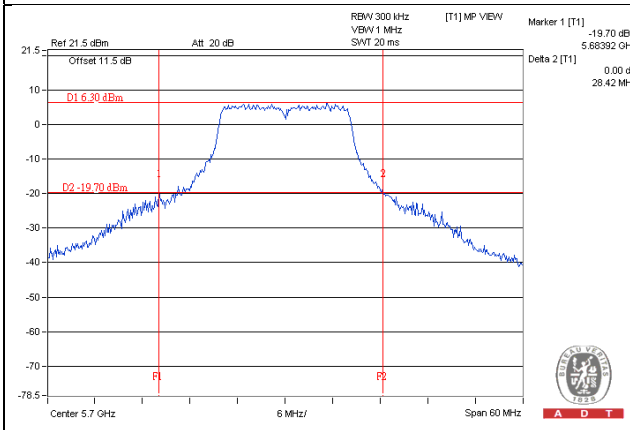
Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)			Pass / Fail
		Chain 0	Chain 1	Chain 2	
36	5180	25.54	25.17	25.36	Pass
40	5200	25.43	25.28	25.34	Pass
48	5240	25.34	25.24	25.17	Pass
52	5260	25.52	25.68	25.06	Pass
60	5300	25.76	25.77	25.79	Pass
64	5320	25.37	25.43	24.71	Pass
100	5500	25.35	25.63	24.93	Pass
116	5580	25.26	26.06	24.96	Pass
140	5700	25.10	26.08	25.79	Pass

802.11n (HT40)

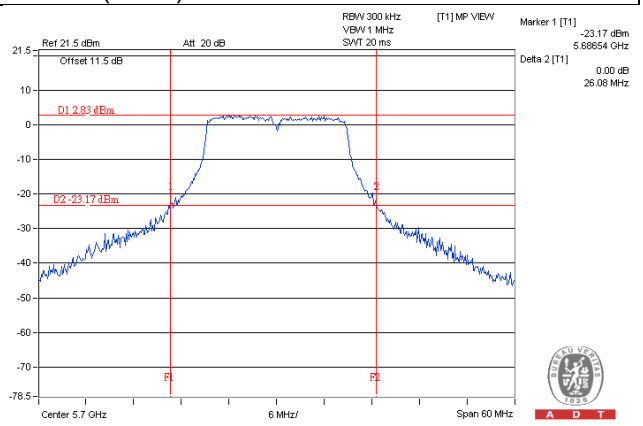
Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)			Pass / Fail
		Chain 0	Chain 1	Chain 2	
38	5190	54.88	52.10	52.31	Pass
46	5230	54.52	51.65	51.61	Pass
54	5270	54.85	51.57	51.48	Pass
62	5310	54.72	52.17	52.65	Pass
102	5510	54.46	52.69	52.51	Pass
110	5550	55.17	52.24	52.19	Pass
134	5670	53.70	52.47	52.48	Pass

Spectrum Plot of Worst Value

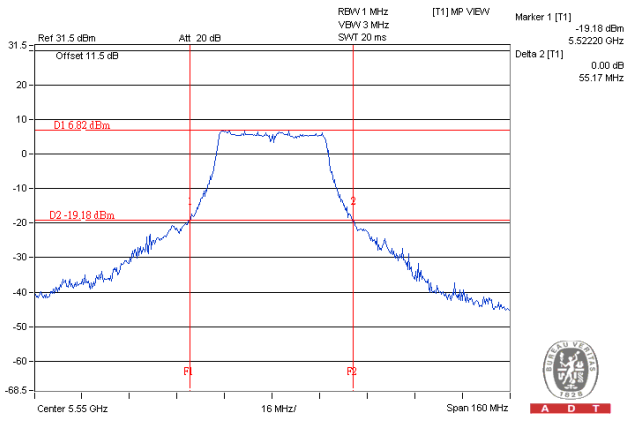
802.11a



802.11n (HT20)



802.11n (HT40)



Occupied Bandwidth:

