

FCC Test Report

Report No.: RF161208E03

FCC ID: 2AKUN-QAMDES0W

Test Model: QAM300-DE-S0W-001

Received Date: Dec. 08, 2016

Test Date: Dec. 20, 2016 to Jan. 10, 2017

Issued Date: Feb. 02, 2017

Applicant: Quadlink Technology Inc

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

Issue No.	Description	Date Issued
RF161208E03	Original release.	Feb. 02, 2017

1 Certificate of Conformity

Product: Aquadlink monitoring device

Brand: QAM300-DE

Test Model: QAM300-DE-S0W-001

Sample Status: ENGINEERING SAMPLE

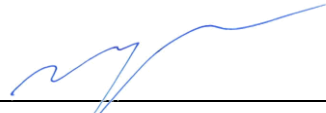
Applicant: Quadlink Technology Inc

Test Date: Dec. 20, 2016 to Jan. 10, 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:** Feb. 02, 2017
Claire Kuan / Specialist

Approved by :  , **Date:** Feb. 02, 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	NA	Without AC power port of the EUT.
15.205 / 15.209 / 15.247(d)	Radiated Emissions and Band Edge Measurement	PASS	Meet the requirement of limit. Minimum passing margin is -0.1dB at 4824.00MHz, 4924.00MHz.
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	Antenna connector is i-pex(MHF) not a standard connector.

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	1.83 dB
Radiated Emissions up to 1 GHz	30MHz ~ 1GHz	5.34 dB
Radiated Emissions above 1 GHz	1GHz ~ 6GHz	3.41 dB
	6GHz ~ 18GHz	3.49 dB
	18GHz ~ 40GHz	3.30 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Aquadlink monitoring device
Brand	QAM300-DE
Test Model	QAM300-DE-S0W-001
Status of EUT	ENGINEERING SAMPLE
Power Supply Rating	DC 3.2V from Battery
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	11
Output Power	107.647mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	Sensor (Model No.: YS00007-00 / Shielded, 3m) Sensor (Model No.: YS00001-00 DO / Shielded, 3.3m) Sensor (Model No.: YS00011-00 / Shielded, 3m)
Data Cable Supplied	Sensor cable (Shielded, 0.2m)

Note:

- There are WLAN technology used for the EUT.
- The antennas provided to the EUT, please refer to the following table:

Antenna No.	Model	Antenna Net Gain (dBi)	Frequency range (GHz)	Antenna Type	Connector Type	Cable Length (mm)
1	F900B	-9.01	2.4~2.4835	PIFA	i-pex (MHF)	130
2	NA	-21.1	2.4~2.4835	Chip	NA	NA

- The EUT could be supplied with a battery as the following table:

Brand	Model No.	Spec.
Masterhold	QUA13D212D8QD001	3.2Vdc, 12A

- 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

- 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	√	√	-	√	With PIFA antenna
2	√	√	-	-	With Chip 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: 1. The EUT had been pre-tested on the positioned of each 2 axis. The worst case was found when positioned on **X-plane**.
 2. "-" means no effect.

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)
802.11n (HT20)	1 to 11	6	OFDM	BPSK	6.5

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	TESTED BY
RE $\geq$ 1G	23deg. C, 66%RH	3.2Vdc	Terry Huang
RE<1G	24deg. C, 67%RH	3.2Vdc	Robert Cheng
APCM	25deg. C, 60%RH	3.2Vdc	Robert Cheng

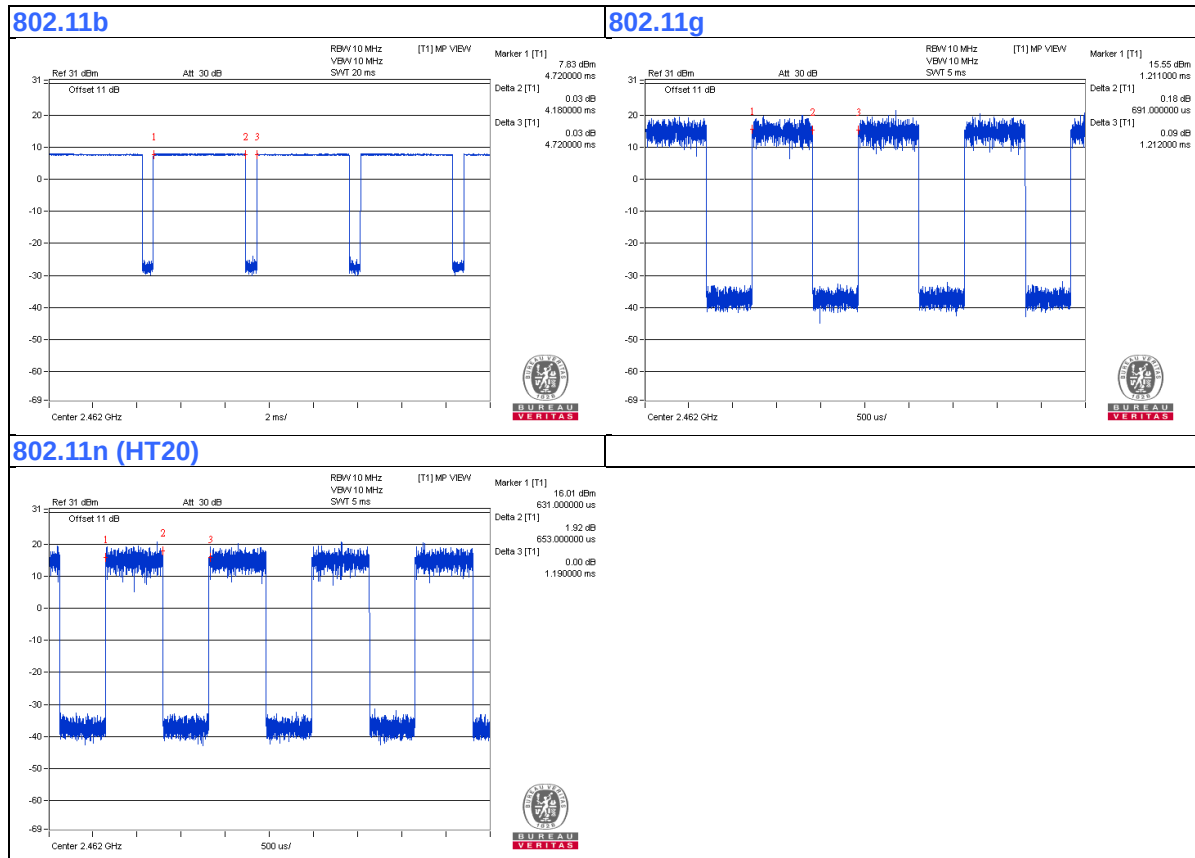
3.3 Duty Cycle of Test Signal

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

802.11b: Duty cycle = $4.18/4.72 = 0.886$, Duty factor = $10 * \log(1/0.886) = 0.53$

802.11g: Duty cycle = $0.691/1.212 = 0.57$, Duty factor = $10 * \log(1/0.57) = 2.44$

802.11n (HT20): Duty cycle = $0.653/1.19 = 0.549$, Duty factor = $10 * \log(1/0.549) = 2.61$

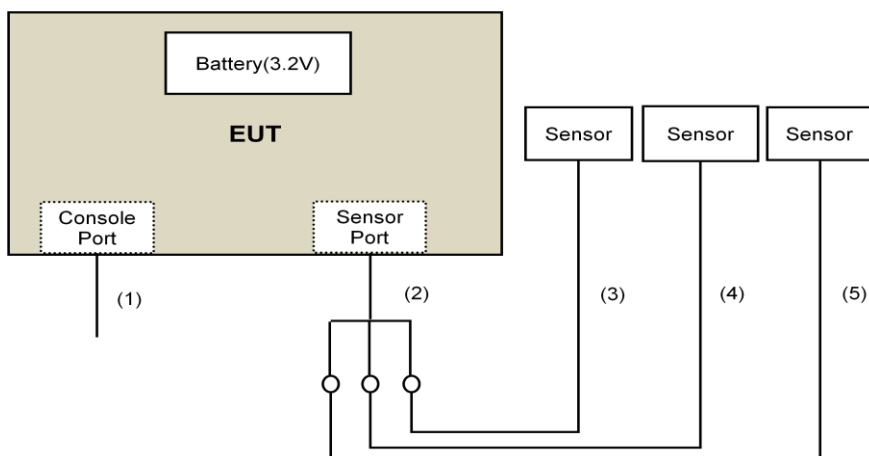


3.4 Description of Support Units

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	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	Console Cable	1	0.9	No	0	Supplied by client
2.	Sensor Cable(1to3)	1	0.2	No	0	Supplied by client
3.	Sensor Cable	1	3	No	0	Supplied by client
4.	Sensor Cable	1	3.3	No	0	Supplied by client
5.	Sensor Cable	1	3	No	0	Supplied by client

