

## FCC Test Report (WLAN)

**Report No.:** RF150730E02

**FCC ID:** R68PW2050

**Test Model:** PW 2050

**Received Date:** July 30, 2015

**Test Date:** Aug. 12 to Oct. 08, 2015

**Issued Date:** Nov. 04, 2015

**Applicant:** Lantronix Inc

**Address:** 7535 Irvine Center Drive Suite 100, Irvine CA 92618

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

**Lab Address:** No. 81-1, Lu Liao Keng, 9th Ling, Wu Lung Tsuen, Chiung Lin Hsiang, Hsin  
Chu Hsien 307, Taiwan R.O.C.

**Test Location (1):** No. 81-1, Lu Liao Keng, 9th Ling, Wu Lung Tsuen, Chiung Lin Hsiang, Hsin  
Chu Hsien 307, Taiwan R.O.C.

**Test Location (2):** No. 49, Ln. 206, Wende Rd., Shangshan Tsuen, Chiung Lin Hsiang, Hsin  
Chu Hsien 307, Taiwan R.O.C.

**Test Location (3):** E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300,  
Taiwan R.O.C.



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A D T

### Release Control Record

Issue No.	Description	Date Issued
RF150730E02	Original release.	Nov. 04, 2015



**1 Certificate of Conformity**

**Product:** PremierWave 2050  
**Brand:** Lantronix  
**Test Model:** PW 2050  
**Sample Status:** ENGINEERING SAMPLE  
**Applicant:** Lantronix Inc  
**Test Date:** Aug. 12 to Oct. 08, 2015  
**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 :** Midoli Peng , **Date:** Nov. 04, 2015  
Midoli Peng / Specialist

**Approved by :** May Chen , **Date:** Nov. 04, 2015  
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 -20.32dB at 0.37716MHz.
15.205 / 15.209 / 15.247(d)	Radiated Emissions and Band Edge Measurement	PASS	Meet the requirement of limit. Minimum passing margin is -3.1dB at 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	Antenna connector is RSMA or i-pex(MHF) not a standard connector.

**NOTE:** 1. For WLAN: The EUT was operating in 2400 ~ 2483.5MHz, 5.15~5.35 GHz, 5.47~5.725GHz and 5.725~5.85GHz frequencies band. This report was recorded the RF parameters including 2400 ~ 2483.5MHz. For the 5.15~5.35GHz, 5.47~5.725GHz and 5.725~5.85GHz RF parameters was recorded in another test report.

### 2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.86 dB
Radiated Emissions up to 1 GHz	30MHz ~ 1000MHz	5.37 dB
Radiated Emissions above 1 GHz	1GHz ~ 6GHz	3.72 dB
	6GHz ~ 18GHz	4.00 dB
	18GHz ~ 40GHz	4.11 dB

### 2.2 Modification Record

There were no modifications required for compliance.

### 3 General Information

#### 3.1 General Description of EUT (WLAN)

Product	PremierWave 2050
Brand	Lantronix
Test Model	PW 2050
Status of EUT	ENGINEERING SAMPLE
Power Supply Rating	5Vdc from host equipment
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode
Modulation Technology	DSSS, OFDM
Transfer Rate	802.11b: up to 11Mbps 802.11a/g: up to 54Mbps 802.11n : up to 150Mbps 802.11ac: up to 433.3Mbps
Operating Frequency	For 15.407 5.18 ~ 5.24GHz, 5.26 ~ 5.32GHz, 5.50 ~ 5.72GHz, 5.745 ~ 5.825GHz For 15.247 2.412 ~ 2.462GHz
Number of Channel	For 15.407 25 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 12 for 802.11n (HT40), 802.11ac (VHT40) 6 for 802.11ac (VHT80) For 15.247 11 for 802.11b/g, 802.11n (HT20) 7 for 802.11n (HT40)
Output Power	<b>For 15.407</b> 802.11a: 30.269mW 802.11ac (VHT20): 24.831mW 802.11ac (VHT40): 15.101mW 802.11ac (VHT80): 14.158mW <b>For 15.247</b> 802.11b: 48.753mW 802.11g: 143.549mW 802.11n(HT20): 112.72mW 802.11n(HT40): 103.276mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	NA
Data Cable Supplied	NA

**Note:**

1. The EUT was included two variants, which are identical to each other in all aspects except for the following table:

Module Version	Product	Brand	Model	Different	Antenna
SKU #A	PremierWave 2050	Lantronix	PW 2050	SIP with one ethertronics chip ant and one UFL connector	ethertronics chip ant + ethertronics printed ant / ethertronics chip ant + Taoglas ant
SKU #B				SIP with two UFL connectors	Taoglas ant+Taoglas ant/ ethertronic printed ant+ethertronic printed ant

2. The antenna configurations as following table:

Module Version	Primary TX/RX antenna	RX diversity antenna
SKU #A	Chip Antenna Lantronix 220-613-R Ethertronics M830510	U.FL to PCB Strip Antenna Lantronix 930-099-R Ethertronics 1000602
SKU #A	Chip Antenna Lantronix 220-613-R Ethertronics M830510	U.FL to Taoglas GW.71.5153
SKU #B	U.FL to PCB Strip Antenna Lantronix 930-099-R Ethertronics 1000602	U.FL to PCB Strip Antenna Lantronix 930-099-R Ethertronics 1000602
SKU #B	U.FL to Taoglas GW.71.5153	U.FL to Taoglas GW.71.5153

3. The EUT incorporates a SIMO function.

2.4GHz Band			
MODULATION MODE	DATA RATE (MCS)	TX & RX CONFIGURATION	
802.11b	1 ~ 11Mbps	1TX (Fixed Chan 0)	2RX
802.11g	6 ~ 54Mbps	1TX (Fixed Chan 0)	2RX
802.11n (HT20)	MCS 0~7	1TX (Fixed Chan 0)	2RX
802.11n (HT40)	MCS 0~7	1TX (Fixed Chan 0)	2RX
5GHz Band			
MODULATION MODE	DATA RATE (MCS)	TX & RX CONFIGURATION	
802.11a	6 ~ 54Mbps	1TX (Fixed Chan 0)	2RX
802.11n (HT20)	MCS 0~7	1TX (Fixed Chan 0)	2RX
802.11n (HT40)	MCS 0~7	1TX (Fixed Chan 0)	2RX
802.11ac (VHT20)	MCS0~8 Nss= 1	1TX (Fixed Chan 0)	2RX
802.11ac (VHT40)	MCS0~9 Nss= 1	1TX (Fixed Chan 0)	2RX
802.11ac (VHT80)	MCS0~9 Nss= 1	1TX (Fixed Chan 0)	2RX

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

4. WLAN and BT technology can't transmit at same time.



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

Brand	Model	Antenna Gain (dBi) (Excelude cable loss)	Cable Loss (dB)	Net Gain (dBi)	Cable Length (mm)	Frequency range (GHz to GHz)	Antenna Type	Connector Type
taoglas	GW.71.5153	3.8	1	2.8	45	2.4~2.483	Dipole	R-SMA
		5.5	1.7	3.8		5.15~5.85		
Brand	Model	Antenna Gain (dBi)			Frequency range (GHz to GHz)	Antenna Type	Connector Type	
ethertronics	M830510	1.1			2.4~2.483	Chip	NA	
		3.2			5.15~5.85			
Brand	Model	Antenna Gain (dBi)			Frequency range (GHz to GHz)	Antenna Type	Connector Type	
ethertronics	1000602	2.5			2.4~2.483	PCB	i-pex(MHF)	
		5			5.15~5.85			

### 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		

7 channels are provided for 802.11n (HT40):

Channel	Frequency	Channel	Frequency
3	2422MHz	7	2442MHz
4	2427MHz	8	2447MHz
5	2432MHz	9	2452MHz
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	√	√	-	-	Chip antenna + Dipole antenna
2	√	√	√	-	PCB antenna + PCB antenna
3	√	√	-	√	Dipole antenna + Dipole 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:** “-” means no effect.

**NOTE 2:** Antenna placement had been investigated on the positioning of each 3 axis.

Following worst case were found as listed below.

Antenna	Worst position
Chip	X Plane
PCB	X-plane(Below 1GHz) ; Z-plane (Above 1GHz)

#### **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
802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	13.5

#### **Radiated Emission Test (Below 1GHz):**

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

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11g	1 to 11	11	OFDM	BPSK	6

**Power Line Conducted Emission Test:**

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11g	1 to 11	11	OFDM	BPSK	6

**Antenna Port Conducted Measurement:**

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

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
802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	13.5

**Test Condition:**

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (SYSTEM)	TESTED BY
RE $\geq$ 1G	25deg. C, 67%RH	120Vac, 60Hz	Robert Cheng
RE $<$ 1G	25deg. C, 69%RH	120Vac, 60Hz	Robert Cheng
PLC	25deg. C, 60%RH	120Vac, 60Hz	Jyunchun Lin
APCM	25deg. C, 60%RH	120Vac, 60Hz	Gary Cheng

### 3.3 Duty Cycle of Test Signal

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

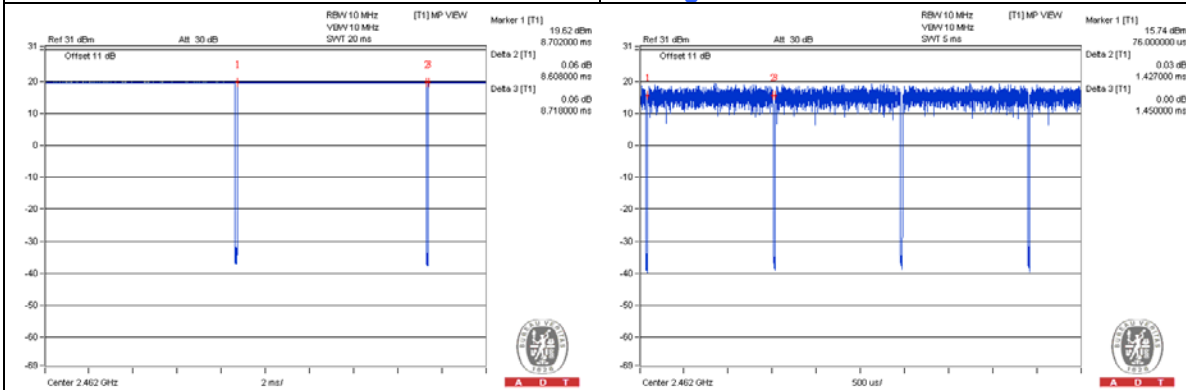
**802.11b**: Duty cycle =  $8.608\text{ ms} / 8.718\text{ ms} = 0.987$

**802.11g**: Duty cycle =  $1.427\text{ ms} / 1.45\text{ ms} = 0.984$

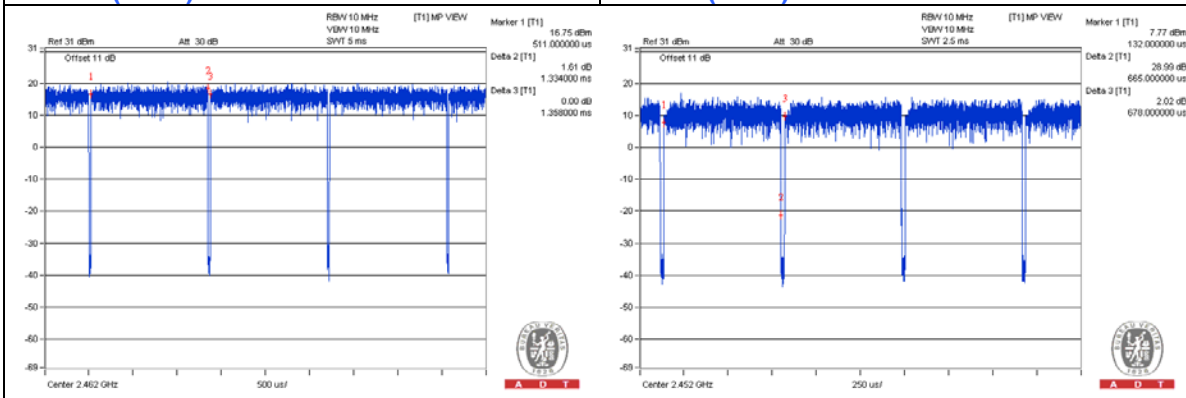
**802.11n (HT20)**: Duty cycle =  $1.334\text{ ms} / 1.358\text{ ms} = 0.982$

**802.11n (HT40)**: Duty cycle =  $0.665\text{ ms} / 0.678\text{ ms} = 0.981$

**802.11b** **802.11g**



**802.11n (HT20)** **802.11n (HT40)**



### 3.4 Description of Support Units

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

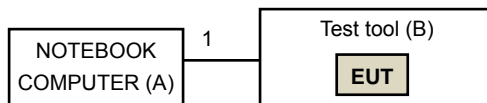
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	NOTEBOOK COMPUTER	DELL	E5430	GM1SKV1	FCC DoC	Provided by Lab
B.	Test Tool	NA	NA	NA	NA	Supplied by Client

Note:

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

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	MiniUSB	1	1.5	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)**  
**558074 D01 DTS Meas Guidance v03r03**  
ANSI C63.10-2013

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

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

## 4 Test Types and Results

### 4.1 Radiated Emission and Bandedge Measurement

#### 4.1.1 Limits of Radiated Emission and Bandedge Measurement

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

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

**NOTE:**

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



#### 4.1.2 Test Instruments

##### For Below 1GHz test

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Agilent	N9038A	MY51210105	July 24, 2015	July 23, 2016
Pre-Amplifier Mini-Circuits	ZFL-1000VH2 B	AMP-ZFL-03	Nov. 12, 2014	Nov. 11, 2015
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-360	Feb. 06, 2015	Feb. 05, 2016
RF Cable	8D-FB	CHGCAB-001 -1 CHGCAB-001 -2	Oct. 04, 2014	Oct. 03, 2015
	RF-141	CHGCAB-004	Oct. 04, 2014	Oct. 03, 2015
Software	ADT_Radiated _V8.7.07	NA	NA	NA
Antenna Tower & Turn Table CT	NA	NA	NA	NA

##### Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in 966 Chamber No. G.
3. The FCC Site Registration No. is 966073.
4. The CANADA Site Registration No. is IC 7450H-2.
5. Tested Date: Aug. 12 to 27, 2015

