

FCC Test Report

Report No.: RF111122C09F

FCC ID: PY311300176

Test Model: WNDA4100

Received Date: Nov. 22, 2011

Test Date: Nov. 24, 2011 ~ Sep. 04, 2015

Issued Date: Sep. 08, 2015

Applicant: NETGEAR, INC.

Address: 350 East Plumeria Drive San Jose, CA 95134

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

Lab Address: No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan, R.O.C.

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



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Release Control Record

Issue No.	Description	Date Issued
RF111122C09F	Original release	Sep. 08, 2015



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1 Certificate of Conformity

Product: N900 Wireless Dual Band USB Adapter

Brand: Netgear

Test Model: WNDA4100

Sample Status: Engineering sample

Applicant: NETGEAR, INC.

Test Date: Nov. 24, 2011 ~ Sep. 04, 2015

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

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

Prepared by : Ivy Lin , **Date:** Sep. 08, 2015
Ivy Lin / Specialist

Approved by : Ken Liu , **Date:** Sep. 08, 2015
Ken Liu / Senior Manager

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	Test Item	Result	Remarks
15.407(b)(6)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -18.92dB at 0.44071MHz.
15.407(b)(1/2/3/4/6)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -0.5dB at 5714.90MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6dB bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	No antenna connector is used.

2.1 Measurement Uncertainty

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

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

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	N900 Wireless Dual Band USB Adapter
Brand	Netgear
Test Model	WNDA4100
Status of EUT	Engineering sample
Power Supply Rating	5Vdc (Host equipment)
Modulation Type	64QAM, 16QAM, QPSK, BPSK
Modulation Technology	OFDM
Transfer Rate	802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11n: up to 450Mbps
Operating Frequency	5180 ~ 5240MHz, 5260 ~ 5320MHz, 5500 ~ 5700MHz & 5745 ~ 5825MHz
Number of Channel	5180 ~ 5240MHz: 4 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40) 5260 ~ 5320MHz: 4 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40) 5500 ~ 5700MHz: 8 for 802.11a, 802.11n (HT20) 3 for 802.11n (HT40) 5745 ~ 5825MHz: 5 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40)
Output Power	5180 ~ 5240MHz: 32.200mW 5260 ~ 5320MHz: 118.500mW 5500 ~ 5700MHz: 124.200mW 5745 ~ 5825MHz: 115.012mW
Antenna Type	PIFA antenna with 3.0dBi gain
Antenna Connector	N/A
Accessory Device	Cradle
Data Cable Supplied	1.0m shielded USB cable without core (for Cradle)

Note:

1. This report is prepared for FCC class II permissive change. This report is issued as a supplementary report of BV ADT report no.: RF111122C09-1. The difference compared with the original report is updating U-NII band to new rule. Therefore, the EUT re-tested in the test report.
2. The EUT incorporates a MIMO function. Physically, the EUT provides 3 completed transmitters and 3 receivers.

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

3. The EUT has disabled the 5600-5650MHz band by S/W to avoid 5600-5650MHz band for FCC certification.
4. The EUT with cradle is the worst case for final test.
5. There is not any change to the DFS bands hardware and software includes all RF characteristics and DFS client test result continue applicable to this 5.8GHz updated device.

3.2 Description of Test Modes

FOR 5180 ~ 5240MHz

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

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

2 channels are provided for 802.11n (HT40):

Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz

FOR 5260 ~ 5320MHz

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

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

2 channels are provided for 802.11n (HT40):

Channel	Frequency	Channel	Frequency
54	5270 MHz	62	5310 MHz

FOR 5500 ~ 5700MHz

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

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

3 channels are provided for 802.11n (HT40):

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

FOR 5745 ~ 5825MHz:

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

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

2 channels are provided for 802.11n (HT40):

Channel	Frequency	Channel	Frequency
151	5755MHz	159	5795MHz

3.2.1 Test Mode Applicability and Tested Channel Detail

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

Where **RE \geq 1G**: Radiated Emission above 1GHz & Bandedge Measurement

RE<1G: Radiated Emission below 1GHz

PLC: Power Line Conducted Emission

APCM: Antenna Port Conducted Measurement

Radiated Emission Test (Above 1GHz):

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

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

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	BPSK	6.0
-	802.11n (HT20)		36 to 48	36, 40, 48	OFDM	BPSK	7.2
-	802.11n (HT40)		38 to 46	38, 46	OFDM	BPSK	15.0
-	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6.0
-	802.11n (HT20)		52 to 64	52, 60, 64	OFDM	BPSK	7.2
-	802.11n (HT40)		54 to 62	54, 62	OFDM	BPSK	15.0
-	802.11a	5500-5700	100 to 140	100, 116, 132, 140	OFDM	BPSK	6.0
-	802.11n (HT20)		100 to 140	100, 116, 132, 140	OFDM	BPSK	7.2
-	802.11n (HT40)		102 to 134	102, 110, 134	OFDM	BPSK	15.0
-	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6.0
-	802.11n (HT20)		149 to 165	149, 157, 165	OFDM	BPSK	7.2
-	802.11n (HT40)		151 to 159	151, 159	OFDM	BPSK	15.0

Radiated Emission Test (Below 1GHz):

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

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

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11n (HT20)	5180-5240, 5260-5320, 5500-5700, 5745-5825	36 to 48, 52 to 64, 100 to 140, 149 to 165	149	OFDM	BPSK	7.2

Power Line Conducted Emission Test:

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

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11n (HT20)	5180-5240, 5260-5320, 5500-5700, 5745-5825	36 to 48, 52 to 64, 100 to 140, 149 to 165	149	OFDM	BPSK	7.2

Antenna Port Conducted Measurement:

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

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	BPSK	6.0
-	802.11n (HT20)		36 to 48	36, 40, 48	OFDM	BPSK	7.2
-	802.11n (HT40)		38 to 46	38, 46	OFDM	BPSK	15.0
-	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6.0
-	802.11n (HT20)		52 to 64	52, 60, 64	OFDM	BPSK	7.2
-	802.11n (HT40)		54 to 62	54, 62	OFDM	BPSK	15.0
-	802.11a	5500-5700	100 to 140	100, 116, 132, 140	OFDM	BPSK	6.0
-	802.11n (HT20)		100 to 140	100, 116, 132, 140	OFDM	BPSK	7.2
-	802.11n (HT40)		102 to 134	102, 110, 134	OFDM	BPSK	15.0
-	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6.0
-	802.11n (HT20)		149 to 165	149, 157, 165	OFDM	BPSK	7.2
-	802.11n (HT40)		151 to 159	151, 159	OFDM	BPSK	15.0

Test Condition:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (SYSTEM)	TESTED BY
RE \geq 1G	25deg. C, 65%RH, 28 deg. C, 63% RH	120Vac, 60Hz	David Huang, Alan Wu
RE $<$ 1G	28 deg. C, 63% RH	120Vac, 60Hz	Alan Wu
PLC	24 deg. C, 64% RH	120Vac, 60Hz	Match Tsui
APCM	25deg. C, 65%RH, 25 deg. C, 60% RH	120Vac, 60Hz	Kay Wu, Mark Liao, Frank Wang

3.3 Duty Cycle of Test Signal

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

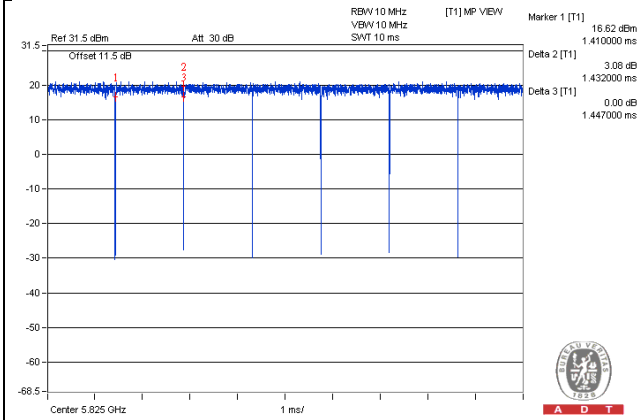
802.11a: Duty cycle = $1.432/1.447 = 0.990$

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

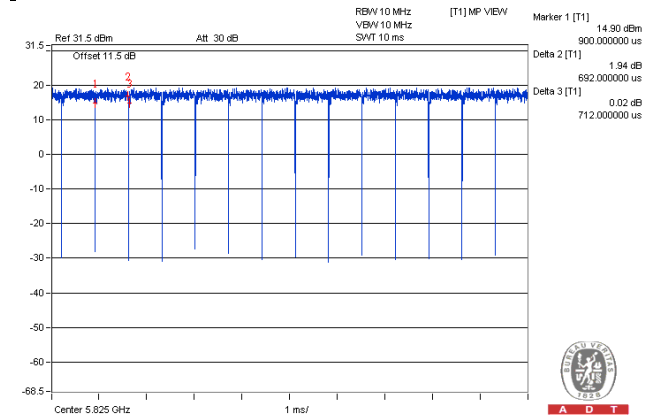
802.11n (HT20): Duty cycle = $0.692/0.712 = 0.972$, Duty factor = $10 * \log(1/0.972) = 0.12$

802.11n (HT40): Duty cycle = $0.355/0.373 = 0.952$, Duty factor = $10 * \log(1/0.952) = 0.21$

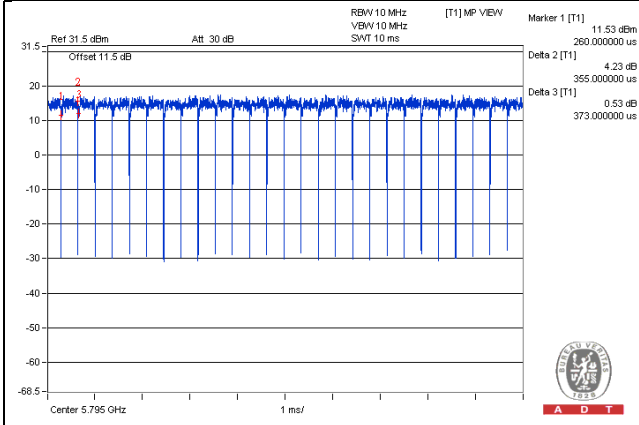
802.11a



802.11n (HT20)



802.11n (HT40)



3.4 Description of Support Units

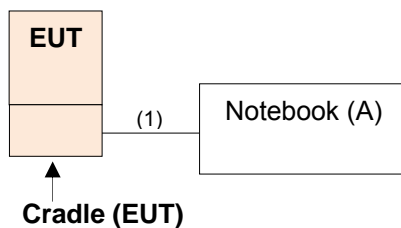
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

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

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

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	USB cable	1	1.0	Y	0	Attached on cradle

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standards

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

FCC Part 15, Subpart E (15.407)

789033 D02 General UNII Test Procedure New Rules v01

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. Other emissions shall be at least 20dB below the highest level of the desired power:

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

NOTE:

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

LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

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

NOTE: ^{*1} beyond 10MHz of the band edge ^{*2} within 10 MHz of band edge

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

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

4.1.2 Test Instruments

Test Date: Nov. 24 ~ Dec. 22, 2011

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESIB7	100212	Aug. 02, 2011	Aug. 01, 2012
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100041	Jul. 21, 2011	Jul. 20, 2012
BILOG Antenna SCHWARZBECK	VULB9168	9168-160	Apr. 13, 2011	Apr. 12, 2012
HORN Antenna SCHWARZBECK	9120D	209	Aug. 25, 2011	Aug. 24, 2012
HORN Antenna SCHWARZBECK	BBHA 9170	148	Jul. 20, 2011	Jul. 19, 2012
Preamplifier Agilent	8447D	2944A10633	Oct. 29, 2011	Oct. 28, 2012
Preamplifier Agilent	8449B	3008A01964	Oct. 29, 2011	Oct. 28, 2012
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	250723/4	Aug. 30, 2011	Aug. 29, 2012
RF signal cable HUBER+SUHNNER	SUCOFLEX 106	12738/6+309224/ 4	Aug. 30, 2011	Aug. 29, 2012
Software ADT.	ADT_Radiated_ V7.6.15.9.2	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	013303	NA	NA
Antenna Tower Controller inn-co GmbH	CO2000	017303	NA	NA
Turn Table ADT.	TT100.	TT93021703	NA	NA
Turn Table Controller ADT.	SC100.	SC93021703	NA	NA
26GHz ~ 40GHz Amplifier	EM26400	815221	Oct. 29, 2011	Oct. 28, 2012
High Speed Peak Power Meter	ML2495A	0842014	Apr. 26, 2011	Apr. 25, 2012
Power Sensor	MA2411B	0738404	Apr. 26, 2011	Apr. 25, 2012

- NOTE:**
1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
 2. The test was performed in HwaYa Chamber 3.
 3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
 4. The FCC Site Registration No. is 988962.
 5. The IC Site Registration No. is IC 7450F-3.