802.11a

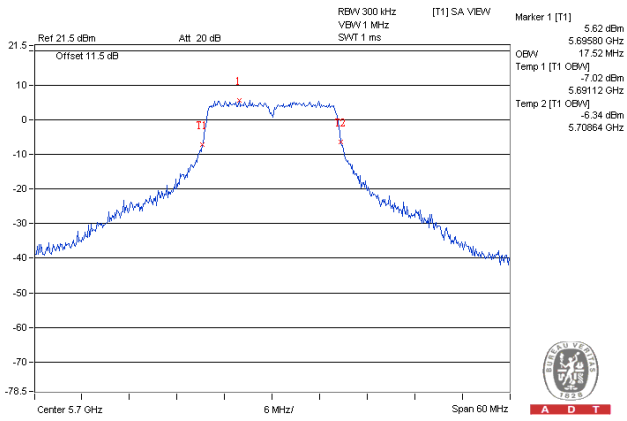
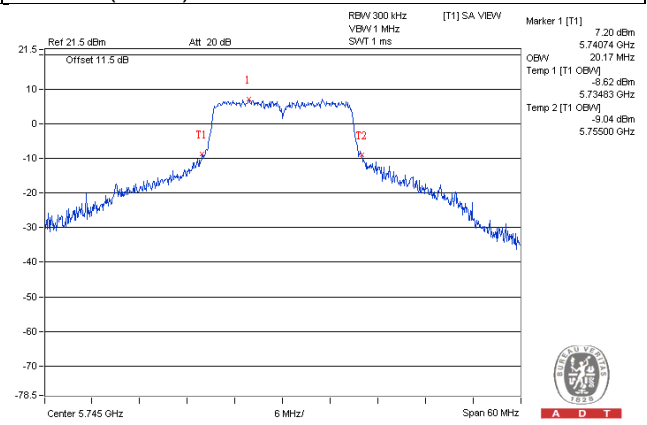
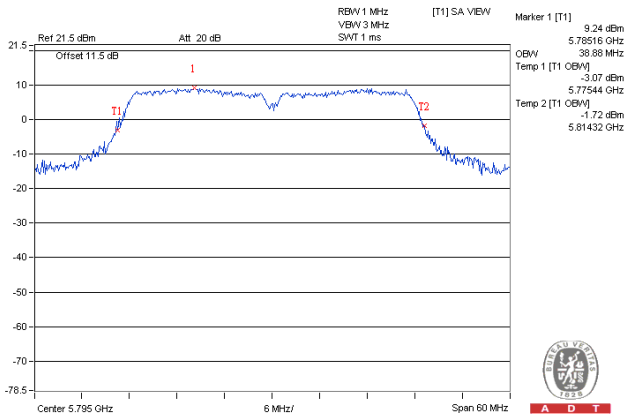
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)
36	5180	17.28
40	5200	17.28
48	5240	17.28
52	5260	17.28
60	5300	17.28
64	5320	17.40
100	5500	17.40
116	5580	17.40
140	5700	17.52
149	5745	17.04
157	5785	17.04
165	5825	16.92

802.11n (HT20)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
36	5180	18.36	18.24	18.24
40	5200	18.24	18.24	18.24
48	5240	18.24	18.24	18.24
52	5260	18.24	18.24	18.24
60	5300	18.24	18.24	18.24
64	5320	18.24	18.24	18.12
100	5500	18.24	18.24	18.12
116	5580	18.24	18.36	18.24
140	5700	18.24	18.36	18.24
149	5745	18.84	18.43	20.17
157	5785	18.72	18.48	18.60
165	5825	18.60	18.36	18.36

802.11n (HT40)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
38	5190	38.04	37.80	37.68
46	5230	38.40	38.04	37.92
54	5270	38.28	38.04	38.16
62	5310	38.28	38.04	37.92
102	5510	38.52	38.16	37.80
110	5550	38.28	38.04	37.92
134	5670	38.28	37.92	37.92
151	5755	38.40	38.04	38.04
159	5795	38.88	38.28	38.52

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	36.898	15.67
5470~5725	32.659	15.14

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	51.282	17.10
5470~5725	48.962	16.90

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	48.132	16.82
5470~5725	48.737	16.88

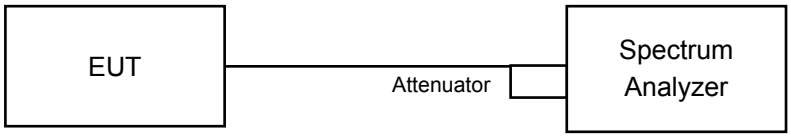
Note: Manufacturer provides Transmit Power Control description to meet this requirement.