**For Above 1GHz test**

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Agilent	N9038A	MY51210202	Dec. 12, 2014	Dec. 11, 2015
Horn_Antenna AISI	AIH.8018	0000220091110	Feb. 06, 2015	Feb. 05, 2016
Pre-Amplifier Agilent	8449B	3008A01923	Oct. 28, 2014	Oct. 27, 2015
RF Cable	NA	131206 131213 131215 SNMY23685/4	Jan. 16, 2015	Jan. 15, 2016
Spectrum Analyzer R&S	FSV40	100964	Jun. 26, 2015	Jun. 25, 2016
Pre-Amplifier SPACEK LABS	SLKKa-48-6	9K16	Dec. 12, 2014	Dec. 11, 2015
Horn_Antenna SCHWARZBECK	BBHA 9170	9170-424	Feb. 05, 2015	Feb. 04, 2016
RF Cable	NA	329751/4 RF104-204	Dec. 11, 2014	Dec. 10, 2015
Software	ADT_Radiated _V8.7.07	NA	NA	NA
Antenna Tower & Turn Table CT	NA	NA	NA	NA
Spectrum Analyzer R&S	FSP40	100060	May 08, 2015	May 07, 2016
Power Meter Anritsu	ML2495A	1014008	Apr. 28, 2015	Apr. 27, 2016
Power Sensor Anritsu	MA2411B	0917122	Apr. 28, 2015	Apr. 27, 2016

**Note:**

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in 966 Chamber No. H.
3. The FCC Site Registration No. is 797305.
4. The CANADA Site Registration No. is IC 7450H-3.
5. Tested Date: Aug. 27 to Oct. 08, 2015

#### 4.1.3 Test Procedures

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

#### Note:

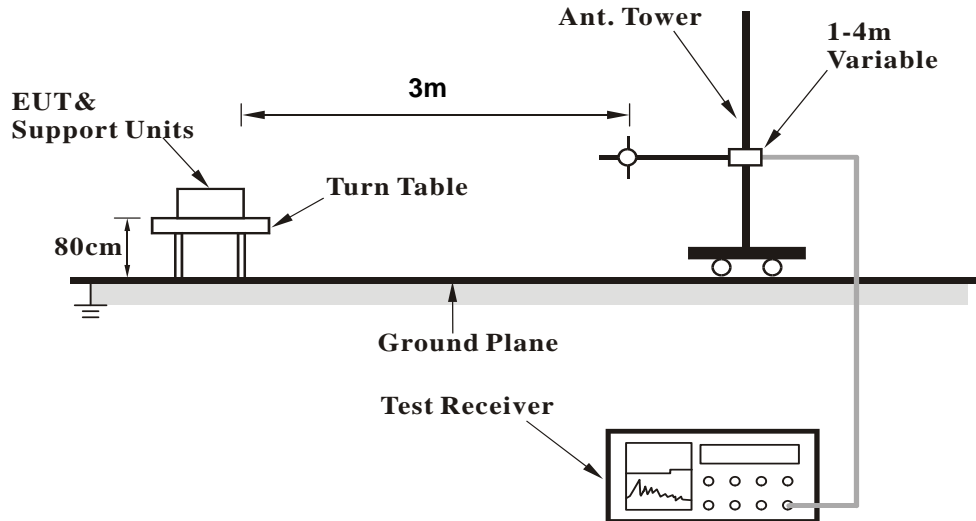
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

#### 4.1.4 Deviation from Test Standard

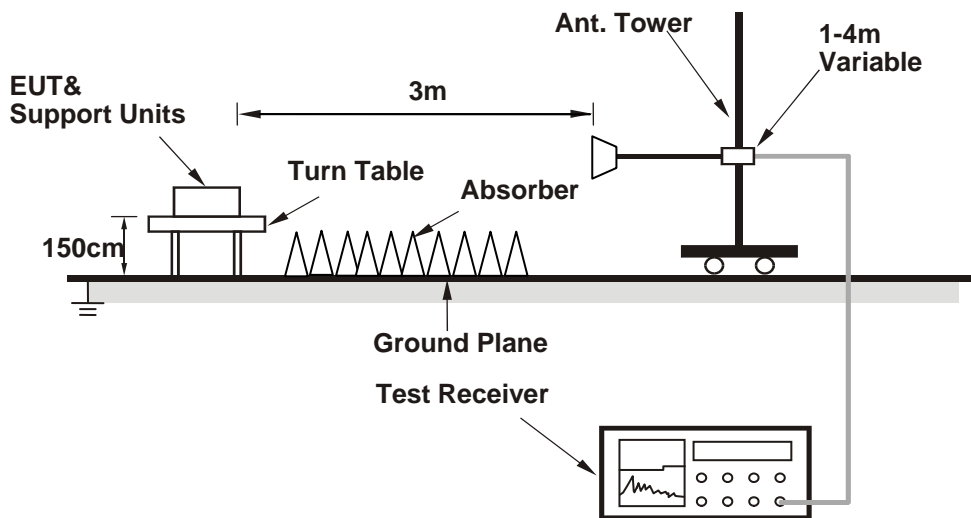
No deviation.

4.1.5 Test Set Up

**<Frequency Range below 1GHz>**



**<Frequency Range above 1GHz>**



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

4.1.6 EUT Operating Conditions

1. Connect the EUT with the support unit A (Notebook Computer) which is placed on test table.
2. The communication partner run test program "HyperTerminal paste Script file" to enable EUT under transmission/receiving condition continuously at specific channel frequency.

**4.1.7 Test Results (Mode 1)**
**Above 1GHz Data**
**802.11b**

<b>CHANNEL</b>	TX Channel 1	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	55.2 PK	74.0	-18.8	1.40 H	190	58.39	-3.19
2	2390.00	46.6 AV	54.0	-7.4	1.40 H	190	49.79	-3.19
3	*2412.00	107.2 PK			1.40 H	190	110.33	-3.13
4	*2412.00	103.7 AV			1.40 H	190	106.83	-3.13
5	4824.00	46.4 PK	74.0	-27.6	1.00 H	72	40.43	5.97
6	4824.00	36.2 AV	54.0	-17.8	1.00 H	72	30.23	5.97

**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	52.7 PK	74.0	-21.3	1.22 V	256	55.89	-3.19
2	2390.00	44.6 AV	54.0	-9.4	1.22 V	256	47.79	-3.19
3	*2412.00	100.8 PK			1.22 V	256	103.93	-3.13
4	*2412.00	97.1 AV			1.22 V	256	100.23	-3.13
5	4824.00	45.0 PK	74.0	-29.0	1.00 V	214	39.03	5.97
6	4824.00	35.9 AV	54.0	-18.1	1.00 V	214	29.93	5.97

**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.

<b>CHANNEL</b>	TX Channel 6	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	107.5 PK			1.46 H	186	110.54	-3.04
2	*2437.00	103.8 AV			1.46 H	186	106.84	-3.04
3	4874.00	47.3 PK	74.0	-26.7	1.00 H	59	41.25	6.05
4	4874.00	36.6 AV	54.0	-17.4	1.00 H	59	30.55	6.05
5	7311.00	51.3 PK	74.0	-22.7	1.00 H	215	40.36	10.94
6	7311.00	38.9 AV	54.0	-15.1	1.00 H	215	27.96	10.94

**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	101.3 PK			1.17 V	235	104.34	-3.04
2	*2437.00	97.6 AV			1.17 V	235	100.64	-3.04
3	4874.00	46.6 PK	74.0	-27.4	1.00 V	207	40.55	6.05
4	4874.00	36.9 AV	54.0	-17.1	1.00 V	207	30.85	6.05
5	7311.00	53.0 PK	74.0	-21.0	1.00 V	242	42.06	10.94
6	7311.00	39.1 AV	54.0	-14.9	1.00 V	242	28.16	10.94

**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.

<b>CHANNEL</b>	TX Channel 11	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	108.9 PK			1.45 H	188	111.84	-2.94
2	*2462.00	105.4 AV			1.45 H	188	108.34	-2.94
3	2488.30	56.8 PK	74.0	-17.2	1.45 H	188	59.65	-2.85
4	2488.30	48.9 AV	54.0	-5.1	1.45 H	188	51.75	-2.85
5	4924.00	46.8 PK	74.0	-27.2	1.00 H	68	40.73	6.07
6	4924.00	36.4 AV	54.0	-17.6	1.00 H	68	30.33	6.07
7	7386.00	52.0 PK	74.0	-22.0	1.00 H	215	40.58	11.42
8	7386.00	39.4 AV	54.0	-14.6	1.00 H	215	27.98	11.42

**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	101.7 PK			1.21 V	241	104.64	-2.94
2	*2462.00	98.1 AV			1.21 V	241	101.04	-2.94
3	2488.30	54.2 PK	74.0	-19.8	1.21 V	241	57.05	-2.85
4	2488.30	46.2 AV	54.0	-7.8	1.21 V	241	49.05	-2.85
5	4924.00	46.5 PK	74.0	-27.5	1.00 V	215	40.43	6.07
6	4924.00	36.7 AV	54.0	-17.3	1.00 V	215	30.63	6.07
7	7386.00	53.6 PK	74.0	-20.4	1.00 V	246	42.18	11.42
8	7386.00	39.5 AV	54.0	-14.5	1.00 V	246	28.08	11.42

**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**

<b>CHANNEL</b>	TX Channel 1	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	65.2 PK	74.0	-8.8	1.28 H	177	68.39	-3.19
2	2390.00	47.6 AV	54.0	-6.4	1.28 H	177	50.79	-3.19
3	*2412.00	104.8 PK			1.28 H	177	107.93	-3.13
4	*2412.00	94.2 AV			1.28 H	177	97.33	-3.13
5	4824.00	46.7 PK	74.0	-27.3	1.00 H	74	40.73	5.97
6	4824.00	36.2 AV	54.0	-17.8	1.00 H	74	30.23	5.97

**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	61.4 PK	74.0	-12.6	1.17 V	219	64.59	-3.19
2	2390.00	44.8 AV	54.0	-9.2	1.17 V	219	47.99	-3.19
3	*2412.00	95.8 PK			1.17 V	219	98.93	-3.13
4	*2412.00	85.7 AV			1.17 V	219	88.83	-3.13
5	4824.00	46.0 PK	74.0	-28.0	1.06 V	198	40.03	5.97
6	4824.00	36.3 AV	54.0	-17.7	1.06 V	198	30.33	5.97

**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.



<b>CHANNEL</b>	TX Channel 6	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	105.1 PK			1.29 H	184	108.14	-3.04
2	*2437.00	94.5 AV			1.29 H	184	97.54	-3.04
3	4874.00	47.1 PK	74.0	-26.9	1.02 H	61	41.05	6.05
4	4874.00	36.4 AV	54.0	-17.6	1.02 H	61	30.35	6.05
5	7311.00	51.1 PK	74.0	-22.9	1.00 H	206	40.16	10.94
6	7311.00	38.7 AV	54.0	-15.3	1.00 H	206	27.76	10.94

**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	96.4 PK			1.25 V	244	99.44	-3.04
2	*2437.00	86.2 AV			1.25 V	244	89.24	-3.04
3	4874.00	46.4 PK	74.0	-27.6	1.00 V	221	40.35	6.05
4	4874.00	36.3 AV	54.0	-17.7	1.00 V	221	30.25	6.05
5	7311.00	53.0 PK	74.0	-21.0	1.00 V	237	42.06	10.94
6	7311.00	38.9 AV	54.0	-15.1	1.00 V	237	27.96	10.94

**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.

<b>CHANNEL</b>	TX Channel 11	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	106.1 PK			1.37 H	176	109.04	-2.94
2	*2462.00	95.6 AV			1.37 H	176	98.54	-2.94
3	2483.50	64.4 PK	74.0	-9.6	1.37 H	179	67.27	-2.87
4	2483.50	48.8 AV	54.0	-5.2	1.37 H	179	51.67	-2.87
5	4924.00	46.9 PK	74.0	-27.1	1.00 H	58	40.83	6.07
6	4924.00	36.2 AV	54.0	-17.8	1.00 H	58	30.13	6.07
7	7386.00	51.4 PK	74.0	-22.6	1.00 H	210	39.98	11.42
8	7386.00	39.2 AV	54.0	-14.8	1.00 H	210	27.78	11.42

**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	96.9 PK			1.23 V	232	99.84	-2.94
2	*2462.00	87.8 AV			1.23 V	232	90.74	-2.94
3	2483.50	60.3 PK	74.0	-13.7	1.23 V	232	63.17	-2.87
4	2483.50	45.7 AV	54.0	-8.3	1.23 V	232	48.57	-2.87
5	4924.00	46.2 PK	74.0	-27.8	1.00 V	221	40.13	6.07
6	4924.00	36.7 AV	54.0	-17.3	1.00 V	221	30.63	6.07
7	7386.00	52.9 PK	74.0	-21.1	1.02 V	240	41.48	11.42
8	7386.00	39.5 AV	54.0	-14.5	1.02 V	240	28.08	11.42

**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)**

<b>CHANNEL</b>	TX Channel 1	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	1.25 H	181	71.49	-3.19
2	2390.00	47.6 AV	54.0	-6.4	1.25 H	181	50.79	-3.19
3	*2412.00	104.4 PK			1.25 H	181	107.53	-3.13
4	*2412.00	95.0 AV			1.25 H	181	98.13	-3.13
5	4824.00	47.8 PK	74.0	-26.2	1.00 H	66	41.83	5.97
6	4824.00	36.9 AV	54.0	-17.1	1.00 H	66	30.93	5.97

**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	2.18 V	360	64.49	-3.19
2	2390.00	44.1 AV	54.0	-9.9	2.18 V	360	47.29	-3.19
3	*2412.00	99.1 PK			2.18 V	360	102.23	-3.13
4	*2412.00	89.2 AV			2.18 V	360	92.33	-3.13
5	4824.00	46.2 PK	74.0	-27.8	1.05 V	202	40.23	5.97
6	4824.00	36.5 AV	54.0	-17.5	1.05 V	202	30.53	5.97

**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.

<b>CHANNEL</b>	TX Channel 6	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	104.3 PK			1.37 H	182	107.34	-3.04
2	*2437.00	95.4 AV			1.37 H	182	98.44	-3.04
3	4874.00	47.5 PK	74.0	-26.5	1.00 H	47	41.45	6.05
4	4874.00	36.8 AV	54.0	-17.2	1.00 H	47	30.75	6.05
5	7311.00	50.1 PK	74.0	-23.9	1.00 H	215	39.16	10.94
6	7311.00	37.9 AV	54.0	-16.1	1.00 H	215	26.96	10.94

**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	98.5 PK			1.20 V	252	101.54	-3.04
2	*2437.00	88.7 AV			1.20 V	252	91.74	-3.04
3	4874.00	46.2 PK	74.0	-27.8	1.00 V	214	40.15	6.05
4	4874.00	36.4 AV	54.0	-17.6	1.00 V	214	30.35	6.05
5	7311.00	53.4 PK	74.0	-20.6	1.00 V	239	42.46	10.94
6	7311.00	39.5 AV	54.0	-14.5	1.00 V	239	28.56	10.94

**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.

<b>CHANNEL</b>	TX Channel 11	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	105.0 PK			1.34 H	179	107.94	-2.94
2	*2462.00	95.8 AV			1.34 H	179	98.74	-2.94
3	2483.50	61.3 PK	74.0	-12.7	1.34 H	179	64.17	-2.87
4	2483.50	44.9 AV	54.0	-9.1	1.34 H	179	47.77	-2.87
5	4924.00	47.0 PK	74.0	-27.0	1.00 H	63	40.93	6.07
6	4924.00	36.4 AV	54.0	-17.6	1.00 H	63	30.33	6.07
7	7386.00	51.1 PK	74.0	-22.9	1.00 H	190	39.68	11.42
8	7386.00	38.8 AV	54.0	-15.2	1.00 H	190	27.38	11.42