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Test Date: Aug. 18 ~ Sep. 04, 2015

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCI	100424	Oct. 06, 2014	Oct. 05, 2015
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100040	Jul. 08, 2015	Jul. 07, 2016
BILOG Antenna SCHWARZBECK	VULB9168	9168-155	Feb. 06, 2015	Feb. 05, 2016
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-1170	Feb. 05, 2015	Feb. 04, 2016
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Feb. 09, 2015	Feb. 08, 2016
Preamplifier Agilent	8449B	3008A01960	Aug. 09, 2015	Aug. 08, 2016
Preamplifier Agilent	8447D	2944A10631	Aug. 09, 2015	Aug. 08, 2016
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	309220/4	Aug. 09, 2015	Aug. 08, 2016
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	250724/4	Aug. 09, 2015	Aug. 08, 2016
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	295012/4	Aug. 09, 2015	Aug. 08, 2016
Software BV ADT	ADT_Radiated_ V7.6.15.9.4	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	010303	NA	NA
Antenna Tower Controller BV ADT	AT100	AT93021703	NA	NA
Turn Table BV ADT	TT100	TT93021703	NA	NA
Turn Table Controller BV ADT	SC100.	SC93021703	NA	NA
26GHz ~ 40GHz Amplifier	EM26400	815221	Oct. 18, 2014	Oct. 17, 2015
High Speed Peak Power Meter	ML2495A	0824011	Jul. 09, 2015	Jul. 08, 2016
Power Sensor	MA2411B	0738171	Jul. 09, 2015	Jul. 08, 2016
WIT Standard Temperature And Humidity Chamber	TH-4S-C	W981030	Jun. 08, 2015	Jun. 07, 2016

- Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Chamber 4.
3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
4. The FCC Site Registration No. is 460141.
5. The IC Site Registration No. is IC7450F-4.

4.1.3 Test Procedures

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

Note:

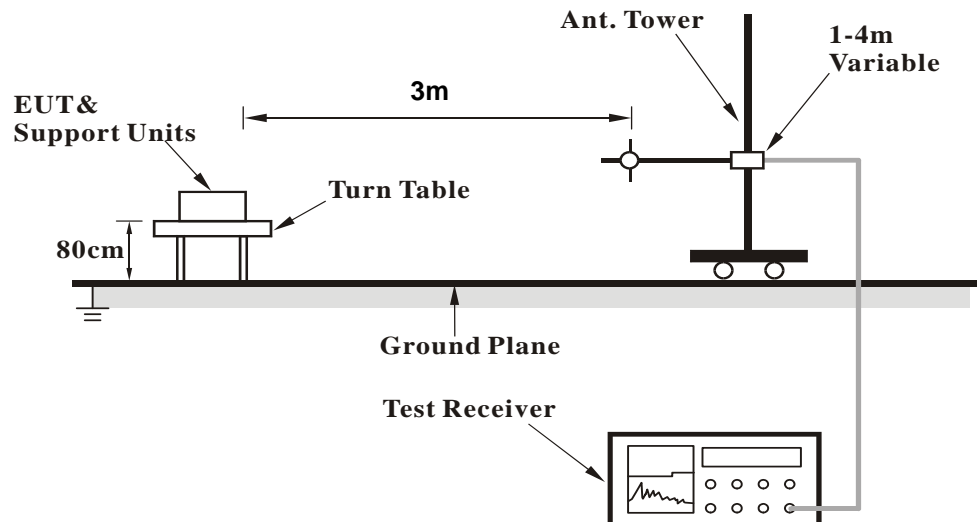
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

4.1.4 Deviation from Test Standard

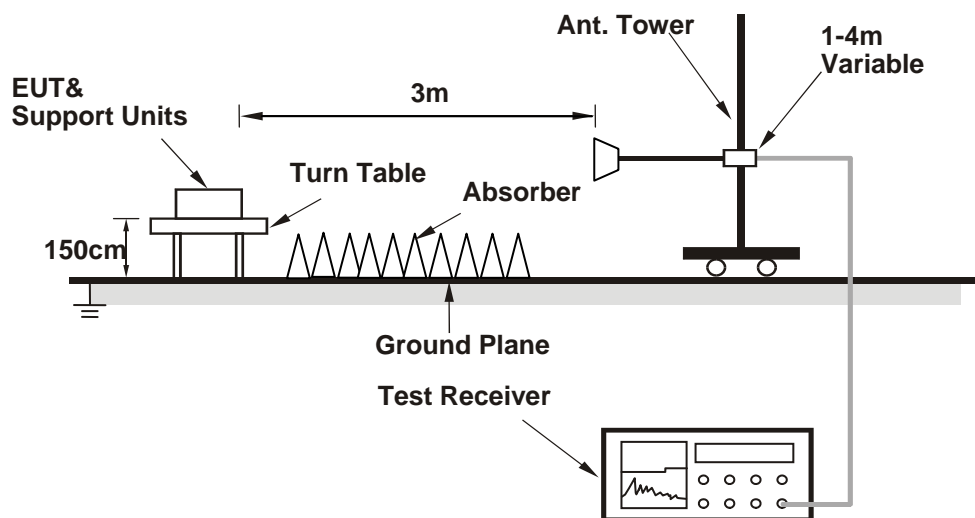
No deviation.

4.1.5 Test Set Up

<Frequency Range below 1GHz>



<Frequency Range above 1GHz>



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

4.1.6 EUT Operating Conditions

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

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	5127.50	54.7 PK	74.0	-19.3	1.00 H	37	17.20	37.50
2	5127.50	42.3 AV	54.0	-11.7	1.00 H	37	4.80	37.50
3	5150.00	47.7 PK	74.0	-26.3	1.00 H	36	10.20	37.50
4	5150.00	36.9 AV	54.0	-17.1	1.00 H	36	-0.60	37.50
5	*5180.00	103.9 PK			1.00 H	36	66.40	37.50
6	*5180.00	93.0 AV			1.00 H	36	55.50	37.50
7	#10360.00	56.5 PK	68.2	-11.7	1.10 H	293	8.20	48.30

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	5127.50	52.0 PK	74.0	-22.0	1.42 V	78	14.50	37.50
2	5127.50	39.5 AV	54.0	-14.5	1.42 V	78	2.00	37.50
3	5150.00	54.6 PK	74.0	-19.4	1.42 V	70	17.10	37.50
4	5150.00	39.8 AV	54.0	-14.2	1.42 V	70	2.30	37.50
5	*5180.00	103.5 PK			1.42 V	70	66.00	37.50
6	*5180.00	92.9 AV			1.42 V	70	55.40	37.50
7	#10360.00	55.5 PK	68.2	-12.7	1.10 V	227	7.20	48.30

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	103.7 PK			1.00 H	69	66.20	37.50
2	*5200.00	92.8 AV			1.00 H	69	55.30	37.50
3	#10400.00	56.0 PK	68.2	-12.2	1.00 H	155	7.60	48.40
4	15600.00	57.0 PK	74.0	-17.0	1.10 H	219	8.50	48.50
5	15600.00	44.3 AV	54.0	-9.7	1.10 H	219	-4.20	48.50

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	103.2 PK			1.45 V	98	65.70	37.50
2	*5200.00	92.3 AV			1.45 V	98	54.80	37.50
3	#10400.00	55.3 PK	68.2	-12.9	1.00 V	15	6.90	48.40
4	15600.00	56.1 PK	74.0	-17.9	1.00 V	114	7.60	48.50
5	15600.00	43.4 AV	54.0	-10.6	1.00 V	114	-5.10	48.50

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	103.8 PK			1.00 H	57	66.20	37.60
2	*5240.00	92.8 AV			1.00 H	57	55.20	37.60
3	#10400.00	56.0 PK	68.2	-12.2	1.00 H	176	7.60	48.40
4	15600.00	57.7 PK	74.0	-16.3	1.00 H	190	9.20	48.50
5	15600.00	44.9 AV	54.0	-9.1	1.00 H	190	-3.60	48.50

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	103.0 PK			1.40 V	116	65.40	37.60
2	*5240.00	92.0 AV			1.40 V	116	54.40	37.60
3	#10400.00	55.4 PK	68.2	-12.8	1.00 V	233	7.00	48.40
4	15600.00	56.3 PK	74.0	-17.7	1.00 V	108	7.80	48.50
5	15600.00	43.6 AV	54.0	-10.4	1.00 V	108	-4.90	48.50

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5260.00	106.6 PK			1.40 H	67	69.00	37.60
2	*5260.00	95.6 AV			1.40 H	67	58.00	37.60
3	#10520.00	58.2 PK	68.2	-10.0	1.00 H	227	9.70	48.50
4	15780.00	56.7 PK	74.0	-17.3	1.00 H	187	8.70	48.00
5	15780.00	44.7 AV	54.0	-9.3	1.00 H	187	-3.30	48.00

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	*5260.00	105.4 PK			1.20 V	119	67.80	37.60
2	*5260.00	94.8 AV			1.20 V	119	57.20	37.60
3	#10520.00	57.5 PK	68.2	-10.7	1.00 V	101	9.00	48.50
4	15780.00	55.4 PK	74.0	-18.6	1.00 V	132	7.40	48.00
5	15780.00	43.5 AV	54.0	-10.5	1.00 V	132	-4.50	48.00

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	106.5 PK			1.35 H	46	68.80	37.70
2	*5300.00	95.5 AV			1.35 H	46	57.80	37.70
3	10600.00	56.9 PK	74.0	-17.1	1.00 H	157	8.30	48.60
4	10600.00	45.2 AV	54.0	-8.8	1.00 H	157	-3.40	48.60
5	15900.00	55.1 PK	74.0	-18.9	1.00 H	310	7.40	47.70
6	15900.00	44.0 AV	54.0	-10.0	1.00 H	310	-3.70	47.70

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	105.5 PK			1.41 V	76	67.80	37.70
2	*5300.00	94.9 AV			1.41 V	76	57.20	37.70
3	10600.00	56.0 PK	74.0	-18.0	1.00 V	231	7.40	48.60
4	10600.00	44.1 AV	54.0	-9.9	1.00 V	231	-4.50	48.60
5	15900.00	54.5 PK	74.0	-19.5	1.00 V	174	6.80	47.70
6	15900.00	43.1 AV	54.0	-10.9	1.00 V	174	-4.60	47.70

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	106.4 PK			1.44 H	0	68.70	37.70
2	*5320.00	95.7 AV			1.44 H	0	58.00	37.70
3	5350.00	57.7 PK	74.0	-16.3	1.46 H	0	19.90	37.80
4	5350.00	44.3 AV	54.0	-9.7	1.46 H	0	6.50	37.80
5	5372.00	57.9 PK	74.0	-16.1	1.46 H	0	20.10	37.80
6	5372.00	46.7 AV	54.0	-7.3	1.46 H	0	8.90	37.80
7	10640.00	58.0 PK	74.0	-16.0	1.10 H	187	9.30	48.70
8	10640.00	44.9 AV	54.0	-9.1	1.10 H	187	-3.80	48.70

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	105.9 PK			1.15 V	315	68.20	37.70
2	*5320.00	95.0 AV			1.15 V	315	57.30	37.70
3	5350.00	59.9 PK	74.0	-14.1	1.15 V	315	22.10	37.80
4	5350.00	45.5 AV	54.0	-8.5	1.15 V	315	7.70	37.80
5	5372.00	55.0 PK	74.0	-19.0	1.15 V	315	17.20	37.80
6	5372.00	45.7 AV	54.0	-8.3	1.15 V	315	7.90	37.80
7	10640.00	57.1 PK	74.0	-16.9	1.00 V	154	8.40	48.70
8	10640.00	43.8 AV	54.0	-10.2	1.00 V	154	-4.90	48.70