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 v03r05
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 Agilent	N9038A	MY50010156	Aug. 18, 2016	Aug. 17, 2017
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. 18, 2016	Jan. 17, 2017
Pre-Amplifier Mini-Circuits	ZFL-1000VH2 B	AMP-ZFL-05	May 07, 2016	May 06, 2017
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-156	Jan. 04, 2016	Jan. 03, 2017
RF Cable	8D	966-3-1 966-3-2 966-3-3	Apr. 02, 2016	Apr. 01, 2017
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-3m-3-01	Oct. 05, 2016	Oct. 04, 2017
Horn_Antenna SCHWARZBECK	BBHA9120-D	9120D-406	Jan. 20, 2016	Jan. 19, 2017
Pre-Amplifier Agilent	8449B	3008A02465	Apr. 05, 2016	Apr. 04, 2017
RF Cable	EMC104-SM- SM-2000 EMC104-SM- SM-5000 EMC104-SM- SM-5000	150317 150321 150322	Mar. 30, 2016	Mar. 29, 2017
Spectrum Analyzer Keysight	N9030A	MY54490520	July 29, 2016	July 28, 2017
Pre-Amplifier EMCI	EMC184045	980143	Jan. 15, 2016	Jan. 14, 2017
Horn_Antenna SCHWARZBECK	BBHA 9170	BBHA9170608	Jan. 08, 2016	Jan. 07, 2017
RF Cable	SUCOFLEX 102	36432/2 36441/2	Jan. 16, 2016	Jan. 15, 2017
Software	ADT_Radiated _V8.7.08	NA	NA	NA
Antenna Tower & Turn Table Max-Full	MF-7802	MF780208406	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. *The 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. 3.
4. The FCC Site Registration No. is 147459
5. The CANADA Site Registration No. is 20331-1
6. Tested Date: Dec. 20, 2016 to Jan. 10, 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:

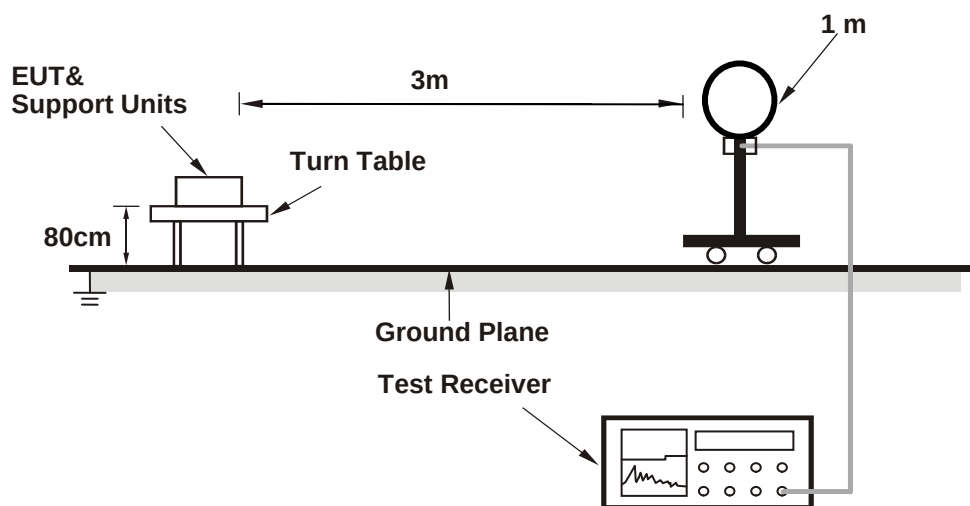
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
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

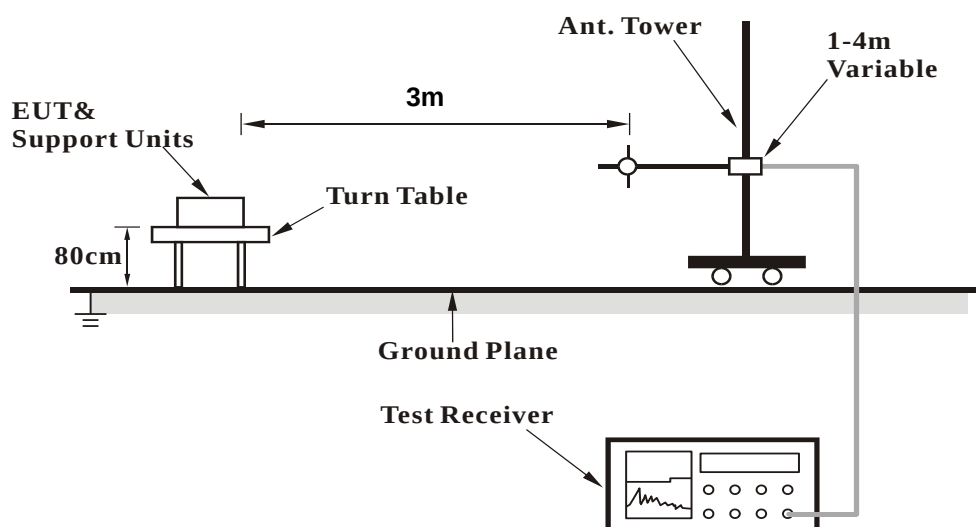
No deviation.

4.1.5 Test Setup

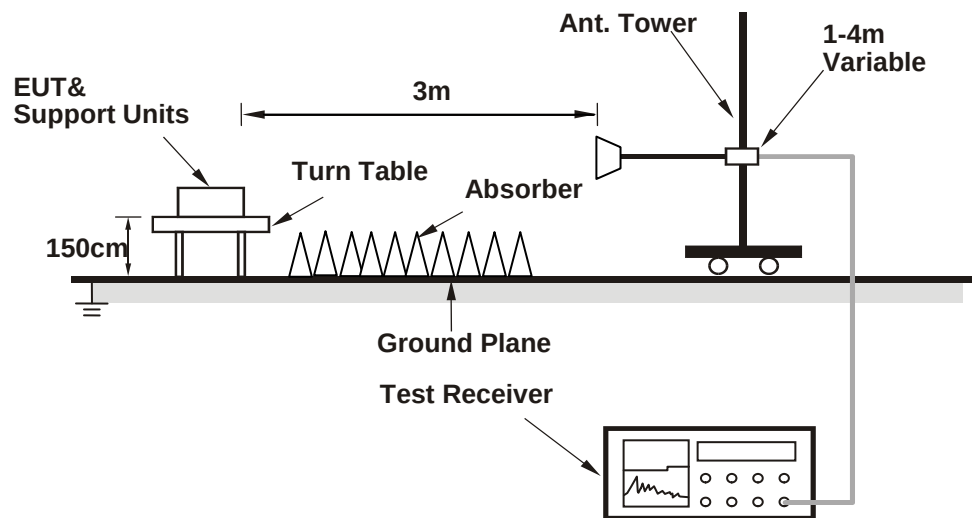
For Radiated emission below 30MHz



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

- a. Controlling software (Putty.exe paste "QAM300DE-S-WiFi RF SOP" command) 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	45.9 PK	74.0	-28.1	1.00 H	281	50.1	-4.2
2	2390.00	32.5 AV	54.0	-21.5	1.00 H	281	36.7	-4.2
3	*2412.00	76.0 PK			1.00 H	281	80.1	-4.1
4	*2412.00	73.7 AV			1.00 H	281	77.8	-4.1
5	4824.00	55.0 PK	74.0	-19.0	1.04 H	275	52.7	2.3
6	4824.00	53.8 AV	54.0	-0.2	1.04 H	275	51.5	2.3
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	45.1 PK	74.0	-28.9	1.03 V	360	49.3	-4.2
2	2390.00	32.3 AV	54.0	-21.7	1.03 V	360	36.5	-4.2
3	*2412.00	75.6 PK			1.03 V	360	79.7	-4.1
4	*2412.00	73.5 AV			1.03 V	360	77.6	-4.1
5	4824.00	54.6 PK	74.0	-19.4	2.59 V	265	52.3	2.3
6	4824.00	53.1 AV	54.0	-0.9	2.59 V	265	50.8	2.3

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	76.3 PK			1.04 H	286	80.3	-4.0
2	*2437.00	74.0 AV			1.04 H	286	78.0	-4.0
3	4874.00	54.9 PK	74.0	-19.1	1.01 H	282	52.4	2.5
4	4874.00	53.6 AV	54.0	-0.4	1.01 H	282	51.1	2.5
5	7311.00	46.2 PK	74.0	-27.8	1.05 H	314	37.3	8.9
6	7311.00	33.7 AV	54.0	-20.3	1.05 H	314	24.8	8.9
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	*2437.00	75.9 PK			1.12 V	360	79.9	-4.0
2	*2437.00	73.6 AV			1.12 V	360	77.6	-4.0
3	4874.00	54.4 PK	74.0	-19.6	2.56 V	259	51.9	2.5
4	4874.00	52.8 AV	54.0	-1.2	2.56 V	259	50.3	2.5
5	7311.00	45.8 PK	74.0	-28.2	1.21 V	82	36.9	8.9
6	7311.00	33.5 AV	54.0	-20.5	1.21 V	82	24.6	8.9

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.

