FCC Test Report (WLAN)

Report No.: RF171114D24-3

FCC ID: RFHAFOBOT

Test Model: AfoBot

Received Date: Nov. 16, 2017

Test Date: Dec. 4 ~ 19, 2017

Issued Date: Jan. 10, 2018

Applicant: IEI Integration Corp.

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

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FCC Registration / Designation Number: 198487 / TW2021

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Release Control Record

Issue No.	Description	Date Issued
RF171114D24-3	Original release.	Jan. 10, 2018

1 Certificate of Conformity

Product: Smart Video Device

Brand: iEi,QNAP

Test Model: AfoBot

Sample Status: Engineering sample

Applicant: IEI Integration Corp.

Test Date: Dec. 4 ~ 19, 2017

Standard: 47 CFR FCC Part 15, Subpart E (Section 15.407)
ANSI C63.10: 2013

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

Prepared by : Annie Chang , **Date:** Jan. 10, 2018

Annie Chang / Senior Specialist

Approved by : Rex. Lai , **Date:** Jan. 10, 2018

Rex Lai / Associate Technical 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 -14.74dB at 0.47422MHz.
15.407(b) (1/2/3/4(i/ii)/6)	Radiated Emissions & Band Edge Measurement*	Pass	Meet the requirement of limit. Minimum passing margin is -0.45dB at 5470.00MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	-	Reference only.
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6dB bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	Antenna connector is I-PEX not a standard connector.

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

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.77 dB
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	2.38 dB
	30MHz ~ 1000MHz	5.54 dB
Radiated Emissions above 1 GHz	Above 1GHz	5.48 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Smart Video Device
Brand	iEi,QNAP
Test Model	AfoBot
Status of EUT	Engineering sample
Power Supply Rating	12Vdc from adapter or 3.7Vdc from Battery
Modulation Type	64QAM, 16QAM, QPSK, BPSK
Modulation Technology	OFDM
Transfer Rate	802.11a: 54/48/36/24/18/12/9/6Mbps 802.11n: up to 150Mbps
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) 5260 ~ 5320MHz: 4 for 802.11a, 802.11n (20MHz) 2 for 802.11n (40MHz) 5500 ~ 5700MHz: 8 for 802.11a, 802.11n (20MHz) 3 for 802.11n (40MHz) 5745 ~ 5825MHz: 5 for 802.11a, 802.11n (20MHz) 2 for 802.11n (40MHz)
Output Power	5180 ~ 5240MHz: 31.268mW 5260 ~ 5320MHz: 30.359mW 5500 ~ 5700MHz: 30.915mW 5745 ~ 5825MHz: 37.978mW
Antenna Type	INNER PCB Antenna with 2 dBi gain
Antenna Connector	I-PEX
Accessory Device	Adapter
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
802.11a	1TX
802.11n (20MHz)	2TX
802.11n (40MHz)	2TX

2. WLAN 2.4GHz, WLAN 5.0GHz and Bluetooth can not transmit simultaneously.

3. The EUT uses following adapter.

Adapter	1	2
Brand	FSP	Elementech International Co., Ltd.
Model	FSP040-DHMN2	A130-11202550
Input Power	100-240V, 1.2A, 50-60Hz	100-240V, 50-60Hz, 0.8A
Output Power	12V, 3.4A	12V, 2.5A
Power Cord	Non-shielded DC cable (1.5m) with one ferrite core	

After pre-tested, Adapter 1 was the worst for final test.

4. The EUT was pre-tested with the following modes:
- EUT Operating Mode + powered from Adapter
- EUT Operating Mode + powered from Battery

The worst emission level was found when the EUT tested under **EUT Operating Mode + powered from Adapter** therefore, only its test data was recorded in this report.

5. The above EUT information is declared by manufacturer and for more detailed features description, please refers 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):

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

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

Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz

FOR 5260 ~ 5320MHz

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

Channel	Frequency	Channel	Frequency
54	5270 MHz	62	5310 MHz

FOR 5500 ~ 5700MHz

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

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

3 channels are provided for 802.11n (40MHz):

Channel	Frequency	Channel	Frequency
102	5510 MHz	134	5670 MHz
110	5550 MHz		

FOR 5745 ~ 5825MHz:

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

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

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

Channel	Frequency	Channel	Frequency
151	5755MHz	159	5795MHz

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable To				Description
	RE≥1G	RE<1G	PLC	APCM	
-	√	√	√	√	-

Where **RE≥1G:** 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
-	802.11n (20MHz)		36 to 48	36, 40, 48	OFDM	BPSK	6.5
-	802.11n (40MHz)		38 to 46	38, 46	OFDM	BPSK	13.5
-	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6
-	802.11n (20MHz)		52 to 64	52, 60, 64	OFDM	BPSK	6.5
-	802.11n (40MHz)		54 to 62	54, 62	OFDM	BPSK	13.5
-	802.11a	5500-5700	100 to 140	100, 116, 132, 140	OFDM	BPSK	6
-	802.11n (20MHz)		100 to 140	100, 116, 132, 140	OFDM	BPSK	6.5
-	802.11n (40MHz)		102 to 134	102, 110, 134	OFDM	BPSK	13.5
-	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6
-	802.11n (20MHz)		149 to 165	149, 157, 165	OFDM	BPSK	6.5
-	802.11n (40MHz)		151 to 159	151, 159	OFDM	BPSK	13.5

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	100	OFDM	BPSK	6
-	802.11a	5500-5700	100 to 140		OFDM	BPSK	6
-	802.11a	5745-5825	149 to 165		OFDM	BPSK	6

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	100	OFDM	BPSK	6
-	802.11a	5500-5700	100 to 140		OFDM	BPSK	6
-	802.11a	5745-5825	149 to 165		OFDM	BPSK	6

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
-	802.11n (20MHz)		36 to 48	36, 40, 48	OFDM	BPSK	6.5
-	802.11n (40MHz)		38 to 46	38, 46	OFDM	BPSK	13.5
-	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6
-	802.11n (20MHz)		52 to 64	52, 60, 64	OFDM	BPSK	6.5
-	802.11n (40MHz)		54 to 62	54, 62	OFDM	BPSK	13.5
-	802.11a	5500-5700	100 to 140	100, 116, 132, 140	OFDM	BPSK	6
-	802.11n (20MHz)		100 to 140	100, 116, 132, 140	OFDM	BPSK	6.5
-	802.11n (40MHz)		102 to 134	102, 110, 134	OFDM	BPSK	13.5
-	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6
-	802.11n (20MHz)		149 to 165	149, 157, 165	OFDM	BPSK	6.5
-	802.11n (40MHz)		151 to 159	151, 159	OFDM	BPSK	13.5

Test Condition:

Applicable To	Environmental Conditions	Input Power	Tested By
RE≥1G	19deg. C, 77%RH	120Vac, 60Hz	James Wei
RE<1G	21deg. C, 73%RH	120Vac, 60Hz	James Wei
PLC	22deg. C, 75%RH	120Vac, 60Hz	James Wei
APCM	25deg. C, 76%RH	120Vac, 60Hz	Saxon Lee

3.3 Duty Cycle of Test Signal

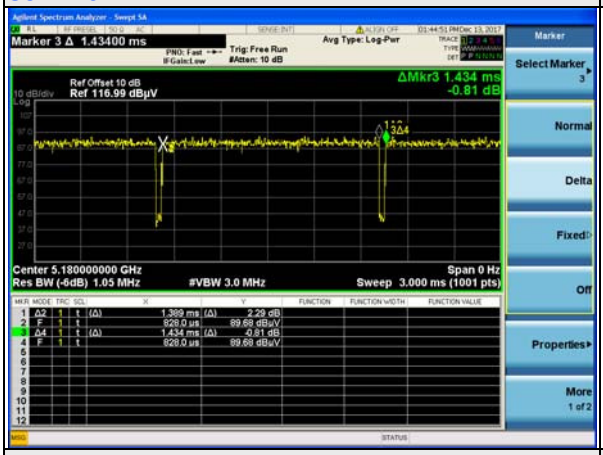
Duty cycle of test signal is < 98 %, duty factor is required

802.11a: Duty cycle = 1.389/1.434 = 0.969, Duty factor = 10 * log(1/0.969) = 0.14

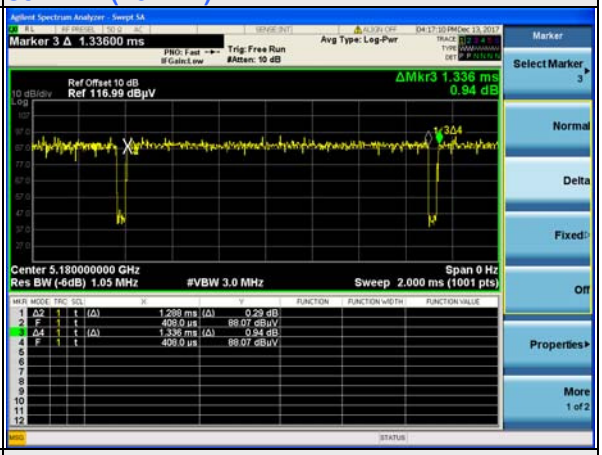
802.11n (20MHz): Duty cycle = 1.288/1.336 = 0.964, Duty factor = 10 * log(1/0.964) = 0.16

802.11n (40MHz): Duty cycle = 0.606/0.674 = 0.899, Duty factor = 10 * log(1/0.899) = 0.46

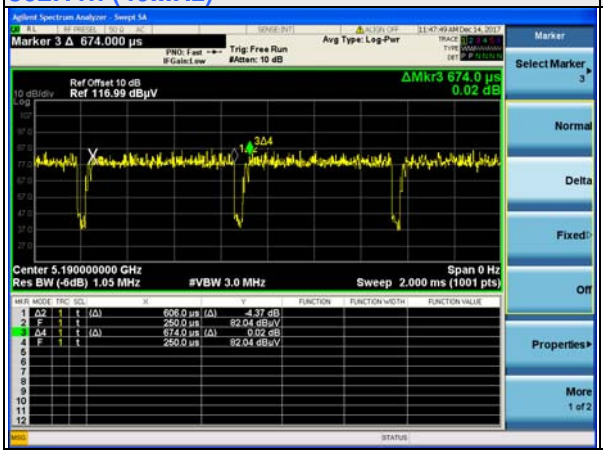
802.11a



802.11n (20MHz)



802.11n (40MHz)



3.4 Description of Support Units

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

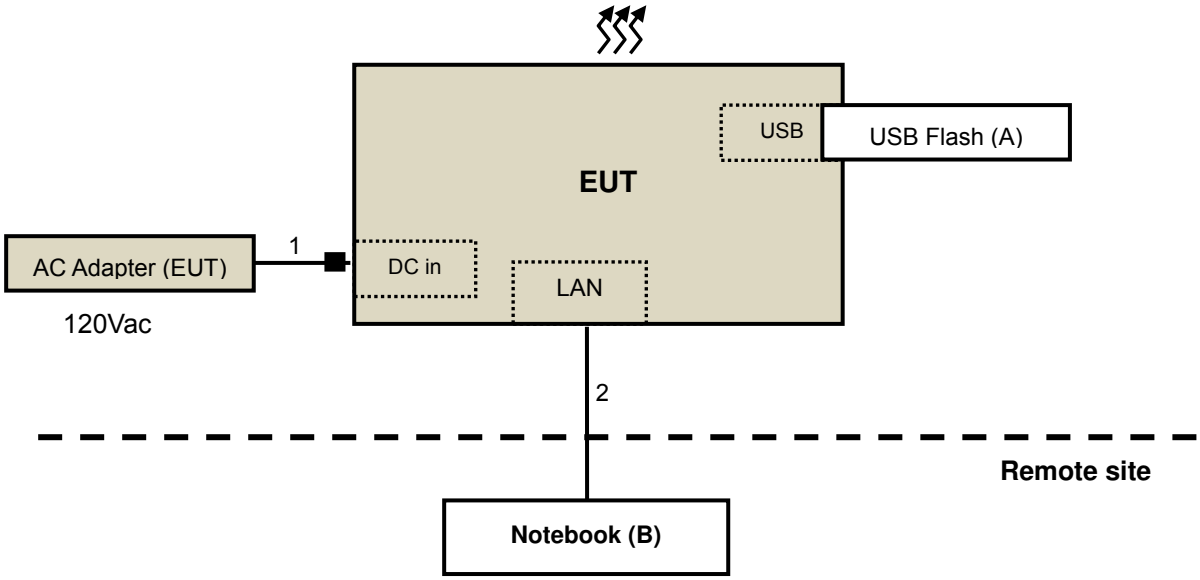
No.	Product	Brand	Model No.	Serial No.	FCC ID	Remark
A.	USB 3.0 Flash Drive	HP	v250w	N/A	FCC DoC Approved	Provided by Lab
B.	NOTEBOOK PC	DELL	PP27L	8SNZ12S	FCC DoC Approved	Provided by Lab

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

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	DC cable	1	1.5	N	1	Supplied by client
2.	LAN cable	1	10	N	0	Provided by Lab

Note: The core(s) is(are) originally attached to the cable(s).

