

FCC Test Report

Report No.: RF150115D03-1

FCC ID: HZB-USB9100

Model: USB-9100-xx (xx should be US, WD, or JP for country differences)

Received Date: Jan. 15, 2015

Test Date: Jan. 17 ~ 27, 2015

Issued Date: Jan. 30, 2015

Applicant: Proxim Wireless Corporation

Address: 47633 Westinghouse Drive Fremont CA 94539 US

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

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(R.O.C.)



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Table of Contents

Release Control Record.....	4
1 Certificate of Conformity.....	5
2 Summary of Test Results	6
2.1 Measurement Uncertainty.....	6
2.2 Modification Record.....	6
3 General Information.....	7
3.1 General Description of EUT	7
3.2 Description of Test Modes	9
3.2.1 Test Mode Applicability and Tested Channel Detail.....	11
3.3 Duty Cycle of Test Signal.....	13
3.4 Description of Support Units.....	14
3.4.1 Configuration of System under Test	14
3.5 General Description of Applied Standards.....	15
4 Test Types and Results.....	16
4.1 Radiated Emission and Bandedge Measurement.....	16
4.1.1 Limits of Radiated Emission and Bandedge Measurement	16
4.1.2 Test Instruments	17
4.1.3 Test Procedures	18
4.1.4 Deviation from Test Standard	18
4.1.5 Test Set Up.....	19
4.1.6 EUT Operating Conditions	20
4.1.7 Test Results.....	21
4.2 Conducted Emission Measurement	60
4.2.1 Limits of Conducted Emission Measurement.....	60
4.2.2 Test Instruments	60
4.2.3 Test Procedures	61
4.2.4 Deviation from Test Standard	61
4.2.5 TEST SETUP	61
4.2.6 EUT OPERATING CONDITIONS.....	61
4.2.7 Test Results.....	62
4.3 Transmit Power Measurement.....	64
4.3.1 LIMITS OF TRANSMIT POWER MEASUREMENT	64
4.3.2 Test Setup	64
4.3.3 Test Instruments.....	64
4.3.4 Test Procedure	65
4.3.5 Deviation from Test Standard	65
4.3.6 EUT Operating Conditions	65
4.3.7 Test Result	66
4.4 Peak Power Spectral Density Measurement	73
4.4.1 LIMITS OF PEAK POWER SPECTRAL DENSITY MEASUREMENT	73
4.4.2 Test Setup	73
4.4.3 Test Instruments.....	73
4.4.4 Test Procedures	73
4.4.5 Deviation from Test Standard	74
4.4.6 EUT Operating Conditions	74
4.4.7 Test Results.....	75
4.5 Frequency Stability.....	82
4.5.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT	82
4.5.2 Test Setup	82
4.5.3 Test Instruments.....	82
4.5.4 Test Procedure	82
4.5.5 Deviation from Test Standard	82

4.5.6 EUT Operating Condition.....	82
4.5.7 Test Results.....	83
4.6 6dB Bandwidth Measurement.....	84
4.6.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT	84
4.6.2 Test Setup	84
4.6.3 Test Instruments.....	84
4.6.4 Test Procedure	84
4.6.5 Deviation from Test Standard	84
4.6.6 EUT Operating Condition.....	84
4.6.7 TEST RESULTS.....	85
5 Pictures of Test Arrangements.....	87
Appendix – Information on the Testing Laboratories.....	88



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Release Control Record

Issue No.	Description	Date Issued
RF150115D03-1	Original release	Jan. 30, 2015

1 Certificate of Conformity

Product: ORiNOCO 802.11 a/b/g/n/ac USB Adapter

Brand: ORiNOCO

Model: USB-9100-xx (xx should be US, WD, or JP for country differences)

Sample Status: Engineering sample

Applicant: Proxim Wireless Corporation

Test Date: Jan. 17 ~ 27, 2015

Standards: 47 CFR FCC Part 15, Subpart E (Section 15.407)
ANSI C63.10:2009

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:

Jan. 30, 2015

Jessica Cheng / Senior Specialist

Approved by :



Date:

Jan. 30, 2015

Rax Lai / Assistant Manager

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (SECTION 15.407)			
FCC Clause	Test Item	Result	Remarks
15.407(b)(6)	AC Power Conducted Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -10.27dB at 0.18134MHz.
15.407(b)(1/2/3/4/6)	Radiated Emissions & Band Edge Measurement	PASS	Meet the requirement of limit. Minimum passing margin is -1.1dB at 5725.00MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	PASS	Meet the requirement of limit.
15.407(a)(1/2/3)	Peak Power Spectral Density	PASS	Meet the requirement of limit.
15.407(e)	6dB bandwidth	PASS	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	No antenna connector is used.

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) ($\pm$)
Conducted Emissions at mains ports	150kHz ~ 30MHz	3.43 dB
Radiated Emissions up to 1 GHz	30MHz ~ 1GHz	4.00 dB
Radiated Emissions above 1 GHz	Above 1GHz	3.36 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	ORiNOCO 802.11 a/b/g/n/ac USB Adapter
Brand	ORiNOCO
Model	USB-9100-xx (xx should be US, WD, or JP for country differences)
Status of EUT	Engineering sample
Power Supply Rating	5Vdc 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 300Mbps 802.11ac: up to 866Mbps
Operating Frequency	5180 ~ 5240MHz, 5260 ~ 5320MHz, 5500 ~ 5700MHz 5745 ~ 5825MHz
Number of Channel	5180 ~ 5240MHz: 4 for 802.11a, 802.11n (20MHz) 2 for 802.11n (40MHz) 1 for 802.11ac (80MHz) 5260 ~ 5320MHz: 4 for 802.11a, 802.11n (20MHz) 2 for 802.11n (40MHz) 1 for 802.11ac (80MHz) 5500 ~ 5700MHz 8 for 802.11a, 802.11n (20MHz) 3 for 802.11n (40MHz) 2 for 802.11ac (80MHz) 5745 ~ 5825MHz: 5 for 802.11a, 802.11n (20MHz) 2 for 802.11n (40MHz) 1 for 802.11ac (80MHz)
Output Power	5180 ~ 5240MHz: 50.4mW 5260 ~ 5320MHz: 50.2mW 5500 ~ 5700MHz: 51.3mW 5745 ~ 5825MHz: 51.1 mW
Antenna Type	Printed antenna with 3.9dBi gain
Antenna Connector	N/A
Accessory Device	N/A
Data Cable Supplied	N/A

Note:

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

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

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

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

3.2 Description of Test Modes

FOR 5180 ~ 5240MHz

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

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

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

Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz

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

Channel	Frequency
42	5210MHz

FOR 5260 ~ 5320MHz

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

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

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

Channel	Frequency	Channel	Frequency
54	5270 MHz	62	5310 MHz

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

Channel	Frequency
58	5290MHz

FOR 5500 ~ 5700MHz

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

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

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

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

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

Channel	Frequency	Channel	Frequency
106	5530MHz	122	5610 MHz

FOR 5745 ~ 5825MHz:

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

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

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

Channel	Frequency	Channel	Frequency
151	5755MHz	159	5795MHz

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

Channel	Frequency
155	5775MHz

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE ³ 1G	RE<1G	PLC	APCM	
-	√	√	√	√	-

Where **RE³1G**: Radiated Emission above 1GHz **RE<1G**: Radiated Emission below 1GHz
PLC: Power Line Conducted Emission **APCM**: Antenna Port Conducted Measurement

Radiated Emission Test (Above 1GHz):

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

EUT CONFIGURE MODE	MODE	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 (20MHz)		36 to 48	36, 40, 48	OFDM	BPSK	13
-	802.11n (40MHz)		38 to 46	38, 46	OFDM	BPSK	27
-	802.11ac (80MHz)		42	42	OFDM	BPSK	58.6
-	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6.0
-	802.11n (20MHz)		52 to 64	52, 60, 64	OFDM	BPSK	13
-	802.11n (40MHz)		54 to 62	54, 62	OFDM	BPSK	27
-	802.11ac (80MHz)		58	58	OFDM	BPSK	58.6
-	802.11a	5500-5700	100 to 140	100, 120, 140	OFDM	BPSK	6.0
-	802.11n (20MHz)		100 to 140	100, 120, 140	OFDM	BPSK	13
-	802.11n (40MHz)		102 to 134	102, 118, 134	OFDM	BPSK	27
-	802.11ac (80MHz)		106, 122	106, 122	OFDM	BPSK	58.6
-	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6.0
-	802.11n (20MHz)		149 to 165	149, 157, 165	OFDM	BPSK	13
-	802.11n (40MHz)		151 to 159	151, 159	OFDM	BPSK	27
-	802.11ac (80MHz)		155	155	OFDM	BPSK	58.6

Radiated Emission Test (Below 1GHz):

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

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11a	5180-5320	36 to 64	36	OFDM	BPSK	6.0

Power Line Conducted Emission Test:

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

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11a	5180-5320	36 to 64	36	OFDM	BPSK	6.0

Antenna Port Conducted Measurement:

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

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	BPSK	6.0
-	802.11n (20MHz)		36 to 48	36, 40, 48	OFDM	BPSK	13
-	802.11n (40MHz)		38 to 46	38, 46	OFDM	BPSK	27
-	802.11ac (80MHz)		42	42	OFDM	BPSK	58.6
-	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6.0
-	802.11n (20MHz)		52 to 64	52, 60, 64	OFDM	BPSK	13
-	802.11n (40MHz)		54 to 62	54, 62	OFDM	BPSK	27
-	802.11ac (80MHz)		58	58	OFDM	BPSK	58.6
-	802.11a	5500-5700	100 to 140	100, 120, 140	OFDM	BPSK	6.0
-	802.11n (20MHz)		100 to 140	100, 120, 140	OFDM	BPSK	13
-	802.11n (40MHz)		102 to 134	102, 118, 134	OFDM	BPSK	27
-	802.11ac (80MHz)		106, 122	106, 122	OFDM	BPSK	58.6
-	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6.0
-	802.11n (20MHz)		149 to 165	149, 157, 165	OFDM	BPSK	13
-	802.11n (40MHz)		151 to 159	151, 159	OFDM	BPSK	27
-	802.11ac (80MHz)		155	155	OFDM	BPSK	58.6

Test Condition:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (SYSTEM)	TESTED BY
RE ³ 1G	18deg. C, 76%RH	120Vac, 60Hz	Aaron You
RE<1G	18deg. C, 76%RH	120Vac, 60Hz	Aaron You
PLC	19deg. C, 71%RH	120Vac, 60Hz	Bruce Liao
APCM	25deg. C, 60%RH	120Vac, 60Hz	Saxon Lee