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	76.8 PK			1.00 H	286	80.9	-4.1
2	*2462.00	74.5 AV			1.00 H	286	78.6	-4.1
3	2483.50	46.6 PK	74.0	-27.4	1.00 H	286	50.6	-4.0
4	2483.50	32.7 AV	54.0	-21.3	1.00 H	286	36.7	-4.0
5	4924.00	54.8 PK	74.0	-19.2	1.00 H	289	52.3	2.5
6	4924.00	53.6 AV	54.0	-0.4	1.00 H	289	51.1	2.5
7	7386.00	46.4 PK	74.0	-27.6	1.00 H	315	37.1	9.3
8	7386.00	34.1 AV	54.0	-19.9	1.00 H	315	24.8	9.3
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	76.6 PK			1.00 V	360	80.7	-4.1
2	*2462.00	74.2 AV			1.00 V	360	78.3	-4.1
3	2483.50	45.5 PK	74.0	-28.5	1.00 V	360	49.5	-4.0
4	2483.50	32.7 AV	54.0	-21.3	1.00 V	360	36.7	-4.0
5	4924.00	54.6 PK	74.0	-19.4	2.61 V	261	52.1	2.5
6	4924.00	53.0 AV	54.0	-1.0	2.61 V	261	50.5	2.5
7	7386.00	46.3 PK	74.0	-27.7	1.24 V	69	37.0	9.3
8	7386.00	33.8 AV	54.0	-20.2	1.24 V	69	24.5	9.3

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	46.1 PK	74.0	-27.9	1.00 H	294	50.3	-4.2
2	2390.00	32.5 AV	54.0	-21.5	1.00 H	294	36.7	-4.2
3	*2412.00	81.2 PK			1.00 H	294	85.3	-4.1
4	*2412.00	72.4 AV			1.00 H	294	76.5	-4.1
5	4824.00	67.5 PK	74.0	-6.5	1.00 H	288	65.2	2.3
6	4824.00	53.9 AV	54.0	-0.1	1.00 H	288	51.6	2.3
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	45.0 PK	74.0	-29.0	1.00 V	360	49.2	-4.2
2	2390.00	32.3 AV	54.0	-21.7	1.00 V	360	36.5	-4.2
3	*2412.00	80.9 PK			1.00 V	360	85.0	-4.1
4	*2412.00	72.0 AV			1.00 V	360	76.1	-4.1
5	4824.00	66.6 PK	74.0	-7.4	2.52 V	267	64.3	2.3
6	4824.00	53.2 AV	54.0	-0.8	2.52 V	267	50.9	2.3

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	81.8 PK			1.00 H	279	85.8	-4.0
2	*2437.00	72.9 AV			1.00 H	279	76.9	-4.0
3	4874.00	67.0 PK	74.0	-7.0	1.00 H	280	64.5	2.5
4	4874.00	53.5 AV	54.0	-0.5	1.00 H	280	51.0	2.5
5	7311.00	46.7 PK	74.0	-27.3	1.06 H	312	37.8	8.9
6	7311.00	34.1 AV	54.0	-19.9	1.06 H	312	25.2	8.9
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	*2437.00	81.5 PK			1.18 V	349	85.5	-4.0
2	*2437.00	72.5 AV			1.18 V	349	76.5	-4.0
3	4874.00	66.1 PK	74.0	-7.9	2.55 V	264	63.6	2.5
4	4874.00	52.8 AV	54.0	-1.2	2.55 V	264	50.3	2.5
5	7311.00	46.5 PK	74.0	-27.5	1.16 V	72	37.6	8.9
6	7311.00	33.7 AV	54.0	-20.3	1.16 V	72	24.8	8.9

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.

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	82.5 PK			1.01 H	274	86.6	-4.1
2	*2462.00	73.5 AV			1.01 H	274	77.6	-4.1
3	2483.50	45.7 PK	74.0	-28.3	1.01 H	274	49.7	-4.0
4	2483.50	32.1 AV	54.0	-21.9	1.01 H	274	36.1	-4.0
5	4924.00	67.2 PK	74.0	-6.8	1.00 H	274	64.7	2.5
6	4924.00	53.5 AV	54.0	-0.5	1.00 H	274	51.0	2.5
7	7386.00	47.0 PK	74.0	-27.0	1.00 H	330	37.7	9.3
8	7386.00	34.4 AV	54.0	-19.6	1.00 H	330	25.1	9.3
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	82.1 PK			1.14 V	360	86.2	-4.1
2	*2462.00	73.3 AV			1.14 V	360	77.4	-4.1
3	2483.50	44.0 PK	74.0	-30.0	1.14 V	360	48.0	-4.0
4	2483.50	31.9 AV	54.0	-22.1	1.14 V	360	35.9	-4.0
5	4924.00	66.5 PK	74.0	-7.5	2.51 V	262	64.0	2.5
6	4924.00	52.8 AV	54.0	-1.2	2.51 V	262	50.3	2.5
7	7386.00	46.7 PK	74.0	-27.3	1.22 V	69	37.4	9.3
8	7386.00	34.0 AV	54.0	-20.0	1.22 V	69	24.7	9.3

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	46.0 PK	74.0	-28.0	1.00 H	275	50.2	-4.2
2	2390.00	32.4 AV	54.0	-21.6	1.00 H	275	36.6	-4.2
3	*2412.00	81.3 PK			1.00 H	275	85.4	-4.1
4	*2412.00	72.6 AV			1.00 H	275	76.7	-4.1
5	4824.00	67.8 PK	74.0	-6.2	1.06 H	286	65.5	2.3
6	4824.00	53.8 AV	54.0	-0.2	1.06 H	286	51.5	2.3
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	45.8 PK	74.0	-28.2	1.21 V	358	50.0	-4.2
2	2390.00	32.2 AV	54.0	-21.8	1.21 V	358	36.4	-4.2
3	*2412.00	81.1 PK			1.21 V	358	85.2	-4.1
4	*2412.00	72.2 AV			1.21 V	358	76.3	-4.1
5	4824.00	67.7 PK	74.0	-6.3	2.54 V	268	65.4	2.3
6	4824.00	53.1 AV	54.0	-0.9	2.54 V	268	50.8	2.3

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	82.0 PK			1.06 H	272	86.0	-4.0
2	*2437.00	73.1 AV			1.06 H	272	77.1	-4.0
3	4874.00	67.1 PK	74.0	-6.9	1.05 H	290	64.6	2.5
4	4874.00	53.7 AV	54.0	-0.3	1.05 H	290	51.2	2.5
5	7311.00	46.0 PK	74.0	-28.0	1.02 H	313	37.1	8.9
6	7311.00	33.8 AV	54.0	-20.2	1.02 H	313	24.9	8.9
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	*2437.00	81.6 PK			1.24 V	360	85.6	-4.0
2	*2437.00	72.7 AV			1.24 V	360	76.7	-4.0
3	4874.00	66.7 PK	74.0	-7.3	2.48 V	270	64.2	2.5
4	4874.00	52.9 AV	54.0	-1.1	2.48 V	270	50.4	2.5
5	7311.00	45.7 PK	74.0	-28.3	1.25 V	57	36.8	8.9
6	7311.00	33.4 AV	54.0	-20.6	1.25 V	57	24.5	8.9

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.

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	82.6 PK			1.00 H	301	86.7	-4.1
2	*2462.00	73.7 AV			1.00 H	301	77.8	-4.1
3	2483.50	46.7 PK	74.0	-27.3	1.00 H	301	50.7	-4.0
4	2483.50	32.8 AV	54.0	-21.2	1.00 H	301	36.8	-4.0
5	4924.00	67.5 PK	74.0	-6.5	1.00 H	300	65.0	2.5
6	4924.00	53.6 AV	54.0	-0.4	1.00 H	300	51.1	2.5
7	7386.00	46.4 PK	74.0	-27.6	1.00 H	306	37.1	9.3
8	7386.00	34.2 AV	54.0	-19.8	1.00 H	306	24.9	9.3
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	82.4 PK			1.22 V	360	86.5	-4.1
2	*2462.00	73.3 AV			1.22 V	360	77.4	-4.1
3	2483.50	46.5 PK	74.0	-27.5	1.22 V	360	50.5	-4.0
4	2483.50	32.7 AV	54.0	-21.3	1.22 V	360	36.7	-4.0
5	4924.00	67.2 PK	74.0	-6.8	2.56 V	272	64.7	2.5
6	4924.00	53.1 AV	54.0	-0.9	2.56 V	272	50.6	2.5
7	7386.00	46.2 PK	74.0	-27.8	1.23 V	83	36.9	9.3
8	7386.00	33.8 AV	54.0	-20.2	1.23 V	83	24.5	9.3

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 WORST-CASE DATA

802.11n (HT20)