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5447.00	58.6 PK	74.0	-15.4	1.38 H	26	20.70	37.90
2	5447.00	46.4 AV	54.0	-7.6	1.38 H	26	8.50	37.90
3	5460.00	59.5 PK	74.0	-14.5	1.38 H	26	21.60	37.90
4	5460.00	45.5 AV	54.0	-8.5	1.38 H	26	7.60	37.90
5	#5470.00	66.6 PK	68.2	-1.6	1.38 H	26	28.70	37.90
6	*5500.00	111.7 PK			1.38 H	26	73.70	38.00
7	*5500.00	100.7 AV			1.38 H	26	62.70	38.00
8	11000.00	58.8 PK	74.0	-15.2	1.10 H	129	9.60	49.20
9	11000.00	45.8 AV	54.0	-8.2	1.10 H	129	-3.40	49.20

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	57.0 PK	74.0	-17.0	1.19 V	75	19.10	37.90
2	5460.00	42.8 AV	54.0	-11.2	1.19 V	75	4.90	37.90
3	#5470.00	61.6 PK	68.2	-6.6	1.19 V	75	23.70	37.90
4	*5500.00	106.6 PK			1.19 V	75	68.60	38.00
5	*5500.00	95.6 AV			1.19 V	75	57.60	38.00
6	11000.00	56.8 PK	74.0	-17.2	1.11 V	274	7.60	49.20
7	11000.00	44.7 AV	54.0	-9.3	1.11 V	274	-4.50	49.20

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	111.5 PK			1.40 H	49	73.40	38.10
2	*5580.00	100.5 AV			1.40 H	49	62.40	38.10
3	11160.00	58.8 PK	74.0	-15.2	1.10 H	118	9.70	49.10
4	11160.00	45.7 AV	54.0	-8.3	1.10 H	118	-3.40	49.10
5	#16740.00	60.2 PK	68.2	-8.0	1.00 H	157	10.70	49.50

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	106.7 PK			1.20 V	146	68.60	38.10
2	*5580.00	95.7 AV			1.20 V	146	57.60	38.10
3	11160.00	57.4 PK	74.0	-16.6	1.00 V	136	8.30	49.10
4	11160.00	44.3 AV	54.0	-9.7	1.00 V	136	-4.80	49.10
5	#16740.00	59.1 PK	68.2	-9.1	1.00 V	360	9.60	49.50

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5660.00	111.6 PK			1.35 H	114	73.40	38.20
2	*5660.00	100.5 AV			1.35 H	114	62.30	38.20
3	11320.00	56.6 PK	74.0	-17.4	1.00 H	181	7.60	49.00
4	11320.00	44.7 AV	54.0	-9.3	1.00 H	181	-4.30	49.00
5	#16980.00	59.8 PK	68.2	-8.4	1.00 H	278	9.40	50.40

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5660.00	106.7 PK			1.20 V	110	68.50	38.20
2	5660.00	95.8 AV			1.20 V	110	57.60	38.20
3	11320.00	56.0 PK	74.0	-18.0	1.00 V	111	7.00	49.00
4	11320.00	44.1 AV	54.0	-9.9	1.00 V	276	-4.90	49.00
5	#16980.00	59.4 PK	68.2	-8.8	1.00 V	276	9.00	50.40

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	110.1 PK			1.33 H	24	71.80	38.30
2	*5700.00	99.1 AV			1.33 H	24	60.80	38.30
3	#5725.00	62.2 PK	68.2	-6.0	1.33 H	24	23.80	38.40
4	11400.00	58.7 PK	74.0	-15.3	1.00 H	124	9.70	49.00
5	11400.00	44.8 AV	54.0	-9.2	1.00 H	124	-4.20	49.00

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	105.2 PK			1.06 V	24	66.90	38.30
2	*5700.00	94.2 AV			1.06 V	24	55.90	38.30
3	#5725.00	65.6 PK	68.2	-2.6	1.06 V	24	27.20	38.40
4	11400.00	59.8 PK	74.0	-14.2	1.10 V	256	10.80	49.00
5	11400.00	45.6 AV	54.0	-8.4	1.10 V	256	-3.40	49.00

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5714.90	64.0 PK	74.0	-10.0	1.00 H	9	58.00	6.00
2	#5714.90	48.3 AV	54.0	-5.7	1.00 H	9	42.30	6.00
3	#5722.90	62.5 PK	78.2	-15.7	1.00 H	9	56.40	6.10
4	#5725.00	44.9 PK	78.2	-33.3	1.00 H	9	38.80	6.10
5	*5745.00	103.5 PK			1.00 H	9	63.20	40.30
6	*5745.00	94.6 AV			1.00 H	9	54.30	40.30
7	11490.00	60.8 PK	74.0	-13.2	1.00 H	86	43.20	17.60
8	11490.00	47.9 AV	54.0	-6.1	1.00 H	86	30.30	17.60

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5714.90	63.4 PK	74.0	-10.6	1.00 V	251	57.40	6.00
2	#5714.90	47.5 AV	54.0	-6.5	1.00 V	251	41.50	6.00
3	#5722.90	61.7 PK	78.2	-16.5	1.00 V	251	55.60	6.10
4	#5725.00	44.3 PK	78.2	-33.9	1.00 V	251	38.20	6.10
5	*5745.00	99.2 PK			1.00 V	251	58.90	40.30
6	*5745.00	89.5 AV			1.00 V	251	49.20	40.30
7	11490.00	60.1 PK	74.0	-13.9	1.00 V	78	42.50	17.60
8	11490.00	46.7 AV	54.0	-7.3	1.00 V	78	29.10	17.60

REMARKS:

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



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	100.8 PK			1.00 H	22	60.50	40.30
2	*5785.00	91.7 AV			1.00 H	22	51.40	40.30
3	11570.00	61.2 PK	74.0	-12.8	1.00 H	84	43.70	17.50
4	11570.00	48.4 AV	54.0	-5.6	1.00 H	84	30.90	17.50

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	97.8 PK			1.00 V	238	57.50	40.30
2	*5785.00	88.8 AV			1.00 V	238	48.50	40.30
3	11570.00	60.3 PK	74.0	-13.7	1.00 V	79	42.80	17.50
4	11570.00	46.8 AV	54.0	-7.2	1.00 V	79	29.30	17.50

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	101.8 PK			1.05 H	13	61.40	40.40
2	*5825.00	92.5 AV			1.05 H	13	52.10	40.40
3	#5850.00	43.0 PK	78.2	-35.2	1.05 H	13	36.60	6.40
4	#5852.10	59.8 PK	78.2	-18.4	1.05 H	13	53.40	6.40
5	#5860.10	60.0 PK	74.0	-14.0	1.05 H	13	53.60	6.40
6	#5860.10	45.2 AV	54.0	-8.8	1.05 H	13	38.80	6.40
7	11650.00	60.9 PK	74.0	-13.1	1.00 H	81	43.60	17.30
8	11650.00	47.7 AV	54.0	-6.3	1.00 H	81	30.40	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	*5825.00	98.8 PK			1.00 V	236	58.40	40.40
2	*5825.00	89.6 AV			1.00 V	236	49.20	40.40
3	#5850.00	42.2 PK	78.2	-36.0	1.00 V	236	35.80	6.40
4	#5852.10	59.2 PK	78.2	-19.0	1.00 V	236	52.80	6.40
5	#5860.10	59.6 PK	74.0	-14.4	1.00 V	236	53.20	6.40
6	#5860.10	44.6 AV	54.0	-9.4	1.00 V	236	38.20	6.40
7	11650.00	60.2 PK	74.0	-13.8	1.00 V	71	42.90	17.30
8	11650.00	46.5 AV	54.0	-7.5	1.00 V	71	29.20	17.30

REMARKS:

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

802.11n (HT20)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	47.2 PK	74.0	-26.8	1.03 H	351	9.70	37.50
2	5150.00	36.3 AV	54.0	-17.7	1.03 H	351	-1.20	37.50
3	*5180.00	104.0 PK			1.03 H	351	66.50	37.50
4	*5180.00	93.2 AV			1.03 H	351	55.70	37.50
5	#10360.00	57.4 PK	68.2	-10.8	1.10 H	326	9.10	48.30

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	46.5 PK	74.0	-27.5	1.00 V	13	9.00	37.50
2	5150.00	34.4 AV	54.0	-19.6	1.00 V	13	-3.10	37.50
3	*5180.00	101.2 PK			1.00 V	55	63.70	37.50
4	*5180.00	90.2 AV			1.00 V	55	52.70	37.50
5	#10360.00	55.5 PK	68.2	-12.7	1.00 V	210	7.20	48.30

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	104.2 PK			1.10 H	327	66.70	37.50
2	*5200.00	93.4 AV			1.10 H	327	55.90	37.50
3	#10400.00	55.6 PK	68.2	-12.6	1.00 H	196	7.20	48.40
4	15600.00	59.0 PK	74.0	-15.0	1.00 H	278	10.50	48.50
5	15600.00	45.4 AV	54.0	-8.6	1.00 H	278	-3.10	48.50

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	101.4 PK			1.05 V	214	63.90	37.50
2	*5200.00	90.3 AV			1.05 V	214	52.80	37.50
3	#10400.00	56.9 PK	68.2	-11.3	1.00 V	169	8.50	48.40
4	15600.00	56.2 PK	74.0	-17.8	1.10 V	159	7.70	48.50
5	15600.00	44.4 AV	54.0	-9.6	1.10 V	159	-4.10	48.50

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	104.4 PK			1.15 H	274	66.80	37.60
2	*5240.00	93.6 AV			1.15 H	274	56.00	37.60
3	#10480.00	56.9 PK	68.2	-11.3	1.11 H	216	8.40	48.50
4	15720.00	57.2 PK	74.0	-16.8	1.00 H	348	9.00	48.20
5	15720.00	44.7 AV	54.0	-9.3	1.00 H	348	-3.50	48.20

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	101.3 PK			1.20 V	167	63.70	37.60
2	*5240.00	90.4 AV			1.20 V	167	52.80	37.60
3	#10480.00	55.6 PK	68.2	-12.6	1.00 V	277	7.10	48.50
4	15720.00	56.2 PK	74.0	-17.8	1.10 V	223	8.00	48.20
5	15720.00	44.0 AV	54.0	-10.0	1.10 V	223	-4.20	48.20

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5260.00	112.3 PK			1.00 H	198	74.70	37.60
2	*5260.00	101.2 AV			1.00 H	198	63.60	37.60
3	#10520.00	58.2 PK	68.2	-10.0	1.00 H	185	9.70	48.50
4	15780.00	56.9 PK	74.0	-17.1	1.00 H	360	8.90	48.00
5	15780.00	43.5 AV	54.0	-10.5	1.00 H	360	-4.50	48.00

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	*5260.00	109.3 PK			1.15 V	117	71.70	37.60
2	*5260.00	98.6 AV			1.15 V	117	61.00	37.60
3	#10520.00	57.1 PK	68.2	-11.1	1.00 V	214	8.60	48.50
4	15780.00	56.0 PK	74.0	-18.0	1.00 V	139	8.00	48.00
5	15780.00	43.0 AV	54.0	-11.0	1.00 V	139	-5.00	48.00

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	112.4 PK			1.00 H	253	74.70	37.70
2	*5300.00	101.4 AV			1.00 H	253	63.70	37.70
3	#10600.00	56.9 PK	68.2	-11.3	1.00 H	323	8.30	48.60
4	15900.00	57.7 PK	74.0	-16.3	1.00 H	243	10.00	47.70
5	15900.00	44.6 AV	54.0	-9.4	1.00 H	243	-3.10	47.70

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	109.6 PK			1.10 V	147	71.90	37.70
2	*5300.00	98.5 AV			1.10 V	147	60.80	37.70
3	#10600.00	56.0 PK	68.2	-12.2	1.00 V	246	7.40	48.60
4	15900.00	56.1 PK	74.0	-17.9	1.00 V	169	8.40	47.70
5	15900.00	43.2 AV	54.0	-10.8	1.00 V	169	-4.50	47.70