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standard

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

FCC Part 15, Subpart E (15.407)
KDB 789033 D02 General UNII Test Procedure New Rules v02r01
KDB 662911 D01 Multiple Transmitter Output v02r01
ANSI C63.10-2013

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

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

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

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

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

NOTE:

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

Limits of unwanted emission out of the restricted bands

Applicable To			Limit	
789033 D02 General UNII Test Procedure New Rules v02r01			Field Strength at 3m	
			PK:74 (dBμV/m)	AV:54 (dBμV/m)
Frequency Band	Applicable To		EIRP Limit	Equivalent Field Strength at 3m
5150~5250 MHz	15.407(b)(1)		PK:-27 (dBm/MHz)	PK:68.2(dBμV/m)
5250~5350 MHz	15.407(b)(2)			
5470~5725 MHz	15.407(b)(3)			
5725~5850 MHz	☒	15.407(b)(4)(i)	PK:-27 (dBm/MHz) *1 PK:10 (dBm/MHz) *2 PK:15.6 (dBm/MHz) *3 PK:27 (dBm/MHz) *4	PK: 68.2(dBμV/m) *1 PK:105.2 (dBμV/m) *2 PK: 110.8(dBμV/m) *3 PK:122.2 (dBμV/m) *4
	☐	15.407(b)(4)(ii)	Emission limits in section 15.247(d)	

*1 beyond 75 MHz or more above of the band edge.

*2 below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.

*3 below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.

*4 from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

Note:

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

$$E = \frac{1000000\sqrt{30P}}{3}$$ μV/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. 21, 2017	Feb. 20, 2018
HP Preamplifier	8449B	3008A01201	Feb. 22, 2017	Feb. 21, 2018
MITEQ Preamplifier	AMF-6F-260400-33-8P	892164	Feb. 21, 2017	Feb. 20, 2018
Agilent TEST RECEIVER	N9038A	MY51210129	Feb. 8, 2017	Feb. 7, 2018
Schwarzbeck Antenna	VULB 9168	139	Nov. 29, 2017	Nov. 28, 2018
Schwarzbeck Antenna	VHBA 9123	480	May 19, 2017	May 18, 2019
Schwarzbeck Horn Antenna	BBHA-9170	212	Dec. 1, 2017	Nov. 30, 2018
Schwarzbeck Horn Antenna	BBHA 9120-D1	D130	Dec. 1, 2017	Nov. 30, 2018
ADT. Turn Table	TT100	0306	NA	NA
ADT. Tower	AT100	0306	NA	NA
Software	Radiated_V7.6.15.9.5	NA	NA	NA
SUHNER RF cable With 4dB PAD	SF104	CABLE-CH6	Aug. 14, 2017	Aug. 13, 2018
SUHNER RF cable With 3dB PAD	SF102	Cable-CH8-3.6m	Aug. 14, 2017	Aug. 13, 2018
KEYSIGHT MIMO Powermeasurement Test set	U2021XA	U2021XA-001	May 31,2017	May 30,2018
KEYSIGHT Spectrum Analyzer	N9030A	MY54490260	Jul. 26, 2017	Jul. 25, 2018
Loop Antenna EMCI	LPA600	270	Aug. 11, 2017	Aug. 10, 2019
EMCO Horn Antenna	3115	00028257	Nov. 30, 2017	Nov. 29, 2018
Highpass filter Wainwright Instruments	WHK 3.1/18G-10SS	SN 8	NA	NA
ROHDE & SCHWARZ Spectrum Analyzer	FSV40	101042	Sep. 29, 2017	Sep. 28, 2018
Anritsu Power Sensor	MA2411B	0738404	Apr. 24, 2017	Apr. 23, 2018
Anritsu Power Meter	ML2495A	0842014	Apr. 24, 2017	Apr. 23, 2018

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.

4.1.3 Test Procedure

For Radiated emission below 30MHz

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.

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

c. Both X and Y axes of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

NOTE:

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

For Radiated emission above 30MHz

a. The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.

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

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

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

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

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

Note:

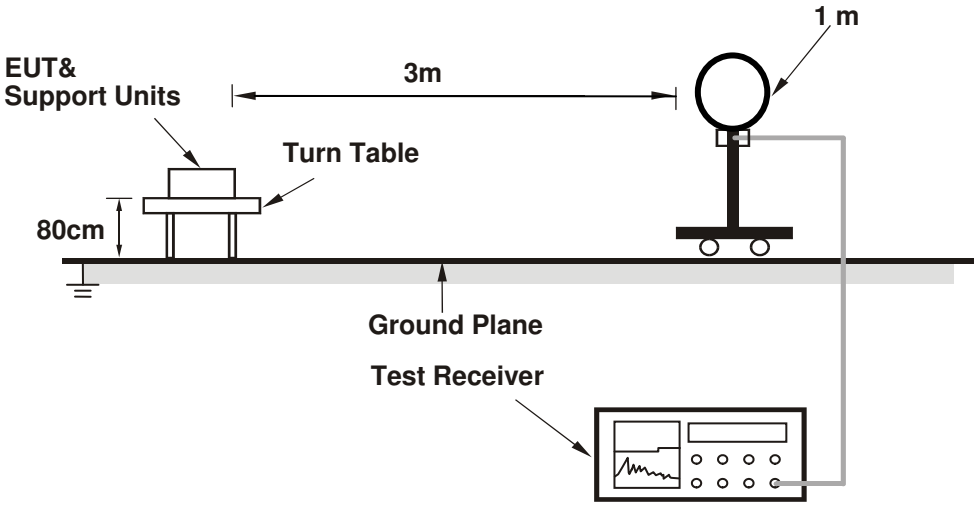
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

4.1.4 Deviation from Test Standard

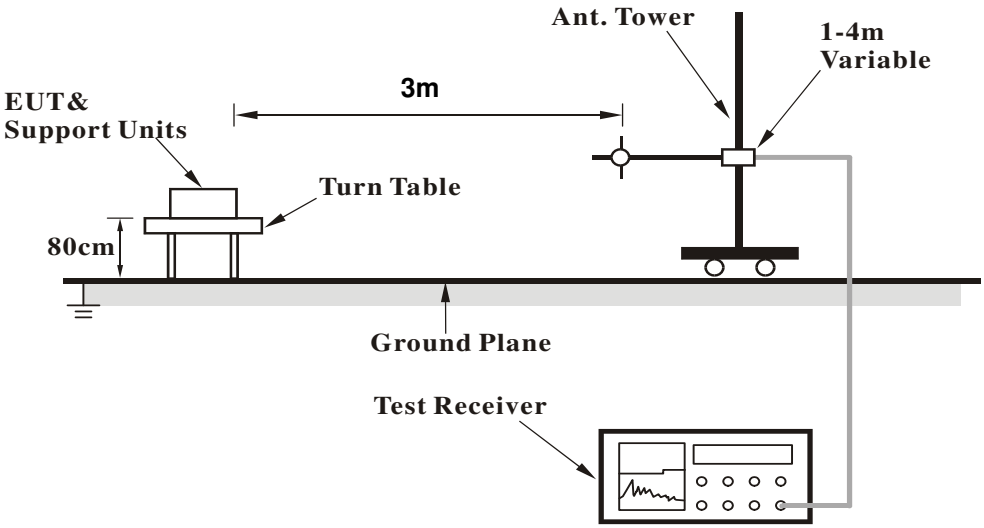
No deviation.

4.1.5 Test Setup

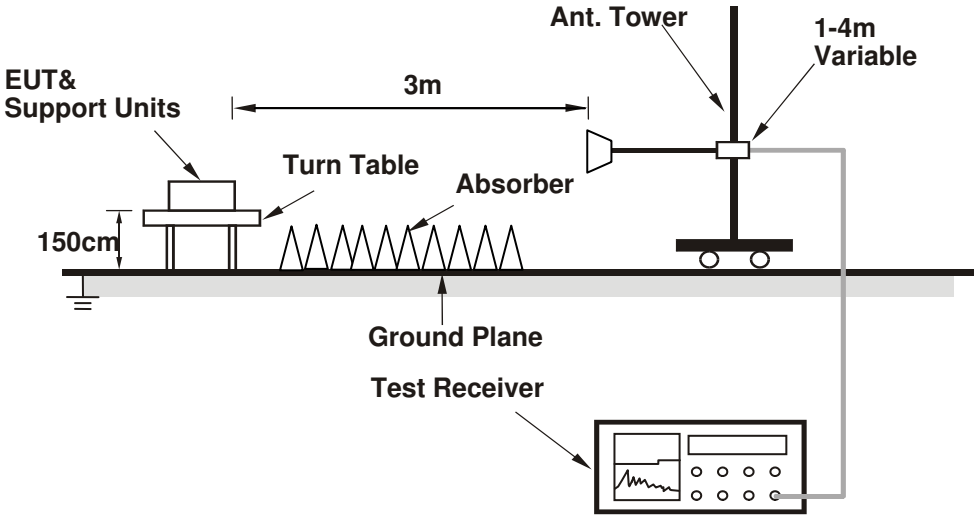
For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



For Radiated emission above 1GHz



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

4.1.6 EUT Operating Condition

a. Connected the EUT with the Adapter.
b. EUT read and wrote messages to/ from eMMC & ext. USB Flash.
c. Set the EUT under transmission condition continuously at specific channel frequency.

4.1.7 Test Results

Above 1GHz Data:

802.11a

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	**FREQ. (MHz)**	**EMISSION LEVEL (dBuV/m)**	**LIMIT (dBuV/m)**	**MARGIN (dB)**	**ANTENNA HEIGHT (m)**	**TABLE ANGLE (Degree)**	**RAW VALUE (dBuV)**	**CORRECTION FACTOR (dB/m)**
1	5150.00	66.13 PK	74.00	-7.87	1.90 H	14	61.22	4.91
2	5150.00	47.68 AV	54.00	-6.32	1.90 H	14	42.77	4.91
3	*5180.00	98.65 PK			1.90 H	14	93.71	4.94
4	*5180.00	87.66 AV			1.90 H	14	82.72	4.94
5	#10360.00	53.69 PK	74.00	-20.31	1.88 H	52	38.16	15.53
6	#10360.00	40.86 AV	54.00	-13.14	1.88 H	52	25.33	15.53
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	5150.00	70.74 PK	74.00	-3.26	2.52 V	296	65.83	4.91
2	5150.00	52.84 AV	54.00	-1.16	2.52 V	296	47.93	4.91
3	*5180.00	102.51 PK			2.52 V	296	97.57	4.94
4	*5180.00	92.23 AV			2.52 V	296	87.29	4.94
5	#10360.00	54.80 PK	74.00	-19.20	1.88 V	201	39.27	15.53
6	#10360.00	41.66 AV	54.00	-12.34	1.88 V	201	26.13	15.53

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	98.79 PK			1.88 H	25	93.82	4.97
2	*5200.00	87.85 AV			1.88 H	25	82.88	4.97
3	#10400.00	53.79 PK	74.00	-20.21	2.13 H	81	38.21	15.58
4	#10400.00	40.99 AV	54.00	-13.01	2.13 H	81	25.41	15.58
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	102.79 PK			2.25 V	332	97.82	4.97
2	*5200.00	91.44 AV			2.25 V	332	86.47	4.97
3	#10400.00	54.91 PK	74.00	-19.09	2.42 V	195	39.33	15.58
4	#10400.00	41.76 AV	54.00	-12.24	2.42 V	195	26.18	15.58

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	97.93 PK			1.80 H	28	92.89	5.04
2	*5240.00	86.97 AV			1.80 H	28	81.93	5.04
3	5350.00	51.53 PK	74.00	-22.47	1.80 H	28	46.18	5.35
4	5350.00	38.61 AV	54.00	-15.39	1.80 H	28	33.26	5.35
5	#10480.00	53.79 PK	74.00	-20.21	1.55 H	63	38.03	15.76
6	#10480.00	40.93 AV	54.00	-13.07	1.55 H	63	25.17	15.76
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	101.70 PK			2.17 V	9	96.66	5.04
2	*5240.00	90.69 AV			2.17 V	9	85.65	5.04
3	5350.00	56.30 PK	74.00	-17.70	2.17 V	9	50.95	5.35
4	5350.00	43.22 AV	54.00	-10.78	2.17 V	9	37.87	5.35
5	#10480.00	54.88 PK	74.00	-19.12	1.78 V	186	39.12	15.76
6	#10480.00	41.78 AV	54.00	-12.22	1.78 V	186	26.02	15.76

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	53.07 PK	74.00	-20.93	1.88 H	63	48.16	4.91
2	5150.00	39.24 AV	54.00	-14.76	1.88 H	63	34.33	4.91
3	*5260.00	98.81 PK			1.88 H	63	93.72	5.09
4	*5260.00	87.86 AV			1.88 H	63	82.77	5.09
5	#10520.00	53.94 PK	74.00	-20.06	1.57 H	96	38.11	15.83
6	#10520.00	41.32 AV	54.00	-12.68	1.57 H	96	25.49	15.83
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	56.87 PK	74.00	-17.13	2.08 V	9	51.96	4.91
2	5150.00	43.44 AV	54.00	-10.56	2.08 V	9	38.53	4.91
3	*5260.00	102.62 PK			2.08 V	9	97.53	5.09
4	*5260.00	91.71 AV			2.08 V	9	86.62	5.09
5	#10520.00	54.76 PK	74.00	-19.24	3.22 V	104	38.93	15.83
6	#10520.00	42.40 AV	54.00	-11.60	3.22 V	104	26.57	15.83