CHANNEL	TX Channel 11	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	39.97	27.8 QP	40.0	-12.2	1.50 H	30	36.8	-9.0
2	118.10	31.6 QP	43.5	-11.9	3.00 H	271	42.0	-10.4
3	166.79	35.4 QP	43.5	-8.1	1.50 H	64	44.2	-8.8
4	191.12	33.3 QP	43.5	-10.2	1.25 H	68	44.4	-11.1
5	320.01	31.3 QP	46.0	-14.7	1.00 H	263	37.9	-6.6
6	610.62	31.4 QP	46.0	-14.6	2.00 H	221	31.6	-0.2
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	40.67	27.7 QP	40.0	-12.3	1.50 V	181	36.7	-9.0
2	116.79	30.5 QP	43.5	-13.0	2.00 V	360	41.1	-10.6
3	165.53	34.5 QP	43.5	-9.0	3.00 V	336	43.2	-8.7
4	187.36	35.9 QP	43.5	-7.6	1.50 V	358	46.6	-10.7
5	305.41	27.5 QP	46.0	-18.5	2.00 V	344	34.6	-7.1
6	480.01	31.4 QP	46.0	-14.6	1.00 V	82	34.4	-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

4.1.8 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	46.4 PK	74.0	-27.6	1.01 H	115	50.6	-4.2
2	2390.00	32.8 AV	54.0	-21.2	1.01 H	115	37.0	-4.2
3	*2412.00	73.4 PK			1.01 H	115	77.5	-4.1
4	*2412.00	70.9 AV			1.01 H	115	75.0	-4.1
5	4824.00	55.6 PK	74.0	-18.4	1.00 H	282	53.3	2.3
6	4824.00	53.9 AV	54.0	-0.1	1.00 H	282	51.6	2.3
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	44.7 PK	74.0	-29.3	1.71 V	360	48.9	-4.2
2	2390.00	31.8 AV	54.0	-22.2	1.71 V	360	36.0	-4.2
3	*2412.00	75.2 PK			1.71 V	360	79.3	-4.1
4	*2412.00	73.1 AV			1.71 V	360	77.2	-4.1
5	4824.00	54.7 PK	74.0	-19.3	2.07 V	204	52.4	2.3
6	4824.00	53.0 AV	54.0	-1.0	2.07 V	204	50.7	2.3

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	73.9 PK			1.00 H	117	77.9	-4.0
2	*2437.00	71.5 AV			1.00 H	117	75.5	-4.0
3	4874.00	55.3 PK	74.0	-18.7	1.00 H	271	52.8	2.5
4	4874.00	53.8 AV	54.0	-0.2	1.00 H	271	51.3	2.5
5	7311.00	45.5 PK	74.0	-28.5	2.12 H	158	36.6	8.9
6	7311.00	32.0 AV	54.0	-22.0	2.12 H	158	23.1	8.9
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	*2437.00	75.2 PK			1.63 V	360	79.2	-4.0
2	*2437.00	73.9 AV			1.63 V	360	77.9	-4.0
3	4874.00	54.4 PK	74.0	-19.6	2.03 V	216	51.9	2.5
4	4874.00	52.6 AV	54.0	-1.4	2.03 V	216	50.1	2.5
5	7311.00	45.1 PK	74.0	-28.9	1.36 V	263	36.2	8.9
6	7311.00	32.3 AV	54.0	-21.7	1.36 V	263	23.4	8.9

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.

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	74.5 PK			1.00 H	118	78.6	-4.1
2	*2462.00	72.0 AV			1.00 H	118	76.1	-4.1
3	2483.50	46.0 PK	74.0	-28.0	1.00 H	118	50.0	-4.0
4	2483.50	32.3 AV	54.0	-21.7	1.00 H	118	36.3	-4.0
5	4924.00	55.2 PK	74.0	-18.8	1.12 H	300	52.7	2.5
6	4924.00	53.7 AV	54.0	-0.3	1.12 H	300	51.2	2.5
7	7386.00	45.8 PK	74.0	-28.2	2.14 H	145	36.5	9.3
8	7386.00	34.0 AV	54.0	-20.0	2.14 H	145	24.7	9.3
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	76.4 PK			1.66 V	360	80.5	-4.1
2	*2462.00	74.5 AV			1.66 V	360	78.6	-4.1
3	2483.50	45.5 PK	74.0	-28.5	1.66 V	360	49.5	-4.0
4	2483.50	32.7 AV	54.0	-21.3	1.66 V	360	36.7	-4.0
5	4924.00	54.4 PK	74.0	-19.6	2.01 V	219	51.9	2.5
6	4924.00	52.7 AV	54.0	-1.3	2.01 V	219	50.2	2.5
7	7386.00	47.1 PK	74.0	-26.9	1.40 V	251	37.8	9.3
8	7386.00	33.8 AV	54.0	-20.2	1.40 V	251	24.5	9.3

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	44.8 PK	74.0	-29.2	1.02 H	123	49.0	-4.2
2	2390.00	31.7 AV	54.0	-22.3	1.02 H	123	35.9	-4.2
3	*2412.00	79.9 PK			1.02 H	123	84.0	-4.1
4	*2412.00	70.5 AV			1.02 H	123	74.6	-4.1
5	4824.00	66.7 PK	74.0	-7.3	1.00 H	276	64.4	2.3
6	4824.00	53.3 AV	54.0	-0.7	1.00 H	276	51.0	2.3
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	44.1 PK	74.0	-29.9	1.69 V	360	48.3	-4.2
2	2390.00	32.3 AV	54.0	-21.7	1.69 V	360	36.5	-4.2
3	*2412.00	81.6 PK			1.69 V	360	85.7	-4.1
4	*2412.00	72.3 AV			1.69 V	360	76.4	-4.1
5	4824.00	65.7 PK	74.0	-8.3	1.97 V	242	63.4	2.3
6	4824.00	52.5 AV	54.0	-1.5	1.97 V	242	50.2	2.3

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	80.4 PK			1.05 H	115	84.4	-4.0
2	*2437.00	71.2 AV			1.05 H	115	75.2	-4.0
3	4874.00	66.9 PK	74.0	-7.1	1.00 H	272	64.4	2.5
4	4874.00	53.5 AV	54.0	-0.5	1.00 H	272	51.0	2.5
5	7311.00	46.1 PK	74.0	-27.9	2.33 H	161	37.2	8.9
6	7311.00	34.1 AV	54.0	-19.9	2.33 H	161	25.2	8.9
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	*2437.00	82.0 PK			1.73 V	360	86.0	-4.0
2	*2437.00	73.4 AV			1.73 V	360	77.4	-4.0
3	4874.00	66.0 PK	74.0	-8.0	1.96 V	229	63.5	2.5
4	4874.00	52.3 AV	54.0	-1.7	1.96 V	229	49.8	2.5
5	7311.00	47.4 PK	74.0	-26.6	1.42 V	262	38.5	8.9
6	7311.00	33.6 AV	54.0	-20.4	1.42 V	262	24.7	8.9

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.

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	80.9 PK			1.04 H	115	85.0	-4.1
2	*2462.00	71.8 AV			1.04 H	115	75.9	-4.1
3	2483.50	45.2 PK	74.0	-28.8	1.04 H	115	49.2	-4.0
4	2483.50	32.1 AV	54.0	-21.9	1.04 H	115	36.1	-4.0
5	4924.00	67.3 PK	74.0	-6.7	1.00 H	275	64.8	2.5
6	4924.00	53.9 AV	54.0	-0.1	1.00 H	275	51.4	2.5
7	7386.00	46.4 PK	74.0	-27.6	2.35 H	163	37.1	9.3
8	7386.00	34.5 AV	54.0	-19.5	2.35 H	163	25.2	9.3
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	82.5 PK			1.70 V	355	86.6	-4.1
2	*2462.00	74.2 AV			1.70 V	355	78.3	-4.1
3	2483.50	44.6 PK	74.0	-29.4	1.70 V	355	48.6	-4.0
4	2483.50	32.8 AV	54.0	-21.2	1.70 V	355	36.8	-4.0
5	4924.00	66.4 PK	74.0	-7.6	1.96 V	226	63.9	2.5
6	4924.00	52.8 AV	54.0	-1.2	1.96 V	226	50.3	2.5
7	7386.00	47.5 PK	74.0	-26.5	1.39 V	248	38.2	9.3
8	7386.00	34.1 AV	54.0	-19.9	1.39 V	248	24.8	9.3

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	44.7 PK	74.0	-29.3	1.05 H	126	48.9	-4.2
2	2390.00	31.3 AV	54.0	-22.7	1.05 H	126	35.5	-4.2
3	*2412.00	80.2 PK			1.05 H	126	84.3	-4.1
4	*2412.00	70.7 AV			1.05 H	126	74.8	-4.1
5	4824.00	67.5 PK	74.0	-6.5	1.05 H	272	65.2	2.3
6	4824.00	53.9 AV	54.0	-0.1	1.05 H	272	51.6	2.3
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	44.1 PK	74.0	-29.9	1.72 V	360	48.3	-4.2
2	2390.00	32.8 AV	54.0	-21.2	1.72 V	360	37.0	-4.2
3	*2412.00	81.9 PK			1.72 V	360	86.0	-4.1
4	*2412.00	72.6 AV			1.72 V	360	76.7	-4.1
5	4824.00	66.8 PK	74.0	-7.2	1.85 V	225	64.5	2.3
6	4824.00	52.7 AV	54.0	-1.3	1.85 V	225	50.4	2.3