3.3 Duty Cycle of Test Signal

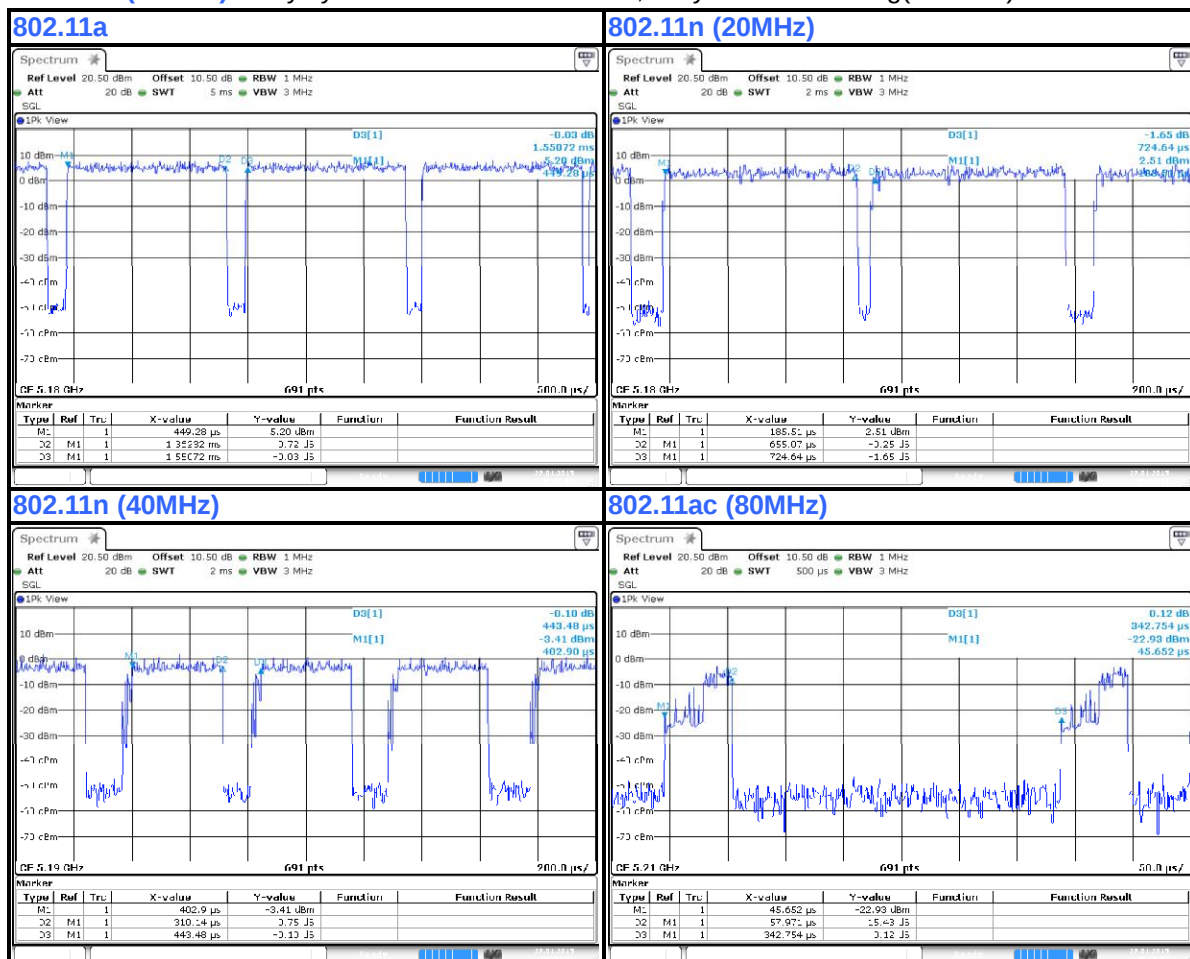
Duty cycle of test signal is < 98 %, duty factor is required

802.11a: Duty cycle = $1.362/1.55 = 0.879$, Duty factor = $10 * \log(1/0.879) = 0.56$

802.11n (20MHz): Duty cycle = $0.655/0.724 = 0.905$, Duty factor = $10 * \log(1/0.905) = 0.43$

802.11n (40MHz): Duty cycle = $0.310/0.443 = 0.70$, Duty factor = $10 * \log(1/0.70) = 1.55$

802.11ac (80MHz): Duty cycle = $0.057/0.342 = 0.167$, Duty factor = $10 * \log(1/0.167) = 7.78$



3.4 Description of Support Units

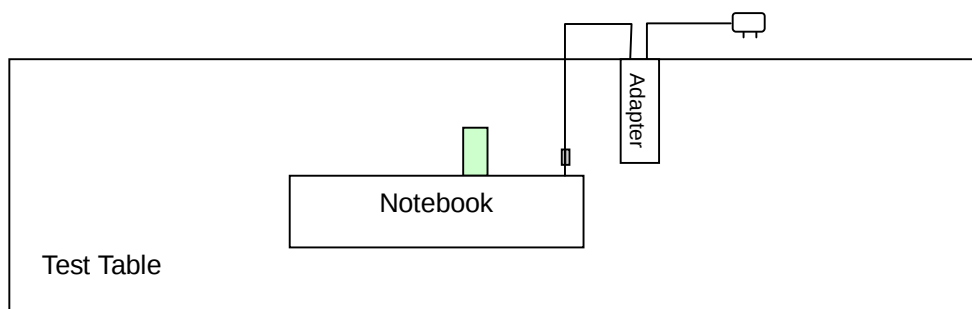
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	NOTEBOOK COMPUTER	DELL	PP27L	8SNZ12S	FCC DoC Approved	Provided by Lab
B.	Adapter	DELL	DA90PS2-00	N/A	N/A	Provided by Lab

Note:

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

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standards

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

FCC Part 15, Subpart E (15.407)

789033 D02 General UNII Test Procedures New Rules v01

662911 D01 Multiple Transmitter Output v02r01

ANSI C63.10-2009

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

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

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 20dB below the highest level of the desired power:

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

NOTE:

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

LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

APPLICABLE TO	LIMIT	
789033 D02 General UNII Test Procedures New Rules v01	FIELD STRENGTH AT 3m	
	PK:74 (dBuV/m)	AV:54 (dBuV/m)
APPLICABLE TO	EIRP LIMIT	EQUIVALENT FIELD STRENGTH AT 3m
15.407(b)(1)	PK:-27 (dBm/MHz)	PK:68.2(dBuV/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(dBuV/m) ^{*1} PK:78.2 (dBuV/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:

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

4.1.2 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
HP Preamplifier	8447D	2432A03504	Feb. 26, 2014	Feb. 25, 2015
HP Preamplifier	8449B	3008A01201	Feb. 26, 2014	Feb. 25, 2015
MITEQ Preamplifier	AMF-6F-260400-3 3-8P	892164	Mar. 01, 2014	Feb. 28, 2015
Agilent Spectrum	E4446A	MY51100050	Oct. 24, 2014	Oct. 23, 2015
Agilent TEST RECEIVER	N9038A	MY51210129	Jan. 20, 2015	Jan. 19, 2016
Schwarzbeck Antenna	VULB 9168	139	Feb. 24, 2014	Feb. 23, 2015
Schwarzbeck Antenna	VHBA 9123	480	May 29, 2013	May 28, 2015
Schwarzbeck Horn Antenna	BBHA-9170	212	Aug. 26, 2014	Aug. 25, 2015
Schwarzbeck Horn Antenna	BBHA 9120-D1	D130	Aug. 26, 2014	Aug. 25, 2015
ADT. Turn Table	TT100	0306	NA	NA
ADT. Tower	AT100	0306	NA	NA
Software	ADT_Radiated_V7. 6.15.9.4	NA	NA	NA
SUHNER RF cable	SF104	CABLE-CH6	Aug. 15, 2014	Aug. 14, 2015
SUHNER RF cable	SF102	Cable-CH8-3.6m	Aug. 15, 2014	Aug. 14, 2015
EMCO Horn Antenna	3115	00028257	Aug. 28, 2014	Aug. 27, 2015
Highpass filter Wainwright Instruments	WHK 3.1/18G-10SS	SN 8	NA	NA
ROHDE & SCHWARZ Spectrum Analyzer	FSV40	101042	Sep. 29, 2014	Sep. 28, 2015
Anritsu Power Sensor	MA2411B	0738404	Apr. 21, 2014	Apr. 20, 2015
Anritsu Power Meter	ML2495A	0842014	Apr. 21, 2014	Apr. 20, 2015

- NOTE:** 1. The calibration interval of the above test instruments is 12/24 months. And the calibrations are traceable to NML/ROC and NIST/USA.
2. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
3. The test was performed in Chamber No. 6.
4. The Industry Canada Reference No. IC 7450E-6.
5. The FCC Site Registration No. is 447212.

4.1.3 Test Procedures

- a. The EUT was placed on the top of a rotating table 0.8 meters 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:

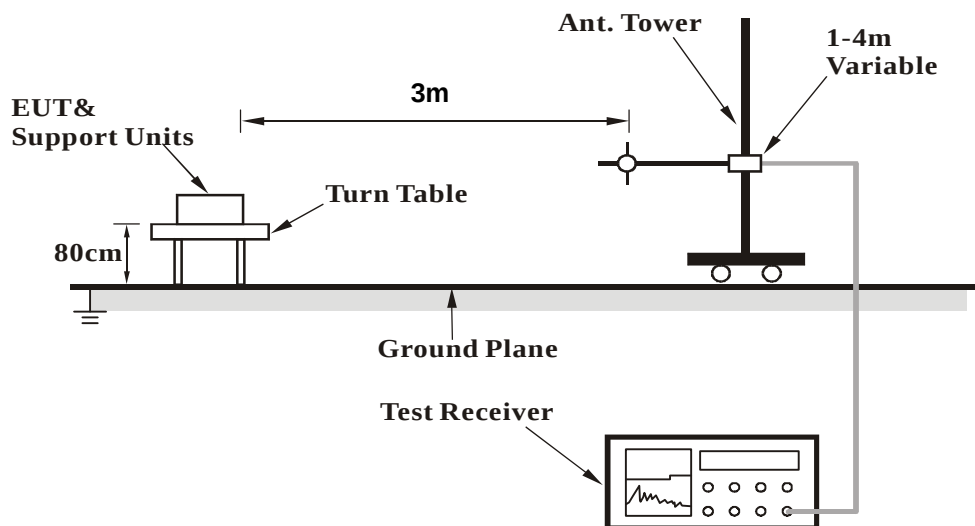
1. For emission measurements above 1 GHz, the EUT shall be placed at a height of 1.5 m above the ground at 3 meter chamber room for test
2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
4. 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 ($10 \log(1/\text{duty cycle})$).
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz.
6. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

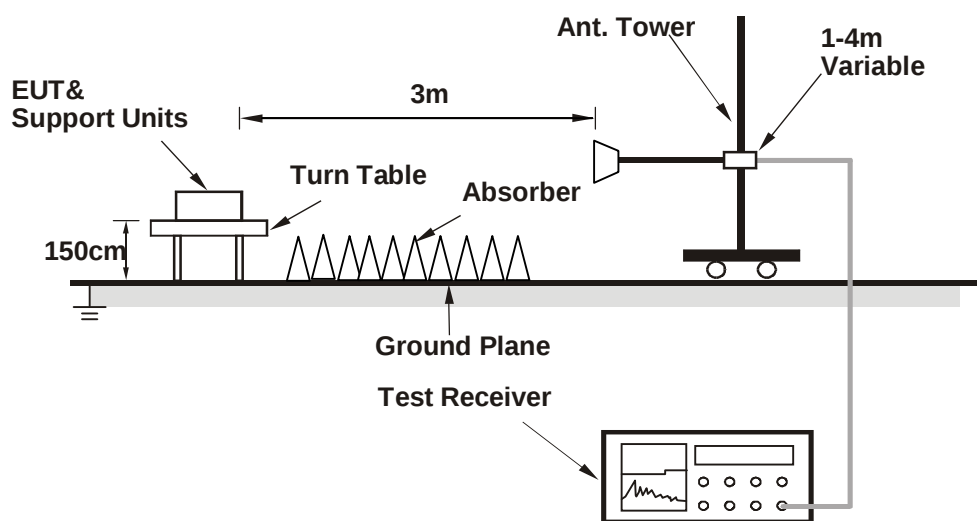
No deviation.

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

- a. Connected the EUT into notebook placed them on the testing table.
- b. The notebook system ran a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.
- c. The necessary accessories enable the system in full functions.