**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	98.8 PK			1.21 V	258	101.74	-2.94
2	*2462.00	88.9 AV			1.21 V	258	91.84	-2.94
3	2483.50	58.2 PK	74.0	-15.8	1.21 V	258	61.07	-2.87
4	2483.50	41.2 AV	54.0	-12.8	1.21 V	258	44.07	-2.87
5	4924.00	46.1 PK	74.0	-27.9	1.00 V	192	40.03	6.07
6	4924.00	36.3 AV	54.0	-17.7	1.00 V	192	30.23	6.07
7	7386.00	53.7 PK	74.0	-20.3	1.00 V	240	42.28	11.42
8	7386.00	40.0 AV	54.0	-14.0	1.00 V	240	28.58	11.42

**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 (HT40)**

<b>CHANNEL</b>	TX Channel 3	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 25GHz		Average (AV)

<b>ANTENNA POLARITY &amp; TEST DISTANCE: HORIZONTAL AT 3 M</b>								
NO.	FREQ. (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	66.4 PK	74.0	-7.6	1.46 H	181	69.59	-3.19
2	2390.00	50.8 AV	54.0	-3.2	1.46 H	181	53.99	-3.19
3	*2422.00	102.5 PK			1.46 H	181	105.59	-3.09
4	*2422.00	91.1 AV			1.46 H	181	94.19	-3.09
5	4844.00	47.7 PK	74.0	-26.3	1.06 H	71	41.71	5.99
6	4844.00	37.0 AV	54.0	-17.0	1.06 H	71	31.01	5.99
7	7266.00	51.3 PK	74.0	-22.7	1.00 H	227	40.41	10.89
8	7266.00	38.9 AV	54.0	-15.1	1.00 H	227	28.01	10.89

<b>ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M</b>								
NO.	FREQ. (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	61.1 PK	74.0	-12.9	1.28 V	256	64.29	-3.19
2	2390.00	45.8 AV	54.0	-8.2	1.28 V	256	48.99	-3.19
3	*2422.00	95.1 PK			1.28 V	256	98.19	-3.09
4	*2422.00	84.2 AV			1.28 V	256	87.29	-3.09
5	4844.00	46.4 PK	74.0	-27.6	1.00 V	209	40.41	5.99
6	4844.00	36.8 AV	54.0	-17.2	1.00 V	209	30.81	5.99
7	7266.00	53.2 PK	74.0	-20.8	1.00 V	238	42.31	10.89
8	7266.00	39.2 AV	54.0	-14.8	1.00 V	238	28.31	10.89

**REMARKS:**

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

<b>CHANNEL</b>	TX Channel 6	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	102.5 PK			1.40 H	181	105.54	-3.04
2	*2437.00	90.8 AV			1.40 H	181	93.84	-3.04
3	4874.00	46.8 PK	74.0	-27.2	1.00 H	64	40.75	6.05
4	4874.00	36.4 AV	54.0	-17.6	1.00 H	64	30.35	6.05
5	7311.00	50.8 PK	74.0	-23.2	1.00 H	200	39.86	10.94
6	7311.00	38.7 AV	54.0	-15.3	1.00 H	200	27.76	10.94

**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	95.4 PK			1.11 V	241	98.44	-3.04
2	*2437.00	84.3 AV			1.11 V	241	87.34	-3.04
3	4874.00	45.5 PK	74.0	-28.5	1.00 V	221	39.45	6.05
4	4874.00	35.6 AV	54.0	-18.4	1.00 V	221	29.55	6.05
5	7311.00	52.7 PK	74.0	-21.3	1.03 V	254	41.76	10.94
6	7311.00	38.9 AV	54.0	-15.1	1.03 V	254	27.96	10.94

**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.

<b>CHANNEL</b>	TX Channel 9	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	*2452.00	102.5 PK			1.23 H	176	105.48	-2.98
2	*2452.00	90.9 AV			1.23 H	176	93.88	-2.98
3	2483.50	67.0 PK	74.0	-7.0	1.23 H	176	69.87	-2.87
<b>4</b>	<b>2483.50</b>	<b>50.9 AV</b>	<b>54.0</b>	<b>-3.1</b>	<b>1.23 H</b>	<b>176</b>	<b>53.77</b>	<b>-2.87</b>
5	4904.00	46.1 PK	74.0	-27.9	1.00 H	45	40.02	6.08
6	4904.00	35.5 AV	54.0	-18.5	1.00 H	45	29.42	6.08
7	7356.00	51.1 PK	74.0	-22.9	1.00 H	209	39.88	11.22
8	7356.00	38.5 AV	54.0	-15.5	1.00 H	209	27.28	11.22

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	95.2 PK			1.18 V	228	98.18	-2.98
2	*2452.00	84.5 AV			1.18 V	228	87.48	-2.98
3	2483.50	61.2 PK	74.0	-12.8	1.18 V	228	64.07	-2.87
4	2483.50	46.3 AV	54.0	-7.7	1.18 V	228	49.17	-2.87
5	4904.00	46.8 PK	74.0	-27.2	1.00 V	223	40.72	6.08
6	4904.00	36.8 AV	54.0	-17.2	1.00 V	223	30.72	6.08
7	7356.00	53.1 PK	74.0	-20.9	1.00 V	256	41.88	11.22
8	7356.00	39.2 AV	54.0	-14.8	1.00 V	256	27.98	11.22

**REMARKS:**

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



**Below 1GHz Data**

**802.11g**

<b>CHANNEL</b>	TX Channel 6	<b>DETECTOR FUNCTION</b>	Quasi-Peak (QP)
<b>FREQUENCY RANGE</b>	Below 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	61.43	30.1 QP	40.0	-9.9	1.50 H	328	44.23	-14.09
2	165.95	37.0 QP	43.5	-6.5	2.00 H	71	50.33	-13.31
3	232.39	38.8 QP	46.0	-7.3	1.00 H	276	53.98	-15.23
4	752.65	42.1 QP	46.0	-3.9	1.00 H	160	43.30	-1.16
5	817.45	41.4 QP	46.0	-4.6	1.00 H	147	41.69	-0.26
6	841.16	40.6 QP	46.0	-5.4	1.00 H	165	40.77	-0.13

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	61.82	34.8 QP	40.0	-5.3	1.00 V	272	48.98	-14.23
2	165.99	34.9 QP	43.5	-8.7	1.00 V	83	48.17	-13.32
3	676.46	42.6 QP	46.0	-3.4	1.50 V	236	45.69	-3.10
4	753.43	41.1 QP	46.0	-4.9	1.50 V	239	42.27	-1.13
5	768.90	39.4 QP	46.0	-6.6	1.00 V	71	40.50	-1.09
6	818.95	40.4 QP	46.0	-5.6	1.50 V	110	40.59	-0.23

**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

<b>CHANNEL</b>	TX Channel 1	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	53.8 PK	74.0	-20.2	1.49 H	62	56.99	-3.19
2	2390.00	44.5 AV	54.0	-9.5	1.49 H	62	47.69	-3.19
3	*2412.00	107.1 PK			1.49 H	62	110.23	-3.13
4	*2412.00	104.9 AV			1.49 H	62	108.03	-3.13
5	4824.00	47.6 PK	74.0	-26.4	1.66 H	14	41.63	5.97
6	4824.00	37.3 AV	54.0	-16.7	1.66 H	14	31.33	5.97

**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	50.7 PK	74.0	-23.3	1.05 V	181	53.89	-3.19
2	2390.00	39.7 AV	54.0	-14.3	1.05 V	181	42.89	-3.19
3	*2412.00	100.8 PK			1.05 V	181	103.93	-3.13
4	*2412.00	98.4 AV			1.05 V	181	101.53	-3.13
5	4824.00	48.4 PK	74.0	-25.6	1.42 V	72	42.43	5.97
6	4824.00	35.6 AV	54.0	-18.4	1.42 V	72	29.63	5.97

**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.

<b>CHANNEL</b>	TX Channel 6	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	107.0 PK			1.47 H	48	110.04	-3.04
2	*2437.00	105.2 AV			1.47 H	48	108.24	-3.04
3	4874.00	46.8 PK	74.0	-27.2	1.62 H	14	40.75	6.05
4	4874.00	37.2 AV	54.0	-16.8	1.62 H	14	31.15	6.05
5	7311.00	52.8 PK	74.0	-21.2	1.16 H	60	41.86	10.94
6	7311.00	40.5 AV	54.0	-13.5	1.16 H	60	29.56	10.94

**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	100.9 PK			1.01 V	182	103.94	-3.04
2	*2437.00	98.4 AV			1.01 V	182	101.44	-3.04
3	4874.00	49.3 PK	74.0	-24.7	1.30 V	56	43.25	6.05
4	4874.00	36.2 AV	54.0	-17.8	1.30 V	56	30.15	6.05
5	7311.00	54.2 PK	74.0	-19.8	1.29 V	50	43.26	10.94
6	7311.00	40.8 AV	54.0	-13.2	1.29 V	50	29.86	10.94

**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.

<b>CHANNEL</b>	TX Channel 11	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	107.3 PK			1.38 H	50	110.24	-2.94
2	*2462.00	105.0 AV			1.38 H	50	107.94	-2.94
3	2483.50	54.3 PK	74.0	-19.7	1.38 H	50	57.17	-2.87
4	2483.50	44.7 AV	54.0	-9.3	1.38 H	50	47.57	-2.87
5	4924.00	47.9 PK	74.0	-26.1	1.67 H	30	41.83	6.07
6	4924.00	37.5 AV	54.0	-16.5	1.67 H	30	31.43	6.07
7	7386.00	52.5 PK	74.0	-21.5	1.18 H	93	41.08	11.42
8	7386.00	40.7 AV	54.0	-13.3	1.18 H	93	29.28	11.42

**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	100.8 PK			1.09 V	168	103.74	-2.94
2	*2462.00	98.5 AV			1.09 V	168	101.44	-2.94
3	2483.50	51.0 PK	74.0	-23.0	1.09 V	168	53.87	-2.87
4	2483.50	39.6 AV	54.0	-14.4	1.09 V	168	42.47	-2.87
5	4924.00	48.0 PK	74.0	-26.0	1.40 V	60	41.93	6.07
6	4924.00	35.6 AV	54.0	-18.4	1.40 V	60	29.53	6.07
7	7386.00	54.3 PK	74.0	-19.7	1.21 V	65	42.88	11.42
8	7386.00	41.1 AV	54.0	-12.9	1.21 V	65	29.68	11.42

**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**

<b>CHANNEL</b>	TX Channel 1	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 25GHz		Average (AV)

<b>ANTENNA POLARITY &amp; TEST DISTANCE: HORIZONTAL AT 3 M</b>								
<b>NO.</b>	<b>FREQ. (MHz)</b>	<b>EMISSION LEVEL (dBuV/m)</b>	<b>LIMIT (dBuV/m)</b>	<b>MARGIN (dB)</b>	<b>ANTENNA HEIGHT (m)</b>	<b>TABLE ANGLE (Degree)</b>	<b>RAW VALUE (dBuV)</b>	<b>CORRECTION FACTOR (dB/m)</b>
1	2390.00	58.1 PK	74.0	-15.9	1.49 H	63	61.29	-3.19
2	2390.00	46.4 AV	54.0	-7.6	1.49 H	63	49.59	-3.19
3	*2412.00	106.1 PK			1.49 H	63	109.23	-3.13
4	*2412.00	97.4 AV			1.49 H	63	100.53	-3.13
5	4824.00	47.5 PK	74.0	-26.5	1.68 H	29	41.53	5.97
6	4824.00	37.3 AV	54.0	-16.7	1.68 H	29	31.33	5.97

<b>ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M</b>								
<b>NO.</b>	<b>FREQ. (MHz)</b>	<b>EMISSION LEVEL (dBuV/m)</b>	<b>LIMIT (dBuV/m)</b>	<b>MARGIN (dB)</b>	<b>ANTENNA HEIGHT (m)</b>	<b>TABLE ANGLE (Degree)</b>	<b>RAW VALUE (dBuV)</b>	<b>CORRECTION FACTOR (dB/m)</b>
1	2390.00	50.3 PK	74.0	-23.7	1.00 V	173	53.49	-3.19
2	2390.00	39.7 AV	54.0	-14.3	1.00 V	173	42.89	-3.19
3	*2412.00	99.4 PK			1.00 V	173	102.53	-3.13
4	*2412.00	90.1 AV			1.00 V	173	93.23	-3.13
5	4824.00	48.3 PK	74.0	-25.7	1.45 V	76	42.33	5.97
6	4824.00	35.2 AV	54.0	-18.8	1.45 V	76	29.23	5.97

**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.

<b>CHANNEL</b>	TX Channel 6	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	105.5 PK			1.54 H	70	108.54	-3.04
2	*2437.00	97.1 AV			1.54 H	70	100.14	-3.04
3	4874.00	47.4 PK	74.0	-26.6	1.68 H	16	41.35	6.05
4	4874.00	36.9 AV	54.0	-17.1	1.68 H	16	30.85	6.05
5	7311.00	53.4 PK	74.0	-20.6	1.13 H	70	42.46	10.94
6	7311.00	41.0 AV	54.0	-13.0	1.13 H	70	30.06	10.94

**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	99.2 PK			1.00 V	148	102.24	-3.04
2	*2437.00	89.7 AV			1.00 V	148	92.74	-3.04
3	4874.00	49.0 PK	74.0	-25.0	1.38 V	78	42.95	6.05
4	4874.00	36.0 AV	54.0	-18.0	1.38 V	78	29.95	6.05
5	7311.00	53.1 PK	74.0	-20.9	1.26 V	74	42.16	10.94
6	7311.00	40.3 AV	54.0	-13.7	1.26 V	74	29.36	10.94

**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.

<b>CHANNEL</b>	TX Channel 11	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	108.1 PK			1.56 H	62	111.04	-2.94
2	*2462.00	97.3 AV			1.56 H	62	100.24	-2.94
3	2483.50	62.7 PK	74.0	-11.3	1.56 H	62	65.57	-2.87
4	2483.50	47.1 AV	54.0	-6.9	1.56 H	62	49.97	-2.87
5	4924.00	46.9 PK	74.0	-27.1	1.72 H	19	40.83	6.07
6	4924.00	36.8 AV	54.0	-17.2	1.72 H	19	30.73	6.07
7	7386.00	51.7 PK	74.0	-22.3	1.17 H	75	40.28	11.42
8	7386.00	40.2 AV	54.0	-13.8	1.17 H	75	28.78	11.42