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	98.88 PK			1.81 H	52	93.72	5.16
2	*5300.00	87.95 AV			1.81 H	52	82.79	5.16
3	10600.00	54.05 PK	74.00	-19.95	1.55 H	86	38.13	15.92
4	10600.00	41.44 AV	54.00	-12.56	1.55 H	86	25.52	15.92
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	102.70 PK			2.74 V	302	97.54	5.16
2	*5300.00	91.76 AV			2.74 V	302	86.60	5.16
3	10600.00	54.87 PK	74.00	-19.13	3.52 V	119	38.95	15.92
4	10600.00	42.51 AV	54.00	-11.49	3.52 V	119	26.59	15.92

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	99.10 PK			1.56 H	118	93.86	5.24
2	*5320.00	88.07 AV			1.56 H	118	82.83	5.24
3	5350.00	61.74 PK	74.00	-12.26	1.56 H	118	56.39	5.35
4	5350.00	44.82 AV	54.00	-9.18	1.56 H	118	39.47	5.35
5	10640.00	54.38 PK	74.00	-19.62	1.50 H	82	38.32	16.06
6	10640.00	41.64 AV	54.00	-12.36	1.50 H	82	25.58	16.06
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	*5320.00	103.05 PK			2.95 V	307	97.81	5.24
2	*5320.00	92.15 AV			2.95 V	307	86.91	5.24
3	5350.00	65.90 PK	74.00	-8.10	2.95 V	307	60.55	5.35
4	5350.00	48.45 AV	54.00	-5.55	2.95 V	307	43.10	5.35
5	10640.00	55.14 PK	74.00	-18.86	3.03 V	144	39.08	16.06
6	10640.00	42.75 AV	54.00	-11.25	3.03 V	144	26.69	16.06

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	60.39 PK	74.00	-13.61	1.96 H	24	54.62	5.77
2	5460.00	42.60 AV	54.00	-11.40	1.96 H	24	36.83	5.77
3	5470.00	61.95 PK	68.20	-6.25	1.96 H	24	56.13	5.82
4	*5500.00	98.21 PK			1.96 H	24	92.27	5.94
5	*5500.00	87.83 AV			1.96 H	24	81.89	5.94
6	11000.00	55.38 PK	74.00	-18.62	1.55 H	82	38.02	17.36
7	11000.00	42.69 AV	54.00	-11.31	1.55 H	82	25.33	17.36
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	64.50 PK	74.00	-9.50	2.60 V	312	58.73	5.77
2	5460.00	46.10 AV	54.00	-7.90	2.60 V	312	40.33	5.77
3	5470.00	67.13 PK	68.20	-1.07	2.60 V	312	61.31	5.82
4	*5500.00	101.58 PK			2.60 V	312	95.64	5.94
5	*5500.00	91.07 AV			2.60 V	312	85.13	5.94
6	11000.00	56.28 PK	74.00	-17.72	1.55 V	209	38.92	17.36
7	11000.00	44.19 AV	54.00	-9.81	1.55 V	209	26.83	17.36

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	99.25 PK			1.85 H	35	92.81	6.44
2	*5580.00	88.68 AV			1.85 H	35	82.24	6.44
3	11160.00	55.64 PK	74.00	-18.36	1.69 H	95	38.34	17.30
4	11160.00	42.86 AV	54.00	-11.14	1.69 H	95	25.56	17.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	103.03 PK			2.18 V	309	96.59	6.44
2	*5580.00	91.69 AV			2.18 V	309	85.25	6.44
3	11160.00	56.27 PK	74.00	-17.73	1.97 V	199	38.97	17.30
4	11160.00	44.19 AV	54.00	-9.81	1.97 V	199	26.89	17.30

REMARKS:

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

CHANNEL	TX Channel 132	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5660.00	99.19 PK			2.03 H	32	92.57	6.62
2	*5660.00	88.71 AV			2.03 H	32	82.09	6.62
3	11320.00	55.21 PK	74.00	-18.79	1.59 H	77	38.22	16.99
4	11320.00	42.52 AV	54.00	-11.48	1.59 H	77	25.53	16.99
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	*5660.00	102.57 PK			2.43 V	350	95.95	6.62
2	*5660.00	91.58 AV			2.43 V	350	84.96	6.62
3	11320.00	56.00 PK	74.00	-18.00	1.82 V	207	39.01	16.99
4	11320.00	43.91 AV	54.00	-10.09	1.82 V	207	26.92	16.99

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	94.40 PK			1.99 H	54	87.75	6.65
2	*5700.00	84.77 AV			1.99 H	54	78.12	6.65
3	#5725.00	58.07 PK	74.00	-15.93	1.99 H	54	51.39	6.68
4	#5725.00	41.04 AV	54.00	-12.96	1.99 H	54	34.36	6.68
5	11400.00	54.29 PK	74.00	-19.71	1.84 H	26	37.29	17.00
6	11400.00	42.02 AV	54.00	-11.98	1.84 H	26	25.02	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	97.91 PK			2.21 V	306	91.26	6.65
2	*5700.00	86.91 AV			2.21 V	306	80.26	6.65
3	#5725.00	61.99 PK	74.00	-12.01	2.21 V	306	55.31	6.68
4	#5725.00	46.48 AV	54.00	-7.52	2.21 V	306	39.80	6.68
5	11400.00	55.53 PK	74.00	-18.47	1.63 V	191	38.53	17.00
6	11400.00	43.69 AV	54.00	-10.31	1.63 V	191	26.69	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) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5563.86	52.88 PK	68.20	-15.32	2.57 H	93	46.54	6.34
2	*5745.00	96.97 PK			2.57 H	93	90.28	6.69
3	*5745.00	86.57 AV			2.57 H	93	79.88	6.69
4	#5968.59	51.35 PK	68.20	-16.85	2.57 H	93	44.15	7.20
5	11490.00	55.73 PK	74.00	-18.27	2.09 H	82	38.83	16.90
6	11490.00	43.32 AV	54.00	-10.68	2.09 H	82	26.42	16.90
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	#5630.60	59.29 PK	68.20	-8.91	3.32 V	341	52.69	6.60
2	*5745.00	102.33 PK			3.32 V	341	95.64	6.69
3	*5745.00	91.24 AV			3.32 V	341	84.55	6.69
4	#5941.07	58.39 PK	68.20	-9.81	3.32 V	341	51.30	7.09
5	11490.00	57.43 PK	74.00	-16.57	2.88 V	205	40.53	16.90
6	11490.00	45.45 AV	54.00	-8.55	2.88 V	205	28.55	16.90

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5615.74	50.61 PK	68.20	-17.59	2.73 H	81	44.03	6.58
2	*5785.00	96.85 PK			2.73 H	81	90.13	6.72
3	*5785.00	86.47 AV			2.73 H	81	79.75	6.72
4	#5994.40	51.42 PK	68.20	-16.78	2.73 H	81	44.10	7.32
5	11570.00	55.58 PK	74.00	-18.42	2.29 H	71	38.79	16.79
6	11570.00	43.10 AV	54.00	-10.90	2.29 H	71	26.31	16.79
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	#5587.58	59.56 PK	68.20	-8.64	3.33 V	5	53.06	6.50
2	*5785.00	102.02 PK			3.33 V	5	95.30	6.72
3	*5785.00	90.62 AV			3.33 V	5	83.90	6.72
4	#6009.09	57.93 PK	68.20	-10.27	3.33 V	5	50.54	7.39
5	11570.00	57.13 PK	74.00	-16.87	2.49 V	221	40.34	16.79
6	11570.00	45.20 AV	54.00	-8.80	2.49 V	221	28.41	16.79

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5624.17	52.62 PK	68.20	-15.58	3.06 H	281	46.02	6.60
2	*5825.00	98.36 PK			3.06 H	281	91.58	6.78
3	*5825.00	87.44 AV			3.06 H	281	80.66	6.78
4	#5948.04	50.67 PK	68.20	-17.53	3.06 H	281	43.55	7.12
5	11650.00	56.40 PK	74.00	-17.60	2.78 H	253	39.64	16.76
6	11650.00	44.35 AV	54.00	-9.65	2.78 H	253	27.59	16.76
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	#5611.00	54.79 PK	68.20	-13.41	3.80 V	328	48.21	6.58
2	*5825.00	102.59 PK			3.80 V	328	95.81	6.78
3	*5825.00	91.40 AV			3.80 V	328	84.62	6.78
4	#5948.35	51.83 PK	68.20	-16.37	3.80 V	328	44.71	7.12
5	11650.00	57.69 PK	74.00	-16.31	2.79 V	209	40.93	16.76
6	11650.00	47.18 AV	54.00	-6.82	2.79 V	209	30.42	16.76

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	61.10 PK	74.00	-12.90	2.14 H	0	56.19	4.91
2	5150.00	44.22 AV	54.00	-9.78	2.14 H	0	39.31	4.91
3	*5180.00	95.89 PK			2.14 H	0	90.95	4.94
4	*5180.00	85.16 AV			2.14 H	0	80.22	4.94
5	#10360.00	53.96 PK	74.00	-20.04	2.81 H	93	38.43	15.53
6	#10360.00	41.50 AV	54.00	-12.50	2.81 H	93	25.97	15.53
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	5150.00	68.47 PK	74.00	-5.53	2.83 V	296	63.56	4.91
2	5150.00	47.12 AV	54.00	-6.88	2.83 V	296	42.21	4.91
3	*5180.00	102.35 PK			2.83 V	296	97.41	4.94
4	*5180.00	91.08 AV			2.83 V	296	86.14	4.94
5	#10360.00	54.69 PK	74.00	-19.31	1.72 V	55	39.16	15.53
6	#10360.00	42.08 AV	54.00	-11.92	1.72 V	55	26.55	15.53

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	95.05 PK			1.81 H	5	90.08	4.97
2	*5200.00	84.55 AV			1.81 H	5	79.58	4.97
3	#10400.00	53.85 PK	74.00	-20.15	2.88 H	97	38.27	15.58
4	#10400.00	41.41 AV	54.00	-12.59	2.88 H	97	25.83	15.58
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	101.92 PK			2.95 V	322	96.95	4.97
2	*5200.00	90.25 AV			2.95 V	322	85.28	4.97
3	#10400.00	54.47 PK	74.00	-19.53	1.75 V	82	38.89	15.58
4	#10400.00	42.05 AV	54.00	-11.95	1.75 V	82	26.47	15.58

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	95.27 PK			1.80 H	359	90.23	5.04
2	*5240.00	84.72 AV			1.80 H	359	79.68	5.04
3	5350.00	50.97 PK	74.00	-23.03	1.80 H	359	45.62	5.35
4	5350.00	38.54 AV	54.00	-15.46	1.80 H	359	33.19	5.35
5	#10480.00	54.15 PK	74.00	-19.85	2.71 H	66	38.39	15.76
6	#10480.00	41.73 AV	54.00	-12.27	2.71 H	66	25.97	15.76
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	102.05 PK			3.06 V	327	97.01	5.04
2	*5240.00	90.34 AV			3.06 V	327	85.30	5.04
3	5350.00	57.11 PK	74.00	-16.89	3.06 V	327	51.76	5.35
4	5350.00	43.30 AV	54.00	-10.70	3.06 V	327	37.95	5.35
5	#10480.00	54.79 PK	74.00	-19.21	1.93 V	75	39.03	15.76
6	#10480.00	42.27 AV	54.00	-11.73	1.93 V	75	26.51	15.76

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	51.18 PK	74.00	-22.82	2.59 H	44	46.27	4.91
2	5150.00	39.10 AV	54.00	-14.90	2.59 H	44	34.19	4.91
3	*5260.00	96.21 PK			2.59 H	44	91.12	5.09
4	*5260.00	85.52 AV			2.59 H	44	80.43	5.09
5	#10520.00	54.35 PK	74.00	-19.65	1.96 H	115	38.52	15.83
6	#10520.00	41.86 AV	54.00	-12.14	1.96 H	115	26.03	15.83
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	56.81 PK	74.00	-17.19	3.31 V	331	51.90	4.91
2	5150.00	43.33 AV	54.00	-10.67	3.31 V	331	38.42	4.91
3	*5260.00	103.00 PK			3.31 V	331	97.91	5.09
4	*5260.00	91.15 AV			3.31 V	331	86.06	5.09
5	#10520.00	55.26 PK	74.00	-18.74	1.87 V	224	39.43	15.83
6	#10520.00	42.64 AV	54.00	-11.36	1.87 V	224	26.81	15.83

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	95.40 PK			2.66 H	86	90.24	5.16
2	*5300.00	85.35 AV			2.66 H	86	80.19	5.16
3	10600.00	54.30 PK	74.00	-19.70	1.87 H	121	38.38	15.92
4	10600.00	42.00 AV	54.00	-12.00	1.87 H	121	26.08	15.92
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	102.11 PK			3.72 V	331	96.95	5.16
2	*5300.00	90.24 AV			3.72 V	331	85.08	5.16
3	10600.00	55.13 PK	74.00	-18.87	1.75 V	209	39.21	15.92
4	10600.00	42.50 AV	54.00	-11.50	1.75 V	209	26.58	15.92

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	95.43 PK			2.68 H	51	90.19	5.24
2	*5320.00	85.32 AV			2.68 H	51	80.08	5.24
3	5350.00	59.23 PK	74.00	-14.77	2.68 H	51	53.88	5.35
4	5350.00	41.46 AV	54.00	-12.54	2.68 H	51	36.11	5.35
5	10640.00	54.33 PK	74.00	-19.67	1.80 H	133	38.27	16.06
6	10640.00	41.93 AV	54.00	-12.07	1.88 H	133	25.87	16.06
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	*5320.00	101.84 PK			3.10 V	331	96.60	5.24
2	*5320.00	90.05 AV			3.10 V	331	84.81	5.24
3	5350.00	64.56 PK	74.00	-9.44	3.10 V	331	59.21	5.35
4	5350.00	45.55 AV	54.00	-8.45	3.10 V	331	40.20	5.35
5	10640.00	55.23 PK	74.00	-18.77	1.88 V	205	39.17	16.06
6	10640.00	42.50 AV	54.00	-11.50	1.88 V	205	26.44	16.06