4.1.7 Test Results

BELOW 1GHz WORST-CASE DATA

802.11a

CHANNEL	TX Channel 36	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	124.26	35.8 QP	43.5	-7.8	2.47 H	96	51.37	-15.62
2	144.87	35.5 QP	43.5	-8.0	2.59 H	86	49.27	-13.80
3	165.59	34.6 QP	43.5	-8.9	2.26 H	84	48.11	-13.47
4	248.37	37.3 QP	46.0	-8.7	3.01 H	220	51.30	-14.03
5	620.57	39.0 QP	46.0	-7.0	1.38 H	9	44.86	-5.90
6	797.73	37.6 QP	46.0	-8.4	1.00 H	209	40.46	-2.90

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	117.87	32.9 QP	43.5	-10.6	1.00 V	0	48.96	-16.06
2	343.11	35.2 QP	46.0	-10.8	1.58 V	360	46.72	-11.51
3	386.93	36.2 QP	46.0	-9.8	1.77 V	111	46.55	-10.38
4	411.79	37.6 QP	46.0	-8.4	2.34 V	111	47.61	-9.99
5	639.17	36.9 QP	46.0	-9.1	2.29 V	134	42.51	-5.61
6	796.79	40.3 QP	46.0	-5.7	2.71 V	350	43.20	-2.93

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

ABOVE 1GHz DATA

802.11a

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	66.1 PK	74.0	-7.9	1.66 H	57	62.65	3.41
2	5150.00	47.6 AV	54.0	-6.4	1.66 H	57	44.21	3.41
3	*5180.00	110.2 PK			2.54 H	57	106.81	3.43
4	*5180.00	99.7 AV			2.54 H	57	96.24	3.43
5	#10360.00	58.0 PK	68.2	-10.3	1.51 H	101	43.56	14.39
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	58.5 PK	74.0	-15.5	2.22 V	176	55.08	3.41
2	5150.00	45.2 AV	54.0	-8.8	2.22 V	176	41.80	3.41
3	*5180.00	101.9 PK			2.22 V	176	98.43	3.43
4	*5180.00	91.5 AV			2.22 V	176	88.04	3.43
5	#10360.00	58.5 PK	68.2	-9.7	1.67 V	183	44.09	14.39

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	109.3 PK			1.27 H	51	105.89	3.43
2	*5200.00	99.5 AV			1.27 H	51	96.06	3.43
3	#10400.00	57.7 PK	68.2	-10.5	1.55 H	97	43.44	14.22
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	101.5 PK			2.29 V	178	98.11	3.43
2	*5200.00	91.0 AV			2.29 V	178	87.59	3.43
3	#10400.00	58.2 PK	68.2	-10.0	1.71 V	190	44.02	14.22

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	111.5 PK			1.42 H	58	107.97	3.54
2	*5240.00	100.9 AV			1.42 H	58	97.40	3.54
3	5350.00	56.1 PK	74.0	-17.9	1.42 H	58	52.21	3.85
4	5350.00	46.1 AV	54.0	-7.9	1.42 H	58	42.24	3.85
5	#10480.00	58.0 PK	68.2	-10.3	1.48 H	117	43.31	14.64

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	102.5 PK			1.78 V	216	98.96	3.54
2	*5240.00	92.2 AV			1.78 V	216	88.61	3.54
3	5350.00	56.0 PK	74.0	-18.0	1.78 V	216	52.11	3.85
4	5350.00	45.8 AV	54.0	-8.2	1.78 V	216	41.97	3.85
5	#10480.00	58.2 PK	68.2	-10.0	1.92 V	181	43.59	14.64

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	58.1 PK	74.0	-15.9	1.21 H	53	54.67	3.41
2	5150.00	47.6 AV	54.0	-6.4	1.21 H	53	44.23	3.41
3	*5260.00	110.6 PK			1.21 H	53	107.05	3.58
4	*5260.00	101.0 AV			1.21 H	53	97.41	3.58
5	#10520.00	58.7 PK	68.2	-9.5	1.50 H	99	43.97	14.73

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	56.8 PK	74.0	-17.2	1.78 V	216	53.35	3.41
2	5150.00	43.6 AV	54.0	-10.5	1.78 V	216	40.14	3.41
3	*5260.00	102.0 PK			1.78 V	216	98.38	3.58
4	*5260.00	92.2 AV			1.78 V	216	88.66	3.58
5	#10520.00	58.8 PK	68.2	-9.4	1.70 V	201	44.08	14.73

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	110.9 PK			1.20 H	55	107.24	3.69
2	*5300.00	99.9 AV			1.20 H	55	96.19	3.69
3	10600.00	58.0 PK	74.0	-16.0	1.59 H	87	43.26	14.71
4	10600.00	44.9 AV	54.0	-9.1	1.59 H	87	30.18	14.71
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	104.2 PK			1.20 V	209	100.55	3.69
2	*5300.00	93.2 AV			1.20 V	209	89.52	3.69
3	10600.00	58.7 PK	74.0	-15.3	1.84 V	225	43.95	14.71
4	10600.00	45.7 AV	54.0	-8.3	1.84 V	225	31.01	14.71

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	109.9 PK			1.57 H	51	106.15	3.74
2	*5320.00	99.8 AV			1.57 H	51	96.09	3.74
3	5350.00	65.9 PK	74.0	-8.1	1.57 H	51	62.04	3.85
4	5350.00	49.4 AV	54.0	-4.6	1.57 H	51	45.58	3.85
5	10640.00	59.4 PK	74.0	-14.6	1.61 H	137	44.28	15.10
6	10640.00	46.1 AV	54.0	-8.0	1.61 H	137	30.95	15.10
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	*5320.00	102.8 PK			1.19 V	209	99.10	3.74
2	*5320.00	92.9 AV			1.19 V	209	89.12	3.74
3	5350.00	61.9 PK	74.0	-12.1	1.19 V	209	58.05	3.85
4	5350.00	46.2 AV	54.0	-7.8	1.19 V	209	42.31	3.85
5	10640.00	60.1 PK	74.0	-13.9	1.88 V	197	45.02	15.10
6	10640.00	46.7 AV	54.0	-7.3	1.88 V	197	31.56	15.10

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	57.2 PK	74.0	-16.8	1.64 H	59	53.06	4.17
2	5460.00	45.2 AV	54.0	-8.8	1.64 H	59	41.03	4.17
3	#5470.00	63.3 PK	68.2	-4.9	1.64 H	59	59.08	4.19
4	*5500.00	107.1 PK			1.64 H	59	102.79	4.27
5	*5500.00	97.1 AV			1.64 H	59	92.82	4.27
6	11000.00	60.6 PK	74.0	-13.4	1.67 H	124	44.29	16.35
7	11000.00	47.4 AV	54.0	-6.6	1.67 H	124	31.02	16.35
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	56.3 PK	74.0	-17.7	1.00 V	205	52.12	4.17
2	5460.00	44.2 AV	54.0	-9.8	1.00 V	205	40.04	4.17
3	#5470.00	57.1 PK	68.2	-11.1	1.00 V	205	52.93	4.19
4	*5500.00	101.9 PK			1.00 V	205	97.62	4.27
5	*5500.00	91.6 AV			1.00 V	205	87.34	4.27
6	11000.00	61.0 PK	74.0	-13.0	1.73 V	188	44.61	16.35
7	11000.00	48.3 AV	54.0	-5.7	1.73 V	188	31.95	16.35

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5600.00	106.9 PK			1.65 H	54	102.07	4.84
2	*5600.00	97.3 AV			1.65 H	54	92.42	4.84
3	11200.00	60.4 PK	74.0	-13.6	1.59 H	116	43.79	16.65
4	11200.00	47.3 AV	54.0	-6.7	1.59 H	116	30.66	16.65
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5600.00	102.9 PK			1.41 V	214	98.09	4.84
2	*5600.00	92.0 AV			1.41 V	214	87.20	4.84
3	11200.00	60.7 PK	74.0	-13.3	1.63 V	195	44.09	16.65
4	11200.00	48.0 AV	54.0	-6.0	1.63 V	195	31.38	16.65

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	110.0 PK			1.46 H	59	105.47	4.55
2	*5700.00	99.4 AV			1.46 H	59	94.87	4.55
3	#5725.00	57.5 PK	68.2	-10.7	1.46 H	59	52.88	4.65
4	11400.00	61.1 PK	74.0	-12.9	1.53 H	120	44.11	17.00
5	11400.00	47.8 AV	54.0	-6.2	1.53 H	120	30.82	17.00
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	104.8 PK			1.45 V	219	100.24	4.55
2	*5700.00	94.5 AV			1.45 V	219	89.93	4.55
3	#5725.00	57.3 PK	68.2	-10.9	1.45 V	219	52.64	4.65
4	11400.00	61.4 PK	74.0	-12.6	1.99 V	168	44.38	17.00
5	11400.00	48.3 AV	54.0	-5.7	1.99 V	168	31.28	17.00

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5725.00	76.9 PK	78.2	-1.4	1.53 H	61	72.20	4.65
2	*5745.00	107.6 PK			1.53 H	61	102.83	4.74
3	*5745.00	97.0 AV			1.53 H	61	92.23	4.74
4	11490.00	60.7 PK	74.0	-13.3	1.07 H	283	43.58	17.16
5	11490.00	47.4 AV	54.0	-6.6	1.07 H	283	30.25	17.16
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	#5725.00	76.3 PK	78.2	-1.9	2.11 V	170	71.61	4.65
2	*5745.00	105.1 PK			2.11 V	170	100.34	4.74
3	*5745.00	95.4 AV			2.11 V	170	90.61	4.74
4	11490.00	61.1 PK	74.0	-12.9	1.25 V	229	43.91	17.16
5	11490.00	48.2 AV	54.0	-5.8	1.25 V	229	31.02	17.16

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	109.8 PK			1.54 H	11	104.93	4.91
2	*5785.00	99.6 AV			1.54 H	11	94.67	4.91
3	11570.00	60.0 PK	74.0	-14.0	1.22 H	271	43.67	16.37
4	11570.00	46.9 AV	54.0	-7.1	1.22 H	271	30.55	16.37
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	106.4 PK			2.27 V	172	101.50	4.91
2	*5785.00	96.2 AV			2.27 V	172	91.31	4.91
3	11570.00	60.4 PK	74.0	-13.6	1.08 V	243	43.99	16.37
4	11570.00	48.0 AV	54.0	-6.1	1.08 V	243	31.58	16.37

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	108.9 PK			1.35 H	12	103.86	5.05
2	*5825.00	99.2 AV			1.35 H	12	94.19	5.05
3	#5850.00	70.8 PK	78.2	-7.4	1.35 H	12	65.64	5.12
4	11650.00	59.4 PK	74.0	-14.6	1.19 H	201	43.29	16.13
5	11650.00	47.0 AV	54.0	-7.0	1.19 H	201	30.88	16.13
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	103.9 PK			1.21 V	224	98.82	5.05
2	*5825.00	94.3 AV			1.21 V	224	89.28	5.05
3	#5850.00	62.3 PK	78.2	-15.9	1.21 V	224	57.18	5.12
4	11650.00	60.0 PK	74.0	-14.0	1.37 V	242	43.89	16.13
5	11650.00	47.3 AV	54.0	-6.7	1.37 V	242	31.20	16.13

REMARKS:

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

802.11n (20MHz)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	65.8 PK	74.0	-8.2	1.41 H	56	62.37	3.41
2	5150.00	47.1 AV	54.0	-6.9	1.41 H	56	43.70	3.41
3	*5180.00	109.8 PK			1.41 H	56	106.35	3.43
4	*5180.00	97.9 AV			1.41 H	56	94.44	3.43
5	#10360.00	57.4 PK	68.2	-10.8	1.34 H	69	42.99	14.39
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	59.7 PK	74.0	-14.3	2.32 V	188	56.29	3.41
2	5150.00	44.5 AV	54.0	-9.5	2.32 V	188	41.10	3.41
3	*5180.00	103.7 PK			2.32 V	188	100.27	3.43
4	*5180.00	92.7 AV			2.32 V	188	89.31	3.43
5	#10360.00	59.0 PK	68.2	-9.2	1.61 V	220	44.58	14.39

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	108.8 PK			1.24 H	58	105.39	3.43
2	*5200.00	98.8 AV			1.24 H	58	95.32	3.43
3	#10400.00	57.1 PK	68.2	-11.1	1.72 H	201	42.89	14.22
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	103.9 PK			2.20 V	161	100.50	3.43
2	*5200.00	92.2 AV			2.20 V	161	88.73	3.43
3	#10400.00	58.1 PK	68.2	-10.1	1.58 V	227	43.88	14.22

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	109.8 PK			1.68 H	51	106.29	3.54
2	*5240.00	98.9 AV			1.68 H	51	95.34	3.54
3	5350.00	57.2 PK	74.0	-16.8	1.68 H	51	53.36	3.85
4	5350.00	45.4 AV	54.0	-8.7	1.68 H	51	41.50	3.85
5	11480.00	60.2 PK	68.2	-8.0	1.66 H	184	43.09	17.14
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	106.3 PK			2.28 V	167	102.75	3.54
2	*5240.00	94.2 AV			2.28 V	167	90.68	3.54
3	5350.00	56.7 PK	74.0	-17.3	2.28 V	167	52.85	3.85
4	5350.00	44.1 AV	54.0	-9.9	2.28 V	167	40.27	3.85
5	#10480.00	58.3 PK	68.2	-9.9	1.43 V	218	43.65	14.64