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	112.6 PK			1.00 H	163	74.90	37.70
2	*5320.00	101.9 AV			1.00 H	163	64.20	37.70
3	5350.00	60.2 PK	74.0	-13.8	1.00 H	155	22.40	37.80
4	5350.00	44.3 AV	54.0	-9.7	1.00 H	155	6.50	37.80
5	5372.00	56.2 PK	74.0	-17.8	1.00 H	155	18.40	37.80
6	5372.00	45.3 AV	54.0	-8.7	1.00 H	155	7.50	37.80
7	10640.00	56.9 PK	74.0	-17.1	1.00 H	139	8.20	48.70
8	10640.00	44.3 AV	54.0	-9.7	1.00 H	139	-4.40	48.70

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	109.1 PK			1.12 V	45	71.40	37.70
2	*5320.00	98.3 AV			1.12 V	45	60.60	37.70
3	5350.00	58.1 PK	74.0	-15.9	1.12 V	45	20.30	37.80
4	5350.00	42.6 AV	54.0	-11.4	1.12 V	45	4.80	37.80
5	5372.00	56.2 PK	74.0	-17.8	1.13 V	45	18.40	37.80
6	5372.00	46.2 AV	54.0	-7.8	1.13 V	45	8.40	37.80
7	10640.00	58.0 PK	74.0	-16.0	1.20 V	216	9.30	48.70
8	10640.00	44.8 AV	54.0	-9.2	1.20 V	216	-3.90	48.70

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	56.0 PK	74.0	-18.0	1.09 H	160	18.10	37.90
2	5460.00	42.2 AV	54.0	-11.8	1.09 H	160	4.30	37.90
3	#5470.00	67.3 PK	68.2	-0.9	1.09 H	160	29.40	37.90
4	*5500.00	111.6 PK			1.08 H	171	73.60	38.00
5	*5500.00	100.4 AV			1.08 H	171	62.40	38.00
6	11000.00	58.1 PK	74.0	-15.9	1.00 H	157	8.90	49.20
7	11000.00	46.3 AV	54.0	-7.7	1.00 H	157	-2.90	49.20

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	51.8 PK	74.0	-22.2	1.00 V	166	13.90	37.90
2	5460.00	38.5 AV	54.0	-15.5	1.00 V	166	0.60	37.90
3	#5470.00	57.5 PK	68.2	-10.7	1.00 V	166	19.60	37.90
4	*5500.00	109.0 PK			1.00 V	166	71.00	38.00
5	*5500.00	98.1 AV			1.00 V	166	60.10	38.00
6	11000.00	57.7 PK	74.0	-16.3	1.00 V	203	8.50	49.20
7	11000.00	45.1 AV	54.0	-8.9	1.00 V	203	-4.10	49.20

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	111.4 PK			1.10 H	213	73.30	38.10
2	*5580.00	100.1 AV			1.10 H	213	62.00	38.10
3	11160.00	58.6 PK	74.0	-15.4	1.10 H	318	9.50	49.10
4	11160.00	45.7 AV	54.0	-8.3	1.10 H	318	-3.40	49.10
5	#16730.00	58.2 PK	68.2	-10.0	1.00 H	279	8.70	49.50

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	108.8 PK			1.00 V	181	70.70	38.10
2	*5580.00	97.7 AV			1.00 V	181	59.60	38.10
3	11160.00	58.0 PK	74.0	-16.0	1.00 V	209	8.90	49.10
4	11160.00	45.1 AV	54.0	-8.9	1.00 V	156	-4.00	49.10
5	#16730.00	57.1 PK	68.2	-11.1	1.00 V	156	7.60	49.50

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5660.00	111.3 PK			1.10 H	157	73.10	38.20
2	*5660.00	100.3 AV			1.10 H	157	62.10	38.20
3	11320.00	59.1 PK	74.0	-14.9	1.00 H	296	10.10	49.00
4	11320.00	45.8 AV	54.0	-8.2	1.00 H	296	-3.20	49.00
5	#16970.00	59.9 PK	68.2	-8.3	1.00 H	177	9.60	50.30

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	*5660.00	109.1 PK			1.00 V	279	70.90	38.20
2	*5660.00	98.2 AV			1.00 V	279	60.00	38.20
3	11320.00	58.3 PK	74.0	-15.7	1.00 V	187	9.30	49.00
4	11320.00	44.7 AV	54.0	-9.3	1.00 V	152	-4.30	49.00
5	#16970.00	58.4 PK	68.2	-9.8	1.00 V	152	8.10	50.30

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	111.9 PK			1.14 H	164	73.60	38.30
2	*5700.00	101.0 AV			1.14 H	164	62.70	38.30
3	#5725.00	62.1 PK	68.2	-6.1	1.10 H	144	23.70	38.40
4	11400.00	57.5 PK	74.0	-16.5	1.00 H	297	8.50	49.00
5	11400.00	46.4 AV	54.0	-7.6	1.00 H	297	-2.60	49.00

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	110.1 PK			1.13 V	73	71.80	38.30
2	*5700.00	99.4 AV			1.13 V	73	61.10	38.30
3	#5725.00	62.2 PK	68.2	-6.0	1.13 V	73	23.80	38.40
4	11400.00	56.7 PK	74.0	-17.3	1.10 V	347	7.70	49.00
5	11400.00	44.6 AV	54.0	-9.4	1.10 V	347	-4.40	49.00

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5693.00	60.7 PK	74.0	-13.3	1.00 H	356	54.70	6.00
2	#5693.00	49.8 AV	54.0	-4.2	1.00 H	356	43.80	6.00
3	#5722.90	68.0 PK	78.2	-10.2	1.00 H	356	61.90	6.10
4	#5725.00	51.3 PK	78.2	-26.9	1.00 H	356	45.20	6.10
5	*5745.00	107.8 PK			1.00 H	356	67.50	40.30
6	*5745.00	98.1 AV			1.00 H	356	57.80	40.30
7	11490.00	61.2 PK	74.0	-12.8	1.00 H	79	43.60	17.60
8	11490.00	48.9 AV	54.0	-5.1	1.00 H	79	31.30	17.60

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5693.00	57.5 PK	74.0	-16.5	1.25 V	121	51.50	6.00
2	#5693.00	45.7 AV	54.0	-8.3	1.25 V	121	39.70	6.00
3	#5722.90	67.7 PK	78.2	-10.5	1.25 V	121	61.60	6.10
4	#5725.00	49.3 PK	78.2	-28.9	1.25 V	121	43.20	6.10
5	*5745.00	106.6 PK			1.25 V	121	66.30	40.30
6	*5745.00	97.0 AV			1.25 V	121	56.70	40.30
7	11490.00	60.2 PK	74.0	-13.8	1.00 V	82	42.60	17.60
8	11490.00	47.3 AV	54.0	-6.7	1.00 V	82	29.70	17.60

REMARKS:

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



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	105.2 PK			1.07 H	351	64.90	40.30
2	*5785.00	95.5 AV			1.07 H	351	55.20	40.30
3	11570.00	61.3 PK	74.0	-12.7	1.00 H	78	43.80	17.50
4	11570.00	49.0 AV	54.0	-5.0	1.00 H	78	31.50	17.50

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	104.3 PK			1.18 V	121	64.00	40.30
2	*5785.00	94.3 AV			1.18 V	121	54.00	40.30
3	11570.00	60.8 PK	74.0	-13.2	1.00 V	86	43.30	17.50
4	11570.00	47.4 AV	54.0	-6.6	1.00 V	86	29.90	17.50

REMARKS:

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



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	107.4 PK			1.06 H	350	67.00	40.40
2	*5825.00	97.8 AV			1.06 H	350	57.40	40.40
3	#5850.00	44.6 PK	78.2	-33.6	1.06 H	350	38.20	6.40
4	#5852.10	62.8 PK	78.2	-15.4	1.06 H	350	56.40	6.40
5	#5877.00	59.4 PK	74.0	-14.6	1.06 H	350	52.90	6.50
6	#5877.00	47.5 AV	54.0	-6.5	1.06 H	350	41.00	6.50
7	11650.00	61.1 PK	74.0	-12.9	1.00 H	74	43.80	17.30
8	11650.00	48.5 AV	54.0	-5.5	1.00 H	74	31.20	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	*5825.00	106.1 PK			1.16 V	117	65.70	40.40
2	*5825.00	96.5 AV			1.16 V	117	56.10	40.40
3	#5850.00	40.7 PK	78.2	-37.5	1.16 V	117	34.30	6.40
4	#5852.10	61.7 PK	78.2	-16.5	1.16 V	117	55.30	6.40
5	#5877.00	58.7 PK	74.0	-15.3	1.16 V	117	52.20	6.50
6	#5877.00	46.8 AV	54.0	-7.2	1.16 V	117	40.30	6.50
7	11650.00	60.7 PK	74.0	-13.3	1.00 V	83	43.40	17.30
8	11650.00	47.1 AV	54.0	-6.9	1.00 V	83	29.80	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.
6. " # ": The radiated frequency is out of the restricted band.

802.11n (HT40)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	52.2 PK	74.0	-21.8	1.12 H	330	14.70	37.50
2	5150.00	39.6 AV	54.0	-14.4	1.12 H	330	2.10	37.50
3	*5190.00	103.5 PK			1.12 H	330	66.00	37.50
4	*5190.00	93.0 AV			1.12 H	330	55.50	37.50
5	#10380.00	56.5 PK	68.2	-11.7	1.00 H	187	8.20	48.30

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	57.3 PK	74.0	-16.7	1.16 V	122	19.80	37.50
2	5150.00	43.8 AV	54.0	-10.2	1.16 V	122	6.30	37.50
3	*5190.00	102.8 PK			1.28 V	66	65.30	37.50
4	*5190.00	92.7 AV			1.28 V	66	55.20	37.50
5	#10380.00	57.6 PK	68.2	-10.6	1.10 V	274	9.30	48.30

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5127.00	52.2 PK	74.0	-21.8	1.05 H	175	14.70	37.50
2	5127.00	39.5 AV	54.0	-14.5	1.05 H	175	2.00	37.50
3	*5230.00	103.2 PK			1.00 H	164	65.60	37.60
4	*5230.00	92.3 AV			1.00 H	164	54.70	37.60
5	#10460.00	56.4 PK	68.2	-11.8	1.10 H	203	7.90	48.50

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5127.00	52.8 PK	74.0	-21.2	1.44 V	61	15.30	37.50
2	5127.00	40.2 AV	54.0	-13.8	1.44 V	61	2.70	37.50
3	*5230.00	103.1 PK			1.41 V	71	65.50	37.60
4	*5230.00	92.4 AV			1.41 V	71	54.80	37.60
5	#10460.00	57.0 PK	68.2	-11.2	1.10 V	157	8.50	48.50

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5270.00	109.3 PK			1.01 H	160	71.70	37.60
2	*5270.00	98.5 AV			1.01 H	160	60.90	37.60
3	#10540.00	58.2 PK	68.2	-10.0	1.00 H	211	9.70	48.50
4	15810.00	57.1 PK	74.0	-16.9	1.00 H	234	9.20	47.90
5	15810.00	45.4 AV	54.0	-8.6	1.00 H	145	-2.50	47.90

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	*5270.00	107.5 PK			1.00 V	73	69.90	37.60
2	*5270.00	99.2 AV			1.00 V	73	61.60	37.60
3	#10540.00	59.1 PK	68.2	-9.1	1.00 V	314	10.60	48.50
4	15810.00	58.9 PK	74.0	-15.1	1.10 V	271	11.00	47.90
5	15810.00	46.3 AV	54.0	-7.7	1.10 V	271	-1.60	47.90

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	108.8 PK			1.00 H	162	71.00	37.80
2	*5310.00	98.3 AV			1.00 H	162	60.50	37.80
3	5350.00	68.0 PK	74.0	-6.0	1.00 H	159	30.20	37.80
4	5350.00	50.6 AV	54.0	-3.4	1.00 H	159	12.80	37.80
5	5414.00	58.0 PK	74.0	-16.0	1.00 H	159	20.10	37.90
6	5414.00	48.0 AV	54.0	-6.0	1.00 H	159	10.10	37.90
7	10620.00	58.5 PK	74.0	-15.5	1.00 H	125	9.80	48.70
8	10620.00	46.2 AV	54.0	-7.8	1.00 H	125	-2.50	48.70