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/ 500kHz

4.4.2 Test Setup



4.4.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.4 Test Procedures

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

Using method SA-2

a. Set span to encompass the entire emission bandwidth (EBW) of the signal.

b. Set RBW = 1 MHz, Set VBW ≥ 3 MHz, Detector = RMS

c. Sweep time = auto, trigger set to “free run”.

d. Trace average at least 100 traces in power averaging mode.

e. Record the max value and add 10 log (1/duty cycle)

For U-NII-3 band:

a. Set span to encompass the entire emission bandwidth (EBW) of the signal.

b. Set RBW = 300 kHz, Set VBW ≥ 1 MHz, Detector = RMS

c. Use the peak marker function to determine the maximum power level in any 300 kHz band segment within the fundamental EBW.

d. Scale the observed power level to an equivalent value in 500 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where BWCF = 10log(500 kHz/300kHz)

e. Sweep time = auto, trigger set to “free run”.

f. Trace average at least 100 traces in power averaging mode.

g. Record the max value and add 10 log (1/duty cycle)

4.4.5 Deviation from Test Standard

No deviation.

4.4.6 EUT Operating Conditions

Same as Item 4.3.6.

4.4.7 Test Results

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

802.11a

Chan.	Freq. (MHz)	PSD w/o duty factor (dBm)	Duty factor	PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
36	5180	0.95	0.75	1.70	11.00	Pass
40	5200	0.98	0.75	1.73	11.00	Pass
48	5240	1.31	0.75	2.06	11.00	Pass
52	5260	2.28	0.75	3.03	11.00	Pass
60	5300	2.17	0.75	2.92	11.00	Pass
64	5320	1.96	0.75	2.71	11.00	Pass
100	5500	1.46	0.75	2.21	11.00	Pass
116	5580	1.82	0.75	2.57	11.00	Pass
140	5700	1.46	0.75	2.21	11.00	Pass

Note:
1. 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.
2. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT20)