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	56.6 PK	74.0	-17.4	1.31 H	50	53.22	3.41
2	5150.00	44.2 AV	54.0	-9.8	1.31 H	50	40.83	3.41
3	*5260.00	110.8 PK			1.31 H	50	107.26	3.58
4	*5260.00	99.4 AV			1.31 H	50	95.82	3.58
5	11520.00	59.6 PK	74.0	-14.4	1.40 H	76	42.67	16.95
6	11520.00	47.1 AV	54.0	-6.9	1.40 H	76	30.11	16.95
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	55.9 PK	74.0	-18.1	1.51 V	208	52.53	3.41
2	5150.00	43.7 AV	54.0	-10.3	1.51 V	208	40.27	3.41
3	*5260.00	103.5 PK			1.51 V	208	99.93	3.58
4	*5260.00	92.3 AV			1.51 V	208	88.75	3.58
5	11520.00	60.1 PK	74.0	-14.0	1.68 V	223	43.10	16.95
6	11520.00	47.8 AV	54.0	-6.2	1.68 V	223	30.88	16.95

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	109.1 PK			1.57 H	49	105.43	3.69
2	*5300.00	98.3 AV			1.57 H	49	94.64	3.69
3	10600.00	57.9 PK	74.0	-16.1	1.30 H	71	43.20	14.71
4	10600.00	45.6 AV	54.0	-8.4	1.30 H	71	30.86	14.71
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	104.2 PK			1.50 V	209	100.50	3.69
2	*5300.00	92.2 AV			1.50 V	209	88.54	3.69
3	10600.00	58.3 PK	74.0	-15.7	1.15 V	214	43.58	14.71
4	10600.00	45.8 AV	54.0	-8.2	1.15 V	214	31.13	14.71

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	109.1 PK			1.36 H	55	105.38	3.74
2	*5320.00	98.5 AV			1.36 H	55	94.77	3.74
3	5350.00	66.1 PK	74.0	-8.0	1.36 H	55	62.20	3.85
4	5350.00	47.7 AV	54.0	-6.3	1.36 H	55	43.84	3.85
5	10640.00	58.3 PK	74.0	-15.7	1.55 H	100	43.22	15.10
6	10640.00	46.0 AV	54.0	-8.0	1.55 H	100	30.89	15.10
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	*5320.00	102.3 PK			1.84 V	208	98.52	3.74
2	*5320.00	92.2 AV			1.84 V	208	88.43	3.74
3	5350.00	56.7 PK	74.0	-17.3	1.84 V	208	52.87	3.85
4	5350.00	44.5 AV	54.0	-9.5	1.84 V	208	40.64	3.85
5	10640.00	59.1 PK	74.0	-14.9	1.24 V	220	44.02	15.10
6	10640.00	46.4 AV	54.0	-7.7	1.24 V	220	31.25	15.10

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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	57.8 PK	74.0	-16.3	1.63 H	29	53.58	4.17
2	5460.00	45.2 AV	54.0	-8.9	1.63 H	29	40.98	4.17
3	#5470.00	63.1 PK	68.2	-5.1	1.63 H	29	58.89	4.19
4	*5500.00	108.4 PK			1.63 H	29	104.14	4.27
5	*5500.00	97.0 AV			1.63 H	29	92.71	4.27
6	11000.00	60.6 PK	74.0	-13.4	1.50 H	63	44.26	16.35
7	11000.00	47.3 AV	54.0	-6.7	1.50 H	63	30.97	16.35
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	56.3 PK	74.0	-17.7	2.02 V	172	52.12	4.17
2	5460.00	44.4 AV	54.0	-9.6	2.02 V	172	40.22	4.17
3	#5470.00	59.8 PK	68.2	-8.4	2.02 V	172	55.61	4.19
4	*5500.00	106.0 PK			2.02 V	172	101.72	4.27
5	*5500.00	94.1 AV			2.02 V	172	89.86	4.27
6	11000.00	61.0 PK	74.0	-13.0	1.43 V	209	44.69	16.35
7	11000.00	48.2 AV	54.0	-5.8	1.43 V	209	31.87	16.35

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5600.00	108.2 PK			1.38 H	31	103.31	4.84
2	*5600.00	96.6 AV			1.38 H	31	91.71	4.84
3	11200.00	60.1 PK	74.0	-13.9	1.48 H	69	43.41	16.65
4	11200.00	47.3 AV	54.0	-6.7	1.48 H	69	30.69	16.65
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5600.00	101.7 PK			1.07 V	206	96.81	4.84
2	*5600.00	91.8 AV			1.07 V	206	86.96	4.84
3	11200.00	60.7 PK	74.0	-13.3	1.39 V	231	44.02	16.65
4	11200.00	48.0 AV	54.0	-6.0	1.39 V	231	31.39	16.65

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	109.8 PK			1.30 H	12	105.28	4.55
2	*5700.00	99.7 AV			1.30 H	12	95.12	4.55
3	#5725.00	67.1 PK	68.2	-1.1	1.30 H	12	62.42	4.65
4	11400.00	60.7 PK	74.0	-13.3	1.08 H	91	43.67	17.00
5	11400.00	47.5 AV	54.0	-6.5	1.08 H	91	30.50	17.00
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	101.3 PK			1.00 V	113	96.70	4.55
2	*5700.00	89.6 AV			1.00 V	113	85.02	4.55
3	#5725.00	57.0 PK	68.2	-11.2	1.00 V	113	52.34	4.65
4	11400.00	61.0 PK	74.0	-13.0	1.70 V	221	44.01	17.00
5	11400.00	48.0 AV	54.0	-6.0	1.70 V	221	30.98	17.00

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5725.00	74.3 PK	78.2	-3.9	1.56 H	26	69.61	4.65
2	*5745.00	108.9 PK			1.56 H	26	104.14	4.74
3	*5745.00	98.4 AV			1.56 H	26	93.64	4.74
4	11490.00	60.3 PK	74.0	-13.7	1.48 H	100	43.15	17.16
5	11490.00	47.8 AV	54.0	-6.2	1.48 H	100	30.68	17.16
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	#5725.00	73.8 PK	78.2	-4.4	2.02 V	164	69.17	4.65
2	*5745.00	105.6 PK			2.02 V	164	100.85	4.74
3	*5745.00	94.2 AV			2.02 V	164	89.49	4.74
4	11490.00	60.8 PK	74.0	-13.2	1.27 V	198	43.66	17.16
5	11490.00	48.7 AV	54.0	-5.3	1.27 V	198	31.58	17.16

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	109.6 PK			1.54 H	18	104.71	4.91
2	*5785.00	98.3 AV			1.54 H	18	93.35	4.91
3	11570.00	59.7 PK	74.0	-14.3	1.66 H	88	43.29	16.37
4	11570.00	46.9 AV	54.0	-7.1	1.66 H	88	30.51	16.37
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	106.1 PK			1.01 V	163	101.19	4.91
2	*5785.00	94.6 AV			1.01 V	163	89.65	4.91
3	11570.00	60.0 PK	74.0	-14.0	1.54 V	208	43.65	16.37
4	11570.00	47.4 AV	54.0	-6.7	1.54 V	208	30.98	16.37

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	109.2 PK			1.52 H	10	104.18	5.05
2	*5825.00	97.8 AV			1.52 H	10	92.78	5.05
3	#5850.00	66.8 PK	78.2	-11.4	1.52 H	10	61.66	5.12
4	11650.00	59.0 PK	74.0	-15.0	1.16 H	337	42.91	16.13
5	11650.00	47.2 AV	54.0	-6.8	1.16 H	337	31.05	16.13
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	106.1 PK			1.07 V	159	101.03	5.05
2	*5825.00	93.9 AV			1.07 V	159	88.87	5.05
3	#5850.00	62.0 PK	78.2	-16.3	1.07 V	159	56.83	5.12
4	11650.00	60.2 PK	74.0	-13.8	1.62 V	229	44.09	16.13
5	11650.00	47.4 AV	54.0	-6.6	1.62 V	229	31.24	16.13

REMARKS:

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

802.11n (40MHz)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	65.8 PK	74.0	-8.2	1.81 H	48	62.35	3.41
2	5150.00	48.1 AV	54.0	-5.9	1.81 H	48	44.71	3.41
3	*5190.00	104.3 PK			1.81 H	48	100.89	3.42
4	*5190.00	92.6 AV			1.81 H	48	89.16	3.42
5	#10380.00	58.0 PK	68.2	-10.2	1.45 H	68	43.66	14.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	60.1 PK	74.0	-13.9	2.20 V	189	56.68	3.41
2	5150.00	45.1 AV	54.0	-8.9	2.20 V	189	41.70	3.41
3	*5190.00	101.3 PK			2.20 V	189	97.83	3.42
4	*5190.00	88.1 AV			2.20 V	189	84.70	3.42
5	#10380.00	58.5 PK	68.2	-9.7	1.74 V	201	44.17	14.30

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5230.00	105.1 PK			1.55 H	57	101.54	3.51
2	*5230.00	93.4 AV			1.55 H	57	89.91	3.51
3	5350.00	59.1 PK	74.0	-14.9	1.55 H	57	55.29	3.85
4	5350.00	46.0 AV	54.0	-8.0	1.55 H	57	42.13	3.85
5	#10460.00	58.1 PK	68.2	-10.1	1.48 H	65	43.55	14.53
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5230.00	100.8 PK			2.08 V	183	97.24	3.51
2	*5230.00	87.8 AV			2.08 V	183	84.32	3.51
3	5350.00	57.8 PK	74.0	-16.2	2.08 V	183	53.99	3.85
4	5350.00	44.6 AV	54.0	-9.4	2.08 V	183	40.73	3.85
5	#10460.00	58.9 PK	68.2	-9.3	1.83 V	197	44.41	14.53

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	58.9 PK	74.0	-15.1	1.45 H	50	55.51	3.41
2	5150.00	44.7 AV	54.0	-9.3	1.45 H	50	41.25	3.41
3	*5270.00	106.6 PK			1.45 H	50	103.01	3.61
4	*5270.00	94.3 AV			1.45 H	50	90.64	3.61
5	#10540.00	58.8 PK	68.2	-9.4	1.62 H	87	44.10	14.73

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	1.03 V	205	53.21	3.41
2	5150.00	44.0 AV	54.0	-10.0	1.03 V	205	40.61	3.41
3	*5270.00	100.3 PK			1.03 V	205	96.66	3.61
4	*5270.00	86.9 AV			1.03 V	205	83.28	3.61
5	#10540.00	59.6 PK	68.2	-8.6	1.69 V	197	44.86	14.73

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	105.8 PK			1.69 H	56	102.06	3.72
2	*5310.00	93.2 AV			1.69 H	56	89.50	3.72
3	5350.00	72.3 PK	74.0	-1.7	1.67 H	56	68.41	3.85
4	5350.00	52.5 AV	54.0	-1.6	1.67 H	56	48.60	3.85
5	10620.00	58.6 PK	74.0	-15.4	1.52 H	114	43.65	14.91
6	10620.00	45.8 AV	54.0	-8.2	1.52 H	114	30.87	14.91
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	100.2 PK			1.42 V	208	96.50	3.72
2	*5310.00	87.0 AV			1.42 V	208	83.27	3.72
3	5350.00	67.3 PK	74.0	-6.7	1.42 V	208	63.49	3.85
4	5350.00	47.1 AV	54.0	-6.9	1.42 V	208	43.26	3.85
5	10620.00	59.1 PK	74.0	-14.9	2.04 V	211	44.21	14.91
6	10620.00	46.9 AV	54.0	-7.1	2.04 V	211	31.98	14.91

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	61.7 PK	74.0	-12.3	1.36 H	8	57.56	4.17
2	5460.00	46.5 AV	54.0	-7.5	1.36 H	8	42.32	4.17
3	#5470.00	65.5 PK	68.2	-2.7	1.36 H	8	61.34	4.19
4	*5510.00	104.7 PK			1.36 H	8	100.34	4.32
5	*5510.00	92.5 AV			1.36 H	8	88.22	4.32
6	11020.00	60.6 PK	74.0	-13.4	1.79 H	184	44.27	16.31
7	11020.00	47.6 AV	54.0	-6.4	1.79 H	184	31.26	16.31
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	57.6 PK	74.0	-16.4	1.00 V	325	53.40	4.17
2	5460.00	44.9 AV	54.0	-9.1	1.00 V	325	40.74	4.17
3	#5470.00	59.8 PK	68.2	-8.4	1.00 V	325	55.63	4.19
4	*5510.00	97.8 PK			1.00 V	325	93.44	4.32
5	*5510.00	86.1 AV			1.00 V	325	81.81	4.32
6	11020.00	61.2 PK	74.0	-12.8	1.89 V	211	44.86	16.31
7	11020.00	48.4 AV	54.0	-5.6	1.89 V	211	32.08	16.31

