

FCC Test Report (WLAN)

Report No.: RF170807E03

FCC ID: TLZ-CU302

Test Model: AW-CU302

Received Date: Aug. 07, 2017

Test Date: Aug. 18 to Sep. 18, 2017

Issued Date: Sep. 27, 2017

Applicant: AzureWave Technologies, Inc.

Address: 8F., No.94, Baozhong Rd. , Xindian Dist., New Taipei City , Taiwan 231

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

Lab Address: E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300,
Taiwan R.O.C.

Test Location : E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300,
Taiwan R.O.C.



This report is for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence, provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification. The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any government agencies.

Table of Contents

Release Control Record	4
1 Certificate of Conformity.....	5
2 Summary of Test Results	6
2.1 Measurement Uncertainty	6
2.2 Modification Record	6
3 General Information.....	7
3.1 General Description of EUT	7
3.2 Description of Test Modes	9
3.2.1 Test Mode Applicability and Tested Channel Detail	10
3.3 Duty Cycle of Test Signal	12
3.4 Description of Support Units	13
3.4.1 Configuration of System under Test	13
3.5 General Description of Applied Standards	14
4 Test Types and Results	15
4.1 Radiated Emission and Bandedge Measurement.....	15
4.1.1 Limits of Radiated Emission and Bandedge Measurement	15
4.1.2 Test Instruments	16
4.1.3 Test Procedures.....	17
4.1.4 Deviation from Test Standard	17
4.1.5 Test Setup.....	18
4.1.6 EUT Operating Conditions.....	19
4.1.7 Test Results (Mode 1).....	20
4.1.8 Test Results (Mode 2).....	30
4.1.9 Test Results (Mode 3).....	40
4.1.10 Test Results (Mode 4).....	50
4.2 Conducted Emission Measurement	60
4.2.1 Limits of Conducted Emission Measurement	60
4.2.2 Test Instruments	60
4.2.3 Test Procedures.....	61
4.2.4 Deviation from Test Standard	61
4.2.5 Test Setup.....	61
4.2.6 EUT Operating Conditions.....	61
4.2.7 Test Results	62
4.3 6dB Bandwidth Measurement	64
4.3.1 Limits of 6dB Bandwidth Measurement	64
4.3.2 Test Setup.....	64
4.3.3 Test Instruments	64
4.3.4 Test Procedure	64
4.3.5 Deviation from Test Standard	64
4.3.6 EUT Operating Conditions.....	64
4.3.7 Test Result.....	65
4.4 Conducted Output Power Measurement.....	67
4.4.1 Limits of Conducted Output Power Measurement	67
4.4.2 Test Setup.....	67
4.4.3 Test Instruments	67
4.4.4 Test Procedures.....	67
4.4.5 Deviation from Test Standard	67
4.4.6 EUT Operating Conditions.....	67
4.4.7 Test Results	68
4.5 Power Spectral Density Measurement.....	70
4.5.1 Limits of Power Spectral Density Measurement	70
4.5.2 Test Setup.....	70
4.5.3 Test Instruments	70

4.5.4 Test Procedure	70
4.5.5 Deviation from Test Standard	70
4.5.6 EUT Operating Condition	70
4.5.7 Test Results	71
4.6 Conducted Out of Band Emission Measurement	73
4.6.1 Limits of Conducted Out of Band Emission Measurement.....	73
4.6.2 Test Setup.....	73
4.6.3 Test Instruments	73
4.6.4 Test Procedure	73
4.6.5 Deviation from Test Standard	73
4.6.6 EUT Operating Condition	73
4.6.7 Test Results	73
5 Pictures of Test Arrangements.....	77
Appendix – Information on the Testing Laboratories	78

Release Control Record

Issue No.	Description	Date Issued
RF170807E03	Original release.	Sep. 27, 2017

1 Certificate of Conformity

Product: IEEE 802.11 b/g/n + Bluetooth 4.2 LE WLAN/BT Microcontroller Module

Brand: AzureWave

Test Model: AW-CU302

Sample Status: ENGINEERING SAMPLE

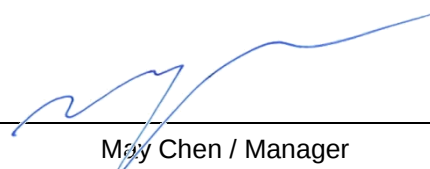
Applicant: AzureWave Technologies, Inc.

Test Date: Aug. 18 to Sep. 18, 2017

Standards: 47 CFR FCC Part 15, Subpart C (Section 15.247)
ANSI C63.10: 2013

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

Prepared by :  , **Date:** Sep. 27, 2017
Claire Kuan / Specialist

Approved by :  , **Date:** Sep. 27, 2017
May Chen / Manager

2 Summary of Test Results

47 CFR FCC Part 15, Subpart C (Section 15.247)			
FCC Clause	Test Item	Result	Remarks
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -11.93dB at 16.46419MHz.
15.205 / 15.209 / 15.247(d)	Radiated Emissions and Band Edge Measurement	PASS	Meet the requirement of limit. Minimum passing margin is -2.5dB at 2390.00MHz, 2483.50MHz.
15.247(d)	Antenna Port Emission	PASS	Meet the requirement of limit.
15.247(a)(2)	6dB bandwidth	PASS	Meet the requirement of limit.
15.247(b)	Conducted power	PASS	Meet the requirement of limit.
15.247(e)	Power Spectral Density	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	No antenna connector is used.

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) ($\pm$)
Conducted Emissions at mains ports	150kHz ~ 30MHz	1.84 dB
Radiated Emissions up to 1 GHz	30MHz ~ 1GHz	5.30 dB
Radiated Emissions above 1 GHz	1GHz ~ 6GHz	5.16 dB
	6GHz ~ 18GHz	4.91 dB
	18GHz ~ 40GHz	5.30 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	IEEE 802.11 b/g/n + Bluetooth 4.2 LE WLAN/BT Microcontroller Module
Brand	AzureWave
Test Model	AW-CU302
Status of EUT	ENGINEERING SAMPLE
Power Supply Rating	DC 3.3V from host equipment
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
Modulation Technology	DSSS, OFDM
Transfer Rate	802.11b: up to 11Mbps 802.11g: up to 54Mbps 802.11n: up to 72.2Mbps
Operating Frequency	2.412 ~ 2.462GHz
Number of Channel	802.11b, 802.11g, 802.11n (HT20): 11
Output Power	290.402mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	NA
Data Cable Supplied	NA

Note:

1. There are WLAN and Bluetooth technology used for the EUT.
2. Simultaneously transmission condition.

Condition	Technology	
1	WLAN (2.4GHz)	Bluetooth

Note: The emission of the simultaneous operation has been evaluated and no non-compliance was found.

3. The EUT incorporates a SISO function.

MODULATION MODE	DATA RATE (MCS)	TX & RX CONFIGURATION	
802.11b	1 ~ 11Mbps	1TX	1RX
802.11g	6 ~ 54Mbps	1TX	1RX
802.11n (HT20)	MCS 0~7	1TX	1RX

4. The antennas provided to the EUT, please refer to the following table:

Antenna No.	Brand	Model	Antenna Net Gain(dBi)	Frequency range	Antenna Type	Connector Type	Cable Length
1(Internal)	AzureWave	AW-CU302 ANT	2.5	2.4~2.4835GHz	Chip	NA	NA
2(External)	TAOGLAS	FXP73.07.0100A	3	2.4~2.4835GHz	Monopole	I-PEX	100mm
3(External)	TAOGLAS	PC11.07.0100A	3	2.4~2.4835GHz	Dipole	I-PEX	100mm
4(External)	TAOGLAS	FXP74.07.0100A	4	2.4~2.4835GHz	PIFA	I-PEX	100mm
5(External)	TAOGLAS	PC17.07.0070A	0.9	2.4~2.4835GHz	PIFA	I-PEX	70mm
6(External)	TAOGLAS	GW.17.07.0250E	2.7	2.4~2.4835GHz	Dipole	I-PEX	250mm
7(External)	TAOGLAS	FXP840.07.0055B	2	2.4~2.4836GHz	PIFA	I-PEX	55mm
8(External)	TAOGLAS	FXP75.07.0045B	2.5	2.4~2.4836GHz	PIFA	I-PEX	45mm
9(External)	LAIRD	NanoBlue-IP4_MAF94045	2	2.4~2.4835GHz	Dipole	I-PEX	100mm
10(External)	LAIRD	EBL2400A1-23UFL	2.45	2.4~2.4835GHz	Dipole	I-PEX	230mm
11(External)	LAIRD	NanoBlade-IP04_CAF94505	2	2.4~2.4835GHz	Dipole	I-PEX	100mm
12(External)	MOLEX	1461530100	3	2.4~2.4835GHz	Dipole	I-PEX	100mm
13(External)	MOLEX	1461530150	2.8	2.4~2.4835GHz	Dipole	I-PEX	150mm
14(External)	MOLEX	1461530200	2.6	2.4~2.4835GHz	Dipole	I-PEX	200mm
15(External)	MOLEX	1461530250	2.4	2.4~2.4835GHz	Dipole	I-PEX	250mm
16(External)	MOLEX	1461530300	2.2	2.4~2.4835GHz	Dipole	I-PEX	300mm
17(External)	MOLEX	2042810050	2.2	2.4~2.4835GHz	Dipole	I-PEX	50mm
18(External)	MOLEX	2042810100	2	2.4~2.4835GHz	Dipole	I-PEX	100mm
19(External)	MOLEX	2042810150	1.8	2.4~2.4835GHz	Dipole	I-PEX	150mm
20(External)	MOLEX	2042810200	1.6	2.4~2.4835GHz	Dipole	I-PEX	200mm
21(External)	MOLEX	2042810250	1.4	2.4~2.4835GHz	Dipole	I-PEX	250mm
22(External)	MOLEX	2042810300	1.2	2.4~2.4835GHz	Dipole	I-PEX	300mm
23(External)	YAGEO	ANTX100F113B24003	2.9	2.4~2.4835GHz	PIFA	I-PEX	100mm
24(External)	YAGEO	ANTX100P113B24003	2.8	2.4~2.4835GHz	PIFA	I-PEX	100mm
25(External)	LYNWAVE	ALA110-052020	2	2.4~2.4835GHz	Dipole	I-PEX	50mm
26(External)	LYNWAVE	ALA120-052024	2	2.4~2.4835GHz	Dipole	I-PEX	160mm
27(External)	LYNWAVE	ALA150-052020	2	2.4~2.4835GHz	Dipole	I-PEX	85mm
28(External)	LYNWAVE	ALA140-05102J	2	2.4~2.4835GHz	Dipole	I-PEX	40mm
29(External)	LYNWAVE	ALA120-051020	2	2.4~2.4835GHz	Dipole	I-PEX	50mm
30(External)	LYNWAVE	ALA120-051022	2	2.4~2.4835GHz	Dipole	I-PEX	30mm
31(External)	LYNWAVE	ALA140-051020	1.88	2.4~2.4835GHz	Dipole	I-PEX	70mm
32(External)	LYNWAVE	ALA150-05102B	2	2.4~2.4835GHz	Dipole	I-PEX	10mm
33(External)	LYNWAVE	ALA150-05102C	2	2.4~2.4835GHz	Dipole	I-PEX	75mm
34(External)	LYNWAVE	ALA150-05102F	2	2.4~2.4835GHz	Dipole	I-PEX	140mm
35(External)	LYNWAVE	ALA150-05102J	2	2.4~2.4835GHz	Dipole	I-PEX	100mm
36(External)	LYNWAVE	ALA140-05102D	2	2.4~2.4835GHz	Dipole	I-PEX	95mm
37(External)	LYNWAVE	ALA150-051026	2	2.4~2.4835GHz	Dipole	I-PEX	150mm

From the above antennas, antenna 1, 2, 3, 4 were selected for the test and its data was recorded in this report.

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

3.2 Description of Test Modes

11 channels are provided for 802.11b, 802.11g and 802.11n (HT20):

Channel	Frequency	Channel	Frequency
1	2412MHz	7	2442MHz
2	2417MHz	8	2447MHz
3	2422MHz	9	2452MHz
4	2427MHz	10	2457MHz
5	2432MHz	11	2462MHz
6	2437MHz		

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE $\geq$ 1G	RE<1G	PLC	APCM	
1	-	√	-	-	EUT with Chip antenna
2	-	√	-	-	EUT with Monopole antenna
3	-	√	-	-	EUT with Dipole antenna
4	√	√	√	√	EUT with PIFA antenna

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

NOTE: The EUT's antenna had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on X-plane.

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.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6
802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	6.5

Radiated Emission Test (Below 1GHz):

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	1 to 11	1	DSSS	DBPSK	1

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.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	1 to 11	1	DSSS	DBPSK	1

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.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6
802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	6.5

Test Condition:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (System)	TESTED BY
RE≥1G	24deg. C, 65%RH	120Vac, 60Hz	JyunChun Lin
RE<1G	25deg. C, 72%RH	120Vac, 60Hz	Eason Tseng
PLC	25deg. C, 75%RH	120Vac, 60Hz	Andy Ho
APCM	25deg. C, 60%RH	120Vac, 60Hz	Anderson Chen

3.3 Duty Cycle of Test Signal

If duty cycle of test signal is $\geq 98\%$, duty factor is not required.

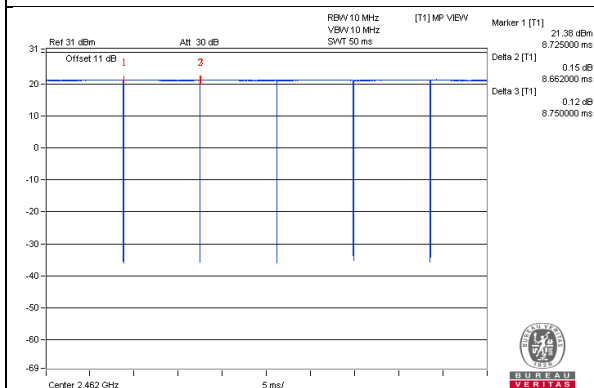
If duty cycle of test signal is $< 98\%$, duty factor shall be considered.