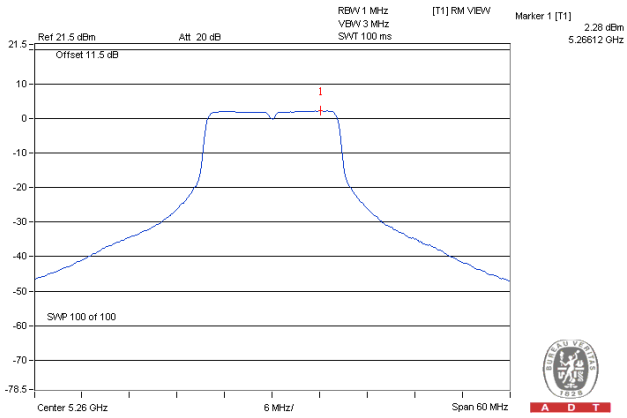
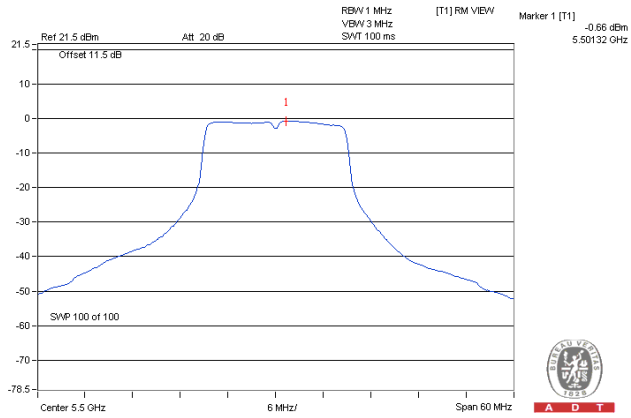
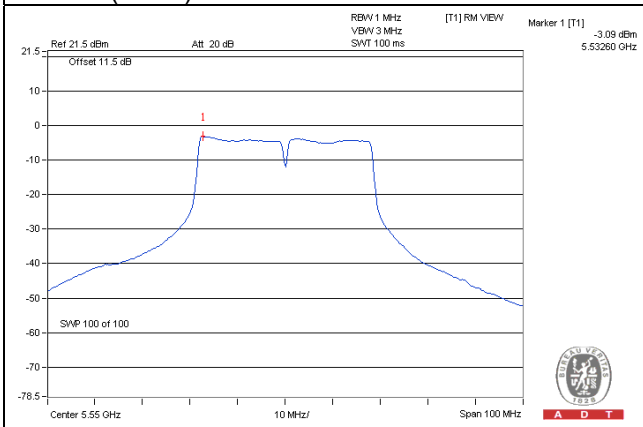
Chan.	Freq. (MHz)	PSD (dBm)			Total PSD w/o duty factor (dBm)	Duty factor	Total PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2					
36	5180	-7.96	-8.75	-7.55	-3.29	0.45	-2.84	7.23	Pass
40	5200	-8.01	-8.43	-7.18	-3.07	0.45	-2.62	7.23	Pass
48	5240	-7.95	-8.17	-7.70	-3.17	0.45	-2.72	7.23	Pass
52	5260	-2.18	-1.72	-1.73	2.90	0.45	3.35	7.23	Pass
60	5300	-1.69	-1.65	-1.09	3.30	0.45	3.75	7.23	Pass
64	5320	-1.23	-1.51	-1.63	3.32	0.45	3.77	7.23	Pass
100	5500	-0.94	-1.91	-2.38	3.07	0.45	3.52	7.23	Pass
116	5580	-1.14	-1.64	-1.66	3.30	0.45	3.75	7.23	Pass
140	5700	-2.37	-1.79	-1.00	3.09	0.45	3.54	7.23	Pass

Note:
1. 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.
2. Directional gain = 5dBi + 10log(3) = 9.77dBi > 6dBi, so the power density limit shall be reduced to 11-(9.77-6)=7.23 dBm
3. 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	Chain 2					
38	5190	-8.38	-10.17	-8.16	-4.05	0.76	-3.29	7.23	Pass
46	5230	-9.25	-9.62	-8.73	-4.42	0.76	-3.66	7.23	Pass
54	5270	-4.80	-4.93	-4.09	0.18	0.76	0.94	7.23	Pass
62	5310	-5.09	-5.04	-4.79	-0.20	0.76	0.56	7.23	Pass
102	5510	-4.57	-6.38	-5.96	-0.80	0.76	-0.04	7.23	Pass
110	5550	-3.09	-5.26	-5.26	0.36	0.76	1.12	7.23	Pass
134	5670	-4.07	-4.71	-3.90	0.56	0.76	1.32	7.23	Pass

Note:
1. 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.
2. Directional gain = 5dBi + 10log(3) = 9.77dBi > 6dBi, so the power density limit shall be reduced to 11-(9.77-6)=7.23 dBm
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value	
802.11a / Chain 0 / CH 52	802.11n (HT20) / Chain 0 / CH 100
	
802.11n (HT40) / Chain 0 / CH 110	
	

For U-NII-3 Band

802.11a

Chan.	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	Duty factor	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
149	5745	-7.65	-5.43	0.75	-4.68	30.00	Pass
157	5785	-6.94	-4.72	0.75	-3.97	30.00	Pass
165	5825	-7.23	-5.01	0.75	-4.26	30.00	Pass

NOTE:

1. 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.
2. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT20)