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	80.6 PK			1.02 H	106	84.6	-4.0
2	*2437.00	71.2 AV			1.02 H	106	75.2	-4.0
3	4874.00	67.6 PK	74.0	-6.4	1.00 H	285	65.1	2.5
4	4874.00	53.8 AV	54.0	-0.2	1.00 H	285	51.3	2.5
5	7311.00	46.9 PK	74.0	-27.1	3.13 H	245	38.0	8.9
6	7311.00	34.7 AV	54.0	-19.3	3.13 H	245	25.8	8.9
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	*2437.00	82.0 PK			1.70 V	358	86.0	-4.0
2	*2437.00	73.3 AV			1.70 V	358	77.3	-4.0
3	4874.00	67.6 PK	74.0	-6.4	1.89 V	219	65.1	2.5
4	4874.00	52.9 AV	54.0	-1.1	1.89 V	219	50.4	2.5
5	7311.00	46.4 PK	74.0	-27.6	1.29 V	38	37.5	8.9
6	7311.00	35.1 AV	54.0	-18.9	1.29 V	38	26.2	8.9

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.

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	80.7 PK			1.03 H	127	84.8	-4.1
2	*2462.00	71.4 AV			1.03 H	127	75.5	-4.1
3	2483.50	45.1 PK	74.0	-28.9	1.03 H	127	49.1	-4.0
4	2483.50	31.8 AV	54.0	-22.2	1.03 H	127	35.8	-4.0
5	4924.00	67.0 PK	74.0	-7.0	1.04 H	279	64.5	2.5
6	4924.00	53.7 AV	54.0	-0.3	1.04 H	279	51.2	2.5
7	7386.00	47.2 PK	74.0	-26.8	3.11 H	251	37.9	9.3
8	7386.00	35.0 AV	54.0	-19.0	3.11 H	251	25.7	9.3
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	82.3 PK			1.76 V	360	86.4	-4.1
2	*2462.00	74.0 AV			1.76 V	360	78.1	-4.1
3	2483.50	44.7 PK	74.0	-29.3	1.76 V	360	48.7	-4.0
4	2483.50	33.2 AV	54.0	-20.8	1.76 V	360	37.2	-4.0
5	4924.00	67.6 PK	74.0	-6.4	1.83 V	227	65.1	2.5
6	4924.00	53.0 AV	54.0	-1.0	1.83 V	227	50.5	2.5
7	7386.00	46.6 PK	74.0	-27.4	1.22 V	29	37.3	9.3
8	7386.00	35.6 AV	54.0	-18.4	1.22 V	29	26.3	9.3

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 WORST-CASE DATA

802.11n (HT20)

CHANNEL	TX Channel 11	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	39.02	27.5 QP	40.0	-12.5	1.50 H	273	36.5	-9.0
2	118.08	31.7 QP	43.5	-11.8	2.00 H	270	42.1	-10.4
3	164.88	35.7 QP	43.5	-7.8	1.50 H	83	44.3	-8.6
4	188.62	36.3 QP	43.5	-7.2	3.00 H	67	47.2	-10.9
5	320.03	32.3 QP	46.0	-13.7	1.50 H	260	38.9	-6.6
6	641.08	31.1 QP	46.0	-14.9	1.00 H	138	30.6	0.5
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	37.95	28.1 QP	40.0	-11.9	1.00 V	245	37.1	-9.0
2	126.81	31.4 QP	43.5	-12.1	1.50 V	0	41.3	-9.9
3	165.48	34.4 QP	43.5	-9.1	2.00 V	350	43.1	-8.7
4	187.96	35.8 QP	43.5	-7.7	1.50 V	0	46.5	-10.7
5	480.01	33.8 QP	46.0	-12.2	3.00 V	65	36.8	-3.0
6	924.05	32.9 QP	46.0	-13.1	1.00 V	316	28.2	4.7

REMARKS:

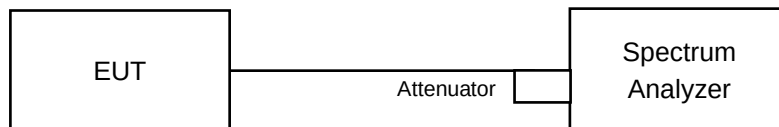
1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

4.2 6dB Bandwidth Measurement

4.2.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

4.2.2 Test Setup



4.2.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.2.4 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

4.2.5 Deviation from Test Standard

No deviation.

4.2.6 EUT Operating Conditions

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

4.2.7 Test Result

802.11b

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	8.16	0.5	PASS
6	2437	8.14	0.5	PASS
11	2462	8.13	0.5	PASS

802.11g

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	16.48	0.5	PASS
6	2437	16.43	0.5	PASS
11	2462	16.41	0.5	PASS

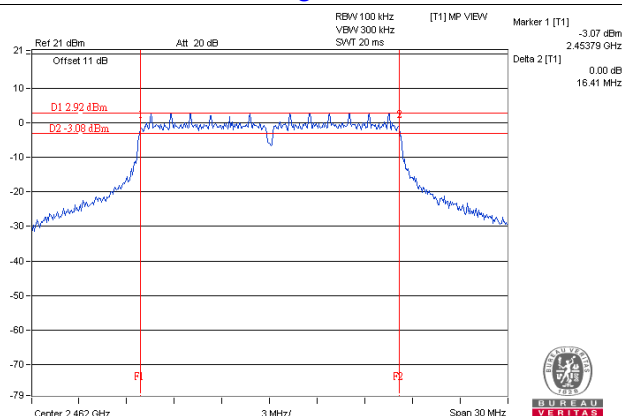
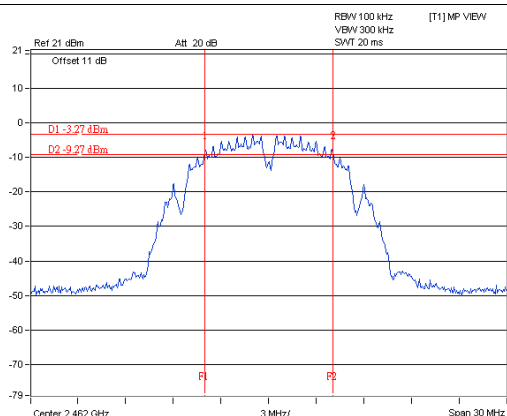
802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	17.66	0.5	Pass
6	2437	17.69	0.5	Pass
11	2462	17.70	0.5	Pass

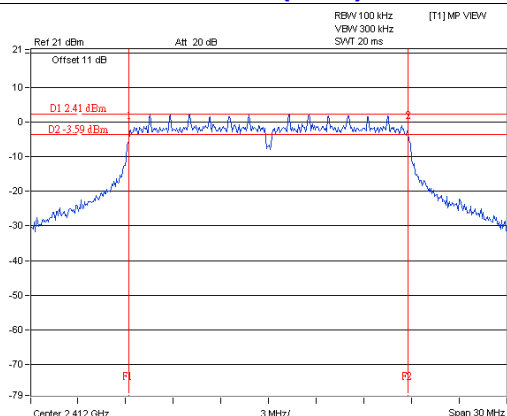
Spectrum Plot of Worst Value

802.11b : CH11

802.11g : CH11



802.11n (HT20) : CH1

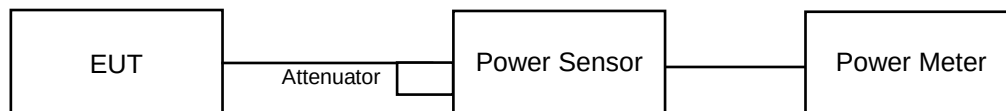


4.3 Conducted Output Power Measurement

4.3.1 Limits of Conducted Output Power Measurement

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

4.3.2 Test Setup



4.3.3 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Power meter Anritsu	ML2495A	1014008	May 05, 2016	May 04, 2017
Power sensor Anritsu	MA2411B	0917122	May 05, 2016	May 04, 2017

- NOTE:**
1. The test was performed in Oven room 2.
 2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
 3. Tested Date: Jan. 03, 2017

4.3.4 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.

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Conditions

Same as Item 4.3.6.