802.11b: Duty cycle = $8.662/8.75 = 0.99$

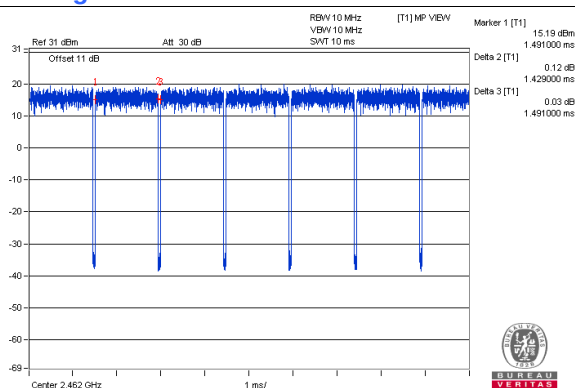
802.11g: Duty cycle = $1.429/1.491 = 0.958$, Duty factor = $10 * \log(1/0.958) = 0.18$

802.11n (HT20): Duty cycle = $1.339/1.41 = 0.95$, Duty factor = $10 * \log(1/0.95) = 0.22$

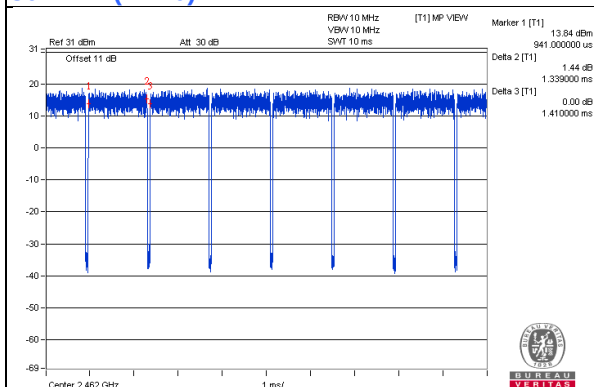
802.11b



802.11g



802.11n (HT20)



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.

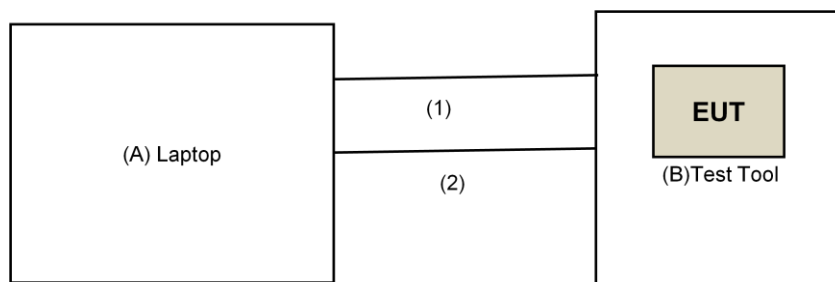
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Laptop	DELL	E6440	F9LYQ32	FCC DoC	Provided by Lab
B.	Test Tool	AzureWave	NA	NA	NA	Supplied by clien

Note:

1. 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	1.6	Yes	0	Provided by Lab
2.	USB Cable	1	1.6	Yes	0	Provided by Lab

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 C (15.247)
KDB 558074 D01 DTS Meas Guidance v04
ANSI C63.10-2013

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

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.

4.1.2 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Keysight	N9038A	MY54450088	July 08, 2017	July 07, 2018
Pre-Amplifier ^(*) EMCI	EMC001340	980142	Jan. 20, 2016	Jan. 19, 2018
Loop Antenna ^(*) Electro-Metrics	EM-6879	264	Dec. 16, 2016	Dec. 15, 2018
RF Cable	NA	LOOPCAB-001 LOOPCAB-002	Jan. 17, 2017	Jan. 16, 2018
Pre-Amplifier Mini-Circuits	ZFL-1000VH2B	AMP-ZFL-01	Nov. 10, 2016	Nov. 09, 2017
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-406	Dec. 13, 2016	Dec. 12, 2017
RF Cable	8D	966-4-1 966-4-2 966-4-3	Apr. 01, 2017	Mar. 31, 2018
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-3m-4-01	Oct. 05, 2016	Oct. 04, 2017
Horn_Antenna SCHWARZBECK	BBHA 9120D	9120D-783	Dec. 27, 2016	Dec. 26, 2017
Pre-Amplifier EMCI	EMC12630SE	980385	Feb. 02, 2017	Feb. 01, 2018
RF Cable	EMC104-SM-SM-1200 EMC104-SM-SM-2000 EMC104-SM-SM-5000	160923 150318 150321	Feb. 02, 2017 Mar. 29, 2017 Mar. 29, 2017	Feb. 01, 2018 Mar. 28, 2018 Mar. 28, 2018
Pre-Amplifier EMCI	EMC184045SE	980387	Feb. 02, 2017	Feb. 01, 2018
Horn_Antenna SCHWARZBECK	BBHA 9170	BBHA9170608	Dec. 15, 2016	Dec. 14, 2017
RF Cable	SUCOFLEX 102	36432/2 36433/2	Jan. 15, 2017	Jan. 14, 2018
Software	ADT_Radiated_V8.7.08	NA	NA	NA
Antenna Tower & Turn Table Max-Full	MF-7802	MF780208410	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP02	NA	NA
Spectrum Analyzer Agilent	E4446A	MY48250253	Dec. 21, 2016	Dec. 20, 2017
Power meter Anritsu	ML2495A	1014008	May 11, 2017	May 10, 2018
Power sensor Anritsu	MA2411B	0917122	May 11, 2017	May 10, 2018

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 calibration interval of the above test instruments is 24 months and the calibrations are traceable to NML/ROC and NIST/USA.
3. The test was performed in 966 Chamber No. 4.
4. The FCC Designation Number is TW2022.
5. The CANADA Site Registration No. is 20331-2
6. Tested Date: Aug. 18 to Sep. 18, 2017

4.1.3 Test Procedures

For Radiated emission below 30MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. Both X and Y axes of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

NOTE:

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

For Radiated emission above 30MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f. The test-receiver system was set to peak and average 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 $\geq 1/T$ (Duty cycle < 98%) or 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

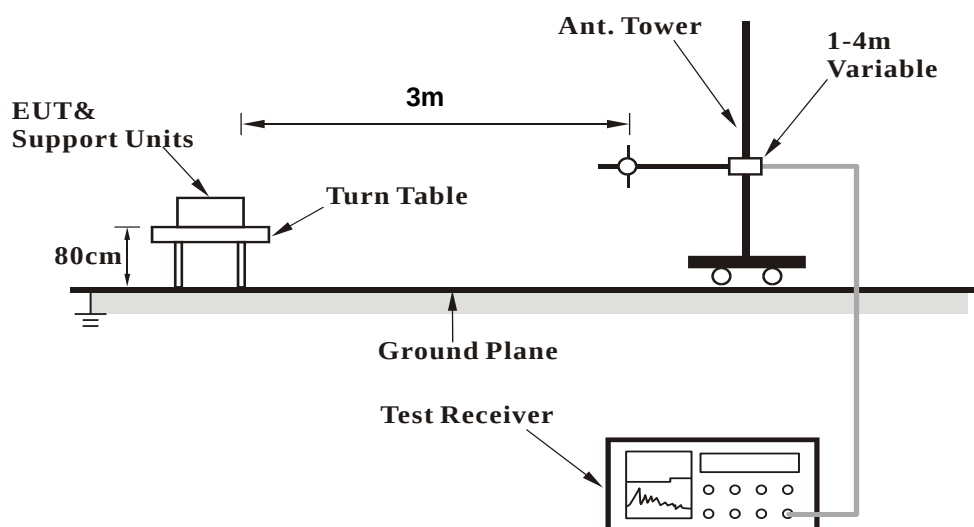
No deviation.

4.1.5 Test Setup

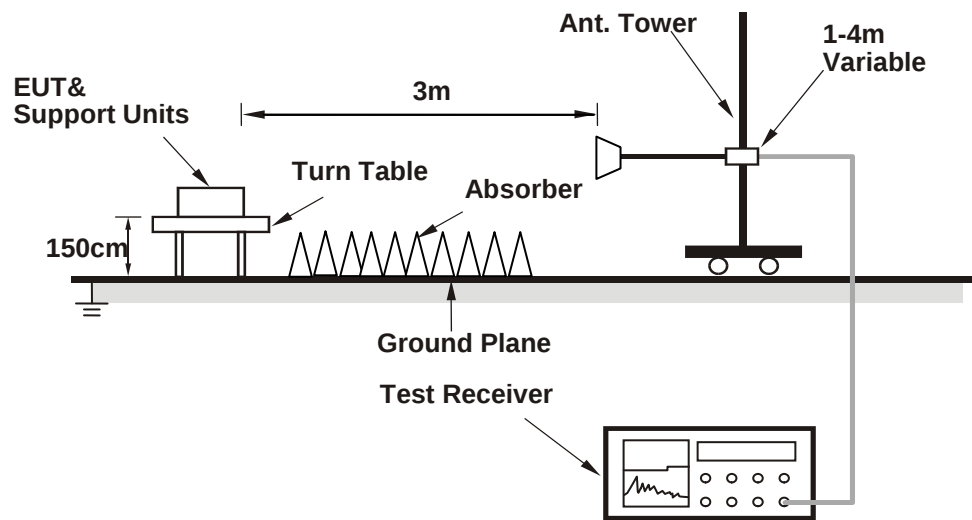
For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



For Radiated emission above 1GHz



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

4.1.6 EUT Operating Conditions

- Connected the EUT with the Laptop.
- Controlling software (prod test 580.hex) has been activated to set the EUT on specific status.

4.1.7 Test Results (Mode 1)

Above 1GHz Data:

802.11b

CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	2390.00	64.9 PK	74.0	-9.1	2.95 H	309	66.2	-1.3
2	2390.00	51.4 AV	54.0	-2.6	2.95 H	309	52.7	-1.3
3	*2412.00	111.0 PK			2.95 H	309	112.1	-1.1
4	*2412.00	108.5 AV			2.95 H	309	109.6	-1.1
5	4824.00	47.7 PK	74.0	-26.3	1.06 H	135	44.5	3.2
6	4824.00	44.7 AV	54.0	-9.3	1.06 H	135	41.5	3.2
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	2390.00	61.5 PK	74.0	-12.5	3.81 V	353	62.8	-1.3
2	2390.00	48.0 AV	54.0	-6.0	3.81 V	353	49.3	-1.3
3	*2412.00	106.9 PK			3.81 V	353	108.0	-1.1
4	*2412.00	104.5 AV			3.81 V	353	105.6	-1.1
5	4824.00	50.6 PK	74.0	-23.4	3.76 V	247	47.4	3.2
6	4824.00	48.8 AV	54.0	-5.2	3.76 V	247	45.6	3.2

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 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	*2437.00	111.9 PK			2.95 H	310	113.1	-1.2
2	*2437.00	109.5 AV			2.95 H	310	110.7	-1.2
3	4874.00	47.4 PK	74.0	-26.6	1.00 H	123	44.1	3.3
4	4874.00	44.5 AV	54.0	-9.5	1.00 H	123	41.2	3.3
5	7311.00	52.9 PK	74.0	-21.1	1.19 H	338	43.1	9.8
6	7311.00	49.2 AV	54.0	-4.8	1.19 H	338	39.4	9.8
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	*2437.00	107.8 PK			3.76 V	345	109.0	-1.2
2	*2437.00	105.5 AV			3.76 V	345	106.7	-1.2
3	4874.00	50.9 PK	74.0	-23.1	3.78 V	232	47.6	3.3
4	4874.00	49.2 AV	54.0	-4.8	3.78 V	232	45.9	3.3
5	7311.00	55.0 PK	74.0	-19.0	1.00 V	178	45.2	9.8
6	7311.00	51.4 AV	54.0	-2.6	1.00 V	178	41.6	9.8

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 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	*2462.00	109.1 PK			3.16 H	310	110.2	-1.1
2	*2462.00	106.8 AV			3.16 H	310	107.9	-1.1
3	2483.50	66.2 PK	74.0	-7.8	3.16 H	310	67.2	-1.0
4	2483.50	50.0 AV	54.0	-4.0	3.16 H	310	51.0	-1.0
5	4924.00	47.2 PK	74.0	-26.8	1.05 H	110	43.7	3.5
6	4924.00	44.5 AV	54.0	-9.5	1.05 H	110	41.0	3.5
7	7386.00	53.1 PK	74.0	-20.9	1.23 H	345	43.2	9.9
8	7386.00	49.2 AV	54.0	-4.8	1.23 H	345	39.3	9.9
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	*2462.00	105.0 PK			3.71 V	333	106.1	-1.1
2	*2462.00	102.8 AV			3.71 V	333	103.9	-1.1
3	2483.50	62.9 PK	74.0	-11.1	3.71 V	333	63.9	-1.0
4	2483.50	47.5 AV	54.0	-6.5	3.71 V	333	48.5	-1.0
5	4924.00	50.4 PK	74.0	-23.6	3.84 V	229	46.9	3.5
6	4924.00	49.0 AV	54.0	-5.0	3.84 V	229	45.5	3.5
7	7386.00	55.1 PK	74.0	-18.9	1.02 V	185	45.2	9.9
8	7386.00	51.4 AV	54.0	-2.6	1.02 V	185	41.5	9.9

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.