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	61.92 PK	74.00	-12.08	1.39 H	11	56.15	5.77
2	5460.00	44.12 AV	54.00	-9.88	1.39 H	11	38.35	5.77
3	5470.00	64.99 PK	68.20	-3.21	1.39 H	11	59.17	5.82
4	*5500.00	98.37 PK			1.39 H	11	92.43	5.94
5	*5500.00	86.75 AV			1.39 H	11	80.81	5.94
6	11000.00	55.50 PK	74.00	-18.50	1.97 H	23	38.14	17.36
7	11000.00	42.95 AV	54.00	-11.05	1.97 H	23	25.59	17.36
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	62.08 PK	74.00	-11.92	1.57 V	272	56.31	5.77
2	5460.00	44.73 AV	54.00	-9.27	1.57 V	272	38.96	5.77
3	5470.00	65.88 PK	68.20	-2.32	1.57 V	272	60.06	5.82
4	*5500.00	100.23 PK			1.57 V	272	94.29	5.94
5	*5500.00	88.77 AV			1.57 V	272	82.83	5.94
6	11000.00	56.63 PK	74.00	-17.37	1.88 V	204	39.27	17.36
7	11000.00	44.19 AV	54.00	-9.81	1.88 V	204	26.83	17.36

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	97.26 PK			1.45 H	18	90.82	6.44
2	*5580.00	86.07 AV			1.48 H	18	79.63	6.44
3	11160.00	55.22 PK	74.00	-18.78	1.86 H	358	37.92	17.30
4	11160.00	42.57 AV	54.00	-11.43	1.86 H	358	25.27	17.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	100.04 PK			1.69 V	271	93.60	6.44
2	*5580.00	88.66 AV			1.69 V	271	82.22	6.44
3	11160.00	56.09 PK	74.00	-17.91	1.82 V	193	38.79	17.30
4	11160.00	43.88 AV	54.00	-10.12	1.82 V	193	26.58	17.30

REMARKS:

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

CHANNEL	TX Channel 132	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5660.00	97.15 PK			1.55 H	17	90.53	6.62
2	*5660.00	85.93 AV			1.55 H	17	79.31	6.62
3	11320.00	54.65 PK	74.00	-19.35	2.43 H	8	37.66	16.99
4	11320.00	42.06 AV	54.00	-11.94	2.43 H	8	25.07	16.99
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	*5660.00	100.08 PK			1.63 V	16	93.46	6.62
2	*5660.00	88.30 AV			1.63 V	16	81.68	6.62
3	11320.00	55.71 PK	74.00	-18.29	1.73 V	223	38.72	16.99
4	11320.00	43.53 AV	54.00	-10.47	1.73 V	223	26.54	16.99

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	99.17 PK			1.52 H	21	92.52	6.65
2	*5700.00	87.53 AV			1.52 H	21	80.88	6.65
3	#5725.00	63.90 PK	74.00	-10.10	1.52 H	21	57.22	6.68
4	#5725.00	46.60 AV	54.00	-7.40	1.52 H	21	39.92	6.68
5	11400.00	55.29 PK	74.00	-18.71	1.96 H	13	38.29	17.00
6	11400.00	42.66 AV	54.00	-11.34	1.96 H	13	25.66	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	101.45 PK			1.64 V	269	94.80	6.65
2	*5700.00	89.98 AV			1.64 V	269	83.33	6.65
3	#5725.00	64.46 PK	74.00	-9.54	1.64 V	269	57.78	6.68
4	#5725.00	47.09 AV	54.00	-6.91	1.64 V	269	40.41	6.68
5	11400.00	56.53 PK	74.00	-17.47	1.96 V	211	39.53	17.00
6	11400.00	43.97 AV	54.00	-10.03	1.96 V	211	26.97	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) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5621.75	57.58 PK	68.20	-10.62	1.80 H	326	51.00	6.58
2	*5745.00	97.87 PK			1.80 H	326	91.18	6.69
3	*5745.00	86.22 AV			1.80 H	326	79.53	6.69
4	#5992.24	56.68 PK	68.20	-11.52	1.80 H	326	49.37	7.31
5	11490.00	55.27 PK	74.00	-18.73	3.31 H	51	38.37	16.90
6	11490.00	42.32 AV	54.00	-11.68	3.31 H	51	25.42	16.90
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	#5604.61	56.12 PK	68.20	-12.08	1.63 V	272	49.54	6.58
2	*5745.00	100.73 PK			1.63 V	272	94.04	6.69
3	*5745.00	89.89 AV			1.63 V	272	83.20	6.69
4	#5992.90	56.54 PK	68.20	-11.66	1.63 V	272	49.23	7.31
5	11490.00	56.43 PK	74.00	-17.57	2.44 V	109	39.53	16.90
6	11490.00	43.45 AV	54.00	-10.55	2.44 V	109	26.55	16.90

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5640.96	53.54 PK	68.20	-14.66	1.88 H	324	46.94	6.60
2	*5785.00	97.46 PK			1.88 H	324	90.74	6.72
3	*5785.00	85.41 AV			1.88 H	324	78.69	6.72
4	#5974.53	54.00 PK	68.20	-14.20	1.88 H	324	46.77	7.23
5	11570.00	55.03 PK	74.00	-18.97	3.01 H	87	38.24	16.79
6	11570.00	42.12 AV	54.00	-11.88	3.01 H	87	25.33	16.79
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5624.65	57.24 PK	68.20	-10.96	1.68 V	276	50.64	6.60
2	*5785.00	100.13 PK			1.68 V	276	93.41	6.72
3	*5785.00	88.91 AV			1.68 V	276	82.19	6.72
4	#5976.03	55.85 PK	68.20	-12.35	1.68 V	276	48.62	7.23
5	11570.00	56.20 PK	74.00	-17.80	2.55 V	89	39.41	16.79
6	11570.00	43.17 AV	54.00	-10.83	2.55 V	89	26.38	16.79

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5610.59	54.83 PK	68.20	-13.37	1.63 H	309	48.25	6.58
2	*5825.00	98.16 PK			1.63 H	309	91.38	6.78
3	*5825.00	86.60 AV			1.63 H	309	79.82	6.78
4	#5951.51	53.80 PK	68.20	-14.40	1.63 H	309	46.67	7.13
5	11650.00	55.24 PK	74.00	-18.76	3.29 H	19	38.48	16.76
6	11650.00	42.45 AV	54.00	-11.55	3.29 H	19	25.69	16.76
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5644.25	56.44 PK	68.20	-11.76	1.61 V	278	49.83	6.61
2	*5825.00	101.31 PK			1.61 V	278	94.53	6.78
3	*5825.00	89.67 AV			1.61 V	278	82.89	6.78
4	#6009.92	56.06 PK	68.20	-12.14	1.61 V	278	48.67	7.39
5	11650.00	56.58 PK	74.00	-17.42	2.51 V	166	39.82	16.76
6	11650.00	43.55 AV	54.00	-10.45	2.51 V	166	26.79	16.76

REMARKS:

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

802.11n (40MHz)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	64.30 PK	74.00	-9.70	1.00 H	155	59.39	4.91
2	5150.00	48.20 AV	54.00	-5.80	1.00 H	155	43.29	4.91
3	*5190.00	88.32 PK			1.00 H	155	83.36	4.96
4	*5190.00	77.30 AV			1.00 H	155	72.34	4.96
5	#10380.00	53.98 PK	74.00	-20.02	3.14 H	57	38.42	15.56
6	#10380.00	41.37 AV	54.00	-12.63	3.14 H	57	25.81	15.56
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	71.03 PK	74.00	-2.97	2.54 V	271	66.12	4.91
2	5150.00	53.00 AV	54.00	-1.00	2.54 V	271	48.09	4.91
3	*5190.00	95.29 PK			2.54 V	271	90.33	4.96
4	*5190.00	84.49 AV			2.54 V	271	79.53	4.96
5	#10380.00	55.20 PK	74.00	-18.80	2.11 V	108	39.64	15.56
6	#10380.00	42.49 AV	54.00	-11.51	2.11 V	108	26.93	15.56

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5230.00	86.30 PK			1.15 H	146	81.28	5.02
2	*5230.00	75.21 AV			1.15 H	146	70.19	5.02
3	5350.00	50.74 PK	74.00	-23.26	1.15 H	146	45.39	5.35
4	5350.00	39.52 AV	54.00	-14.48	1.15 H	146	34.17	5.35
5	#10460.00	54.57 PK	74.00	-19.43	3.32 H	82	38.86	15.71
6	#10460.00	41.81 AV	54.00	-12.19	3.32 H	82	26.10	15.71
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	*5230.00	97.50 PK			2.31 V	282	92.48	5.02
2	*5230.00	86.76 AV			2.31 V	282	81.74	5.02
3	5350.00	56.58 PK	74.00	-17.42	2.31 V	282	51.23	5.35
4	5350.00	43.68 AV	54.00	-10.32	2.31 V	282	38.33	5.35
5	#10460.00	56.00 PK	74.00	-18.00	2.87 V	263	40.29	15.71
6	#10460.00	42.79 AV	54.00	-11.21	2.87 V	263	27.08	15.71

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.
6. " # ": The radiated frequency is out of the restricted band.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	51.74 PK	74.00	-22.26	1.03 H	148	46.83	4.91
2	5150.00	39.93 AV	54.00	-14.07	1.03 H	148	35.02	4.91
3	*5270.00	90.97 PK			1.03 H	148	85.86	5.11
4	*5270.00	79.96 AV			1.03 H	148	74.85	5.11
5	#10540.00	54.61 PK	74.00	-19.39	3.09 H	115	38.76	15.85
6	#10540.00	41.87 AV	54.00	-12.13	3.09 H	115	26.02	15.85
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	56.81 PK	74.00	-17.19	2.39 V	304	51.90	4.91
2	5150.00	43.99 AV	54.00	-10.01	2.39 V	304	39.08	4.91
3	*5270.00	97.41 PK			2.39 V	304	92.30	5.11
4	*5270.00	86.47 AV			2.39 V	304	81.36	5.11
5	#10540.00	56.37 PK	74.00	-17.63	1.81 V	93	40.52	15.85
6	#10540.00	43.23 AV	54.00	-10.77	1.81 V	93	27.38	15.85

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	91.13 PK			1.25 H	157	85.93	5.20
2	*5310.00	80.19 AV			1.25 H	157	74.99	5.20
3	5350.00	65.18 PK	74.00	-8.82	1.25 H	157	59.83	5.35
4	5350.00	48.01 AV	54.00	-5.99	1.25 H	157	42.66	5.35
5	10620.00	54.85 PK	74.00	-19.15	3.14 H	97	38.86	15.99
6	10620.00	42.16 AV	54.00	-11.84	3.14 H	97	26.17	15.99
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	97.66 PK			3.01 V	334	92.46	5.20
2	*5310.00	87.18 AV			3.01 V	334	81.98	5.20
3	5350.00	70.07 PK	74.00	-3.93	3.01 V	334	64.72	5.35
4	5350.00	52.77 AV	54.00	-1.23	3.01 V	334	47.42	5.35
5	10620.00	56.57 PK	74.00	-17.43	1.77 V	106	40.58	15.99
6	10620.00	43.41 AV	54.00	-10.59	1.77 V	106	27.42	15.99

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	60.99 PK	74.00	-13.01	1.02 H	33	55.22	5.77
2	5460.00	45.13 AV	54.00	-8.87	1.02 H	33	39.36	5.77
3	5470.00	64.06 PK	68.20	-4.14	1.02 H	33	58.24	5.82
4	*5510.00	91.78 PK			1.02 H	33	85.77	6.01
5	*5510.00	80.84 AV			1.02 H	33	74.83	6.01
6	11020.00	55.64 PK	74.00	-18.36	2.96 H	348	38.25	17.39
7	11020.00	42.98 AV	54.00	-11.02	2.96 H	348	25.59	17.39
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	5460.00	64.73 PK	74.00	-9.27	3.28 V	329	58.96	5.77
2	5460.00	47.38 AV	54.00	-6.62	3.28 V	329	41.61	5.77
3	**5470.00**	**67.75 PK**	**68.20**	**-0.45**	**3.28 V**	**329**	**61.93**	**5.82**
4	*5510.00	95.54 PK			3.28 V	329	89.53	6.01
5	*5510.00	84.99 AV			3.28 V	329	78.98	6.01
6	11020.00	56.91 PK	74.00	-17.09	2.05 V	34	39.52	17.39
7	11020.00	44.25 AV	54.00	-9.75	2.05 V	34	26.86	17.39

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5550.00	91.88 PK			1.00 H	28	85.62	6.26
2	*5550.00	81.01 AV			1.00 H	28	74.75	6.26
3	11100.00	55.69 PK	74.00	-18.31	2.88 H	351	38.22	17.47
4	11100.00	42.98 AV	54.00	-11.02	2.88 H	351	25.51	17.47
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5550.00	95.83 PK			1.63 V	264	89.57	6.26
2	*5550.00	84.98 AV			1.63 V	264	78.72	6.26
3	11100.00	56.95 PK	74.00	-17.05	2.01 V	84	39.48	17.47
4	11100.00	44.26 AV	54.00	-9.74	2.01 V	84	26.79	17.47