4.3.7 Test Results

FOR PEAK POWER

802.11b

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass/Fail
1	2412	5.508	7.41	30	Pass
6	2437	6.067	7.83	30	Pass
11	2462	6.792	8.32	30	Pass

802.11g

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass/Fail
1	2412	90.365	19.56	30	Pass
6	2437	92.897	19.68	30	Pass
11	2462	106.905	20.29	30	Pass

802.11n (HT20)

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass/Fail
1	2412	92.257	19.65	30	Pass
6	2437	93.972	19.73	30	Pass
11	2462	107.647	20.32	30	Pass

FOR AVERAGE POWER

802.11b

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	2.518	4.01
6	2437	2.761	4.41
11	2462	3.097	4.91

802.11g

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	14.158	11.51
6	2437	14.894	11.73
11	2462	16.255	12.11

802.11n (HT20)

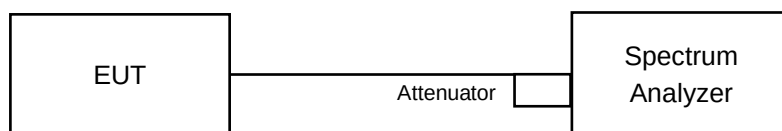
Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	14.825	11.71
6	2437	15.205	11.82
11	2462	16.331	12.13

4.4 Power Spectral Density Measurement

4.4.1 Limits of Power Spectral Density Measurement

The Maximum of Power Spectral Density Measurement is 8dBm.

4.4.2 Test Setup



4.4.3 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer R&S	FSV40	100964	June 28, 2016	June 27, 2017

- NOTE:**
1. The test was performed in Oven room 2.
 2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
 3. Tested Date: Jan. 03, 2017

4.4.4 Test Procedure

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

4.4.5 Deviation from Test Standard

No deviation.

4.4.6 EUT Operating Condition

Same as Item 4.3.6

4.4.7 Test Results

802.11b

Channel	Freq. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
1	2412	-16.47	8	Pass
6	2437	-18.73	8	Pass
11	2462	-16.43	8	Pass

802.11g

Channel	Freq. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
1	2412	-12.18	8	Pass
6	2437	-11.91	8	Pass
11	2462	-11.90	8	Pass

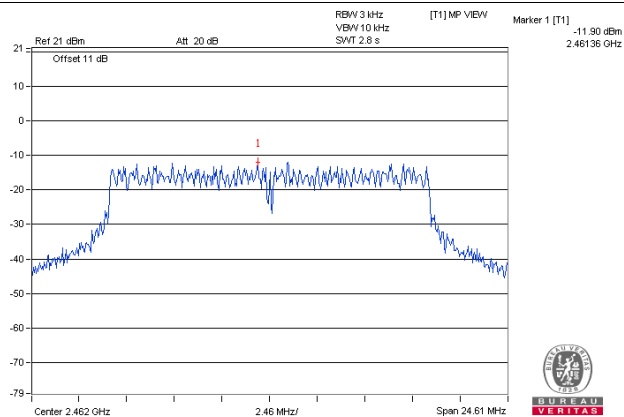
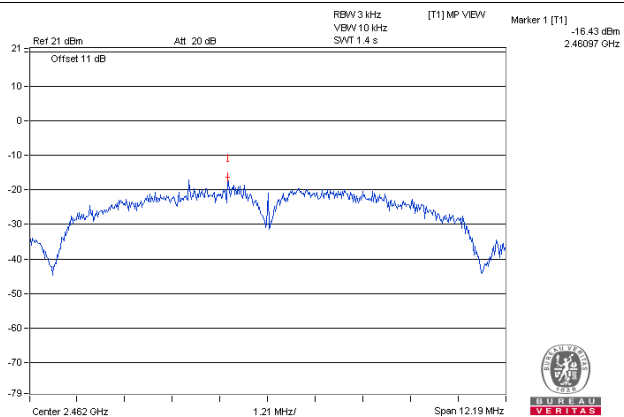
802.11n (HT20)

Channel	Freq. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
1	2412	-12.64	8	Pass
6	2437	-12.23	8	Pass
11	2462	-11.76	8	Pass

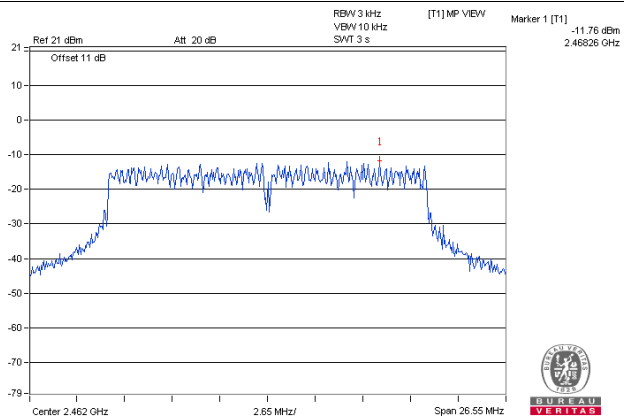
Spectrum Plot of Worst Value

802.11b : CH11

802.11g : CH11



802.11n (HT20) : CH11

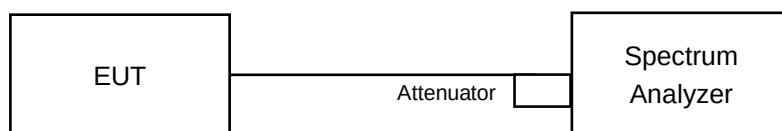


4.5 Conducted Out of Band Emission Measurement

4.5.1 Limits of Conducted Out of Band Emission Measurement

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

4.5.2 Test Setup



4.5.3 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer R&S	FSV40	100964	June 28, 2016	June 27, 2017

- NOTE:**
1. The test was performed in Oven room 2.
 2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
 3. Tested Date: Jan. 03, 2017

4.5.4 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 OOB

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.

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Condition

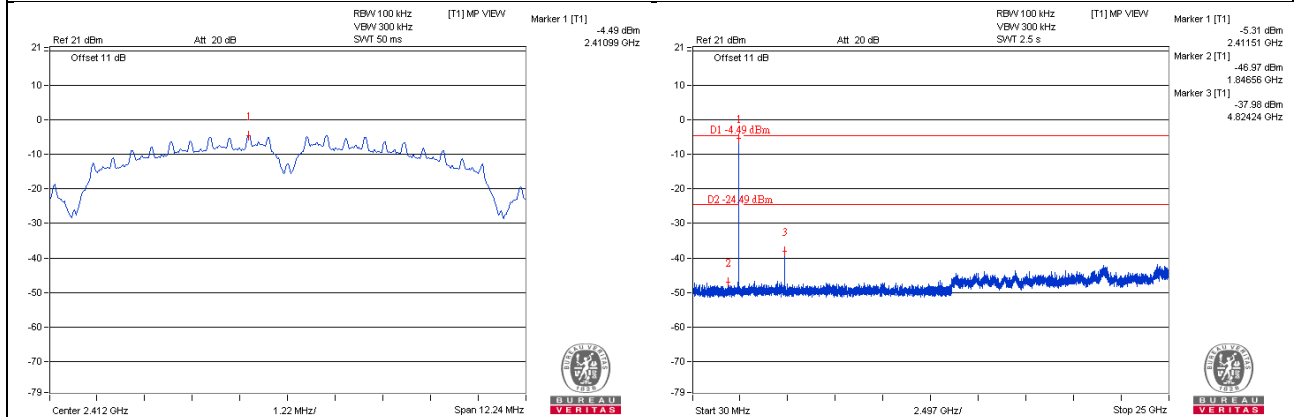
Same as Item 4.3.6

4.5.7 Test Results

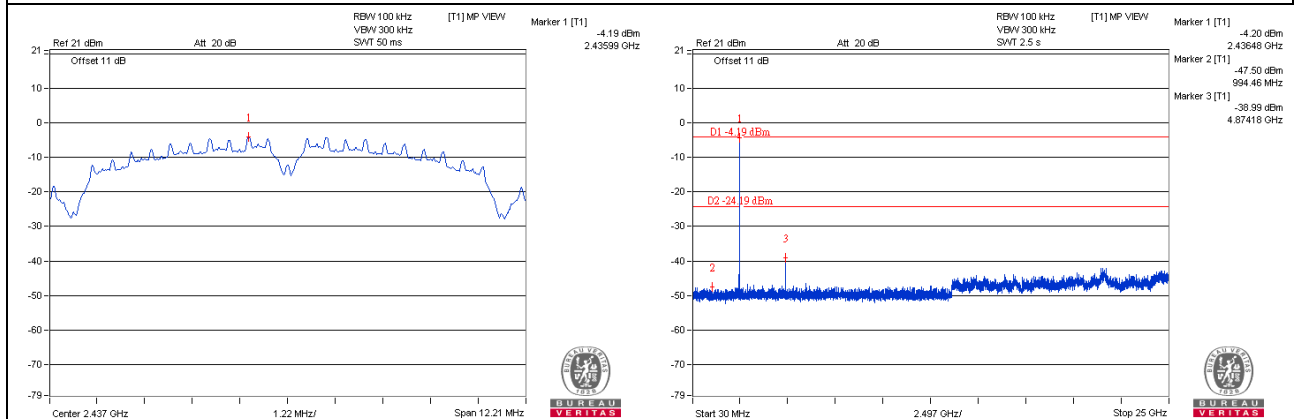
The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement.

