

# FCC RADIO TEST REPORT

according to

47 CFR FCC Part 15 Subpart C § 15.247

**Equipment** : Wireless Skype phone (Handset)  
**Model No.** : P812N, P810N, P912N, P910N  
**Filing Type** : New Application  
**Applicant** : FirstCom Technology Co., Ltd.  
23F., No. 33, Sec. 1, Min Sheng Road, Panchiao City, Taipei  
Shien, Taiwan, R.O.C.  
**FCC ID** : UFU07HP8P9C  
**Manufacturer** : FirstCom Technology Co., Ltd.  
23F., No. 33, Sec. 1, Min Sheng Road, Panchiao City, Taipei  
Shien, Taiwan, R.O.C.  
**Received Date** : Jun. 12, 2007  
**Final Test Date** : Aug. 17, 2007

## Statement

The test result in this report refers exclusively to the presented test model / sample.

Without written approval of SPORTON International Inc., the test report shall not be reproduced except in full.

The measurements and test results shown in this test report were made in accordance with the procedures and found in compliance with the limit given in **ANSI C63.4-2003** and **47 CFR FCC Part 15 Subpart C**.

The test equipment used to perform the test is calibrated and traceable to NML/ROC.



***SPORTON International Inc.***

6F, No. 106, Sec. 1, Hsin Tai Wu Rd., Hsi Chih, Taipei Hsien, Taiwan, R.O.C.

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## History of This Test Report

Original Issue Date: Aug. 30, 2007

Report No.: FR761204

No additional attachment.

Additional attachment were issued as following record:

# CERTIFICATE OF COMPLIANCE

according to

47 CFR FCC Part 15 Subpart C § 15.247

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Shien, Taiwan, R.O.C.

Sporton International as requested by the applicant to evaluate the EMC performance of the product sample received on Jun. 12, 2007 would like to declare that the tested sample has been evaluated and found to be in compliance with the tested rule parts. The data recorded as well as the test configuration specified is true and accurate for showing the sample's EMC nature.

  
Wayne Hsu**SPORTON International Inc.**

6F, No.106, Sec. 1, Hsin Tai Wu Rd., Hsi Chih, Taipei Hsien, Taiwan, R.O.C.

## 1. SUMMARY OF THE TEST RESULT

Applied Standard: 47 CFR FCC Part 15 Subpart C				
Part	Rule Section	Description of Test	Result	Under Limit
3.1	15.207	AC Power Line Conducted Emissions	Complies	15.52 dB
3.2	15.247(b)(1)	Maximum Peak Conducted Output Power	Complies	18.69 dB
3.3	15.247(a)(1)	Hopping Channel Separation	Complies	-
3.4	15.247(b)(1)	Number of Hopping Frequency	Complies	-
3.5	15.247(a)(1)	Dwell Time	Complies	-
3.6	15.247(d)	Radiated Emissions	Complies	9.35 dB
3.7	15.247(d)	Band Edge Emissions	Complies	11.54 dB
3.8	15.203	Antenna Requirements	Complies	-

Test Items	Uncertainty	Remark
AC Power Line Conducted Emissions	±2.3dB	Confidence levels of 95%
Maximum Peak Conducted Output Power	±0.8dB	Confidence levels of 95%
Hopping Channel Separation	±8.5×10 <sup>-8</sup>	Confidence levels of 95%
Radiated Emissions (9kHz~30MHz)	±0.8dB	Confidence levels of 95%
Radiated Emissions (30MHz~1000MHz)	±1.9dB	Confidence levels of 95%
Radiated / Band Edge Emissions (1GHz~18GHz)	±1.9dB	Confidence levels of 95%
Radiated Emissions (18GHz~40GHz)	±1.9dB	Confidence levels of 95%
Temperature	±0.7	Confidence levels of 95%
Humidity	±3.2%	Confidence levels of 95%
DC / AC Power Source	±1.4%	Confidence levels of 95%

## 2. GENERAL INFORMATION

### 2.1. Product Details

EUT is a Wireless Skype phone (Handset) with radio function. For more detailed features description, please refer to the manufacturer's specifications or user's manual.