802.11g

CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	2390.00	68.2 PK	74.0	-5.8	2.95 H	310	69.5	-1.3
2	2390.00	51.3 AV	54.0	-2.7	2.95 H	310	52.6	-1.3
3	*2412.00	109.0 PK			2.95 H	310	110.1	-1.1
4	*2412.00	99.0 AV			2.95 H	310	100.1	-1.1
5	4824.00	44.3 PK	74.0	-29.7	1.00 H	106	41.1	3.2
6	4824.00	32.1 AV	54.0	-21.9	1.00 H	106	28.9	3.2
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	2390.00	64.8 PK	74.0	-9.2	3.75 V	342	66.1	-1.3
2	2390.00	47.9 AV	54.0	-6.1	3.75 V	342	49.2	-1.3
3	*2412.00	105.1 PK			3.75 V	342	106.2	-1.1
4	*2412.00	95.0 AV			3.75 V	342	96.1	-1.1
5	4824.00	46.5 PK	74.0	-27.5	3.84 V	240	43.3	3.2
6	4824.00	34.1 AV	54.0	-19.9	3.84 V	240	30.9	3.2

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 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	2390.00	61.2 PK	74.0	-12.8	2.95 H	309	62.5	-1.3
2	2390.00	46.6 AV	54.0	-7.4	2.95 H	309	47.9	-1.3
3	*2437.00	113.7 PK			2.95 H	309	114.9	-1.2
4	*2437.00	104.1 AV			2.95 H	309	105.3	-1.2
5	2483.50	69.3 PK	74.0	-4.7	2.95 H	309	70.3	-1.0
6	2483.50	51.3 AV	54.0	-2.7	2.95 H	309	52.3	-1.0
7	4874.00	44.5 PK	74.0	-29.5	1.04 H	111	41.2	3.3
8	4874.00	32.1 AV	54.0	-21.9	1.04 H	111	28.8	3.3
9	7311.00	56.2 PK	74.0	-17.8	1.24 H	357	46.4	9.8
10	7311.00	43.1 AV	54.0	-10.9	1.24 H	357	33.3	9.8

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	2390.00	57.8 PK	74.0	-16.2	3.80 V	347	59.1	-1.3
2	2390.00	43.1 AV	54.0	-10.9	3.80 V	347	44.4	-1.3
3	*2437.00	110.4 PK			3.80 V	347	111.6	-1.2
4	*2437.00	100.1 AV			3.80 V	347	101.3	-1.2
5	2483.50	65.7 PK	74.0	-8.3	3.80 V	347	66.7	-1.0
6	2483.50	47.7 AV	54.0	-6.3	3.80 V	347	48.7	-1.0
7	4874.00	46.8 PK	74.0	-27.2	3.80 V	243	43.5	3.3
8	4874.00	34.5 AV	54.0	-19.5	3.80 V	243	31.2	3.3
9	7311.00	58.3 PK	74.0	-15.7	1.00 V	145	48.5	9.8
10	7311.00	45.0 AV	54.0	-9.0	1.00 V	145	35.2	9.8

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 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	*2462.00	106.9 PK			3.14 H	310	108.0	-1.1
2	*2462.00	96.8 AV			3.14 H	310	97.9	-1.1
3	2483.50	68.6 PK	74.0	-5.4	3.14 H	310	69.6	-1.0
4	2483.50	51.5 AV	54.0	-2.5	3.14 H	310	52.5	-1.0
5	4924.00	44.7 PK	74.0	-29.3	1.02 H	113	41.2	3.5
6	4924.00	32.4 AV	54.0	-21.6	1.02 H	113	28.9	3.5
7	7386.00	56.1 PK	74.0	-17.9	1.26 H	360	46.2	9.9
8	7386.00	42.7 AV	54.0	-11.3	1.26 H	360	32.8	9.9
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	*2462.00	103.3 PK			3.80 V	341	104.4	-1.1
2	*2462.00	92.8 AV			3.80 V	341	93.9	-1.1
3	2483.50	65.2 PK	74.0	-8.8	3.80 V	341	66.2	-1.0
4	2483.50	48.1 AV	54.0	-5.9	3.80 V	341	49.1	-1.0
5	4924.00	46.8 PK	74.0	-27.2	3.74 V	233	43.3	3.5
6	4924.00	34.7 AV	54.0	-19.3	3.74 V	233	31.2	3.5
7	7386.00	57.6 PK	74.0	-16.4	1.02 V	147	47.7	9.9
8	7386.00	44.5 AV	54.0	-9.5	1.02 V	147	34.6	9.9

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.

802.11n (HT20)

CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	2390.00	68.4 PK	74.0	-5.6	2.95 H	310	69.7	-1.3
2	2390.00	51.4 AV	54.0	-2.6	2.95 H	310	52.7	-1.3
3	*2412.00	107.5 PK			2.95 H	310	108.6	-1.1
4	*2412.00	97.5 AV			2.95 H	310	98.6	-1.1
5	4824.00	44.8 PK	74.0	-29.2	1.00 H	119	41.6	3.2
6	4824.00	32.5 AV	54.0	-21.5	1.00 H	119	29.3	3.2
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	2390.00	64.9 PK	74.0	-9.1	3.85 V	360	66.2	-1.3
2	2390.00	48.0 AV	54.0	-6.0	3.85 V	360	49.3	-1.3
3	*2412.00	103.6 PK			3.85 V	360	104.7	-1.1
4	*2412.00	93.5 AV			3.85 V	360	94.6	-1.1
5	4824.00	47.1 PK	74.0	-26.9	3.85 V	238	43.9	3.2
6	4824.00	34.7 AV	54.0	-19.3	3.85 V	238	31.5	3.2

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 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	2390.00	62.7 PK	74.0	-11.3	2.95 H	310	64.0	-1.3
2	2390.00	47.1 AV	54.0	-6.9	2.95 H	310	48.4	-1.3
3	*2437.00	113.0 PK			2.95 H	310	114.2	-1.2
4	*2437.00	103.5 AV			2.95 H	310	104.7	-1.2
5	2483.50	70.4 PK	74.0	-3.6	2.95 H	310	71.4	-1.0
6	2483.50	51.4 AV	54.0	-2.6	2.95 H	310	52.4	-1.0
7	4874.00	45.4 PK	74.0	-28.6	1.01 H	116	42.1	3.3
8	4874.00	32.9 AV	54.0	-21.1	1.01 H	116	29.6	3.3
9	7311.00	55.8 PK	74.0	-18.2	1.21 H	360	46.0	9.8
10	7311.00	42.6 AV	54.0	-11.4	1.21 H	360	32.8	9.8

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	2390.00	59.3 PK	74.0	-14.7	3.86 V	360	60.6	-1.3
2	2390.00	43.7 AV	54.0	-10.3	3.86 V	360	45.0	-1.3
3	*2437.00	109.6 PK			3.86 V	360	110.8	-1.2
4	*2437.00	99.5 AV			3.86 V	360	100.7	-1.2
5	2483.50	66.9 PK	74.0	-7.1	3.86 V	360	67.9	-1.0
6	2483.50	47.9 AV	54.0	-6.1	3.86 V	360	48.9	-1.0
7	4874.00	47.3 PK	74.0	-26.7	3.77 V	246	44.0	3.3
8	4874.00	35.1 AV	54.0	-18.9	3.77 V	246	31.8	3.3
9	7311.00	57.5 PK	74.0	-16.5	1.05 V	132	47.7	9.8
10	7311.00	44.5 AV	54.0	-9.5	1.05 V	132	34.7	9.8

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 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	*2462.00	104.6 PK			3.14 H	310	105.7	-1.1
2	*2462.00	94.9 AV			3.14 H	310	96.0	-1.1
3	2483.50	69.0 PK	74.0	-5.0	3.14 H	310	70.0	-1.0
4	2483.50	51.0 AV	54.0	-3.0	3.14 H	310	52.0	-1.0
5	4924.00	44.8 PK	74.0	-29.2	1.01 H	129	41.3	3.5
6	4924.00	32.4 AV	54.0	-21.6	1.01 H	129	28.9	3.5
7	7386.00	56.3 PK	74.0	-17.7	1.31 H	360	46.4	9.9
8	7386.00	42.9 AV	54.0	-11.1	1.31 H	360	33.0	9.9
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	*2462.00	101.0 PK			3.87 V	350	102.1	-1.1
2	*2462.00	90.9 AV			3.87 V	350	92.0	-1.1
3	2483.50	65.4 PK	74.0	-8.6	3.87 V	350	66.4	-1.0
4	2483.50	47.6 AV	54.0	-6.4	3.87 V	350	48.6	-1.0
5	4924.00	46.9 PK	74.0	-27.1	3.80 V	247	43.4	3.5
6	4924.00	34.7 AV	54.0	-19.3	3.80 V	247	31.2	3.5
7	7386.00	57.8 PK	74.0	-16.2	1.05 V	131	47.9	9.9
8	7386.00	44.7 AV	54.0	-9.3	1.05 V	131	34.8	9.9

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.

Below 1GHz Data:

802.11b

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	44.21	29.2 QP	40.0	-10.8	1.50 H	299	36.9	-7.7
2	128.07	29.4 QP	43.5	-14.1	2.50 H	243	38.7	-9.3
3	224.51	25.9 QP	46.0	-20.1	1.00 H	0	37.6	-11.7
4	312.00	32.8 QP	46.0	-13.2	1.00 H	119	40.0	-7.2
5	384.00	31.1 QP	46.0	-14.9	1.00 H	290	36.7	-5.6
6	821.64	31.6 QP	46.0	-14.4	1.00 H	270	28.7	2.9
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	154.23	29.0 QP	43.5	-14.5	1.50 V	141	36.9	-7.9
2	232.41	27.8 QP	46.0	-18.2	1.00 V	278	38.3	-10.5
3	360.02	28.7 QP	46.0	-17.3	1.50 V	311	34.8	-6.1
4	497.90	27.3 QP	46.0	-18.7	1.00 V	128	30.1	-2.8
5	797.78	33.1 QP	46.0	-12.9	1.50 V	79	30.6	2.5
6	861.00	33.0 QP	46.0	-13.0	1.00 V	360	29.6	3.4

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

4.1.8 Test Results (Mode 2)

Above 1GHz Data:

802.11b

CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	2390.00	67.5 PK	74.0	-6.5	1.05 H	107	68.8	-1.3
2	2390.00	51.5 AV	54.0	-2.5	1.05 H	107	52.8	-1.3
3	*2412.00	110.4 PK			1.05 H	107	111.5	-1.1
4	*2412.00	108.1 AV			1.05 H	107	109.2	-1.1
5	4824.00	50.1 PK	74.0	-23.9	1.08 H	246	46.9	3.2
6	4824.00	47.5 AV	54.0	-6.5	1.08 H	246	44.3	3.2
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	2390.00	61.8 PK	74.0	-12.2	1.94 V	350	63.1	-1.3
2	2390.00	49.7 AV	54.0	-4.3	1.94 V	350	51.0	-1.3
3	*2412.00	103.6 PK			1.94 V	350	104.7	-1.1
4	*2412.00	101.3 AV			1.94 V	350	102.4	-1.1
5	4824.00	50.7 PK	74.0	-23.3	3.40 V	111	47.5	3.2
6	4824.00	49.0 AV	54.0	-5.0	3.40 V	111	45.8	3.2

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 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	*2437.00	107.6 PK			1.01 H	111	108.8	-1.2
2	*2437.00	105.4 AV			1.01 H	111	106.6	-1.2
3	4874.00	49.2 PK	74.0	-24.8	1.08 H	246	45.9	3.3
4	4874.00	46.1 AV	54.0	-7.9	1.08 H	246	42.8	3.3
5	7311.00	55.6 PK	74.0	-18.4	1.00 H	304	45.8	9.8
6	7311.00	51.4 AV	54.0	-2.6	1.00 H	304	41.6	9.8
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	*2437.00	100.8 PK			1.93 V	360	102.0	-1.2
2	*2437.00	98.6 AV			1.93 V	360	99.8	-1.2
3	4874.00	49.3 PK	74.0	-24.7	3.36 V	4	46.0	3.3
4	4874.00	46.2 AV	54.0	-7.8	3.36 V	4	42.9	3.3
5	7311.00	54.5 PK	74.0	-19.5	3.71 V	323	44.7	9.8
6	7311.00	50.2 AV	54.0	-3.8	3.71 V	323	40.4	9.8

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 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	*2462.00	108.8 PK			1.05 H	109	109.9	-1.1
2	*2462.00	106.6 AV			1.05 H	109	107.7	-1.1
3	2483.50	65.8 PK	74.0	-8.2	1.05 H	109	66.8	-1.0
4	2483.50	50.7 AV	54.0	-3.3	1.05 H	109	51.7	-1.0
5	4924.00	51.8 PK	74.0	-22.2	1.21 H	254	48.3	3.5
6	4924.00	48.1 AV	54.0	-5.9	1.21 H	254	44.6	3.5
7	7386.00	55.3 PK	74.0	-18.7	1.00 H	304	45.4	9.9
8	7386.00	50.8 AV	54.0	-3.2	1.00 H	304	40.9	9.9
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	*2462.00	102.0 PK			1.90 V	359	103.1	-1.1
2	*2462.00	99.8 AV			1.90 V	359	100.9	-1.1
3	2483.50	60.1 PK	74.0	-13.9	1.90 V	359	61.1	-1.0
4	2483.50	48.9 AV	54.0	-5.1	1.90 V	359	49.9	-1.0
5	4924.00	51.9 PK	74.0	-22.1	3.41 V	12	48.4	3.5
6	4924.00	48.2 AV	54.0	-5.8	3.41 V	12	44.7	3.5
7	7386.00	54.1 PK	74.0	-19.9	3.70 V	337	44.2	9.9
8	7386.00	49.6 AV	54.0	-4.4	3.70 V	337	39.7	9.9

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.

802.11g

CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	2390.00	69.5 PK	74.0	-4.5	3.22 H	230	70.8	-1.3
2	2390.00	51.4 AV	54.0	-2.6	3.22 H	230	52.7	-1.3
3	*2412.00	106.9 PK			3.22 H	230	108.0	-1.1
4	*2412.00	95.4 AV			3.22 H	230	96.5	-1.1
5	4824.00	61.8 PK	74.0	-12.2	1.08 H	260	58.6	3.2
6	4824.00	45.3 AV	54.0	-8.7	1.08 H	260	42.1	3.2
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	2390.00	63.8 PK	74.0	-10.2	1.92 V	359	65.1	-1.3
2	2390.00	49.6 AV	54.0	-4.4	1.92 V	359	50.9	-1.3
3	*2412.00	100.1 PK			1.92 V	359	101.2	-1.1
4	*2412.00	88.6 AV			1.92 V	359	89.7	-1.1
5	4824.00	56.9 PK	74.0	-17.1	3.40 V	360	53.7	3.2
6	4824.00	41.1 AV	54.0	-12.9	3.40 V	360	37.9	3.2

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 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	*2437.00	112.0 PK			1.36 H	108	113.2	-1.2
2	*2437.00	102.3 AV			1.36 H	108	103.5	-1.2
3	4874.00	67.6 PK	74.0	-6.4	1.05 H	257	64.3	3.3
4	4874.00	51.4 AV	54.0	-2.6	1.05 H	257	48.1	3.3
5	7311.00	65.6 PK	74.0	-8.4	1.09 H	62	55.8	9.8
6	7311.00	50.5 AV	54.0	-3.5	1.09 H	62	40.7	9.8
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	*2437.00	105.2 PK			2.03 V	360	106.4	-1.2
2	*2437.00	95.5 AV			2.03 V	360	96.7	-1.2
3	4874.00	63.5 PK	74.0	-10.5	3.36 V	356	60.2	3.3
4	4874.00	48.4 AV	54.0	-5.6	3.36 V	356	45.1	3.3
5	7311.00	63.0 PK	74.0	-11.0	3.31 V	321	53.2	9.8
6	7311.00	48.1 AV	54.0	-5.9	3.31 V	321	38.3	9.8

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 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	*2462.00	106.3 PK			3.44 H	242	107.4	-1.1
2	*2462.00	94.6 AV			3.44 H	242	95.7	-1.1
3	2483.50	69.6 PK	74.0	-4.4	3.44 H	242	70.6	-1.0
4	2483.50	51.5 AV	54.0	-2.5	3.44 H	242	52.5	-1.0
5	4924.00	62.2 PK	74.0	-11.8	1.02 H	261	58.7	3.5
6	4924.00	45.8 AV	54.0	-8.2	1.02 H	261	42.3	3.5
7	7386.00	59.6 PK	74.0	-14.4	1.04 H	59	49.7	9.9
8	7386.00	44.5 AV	54.0	-9.5	1.04 H	59	34.6	9.9
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	*2462.00	99.5 PK			1.97 V	360	100.6	-1.1
2	*2462.00	87.8 AV			1.97 V	360	88.9	-1.1
3	2483.50	63.9 PK	74.0	-10.1	1.97 V	360	64.9	-1.0
4	2483.50	49.7 AV	54.0	-4.3	1.97 V	360	50.7	-1.0
5	4924.00	57.0 PK	74.0	-17.0	3.38 V	347	53.5	3.5
6	4924.00	41.1 AV	54.0	-12.9	3.38 V	347	37.6	3.5
7	7386.00	57.0 PK	74.0	-17.0	3.32 V	320	47.1	9.9
8	7386.00	42.1 AV	54.0	-11.9	3.32 V	320	32.2	9.9

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.