802.11b

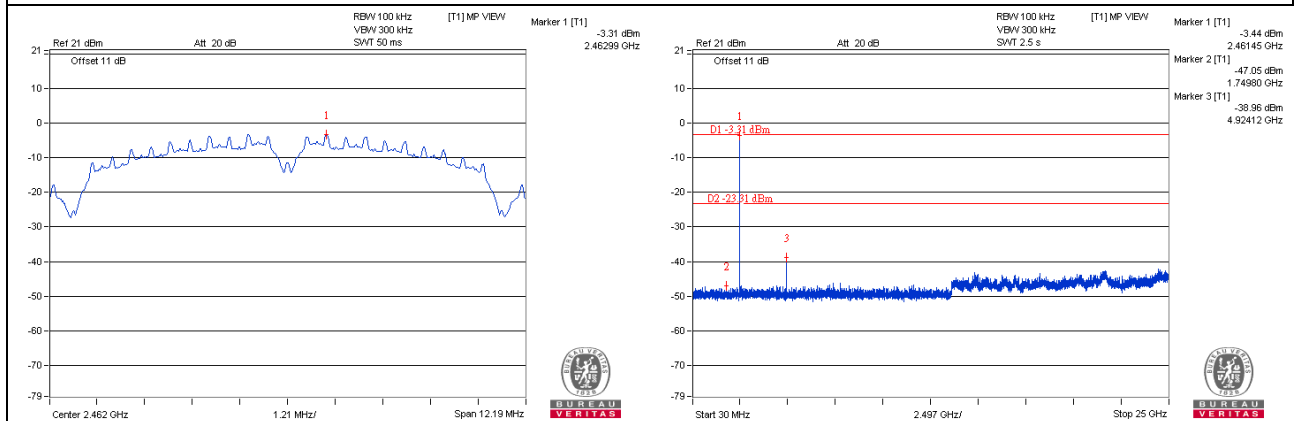
CH 1



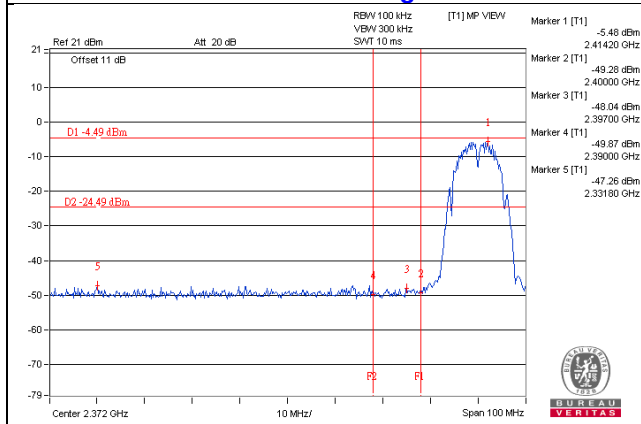
CH 6



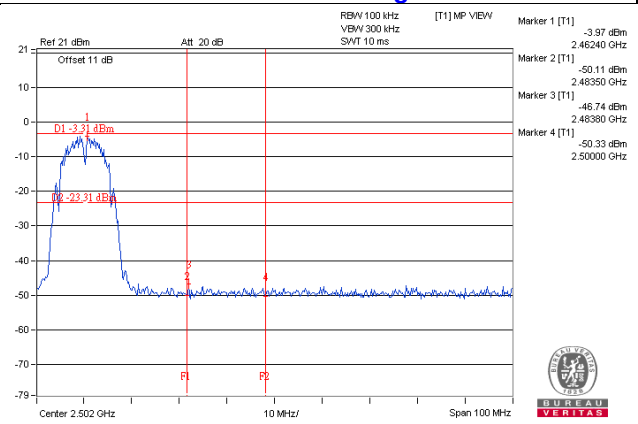
CH 11



CH 1 Band edge

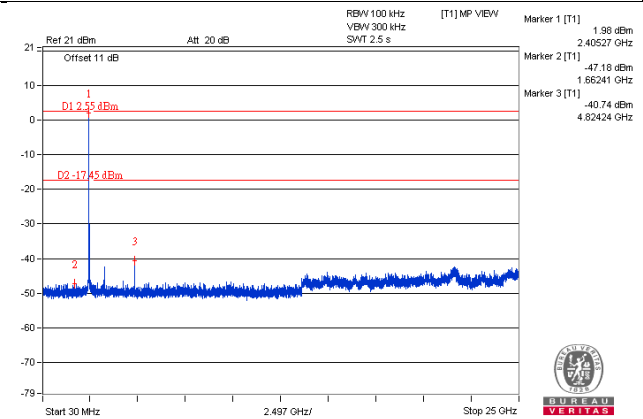
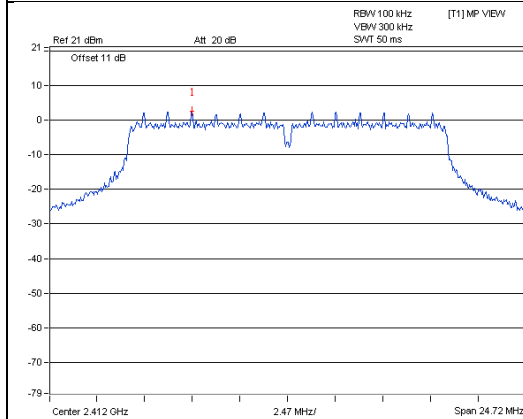


CH 11 Band edge

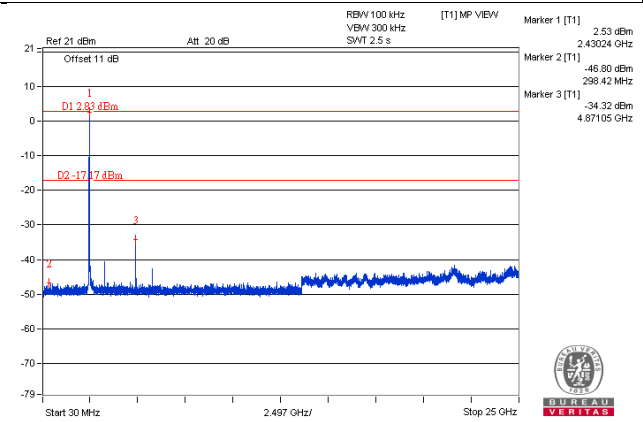
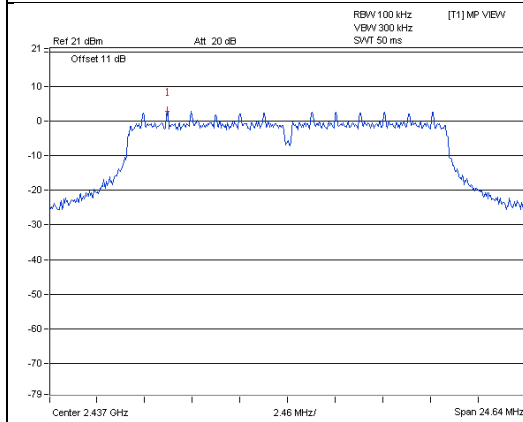


802.11g

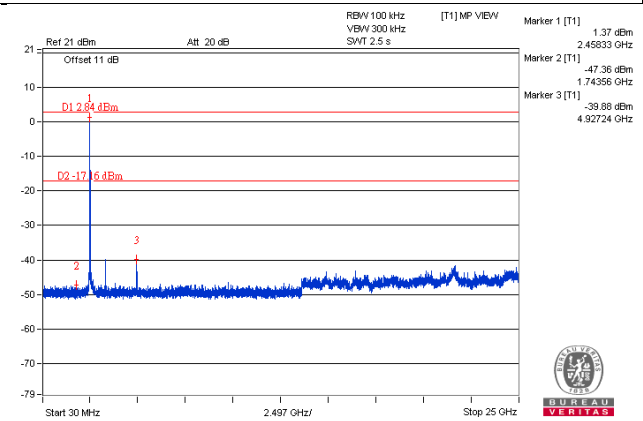
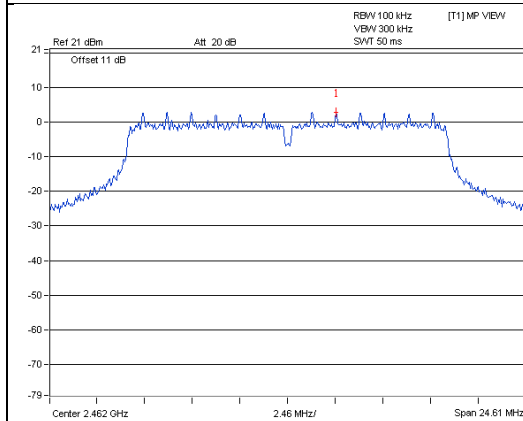
CH 1