TX chain	Channel	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=3) dB	Duty factor	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	PASS /FAIL
0	149	5745	-6.43	-4.21	4.77	0.45	1.01	26.23	Pass
	157	5785	-6.62	-4.40	4.77	0.45	0.82	26.23	Pass
	165	5825	-6.68	-4.46	4.77	0.45	0.76	26.23	Pass
1	149	5745	-6.66	-4.44	4.77	0.45	0.78	26.23	Pass
	157	5785	-7.49	-5.27	4.77	0.45	-0.05	26.23	Pass
	165	5825	-7.49	-5.27	4.77	0.45	-0.05	26.23	Pass
2	149	5745	-5.47	-3.25	4.77	0.45	1.97	26.23	Pass
	157	5785	-6.20	-3.98	4.77	0.45	1.24	26.23	Pass
	165	5825	-6.61	-4.39	4.77	0.45	0.83	26.23	Pass

NOTE:

3. 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.
4. Directional gain =5dBi + 10log(3)=9.77dBi > 6dBi, so the power density limit shall be reduced to 30-(7.8-6)=26.23 dBm
5. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT40)

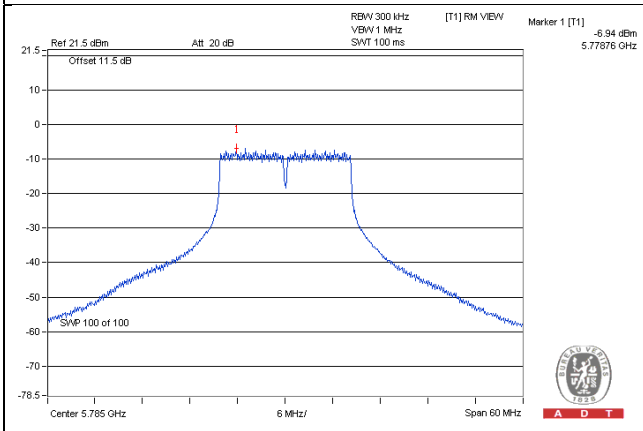
TX chain	Channel	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=3) dB	Duty factor	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	PASS /FAIL
0	151	5755	-14.73	-12.51	4.77	0.76	-6.98	26.23	Pass
	159	5795	-9.80	-7.58	4.77	0.76	-2.05	26.23	Pass
1	151	5755	-15.17	-12.95	4.77	0.76	-7.42	26.23	Pass
	159	5795	-10.88	-8.66	4.77	0.76	-3.13	26.23	Pass
2	151	5755	-13.71	-11.49	4.77	0.76	-5.96	26.23	Pass
	159	5795	-9.58	-7.36	4.77	0.76	-1.83	26.23	Pass

NOTE:

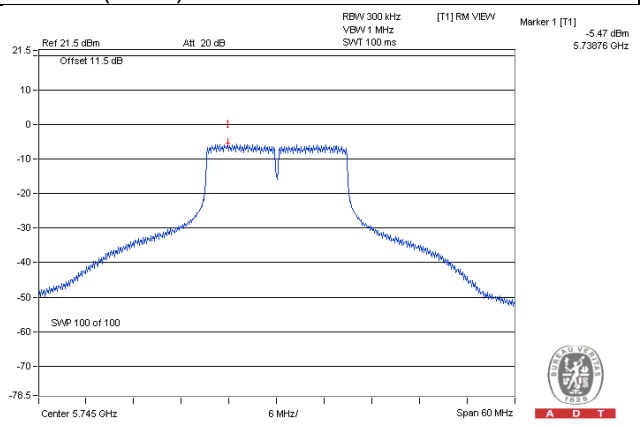
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain =3.0dBi + 10log(3)=7.8dBi > 6dBi, so the power density limit shall be reduced to 30-(7.8-6)=28.23dBm
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

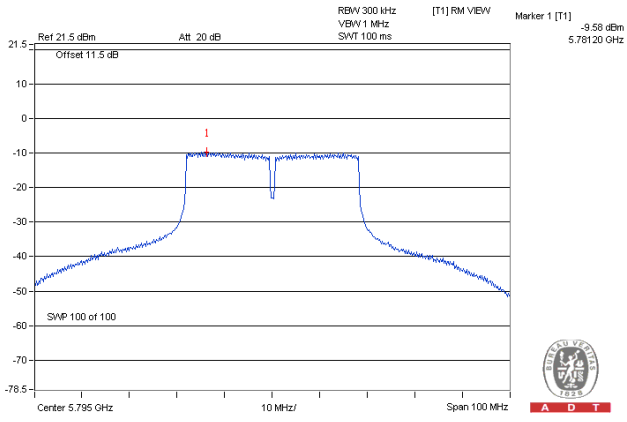
802.11a



802.11n (HT20)