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	91.38 PK			1.03 H	29	84.75	6.63
2	*5670.00	80.60 AV			1.03 H	29	73.97	6.63
3	#5725.00	56.50 PK	74.00	-17.50	1.03 H	29	49.82	6.68
4	#5725.00	43.39 AV	54.00	-10.61	1.03 H	29	36.71	6.68
5	11340.00	55.02 PK	74.00	-18.98	3.03 H	352	38.03	16.99
6	11340.00	42.30 AV	54.00	-11.70	3.03 H	352	25.31	16.99
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	95.26 PK			1.70 V	15	88.63	6.63
2	*5670.00	84.40 AV			1.70 V	15	77.77	6.63
3	#5725.00	59.36 PK	74.00	-14.64	1.70 V	15	52.68	6.68
4	#5725.00	45.56 AV	54.00	-8.44	1.70 V	15	38.88	6.68
5	11340.00	56.26 PK	74.00	-17.74	2.13 V	41	39.27	16.99
6	11340.00	43.53 AV	54.00	-10.47	2.13 V	41	26.54	16.99

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5629.61	56.02 PK	68.20	-12.18	1.38 H	14	49.43	6.59
2	*5755.00	95.57 PK			1.38 H	14	88.87	6.70
3	*5755.00	84.83 AV			1.38 H	14	78.13	6.70
4	#5980.79	56.27 PK	68.20	-11.93	1.38 H	14	49.02	7.25
5	11510.00	55.01 PK	74.00	-18.99	2.88 H	63	38.14	16.87
6	11510.00	42.98 AV	54.00	-11.02	2.88 H	63	26.11	16.87
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	#5644.37	55.84 PK	68.20	-12.36	1.44 V	277	49.23	6.61
2	*5755.00	96.59 PK			1.44 V	277	89.89	6.70
3	*5755.00	85.95 AV			1.44 V	277	79.25	6.70
4	#5996.29	56.99 PK	68.20	-11.21	1.44 V	277	49.67	7.32
5	11510.00	56.10 PK	74.00	-17.90	2.11 V	159	39.23	16.87
6	11510.00	43.90 AV	54.00	-10.10	2.11 V	159	27.03	16.87

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5639.06	57.03 PK	68.20	-11.17	1.32 H	22	50.42	6.61
2	*5795.00	96.01 PK			1.32 H	22	89.28	6.73
3	*5795.00	85.24 AV			1.32 H	22	78.51	6.73
4	#5977.60	56.90 PK	68.20	-11.30	1.32 H	22	49.66	7.24
5	11590.00	55.47 PK	74.00	-18.53	2.54 H	103	38.72	16.75
6	11590.00	43.14 AV	54.00	-10.86	2.54 H	103	26.39	16.75
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	#5622.58	56.58 PK	68.20	-11.62	1.43 V	269	49.99	6.59
2	*5795.00	97.08 PK			1.43 V	269	90.35	6.73
3	*5795.00	86.20 AV			1.43 V	269	79.47	6.73
4	#5937.10	55.04 PK	68.20	-13.16	1.43 V	269	47.97	7.07
5	11590.00	56.37 PK	74.00	-17.63	2.27 V	153	39.62	16.75
6	11590.00	43.98 AV	54.00	-10.02	2.27 V	153	27.23	16.75

REMARKS:

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

Below 1GHz Worst-Case Data

802.11a

CHANNEL	TX Channel 100	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	168.81	19.48 QP	43.50	-24.02	1.00 H	270	28.90	-9.42
2	250.45	42.16 QP	46.00	-3.84	1.40 H	222	51.60	-9.44
3	428.04	22.76 QP	46.00	-23.24	1.34 H	235	27.20	-4.44
4	630.62	27.28 QP	46.00	-18.72	2.47 H	344	27.12	0.16
5	904.70	32.53 QP	46.00	-13.47	3.78 H	146	27.79	4.74
6	976.14	34.03 QP	54.00	-19.97	3.35 H	138	27.93	6.10
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	176.71	25.14 QP	43.50	-18.36	4.00 V	314	35.18	-10.04
2	251.00	44.70 QP	46.00	-1.30	1.42 V	75	54.14	-9.44
3	399.23	22.33 QP	46.00	-23.67	1.34 V	216	27.66	-5.33
4	659.29	27.79 QP	46.00	-18.21	2.37 V	158	27.59	0.20
5	855.96	31.90 QP	46.00	-14.10	3.87 V	120	28.03	3.87
6	980.79	33.63 QP	54.00	-20.37	2.55 V	281	27.48	6.15

REMARKS:

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

4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

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

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

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
ROHDE & SCHWARZ TEST RECEIVER	ESCS 30	100276	Apr. 10, 2017	Apr. 9, 2018
ROHDE & SCHWARZ Artificial Mains Network (for EUT)	ENV216	101197	May 22, 2017	May 21, 2018
LISN With Adapter (for EUT)	AD10	C10Ada-002	May 22, 2017	May 21, 2018
ROHDE & SCHWARZ Artificial Mains Network (for peripherals)	ESH3-Z5	100218	Nov. 23, 2017	Nov. 22, 2018
SCHWARZBECK Artificial Mains Network (For EUT)	NNLK8129	8129229	May 9, 2017	May 8, 2018
Software	Cond_V7.3.7.4	NA	NA	NA
RF cable (JYEBAO) With 10dB PAD	5D-FB	Cable-C10.01	Feb. 14, 2017	Feb. 13, 2018
SUHNER Terminator (For ROHDE & SCHWARZ LISN)	65BNC-5001	E1-011484	May 18, 2017	May 17, 2018
ROHDE & SCHWARZ Artificial Mains Network (For TV EUT)	ESH3-Z5	100220	Nov. 14, 2017	Nov. 13, 2018
LISN With Adapter (for TV EUT)	100220	N/A	Nov. 14, 2017	Nov. 13, 2018

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.

4.2.3 Test Procedure

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

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

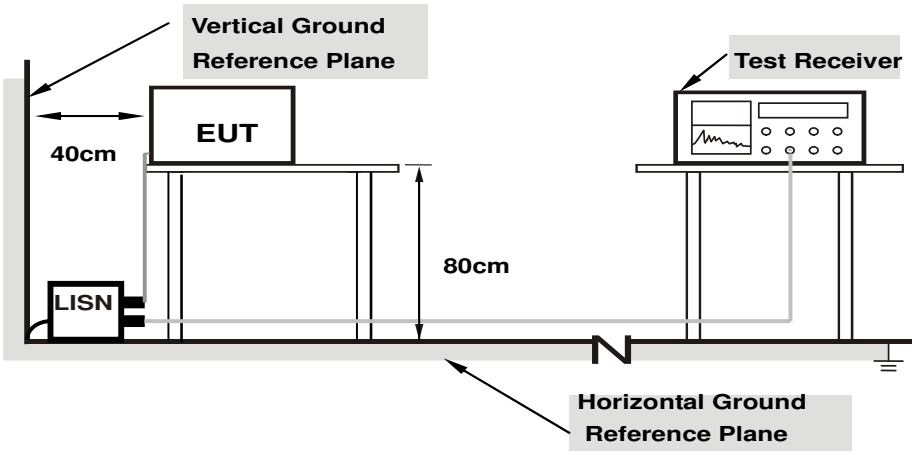
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

NOTE: 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.

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

4.2.6 EUT Operating Condition

Same as 4.1.6.

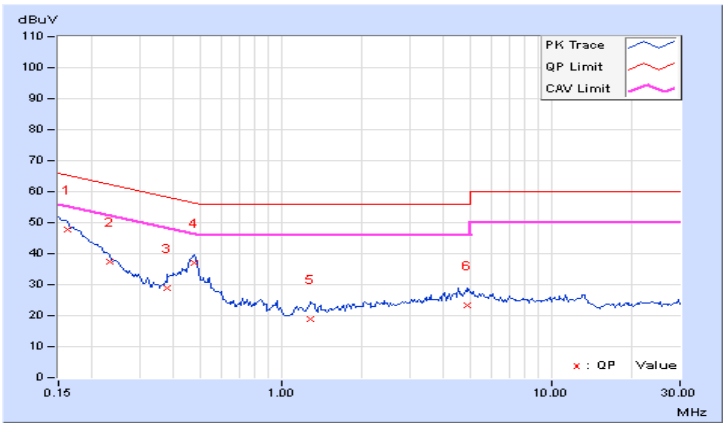
4.2.7 Test Results

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

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16172	9.65	38.25	22.07	47.90	31.72	65.38	55.38	-17.48	-23.66
2	0.23203	9.66	27.83	15.88	37.49	25.54	62.38	52.38	-24.89	-26.84
3	0.38047	9.69	19.33	11.78	29.02	21.47	58.27	48.27	-29.25	-26.80
4	**0.47422**	**9.70**	**27.45**	**22.00**	**37.15**	**31.70**	**56.44**	**46.44**	**-19.29**	**-14.74**
5	1.28906	9.82	9.17	3.61	18.99	13.43	56.00	46.00	-37.01	-32.57
6	4.89844	10.07	13.20	6.11	23.27	16.18	56.00	46.00	-32.73	-29.82

REMARKS:

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

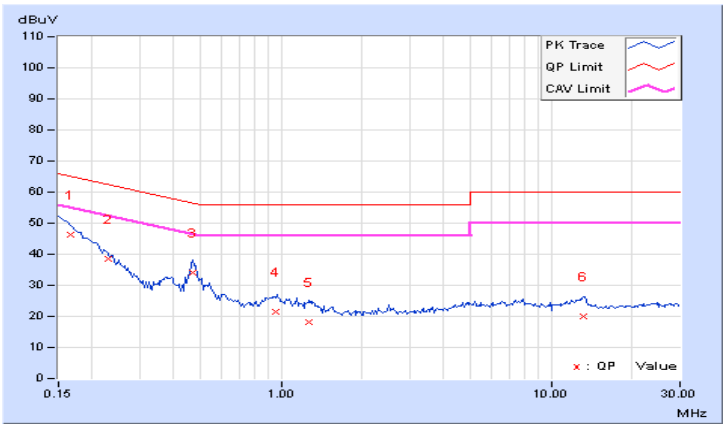


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16562	9.69	36.71	21.62	46.40	31.31	65.18	55.18	-18.78	-23.87
2	0.22812	9.70	28.64	15.55	38.34	25.25	62.52	52.52	-24.18	-27.27
3	0.47031	9.74	24.51	17.58	34.25	27.32	56.51	46.51	-22.26	-19.19
4	0.95469	9.79	11.56	6.99	21.35	16.78	56.00	46.00	-34.65	-29.22
5	1.26563	9.82	8.48	4.98	18.30	14.80	56.00	46.00	-37.70	-31.20
6	13.17578	10.31	9.52	4.40	19.83	14.71	60.00	50.00	-40.17	-35.29

REMARKS:

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



4.3 Transmit Power Measurement

4.3.1 Limits of Transmit Power Measurement

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

*B is the 26 dB emission bandwidth in megahertz

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

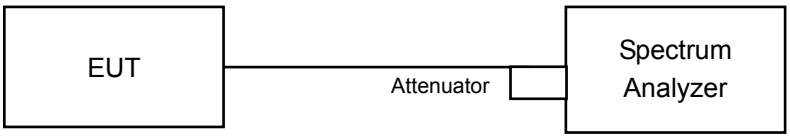
Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT};
Array Gain = 5 log(N_{ANT}/N_{SS}) dB or 3 dB, whichever is less for 20-MHz channel widths with $N_{ANT} \geq 5$.

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

4.3.2 Test Setup

FOR POWER OUTPUT MEASUREMENT

FOR 26dB OCCUPIED BANDWIDTH



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

For POWER OUTPUT MEASUREMENT

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

FOR 26dB OCCUPIED BANDWIDTH

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

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Condition

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	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	18.793	12.74	24	Pass
40	5200	18.967	12.78	24	Pass
48	5240	18.967	12.78	24	Pass
52	5260	19.634	12.93	24	Pass
60	5300	19.724	12.95	24	Pass
64	5320	19.634	12.93	24	Pass
100	5500	18.707	12.72	24	Pass
116	5580	19.907	12.99	24	Pass
132	5660	19.815	12.97	24	Pass
140	5700	19.907	12.99	24	Pass
149	5745	19.907	12.99	30	Pass
157	5785	19.770	12.96	30	Pass
165	5825	19.543	12.91	30	Pass

NOTE:

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

1. 11dBm + 10log(37.93) = 26.79 dBm > 24dBm.
2. 11dBm + 10log(33.88) = 26.30 dBm > 24dBm.
3. 11dBm + 10log(34.51) = 26.38 dBm > 24dBm.
4. 11dBm + 10log(25.40) = 25.05 dBm > 24dBm.
5. 11dBm + 10log(23.88) = 24.78 dBm > 24dBm.
6. 11dBm + 10log(24.45) = 24.88 dBm > 24dBm.
7. 11dBm + 10log(26.66) = 25.26 dBm > 24dBm.