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5590.00	104.0 PK			1.76 H	25	99.20	4.79
2	*5590.00	91.6 AV			1.76 H	25	86.79	4.79
3	11180.00	59.0 PK	74.0	-15.0	1.51 H	73	42.49	16.55
4	11180.00	46.4 AV	54.0	-7.6	1.51 H	73	29.87	16.55
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	*5590.00	99.5 PK			1.12 V	160	94.71	4.79
2	*5590.00	86.9 AV			1.12 V	160	82.07	4.79
3	11180.00	60.2 PK	74.0	-13.9	1.30 V	226	43.60	16.55
4	11180.00	48.0 AV	54.0	-6.0	1.30 V	226	31.46	16.55

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	106.8 PK			1.58 H	9	102.19	4.64
2	*5670.00	93.5 AV			1.58 H	9	88.83	4.64
3	#5725.00	63.2 PK	68.2	-5.0	1.58 H	9	58.52	4.65
4	11340.00	59.4 PK	74.0	-14.6	1.47 H	58	42.78	16.59
5	11340.00	47.2 AV	54.0	-6.8	1.47 H	58	30.59	16.59
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	96.9 PK			1.90 V	145	92.25	4.64
2	*5670.00	84.7 AV			1.90 V	145	80.05	4.64
3	#5725.00	57.7 PK	68.2	-10.5	1.90 V	145	53.01	4.65
4	11340.00	59.7 PK	74.0	-14.3	1.88 V	200	43.11	16.59
5	11340.00	47.5 AV	54.0	-6.5	1.88 V	200	30.89	16.59

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5725.00	73.9 PK	78.2	-4.3	1.66 H	14	69.27	4.65
2	*5755.00	106.4 PK			1.66 H	14	101.61	4.78
3	*5755.00	93.9 AV			1.66 H	14	89.09	4.78
4	11510.00	60.1 PK	74.0	-13.9	1.41 H	110	43.02	17.06
5	11510.00	48.0 AV	54.0	-6.1	1.41 H	110	30.89	17.06
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	#5725.00	69.7 PK	78.2	-8.5	2.17 V	182	65.03	4.65
2	*5755.00	103.0 PK			2.17 V	182	98.23	4.78
3	*5755.00	91.8 AV			2.17 V	182	87.03	4.78
4	11510.00	61.3 PK	74.0	-12.7	1.92 V	183	44.26	17.06
5	11510.00	48.6 AV	54.0	-5.4	1.92 V	183	31.55	17.06

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5795.00	105.7 PK			1.60 H	8	100.73	4.95
2	*5795.00	93.4 AV			1.60 H	8	88.42	4.95
3	#5850.00	62.9 PK	78.2	-15.3	1.60 H	8	57.77	5.12
4	11590.00	59.4 PK	74.0	-14.6	1.27 H	80	43.26	16.14
5	11590.00	46.4 AV	54.0	-7.7	1.27 H	80	30.21	16.14

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5795.00	101.6 PK			2.17 V	161	96.62	4.95
2	*5795.00	88.9 AV			2.17 V	161	83.98	4.95
3	#5850.00	58.2 PK	78.2	-20.0	2.17 V	161	53.12	5.12
4	11590.00	60.3 PK	74.0	-13.7	1.77 V	189	44.17	16.14
5	11590.00	47.2 AV	54.0	-6.8	1.77 V	189	31.02	16.14

REMARKS:

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

802.11ac BW80

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	68.5 PK	74.0	-5.5	1.98 H	140	64.61	3.90
2	5150.00	47.0 AV	54.0	-7.0	1.98 H	140	43.08	3.90
3	*5210.00	101.6 PK			1.98 H	140	97.70	3.88
4	*5210.00	85.9 AV			1.98 H	140	82.05	3.88
5	5350.00	57.4 PK	74.0	-16.6	1.98 H	140	53.08	4.28
6	5350.00	43.9 AV	54.0	-10.1	1.98 H	140	39.65	4.28
7	#10420.00	54.9 PK	68.2	-13.3	1.36 H	72	42.05	12.87
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	63.8 PK	74.0	-10.2	2.56 V	291	59.89	3.90
2	5150.00	46.4 AV	54.0	-7.6	2.56 V	291	42.49	3.90
3	*5210.00	97.3 PK			2.56 V	291	93.45	3.88
4	*5210.00	79.3 AV			2.56 V	291	75.38	3.88
5	5350.00	57.8 PK	74.0	-16.3	2.56 V	291	53.47	4.28
6	5350.00	44.2 AV	54.0	-9.8	2.56 V	291	39.91	4.28
7	#10420.00	55.5 PK	68.2	-12.7	1.66 V	237	42.61	12.87

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	56.8 PK	74.0	-17.2	1.97 H	139	52.94	3.90
2	5150.00	43.4 AV	54.0	-10.6	1.97 H	139	39.49	3.90
3	*5290.00	102.0 PK			1.97 H	139	97.86	4.15
4	*5290.00	86.8 AV			1.97 H	139	82.61	4.15
5	5350.00	69.1 PK	74.0	-4.9	1.97 H	139	64.86	4.28
6	5350.00	52.0 AV	54.0	-2.0	1.97 H	139	47.74	4.28
7	#10580.00	55.3 PK	68.2	-12.9	1.41 H	78	42.17	13.10
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	57.2 PK	74.0	-16.8	2.53 V	290	53.28	3.90
2	5150.00	43.7 AV	54.0	-10.3	2.53 V	290	39.80	3.90
3	*5290.00	98.0 PK			2.53 V	290	93.86	4.15
4	*5290.00	79.9 AV			2.53 V	290	75.71	4.15
5	5350.00	63.2 PK	74.0	-10.8	2.53 V	290	58.93	4.28
6	5350.00	46.4 AV	54.0	-7.6	2.53 V	290	42.16	4.28
7	#10580.00	55.9 PK	68.2	-12.3	1.60 V	229	42.76	13.10

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	63.2 PK	74.0	-10.8	1.40 H	188	58.64	4.56
2	5460.00	47.9 AV	54.0	-6.1	1.40 H	188	43.32	4.56
3	#5470.00	66.0 PK	68.2	-2.2	1.40 H	188	61.37	4.59
4	*5530.00	102.0 PK			1.40 H	188	97.16	4.83
5	*5530.00	86.8 AV			1.40 H	188	81.95	4.83
6	11060.00	56.8 PK	74.0	-17.2	1.37 H	74	42.35	14.44
7	11060.00	44.3 AV	54.0	-9.7	1.37 H	74	29.86	14.44
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	60.8 PK	74.0	-13.2	2.49 V	278	56.25	4.56
2	5460.00	46.1 AV	54.0	-8.0	2.49 V	278	41.49	4.56
3	#5470.00	61.8 PK	68.2	-6.4	2.49 V	278	57.22	4.59
4	*5530.00	98.0 PK			2.49 V	278	93.14	4.83
5	*5530.00	80.2 AV			2.49 V	278	75.38	4.83
6	11060.00	57.3 PK	74.0	-16.7	1.53 V	225	42.88	14.44
7	11060.00	44.8 AV	54.0	-9.2	1.53 V	225	30.39	14.44

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5610.00	103.4 PK			1.37 H	163	98.16	5.19
2	*5610.00	88.0 AV			1.37 H	163	82.84	5.19
3	#5725.00	63.9 PK	68.2	-4.3	1.37 H	163	58.92	4.99
4	11220.00	58.1 PK	74.0	-15.9	1.33 H	76	43.28	14.81
5	11220.00	45.9 AV	54.0	-8.1	1.33 H	76	31.09	14.81
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5610.00	98.8 PK			2.43 V	289	93.62	5.19
2	*5610.00	81.3 AV			2.43 V	289	76.07	5.19
3	#5725.00	58.5 PK	68.2	-9.7	2.43 V	289	53.49	4.99
4	11220.00	58.5 PK	74.0	-15.5	1.64 V	229	43.69	14.81
5	11220.00	46.4 AV	54.0	-7.6	1.64 V	229	31.57	14.81

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5725.00	72.8 PK	78.2	-5.4	1.51 H	183	67.81	4.99
2	*5775.00	104.1 PK			1.51 H	183	98.88	5.21
3	*5775.00	88.3 AV			1.51 H	183	83.07	5.21
4	#5850.00	69.8 PK	78.2	-8.4	1.51 H	183	64.45	5.39
5	11550.00	57.9 PK	74.0	-16.1	1.45 H	88	43.54	14.35
6	11550.00	46.0 AV	54.0	-8.0	1.45 H	88	31.67	14.35
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	#5725.00	69.3 PK	78.2	-8.9	2.44 V	289	64.35	4.99
2	*5775.00	99.9 PK			2.44 V	289	94.67	5.21
3	*5775.00	82.2 AV			2.44 V	289	76.95	5.21
4	#5850.00	65.7 PK	78.2	-12.5	2.44 V	289	60.32	5.39
5	11550.00	58.3 PK	74.0	-15.7	1.27 V	96	43.98	14.35
6	11550.00	46.2 AV	54.0	-7.8	1.27 V	96	31.84	14.35

REMARKS:

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

4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

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

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

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

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
ROHDE & SCHWARZ TEST RECEIVER	ESCS 30	100276	Apr. 18, 2014	Apr. 17, 2015
ROHDE & SCHWARZ Artificial Mains Network (for EUT)	ENV216	101197	Apr. 18, 2014	Apr. 17, 2015
LISN With Adapter (for EUT)	AD10	C10Ada-002	Apr. 18, 2014	Apr. 17, 2015
ROHDE & SCHWARZ Artificial Mains Network (for peripherals)	ESH3-Z5	100218	Nov. 25, 2014	Nov. 24, 2015
SCHWARZBECK Artificial Mains Network (For EUT)	NNLK8129	8129229	May 08, 2014	May 07, 2015
Software	ADT_Cond_V7.3.7	NA	NA	NA
RF cable (JYEBAO)	5D-FB	Cable-C10.01	Feb. 18, 2014	Feb. 17, 2015
SUHNTER Terminator (For ROHDE & SCHWARZ LISN)	65BNC-5001	E1-011484	May 27, 2014	May 26, 2015
ROHDE & SCHWARZ Artificial Mains Network (For TV EUT)	ESH3-Z5	100220	Nov. 20, 2014	Nov. 19, 2015
LISN With Adapter (for TV EUT)	100220	N/A	Nov. 20, 2014	Nov. 19, 2015

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 Shielded Room No. 10.

3. The VCCI Site Registration No. C-1852.

4.2.3 Test Procedures

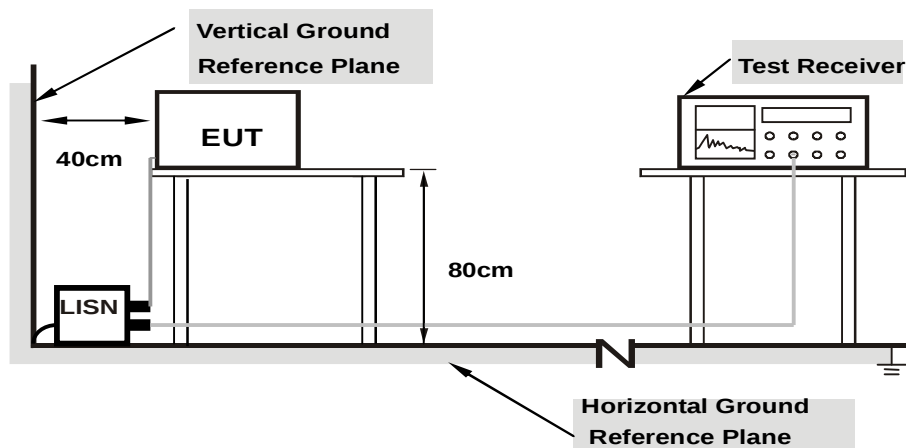
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

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

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 TEST SETUP



**Note: 1.Support units were connected to second LISN.
2.Both of LISNs (AMN) are 80 cm from EUT and at least 80
from other units and other metal planes**

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

4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6.