**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	99.8 PK			1.00 V	150	102.74	-2.94
2	*2462.00	90.5 AV			1.00 V	150	93.44	-2.94
3	2483.50	50.9 PK	74.0	-23.1	1.00 V	150	53.77	-2.87
4	2483.50	40.4 AV	54.0	-13.6	1.00 V	150	43.27	-2.87
5	4924.00	49.4 PK	74.0	-24.6	1.45 V	60	43.33	6.07
6	4924.00	36.5 AV	54.0	-17.5	1.45 V	60	30.43	6.07
7	7386.00	53.5 PK	74.0	-20.5	1.16 V	58	42.08	11.42
8	7386.00	40.5 AV	54.0	-13.5	1.16 V	58	29.08	11.42

**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)

<b>CHANNEL</b>	TX Channel 1	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	57.5 PK	74.0	-16.5	1.51 H	52	60.69	-3.19
2	2390.00	46.0 AV	54.0	-8.0	1.51 H	52	49.19	-3.19
3	*2412.00	104.9 PK			1.51 H	52	108.03	-3.13
4	*2412.00	96.8 AV			1.51 H	52	99.93	-3.13
5	4824.00	47.6 PK	74.0	-26.4	1.61 H	9	41.63	5.97
6	4824.00	37.5 AV	54.0	-16.5	1.61 H	9	31.53	5.97

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	50.5 PK	74.0	-23.5	1.00 V	152	53.69	-3.19
2	2390.00	39.8 AV	54.0	-14.2	1.00 V	152	42.99	-3.19
3	*2412.00	98.7 PK			1.00 V	152	101.83	-3.13
4	*2412.00	89.7 AV			1.00 V	152	92.83	-3.13
5	4824.00	48.2 PK	74.0	-25.8	1.46 V	70	42.23	5.97
6	4824.00	35.9 AV	54.0	-18.1	1.46 V	70	29.93	5.97

**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.



<b>CHANNEL</b>	TX Channel 6	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	105.0 PK			1.47 H	55	108.04	-3.04
2	*2437.00	97.2 AV			1.47 H	55	100.24	-3.04
3	4874.00	47.3 PK	74.0	-26.7	1.70 H	23	41.25	6.05
4	4874.00	37.0 AV	54.0	-17.0	1.70 H	23	30.95	6.05
5	7311.00	53.1 PK	74.0	-20.9	1.24 H	68	42.16	10.94
6	7311.00	40.9 AV	54.0	-13.1	1.24 H	68	29.96	10.94

**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	98.1 PK			1.00 V	160	101.14	-3.04
2	*2437.00	89.2 AV			1.00 V	160	92.24	-3.04
3	4874.00	48.2 PK	74.0	-25.8	1.38 V	78	42.15	6.05
4	4874.00	35.2 AV	54.0	-18.8	1.38 V	78	29.15	6.05
5	7311.00	54.6 PK	74.0	-19.4	1.21 V	53	43.66	10.94
6	7311.00	41.2 AV	54.0	-12.8	1.21 V	53	30.26	10.94

**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.

<b>CHANNEL</b>	TX Channel 11	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	104.0 PK			1.46 H	64	106.94	-2.94
2	*2462.00	96.0 AV			1.46 H	64	98.94	-2.94
3	2483.50	57.7 PK	74.0	-16.3	1.46 H	64	60.57	-2.87
4	2483.50	46.0 AV	54.0	-8.0	1.46 H	64	48.87	-2.87
5	4924.00	47.9 PK	74.0	-26.1	1.59 H	11	41.83	6.07
6	4924.00	37.7 AV	54.0	-16.3	1.59 H	11	31.63	6.07
7	7386.00	53.1 PK	74.0	-20.9	1.16 H	95	41.68	11.42
8	7386.00	41.0 AV	54.0	-13.0	1.16 H	95	29.58	11.42

**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	98.1 PK			1.04 V	159	101.04	-2.94
2	*2462.00	89.4 AV			1.04 V	159	92.34	-2.94
3	2483.50	49.7 PK	74.0	-24.3	1.04 V	159	52.57	-2.87
4	2483.50	39.5 AV	54.0	-14.5	1.04 V	159	42.37	-2.87
5	4924.00	48.4 PK	74.0	-25.6	1.49 V	54	42.33	6.07
6	4924.00	36.1 AV	54.0	-17.9	1.49 V	54	30.03	6.07
7	7386.00	54.0 PK	74.0	-20.0	1.28 V	41	42.58	11.42
8	7386.00	41.0 AV	54.0	-13.0	1.28 V	41	29.58	11.42

**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 (HT40)**

<b>CHANNEL</b>	TX Channel 3	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 25GHz		Average (AV)

<b>ANTENNA POLARITY &amp; TEST DISTANCE: HORIZONTAL AT 3 M</b>								
NO.	FREQ. (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	62.1 PK	74.0	-11.9	1.46 H	65	65.29	-3.19
2	2390.00	47.1 AV	54.0	-6.9	1.46 H	65	50.29	-3.19
3	*2422.00	102.1 PK			1.46 H	65	105.19	-3.09
4	*2422.00	92.2 AV			1.46 H	65	95.29	-3.09
5	4844.00	46.8 PK	74.0	-27.2	1.72 H	0	40.81	5.99
6	4844.00	36.5 AV	54.0	-17.5	1.72 H	0	30.51	5.99
7	7266.00	52.9 PK	74.0	-21.1	1.13 H	70	42.01	10.89
8	7266.00	40.8 AV	54.0	-13.2	1.13 H	70	29.91	10.89

<b>ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M</b>								
NO.	FREQ. (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	49.5 PK	74.0	-24.5	1.00 V	0	52.69	-3.19
2	2390.00	39.4 AV	54.0	-14.6	1.00 V	0	42.59	-3.19
3	*2422.00	94.9 PK			1.38 V	92	97.99	-3.09
4	*2422.00	84.6 AV			1.38 V	92	87.69	-3.09
5	4844.00	48.7 PK	74.0	-25.3	1.41 V	54	42.71	5.99
6	4844.00	36.0 AV	54.0	-18.0	1.41 V	54	30.01	5.99
7	7266.00	53.3 PK	74.0	-20.7	1.24 V	58	42.41	10.89
8	7266.00	40.1 AV	54.0	-13.9	1.24 V	58	29.21	10.89

**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.

<b>CHANNEL</b>	TX Channel 6	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	102.2 PK			1.50 H	53	105.24	-3.04
2	*2437.00	92.4 AV			1.50 H	53	95.44	-3.04
3	4874.00	47.6 PK	74.0	-26.4	1.71 H	18	41.55	6.05
4	4874.00	37.6 AV	54.0	-16.4	1.71 H	18	31.55	6.05
5	7311.00	52.7 PK	74.0	-21.3	1.12 H	86	41.76	10.94
6	7311.00	40.4 AV	54.0	-13.6	1.12 H	86	29.46	10.94

**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	94.7 PK			1.36 V	93	97.74	-3.04
2	*2437.00	84.8 AV			1.36 V	93	87.84	-3.04
3	4874.00	49.2 PK	74.0	-24.8	1.44 V	68	43.15	6.05
4	4874.00	36.0 AV	54.0	-18.0	1.44 V	68	29.95	6.05
5	7311.00	54.0 PK	74.0	-20.0	1.20 V	54	43.06	10.94
6	7311.00	41.0 AV	54.0	-13.0	1.20 V	54	30.06	10.94

**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.

<b>CHANNEL</b>	TX Channel 9	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	*2452.00	102.7 PK			1.46 H	66	105.68	-2.98
2	*2452.00	91.3 AV			1.46 H	66	94.28	-2.98
3	2483.50	58.4 PK	74.0	-15.6	1.46 H	66	61.27	-2.87
4	2483.50	44.6 AV	54.0	-9.4	1.46 H	66	47.47	-2.87
5	4904.00	46.7 PK	74.0	-27.3	1.65 H	12	40.62	6.08
6	4904.00	36.5 AV	54.0	-17.5	1.65 H	12	30.42	6.08
7	7356.00	52.0 PK	74.0	-22.0	1.23 H	75	40.78	11.22
8	7356.00	40.1 AV	54.0	-13.9	1.23 H	75	28.88	11.22

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	95.6 PK			1.43 V	108	98.58	-2.98
2	*2452.00	85.1 AV			1.43 V	108	88.08	-2.98
3	2483.50	57.6 PK	74.0	-16.4	1.43 V	108	60.47	-2.87
4	2483.50	42.1 AV	54.0	-11.9	1.43 V	108	44.97	-2.87
5	4904.00	48.9 PK	74.0	-25.1	1.39 V	45	42.82	6.08
6	4904.00	36.3 AV	54.0	-17.7	1.39 V	45	30.22	6.08
7	7356.00	54.5 PK	74.0	-19.5	1.27 V	31	43.28	11.22
8	7356.00	41.1 AV	54.0	-12.9	1.27 V	31	29.88	11.22

**REMARKS:**

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

**Below 1GHz Data**

**802.11g**

<b>CHANNEL</b>	TX Channel 6	<b>DETECTOR FUNCTION</b>	Quasi-Peak (QP)
<b>FREQUENCY RANGE</b>	Below 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	71.41	32.0 QP	40.0	-8.0	1.04 H	1	47.74	-15.73
2	165.81	37.3 QP	43.5	-6.2	1.11 H	44	50.60	-13.29
3	332.61	40.1 QP	46.0	-5.9	1.37 H	108	51.21	-11.09
4	552.11	39.7 QP	46.0	-6.3	1.03 H	33	45.47	-5.76
5	717.31	41.4 QP	46.0	-4.6	1.11 H	261	43.97	-2.55
6	741.41	40.2 QP	46.0	-5.8	1.54 H	34	41.65	-1.44

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	71.81	34.4 QP	40.0	-5.6	1.03 V	60	50.34	-15.94
2	265.42	42.6 QP	46.0	-3.4	1.50 V	310	55.99	-13.38
3	576.10	42.5 QP	46.0	-3.5	2.64 V	101	47.68	-5.16
4	653.34	41.2 QP	46.0	-4.8	1.94 V	100	44.57	-3.40
5	768.64	42.4 QP	46.0	-3.6	1.03 V	130	43.48	-1.06
6	818.31	40.4 QP	46.0	-5.6	1.64 V	300	40.66	-0.24

**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**

<b>CHANNEL</b>	TX Channel 1	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 25GHz		Average (AV)

<b>ANTENNA POLARITY &amp; TEST DISTANCE: HORIZONTAL AT 3 M</b>								
<b>NO.</b>	<b>FREQ. (MHz)</b>	<b>EMISSION LEVEL (dBuV/m)</b>	<b>LIMIT (dBuV/m)</b>	<b>MARGIN (dB)</b>	<b>ANTENNA HEIGHT (m)</b>	<b>TABLE ANGLE (Degree)</b>	<b>RAW VALUE (dBuV)</b>	<b>CORRECTION FACTOR (dB/m)</b>
1	2390.00	51.2 PK	74.0	-22.8	1.32 H	108	54.39	-3.19
2	2390.00	40.0 AV	54.0	-14.0	1.32 H	108	43.19	-3.19
3	*2412.00	103.5 PK			1.32 H	108	106.63	-3.13
4	*2412.00	100.0 AV			1.32 H	108	103.13	-3.13
5	4824.00	48.1 PK	74.0	-25.9	1.41 H	45	42.13	5.97
6	4824.00	35.4 AV	54.0	-18.6	1.41 H	45	29.43	5.97
<b>ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M</b>								
<b>NO.</b>	<b>FREQ. (MHz)</b>	<b>EMISSION LEVEL (dBuV/m)</b>	<b>LIMIT (dBuV/m)</b>	<b>MARGIN (dB)</b>	<b>ANTENNA HEIGHT (m)</b>	<b>TABLE ANGLE (Degree)</b>	<b>RAW VALUE (dBuV)</b>	<b>CORRECTION FACTOR (dB/m)</b>
1	2390.00	57.2 PK	74.0	-16.8	1.36 V	46	60.39	-3.19
2	2390.00	45.2 AV	54.0	-8.8	1.36 V	46	48.39	-3.19
3	*2412.00	108.2 PK			1.35 V	277	111.33	-3.13
4	*2412.00	104.8 AV			1.35 V	277	107.93	-3.13
5	4824.00	47.6 PK	74.0	-26.4	1.51 V	27	41.63	5.97
6	4824.00	36.8 AV	54.0	-17.2	1.51 V	27	30.83	5.97

**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.

<b>CHANNEL</b>	TX Channel 6	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	103.8 PK			1.34 H	118	106.84	-3.04
2	*2437.00	100.2 AV			1.34 H	118	103.24	-3.04
3	4874.00	49.0 PK	74.0	-25.0	1.43 H	71	42.95	6.05
4	4874.00	36.1 AV	54.0	-17.9	1.43 H	71	30.05	6.05
5	7311.00	54.2 PK	74.0	-19.8	1.24 H	68	43.26	10.94
6	7311.00	41.0 AV	54.0	-13.0	1.24 H	68	30.06	10.94

**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	107.9 PK			1.35 V	277	110.94	-3.04
2	*2437.00	104.6 AV			1.35 V	277	107.64	-3.04
3	4874.00	47.9 PK	74.0	-26.1	1.61 V	26	41.85	6.05
4	4874.00	37.3 AV	54.0	-16.7	1.61 V	26	31.25	6.05
5	7311.00	52.9 PK	74.0	-21.1	1.15 V	81	41.96	10.94
6	7311.00	40.7 AV	54.0	-13.3	1.15 V	81	29.76	10.94

**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.



<b>CHANNEL</b>	TX Channel 11	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	103.3 PK			1.33 H	104	106.24	-2.94
2	*2462.00	99.6 AV			1.33 H	104	102.54	-2.94
3	2483.50	51.5 PK	74.0	-22.5	1.33 H	104	54.37	-2.87
4	2483.50	40.3 AV	54.0	-13.7	1.33 H	104	43.17	-2.87
5	4924.00	48.7 PK	74.0	-25.3	1.42 H	61	42.63	6.07
6	4924.00	35.8 AV	54.0	-18.2	1.42 H	61	29.73	6.07
7	7386.00	54.6 PK	74.0	-19.4	1.21 H	100	43.18	11.42
8	7386.00	41.0 AV	54.0	-13.0	1.21 H	100	29.58	11.42

**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	108.1 PK			1.29 V	270	111.04	-2.94
2	*2462.00	104.7 AV			1.29 V	270	107.64	-2.94
3	2483.50	56.9 PK	74.0	-17.1	1.29 V	270	59.77	-2.87
4	2483.50	48.3 AV	54.0	-5.7	1.29 V	270	51.17	-2.87
5	4924.00	48.1 PK	74.0	-25.9	1.56 V	21	42.03	6.07
6	4924.00	37.1 AV	54.0	-16.9	1.56 V	21	31.03	6.07
7	7386.00	53.1 PK	74.0	-20.9	1.24 V	100	41.68	11.42
8	7386.00	41.0 AV	54.0	-13.0	1.24 V	100	29.58	11.42