802.11n (HT20)

CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	2390.00	66.5 PK	74.0	-7.5	1.05 H	109	67.8	-1.3
2	2390.00	50.3 AV	54.0	-3.7	1.05 H	109	51.6	-1.3
3	*2412.00	104.9 PK			1.05 H	109	106.0	-1.1
4	*2412.00	95.0 AV			1.05 H	109	96.1	-1.1
5	4824.00	61.2 PK	74.0	-12.8	1.10 H	255	58.0	3.2
6	4824.00	44.9 AV	54.0	-9.1	1.10 H	255	41.7	3.2
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	2390.00	60.8 PK	74.0	-13.2	1.94 V	358	62.1	-1.3
2	2390.00	48.5 AV	54.0	-5.5	1.94 V	358	49.8	-1.3
3	*2412.00	98.1 PK			1.94 V	358	99.2	-1.1
4	*2412.00	88.2 AV			1.94 V	358	89.3	-1.1
5	4824.00	56.1 PK	74.0	-17.9	3.36 V	356	52.9	3.2
6	4824.00	40.6 AV	54.0	-13.4	3.36 V	356	37.4	3.2

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 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	2390.00	64.6 PK	74.0	-9.4	1.36 H	108	65.9	-1.3
2	2390.00	46.7 AV	54.0	-7.3	1.36 H	108	48.0	-1.3
3	*2437.00	111.4 PK			1.36 H	108	112.6	-1.2
4	*2437.00	102.0 AV			1.36 H	108	103.2	-1.2
5	2483.50	66.3 PK	74.0	-7.7	1.36 H	108	67.3	-1.0
6	2483.50	47.7 AV	54.0	-6.3	1.36 H	108	48.7	-1.0
7	4874.00	67.7 PK	74.0	-6.3	1.08 H	269	64.4	3.3
8	4874.00	51.3 AV	54.0	-2.7	1.08 H	269	48.0	3.3
9	7311.00	65.9 PK	74.0	-8.1	1.08 H	67	56.1	9.8
10	7311.00	50.1 AV	54.0	-3.9	1.08 H	67	40.3	9.8

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	2390.00	58.9 PK	74.0	-15.1	1.93 V	360	60.2	-1.3
2	2390.00	45.4 AV	54.0	-8.6	1.93 V	360	46.7	-1.3
3	*2437.00	104.6 PK			1.93 V	360	105.8	-1.2
4	*2437.00	95.2 AV			1.93 V	360	96.4	-1.2
5	2483.50	60.6 PK	74.0	-13.4	1.93 V	360	61.6	-1.0
6	2483.50	46.2 AV	54.0	-7.8	1.93 V	360	47.2	-1.0
7	4874.00	62.4 PK	74.0	-11.6	3.31 V	356	59.1	3.3
8	4874.00	47.0 AV	54.0	-7.0	3.31 V	356	43.7	3.3
9	7311.00	62.0 PK	74.0	-12.0	3.31 V	321	52.2	9.8
10	7311.00	47.4 AV	54.0	-6.6	3.31 V	321	37.6	9.8

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 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	*2462.00	104.6 PK			2.99 H	253	105.7	-1.1
2	*2462.00	93.3 AV			2.99 H	253	94.4	-1.1
3	2483.50	70.1 PK	74.0	-3.9	2.99 H	253	71.1	-1.0
4	2483.50	51.4 AV	54.0	-2.6	2.99 H	253	52.4	-1.0
5	4924.00	61.8 PK	74.0	-12.2	1.08 H	273	58.3	3.5
6	4924.00	45.4 AV	54.0	-8.6	1.08 H	273	41.9	3.5
7	7386.00	59.5 PK	74.0	-14.5	1.00 H	53	49.6	9.9
8	7386.00	43.2 AV	54.0	-10.8	1.00 H	53	33.3	9.9
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	*2462.00	97.8 PK			1.94 V	359	98.9	-1.1
2	*2462.00	86.5 AV			1.94 V	359	87.6	-1.1
3	2483.50	64.4 PK	74.0	-9.6	1.94 V	359	65.4	-1.0
4	2483.50	49.6 AV	54.0	-4.4	1.94 V	359	50.6	-1.0
5	4924.00	56.9 PK	74.0	-17.1	3.37 V	341	53.4	3.5
6	4924.00	41.1 AV	54.0	-12.9	3.37 V	341	37.6	3.5
7	7386.00	57.0 PK	74.0	-17.0	3.37 V	329	47.1	9.9
8	7386.00	42.0 AV	54.0	-12.0	3.37 V	329	32.1	9.9

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.

Below 1GHz Data:

802.11b

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	43.26	22.7 QP	40.0	-17.3	2.00 H	310	30.5	-7.8
2	166.55	32.3 QP	43.5	-11.2	2.00 H	91	40.6	-8.3
3	199.92	33.4 QP	43.5	-10.1	1.00 H	276	44.8	-11.4
4	452.05	26.2 QP	46.0	-19.8	2.00 H	80	29.7	-3.5
5	597.96	29.0 QP	46.0	-17.0	1.00 H	342	29.5	-0.5
6	720.03	30.3 QP	46.0	-15.7	1.50 H	0	29.2	1.1
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	138.06	30.1 QP	43.5	-13.4	1.00 V	280	38.3	-8.2
2	166.55	32.1 QP	43.5	-11.4	1.50 V	162	40.4	-8.3
3	199.80	29.0 QP	43.5	-14.5	1.00 V	319	40.4	-11.4
4	276.11	35.0 QP	46.0	-11.0	1.00 V	225	43.2	-8.2
5	599.22	28.1 QP	46.0	-17.9	1.00 V	85	28.5	-0.4
6	816.02	29.5 QP	46.0	-16.5	1.00 V	360	26.8	2.7

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

4.1.9 Test Results (Mode 3)

Above 1GHz Data:

802.11b

CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	2390.00	64.9 PK	74.0	-9.1	2.95 H	309	66.2	-1.3
2	2390.00	51.4 AV	54.0	-2.6	2.95 H	309	52.7	-1.3
3	*2412.00	111.0 PK			2.95 H	309	112.1	-1.1
4	*2412.00	108.5 AV			2.95 H	309	109.6	-1.1
5	4824.00	47.7 PK	74.0	-26.3	1.06 H	135	44.5	3.2
6	4824.00	44.7 AV	54.0	-9.3	1.06 H	135	41.5	3.2
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	2390.00	61.5 PK	74.0	-12.5	3.81 V	353	62.8	-1.3
2	2390.00	48.0 AV	54.0	-6.0	3.81 V	353	49.3	-1.3
3	*2412.00	106.9 PK			3.81 V	353	108.0	-1.1
4	*2412.00	104.5 AV			3.81 V	353	105.6	-1.1
5	4824.00	50.6 PK	74.0	-23.4	3.76 V	247	47.4	3.2
6	4824.00	48.8 AV	54.0	-5.2	3.76 V	247	45.6	3.2

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 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	*2437.00	111.9 PK			2.95 H	310	113.1	-1.2
2	*2437.00	109.5 AV			2.95 H	310	110.7	-1.2
3	4874.00	47.4 PK	74.0	-26.6	1.00 H	123	44.1	3.3
4	4874.00	44.5 AV	54.0	-9.5	1.00 H	123	41.2	3.3
5	7311.00	52.9 PK	74.0	-21.1	1.19 H	338	43.1	9.8
6	7311.00	49.2 AV	54.0	-4.8	1.19 H	338	39.4	9.8
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	*2437.00	107.8 PK			3.76 V	345	109.0	-1.2
2	*2437.00	105.5 AV			3.76 V	345	106.7	-1.2
3	4874.00	50.9 PK	74.0	-23.1	3.78 V	232	47.6	3.3
4	4874.00	49.2 AV	54.0	-4.8	3.78 V	232	45.9	3.3
5	7311.00	55.0 PK	74.0	-19.0	1.00 V	178	45.2	9.8
6	7311.00	51.4 AV	54.0	-2.6	1.00 V	178	41.6	9.8

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 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	*2462.00	109.1 PK			3.16 H	310	110.2	-1.1
2	*2462.00	106.8 AV			3.16 H	310	107.9	-1.1
3	2483.50	66.2 PK	74.0	-7.8	3.16 H	310	67.2	-1.0
4	2483.50	50.0 AV	54.0	-4.0	3.16 H	310	51.0	-1.0
5	4924.00	47.2 PK	74.0	-26.8	1.05 H	110	43.7	3.5
6	4924.00	44.5 AV	54.0	-9.5	1.05 H	110	41.0	3.5
7	7386.00	53.1 PK	74.0	-20.9	1.23 H	345	43.2	9.9
8	7386.00	49.2 AV	54.0	-4.8	1.23 H	345	39.3	9.9
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	*2462.00	105.0 PK			3.71 V	333	106.1	-1.1
2	*2462.00	102.8 AV			3.71 V	333	103.9	-1.1
3	2483.50	62.9 PK	74.0	-11.1	3.71 V	333	63.9	-1.0
4	2483.50	47.5 AV	54.0	-6.5	3.71 V	333	48.5	-1.0
5	4924.00	50.4 PK	74.0	-23.6	3.84 V	229	46.9	3.5
6	4924.00	49.0 AV	54.0	-5.0	3.84 V	229	45.5	3.5
7	7386.00	55.1 PK	74.0	-18.9	1.02 V	185	45.2	9.9
8	7386.00	51.4 AV	54.0	-2.6	1.02 V	185	41.5	9.9

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.

802.11g

CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	2390.00	68.2 PK	74.0	-5.8	2.95 H	310	69.5	-1.3
2	2390.00	51.3 AV	54.0	-2.7	2.95 H	310	52.6	-1.3
3	*2412.00	109.0 PK			2.95 H	310	110.1	-1.1
4	*2412.00	99.0 AV			2.95 H	310	100.1	-1.1
5	4824.00	44.3 PK	74.0	-29.7	1.00 H	106	41.1	3.2
6	4824.00	32.1 AV	54.0	-21.9	1.00 H	106	28.9	3.2
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	2390.00	64.8 PK	74.0	-9.2	3.75 V	342	66.1	-1.3
2	2390.00	47.9 AV	54.0	-6.1	3.75 V	342	49.2	-1.3
3	*2412.00	105.1 PK			3.75 V	342	106.2	-1.1
4	*2412.00	95.0 AV			3.75 V	342	96.1	-1.1
5	4824.00	46.5 PK	74.0	-27.5	3.84 V	240	43.3	3.2
6	4824.00	34.1 AV	54.0	-19.9	3.84 V	240	30.9	3.2

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 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	2390.00	61.2 PK	74.0	-12.8	2.95 H	309	62.5	-1.3
2	2390.00	46.6 AV	54.0	-7.4	2.95 H	309	47.9	-1.3
3	*2437.00	113.7 PK			2.95 H	309	114.9	-1.2
4	*2437.00	104.1 AV			2.95 H	309	105.3	-1.2
5	2483.50	69.3 PK	74.0	-4.7	2.95 H	309	70.3	-1.0
6	2483.50	51.3 AV	54.0	-2.7	2.95 H	309	52.3	-1.0
7	4874.00	44.5 PK	74.0	-29.5	1.04 H	111	41.2	3.3
8	4874.00	32.1 AV	54.0	-21.9	1.04 H	111	28.8	3.3
9	7311.00	56.2 PK	74.0	-17.8	1.24 H	357	46.4	9.8
10	7311.00	43.1 AV	54.0	-10.9	1.24 H	357	33.3	9.8

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	2390.00	57.8 PK	74.0	-16.2	3.80 V	347	59.1	-1.3
2	2390.00	43.1 AV	54.0	-10.9	3.80 V	347	44.4	-1.3
3	*2437.00	110.4 PK			3.80 V	347	111.6	-1.2
4	*2437.00	100.1 AV			3.80 V	347	101.3	-1.2
5	2483.50	65.7 PK	74.0	-8.3	3.80 V	347	66.7	-1.0
6	2483.50	47.7 AV	54.0	-6.3	3.80 V	347	48.7	-1.0
7	4874.00	46.8 PK	74.0	-27.2	3.80 V	243	43.5	3.3
8	4874.00	34.5 AV	54.0	-19.5	3.80 V	243	31.2	3.3
9	7311.00	58.3 PK	74.0	-15.7	1.00 V	145	48.5	9.8
10	7311.00	45.0 AV	54.0	-9.0	1.00 V	145	35.2	9.8

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 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	*2462.00	106.9 PK			3.14 H	310	108.0	-1.1
2	*2462.00	96.8 AV			3.14 H	310	97.9	-1.1
3	2483.50	68.6 PK	74.0	-5.4	3.14 H	310	69.6	-1.0
4	2483.50	51.5 AV	54.0	-2.5	3.14 H	310	52.5	-1.0
5	4924.00	44.7 PK	74.0	-29.3	1.02 H	113	41.2	3.5
6	4924.00	32.4 AV	54.0	-21.6	1.02 H	113	28.9	3.5
7	7386.00	56.1 PK	74.0	-17.9	1.26 H	360	46.2	9.9
8	7386.00	42.7 AV	54.0	-11.3	1.26 H	360	32.8	9.9
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	*2462.00	103.3 PK			3.80 V	341	104.4	-1.1
2	*2462.00	92.8 AV			3.80 V	341	93.9	-1.1
3	2483.50	65.2 PK	74.0	-8.8	3.80 V	341	66.2	-1.0
4	2483.50	48.1 AV	54.0	-5.9	3.80 V	341	49.1	-1.0
5	4924.00	46.8 PK	74.0	-27.2	3.74 V	233	43.3	3.5
6	4924.00	34.7 AV	54.0	-19.3	3.74 V	233	31.2	3.5
7	7386.00	57.6 PK	74.0	-16.4	1.02 V	147	47.7	9.9
8	7386.00	44.5 AV	54.0	-9.5	1.02 V	147	34.6	9.9

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.