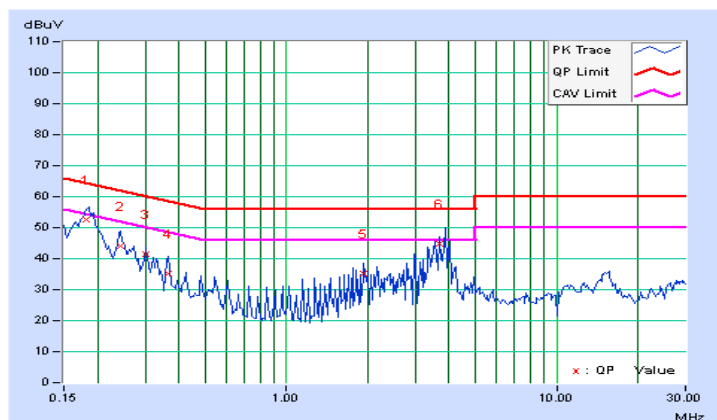
4.2.7 Test Results

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.18134	9.66	42.88	34.49	52.54	44.15	64.42	54.42	-11.88	-10.27
2	0.24247	9.66	34.27	28.66	43.93	38.32	62.01	52.01	-18.08	-13.69
3	0.30234	9.67	31.74	25.16	41.41	34.83	60.18	50.18	-18.77	-15.35
4	0.36484	9.67	25.50	19.16	35.17	28.83	58.62	48.62	-23.45	-19.79
5	1.93750	9.70	25.49	20.44	35.19	30.14	56.00	46.00	-20.81	-15.86
6	3.68750	9.73	35.22	23.42	44.95	33.15	56.00	46.00	-11.05	-12.85

REMARKS:

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

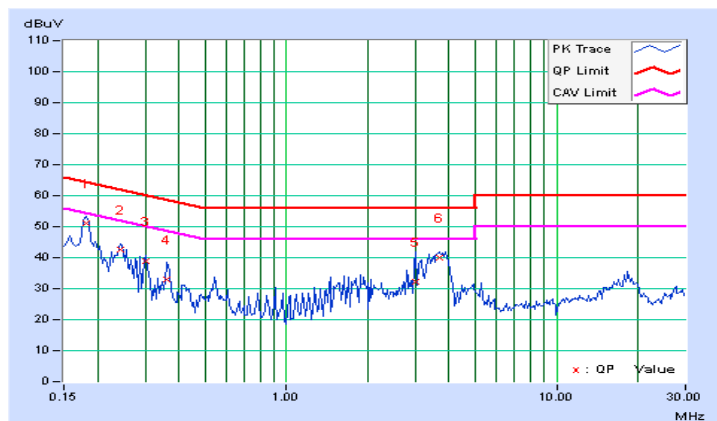


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.18125	9.67	41.51	33.11	51.18	42.78	64.43	54.43	-13.25	-11.65
2	0.24375	9.67	33.08	28.05	42.75	37.72	61.97	51.97	-19.22	-14.25
3	0.30234	9.68	29.32	22.28	39.00	31.96	60.18	50.18	-21.18	-18.22
4	0.36094	9.68	23.14	18.67	32.82	28.35	58.71	48.71	-25.89	-20.36
5	3.02352	9.72	22.63	12.97	32.35	22.69	56.00	46.00	-23.65	-23.31
6	3.68359	9.73	30.21	18.17	39.94	27.90	56.00	46.00	-16.06	-18.10

REMARKS:

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



4.3 Transmit Power Measurement

4.3.1 LIMITS OF TRANSMIT POWER MEASUREMENT

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

*B is the 26 dB emission bandwidth in megahertz

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

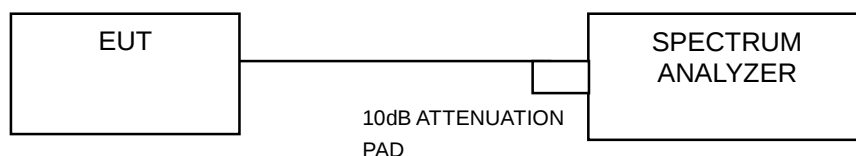
Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;

Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 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



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

FOR AVERAGE POWER MEASUREMENT

For 802.11a, 802.11n (20MHz), 802.11n (40MHz)

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

For 802.11ac (80MHz)

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

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

CHANNEL	CHANNEL FREQUENCY (MHz)	MAXIMUM CONDUCTED POWER (mW)	MAXIMUM CONDUCTED POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
36	5180	32.4	15.10	24	PASS
40	5200	32.6	15.13	24	PASS
48	5240	31.0	14.92	24	PASS
52	5260	30.6	14.86	24	PASS
60	5300	31.4	14.97	24	PASS
64	5320	33.7	15.28	24	PASS
100	5500	30.0	14.77	24	PASS
120	5600	32.0	15.05	24	PASS
140	5700	32.9	15.17	24	PASS
149	5745	21.1	13.24	30	PASS
157	5785	31.8	15.02	30	PASS
165	5825	31.1	14.93	30	PASS

NOTE:

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

1. $11\text{dBm} + 10\log(27.70) = 25.42\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(26.06) = 25.16\text{ dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(26.47) = 25.23\text{ dBm} > 24\text{dBm}$.
4. $11\text{dBm} + 10\log(23.86) = 24.78\text{ dBm} > 24\text{dBm}$.
5. $11\text{dBm} + 10\log(21.52) = 24.33\text{ dBm} > 24\text{dBm}$.
6. $11\text{dBm} + 10\log(21.73) = 24.37\text{ dBm} > 24\text{dBm}$.

802.11n (20MHz)

CHAN.	FREQ. (MHz)	MAXIMUM CONDUCTED POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
36	5180	14.07	13.89	50.0	16.99	24	PASS
40	5200	13.97	13.76	48.7	16.88	24	PASS
48	5240	14.06	13.97	50.4	17.03	24	PASS
52	5260	13.93	14.03	50.0	16.99	24	PASS
60	5300	13.84	14.01	49.4	16.94	24	PASS
64	5320	13.97	14.03	50.2	17.01	24	PASS
100	5500	13.96	14.05	50.3	17.02	24	PASS
120	5600	14.09	14.10	51.3	17.11	24	PASS
140	5700	13.57	13.58	45.6	16.59	24	PASS
149	5745	14.04	14.01	50.5	17.04	30	PASS
157	5785	14.03	14.12	51.1	17.09	30	PASS
165	5825	13.98	14.01	50.2	17.01	30	PASS

NOTE:

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

CHAIN 0

1. $11\text{dBm} + 10\log(24.54) = 24.90\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(22.40) = 24.50\text{ dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(22.87) = 24.59\text{ dBm} > 24\text{dBm}$.
4. $11\text{dBm} + 10\log(22.07) = 24.44\text{ dBm} > 24\text{dBm}$.
5. $11\text{dBm} + 10\log(22.54) = 24.53\text{ dBm} > 24\text{dBm}$.
6. $11\text{dBm} + 10\log(22.31) = 24.48\text{ dBm} > 24\text{dBm}$.

CHAIN 1

1. $11\text{dBm} + 10\log(29.32) = 25.67\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(25.13) = 25.00\text{ dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(26.31) = 25.20\text{ dBm} > 24\text{dBm}$.
4. $11\text{dBm} + 10\log(22.11) = 24.45\text{ dBm} > 24\text{dBm}$.
5. $11\text{dBm} + 10\log(22.23) = 24.47\text{ dBm} > 24\text{dBm}$.
6. $11\text{dBm} + 10\log(22.15) = 24.45\text{ dBm} > 24\text{dBm}$.

802.11n (40MHz)

CHAN.	FREQ. (MHz)	MAXIMUM CONDUCTED POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
38	5190	12.98	12.87	39.2	15.94	24	PASS
46	5230	12.86	13.02	39.4	15.95	24	PASS
54	5270	13.06	12.94	39.9	16.01	24	PASS
62	5310	13.04	13.08	40.5	16.07	24	PASS
102	5510	13.02	12.94	39.7	15.99	24	PASS
118	5590	12.97	13.02	39.9	16.01	24	PASS
134	5670	12.99	12.96	39.7	15.99	24	PASS
151	5755	13.02	13.02	40.1	16.03	30	PASS
159	5795	13.04	13.03	40.2	16.05	30	PASS

NOTE:

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

CHAIN 0

1. $11\text{dBm} + 10\log(45.30) = 27.56\text{ dBm} > 24\text{dBm}.$
2. $11\text{dBm} + 10\log(45.46) = 27.58\text{ dBm} > 24\text{dBm}.$
3. $11\text{dBm} + 10\log(44.93) = 27.53\text{ dBm} > 24\text{dBm}.$
4. $11\text{dBm} + 10\log(45.60) = 27.59\text{ dBm} > 24\text{dBm}.$
5. $11\text{dBm} + 10\log(45.18) = 27.55\text{ dBm} > 24\text{dBm}.$

CHAIN 1

1. $11\text{dBm} + 10\log(45.59) = 27.59\text{ dBm} > 24\text{dBm}.$
2. $11\text{dBm} + 10\log(54.68) = 28.38\text{ dBm} > 24\text{dBm}.$
3. $11\text{dBm} + 10\log(45.13) = 27.54\text{ dBm} > 24\text{dBm}.$
4. $11\text{dBm} + 10\log(45.09) = 27.54\text{ dBm} > 24\text{dBm}.$
5. $11\text{dBm} + 10\log(44.60) = 27.49\text{ dBm} > 24\text{dBm}.$

802.11ac (80MHz)

CHAN.	CHAN. FREQ. (MHz)	MAXIMUM CONDUCTED POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
42	5210	12.08	12.07	32.3	15.09	24	PASS
58	5290	12.19	12.03	32.5	15.12	24	PASS
106	5530	12.23	12.27	33.6	15.26	24	PASS
122	5610	11.94	12.02	31.6	14.99	24	PASS
155	5775	12.14	12.15	32.8	15.16	30	PASS

NOTE:

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

CHAIN 0

1. $11\text{dBm} + 10\log(87.06) = 30.40\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(84.08) = 30.25\text{ dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(84.46) = 30.27\text{ dBm} > 24\text{dBm}$.

CHAIN 1

1. $11\text{dBm} + 10\log(87.07) = 30.40\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(84.65) = 30.28\text{ dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(84.76) = 30.28\text{ dBm} > 24\text{dBm}$.

26dB BANDWIDTH:

802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	PASS / FAIL
36	5180	22.94	PASS
40	5200	26.13	PASS
48	5240	40.90	PASS
52	5260	27.70	PASS
60	5300	26.06	PASS
64	5320	26.47	PASS
100	5500	23.86	PASS
116	5580	21.52	PASS
140	5700	21.73	PASS

802.11n (20MHz)