802.11n (20MHz)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)		Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	11.85	12.00	31.160	14.94	24	Pass
40	5200	11.82	11.96	30.909	14.90	24	Pass
48	5240	11.86	12.02	**31.268**	14.95	24	Pass
52	5260	11.45	11.91	29.488	14.70	24	Pass
60	5300	11.42	11.88	29.285	14.67	24	Pass
64	5320	11.36	11.97	29.417	14.69	24	Pass
100	5500	10.82	11.99	27.890	14.45	24	Pass
116	5580	10.91	11.87	27.713	14.43	24	Pass
132	5660	11.81	11.92	30.731	14.88	24	Pass
140	5700	11.78	12.00	**30.915**	14.90	24	Pass
149	5745	12.53	12.84	37.137	15.70	30	Pass
157	5785	12.80	12.77	**37.978**	15.80	30	Pass
165	5825	12.56	12.72	36.737	15.65	30	Pass

NOTE:

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

Chain 0

1. 11dBm + 10log(35.20) = 26.47 dBm > 24dBm.
2. 11dBm + 10log(24.12) = 24.82 dBm > 24dBm.
3. 11dBm + 10log(25.71) = 25.10 dBm > 24dBm.
4. 11dBm + 10log(22.77) = 24.57 dBm > 24dBm.
5. 11dBm + 10log(22.57) = 24.54 dBm > 24dBm.
6. 11dBm + 10log(23.06) = 24.63 dBm > 24dBm.
7. 11dBm + 10log(23.31) = 24.68 dBm > 24dBm.

Chain 1

1. 11dBm + 10log(28.75) = 25.59 dBm > 24dBm.
2. 11dBm + 10log(27.39) = 25.38 dBm > 24dBm.
3. 11dBm + 10log(28.12) = 25.49 dBm > 24dBm.
4. 11dBm + 10log(23.64) = 24.74 dBm > 24dBm.
5. 11dBm + 10log(21.62) = 24.35 dBm > 24dBm.
6. 11dBm + 10log(20.40) = 24.10 dBm > 24dBm.
7. 11dBm + 10log(25.11) = 25.00 dBm > 24dBm.

802.11n (40MHz)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)		Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	9.98	10.01	19.977	13.01	24	Pass
46	5230	11.88	11.99	31.229	14.95	24	Pass
54	5270	11.62	11.89	29.974	14.77	24	Pass
62	5310	11.66	11.96	**30.359**	14.82	24	Pass
102	5510	10.83	11.96	27.81	14.44	24	Pass
110	5550	10.88	11.94	27.877	14.45	24	Pass
134	5670	11.53	11.98	29.999	14.77	24	Pass
151	5755	12.76	12.68	37.415	15.73	30	Pass
159	5795	12.79	12.72	37.718	15.77	30	Pass

NOTE:

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

Chain 0

1. 11dBm + 10log(84.20) = 30.25 dBm > 24dBm.
2. 11dBm + 10log(83.15) = 30.20 dBm > 24dBm.
3. 11dBm + 10log(63.50) = 29.03 dBm > 24dBm.
4. 11dBm + 10log(62.12) = 28.93 dBm > 24dBm.
5. 11dBm + 10log(71.37) = 29.54 dBm > 24dBm.

Chain 1

1. 11dBm + 10log(88.45) = 30.47 dBm > 24dBm.
2. 11dBm + 10log(89.23) = 30.51 dBm > 24dBm.
3. 11dBm + 10log(61.99) = 28.92 dBm > 24dBm.
4. 11dBm + 10log(69.67) = 29.43 dBm > 24dBm.
5. 11dBm + 10log(76.25) = 29.82 dBm > 24dBm.

26dB Bandwidth:

802.11a

Channel	Channel Frequency (MHz)	26dBc Bandwidth (MHz)
52	5260	37.93
60	5300	33.88
64	5320	34.51
100	5500	25.40
116	5580	23.88
132	5660	24.45
140	5700	26.66

802.11n (20MHz)

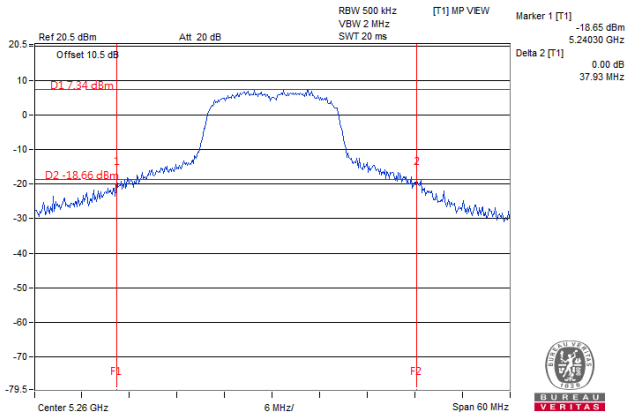
Channel	Channel Frequency (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	35.20	28.75
60	5300	24.12	27.39
64	5320	25.71	28.12
100	5500	22.77	23.64
116	5580	22.57	21.62
132	5660	23.06	20.40
140	5700	23.31	25.11

802.11n (40MHz)

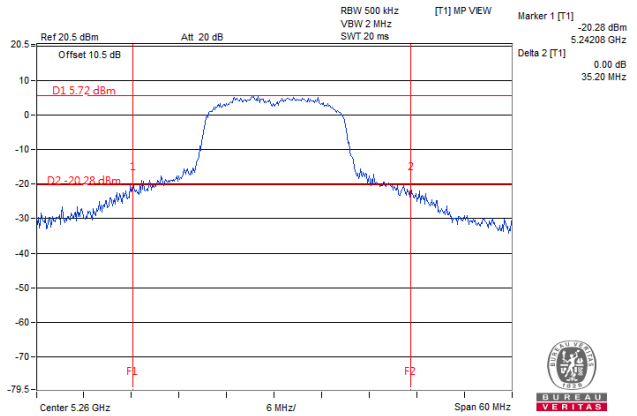
Channel	Channel Frequency (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
54	5270	84.20	88.45
62	5310	83.15	89.23
102	5510	63.50	61.99
110	5550	62.12	69.67
134	5670	71.37	76.25

Spectrum Plot of Worst Value

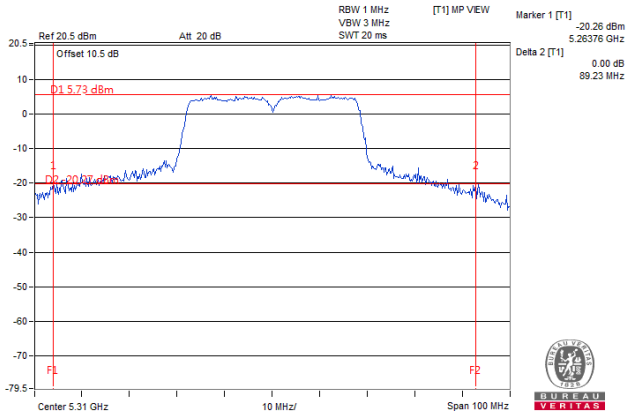
802.11a / CH52



802.11n (20MHz)_Chain0 / CH52

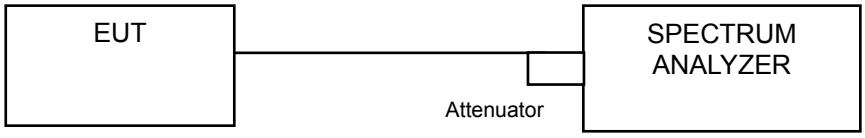


802.11n (40MHz)_Chain1 / CH62



4.4 Occupied Bandwidth Measurement

4.4.1 Test Setup



4.4.2 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.3 Test Procedure

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

4.4.4 Test Results

802.11a

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)
36	5180	17.28
40	5200	17.04
48	5240	17.04
52	5260	17.28
60	5300	17.16
64	5320	17.16
100	5500	16.68
116	5580	16.68
132	5660	16.68
140	5700	16.80

802.11n (20MHz)

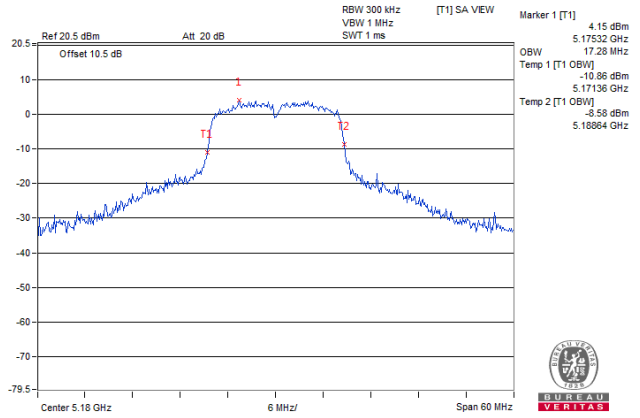
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)	
		CHAIN 0	CHAIN 1
36	5180	17.76	17.76
40	5200	17.88	17.76
48	5240	17.64	17.64
52	5260	17.76	17.76
60	5300	17.64	17.64
64	5320	17.64	17.64
100	5500	17.64	17.52
116	5580	17.52	17.64
132	5660	17.64	17.64
140	5700	17.64	17.64

802.11n (40MHz)

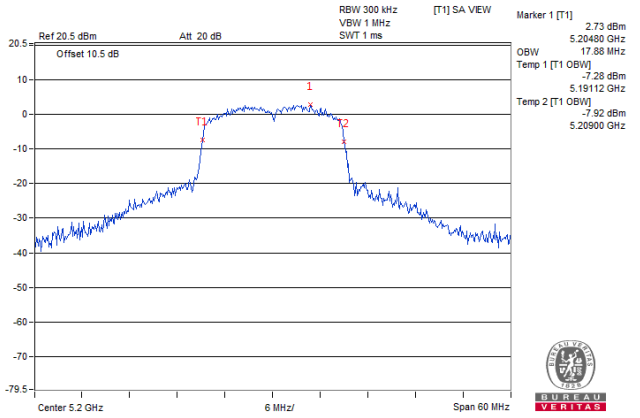
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)	
		CHAIN 0	CHAIN 1
38	5190	37.00	37.00
46	5230	37.40	37.40
54	5270	37.80	38.00
62	5310	37.40	37.40
102	5510	36.80	36.80
110	5550	36.80	36.80
134	5670	36.80	36.80

Spectrum Plot of Worst Value

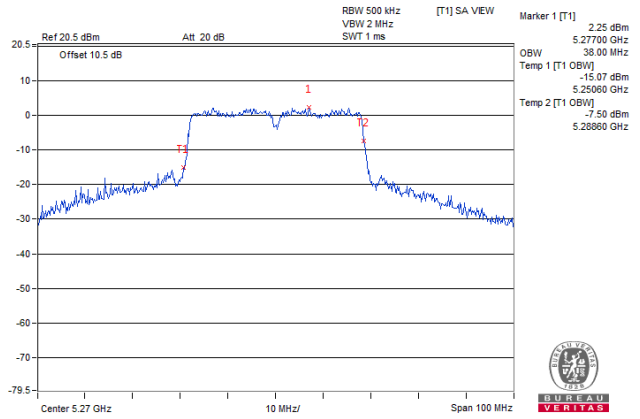
802.11a / CH36



802.11n (20MHz)_Chain0 / CH40



802.11n (40MHz)_Chain1 / CH54

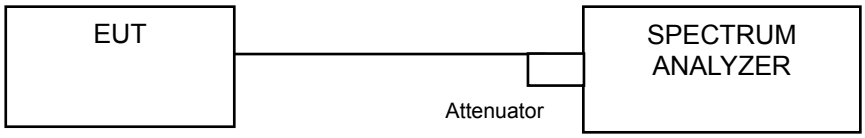


4.5 Peak Power Spectral Density Measurement

4.5.1 Limits of Peak Power Spectral Density Measurement

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

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.5.4 Test Procedure

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 = 1 MHz, Set VBW ≥ 3 MHz, 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).

For U-NII-3:

1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
2) Set RBW = 500 kHz, Set VBW ≥ 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)

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Condition

Same as Item 4.3.6.