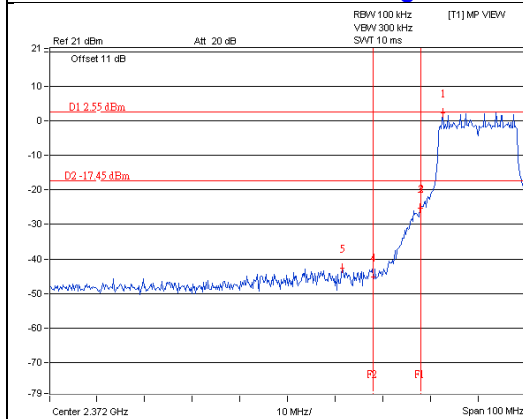
CH 6



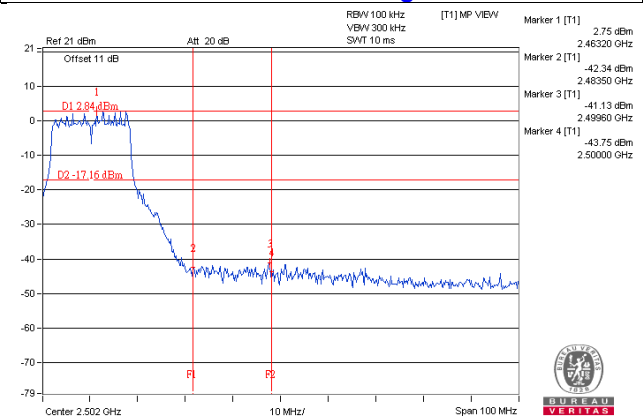
CH 11



CH 1 Band edge

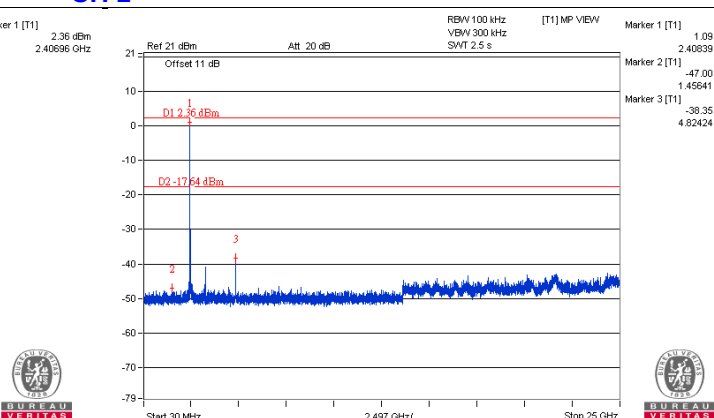
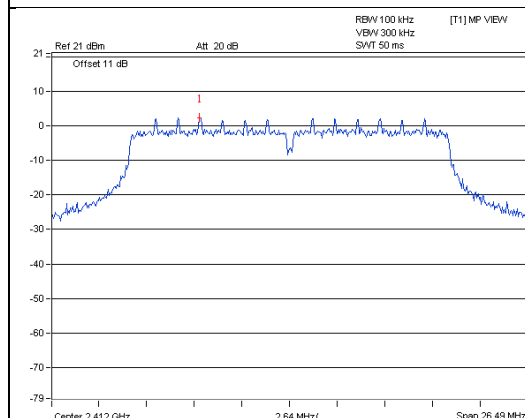


CH 11 Band edge

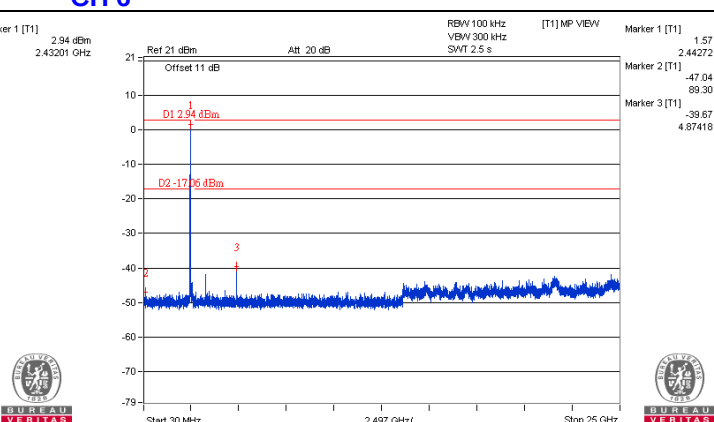
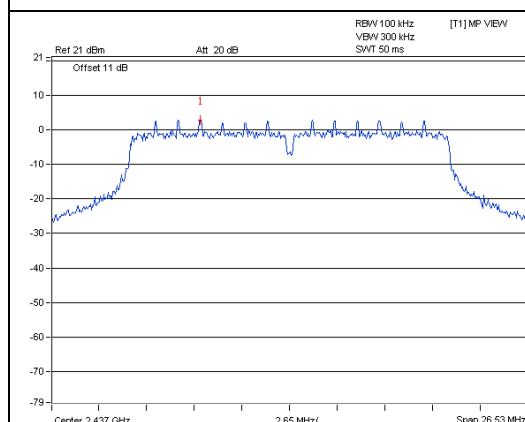


802.11n (HT20)

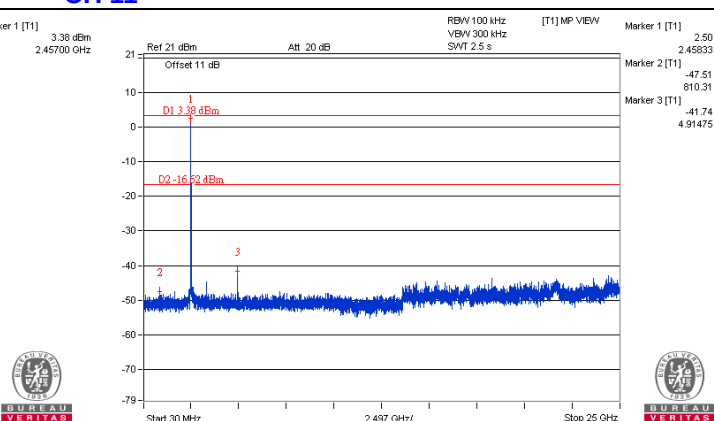
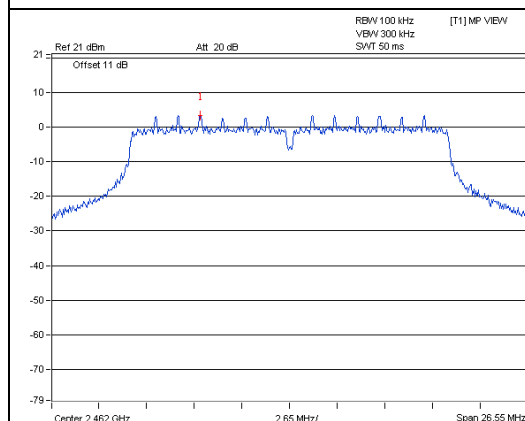
CH 1



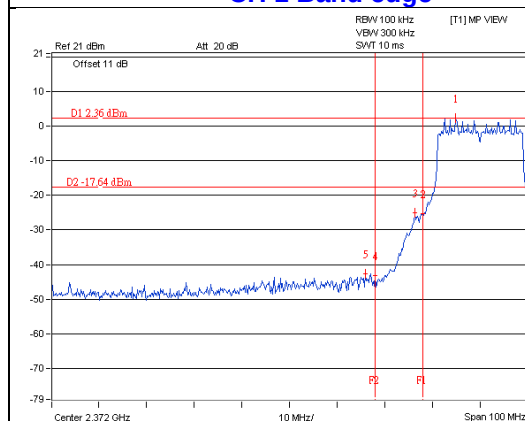
CH 6



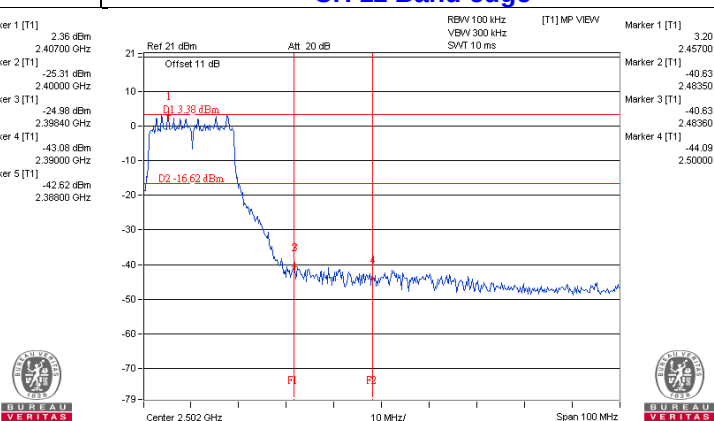
CH 11



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 accredited and approved according to ISO/IEC 17025.

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

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Email: service.adt@tw.bureauveritas.com

Web Site: www.bureauveritas-adt.com

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

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