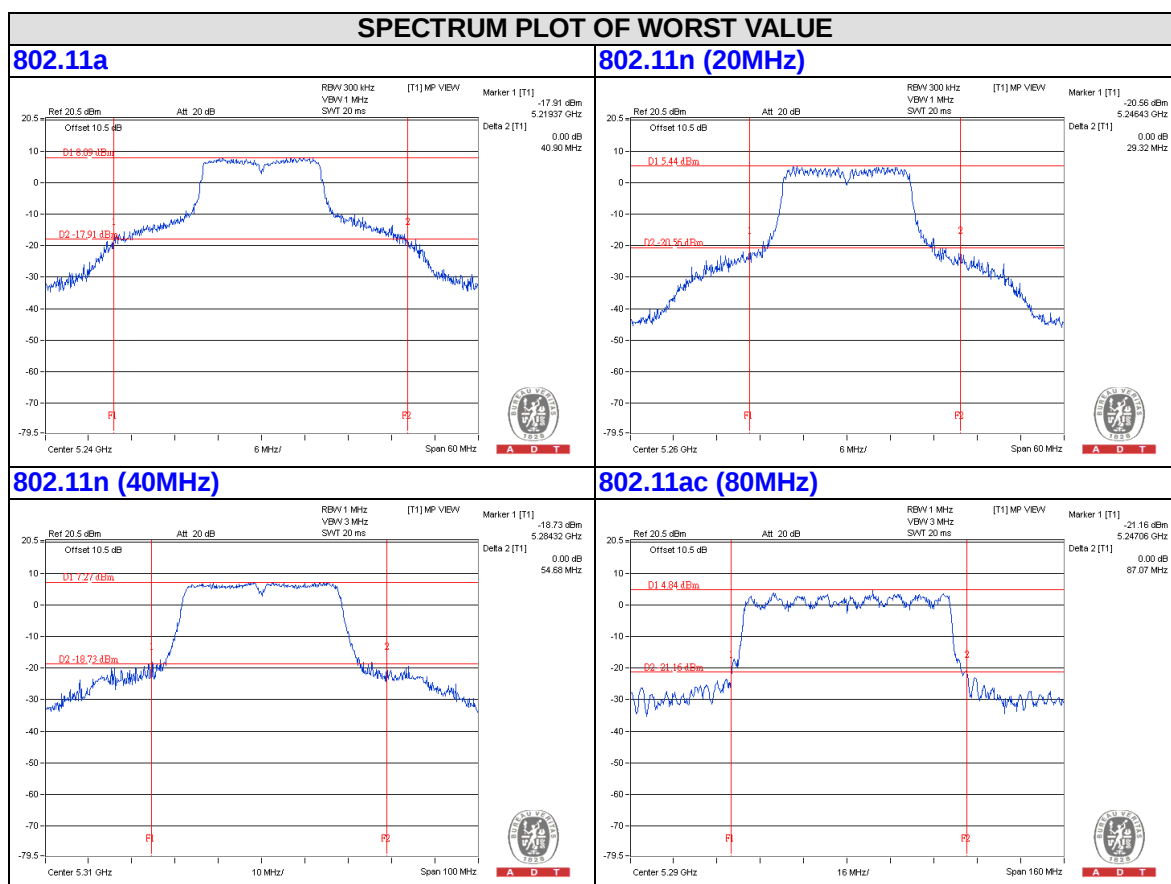
CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)		PASS / FAIL
		CHAIN 0	CHAIN 1	
36	5180	23.45	23.21	PASS
40	5200	27.51	22.32	PASS
48	5240	22.54	23.72	PASS
52	5260	24.54	29.32	PASS
60	5300	22.40	25.13	PASS
64	5320	22.87	26.31	PASS
100	5500	22.07	22.11	PASS
116	5580	22.54	22.23	PASS
140	5700	22.31	22.15	PASS

802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)		PASS / FAIL
		CHAIN 0	CHAIN 1	
38	5190	45.68	44.86	PASS
46	5230	45.80	51.34	PASS
54	5270	45.30	45.59	PASS
62	5310	45.46	54.68	PASS
102	5510	44.93	45.13	PASS
118	5590	45.60	45.09	PASS
134	5670	45.18	44.60	PASS

802.11ac (80MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)		PASS / FAIL
		CHAIN 0	CHAIN 1	
42	5210	86.69	86.77	PASS
58	5290	87.06	87.07	PASS
106	5530	84.08	84.65	PASS
122	5610	84.46	84.76	PASS



EUT MAXIMUM CONDUCTED POWER

802.11a

FREQUENCY BAND (MHz)	MAX. POWER	
	OUTPUT POWER (mW)	OUTPUT POWER (dBm)
5250~5350	33.7	15.28
5470~5725	32.9	15.17

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

802.11n (20MHz)

FREQUENCY BAND (MHz)	MAX. POWER	
	OUTPUT POWER (mW)	OUTPUT POWER (dBm)
5250~5350	50.2	17.01
5470~5725	51.3	17.11

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

802.11n (40MHz)

FREQUENCY BAND (MHz)	MAX. POWER	
	OUTPUT POWER (mW)	OUTPUT POWER (dBm)
5250~5350	40.5	16.07
5470~5725	39.9	16.01

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

802.11ac (80MHz)

FREQUENCY BAND (MHz)	MAX. POWER	
	OUTPUT POWER (mW)	OUTPUT POWER (dBm)
5250~5350	32.5	15.12
5470~5725	33.6	15.26

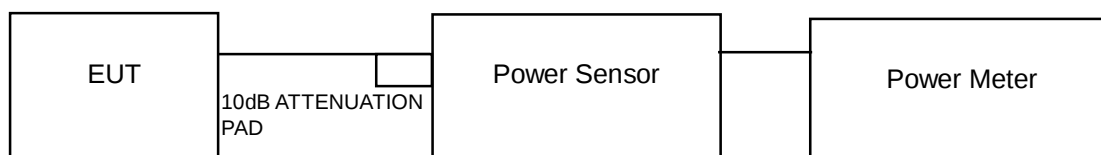
NOTE: Manufacturer provides Transmit Power Control description to meet this requirement.

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

- 1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
- 2) Set RBW = 30 kHz, Set VBW ≥ 1 MHz, Detector = RMS
- 3) Set Channel power measure = 1MHz
- 4) Sweep time = auto, trigger set to "free run".
- 5) Trace average at least 100 traces in power averaging mode.
- 6) Record the max value and add 10 log (1/duty cycle)

For U-NII-3 band:

- 1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
- 2) Set RBW = 500 kHz, Set VBW $\geq$ 3 RBW, Detector = RMS
- 3) Sweep time = auto, trigger set to "free run".
- 4) Trace average at least 100 traces in power averaging mode.
- 5) Record the max value and add 10 log (1/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

CHANNEL	FREQUENCY (MHz)	PSD W/O DUTY FACTOR (dBm)	DUTY FACTOR	PSD WITH DUTY FACTOR (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
36	5180	-1.55	0.56	-0.99	11	PASS
40	5200	-0.30	0.56	0.26	11	PASS
48	5240	1.93	0.56	2.49	11	PASS
52	5260	-0.58	0.56	-0.02	11	PASS
60	5300	-0.57	0.56	-0.01	11	PASS
64	5320	-0.09	0.56	0.47	11	PASS
100	5500	-0.14	0.56	0.42	11	PASS
120	5600	-0.89	0.56	-0.33	11	PASS
140	5700	-0.52	0.56	0.04	11	PASS

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

802.11n (20MHz)

CHAN.	FREQ. (MHz)	PSD (dBm)		TOTAL PSD W/O DUTY FACTOR (dBm)	DUTY FACTOR	TOTAL PSD WITH DUTY FACTOR (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1					
36	5180	-3.23	-3.61	0.03	0.43	0.16	10.09	PASS
40	5200	-3.78	-3.42	-0.15	0.43	0.28	10.09	PASS
48	5240	-3.92	-3.26	-0.13	0.43	0.30	10.09	PASS
52	5260	-3.02	-2.85	0.51	0.43	0.94	10.09	PASS
60	5300	-3.70	-2.58	0.34	0.43	0.77	10.09	PASS
64	5320	-3.24	-3.82	-0.08	0.43	0.35	10.09	PASS
100	5500	-3.81	-3.43	-0.17	0.43	0.26	10.09	PASS
120	5600	-3.23	-3.31	0.17	0.43	0.60	10.09	PASS
140	5700	-3.48	-2.67	0.39	0.43	0.82	10.09	PASS

NOTE:

- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- For U-NII-1, U-NII-2A, U-NII-2C Band:**
Directional gain = $3.9\text{dBi} + 10\log(2) = 6.91\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11-(6.91-6) = 10.09\text{dBm}$.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11n (40MHz)

CHAN.	FREQ. (MHz)	PSD (dBm)		TOTAL PSD W/O DUTY FACTOR (dBm)	DUTY FACTOR	TOTAL PSD WITH DUTY FACTOR (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1					
38	5190	-12.39	-13.66	-8.42	1.55	-6.84	10.09	PASS
46	5230	-12.95	-12.10	-7.94	1.55	-6.39	10.09	PASS
54	5270	-12.49	-12.52	-7.94	1.55	-6.39	10.09	PASS
62	5310	-12.17	-12.13	-7.59	1.55	-6.04	10.09	PASS
102	5510	-13.57	-14.09	-9.26	1.55	-7.71	10.09	PASS
118	5590	-13.16	-11.75	-7.84	1.55	-6.29	10.09	PASS
134	5670	-12.02	-13.50	-8.14	1.55	-6.59	10.09	PASS

NOTE:

- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- For U-NII-1, U-NII-2A, U-NII-2C Band:**
Directional gain = $3.9\text{dBi} + 10\log(2) = 6.91\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11-(6.91-6) = 10.09\text{dBm}$.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (80MHz)

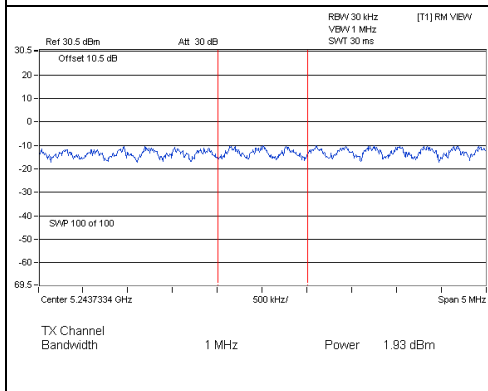
CHAN.	FREQ. (MHz)	PSD (dBm)		TOTAL PSD W/O DUTY FACTOR (dBm)	DUTY FACTOR	TOTAL PSD WITH DUTY FACTOR (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1					
42	5210	-30.90	-32.52	-20.76	7.78	-12.98	10.09	PASS
58	5290	-31.10	-32.05	-20.76	7.78	-12.98	10.09	PASS
106	5530	-34.50	-32.49	-22.22	7.78	-14.44	10.09	PASS
122	5610	-32.70	-33.46	-22.22	7.78	-14.44	10.09	PASS

NOTE:

- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- For U-NII-1, U-NII-2A, U-NII-2C Band:**
Directional gain = $3.9\text{dBi} + 10\log(2) = 6.91\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11-(6.91-6) = 10.09\text{dBm}$.
- Refer to section 3.3 for duty cycle spectrum plot.

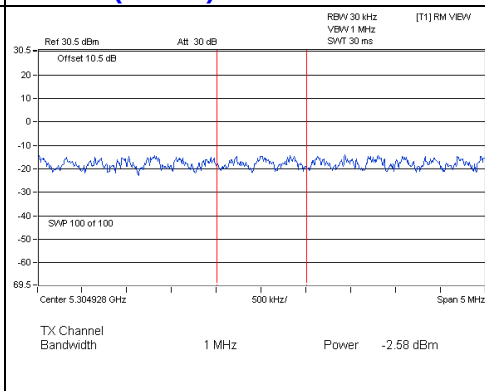
SPECTRUM PLOT OF WORST VALUE

802.11a



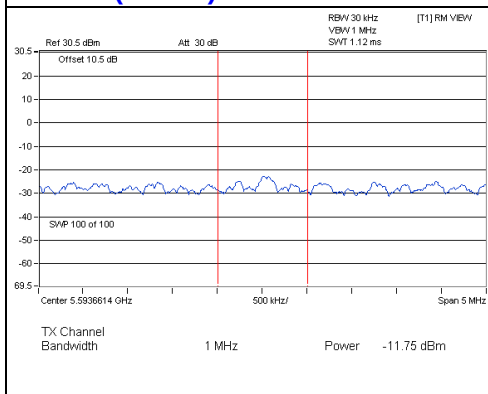
A D T

802.11n (20MHz)



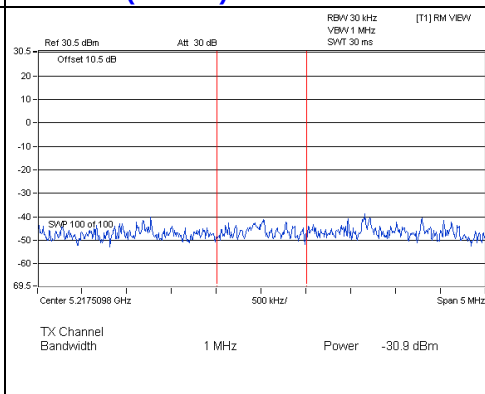
A D T

802.11n (40MHz)



A D T

802.11ac (80MHz)



A D T

For U-NII-3 Band

802.11a

Channel	Freq. (MHz)	PSD (dBm/500kHz)	Limit (dBm/500kHz)	PASS /FAIL
149	5745	6.26	30	PASS
157	5785	8.19	30	PASS
165	5825	7.95	30	PASS

802.11n (20MHz)

TX chain	Channel	Freq. (MHz)	PSD (dBm/500kHz)	10 log (N=2) dB	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	PASS /FAIL
0	149	5745	7.00	3.01	10.44	29.09	PASS
	157	5785	7.17	3.01	10.61	29.09	PASS
	165	5825	6.95	3.01	10.39	29.09	PASS
1	149	5745	8.82	3.01	12.26	29.09	PASS
	157	5785	9.20	3.01	12.64	29.09	PASS
	165	5825	9.02	3.01	12.46	29.09	PASS

NOTE: Directional gain = 3.9dBi + 10log(2) = 6.91 > 6dBi, so the power density limit shall be reduced to 30-(6.91-6) = 29.09dBm.