**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**

<b>CHANNEL</b>	TX Channel 1	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 25GHz		Average (AV)

<b>ANTENNA POLARITY &amp; TEST DISTANCE: HORIZONTAL AT 3 M</b>								
<b>NO.</b>	<b>FREQ. (MHz)</b>	<b>EMISSION LEVEL (dBuV/m)</b>	<b>LIMIT (dBuV/m)</b>	<b>MARGIN (dB)</b>	<b>ANTENNA HEIGHT (m)</b>	<b>TABLE ANGLE (Degree)</b>	<b>RAW VALUE (dBuV)</b>	<b>CORRECTION FACTOR (dB/m)</b>
1	2390.00	50.8 PK	74.0	-23.2	1.37 H	115	53.99	-3.19
2	2390.00	40.1 AV	54.0	-13.9	1.37 H	115	43.29	-3.19
3	*2412.00	102.9 PK			1.37 H	115	106.03	-3.13
4	*2412.00	92.2 AV			1.37 H	115	95.33	-3.13
5	4824.00	48.1 PK	74.0	-25.9	1.46 H	64	42.13	5.97
6	4824.00	35.2 AV	54.0	-18.8	1.46 H	64	29.23	5.97

<b>ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M</b>								
<b>NO.</b>	<b>FREQ. (MHz)</b>	<b>EMISSION LEVEL (dBuV/m)</b>	<b>LIMIT (dBuV/m)</b>	<b>MARGIN (dB)</b>	<b>ANTENNA HEIGHT (m)</b>	<b>TABLE ANGLE (Degree)</b>	<b>RAW VALUE (dBuV)</b>	<b>CORRECTION FACTOR (dB/m)</b>
1	2390.00	59.1 PK	74.0	-14.9	1.31 V	258	62.29	-3.19
2	2390.00	45.7 AV	54.0	-8.3	1.31 V	258	48.89	-3.19
3	*2412.00	108.1 PK			1.31 V	258	111.23	-3.13
4	*2412.00	97.8 AV			1.31 V	258	100.93	-3.13
5	4824.00	47.2 PK	74.0	-26.8	1.66 V	18	41.23	5.97
6	4824.00	36.7 AV	54.0	-17.3	1.66 V	18	30.73	5.97

**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.

<b>CHANNEL</b>	TX Channel 6	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	103.1 PK			1.32 H	94	106.14	-3.04
2	*2437.00	92.2 AV			1.32 H	94	95.24	-3.04
3	4874.00	48.9 PK	74.0	-25.1	1.35 H	50	42.85	6.05
4	4874.00	35.7 AV	54.0	-18.3	1.35 H	50	29.65	6.05
5	7311.00	53.4 PK	74.0	-20.6	1.25 H	63	42.46	10.94
6	7311.00	40.6 AV	54.0	-13.4	1.25 H	63	29.66	10.94

**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	107.7 PK			1.33 V	260	110.74	-3.04
2	*2437.00	97.6 AV			1.33 V	260	100.64	-3.04
3	4874.00	47.7 PK	74.0	-26.3	1.58 V	39	41.65	6.05
4	4874.00	37.1 AV	54.0	-16.9	1.58 V	39	31.05	6.05
5	7311.00	52.5 PK	74.0	-21.5	1.18 V	93	41.56	10.94
6	7311.00	40.3 AV	54.0	-13.7	1.18 V	93	29.36	10.94

**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.

<b>CHANNEL</b>	TX Channel 11	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	103.1 PK			1.27 H	98	106.04	-2.94
2	*2462.00	92.4 AV			1.27 H	98	95.34	-2.94
3	2483.50	50.9 PK	74.0	-23.1	1.27 H	98	53.77	-2.87
4	2483.50	39.8 AV	54.0	-14.2	1.27 H	98	42.67	-2.87
5	4924.00	48.6 PK	74.0	-25.4	1.36 H	84	42.53	6.07
6	4924.00	36.1 AV	54.0	-17.9	1.36 H	84	30.03	6.07
7	7386.00	54.2 PK	74.0	-19.8	1.19 H	61	42.78	11.42
8	7386.00	41.0 AV	54.0	-13.0	1.19 H	61	29.58	11.42

**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	108.2 PK			1.35 V	264	111.14	-2.94
2	*2462.00	97.5 AV			1.35 V	264	100.44	-2.94
3	2483.50	61.5 PK	74.0	-12.5	1.35 V	264	64.37	-2.87
4	2483.50	47.1 AV	54.0	-6.9	1.35 V	264	49.97	-2.87
5	4924.00	46.9 PK	74.0	-27.1	1.58 V	12	40.83	6.07
6	4924.00	37.0 AV	54.0	-17.0	1.58 V	12	30.93	6.07
7	7386.00	53.2 PK	74.0	-20.8	1.19 V	80	41.78	11.42
8	7386.00	41.1 AV	54.0	-12.9	1.19 V	80	29.68	11.42

**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)

<b>CHANNEL</b>	TX Channel 1	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	51.2 PK	74.0	-22.8	1.26 H	94	54.39	-3.19
2	2390.00	40.1 AV	54.0	-13.9	1.26 H	94	43.29	-3.19
3	*2412.00	101.4 PK			1.26 H	94	104.53	-3.13
4	*2412.00	90.1 AV			1.26 H	94	93.23	-3.13
5	4824.00	49.5 PK	74.0	-24.5	1.46 H	71	43.53	5.97
6	4824.00	36.4 AV	54.0	-17.6	1.46 H	71	30.43	5.97

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	56.5 PK	74.0	-17.5	1.22 V	274	59.69	-3.19
2	2390.00	44.1 AV	54.0	-9.9	1.22 V	274	47.29	-3.19
3	*2412.00	106.8 PK			1.22 V	274	109.93	-3.13
4	*2412.00	95.4 AV			1.22 V	274	98.53	-3.13
5	4824.00	47.5 PK	74.0	-26.5	1.62 V	22	41.53	5.97
6	4824.00	36.9 AV	54.0	-17.1	1.62 V	22	30.93	5.97

**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.

<b>CHANNEL</b>	TX Channel 6	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	101.0 PK			1.29 H	106	104.04	-3.04
2	*2437.00	89.7 AV			1.29 H	106	92.74	-3.04
3	4874.00	49.1 PK	74.0	-24.9	1.39 H	74	43.05	6.05
4	4874.00	36.4 AV	54.0	-17.6	1.39 H	74	30.35	6.05
5	7311.00	54.0 PK	74.0	-20.0	1.14 H	61	43.06	10.94
6	7311.00	41.0 AV	54.0	-13.0	1.14 H	61	30.06	10.94

**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	105.8 PK			1.15 V	286	108.84	-3.04
2	*2437.00	94.8 AV			1.15 V	286	97.84	-3.04
3	4874.00	48.1 PK	74.0	-25.9	1.60 V	11	42.05	6.05
4	4874.00	37.4 AV	54.0	-16.6	1.60 V	11	31.35	6.05
5	7311.00	53.5 PK	74.0	-20.5	1.14 V	87	42.56	10.94
6	7311.00	41.1 AV	54.0	-12.9	1.14 V	87	30.16	10.94

**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.

<b>CHANNEL</b>	TX Channel 11	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	100.5 PK			1.29 H	108	103.44	-2.94
2	*2462.00	89.4 AV			1.29 H	108	92.34	-2.94
3	2483.50	51.0 PK	74.0	-23.0	1.29 H	108	53.87	-2.87
4	2483.50	39.5 AV	54.0	-14.5	1.29 H	108	42.37	-2.87
5	4924.00	48.4 PK	74.0	-25.6	1.39 H	42	42.33	6.07
6	4924.00	35.7 AV	54.0	-18.3	1.39 H	42	29.63	6.07
7	7386.00	54.0 PK	74.0	-20.0	1.18 H	71	42.58	11.42
8	7386.00	41.0 AV	54.0	-13.0	1.18 H	71	29.58	11.42

**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	105.3 PK			1.09 V	266	108.24	-2.94
2	*2462.00	94.7 AV			1.09 V	266	97.64	-2.94
3	2483.50	57.7 PK	74.0	-16.3	1.09 V	266	60.57	-2.87
4	2483.50	45.4 AV	54.0	-8.6	1.09 V	266	48.27	-2.87
5	4924.00	47.6 PK	74.0	-26.4	1.57 V	22	41.53	6.07
6	4924.00	37.2 AV	54.0	-16.8	1.57 V	22	31.13	6.07
7	7386.00	52.7 PK	74.0	-21.3	1.10 V	78	41.28	11.42
8	7386.00	40.6 AV	54.0	-13.4	1.10 V	78	29.18	11.42

**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 (HT40)**

<b>CHANNEL</b>	TX Channel 3	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 25GHz		Average (AV)

<b>ANTENNA POLARITY &amp; TEST DISTANCE: HORIZONTAL AT 3 M</b>								
NO.	FREQ. (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	51.2 PK	74.0	-22.8	1.37 H	89	54.39	-3.19
2	2390.00	40.2 AV	54.0	-13.8	1.37 H	89	43.39	-3.19
3	*2422.00	98.4 PK			1.37 H	89	101.49	-3.09
4	*2422.00	86.2 AV			1.37 H	89	89.29	-3.09
5	4844.00	48.8 PK	74.0	-25.2	1.44 H	81	42.81	5.99
6	4844.00	36.1 AV	54.0	-17.9	1.44 H	81	30.11	5.99
7	7266.00	53.0 PK	74.0	-21.0	1.20 H	75	42.11	10.89
8	7266.00	40.5 AV	54.0	-13.5	1.20 H	75	29.61	10.89

<b>ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M</b>								
NO.	FREQ. (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	60.0 PK	74.0	-14.0	1.29 V	275	63.19	-3.19
2	2390.00	45.2 AV	54.0	-8.8	1.29 V	275	48.39	-3.19
3	*2422.00	103.6 PK			1.29 V	275	106.69	-3.09
4	*2422.00	91.5 AV			1.29 V	275	94.59	-3.09
5	4844.00	47.2 PK	74.0	-26.8	1.64 V	19	41.21	5.99
6	4844.00	36.7 AV	54.0	-17.3	1.64 V	19	30.71	5.99
7	7266.00	53.2 PK	74.0	-20.8	1.08 V	76	42.31	10.89
8	7266.00	41.2 AV	54.0	-12.8	1.08 V	76	30.31	10.89

**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.



<b>CHANNEL</b>	TX Channel 6	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	98.2 PK			1.29 H	90	101.24	-3.04
2	*2437.00	86.0 AV			1.29 H	90	89.04	-3.04
3	4874.00	49.1 PK	74.0	-24.9	1.42 H	60	43.05	6.05
4	4874.00	36.1 AV	54.0	-17.9	1.42 H	60	30.05	6.05
5	7311.00	53.1 PK	74.0	-20.9	1.27 H	82	42.16	10.94
6	7311.00	40.2 AV	54.0	-13.8	1.27 H	82	29.26	10.94

**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	103.3 PK			1.25 V	264	106.34	-3.04
2	*2437.00	91.3 AV			1.25 V	264	94.34	-3.04
3	4874.00	48.1 PK	74.0	-25.9	1.62 V	11	42.05	6.05
4	4874.00	37.3 AV	54.0	-16.7	1.62 V	11	31.25	6.05
5	7311.00	52.1 PK	74.0	-21.9	1.15 V	95	41.16	10.94
6	7311.00	40.1 AV	54.0	-13.9	1.15 V	95	29.16	10.94

**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.

<b>CHANNEL</b>	TX Channel 9	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	*2452.00	98.2 PK			1.28 H	98	101.18	-2.98
2	*2452.00	86.1 AV			1.28 H	98	89.08	-2.98
3	2483.50	51.2 PK	74.0	-22.8	1.28 H	98	54.07	-2.87
4	2483.50	40.0 AV	54.0	-14.0	1.28 H	98	42.87	-2.87
5	4904.00	48.9 PK	74.0	-25.1	1.44 H	44	42.82	6.08
6	4904.00	35.7 AV	54.0	-18.3	1.44 H	44	29.62	6.08
7	7356.00	53.7 PK	74.0	-20.3	1.22 H	72	42.48	11.22
8	7356.00	40.7 AV	54.0	-13.3	1.22 H	72	29.48	11.22

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	103.2 PK			1.27 V	282	106.18	-2.98
2	*2452.00	91.8 AV			1.27 V	282	94.78	-2.98
3	2483.50	61.1 PK	74.0	-12.9	1.27 V	282	63.97	-2.87
4	2483.50	46.4 AV	54.0	-7.6	1.27 V	282	49.27	-2.87
5	4904.00	48.1 PK	74.0	-25.9	1.60 V	35	42.02	6.08
6	4904.00	37.5 AV	54.0	-16.5	1.60 V	35	31.42	6.08
7	7356.00	52.6 PK	74.0	-21.4	1.16 V	89	41.38	11.22
8	7356.00	40.2 AV	54.0	-13.8	1.16 V	89	28.98	11.22

**REMARKS:**

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

**Below 1GHz Data**

**802.11g**

<b>CHANNEL</b>	TX Channel 6	<b>DETECTOR FUNCTION</b>	Quasi-Peak (QP)
<b>FREQUENCY RANGE</b>	Below 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	61.41	30.0 QP	40.0	-10.0	1.24 H	211	44.09	-14.08
2	165.81	37.3 QP	43.5	-6.2	1.11 H	244	50.63	-13.29
3	232.61	38.1 QP	46.0	-7.9	1.67 H	78	53.32	-15.20
4	752.11	42.7 QP	46.0	-3.3	1.34 H	63	43.89	-1.18
5	817.31	41.4 QP	46.0	-4.6	1.41 H	301	41.68	-0.26
6	841.41	40.2 QP	46.0	-5.8	1.24 H	244	40.37	-0.13

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	61.81	34.4 QP	40.0	-5.6	1.24 V	100	48.60	-14.23
2	165.42	34.6 QP	43.5	-8.9	1.20 V	100	47.85	-13.24
3	676.10	42.5 QP	46.0	-3.5	1.64 V	301	45.63	-3.12
4	753.34	41.2 QP	46.0	-4.8	1.64 V	301	42.31	-1.14
5	768.64	39.4 QP	46.0	-6.6	1.44 V	200	40.48	-1.06
6	818.31	40.4 QP	46.0	-5.6	1.64 V	300	40.66	-0.24

**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	100375	May 06, 2015	May 05, 2016
Line-Impedance Stabilization Network (for EUT) R&S	ENV216	100072	June 11, 2015	June 10, 2016
Line-Impedance Stabilization Network (for Peripheral) R&S	ENV216	100071	Nov. 10, 2014	Nov. 09, 2015
RF Cable	5D-FB	COCCAB-001	Mar. 09, 2015	Mar. 08, 2016
50 ohms Terminator	N/A	EMC-03	Sep. 22, 2014	Sep. 21, 2015
50 ohms Terminator	N/A	EMC-02	Sep. 30, 2014	Sep. 29, 2015
Software BVADT	BVADT_Cond_ V7.3.7.3	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. C.
- 3 The VCCI Con C Registration No. is C-3611.
- 4 Tested Date: Aug. 21, 2015

4.2.3 Test Procedures

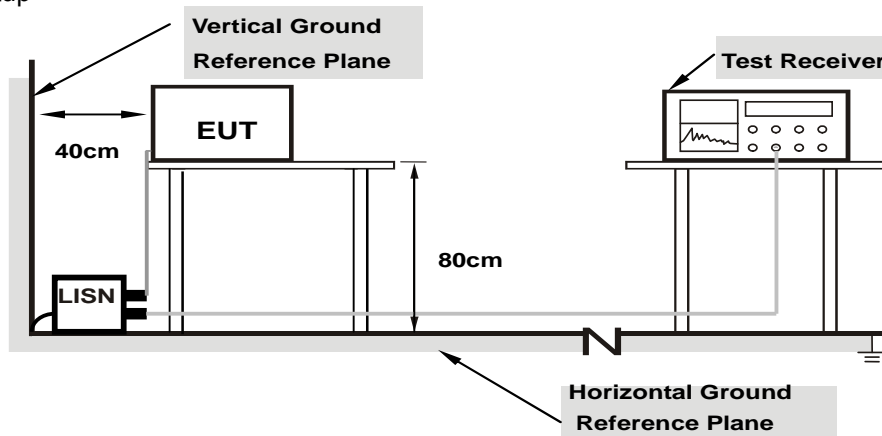
- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling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

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

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



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

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

4.2.6 EUT Operating Conditions

Same as 4.1.6.