802.11n (HT20)

CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	2390.00	68.4 PK	74.0	-5.6	2.95 H	310	69.7	-1.3
2	2390.00	51.4 AV	54.0	-2.6	2.95 H	310	52.7	-1.3
3	*2412.00	107.5 PK			2.95 H	310	108.6	-1.1
4	*2412.00	97.5 AV			2.95 H	310	98.6	-1.1
5	4824.00	44.8 PK	74.0	-29.2	1.00 H	119	41.6	3.2
6	4824.00	32.5 AV	54.0	-21.5	1.00 H	119	29.3	3.2
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	2390.00	64.9 PK	74.0	-9.1	3.85 V	360	66.2	-1.3
2	2390.00	48.0 AV	54.0	-6.0	3.85 V	360	49.3	-1.3
3	*2412.00	103.6 PK			3.85 V	360	104.7	-1.1
4	*2412.00	93.5 AV			3.85 V	360	94.6	-1.1
5	4824.00	47.1 PK	74.0	-26.9	3.85 V	238	43.9	3.2
6	4824.00	34.7 AV	54.0	-19.3	3.85 V	238	31.5	3.2

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 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	2390.00	62.7 PK	74.0	-11.3	2.95 H	310	64.0	-1.3
2	2390.00	47.1 AV	54.0	-6.9	2.95 H	310	48.4	-1.3
3	*2437.00	113.0 PK			2.95 H	310	114.2	-1.2
4	*2437.00	103.5 AV			2.95 H	310	104.7	-1.2
5	2483.50	70.4 PK	74.0	-3.6	2.95 H	310	71.4	-1.0
6	2483.50	51.4 AV	54.0	-2.6	2.95 H	310	52.4	-1.0
7	4874.00	45.4 PK	74.0	-28.6	1.01 H	116	42.1	3.3
8	4874.00	32.9 AV	54.0	-21.1	1.01 H	116	29.6	3.3
9	7311.00	55.8 PK	74.0	-18.2	1.21 H	360	46.0	9.8
10	7311.00	42.6 AV	54.0	-11.4	1.21 H	360	32.8	9.8

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	2390.00	59.3 PK	74.0	-14.7	3.86 V	360	60.6	-1.3
2	2390.00	43.7 AV	54.0	-10.3	3.86 V	360	45.0	-1.3
3	*2437.00	109.6 PK			3.86 V	360	110.8	-1.2
4	*2437.00	99.5 AV			3.86 V	360	100.7	-1.2
5	2483.50	66.9 PK	74.0	-7.1	3.86 V	360	67.9	-1.0
6	2483.50	47.9 AV	54.0	-6.1	3.86 V	360	48.9	-1.0
7	4874.00	47.3 PK	74.0	-26.7	3.77 V	246	44.0	3.3
8	4874.00	35.1 AV	54.0	-18.9	3.77 V	246	31.8	3.3
9	7311.00	57.5 PK	74.0	-16.5	1.05 V	132	47.7	9.8
10	7311.00	44.5 AV	54.0	-9.5	1.05 V	132	34.7	9.8

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 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	*2462.00	104.6 PK			3.14 H	310	105.7	-1.1
2	*2462.00	94.9 AV			3.14 H	310	96.0	-1.1
3	2483.50	69.0 PK	74.0	-5.0	3.14 H	310	70.0	-1.0
4	2483.50	51.0 AV	54.0	-3.0	3.14 H	310	52.0	-1.0
5	4924.00	44.8 PK	74.0	-29.2	1.01 H	129	41.3	3.5
6	4924.00	32.4 AV	54.0	-21.6	1.01 H	129	28.9	3.5
7	7386.00	56.3 PK	74.0	-17.7	1.31 H	360	46.4	9.9
8	7386.00	42.9 AV	54.0	-11.1	1.31 H	360	33.0	9.9
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	*2462.00	101.0 PK			3.87 V	350	102.1	-1.1
2	*2462.00	90.9 AV			3.87 V	350	92.0	-1.1
3	2483.50	65.4 PK	74.0	-8.6	3.87 V	350	66.4	-1.0
4	2483.50	47.6 AV	54.0	-6.4	3.87 V	350	48.6	-1.0
5	4924.00	46.9 PK	74.0	-27.1	3.80 V	247	43.4	3.5
6	4924.00	34.7 AV	54.0	-19.3	3.80 V	247	31.2	3.5
7	7386.00	57.8 PK	74.0	-16.2	1.05 V	131	47.9	9.9
8	7386.00	44.7 AV	54.0	-9.3	1.05 V	131	34.8	9.9

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.

Below 1GHz Data:

802.11b

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	44.33	24.0 QP	40.0	-16.0	2.00 H	309	31.8	-7.8
2	138.03	28.4 QP	43.5	-15.1	2.50 H	75	36.6	-8.2
3	166.58	31.9 QP	43.5	-11.6	2.00 H	91	40.2	-8.3
4	199.87	31.9 QP	43.5	-11.6	1.50 H	103	43.3	-11.4
5	607.15	27.2 QP	46.0	-18.8	2.00 H	146	27.5	-0.3
6	720.01	29.6 QP	46.0	-16.4	1.00 H	360	28.5	1.1
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	137.96	30.0 QP	43.5	-13.5	1.00 V	283	38.2	-8.2
2	166.58	32.3 QP	43.5	-11.2	1.00 V	182	40.6	-8.3
3	199.22	27.3 QP	43.5	-16.2	1.00 V	319	38.7	-11.4
4	276.23	28.1 QP	46.0	-17.9	1.00 V	109	36.3	-8.2
5	455.83	27.6 QP	46.0	-18.4	1.00 V	0	31.1	-3.5
6	828.87	30.6 QP	46.0	-15.4	1.00 V	0	27.6	3.0

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

4.1.10 Test Results (Mode 4)

Above 1GHz Data:

802.11b

CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	2390.00	57.6 PK	74.0	-16.4	1.25 H	118	58.9	-1.3
2	2390.00	51.4 AV	54.0	-2.6	1.25 H	118	52.7	-1.3
3	*2412.00	112.4 PK			1.25 H	118	113.5	-1.1
4	*2412.00	109.8 AV			1.25 H	118	110.9	-1.1
5	4824.00	49.7 PK	74.0	-24.3	3.81 H	302	46.5	3.2
6	4824.00	47.4 AV	54.0	-6.6	3.81 H	302	44.2	3.2
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	2390.00	50.9 PK	74.0	-23.1	3.98 V	63	52.2	-1.3
2	2390.00	44.6 AV	54.0	-9.4	3.98 V	63	45.9	-1.3
3	*2412.00	104.2 PK			3.98 V	63	105.3	-1.1
4	*2412.00	101.7 AV			3.98 V	63	102.8	-1.1
5	4824.00	52.5 PK	74.0	-21.5	2.30 V	271	49.3	3.2
6	4824.00	51.0 AV	54.0	-3.0	2.30 V	271	47.8	3.2

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 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	*2437.00	110.1 PK			1.57 H	120	111.3	-1.2
2	*2437.00	107.6 AV			1.57 H	120	108.8	-1.2
3	4874.00	47.5 PK	74.0	-26.5	3.92 H	315	44.2	3.3
4	4874.00	45.2 AV	54.0	-8.8	3.92 H	315	41.9	3.3
5	7311.00	54.9 PK	74.0	-19.1	1.07 H	185	45.1	9.8
6	7311.00	51.3 AV	54.0	-2.7	1.07 H	185	41.5	9.8
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	*2437.00	102.0 PK			3.95 V	63	103.2	-1.2
2	*2437.00	99.5 AV			3.95 V	63	100.7	-1.2
3	4874.00	50.2 PK	74.0	-23.8	2.33 V	287	46.9	3.3
4	4874.00	48.8 AV	54.0	-5.2	2.33 V	287	45.5	3.3
5	7311.00	53.2 PK	74.0	-20.8	3.86 V	107	43.4	9.8
6	7311.00	49.8 AV	54.0	-4.2	3.86 V	107	40.0	9.8

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 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	*2462.00	108.3 PK			1.56 H	120	109.4	-1.1
2	*2462.00	105.7 AV			1.56 H	120	106.8	-1.1
3	2483.50	57.5 PK	74.0	-16.5	1.56 H	120	58.5	-1.0
4	2483.50	51.3 AV	54.0	-2.7	1.56 H	120	52.3	-1.0
5	4924.00	45.6 PK	74.0	-28.4	3.90 H	311	42.1	3.5
6	4924.00	43.3 AV	54.0	-10.7	3.90 H	311	39.8	3.5
7	7386.00	51.9 PK	74.0	-22.1	1.20 H	181	42.0	9.9
8	7386.00	48.3 AV	54.0	-5.7	1.20 H	181	38.4	9.9
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	*2462.00	100.2 PK			3.92 V	67	101.3	-1.1
2	*2462.00	97.6 AV			3.92 V	67	98.7	-1.1
3	2483.50	50.7 PK	74.0	-23.3	3.92 V	67	51.7	-1.0
4	2483.50	44.5 AV	54.0	-9.5	3.92 V	67	45.5	-1.0
5	4924.00	48.3 PK	74.0	-25.7	2.31 V	300	44.8	3.5
6	4924.00	46.9 AV	54.0	-7.1	2.31 V	300	43.4	3.5
7	7386.00	50.2 PK	74.0	-23.8	3.84 V	119	40.3	9.9
8	7386.00	46.8 AV	54.0	-7.2	3.84 V	119	36.9	9.9

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.

802.11g

CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	2390.00	66.7 PK	74.0	-7.3	1.50 H	128	68.0	-1.3
2	2390.00	51.4 AV	54.0	-2.6	1.50 H	128	52.7	-1.3
3	*2412.00	107.7 PK			1.50 H	128	108.8	-1.1
4	*2412.00	98.4 AV			1.50 H	128	99.5	-1.1
5	4824.00	55.5 PK	74.0	-18.5	1.01 H	76	52.3	3.2
6	4824.00	42.3 AV	54.0	-11.7	1.01 H	76	39.1	3.2
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	2390.00	59.9 PK	74.0	-14.1	3.86 V	77	61.2	-1.3
2	2390.00	44.8 AV	54.0	-9.2	3.86 V	77	46.1	-1.3
3	*2412.00	99.6 PK			3.86 V	77	100.7	-1.1
4	*2412.00	90.3 AV			3.86 V	77	91.4	-1.1
5	4824.00	59.1 PK	74.0	-14.9	2.34 V	330	55.9	3.2
6	4824.00	45.9 AV	54.0	-8.1	2.34 V	330	42.7	3.2

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 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	2390.00	68.3 PK	74.0	-5.7	1.21 H	110	69.6	-1.3
2	2390.00	51.0 AV	54.0	-3.0	1.21 H	110	52.3	-1.3
3	*2437.00	111.6 PK			1.21 H	110	112.8	-1.2
4	*2437.00	102.5 AV			1.21 H	110	103.7	-1.2
5	4874.00	59.6 PK	74.0	-14.4	1.07 H	64	56.3	3.3
6	4874.00	46.5 AV	54.0	-7.5	1.07 H	64	43.2	3.3
7	7311.00	63.5 PK	74.0	-10.5	1.21 H	320	53.7	9.8
8	7311.00	51.3 AV	54.0	-2.7	1.21 H	320	41.5	9.8
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	2390.00	61.5 PK	74.0	-12.5	3.81 V	76	62.8	-1.3
2	2390.00	44.3 AV	54.0	-9.7	3.81 V	76	45.6	-1.3
3	*2437.00	102.7 PK			3.81 V	76	103.9	-1.2
4	*2437.00	93.5 AV			3.81 V	76	94.7	-1.2
5	4874.00	63.2 PK	74.0	-10.8	2.33 V	314	59.9	3.3
6	4874.00	50.1 AV	54.0	-3.9	2.33 V	314	46.8	3.3
7	7311.00	61.7 PK	74.0	-12.3	3.86 V	105	51.9	9.8
8	7311.00	49.6 AV	54.0	-4.4	3.86 V	105	39.8	9.8

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 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	*2462.00	106.5 PK			1.19 H	120	107.6	-1.1
2	*2462.00	96.6 AV			1.19 H	120	97.7	-1.1
3	2483.50	66.3 PK	74.0	-7.7	1.19 H	120	67.3	-1.0
4	2483.50	51.4 AV	54.0	-2.6	1.19 H	120	52.4	-1.0
5	4924.00	53.6 PK	74.0	-20.4	1.07 H	76	50.1	3.5
6	4924.00	40.4 AV	54.0	-13.6	1.07 H	76	36.9	3.5
7	7386.00	60.5 PK	74.0	-13.5	1.23 H	322	50.6	9.9
8	7386.00	45.3 AV	54.0	-8.7	1.23 H	322	35.4	9.9
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	*2462.00	97.7 PK			3.81 V	91	98.8	-1.1
2	*2462.00	88.5 AV			3.81 V	91	89.6	-1.1
3	2483.50	59.6 PK	74.0	-14.4	3.81 V	91	60.6	-1.0
4	2483.50	44.7 AV	54.0	-9.3	3.81 V	91	45.7	-1.0
5	4924.00	57.3 PK	74.0	-16.7	2.28 V	318	53.8	3.5
6	4924.00	43.9 AV	54.0	-10.1	2.28 V	318	40.4	3.5
7	7386.00	56.8 PK	74.0	-17.2	3.85 V	120	46.9	9.9
8	7386.00	43.6 AV	54.0	-10.4	3.85 V	120	33.7	9.9

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.