802.11n (HT40)

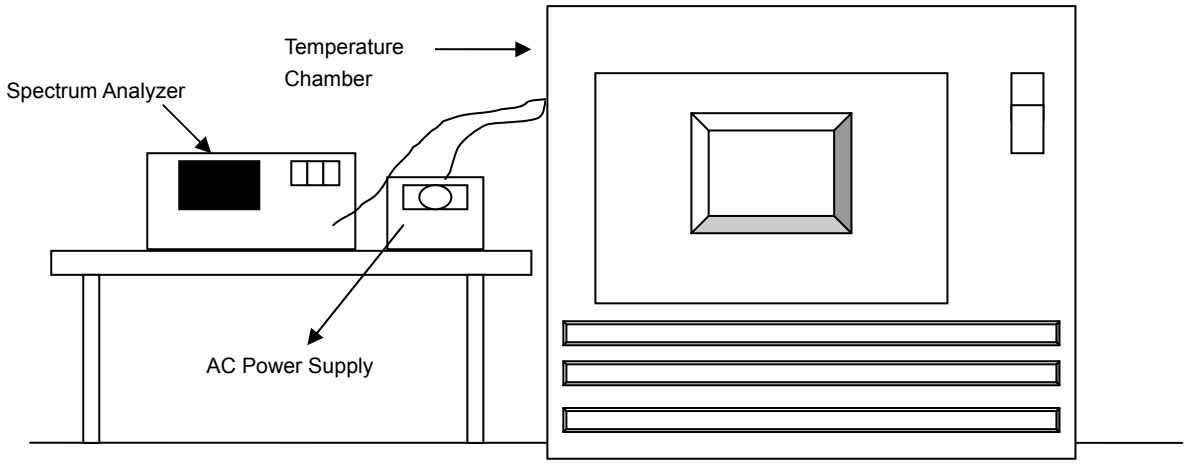


4.5 Frequency Stability

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 4.1.2 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: 5180MHz									
Temp. (℃)	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	5180.0194	0.00037	5180.0201	0.00039	5180.0203	0.00039	5180.0169	0.00033
40	120	5180.0070	0.00014	5180.0080	0.00015	5180.0080	0.00015	5180.0087	0.00017
30	120	5179.9936	-0.00012	5179.9930	-0.00014	5179.9915	-0.00016	5179.9919	-0.00016
20	120	5179.9895	-0.00020	5179.9899	-0.00019	5179.9901	-0.00019	5179.9927	-0.00014
10	120	5179.9800	-0.00039	5179.9833	-0.00032	5179.9836	-0.00032	5179.9816	-0.00036
0	120	5179.9855	-0.00028	5179.9839	-0.00031	5179.9835	-0.00032	5179.9845	-0.00030
-10	120	5179.9947	-0.00010	5179.9986	-0.00003	5179.9961	-0.00008	5179.9982	-0.00003
-20	120	5179.9896	-0.00020	5179.9903	-0.00019	5179.9878	-0.00024	5179.9884	-0.00022
-30	120	5180.0232	0.00045	5180.0255	0.00049	5180.0236	0.00046	5180.0234	0.00045

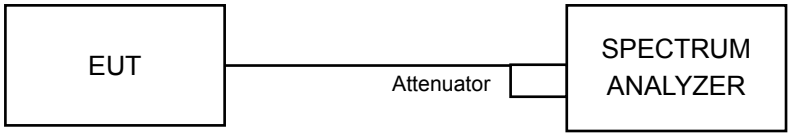
Frequency Stability Versus Voltage.									
Operating Frequency: 5180MHz									
Temp. (℃)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)
20	138	5179.9904	-0.00019	5179.9902	-0.00019	5179.9903	-0.00019	5179.9924	-0.00015
	120	5179.9895	-0.00020	5179.9899	-0.00019	5179.9901	-0.00019	5179.9927	-0.00014
	102	5179.9889	-0.00021	5179.9894	-0.00020	5179.991	-0.00017	5179.9929	-0.00014