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	107.8 PK			1.37 V	221	70.00	37.80
2	*5310.00	95.6 AV			1.37 V	221	57.80	37.80
3	5350.00	69.5 PK	74.0	-4.5	1.36 V	222	31.70	37.80
4	5350.00	50.6 AV	54.0	-3.4	1.36 V	222	12.80	37.80
5	5414.00	54.3 PK	74.0	-19.7	1.00 V	134	16.40	37.90
6	5414.00	46.1 AV	54.0	-7.9	1.00 V	134	8.20	37.90
7	10620.00	56.4 PK	74.0	-17.6	1.00 V	136	7.70	48.70
8	10620.00	43.7 AV	54.0	-10.3	1.00 V	136	-5.00	48.70

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	59.7 PK	74.0	-14.3	1.08 H	172	21.80	37.90
2	5460.00	47.8 AV	54.0	-6.2	1.08 H	172	9.90	37.90
3	#5470.00	66.3 PK	68.2	-1.9	1.08 H	172	28.40	37.90
4	*5510.00	108.6 PK			1.07 H	181	70.60	38.00
5	*5510.00	98.0 AV			1.07 H	181	60.00	38.00
6	11020.00	58.8 PK	74.0	-15.2	1.00 H	287	9.60	49.20
7	11020.00	45.2 AV	54.0	-8.8	1.00 H	287	-4.00	49.20

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	57.8 PK	74.00	-16.2	1.11 V	197	19.90	37.90
2	5460.00	45.2 AV	54.00	-8.8	1.11 V	197	7.30	37.90
3	#5470.00	65.2 PK	68.2	-3.0	1.11 V	197	27.30	37.90
4	*5510.00	106.0 PK			1.00 V	165	68.00	38.00
5	*5510.00	95.1 AV			1.00 V	165	57.10	38.00
6	11020.00	56.8 PK	74.00	-17.2	1.00 V	196	7.6	49.20
7	11020.00	44.9 AV	54.00	-9.1	1.00 V	196	-4.3	49.20

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5550.00	108.9 PK			1.20 H	198	70.90	38.00
2	*5550.00	98.6 AV			1.20 H	198	60.60	38.00
3	11100.00	57.9 PK	74.0	-16.1	1.00 H	134	8.80	49.10
4	11100.00	45.1 AV	54.0	-8.9	1.00 H	134	-4.00	49.10
5	#16650.00	59.0 PK	68.2	-9.2	1.00 H	224	9.80	49.20

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5550.00	106.4 PK			1.10 V	197	68.40	38.00
2	*5550.00	95.5 AV			1.10 V	197	57.50	38.00
3	11100.00	57.5 PK	74.0	-16.5	1.10 V	258	8.40	49.10
4	11100.00	44.8 AV	54.0	-9.2	1.10 V	258	-4.30	49.10
5	#16650.00	59.9 PK	68.2	-8.3	1.00 V	143	10.70	49.20

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	109.2 PK			1.03 H	177	70.90	38.30
2	*5670.00	98.7 AV			1.03 H	177	60.40	38.30
3	#5725.00	63.2 PK	68.2	-5.0	1.03 H	169	24.80	38.40
4	11340.00	59.8 PK	74.0	-14.2	1.10 H	226	10.80	49.00
5	11340.00	46.1 AV	54.0	-7.9	1.10 H	226	-2.90	49.00

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	*5670.00	106.9 PK			1.41 V	77	68.60	38.30
2	*5670.00	96.1 AV			1.41 V	77	57.80	38.30
3	#5725.00	55.0 PK	68.2	-13.2	1.37 V	70	16.60	38.40
4	11340.00	57.7 PK	74.0	-16.3	1.10 V	156	8.70	49.00
5	11340.00	45.0 AV	54.0	-9.0	1.10 V	156	-4.00	49.00

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5714.90	69.4 PK	74.0	-4.6	1.00 H	355	63.40	6.00
2	#5714.90	53.5 AV	54.0	-0.5	1.00 H	355	47.50	6.00
3	#5722.90	73.3 PK	78.2	-4.9	1.00 H	355	67.20	6.10
4	#5725.00	58.1 PK	78.2	-20.1	1.00 H	355	52.00	6.10
5	*5755.00	106.3 PK			1.00 H	355	66.00	40.30
6	*5755.00	97.2 AV			1.00 H	355	56.90	40.30
7	11510.00	59.9 PK	74.0	-14.1	1.00 H	79	42.50	17.40
8	11510.00	47.5 AV	54.0	-6.5	1.00 H	79	30.10	17.40

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5714.90	67.2 PK	74.0	-6.8	1.25 V	123	61.20	6.00
2	#5714.90	52.0 AV	54.0	-2.0	1.25 V	123	46.00	6.00
3	#5722.90	72.5 PK	78.2	-5.7	1.25 V	123	66.40	6.10
4	#5725.00	56.1 PK	78.2	-22.1	1.25 V	123	50.00	6.10
5	*5755.00	104.5 PK			1.25 V	123	64.20	40.30
6	*5755.00	95.4 AV			1.25 V	123	55.10	40.30
7	11510.00	59.7 PK	74.0	-14.3	1.00 V	81	42.30	17.40
8	11510.00	46.9 AV	54.0	-7.1	1.00 V	81	29.50	17.40

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5795.00	105.6 PK			1.00 H	351	65.30	40.30
2	*5795.00	96.5 AV			1.00 H	351	56.20	40.30
3	#5850.00	37.2 PK	78.2	-41.0	1.00 H	351	30.80	6.40
4	#5852.10	57.7 PK	78.2	-20.5	1.00 H	351	51.30	6.40
5	#5860.10	57.6 PK	74.0	-16.4	1.00 H	351	51.20	6.40
6	#5860.10	44.5 AV	54.0	-9.5	1.00 H	351	38.10	6.40
7	11590.00	60.1 PK	74.0	-13.9	1.00 H	73	42.80	17.30
8	11590.00	47.8 AV	54.0	-6.2	1.00 H	73	30.50	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	*5795.00	104.5 PK			1.16 V	121	64.20	40.30
2	*5795.00	95.2 AV			1.16 V	121	54.90	40.30
3	#5850.00	36.8 PK	78.2	-41.4	1.16 V	121	30.40	6.40
4	#5852.10	57.0 PK	78.2	-21.2	1.16 V	121	50.60	6.40
5	#5860.10	56.8 PK	74.0	-17.2	1.16 V	121	50.40	6.40
6	#5860.10	43.6 AV	54.0	-10.4	1.16 V	121	37.20	6.40
7	11590.00	59.6 PK	74.0	-14.4	1.00 V	86	42.30	17.30
8	11590.00	46.3 AV	54.0	-7.7	1.00 V	86	29.00	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.
6. " # ": The radiated frequency is out of the restricted band.

BELOW 1GHz WORST-CASE DATA
802.11n (HT20)

CHANNEL	TX Channel 149	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	72.59	36.7 QP	40.0	-3.3	1.00 H	161	53.10	-16.40
2	198.71	38.2 QP	43.5	-5.3	1.00 H	105	54.80	-16.60
3	472.31	32.2 QP	46.0	-13.8	1.99 H	80	42.00	-9.80
4	542.17	41.9 QP	46.0	-4.1	1.99 H	224	50.60	-8.70
5	557.69	32.0 QP	46.0	-14.0	1.99 H	350	40.40	-8.40
6	800.24	35.9 QP	46.0	-10.1	1.00 H	325	39.00	-3.10

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	31.84	33.9 QP	40.0	-6.1	1.00 V	120	49.40	-15.50
2	72.59	33.8 QP	40.0	-6.2	1.00 V	103	50.20	-16.40
3	421.86	32.9 QP	46.0	-13.1	1.49 V	12	43.60	-10.70
4	522.76	34.1 QP	46.0	-11.9	1.99 V	6	43.10	-9.00
5	542.17	32.9 QP	46.0	-13.1	1.99 V	19	41.60	-8.70
6	738.15	31.8 QP	46.0	-14.2	1.49 V	12	35.60	-3.80

REMARKS:

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

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

Test date: Sep. 04, 2015

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCS30	100288	Apr. 27, 2015	Apr. 26, 2016
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond2-01	Dec. 26, 2014	Dec. 25, 2015
LISN ROHDE & SCHWARZ (EUT)	ESH2-Z5	100100	Dec. 30, 2014	Dec. 29, 2015
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100312	Jul. 21, 2015	Jul. 20, 2016
Software ADT	BV ADT_Cond_ V7.3.7.3	NA	NA	NA

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

2. The test was performed in HwaYa Shielded Room 2.

3. The VCCI Site Registration No. is C-2047.

4.2.3 Test Procedures

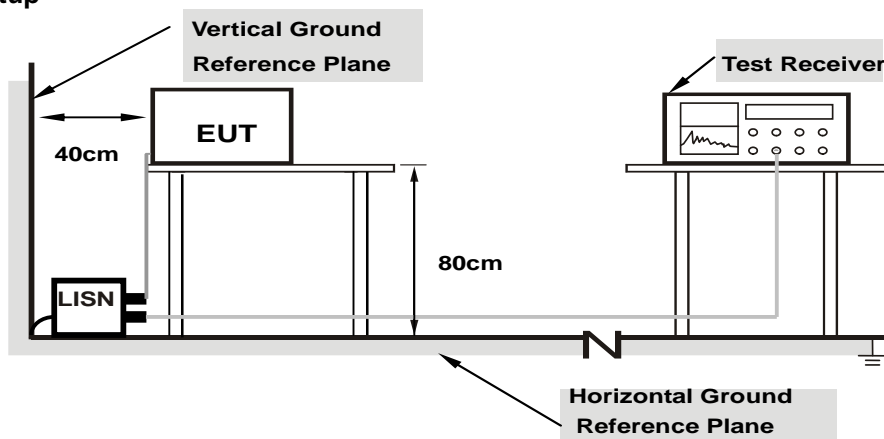
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

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

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



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

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

4.2.6 EUT Operating Conditions

Same as 4.1.6.

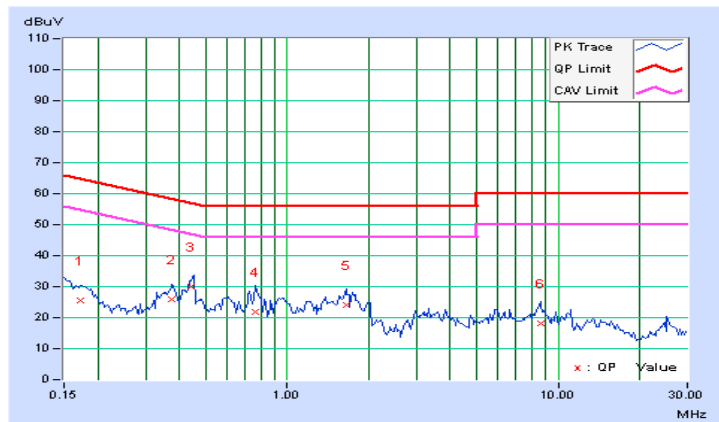
4.2.7 Test Results

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
			1	0.17344	0.17	25.57	18.75	25.74	18.92	64.79
2	0.37656	0.19	25.63	20.41	25.82	20.60	58.35	48.35	-32.54	-27.76
3	0.44071	0.19	29.76	27.94	29.95	28.13	57.05	47.05	-27.10	-18.92
4	0.76328	0.21	21.74	17.18	21.95	17.39	56.00	46.00	-34.05	-28.61
5	1.64844	0.26	23.96	19.84	24.22	20.10	56.00	46.00	-31.78	-25.90
6	8.59375	0.43	17.76	11.82	18.19	12.25	60.00	50.00	-41.81	-37.75

REMARKS:

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

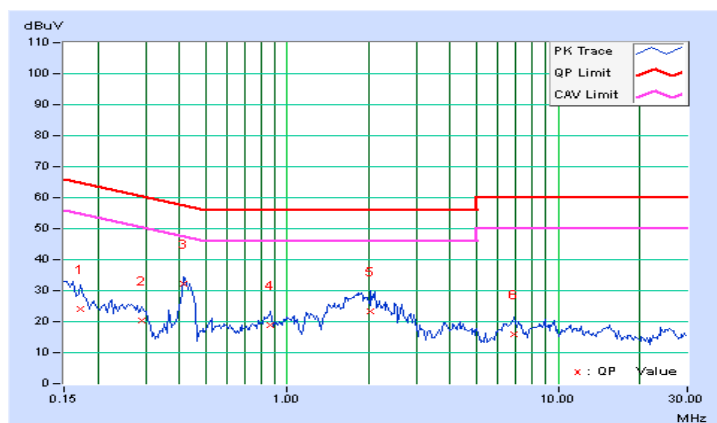


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
			1	0.17344	0.16	23.93	16.65	24.09	16.81	64.79
2	0.29063	0.17	20.24	14.58	20.41	14.75	60.51	50.51	-40.10	-35.76
3	0.41563	0.18	32.01	27.57	32.19	27.75	57.54	47.54	-25.34	-19.78
4	0.86484	0.22	18.71	13.37	18.93	13.59	56.00	46.00	-37.07	-32.41
5	2.02734	0.27	23.08	18.75	23.35	19.02	56.00	46.00	-32.65	-26.98
6	6.90625	0.43	15.39	6.67	15.82	7.10	60.00	50.00	-44.18	-42.90

REMARKS:

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



4.3 Transmit Power Measurement

4.3.1 Limits of Transmit Power Measurement

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

*B is the 26 dB emission bandwidth in megahertz

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

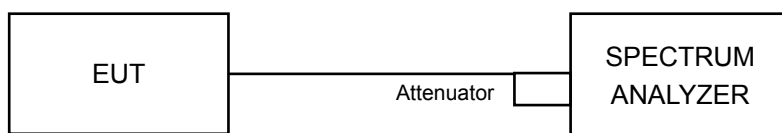
Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;

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

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

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

4.3.2 Test Setup



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

FOR AVERAGE POWER MEASUREMENT

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

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Conditions

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

4.3.7 Test Result

POWER OUTPUT:

802.11a

CHAN.	FREQ. (MHz)	MAXIMUM CONDUCTED POWER (mW)	MAXIMUM CONDUCTED POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
36	5180	27.500	14.40	24	PASS
40	5200	28.200	14.50	24	PASS
48	5240	26.900	14.30	24	PASS
52	5260	43.700	16.40	24	PASS
60	5300	44.700	16.50	24	PASS
64	5320	44.700	16.50	24	PASS
100	5500	58.900	17.70	24	PASS
116	5580	56.200	17.50	24	PASS
132	5660	55.000	17.40	24	PASS
140	5700	49.000	16.90	24	PASS
149	5745	43.752	16.41	30	PASS
157	5785	42.073	16.24	30	PASS
165	5825	37.497	15.74	30	PASS

NOTE:

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

1. $11\text{dBm} + 10\log(25.83) = 25.12\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(25.46) = 25.06\text{ dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(25.38) = 25.04\text{ dBm} > 24\text{dBm}$.
4. $11\text{dBm} + 10\log(25.93) = 25.14\text{ dBm} > 24\text{dBm}$.
5. $11\text{dBm} + 10\log(27.57) = 25.40\text{ dBm} > 24\text{dBm}$.
6. $11\text{dBm} + 10\log(25.18) = 25.01\text{ dBm} > 24\text{dBm}$.
7. $11\text{dBm} + 10\log(27.60) = 25.41\text{ dBm} > 24\text{dBm}$.

802.11n (HT20)

CHAN.	FREQ. (MHz)	MAXIMUM CONDUCTED POWER (dBm)			TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2				
36	5180	8.70	8.60	8.50	21.700	13.40	24	PASS
40	5200	8.60	8.60	8.50	21.600	13.30	24	PASS
48	5240	8.60	8.50	8.60	21.600	13.30	24	PASS
52	5260	15.10	15.00	15.20	97.100	19.90	24	PASS
60	5300	15.00	15.10	15.00	95.600	19.80	24	PASS
64	5320	15.20	15.00	15.10	97.100	19.90	24	PASS
100	5500	15.20	15.00	15.10	97.100	19.90	24	PASS
116	5580	15.00	15.10	15.20	97.100	19.90	24	PASS
132	5660	15.10	15.10	15.20	97.800	19.90	24	PASS
140	5700	15.20	15.00	15.10	97.100	19.90	24	PASS
149	5745	15.19	15.64	15.58	105.822	20.25	30	PASS
157	5785	14.61	15.03	15.23	94.092	19.74	30	PASS
165	5825	14.37	15.07	15.16	92.300	19.65	30	PASS

NOTE:
For U-NII-2A, U-NII-2C Band:
CHAIN 0

1. $11\text{dBm} + 10\log(27.01) = 25.32\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(22.19) = 24.46\text{ dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(26.95) = 25.31\text{ dBm} > 24\text{dBm}$.
4. $11\text{dBm} + 10\log(20.69) = 24.16\text{ dBm} > 24\text{dBm}$.
5. $11\text{dBm} + 10\log(24.05) = 24.81\text{ dBm} > 24\text{dBm}$.
6. $11\text{dBm} + 10\log(26.91) = 25.30\text{ dBm} > 24\text{dBm}$.
7. $11\text{dBm} + 10\log(24.26) = 24.85\text{ dBm} > 24\text{dBm}$.

CHAIN 1

1. $11\text{dBm} + 10\log(22.53) = 24.53\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(22.98) = 24.61\text{ dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(22.41) = 24.50\text{ dBm} > 24\text{dBm}$.
4. $11\text{dBm} + 10\log(24.55) = 24.90\text{ dBm} > 24\text{dBm}$.
5. $11\text{dBm} + 10\log(20.75) = 24.17\text{ dBm} > 24\text{dBm}$.
6. $11\text{dBm} + 10\log(24.05) = 24.81\text{ dBm} > 24\text{dBm}$.
7. $11\text{dBm} + 10\log(24.26) = 24.85\text{ dBm} > 24\text{dBm}$.

CHAIN 2

1. $11\text{dBm} + 10\log(24.00) = 24.80\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(22.20) = 24.46\text{ dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(22.52) = 24.53\text{ dBm} > 24\text{dBm}$.
4. $11\text{dBm} + 10\log(24.32) = 24.86\text{ dBm} > 24\text{dBm}$.
5. $11\text{dBm} + 10\log(23.76) = 24.76\text{ dBm} > 24\text{dBm}$.
6. $11\text{dBm} + 10\log(26.09) = 25.16\text{ dBm} > 24\text{dBm}$.
7. $11\text{dBm} + 10\log(25.41) = 25.05\text{ dBm} > 24\text{dBm}$.

802.11n (HT40)

CHAN.	FREQ. (MHz)	MAXIMUM CONDUCTED POWER (dBm)			TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2				
38	5190	10.30	10.20	10.30	31.900	15.00	24	PASS
46	5230	10.40	10.30	10.20	32.200	15.10	24	PASS
54	5270	15.80	16.10	15.50	114.200	20.60	24	PASS
62	5310	15.90	16.00	16.00	118.500	20.70	24	PASS
102	5510	16.00	16.20	16.30	124.200	20.90	24	PASS
110	5550	16.10	16.10	16.20	123.200	20.90	24	PASS
134	5670	16.10	16.10	16.10	122.200	20.90	24	PASS
151	5755	15.08	15.49	15.68	104.594	20.20	30	PASS
159	5795	15.52	15.75	16.21	115.012	20.61	30	PASS

NOTE:
For U-NII-2A, U-NII-2C Band:
CHAIN 0

1. $11\text{dBm} + 10\log(56.41) = 28.51\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(56.59) = 28.53\text{ dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(57.07) = 28.56\text{ dBm} > 24\text{dBm}$.
4. $11\text{dBm} + 10\log(57.48) = 28.60\text{ dBm} > 24\text{dBm}$.
5. $11\text{dBm} + 10\log(57.43) = 28.59\text{ dBm} > 24\text{dBm}$.

CHAIN 1

1. $11\text{dBm} + 10\log(56.70) = 28.54\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(56.91) = 28.55\text{ dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(56.87) = 28.55\text{ dBm} > 24\text{dBm}$.
4. $11\text{dBm} + 10\log(56.97) = 28.56\text{ dBm} > 24\text{dBm}$.
5. $11\text{dBm} + 10\log(54.29) = 28.35\text{ dBm} > 24\text{dBm}$.

CHAIN 2

1. $11\text{dBm} + 10\log(54.10) = 28.33\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(56.90) = 28.55\text{ dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(58.23) = 28.65\text{ dBm} > 24\text{dBm}$.
4. $11\text{dBm} + 10\log(57.47) = 28.59\text{ dBm} > 24\text{dBm}$.
5. $11\text{dBm} + 10\log(53.89) = 28.32\text{ dBm} > 24\text{dBm}$.

26dB BANDWIDTH:
802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	PASS / FAIL
36	5180	23.70	PASS
40	5200	21.31	PASS
48	5240	21.39	PASS
52	5260	25.83	PASS
60	5300	25.46	PASS
64	5320	25.38	PASS
100	5500	25.93	PASS
116	5580	27.57	PASS
132	5660	25.18	PASS
140	5700	27.60	PASS

802.11n (HT20)

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)			PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2	
36	5180	20.31	20.07	20.13	PASS
40	5200	20.06	20.13	20.16	PASS
48	5240	20.37	20.17	20.08	PASS
52	5260	27.01	22.53	24.00	PASS
60	5300	22.19	22.98	22.20	PASS
64	5320	26.95	22.41	22.52	PASS
100	5500	20.69	24.55	24.32	PASS
116	5580	24.05	20.75	23.76	PASS
132	5660	26.91	24.05	26.09	PASS
140	5700	24.26	24.26	25.41	PASS

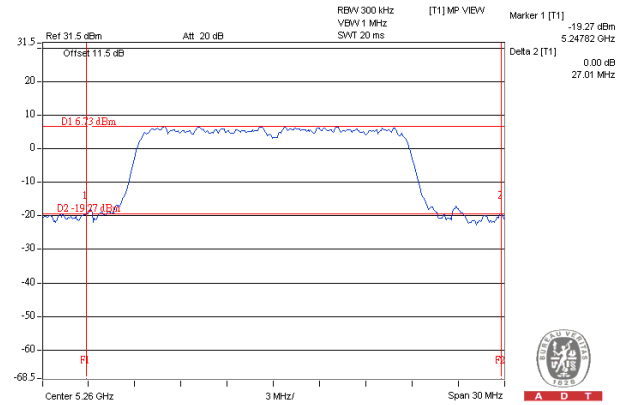
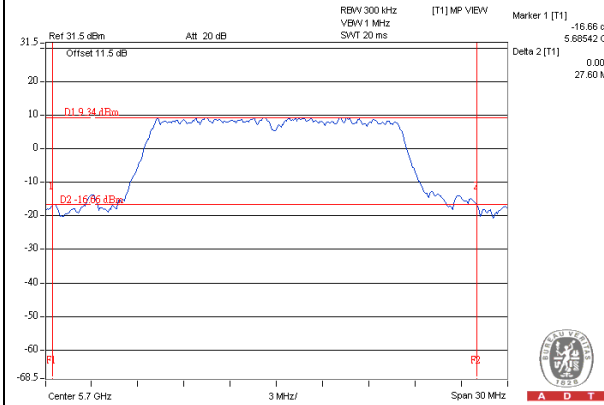
802.11n (HT40)

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)			PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2	
38	5190	42.00	41.91	41.83	PASS
46	5230	41.96	42.02	42.05	PASS
54	5270	56.41	56.70	54.10	PASS
62	5310	56.59	56.91	56.90	PASS
102	5510	57.07	56.87	58.23	PASS
110	5550	57.48	56.97	57.47	PASS
134	5670	57.43	54.29	53.89	PASS