802.11n (HT20)

CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	2390.00	66.3 PK	74.0	-7.7	1.19 H	120	67.6	-1.3
2	2390.00	51.4 AV	54.0	-2.6	1.19 H	120	52.7	-1.3
3	*2412.00	107.5 PK			1.19 H	120	108.6	-1.1
4	*2412.00	97.6 AV			1.19 H	120	98.7	-1.1
5	4824.00	55.1 PK	74.0	-18.9	1.01 H	77	51.9	3.2
6	4824.00	41.8 AV	54.0	-12.2	1.01 H	77	38.6	3.2
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	2390.00	59.5 PK	74.0	-14.5	3.79 V	74	60.8	-1.3
2	2390.00	44.6 AV	54.0	-9.4	3.79 V	74	45.9	-1.3
3	*2412.00	99.4 PK			3.79 V	74	100.5	-1.1
4	*2412.00	89.6 AV			3.79 V	74	90.7	-1.1
5	4824.00	59.5 PK	74.0	-14.5	2.35 V	337	56.3	3.2
6	4824.00	46.4 AV	54.0	-7.6	2.35 V	337	43.2	3.2

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 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	2390.00	68.5 PK	74.0	-5.5	1.24 H	126	69.8	-1.3
2	2390.00	51.3 AV	54.0	-2.7	1.24 H	126	52.6	-1.3
3	*2437.00	112.0 PK			1.24 H	126	113.2	-1.2
4	*2437.00	102.7 AV			1.24 H	126	103.9	-1.2
5	4874.00	59.2 PK	74.0	-14.8	1.05 H	79	55.9	3.3
6	4874.00	46.0 AV	54.0	-8.0	1.05 H	79	42.7	3.3
7	7311.00	64.5 PK	74.0	-9.5	1.24 H	323	54.7	9.8
8	7311.00	49.8 AV	54.0	-4.2	1.24 H	323	40.0	9.8
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	2390.00	61.3 PK	74.0	-12.7	3.77 V	76	62.6	-1.3
2	2390.00	44.1 AV	54.0	-9.9	3.77 V	76	45.4	-1.3
3	*2437.00	103.1 PK			3.77 V	76	104.3	-1.2
4	*2437.00	93.9 AV			3.77 V	76	95.1	-1.2
5	4874.00	62.5 PK	74.0	-11.5	2.34 V	316	59.2	3.3
6	4874.00	49.4 AV	54.0	-4.6	2.34 V	316	46.1	3.3
7	7311.00	60.3 PK	74.0	-13.7	3.91 V	109	50.5	9.8
8	7311.00	48.3 AV	54.0	-5.7	3.91 V	109	38.5	9.8

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 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	*2462.00	105.1 PK			1.18 H	116	106.2	-1.1
2	*2462.00	95.6 AV			1.18 H	116	96.7	-1.1
3	2483.50	67.6 PK	74.0	-6.4	1.18 H	116	68.6	-1.0
4	2483.50	51.3 AV	54.0	-2.7	1.18 H	116	52.3	-1.0
5	4924.00	53.8 PK	74.0	-20.2	1.04 H	68	50.3	3.5
6	4924.00	40.4 AV	54.0	-13.6	1.04 H	68	36.9	3.5
7	7386.00	60.6 PK	74.0	-13.4	1.20 H	334	50.7	9.9
8	7386.00	45.4 AV	54.0	-8.6	1.20 H	334	35.5	9.9
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	*2462.00	97.3 PK			3.83 V	65	98.4	-1.1
2	*2462.00	87.5 AV			3.83 V	65	88.6	-1.1
3	2483.50	60.7 PK	74.0	-13.3	3.83 V	65	61.7	-1.0
4	2483.50	44.7 AV	54.0	-9.3	3.83 V	65	45.7	-1.0
5	4924.00	57.1 PK	74.0	-16.9	2.33 V	324	53.6	3.5
6	4924.00	43.7 AV	54.0	-10.3	2.33 V	324	40.2	3.5
7	7386.00	57.3 PK	74.0	-16.7	3.85 V	122	47.4	9.9
8	7386.00	43.9 AV	54.0	-10.1	3.85 V	122	34.0	9.9

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.

Below 1GHz Data:

802.11b

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	44.65	23.5 QP	40.0	-16.5	2.00 H	310	31.4	-7.9
2	166.58	33.1 QP	43.5	-10.4	1.50 H	87	41.4	-8.3
3	199.90	32.0 QP	43.5	-11.5	1.50 H	105	43.4	-11.4
4	441.57	27.1 QP	46.0	-18.9	2.00 H	71	30.9	-3.8
5	600.63	28.6 QP	46.0	-17.4	2.50 H	138	29.0	-0.4
6	720.01	30.5 QP	46.0	-15.5	1.50 H	0	29.4	1.1
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	137.99	30.0 QP	43.5	-13.5	1.00 V	285	38.2	-8.2
2	165.99	31.8 QP	43.5	-11.7	1.00 V	154	40.1	-8.3
3	199.92	29.2 QP	43.5	-14.3	1.00 V	320	40.6	-11.4
4	296.19	27.4 QP	46.0	-18.6	1.00 V	270	35.1	-7.7
5	597.26	29.1 QP	46.0	-16.9	1.00 V	25	29.6	-0.5
6	796.57	33.4 QP	46.0	-12.6	1.00 V	0	31.0	2.4

REMARKS:

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

4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

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

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

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

4.2.2 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver R&S	ESCS 30	847124/029	Oct. 24, 2016	Oct. 23, 2017
Line-Impedance Stabilization Network (for EUT) R&S	ESH3-Z5	848773/004	Oct. 26, 2016	Oct. 25, 2017
Line-Impedance Stabilization Network (for Peripheral) R&S	ENV216	100072	June 03, 2017	June 02, 2018
50 ohms Terminator	N/A	EMC-02	Sep. 29, 2016	Sep. 28, 2017
RF Cable	5D-FB	COCCAB-001	Sep. 30, 2016	Sep. 29, 2017
10 dB PAD Mini-Circuits	HAT-10+	CONATT-004	June 18, 2017	June 17, 2018
Software BVADT	BVADT_Cond_ V7.3.7.4	NA	NA	NA

Note:

1. The calibration interval of the above test instruments are 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Shielded Room No. 1.
3. Tested Date: Aug. 22, 2017

4.2.3 Test Procedures

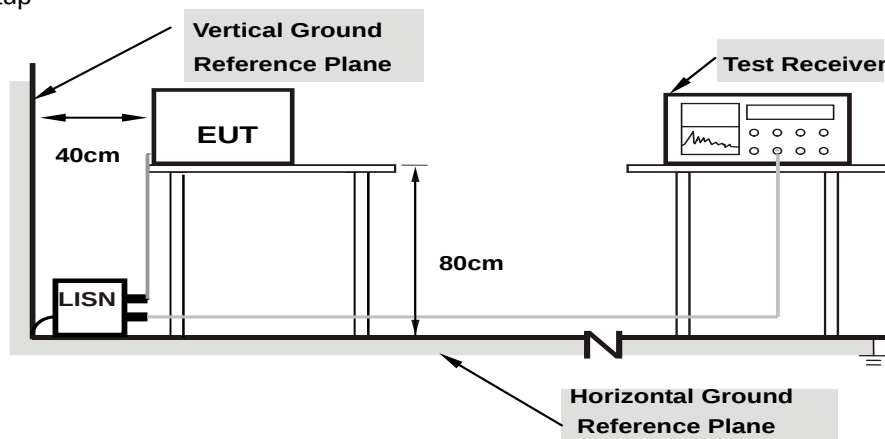
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

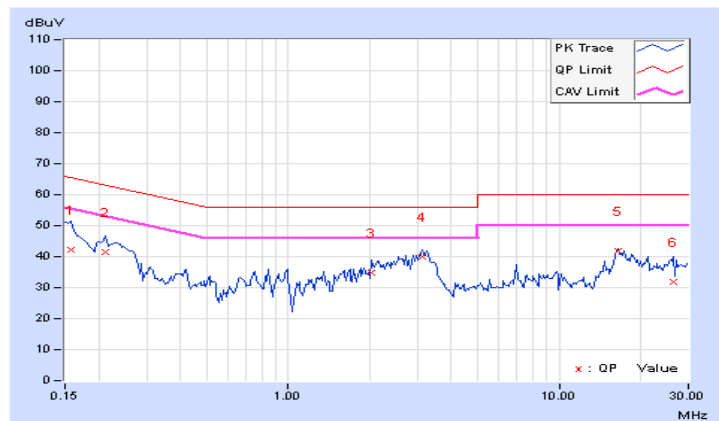
4.2.7 Test Results

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

No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15781	10.07	32.16	24.14	42.23	34.21	65.58	55.58	-23.35	-21.37
2	0.21250	10.06	31.39	15.01	41.45	25.07	63.11	53.11	-21.66	-28.04
3	2.03906	10.14	24.60	15.70	34.74	25.84	56.00	46.00	-21.26	-20.16
4	3.14063	10.23	29.61	21.96	39.84	32.19	56.00	46.00	-16.16	-13.81
5	16.46419	11.06	30.66	27.01	41.72	38.07	60.00	50.00	-18.28	-11.93
6	26.29688	11.34	20.47	15.25	31.81	26.59	60.00	50.00	-28.19	-23.41

REMARKS:

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

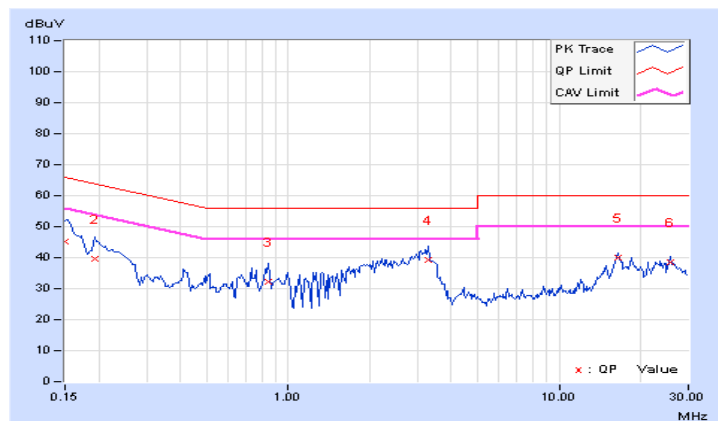


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
-------	-------------	-------------------	-----------------------------------

No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	10.06	35.21	20.33	45.27	30.39	66.00	56.00	-20.73	-25.61
2	0.19297	10.03	29.65	11.57	39.68	21.60	63.91	53.91	-24.23	-32.31
3	0.84922	10.11	21.94	12.07	32.05	22.18	56.00	46.00	-23.95	-23.82
4	3.29297	10.21	28.99	22.38	39.20	32.59	56.00	46.00	-16.80	-13.41
5	16.46875	10.85	29.21	24.85	40.06	35.70	60.00	50.00	-19.94	-14.30
6	25.87109	10.97	27.59	23.25	38.56	34.22	60.00	50.00	-21.44	-15.78

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.

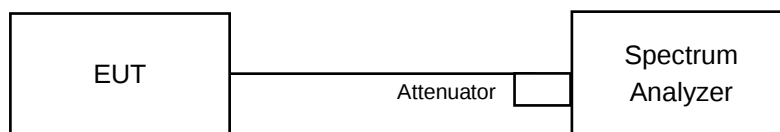


4.3 6dB Bandwidth Measurement

4.3.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

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

- 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

4.3.5 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

802.11b

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	10.15	0.5	Pass
6	2437	10.14	0.5	Pass
11	2462	10.13	0.5	Pass

802.11g

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	16.44	0.5	Pass
6	2437	16.39	0.5	Pass
11	2462	16.38	0.5	Pass

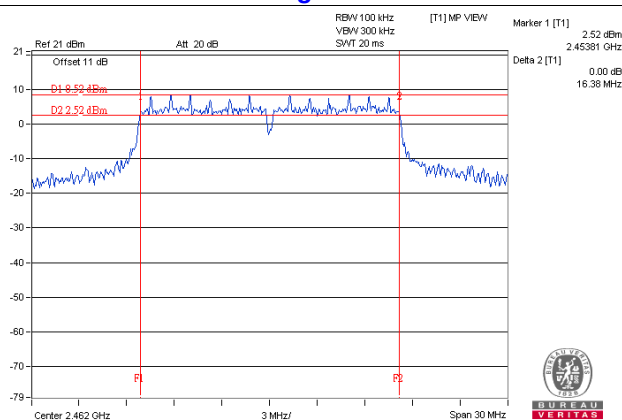
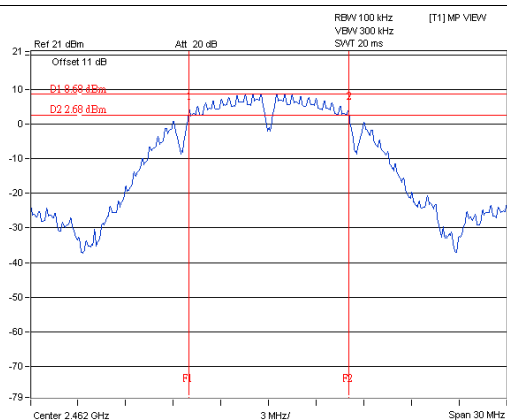
802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	17.67	0.5	Pass
6	2437	17.66	0.5	Pass
11	2462	17.69	0.5	Pass

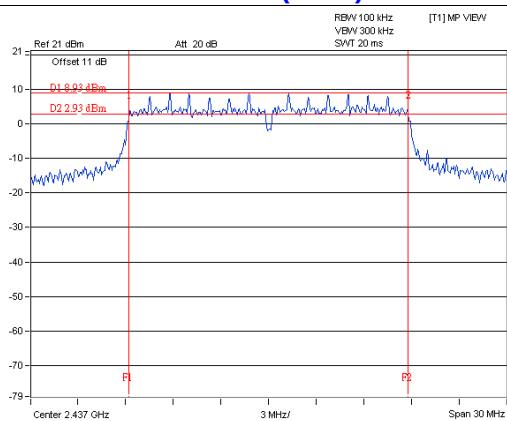
Spectrum Plot of Worst Value

802.11b : CH11

802.11g : CH11



802.11n (HT20) : CH6

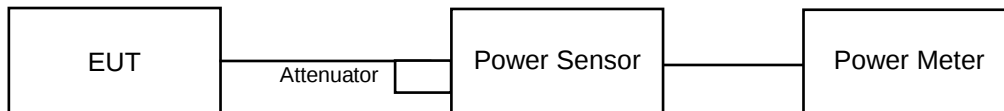


4.4 Conducted Output Power Measurement

4.4.1 Limits of Conducted Output Power Measurement

For systems using digital modulation in the 2400–2483.5 MHz bands: 1 Watt (30dBm)

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

A peak / average power sensor was used on the output port of the EUT. A power meter was used to read the response of the peak / average power sensor. Record the power level.