4.5.7 Test Results

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

802.11a

Chan.	Chan. Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD With Duty Factor (dBm/MHz)	MAX. Limit (dBm/MHz)	Pass / Fail
36	5180	0.03	0.14	0.17	11	Pass
40	5200	0.02	0.14	0.16	11	Pass
48	5240	0.00	0.14	0.14	11	Pass
52	5260	0.65	0.14	0.79	11	Pass
60	5300	0.15	0.14	0.29	11	Pass
64	5320	0.13	0.14	0.27	11	Pass
100	5500	0.16	0.14	0.30	11	Pass
116	5580	0.55	0.14	0.69	11	Pass
132	5660	0.94	0.14	1.08	11	Pass
140	5700	0.70	0.14	0.84	11	Pass

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

802.11n (20MHz)

Chan.	Chan. Freq. (MHz)	PSD W/O Duty Factor (dBm)		Duty Factor (dB)	Total PSD With Duty Factor (dBm)	MAX. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	-1.08	-1.12	0.16	2.07	11	Pass
40	5200	-1.14	-1.05	0.16	2.07	11	Pass
48	5240	-1.13	-1.12	0.16	2.04	11	Pass
52	5260	-0.98	-0.98	0.16	2.19	11	Pass
60	5300	-1.49	-1.47	0.16	1.69	11	Pass
64	5320	-1.47	-1.46	0.16	1.70	11	Pass
100	5500	-1.90	-1.84	0.16	1.30	11	Pass
116	5580	-1.58	-1.51	0.16	1.62	11	Pass
132	5660	-1.02	-1.01	0.16	2.15	11	Pass
140	5700	-0.96	-0.93	0.16	2.22	11	Pass

Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

2. Directional gain = 2dBi + 10log(2) = 5.01dBi < 6dBi , so the power density limit is not reduced.

3. Refer to section 3.3 for duty cycle spectrum plot.

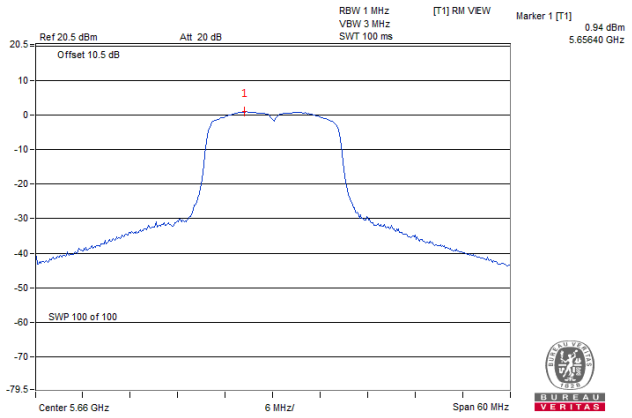
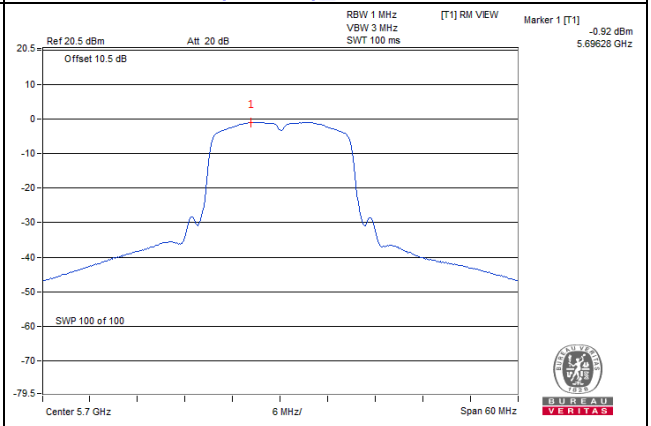
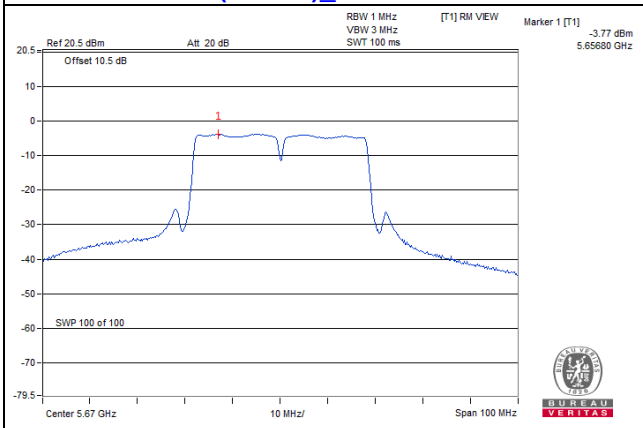
802.11n (40MHz)

Chan.	Chan. Freq. (MHz)	PSD W/O Duty Factor (dBm)		Duty Factor (dB)	Total PSD With Duty Factor (dBm)	MAX. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	-5.78	-5.67	0.46	-2.25	11	Pass
46	5230	-4.23	-4.21	0.46	-0.75	11	Pass
54	5270	-4.26	-4.16	0.46	-0.74	11	Pass
62	5310	-4.48	-4.56	0.46	-1.05	11	Pass
102	5510	-4.86	-4.88	0.46	-1.40	11	Pass
110	5550	-4.65	-4.66	0.46	-1.18	11	Pass
134	5670	-3.78	-4.29	0.46	-0.55	11	Pass

Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

2. Directional gain = 2dBi + 10log(2) = 5.01dBi < 6dBi , so the power density limit is not reduced.

3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value	
802.11a / CH132	**802.11n (20MHz)_Chain 1 / CH140**
	
802.11n (40MHz)_Chain 0 / CH134	
	

For U-NII-3:

802.11a

Channel	Freq. (MHz)	PSD (dBm/500kHz)	Duty Factor	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
149	5745	-7.81	0.14	-7.67	30	Pass
157	5785	-7.79	0.14	-7.65	30	Pass
165	5825	-7.68	0.14	-7.54	30	Pass

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

802.11n (20MHz)

TX chain	Channel	Freq. (MHz)	PSD (dBm/500kHz)	10 log (N=2) dB	Duty Factor	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
0	149	5745	-8.43	3.01	0.16	-5.26	30	Pass
	157	5785	-8.57	3.01	0.16	-5.40	30	Pass
	165	5825	-8.96	3.01	0.16	-5.79	30	Pass
1	149	5745	-9.34	3.01	0.16	-6.17	30	Pass
	157	5785	-9.30	3.01	0.16	-6.13	30	Pass
	165	5825	-9.65	3.01	0.16	-6.48	30	Pass

Note:
1. Directional gain = 2dBi + 10log(2) = 5.01dBi < 6dBi , so the power density limit is not reduced.
2. Refer to section 3.3 for duty cycle spectrum plot.

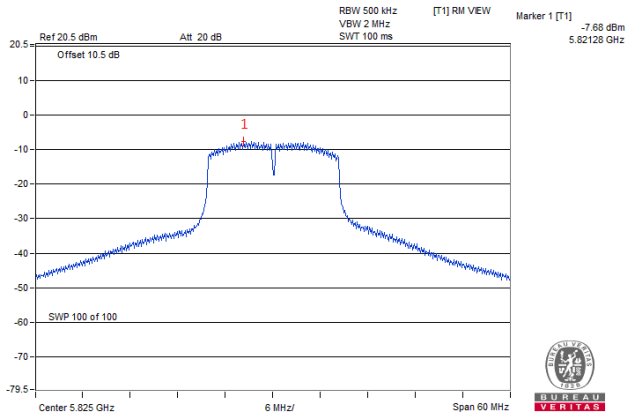
802.11n (40MHz)

TX chain	Channel	Freq. (MHz)	PSD (dBm/500kHz)	10 log (N=2) dB	Duty Factor	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
0	151	5755	-12.43	3.01	0.46	-8.96	30	Pass
	159	5795	-12.91	3.01	0.46	-9.44	30	Pass
1	151	5755	-13.17	3.01	0.46	-9.70	30	Pass
	159	5795	-12.98	3.01	0.46	-9.51	30	Pass

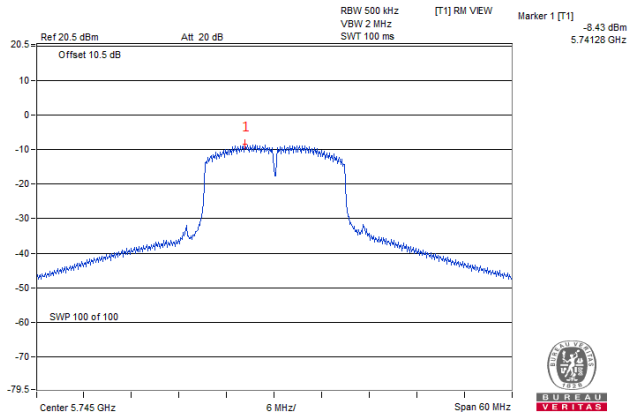
Note:
1. Directional gain = 2dBi + 10log(2) = 5.01dBi < 6dBi , so the power density limit is not reduced.
2. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

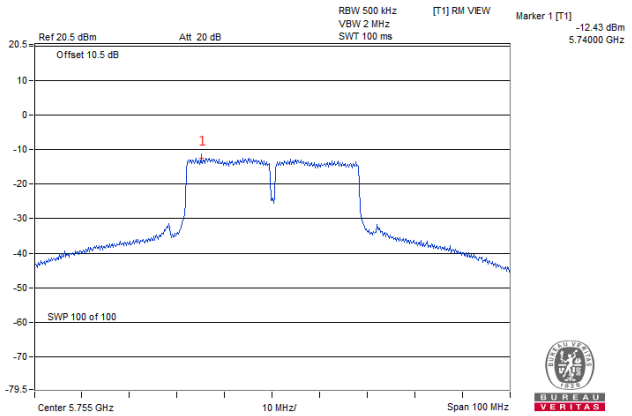
802.11a / CH165



802.11n (20MHz)_Chain 0 / CH149



802.11n (40MHz)_Chain 0 / CH151

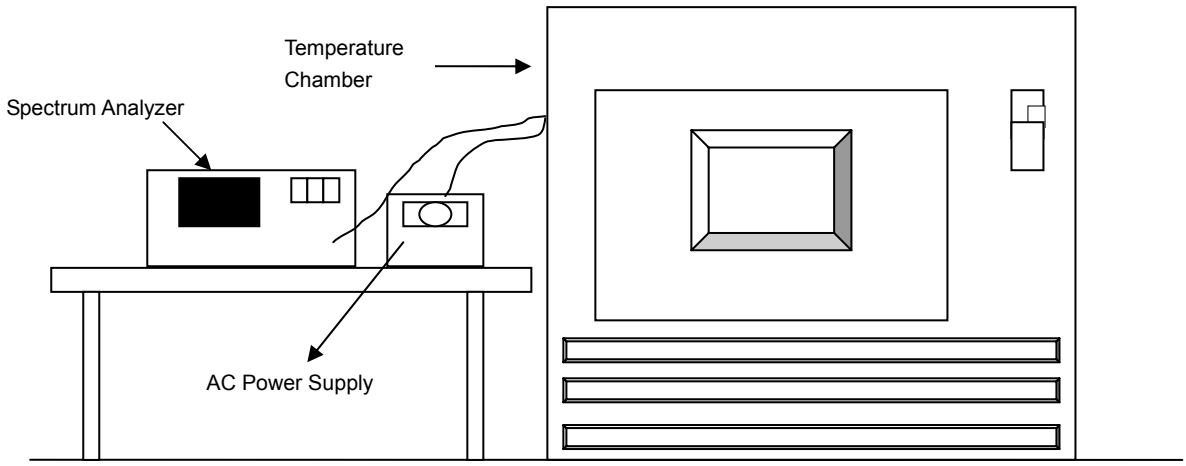


4.6 Frequency Stability Measurement

4.6.1 Limits of Frequency Stability Measurement

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

4.6.2 Test Setup



4.6.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.6.4 Test Procedure

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

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

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

4.6.7 Test Results

Frequency Stability Versus Temp.									
Operating Frequency: 5180 MHz									
TEMP. (℃)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
50	120	5180.043564	Pass	5180.043532	Pass	5180.043877	Pass	5180.04395	Pass
40	120	5180.041911	Pass	5180.042386	Pass	5180.042269	Pass	5180.042007	Pass
30	120	5180.043035	Pass	5180.043088	Pass	5180.043108	Pass	5180.043277	Pass
20	120	5180.04313	Pass	5180.043437	Pass	5180.043422	Pass	5180.043294	Pass
10	120	5180.042681	Pass	5180.042755	Pass	5180.042620	Pass	5180.042642	Pass
0	120	5180.043208	Pass	5180.04277	Pass	5180.043225	Pass	5180.042832	Pass
-10	120	5180.04329	Pass	5180.043271	Pass	5180.043236	Pass	5180.043515	Pass
-20	120	5180.043087	Pass	5180.043001	Pass	5180.043238	Pass	5180.043339	Pass

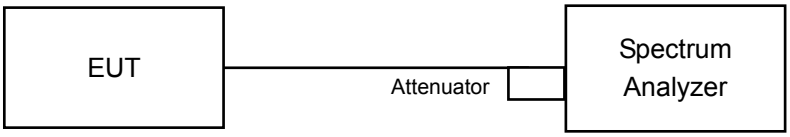
Frequency Stability Versus Voltage									
Operating Frequency: 5180 MHz									
TEMP. (℃)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency(MHz)	Pass/Fail	Measured Frequency(M Hz)	Pass/Fail	Measured Frequency(MHz)	Pass/Fail	Measured Frequency(M Hz)	Pass/Fail
20	138	5180.043538	Pass	5180.043473	Pass	5180.043426	Pass	5180.043252	Pass
	120	5180.04313	Pass	5180.043437	Pass	5180.043422	Pass	5180.043294	Pass
	102	5180.042106	Pass	5180.042089	Pass	5180.041827	Pass	5180.042102	Pass

4.7 6dB Bandwidth Measurement

4.7.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

4.7.2 Test Setup



4.7.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.7.4 Test Procedure

MEASUREMENT PROCEDURE REF

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

4.7.5 Deviation from Test Standard

No deviation.