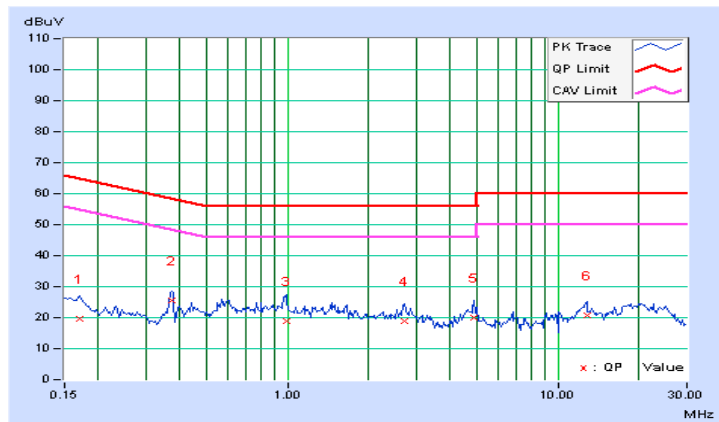
#### 4.2.7 Test Results

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
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Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16953	0.08	19.50	12.72	19.58	12.80	64.98	54.98	-45.40	-42.18
2	0.37266	0.10	25.54	21.56	25.64	21.66	58.44	48.44	-32.80	-26.78
3	0.99375	0.13	18.58	15.44	18.71	15.57	56.00	46.00	-37.29	-30.43
4	2.70703	0.19	18.62	13.24	18.81	13.43	56.00	46.00	-37.19	-32.57
5	4.90234	0.25	19.82	8.58	20.07	8.83	56.00	46.00	-35.93	-37.17
6	12.82813	0.52	20.14	15.20	20.66	15.72	60.00	50.00	-39.34	-34.28

**Remarks:**

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

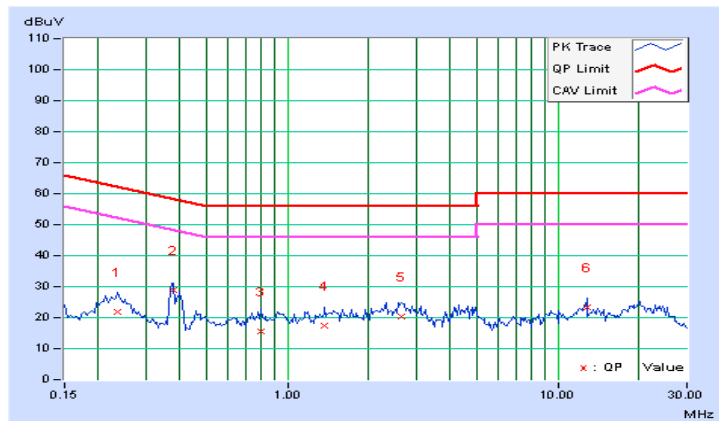


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
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Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.23594	0.08	21.78	16.96	21.86	17.04	62.24	52.24	-40.37	-35.19
2	<b>0.37716</b>	<b>0.10</b>	<b>28.68</b>	<b>27.92</b>	<b>28.78</b>	<b>28.02</b>	<b>58.34</b>	<b>48.34</b>	<b>-29.56</b>	<b>-20.32</b>
3	0.79844	0.12	15.36	8.78	15.48	8.90	56.00	46.00	-40.52	-37.10
4	1.37500	0.15	17.20	12.48	17.35	12.63	56.00	46.00	-38.65	-33.37
5	2.63281	0.19	20.08	13.54	20.27	13.73	56.00	46.00	-35.73	-32.27
6	12.80859	0.54	22.66	17.78	23.20	18.32	60.00	50.00	-36.80	-31.68

**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

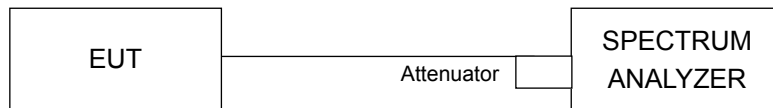


### 4.3 6dB Bandwidth Measurement

#### 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

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

#### 4.3.5 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	8.09	0.5	Pass
6	2437	8.11	0.5	Pass
11	2462	8.10	0.5	Pass

##### 802.11g

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	16.41	0.5	Pass
6	2437	16.42	0.5	Pass
11	2462	16.43	0.5	Pass

##### 802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	17.65	0.5	Pass
6	2437	17.65	0.5	Pass
11	2462	17.65	0.5	Pass

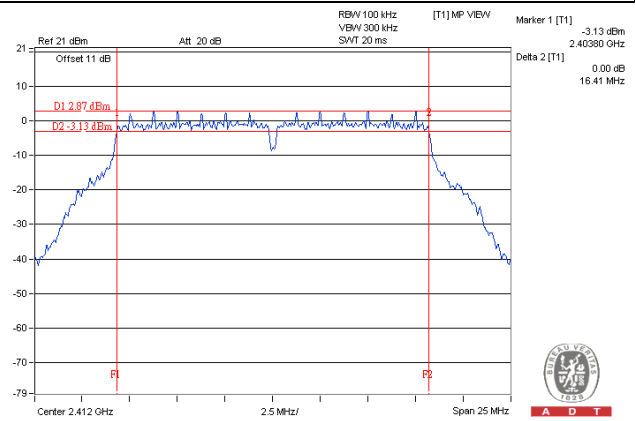
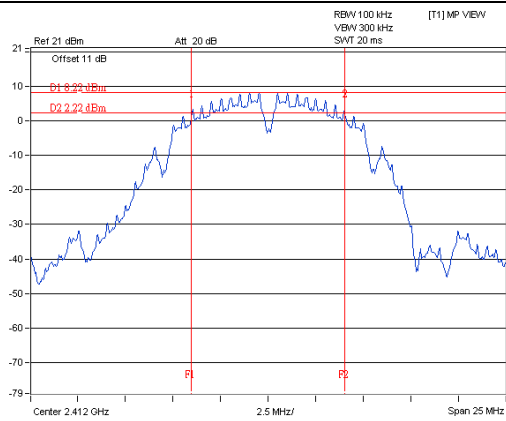
##### 802.11n (HT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
3	2422	36.42	0.5	Pass
6	2437	36.46	0.5	Pass
9	2452	36.47	0.5	Pass

Spectrum Plot of Worst Value

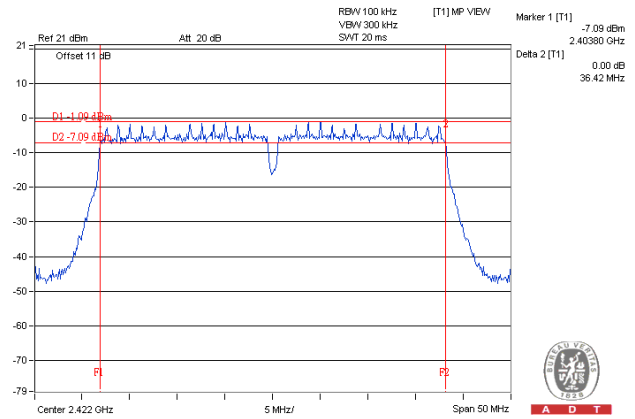
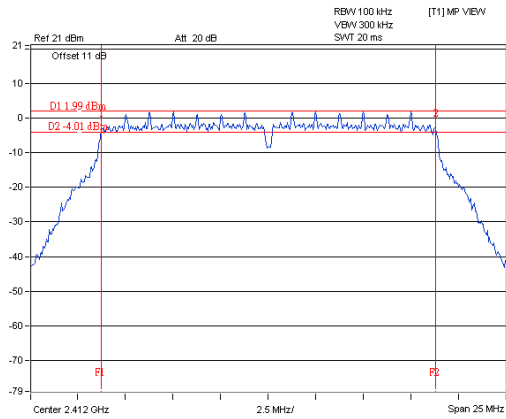
802.11b / CH1

802.11g / CH1



802.11n (HT20) / CH1

802.11n (HT40) / CH3

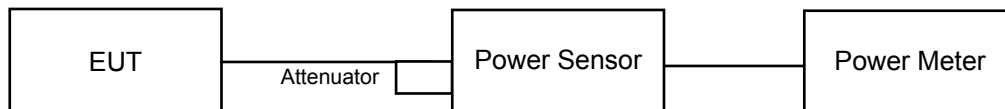


## 4.4 Conducted Output Power Measurement

### 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

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass/Fail
1	2412	47.753	16.79	30	Pass
6	2437	48.084	16.82	30	Pass
11	2462	48.753	16.88	30	Pass

##### 802.11g

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass/Fail
1	2412	135.831	21.33	30	Pass
6	2437	138.357	21.41	30	Pass
11	2462	143.549	21.57	30	Pass

##### 802.11n (HT20)

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass/Fail
1	2412	108.643	20.36	30	Pass
6	2437	109.901	20.41	30	Pass
11	2462	112.72	20.52	30	Pass

##### 802.11n (HT40)

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass/Fail
3	2422	100.925	20.04	30	Pass
6	2437	102.565	20.11	30	Pass
9	2452	103.276	20.14	30	Pass

**FOR AVERAGE POWER**
**802.11b**

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	46.345	16.66
6	2437	46.881	16.71
11	2462	47.098	16.73

**802.11g**

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	28.249	14.51
6	2437	28.642	14.57
11	2462	29.580	14.71

**802.11n (HT20)**

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	22.491	13.52
6	2437	22.699	13.56
11	2462	22.961	13.61

**802.11n (HT40)**

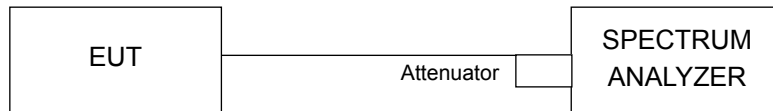
Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
3	2422	21.281	13.28
6	2437	21.232	13.27
9	2452	21.577	13.34

## 4.5 Power Spectral Density Measurement

### 4.5.1 Limits of Power Spectral Density Measurement

The Maximum of Power Spectral Density Measurement is 8dBm.

### 4.5.2 Test Setup



### 4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

### 4.5.4 Test Procedure

- a. 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.

### 4.5.5 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	Freq. (MHz)	PSD (dBm)	Limit (dBm)	Pass /Fail
1	2412	-6.46	8	Pass
6	2437	-5.40	8	Pass
11	2462	-5.58	8	Pass

##### 802.11g

Channel	Freq. (MHz)	PSD (dBm)	Limit (dBm)	Pass /Fail
1	2412	-12.18	8	Pass
6	2437	-11.82	8	Pass
11	2462	-11.03	8	Pass

##### 802.11n (HT20)

Channel	Freq. (MHz)	PSD (dBm)	Limit (dBm)	Pass /Fail
1	2412	-13.14	8	Pass
6	2437	-13.16	8	Pass
11	2462	-12.46	8	Pass

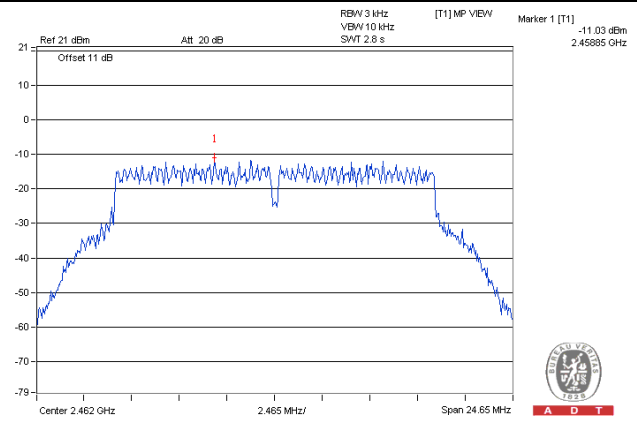
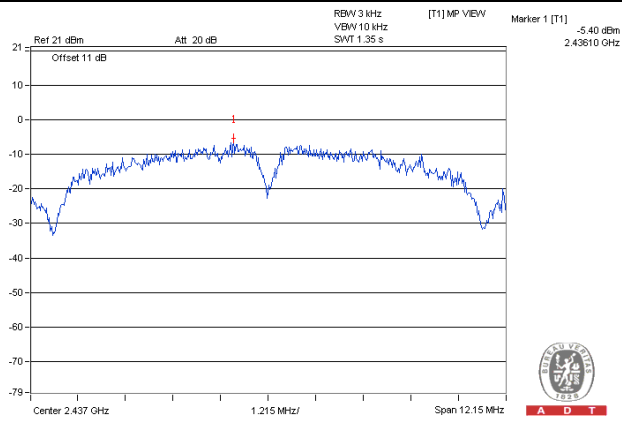
##### 802.11n (HT40)

Channel	Freq. (MHz)	PSD (dBm)	Limit (dBm)	PASS /FAIL
3	2422	-16.82	8	PASS
6	2437	-16.83	8	PASS
9	2452	-15.67	8	PASS