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 PEAK POWER

802.11b

Chan.	Chan. Freq. (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass / Fail
1	2412	144.212	21.59	30	Pass
6	2437	108.393	20.35	30	Pass
11	2462	125.893	21.00	30	Pass

802.11g

Chan.	Chan. Freq. (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass / Fail
1	2412	163.305	22.13	30	Pass
6	2437	290.402	24.63	30	Pass
11	2462	137.088	21.37	30	Pass

802.11n (HT20)

Chan.	Chan. Freq. (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass / Fail
1	2412	135.519	21.32	30	Pass
6	2437	285.102	24.55	30	Pass
11	2462	108.893	20.37	30	Pass

FOR AVERAGE POWER

802.11b

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	83.56	19.22
6	2437	61.802	17.91
11	2462	72.444	18.60

802.11g

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	21.979	13.42
6	2437	73.282	18.65
11	2462	22.182	13.46

802.11n (HT20)

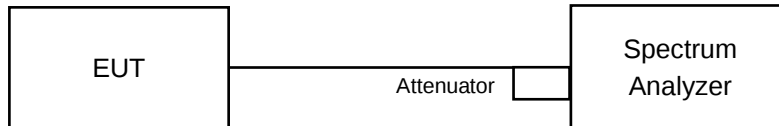
Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	14.928	11.74
6	2437	71.121	18.52
11	2462	19.77	12.96

4.5 Power Spectral Density Measurement

4.5.1 Limits of Power Spectral Density Measurement

The Maximum of Power Spectral Density Measurement is 8dBm in any 3 kHz.

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

- Set analyzer center frequency to DTS channel center frequency.
- Set the span to 1.5 times the DTS bandwidth.
- Set the RBW to: $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
- Set the VBW $\geq 3 \times \text{RBW}$.
- Detector = peak.
- Sweep time = auto couple.
- Trace mode = max hold.
- Allow trace to fully stabilize.
- Use the peak marker function to determine the maximum amplitude level within the RBW.

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Condition

Same as Item 4.3.6

4.5.7 Test Results

802.11b

Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
1	2412	-7.25	8	Pass
6	2437	-8.55	8	Pass
11	2462	-7.03	8	Pass

802.11g

Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
1	2412	-14.48	8	Pass
6	2437	-8.28	8	Pass
11	2462	-8.02	8	Pass

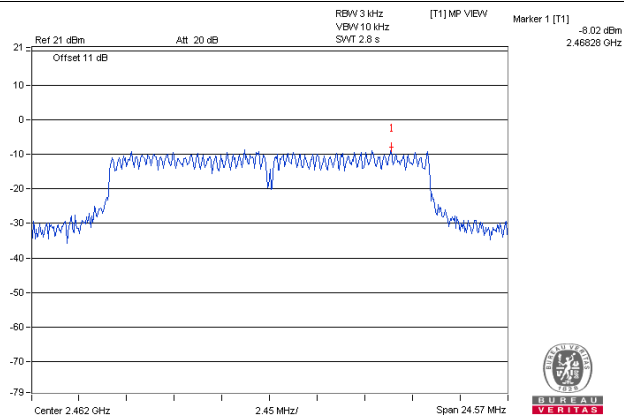
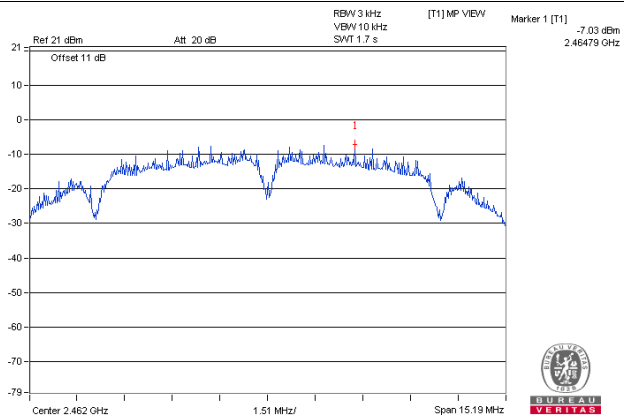
802.11n (HT20)

Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
1	2412	-13.68	8	Pass
6	2437	-7.87	8	Pass
11	2462	-13.10	8	Pass

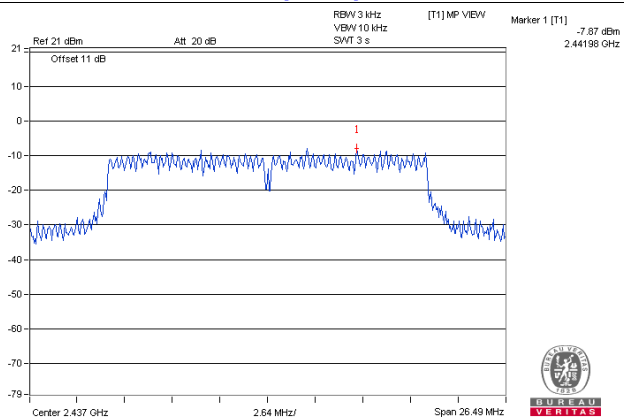
Spectrum Plot of Worst Value

802.11b : CH11

802.11g : CH11



802.11n (HT20) : CH6

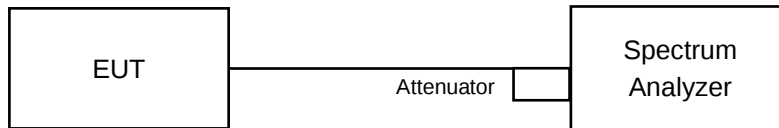


4.6 Conducted Out of Band Emission Measurement

4.6.1 Limits of Conducted Out of Band Emission Measurement

Below 20dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).

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

1. Set the RBW = 100 kHz.
2. Set the VBW $\geq$ 300 kHz.
3. Detector = peak.
4. Sweep time = auto couple.
5. Trace mode = max hold.
6. Allow trace to fully stabilize.
7. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

MEASUREMENT PROCEDURE OOBE

1. Set RBW = 100 kHz.
2. Set VBW $\geq$ 300 kHz.
3. Detector = peak.
4. Sweep = auto couple.
5. Trace Mode = max hold.
6. Allow trace to fully stabilize.
7. Use the peak marker function to determine the maximum amplitude level.

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

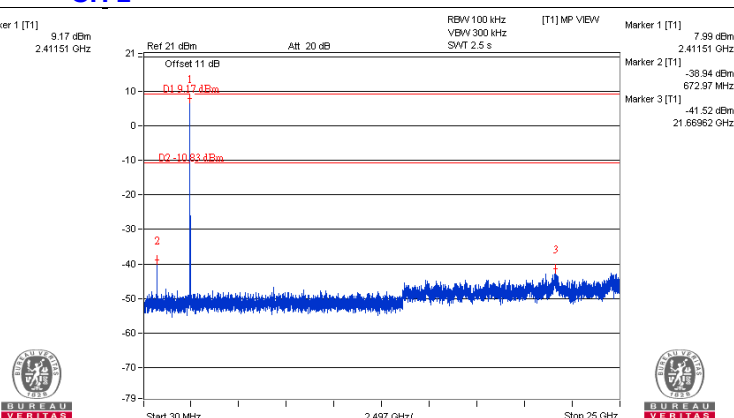
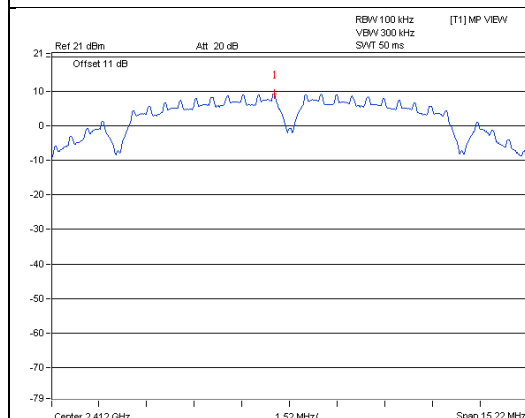
Same as Item 4.3.6

4.6.7 Test Results

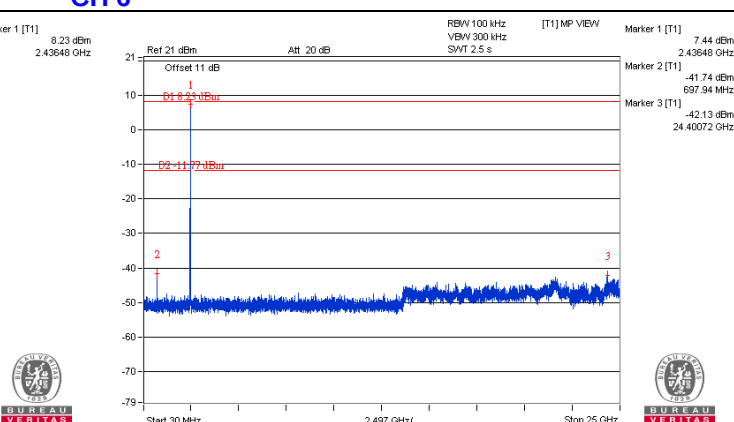
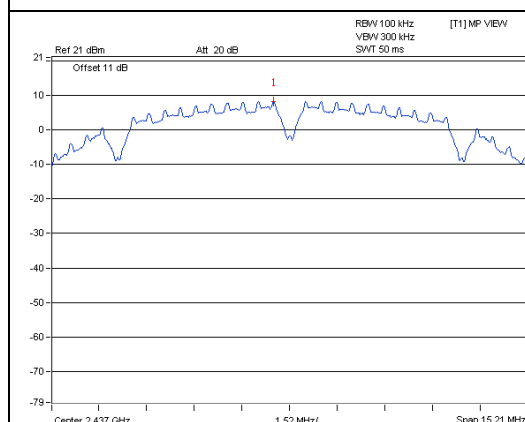
The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement.

802.11b

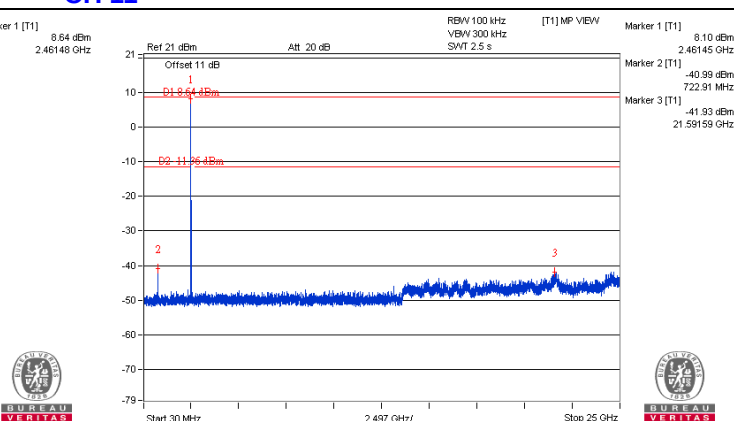
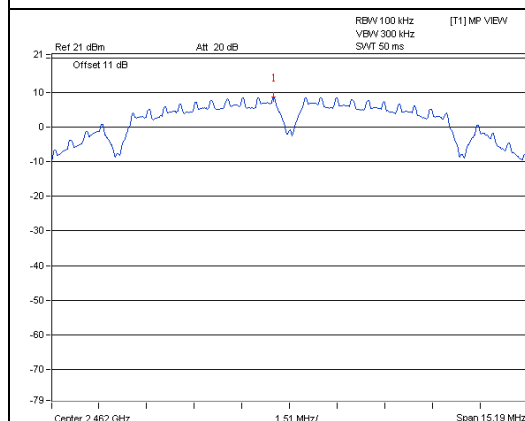
CH 1