4.7.6 EUT Operating Condition

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

4.7.7 Test Results

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
149	5745	15.63	0.5	PASS
157	5785	15.48	0.5	PASS
165	5825	15.56	0.5	PASS

802.11n (20MHz)

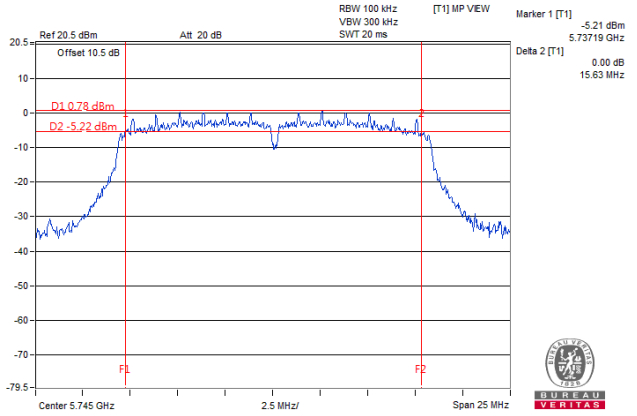
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	15.52	15.52	0.5	PASS
157	5785	15.46	15.39	0.5	PASS
165	5825	15.37	15.48	0.5	PASS

802.11n (40MHz)

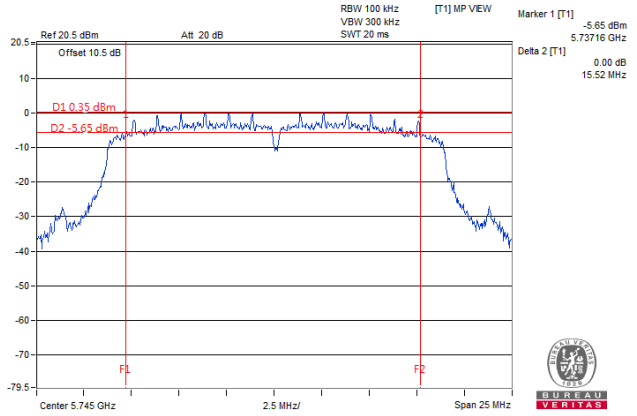
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
151	5755	36.42	36.37	0.5	PASS
159	5795	36.39	36.40	0.5	PASS

Spectrum Plot of Worst Value

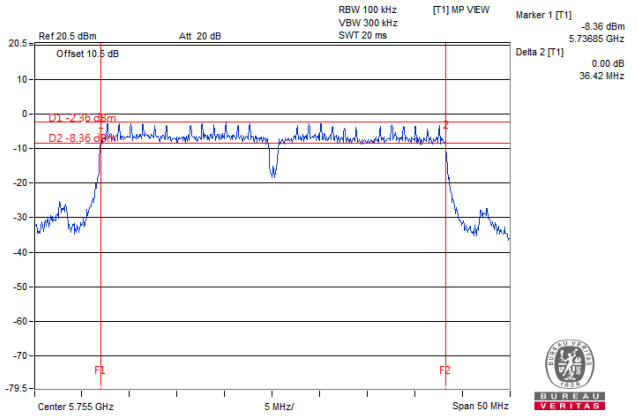
802.11a / CH149



802.11n (20MHz)_Chain 0 / CH149



802.11n (40MHz)_Chain 0 / CH151



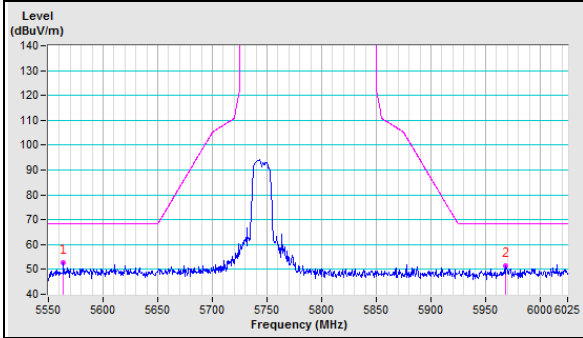
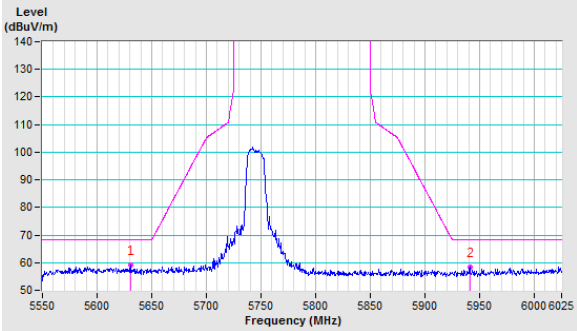
5 Pictures of Test Arrangements

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

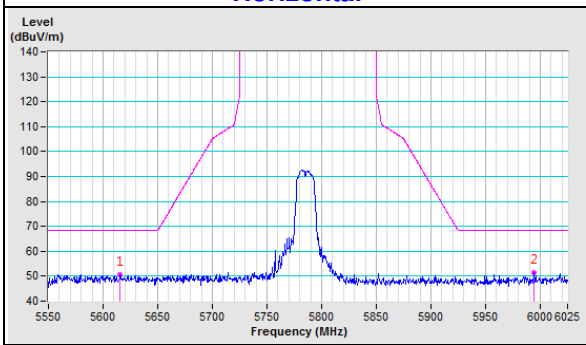
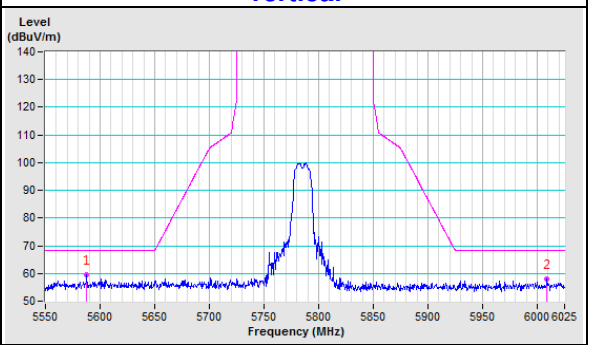
Annex A- Radiated Out of Band Emission (OOBE) Measurement (For U-NII-3 band)

802.11a

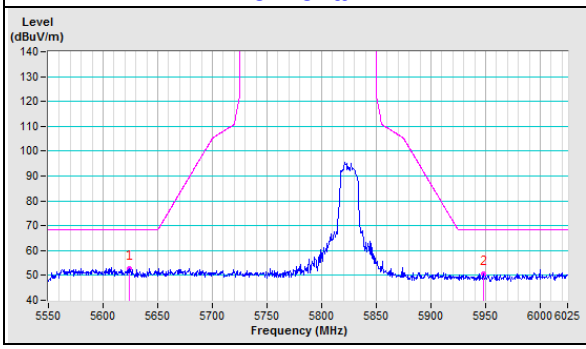
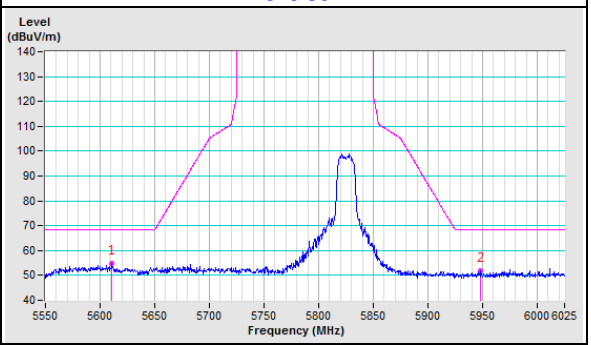
CH149

Horizontal	Vertical
	

CH157

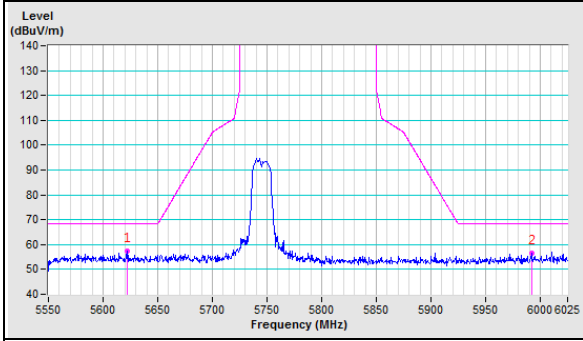
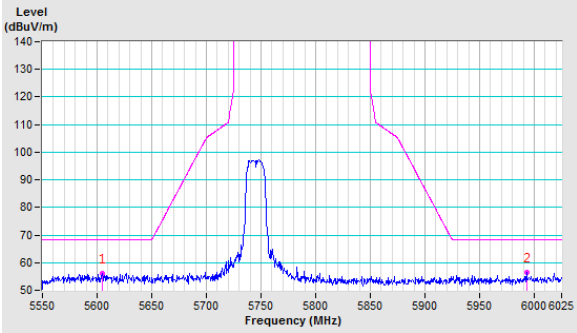
Horizontal	Vertical
	

CH165

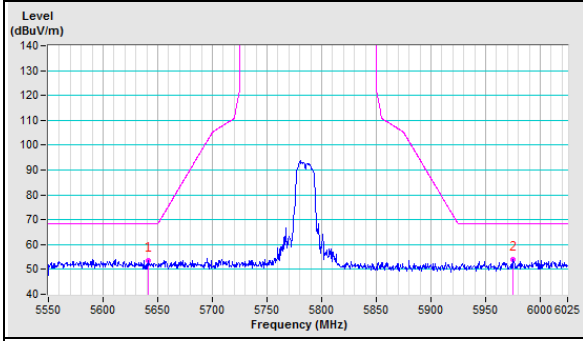
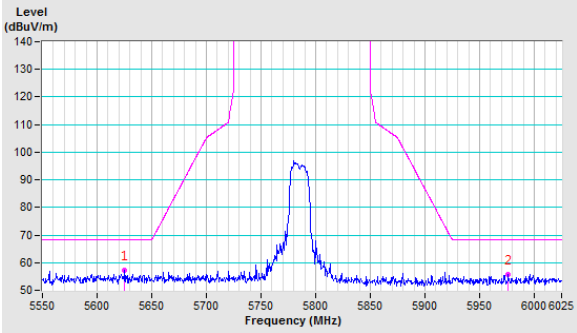
Horizontal	Vertical
	

802.11n (20MHz)

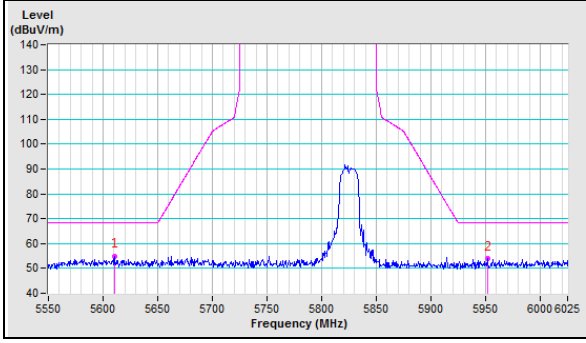
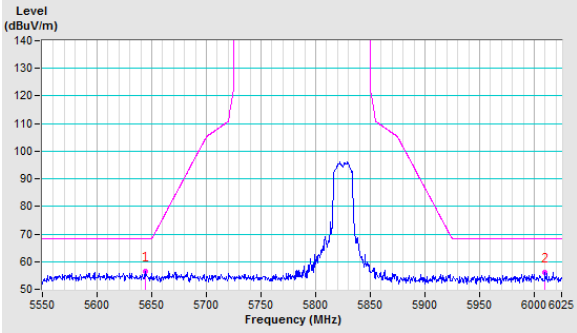
CH149

Horizontal	Vertical
	

CH157

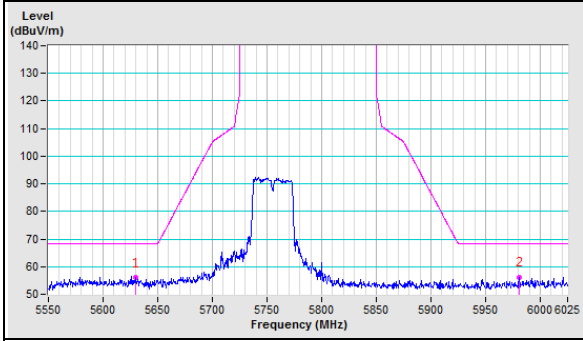
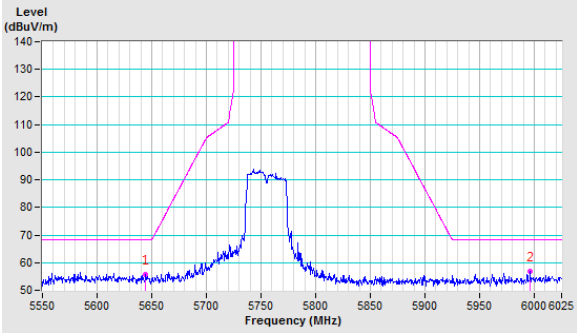
Horizontal	Vertical
	

CH165

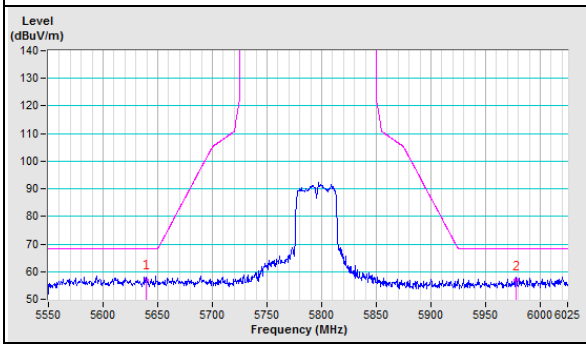
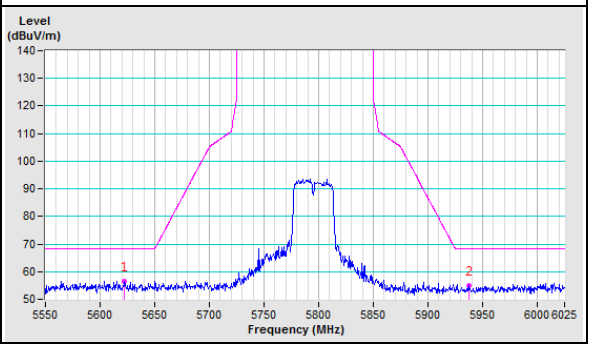
Horizontal	Vertical
	

802.11n (20MHz)

CH151

Horizontal	Vertical
	

CH159

Horizontal	Vertical
	

Appendix – Information on the Testing Laboratories

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

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

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

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

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