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

MEASUREMENT PROCEDURE REF

a. Set resolution bandwidth (RBW) = 100kHz

b. Set the video bandwidth (VBW) ≥ 3 x 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 Condition

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

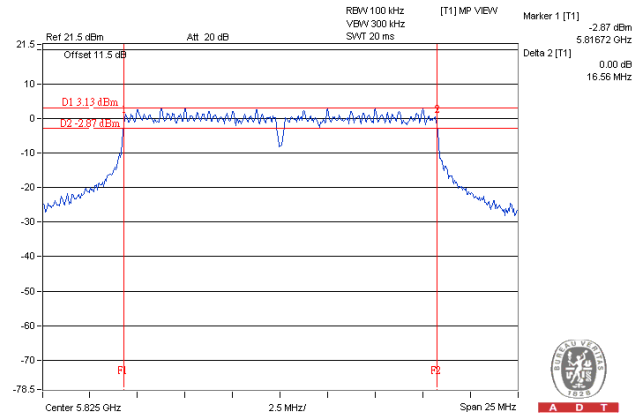
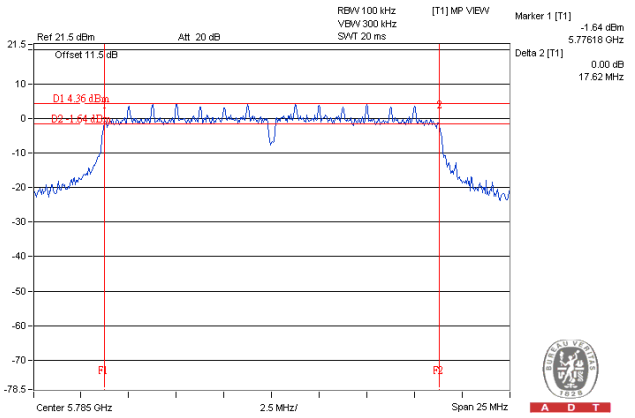
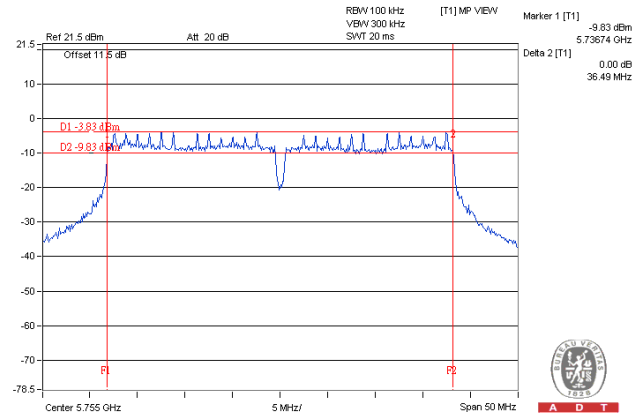
Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
149	5745	16.52	0.5	Pass
157	5785	16.55	0.5	Pass
165	5825	16.56	0.5	Pass

802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)			Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2		
149	5745	17.55	17.58	17.59	0.5	Pass
157	5785	17.62	17.61	17.62	0.5	Pass
165	5825	17.62	17.62	17.62	0.5	Pass

802.11n (HT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)			Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2		
151	5755	36.49	36.46	36.47	0.5	Pass
159	5795	35.68	36.44	36.44	0.5	Pass

Spectrum Plot of Worst Value	
802.11a	802.11n (HT20)
	
802.11n (HT40)	
	

5 Pictures of Test Arrangements

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

Appendix – Information on the Testing Laboratories

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

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

Linko EMC/RF Lab
Tel: 886-2-26052180
Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab
Tel: 886-3-6668565
Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety Lab
Tel: 886-3-3183232
Fax: 886-3-3270892

Email: service.adt@tw.bureauveritas.com
Web Site: www.bureauveritas-adt.com

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

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