802.11n (40MHz)

TX chain	Channel	Freq. (MHz)	PSD (dBm/500kHz)	10 log (N=2) dB	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	PASS /FAIL
0	151	5755	4.12	3.01	8.68	29.09	PASS
	159	5795	3.99	3.01	8.55	29.09	PASS
1	151	5755	4.58	3.01	9.14	29.09	PASS
	159	5795	4.53	3.01	9.09	29.09	PASS

NOTE: Directional gain = 3.9dBi + 10log(2) = 6.91 > 6dBi, so the power density limit shall be reduced to 30-(6.91-6) = 29.09dBm.

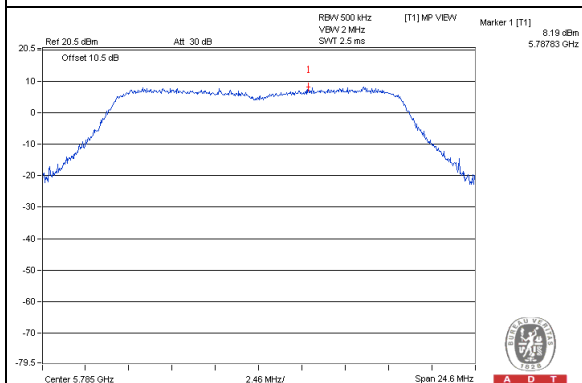
802.11ac (80MHz)

TX chain	Channel	Freq. (MHz)	PSD (dBm/500kHz)	10 log (N=2) dB	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	PASS /FAIL
0	155	5775	1.58	3.01	12.37	29.09	PASS
1	155	5775	2.01	3.01	12.80	29.09	PASS

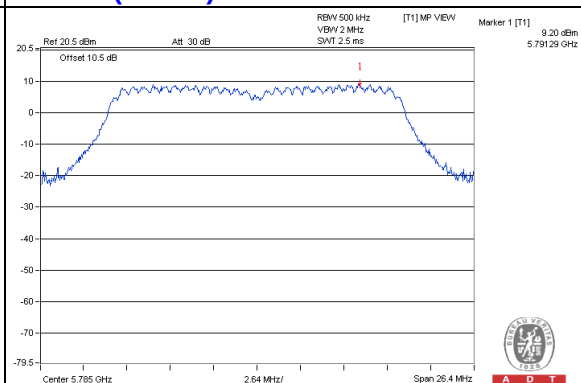
NOTE: Directional gain = 3.9dBi + 10log(2) = 6.91 > 6dBi, so the power density limit shall be reduced to 30-(6.91-6) = 29.09dBm.

SPECTRUM PLOT OF WORST VALUE

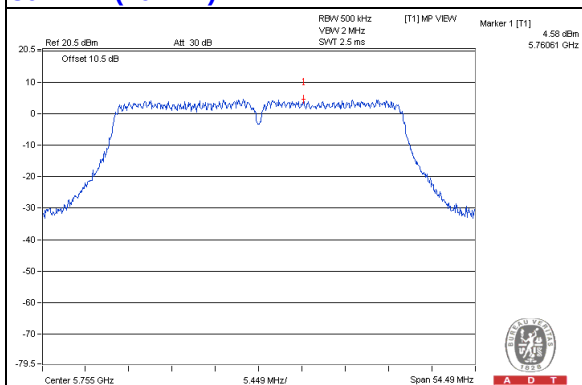
802.11a



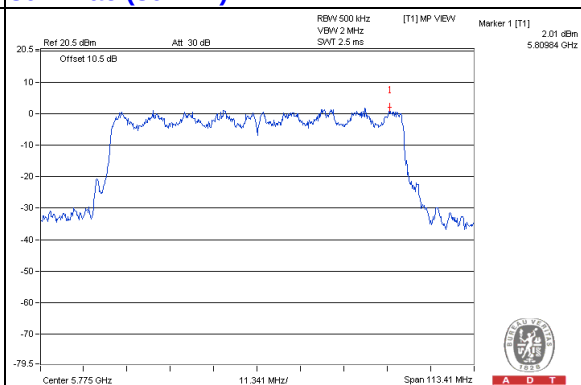
802.11n (20MHz)



802.11n (40MHz)



802.11ac (80MHz)

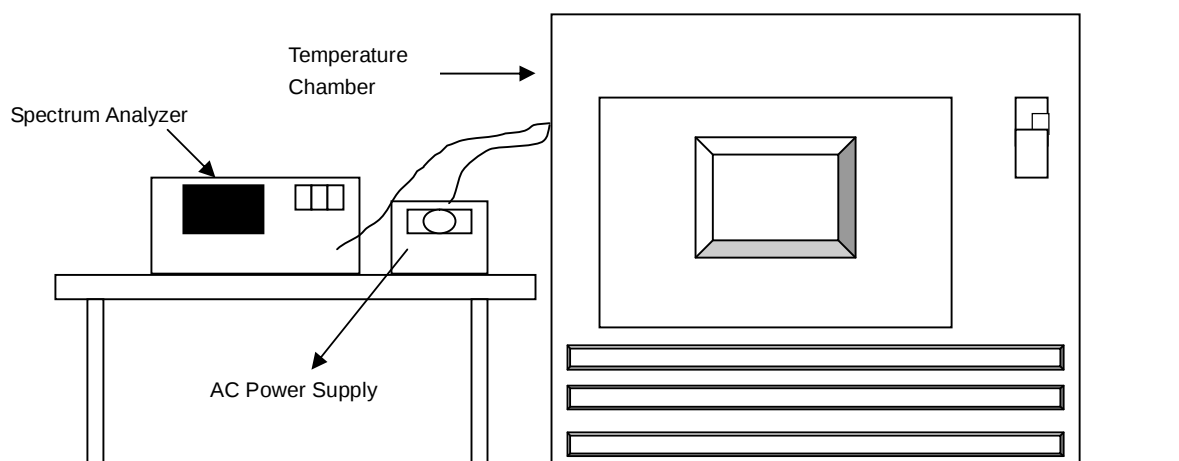


4.5 Frequency Stability

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

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

4.5.5 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. (°C)	POWER SUPPLY (Vac)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)
50	120	5180.042616	8.2270925	5180.04275	8.2528958	5180.042879	8.2777945	5180.042987	8.2986486
40	120	5180.043039	8.3087623	5180.042705	8.2442085	5180.042925	8.2867706	5180.04288	8.2779923
30	120	5180.043631	8.4229943	5180.043681	8.4326255	5180.043535	8.4045079	5180.04347	8.3918919
20	120	5180.042764	8.2555735	5180.042755	8.2538610	5180.042981	8.2975505	5180.043003	8.3017375
10	120	5180.042655	8.2346482	5180.042626	8.2289575	5180.042569	8.2180498	5180.042665	8.2364865
0	120	5180.043233	8.3461434	5180.043364	8.3714286	5180.043017	8.3044208	5180.043132	8.3266409
-10	120	5180.043463	8.3905138	5180.042979	8.2971042	5180.043066	8.3139267	5180.0431	8.3204633
-20	120	5180.043182	8.3362928	5180.042768	8.2564668	5180.043497	8.3970857	5180.04297	8.2953750

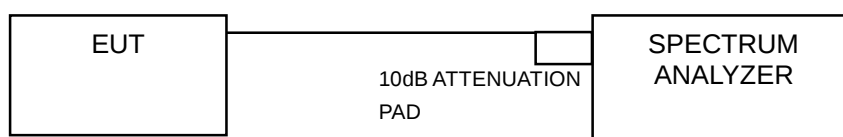
FREQUENCY STABILITY VERSUS TEMP.									
OPERATING FREQUENCY: 5180MHz									
TEMP. (°C)	POWER SUPPLY (Vac)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)
20	138	5180.043238	8.3470697	5180.043274	8.3540541	5180.043390	8.3763912	5180.043285	8.3561776
	120	5180.042764	8.2555735	5180.042755	8.2538610	5180.042981	8.2975505	5180.043003	8.3017375
	102	5180.042159	8.1388545	5180.042142	8.1355212	5180.042303	8.1665179	5180.042364	8.1783784

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

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

4.6.5 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	16.39	0.5	PASS
157	5785	16.40	0.5	PASS
165	5825	16.39	0.5	PASS

802.11n (20MHz)

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHZ)		MINIMUM LIMIT (MHZ)	PASS / FAIL
		CHAIN 0	CHAIN 1		
149	5745	17.33	17.62	0.5	PASS
157	5785	17.34	17.60	0.5	PASS
165	5825	17.57	17.61	0.5	PASS

802.11n (40MHz)

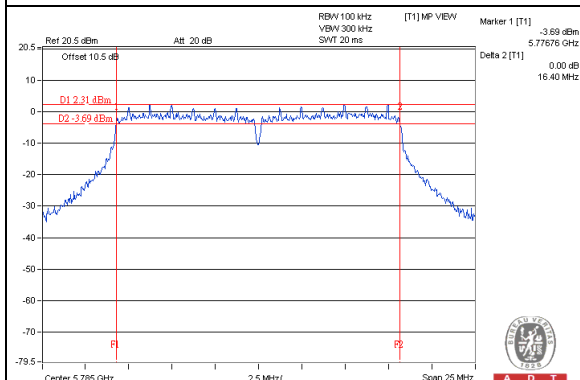
CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHZ)		MINIMUM LIMIT (MHZ)	PASS / FAIL
		CHAIN 0	CHAIN 1		
151	5755	36.11	36.33	0.5	PASS
159	5795	35.95	36.39	0.5	PASS

802.11ac (80MHz)

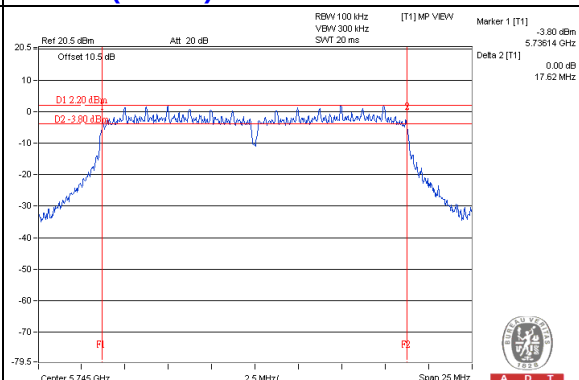
CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHZ)		MINIMUM LIMIT (MHZ)	PASS / FAIL
		CHAIN 0	CHAIN 1		
155	5775	75.58	75.61	0.5	PASS

SPECTRUM PLOT OF WORST VALUE

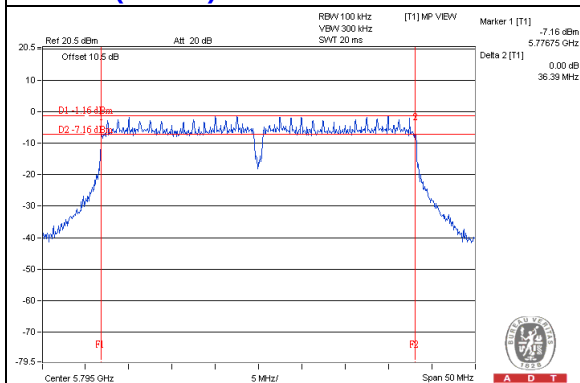
802.11a



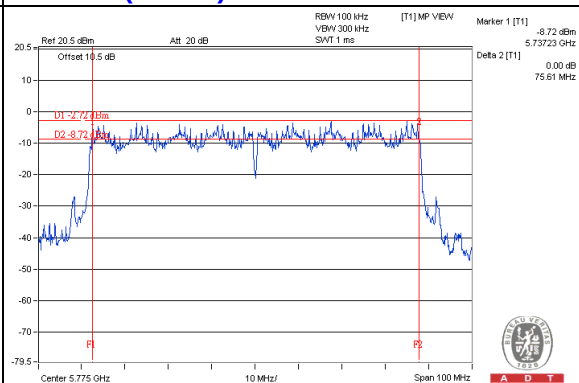
802.11n (20MHz)



802.11n (40MHz)



802.11ac (80MHz)



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:

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

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