Items	Description
Power Type	3.7V dc by Li-Ion Battery; USB Port as recharging power source
Modulation	FHSS (GFSK)
Frequency Range	2400 ~ 2483.5MHz
Channel Number	34 (Min. Hopping channel requirement: 15)
Channel Band Width (99%)	1700 kHz
Conducted Output Power	2.31 dBm

### 2.2. Accessories

Power	Brand	Model	Rating
Li-Ion Battery	SHENZHEN JINGYOU COMMUNICATION TECH. CO., LTD	MD-5	Voltage : 3.7V Limit Voltage : 4.2V Capacity: 600mAh
<b>Others</b>			
USB Receiver / USB Cradle / USB Cable			

### 2.3. Table for Filed Antenna

Ant.	Antenna Type	Connector	Gain (dBi)
1	WIRE Antenna	Fixed on board	0.37

### 2.4. Table for Carrier Frequencies

Frequency Band	Channel No.	Frequency
2400~2483.5MHz	1	2413.152 MHz
	2	2414.880 MHz
	:	:
	17	2440.800 MHz
	18	2442.528 MHz
	19	2444.256 MHz
	:	:
	33	2468.448 MHz
	34	2470.176 MHz

## 2.5. Model Description

Constriction	Model	P812N	P810N	P912N	P910N
RF PCB board layout					
RF output					
LCD Display			X		X
SkypeTM / Tab / Select Button					
Answer / Call / Hold / History Button					
Numeric / Mute Keys					
Menu / Exit Button					
Up/Down / Name List / Speaker Volume Control	2 key	2 key	3 key	3 key	
Power On / Off / Call Ending / Delete Button					

Note: Both of Model P810N and Model P910N have no LCD panel. Model P812N&P810N and Model P912N&P910N have differently key panel constriction. The device tested in this report is P812N and P912N.

For Radiated Emissions Above 1GHz and Band Edge Emissions test, "P912N" generated the worst test result, it was reported as final data.

## 2.6. Table for Test Modes

Preliminary tests were performed in different data rate to find the worst radiated emission. The data rate shown in the table below is the worst-case rate with respect to the specific test item. Investigation has been done on all the possible configurations for searching the worst cases. The following table is a list of the test modes shown in this test report.

Test Items	Mode	Channel	Antenna
AC Power Conducted Emissions	Normal Mode (P812N) / Normal Mode (P912N)	Hopping 1~34	1
Max. Conducted Output Power	FHSS (GFSK)	1/18/34	NA
Hopping Channel Separation	FHSS (GFSK)	1~2/18~19/33~34	NA
Number of Hopping Frequency	FHSS (GFSK)	Hopping 1~34	NA
Dwell Time	Hopping Mode	Hopping 1~34	NA
Radiated Emissions Below 1GHz	Normal Mode (P812N) / Charging Mode (P912N)	Hopping 1~34	1
Radiated Emissions Above 1GHz	Normal Mode (P912N) / FHSS (GFSK)	1/18/34	1
Band Edge Emissions	Normal Mode (P912N) / FHSS (GFSK)	1/18/34	1

## 2.7. Table for Testing Locations

Test Site No.	Site Category	Location	FCC Reg. No.	IC File No.	VCCI Reg. No.
03CH03-HY	SAC	Hwa Ya	101377	IC 4088	-
CO04-HY	Conduction	Hwa Ya	101377	IC 4088	-
TH01-HY	OVEN Room	Hwa Ya	-	-	-

Open Area Test Site (OATS); Semi Anechoic Chamber (SAC); Fully Anechoic Chamber (FAC).