Spectrum Plot of Worst Value

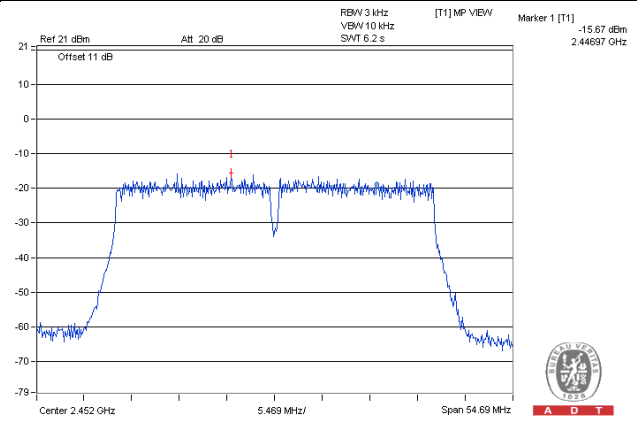
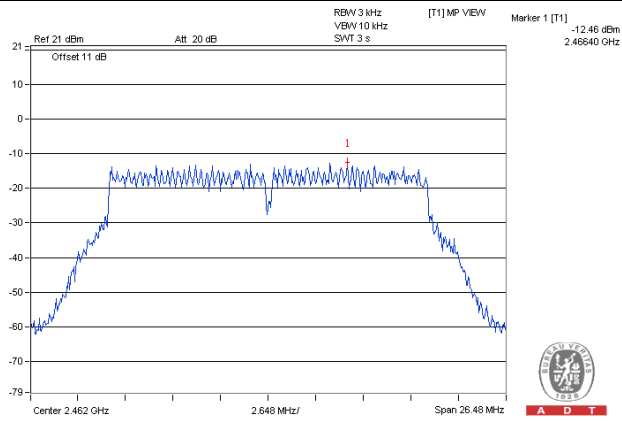
802.11b / CH6

802.11g / CH11



802.11n (HT20) / CH11

802.11n (HT40) / CH9



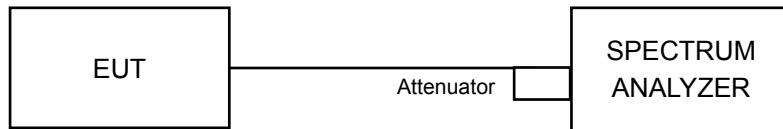


**4.6 Conducted Out of Band Emission Measurement**

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 ≥ 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 ≥ 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

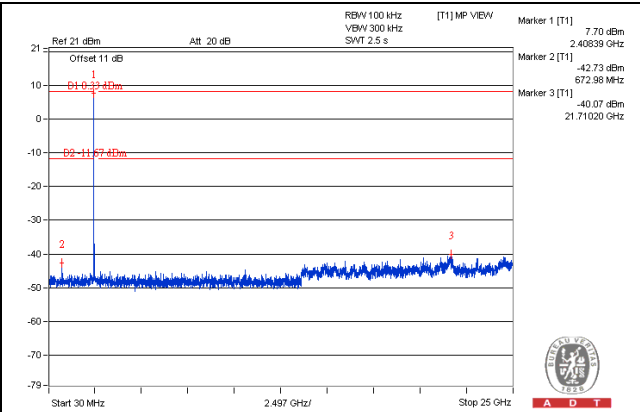
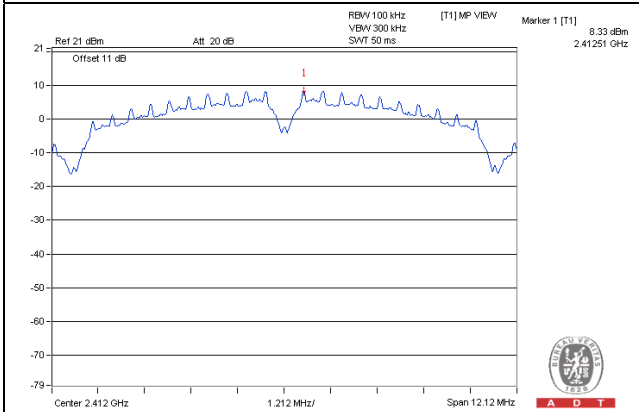
Same as Item 4.3.6

4.6.7 Test Results

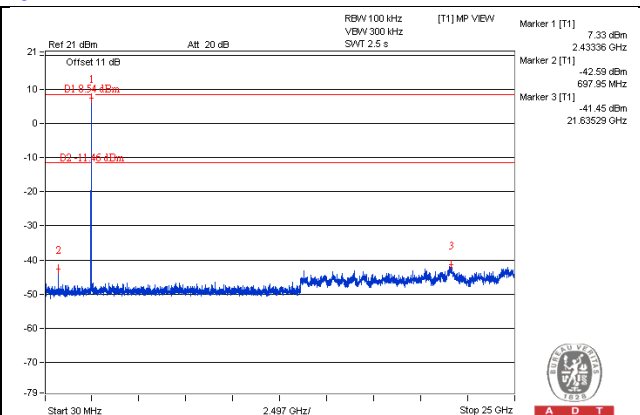
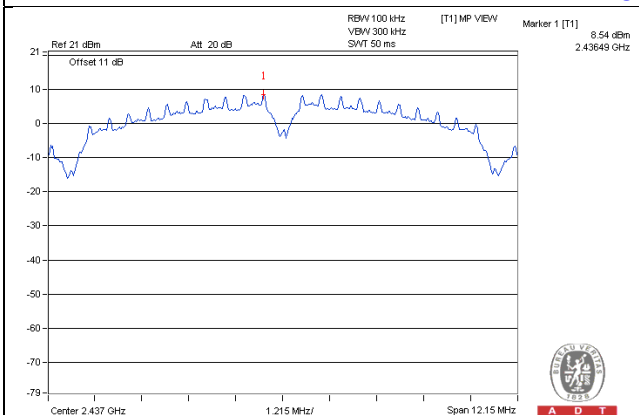
The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement.

802.11b

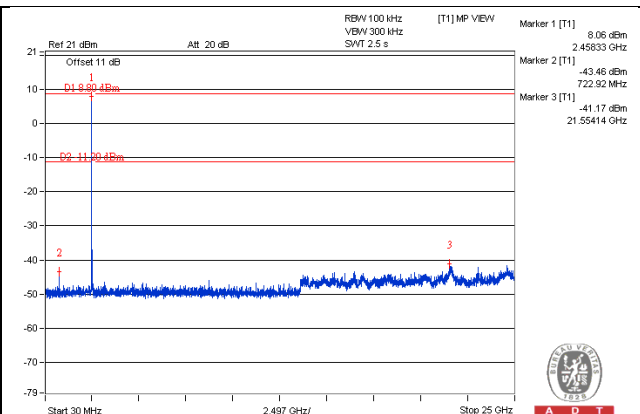
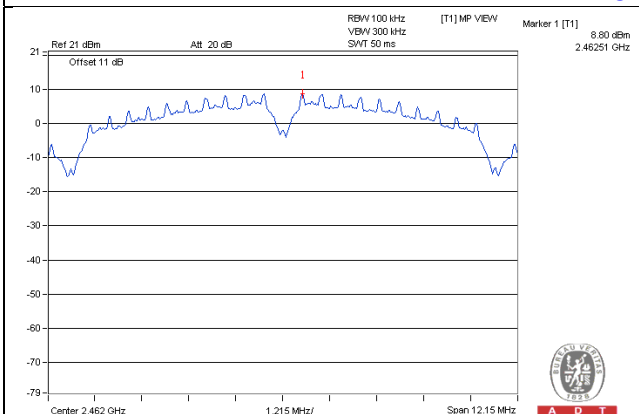
CH 1



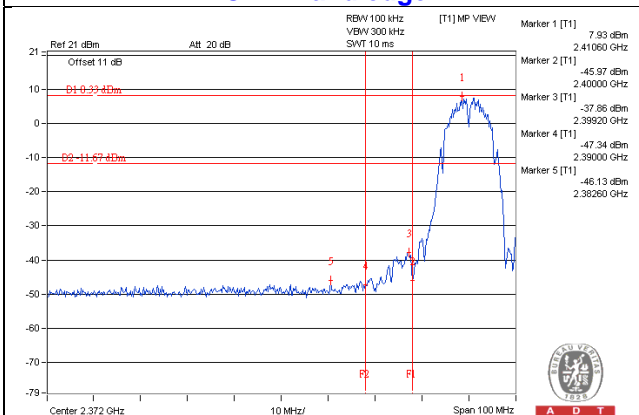
CH 6



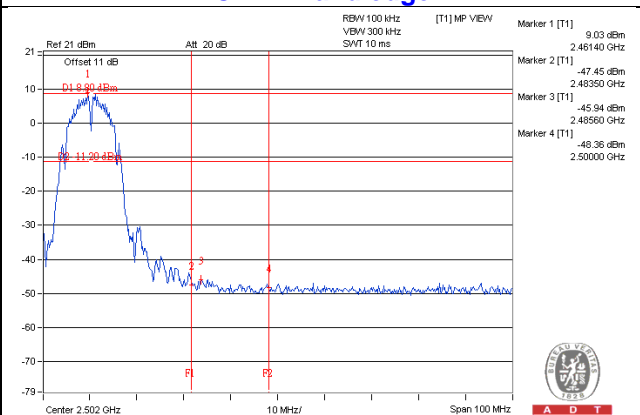
CH 11



CH 1 Band edge

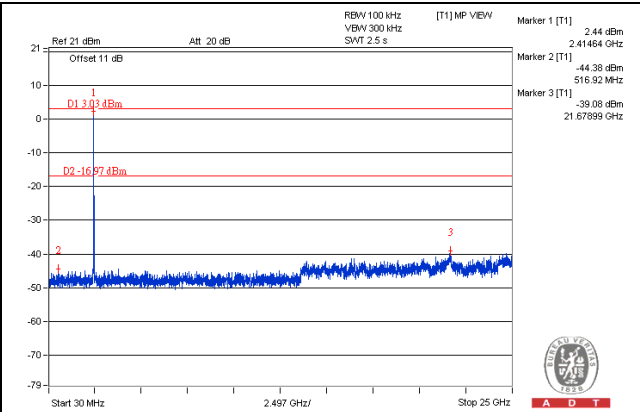
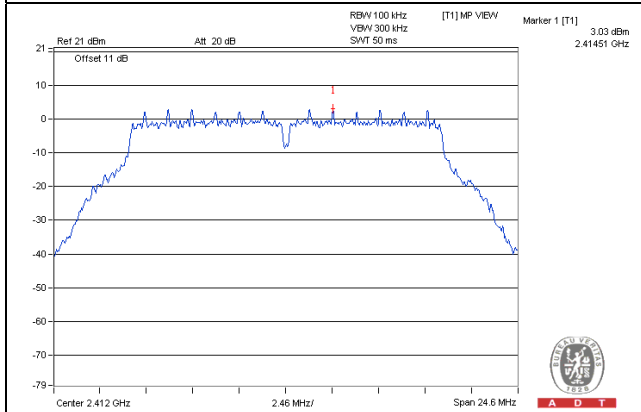


CH 11 Band edge

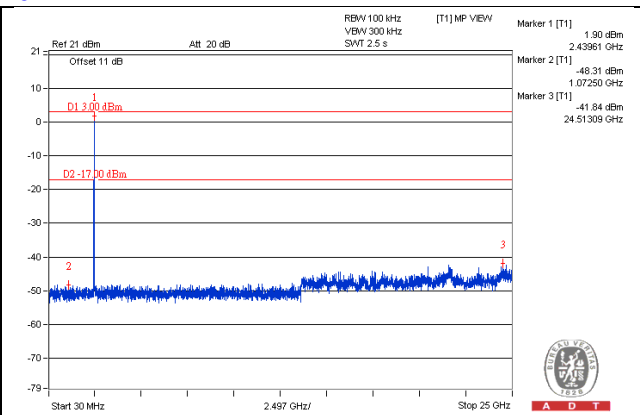
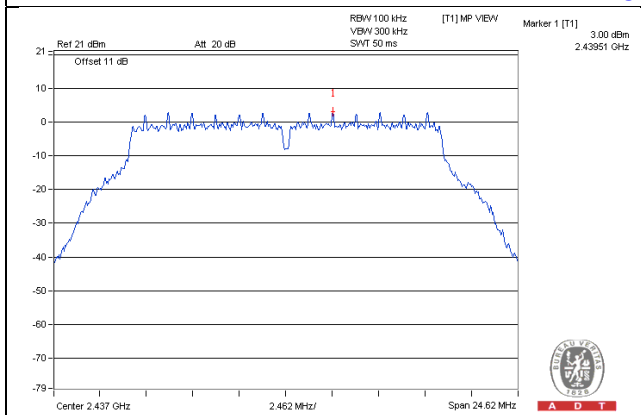


802.11g

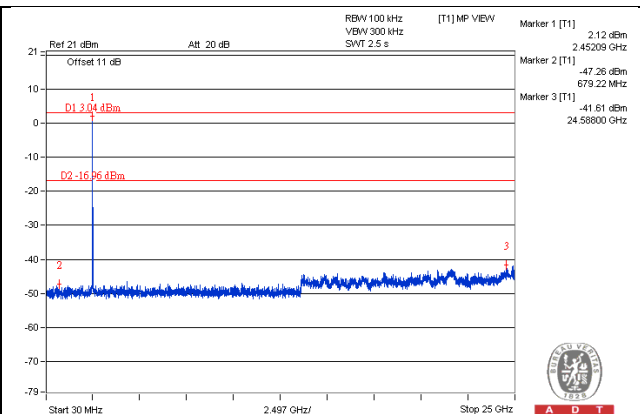
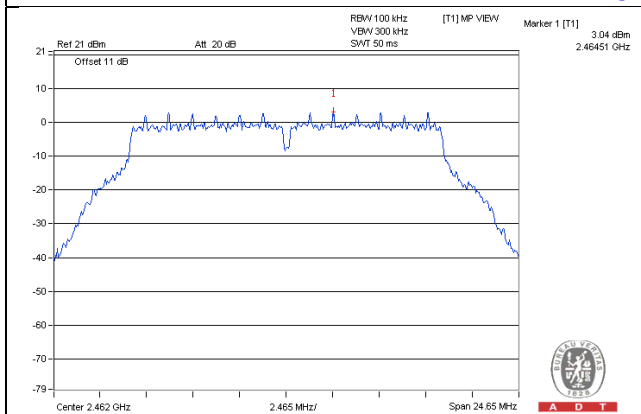
CH 1