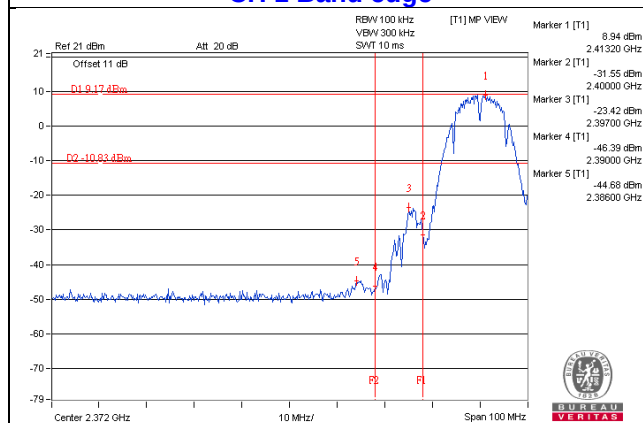
CH 6



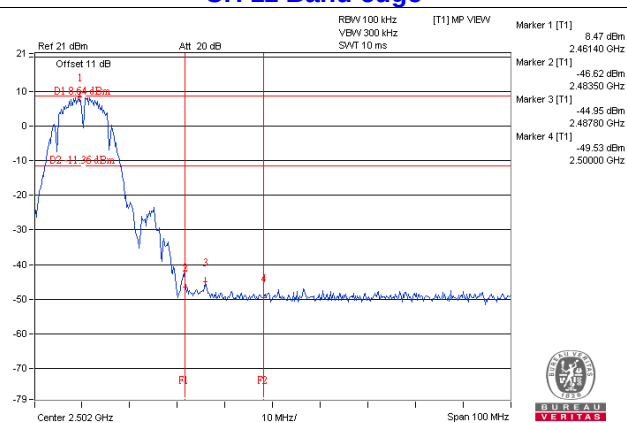
CH 11



CH 1 Band edge

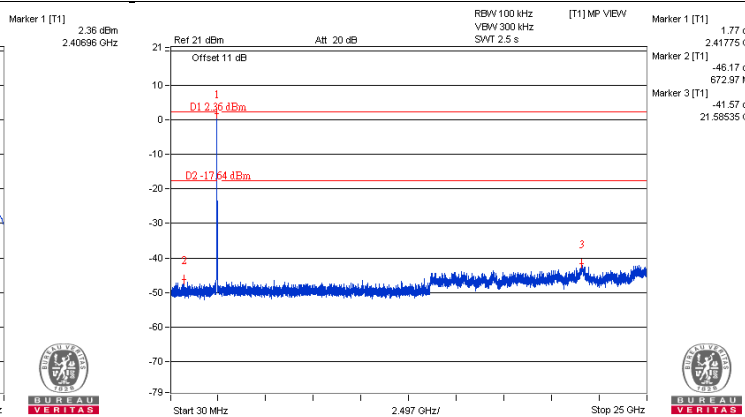
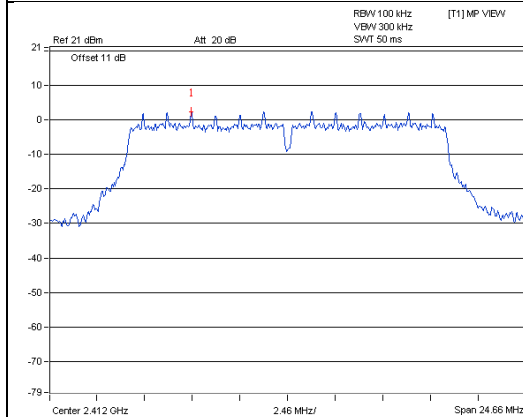


CH 11 Band edge

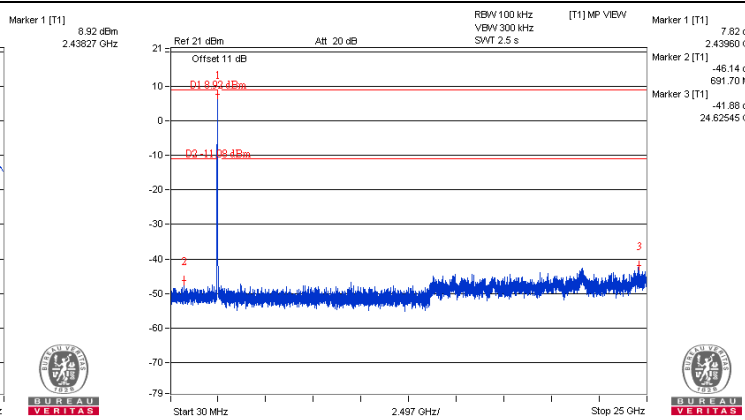
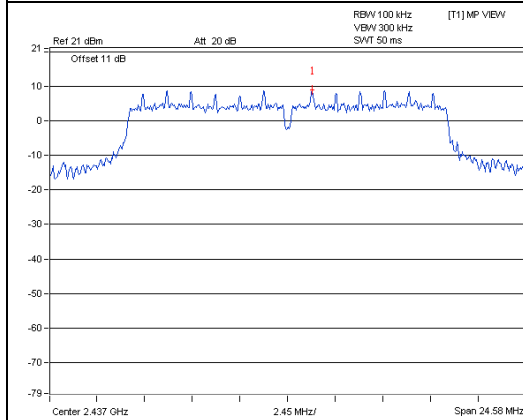


802.11g

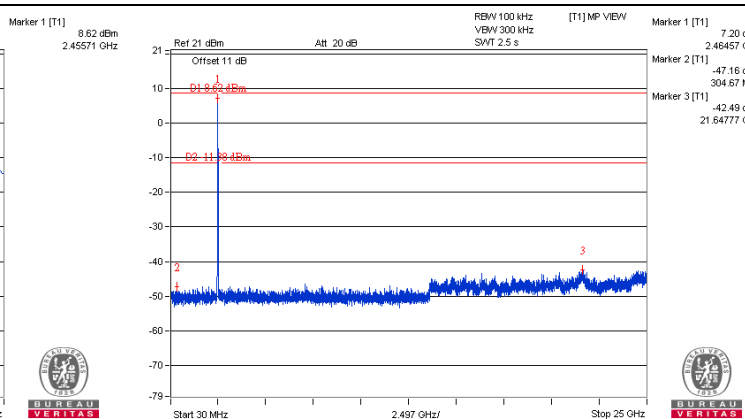
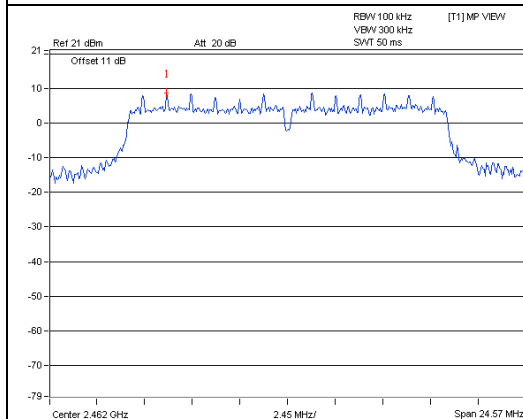
CH 1



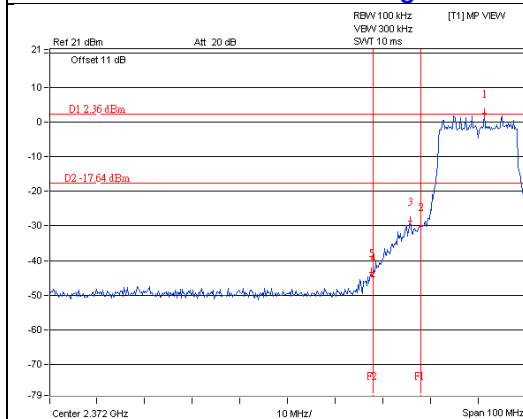
CH 6



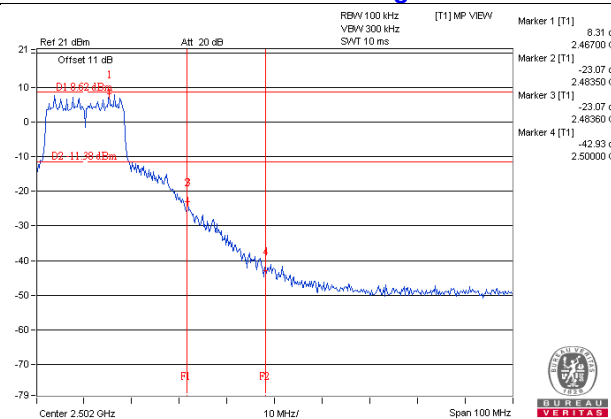
CH 11



CH 1 Band edge

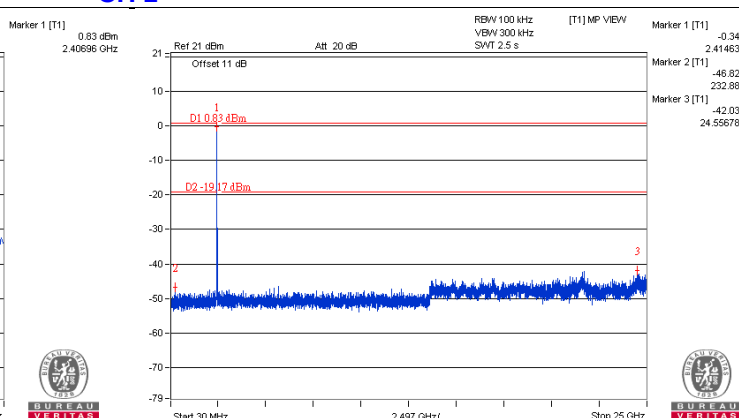
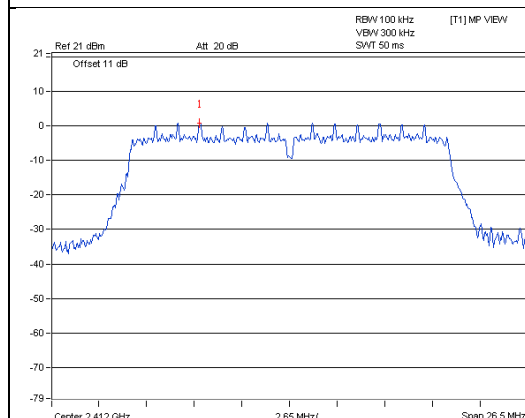


CH 11 Band edge

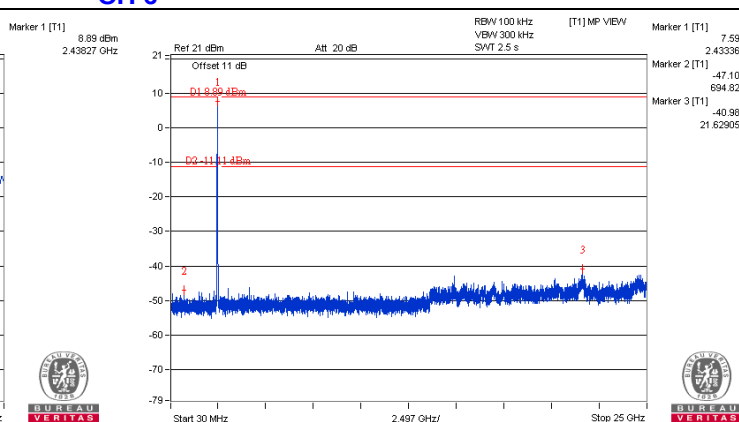
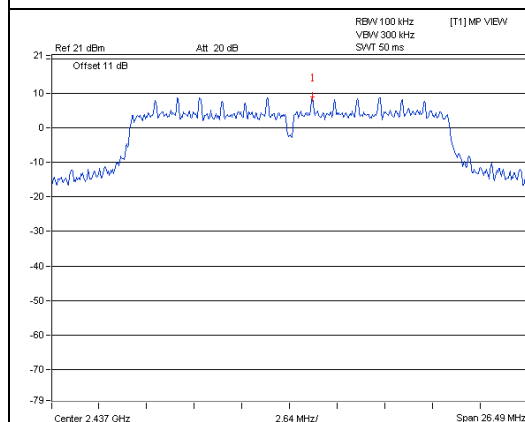


802.11n (HT20)

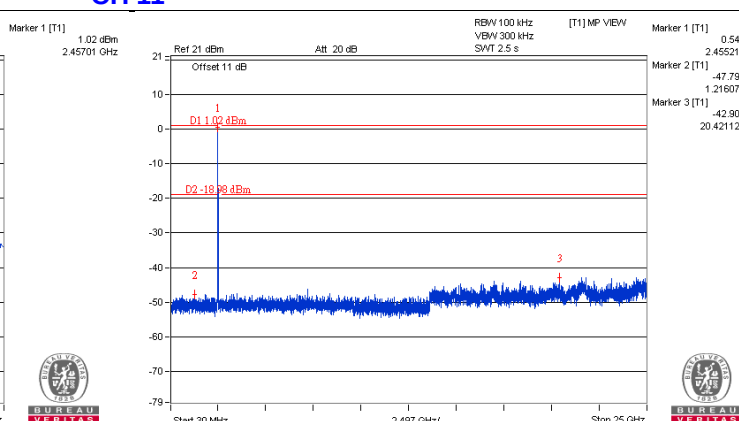
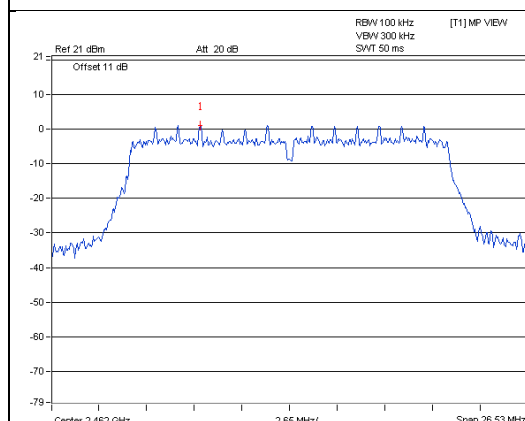
CH 1



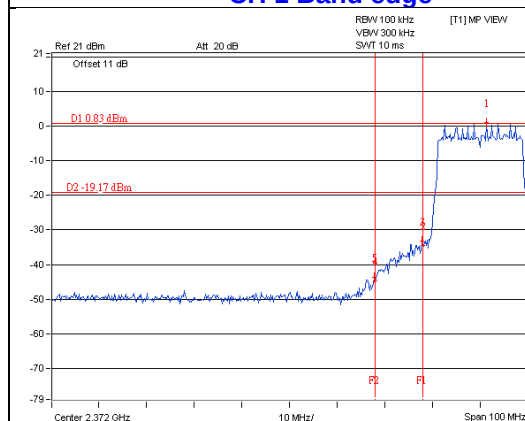
CH 6



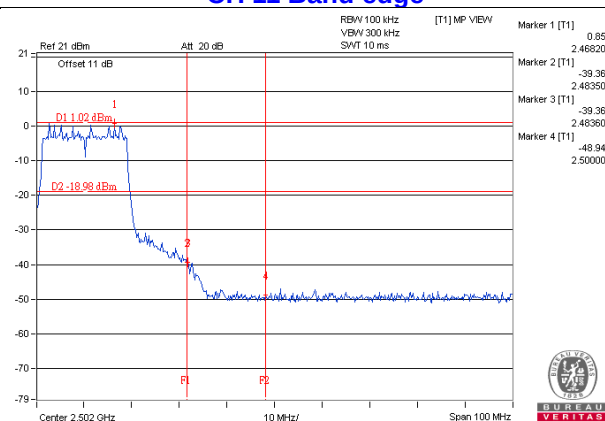
CH 11



CH 1 Band edge



CH 11 Band edge



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 FCC recognized accredited test firms and accredited according to ISO/IEC 17025.

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

Linko EMC/RF Lab

Tel: 886-2-26052180

Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab

Tel: 886-3-6668565

Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety Lab

Tel: 886-3-3183232

Fax: 886-3-3270892

Email: service.adt@tw.bureauveritas.com

Web Site: www.bureauveritas-adt.com

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

--- END ---