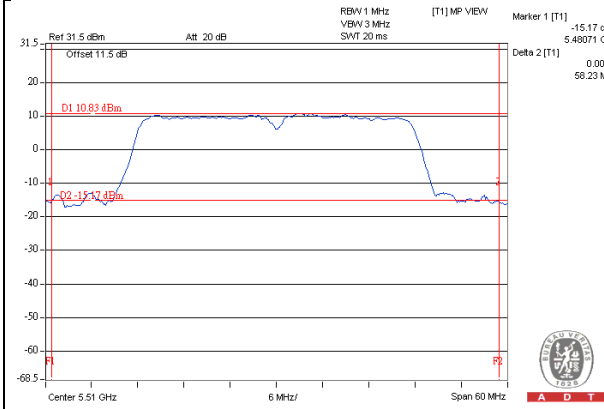
SPECTRUM PLOT OF WORST VALUE

802.11a

802.11n (HT20)



802.11n (HT40)



OCCUPIED BANDWIDTH:
802.11a

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)
36	5180	16.98
40	5200	16.98
48	5240	16.98
52	5260	17.10
60	5300	17.04
64	5320	17.04
100	5500	17.52
116	5580	17.10
132	5660	17.10
140	5700	17.04
149	5745	17.13
157	5785	17.04
165	5825	17.04

802.11n (HT20)

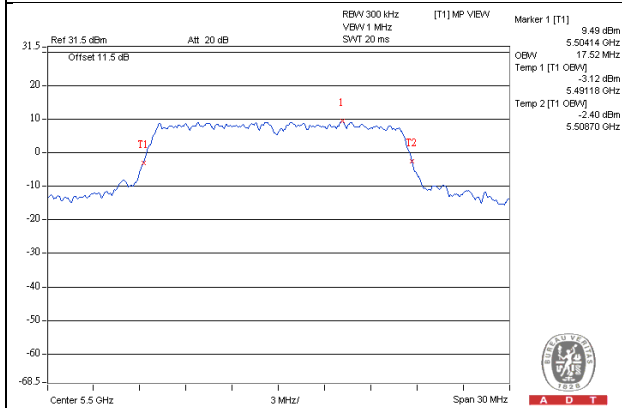
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
36	5180	17.70	17.58	17.58
40	5200	17.52	17.58	17.58
48	5240	17.70	17.64	17.58
52	5260	17.76	17.70	17.64
60	5300	17.70	17.70	17.64
64	5320	17.70	17.70	17.70
100	5500	17.76	17.76	17.70
116	5580	17.70	17.70	17.70
132	5660	17.70	17.70	17.70
140	5700	17.70	17.70	17.70
149	5745	17.64	17.74	17.74
157	5785	17.64	17.64	17.64
165	5825	17.76	17.76	17.64

802.11n (HT40)

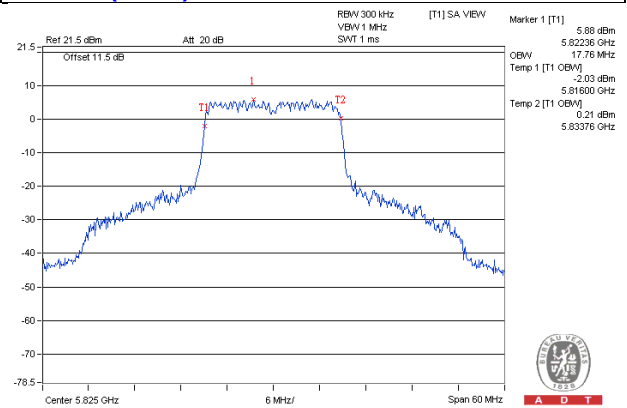
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
38	5190	36.48	36.48	36.32
46	5230	36.16	36.48	36.48
54	5270	36.64	36.64	36.64
62	5310	36.80	36.80	36.64
102	5510	36.80	36.80	36.96
110	5550	36.80	36.80	36.80
134	5670	36.64	36.80	36.96
151	5755	36.48	36.48	36.48
159	5795	36.48	36.48	36.60

SPECTRUM PLOT OF WORST VALUE

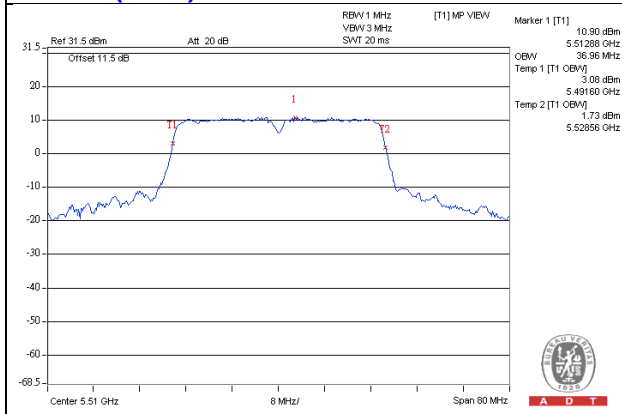
802.11a



802.11n (HT20)



802.11n (HT40)



EUT MAXIMUM CONDUCTED POWER**802.11a**

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	44.700	16.50
5470~5725	58.900	17.70

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

802.11n (HT20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	97.100	19.90
5470~5725	97.800	19.90

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

802.11n (HT40)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	118.50	20.70
5470~5725	124.200	20.90

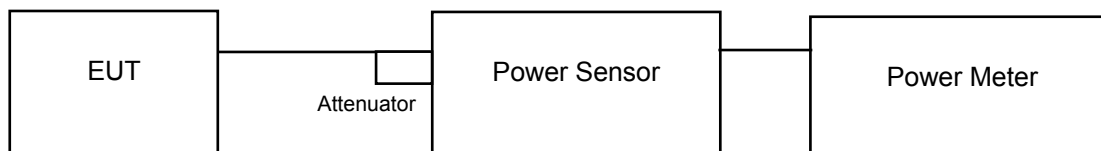
NOTE: Manufacturer provides Transmit Power Control description to meet this requirement.

4.4 Peak Power Spectral Density Measurement

4.4.1 Limits of Peak Power Spectral Density Measurement

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

4.4.2 Test Setup



4.4.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.4 Test Procedures

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

802.11a:

Using method SA-1

- 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

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

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 band:**802.11a:**

- 1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
- 2) Set RBW = 300 kHz, Set VBW \geq 1 MHz, Detector = RMS
- 3) Use the peak marker function to determine the maximum power level in any 300 kHz band segment within the fundamental EBW.
- 4) Scale the observed power level to an equivalent value in 500 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where $BWCF = 10\log(500 \text{ kHz}/300\text{kHz})$
- 5) Sweep time = auto, trigger set to "free run".
- 6) Trace average at least 100 traces in power averaging mode.
- 7) Record the max value

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

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

4.4.5 Deviation from Test Standard

No deviation.

4.4.6 EUT Operating Conditions

Same as Item 4.3.6.

4.4.7 Test Results

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

802.11a

CHAN.	CHAN. FREQ. (MHz)	PSD (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
36	5180	2.98	11	PASS
40	5200	2.85	11	PASS
48	5240	2.81	11	PASS
52	5260	7.03	11	PASS
60	5300	6.97	11	PASS
64	5320	7.01	11	PASS
100	5500	8.42	11	PASS
116	5580	8.26	11	PASS
132	5660	7.82	11	PASS
140	5700	7.55	11	PASS

NOTE:

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

802.11n (HT20)

CHAN.	CHAN. FREQ. (MHz)	PSD (dBm)			TOTAL PSD W/O DUTY FACTOR (dBm)	DUTY FACTOR	TOTAL PSD WITH DUTY FACTOR (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 1					
36	5180	-2.66	-2.77	-2.69	1.90	0.12	2.02	9.20	PASS
40	5200	-2.62	-2.85	-2.73	2.00	0.12	2.12	9.20	PASS
48	5240	-2.66	-2.87	-2.72	1.50	0.12	1.62	9.20	PASS
52	5260	4.16	3.79	4.08	8.60	0.12	8.72	9.20	PASS
60	5300	4.09	3.87	3.97	8.70	0.12	8.82	9.20	PASS
64	5320	4.06	3.83	4.07	8.70	0.12	8.82	9.20	PASS
100	5500	4.15	3.85	4.07	8.70	0.12	8.82	9.20	PASS
116	5580	4.17	3.92	3.95	8.80	0.12	8.92	9.20	PASS
132	5660	4.00	3.91	3.88	8.60	0.12	8.72	9.20	PASS
140	5700	4.08	3.84	3.91	8.50	0.12	8.62	9.20	PASS

NOTE:

- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = $3.0\text{dBi} + 10\log(3) = 7.8\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11 - (7.8 - 6) = 9.2\text{dBm}$
- Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT40)

CHAN.	CHAN. FREQ. (MHz)	PSD (dBm)			TOTAL PSD W/O DUTY FACTOR (dBm)	DUTY FACTOR	TOTAL PSD WITH DUTY FACTOR (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 1					
38	5190	-3.44	-3.43	-3.66	1.20	0.21	1.41	9.20	PASS
46	5230	-3.28	-3.39	-3.73	1.10	0.21	1.31	9.20	PASS
54	5270	2.08	2.27	1.64	6.60	0.21	6.81	9.20	PASS
62	5310	1.96	2.21	1.95	6.70	0.21	6.91	9.20	PASS
102	5510	2.10	2.44	2.19	6.90	0.21	7.11	9.20	PASS
110	5550	2.18	2.40	2.09	7.00	0.21	7.21	9.20	PASS
134	5670	2.25	2.34	2.00	7.00	0.21	7.21	9.20	PASS

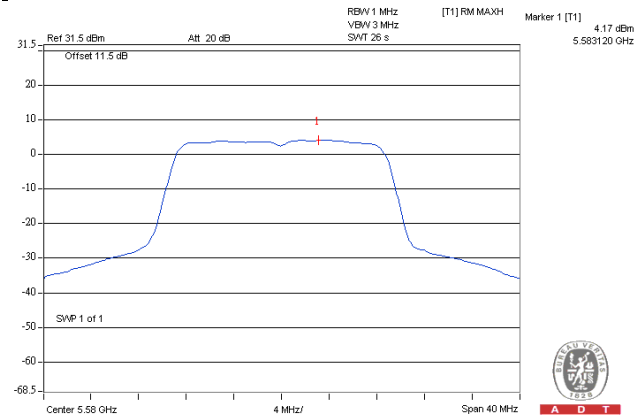
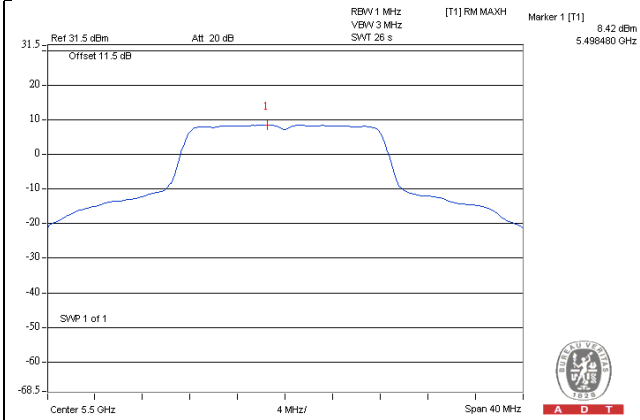
NOTE:

- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = $3.0\text{dBi} + 10\log(3) = 7.8\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11 - (7.8 - 6) = 9.2\text{dBm}$
- Refer to section 3.3 for duty cycle spectrum plot.