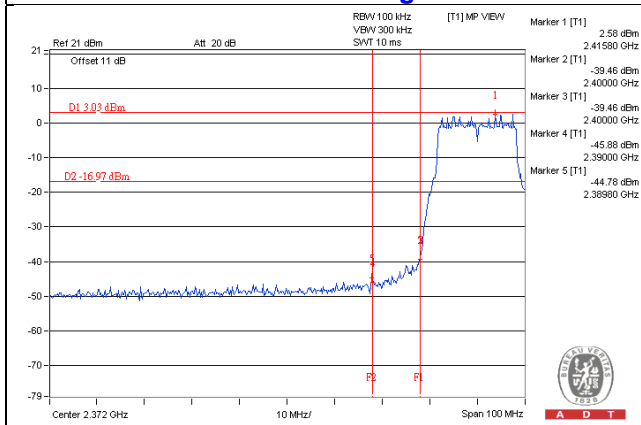
CH 6



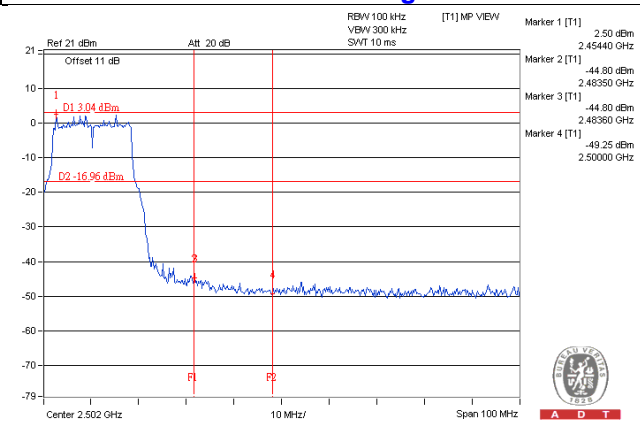
CH 11



CH 1 Band edge

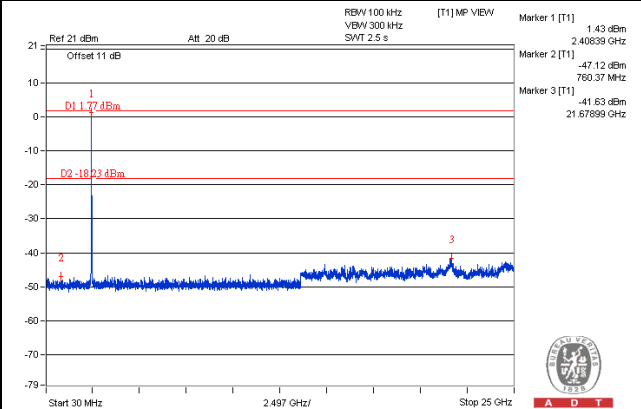
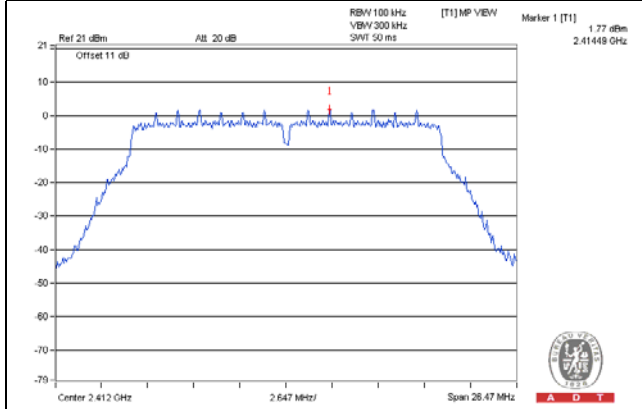


CH 11 Band edge

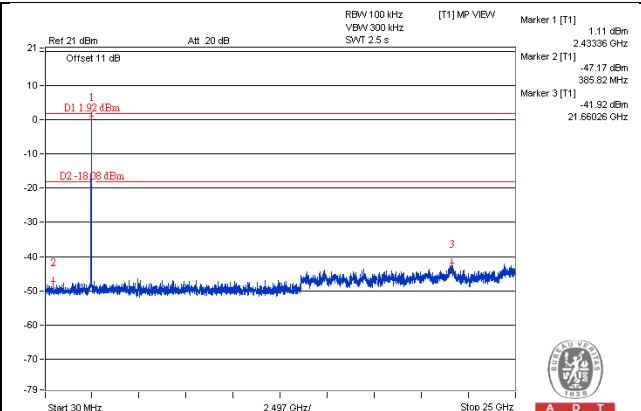
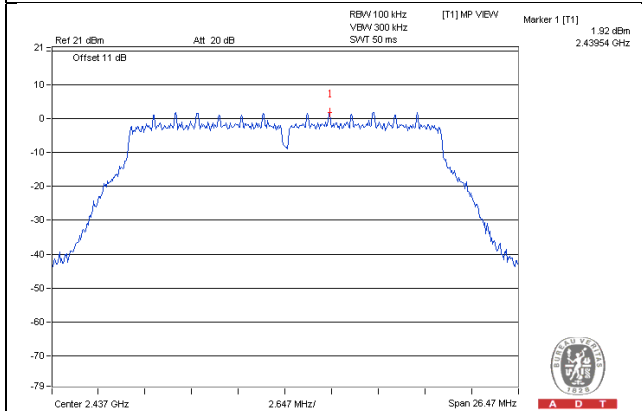


802.11n (HT20)

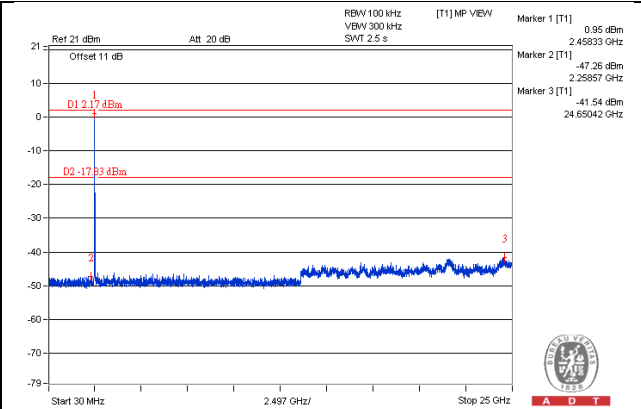
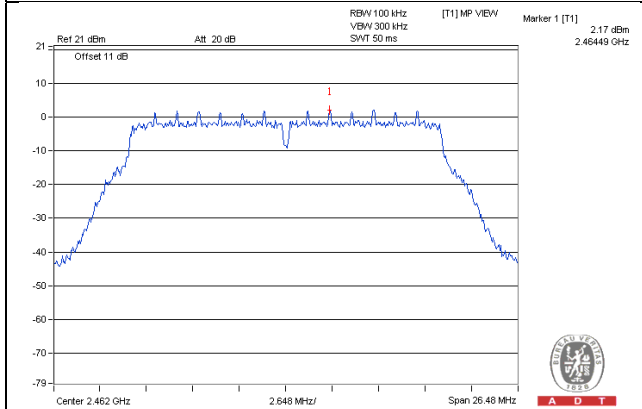
CH 1



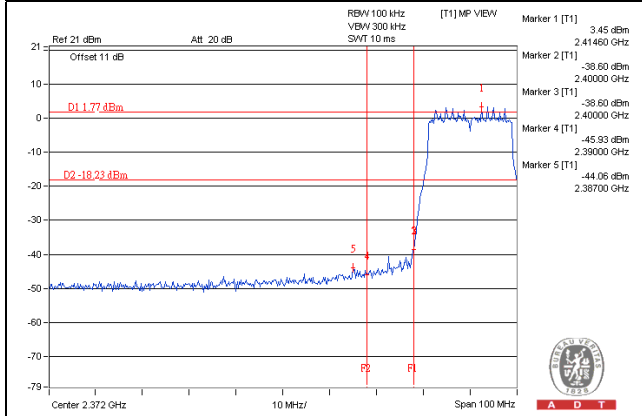
CH 6



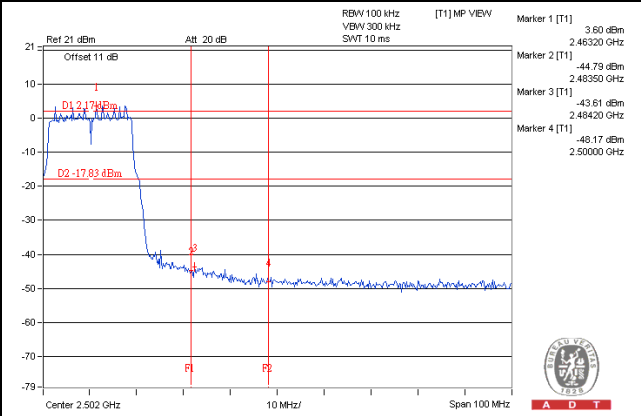
CH 11



CH 1 Band edge

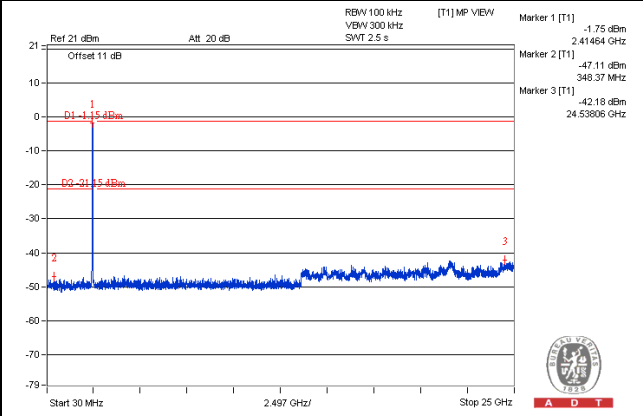
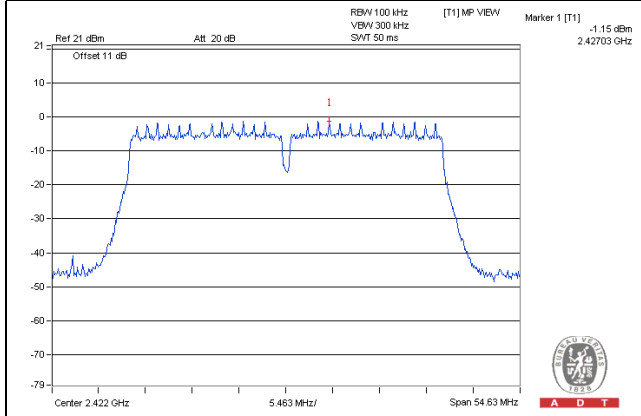


CH 11 Band edge

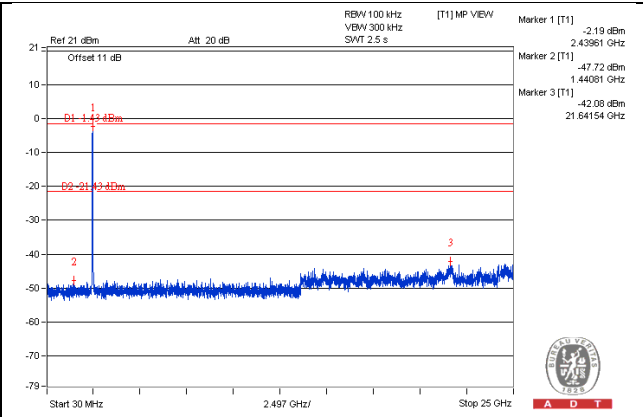
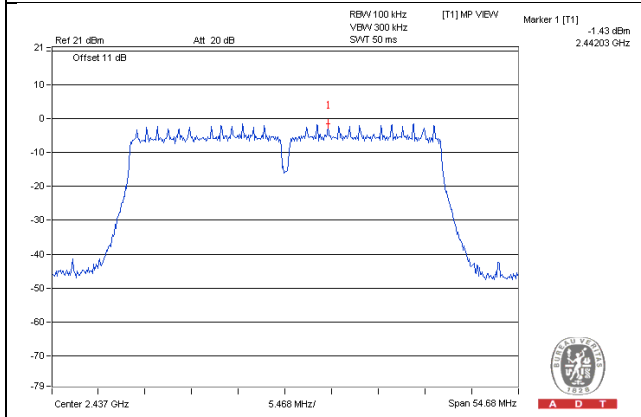


802.11n (HT40)

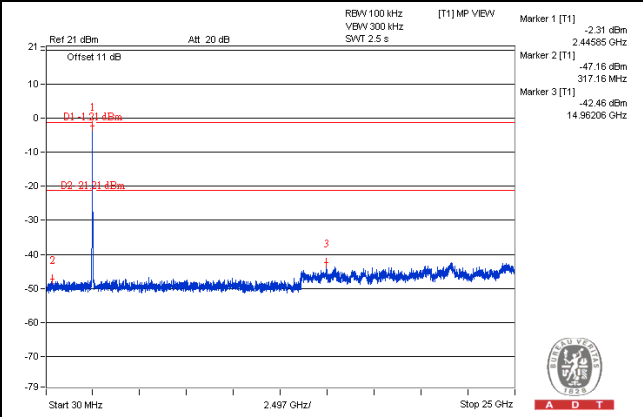
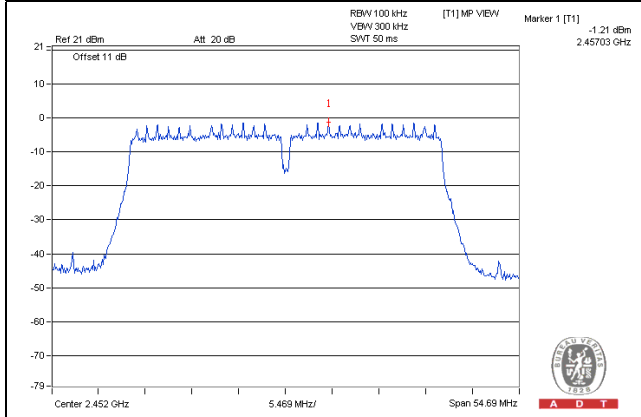
CH 3



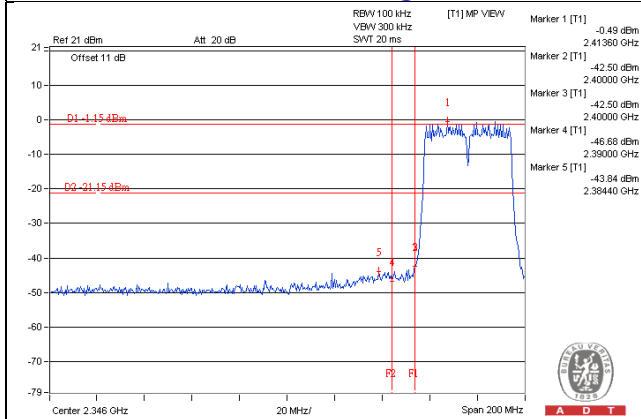
CH 6



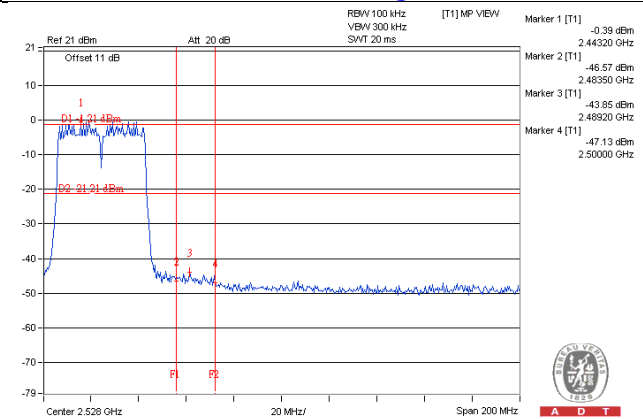
CH 9



CH 3 Band edge



CH 9 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.

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**Web Site:** [www.bureauveritas-adt.com](http://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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