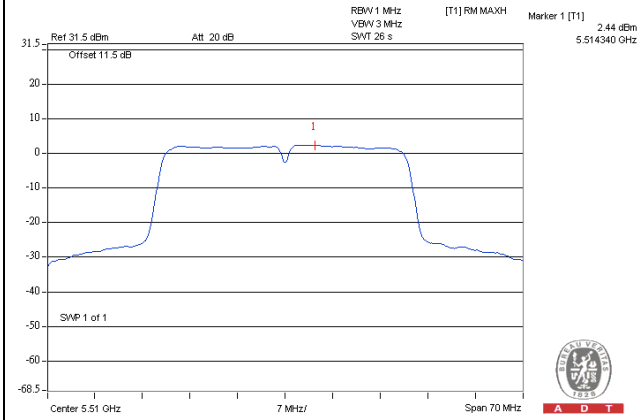
SPECTRUM PLOT OF WORST VALUE

802.11a

802.11n (HT20)



802.11n (HT40)



For U-NII-3 Band

802.11a

Channel	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	Limit (dBm/500kHz)	PASS /FAIL
149	5745	-5.12	-2.90	30	PASS
157	5785	-5.32	-3.10	30	PASS
165	5825	-5.74	-3.52	30	PASS

NOTE:

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

802.11n (HT20)

TX chain	Channel	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=3) dB	Duty factor	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	PASS /FAIL
0	149	5745	-7.32	-5.10	4.77	0.12	-0.21	28.23	PASS
	157	5785	-6.48	-4.26	4.77	0.12	0.63	28.23	PASS
	165	5825	-7.24	-5.02	4.77	0.12	-0.13	28.23	PASS
1	149	5745	-7.16	-4.94	4.77	0.12	-0.05	28.23	PASS
	157	5785	-6.76	-4.54	4.77	0.12	0.35	28.23	PASS
	165	5825	-6.38	-4.16	4.77	0.12	0.73	28.23	PASS
2	149	5745	-6.90	-4.68	4.77	0.12	0.21	28.23	PASS
	157	5785	-7.43	-5.21	4.77	0.12	-0.32	28.23	PASS
	165	5825	-6.46	-4.24	4.77	0.12	0.65	28.23	PASS

NOTE:

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

802.11n (HT40)

TX chain	Channel	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=3) dB	Duty factor	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	PASS /FAIL
0	151	5755	-9.78	-7.56	4.77	0.21	-2.58	28.23	PASS
	159	5795	-9.93	-7.71	4.77	0.21	-2.73	28.23	PASS
1	151	5755	-10.03	-7.81	4.77	0.21	-2.83	28.23	PASS
	159	5795	-9.05	-6.83	4.77	0.21	-1.85	28.23	PASS
2	151	5755	-9.66	-7.44	4.77	0.21	-2.46	28.23	PASS
	159	5795	-9.30	-7.08	4.77	0.21	-2.10	28.23	PASS

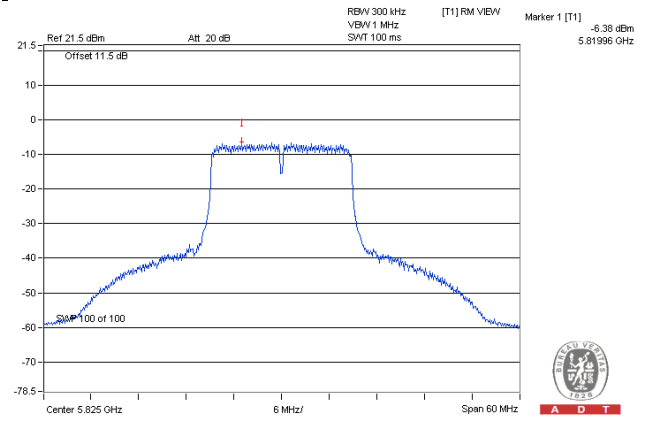
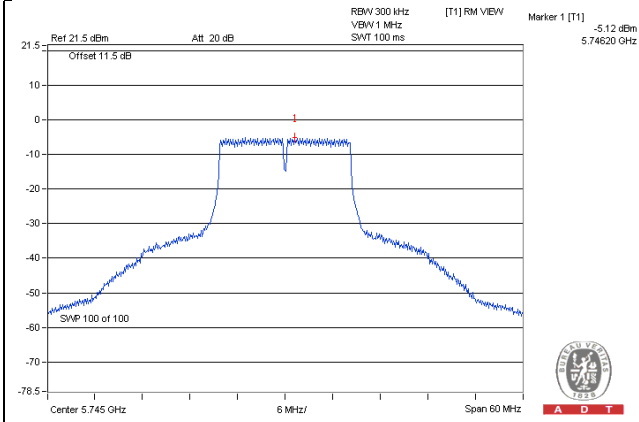
NOTE:

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

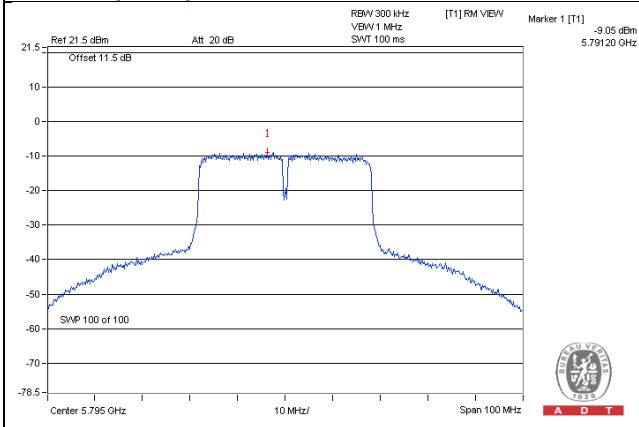
SPECTRUM PLOT OF WORST VALUE

802.11a

802.11n (HT20)



802.11n (HT40)

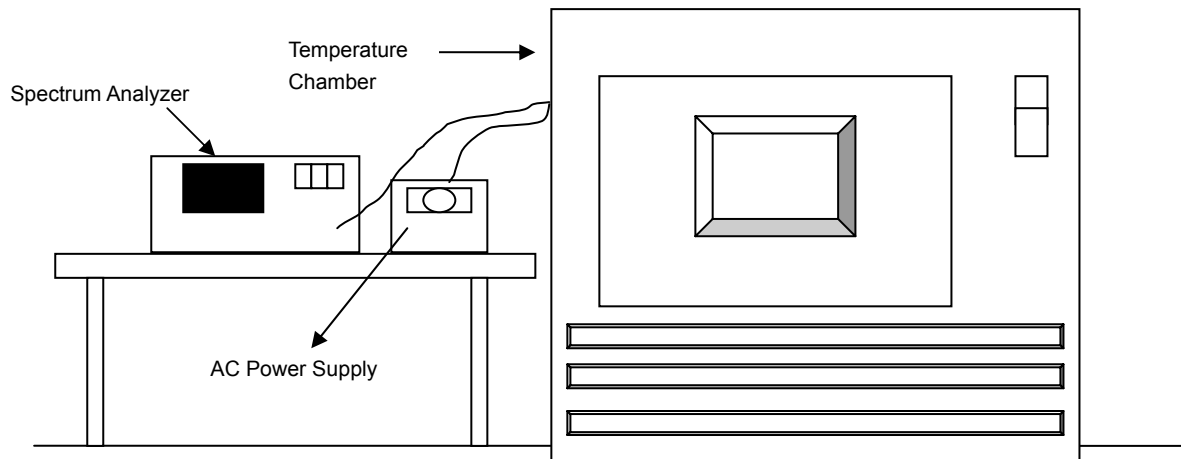


4.5 Frequency Stability

4.5.1 Limits of Frequency Stability Measurement

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

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.5.4 Test Procedure

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

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Condition

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

4.5.7 Test Results

Frequency Stability Versus Temp.									
Operating Frequency: 5745MHz									
Temp. ()	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)
50	120	5744.9762	-0.00041	5744.9773	-0.00040	5744.9763	-0.00041	5744.9761	-0.00042
40	120	5744.9991	-0.00002	5744.9981	-0.00003	5744.9988	-0.00002	5744.9975	-0.00004
30	120	5744.9761	-0.00042	5744.9748	-0.00044	5744.9750	-0.00044	5744.9754	-0.00043
20	120	5744.9753	-0.00043	5744.9716	-0.00049	5744.9727	-0.00048	5744.9733	-0.00046
10	120	5745.0264	0.00046	5745.0273	0.00048	5745.0244	0.00042	5745.0261	0.00045
0	120	5744.9783	-0.00038	5744.9738	-0.00046	5744.9759	-0.00042	5744.9750	-0.00044
-10	120	5744.9818	-0.00032	5744.9830	-0.00030	5744.9779	-0.00038	5744.9814	-0.00032
-20	120	5745.0030	0.00005	5745.0027	0.00005	5745.0032	0.00006	5744.9996	-0.00001
-30	120	5745.0192	0.00033	5745.0172	0.00030	5745.0170	0.00030	5745.0169	0.00029

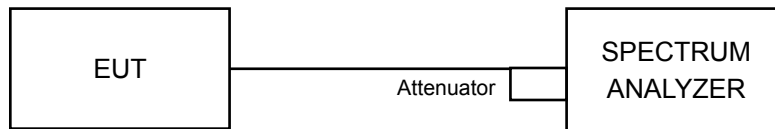
Frequency Stability Versus Temp.									
Operating Frequency: 5745MHz									
Temp. ()	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)
20	138	5744.9755	-0.00043	5744.9706	-0.00051	5744.9738	-0.00046	5744.9727	-0.00048
	120	5744.9753	-0.00043	5744.9716	-0.00049	5744.9727	-0.00048	5744.9733	-0.00046
	102	5744.9764	-0.00041	5744.9721	-0.00049	5744.9729	-0.00047	5744.9739	-0.00045

4.6 6dB Bandwidth Measurement

4.6.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

4.6.2 Test Setup



4.6.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.6.4 Test Procedure

MEASUREMENT PROCEDURE REF

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

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

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

4.6.7 Test Results

802.11a

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
149	5745	16.36	0.5	PASS
157	5785	16.38	0.5	PASS
165	5825	16.39	0.5	PASS

802.11n (HT20)

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)			MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2		
149	5745	16.85	16.96	16.98	0.5	PASS
157	5785	16.96	17.01	17.08	0.5	PASS
165	5825	16.98	17.29	16.94	0.5	PASS

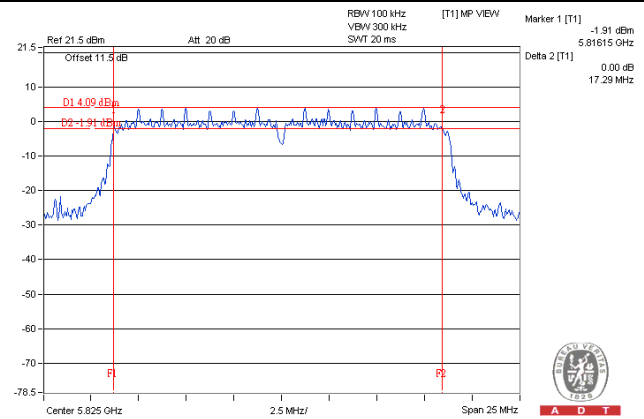
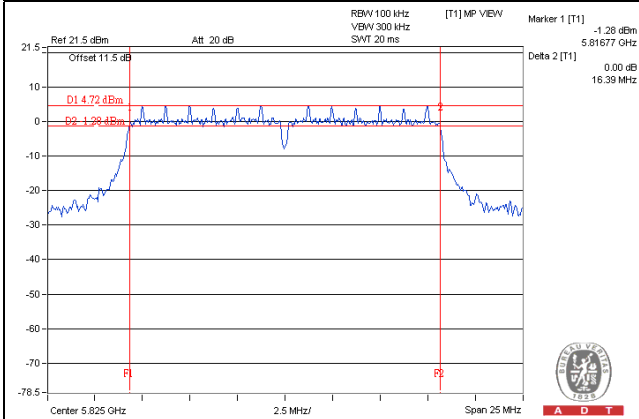
802.11n (HT40)

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)			MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2		
151	5755	35.33	35.30	35.34	0.5	PASS
159	5795	35.47	35.27	35.34	0.5	PASS

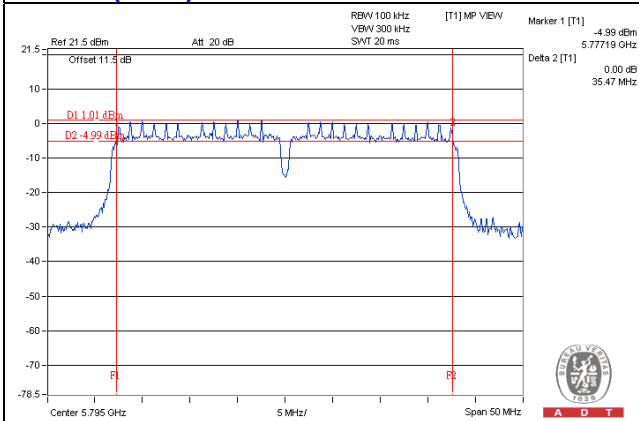
SPECTRUM PLOT OF WORST VALUE

802.11a

802.11n (HT20)



802.11n (HT40)



5 Pictures of Test Arrangements

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

Appendix – Information on the Testing Laboratories

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

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

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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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