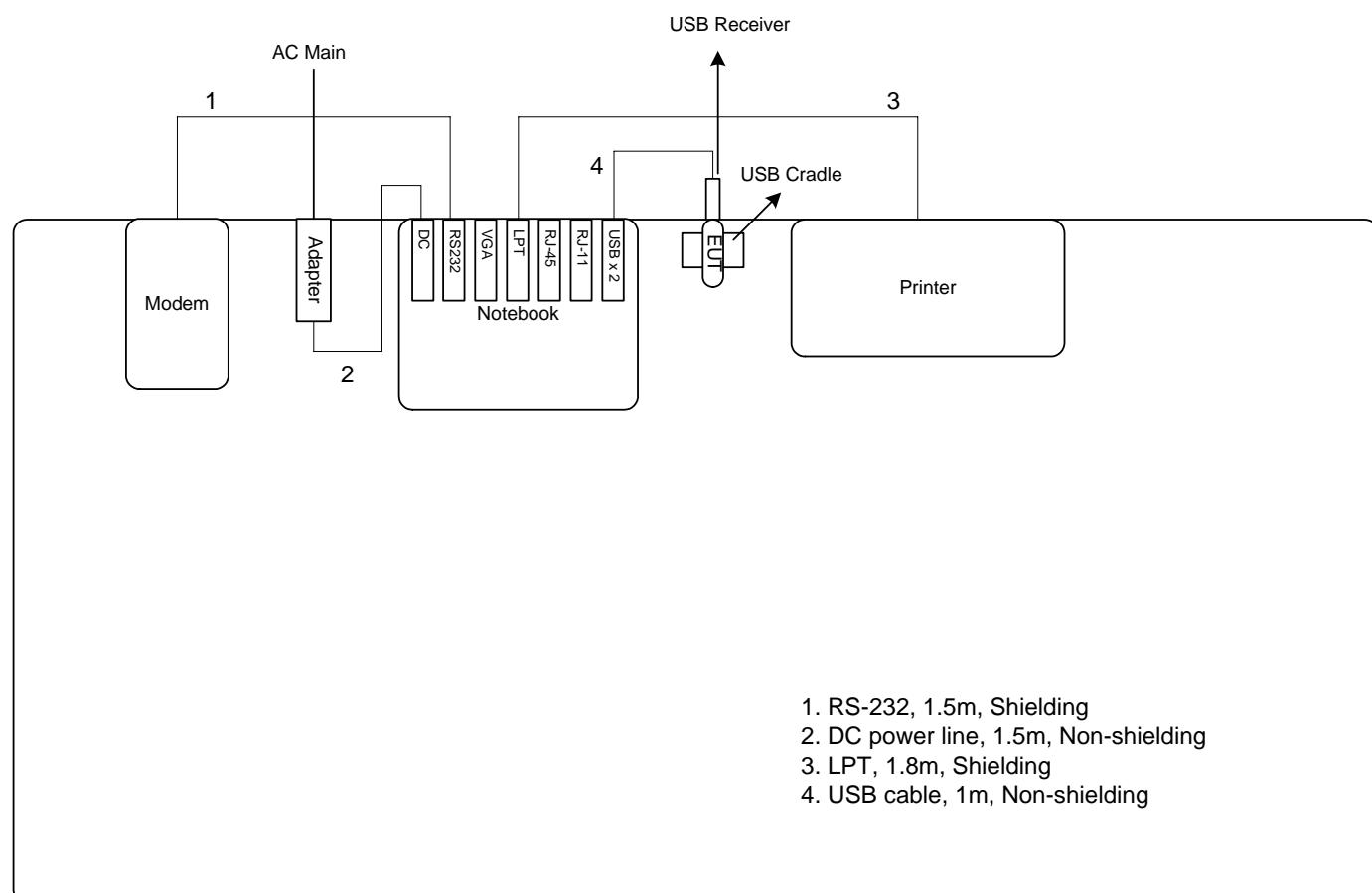
## 2.8. Table for Supporting Units

Support Unit	Brand	Model	FCC ID
Notebook	DELL	PP01L	DoC
Printer	EPSON	LQ-680	DoC
Modem	ACEEX	DM1414	IFAXDM1414
USB Cradle	Accessories of EUT		
USB Receiver			

## 2.9. Test Configurations

### 2.9.1. Radiation Emissions Test Configuration

For radiated emissions 9kHz~1GHz



**For radiated emissions above 1GHz**

EU

### 3. TEST RESULT

#### 3.1. AC Power Line Conducted Emissions Measurement

##### 3.1.1. Limit

For a Low-power Radio-frequency device which is designed to be connected to the AC power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed below limits table.

Frequency (MHz)	QP Limit (dBuV)	AV Limit (dBuV)
0.15~0.5	66~56	56~46
0.5~5	56	46
5~30	60	50

##### 3.1.2. Measuring Instruments and Setting

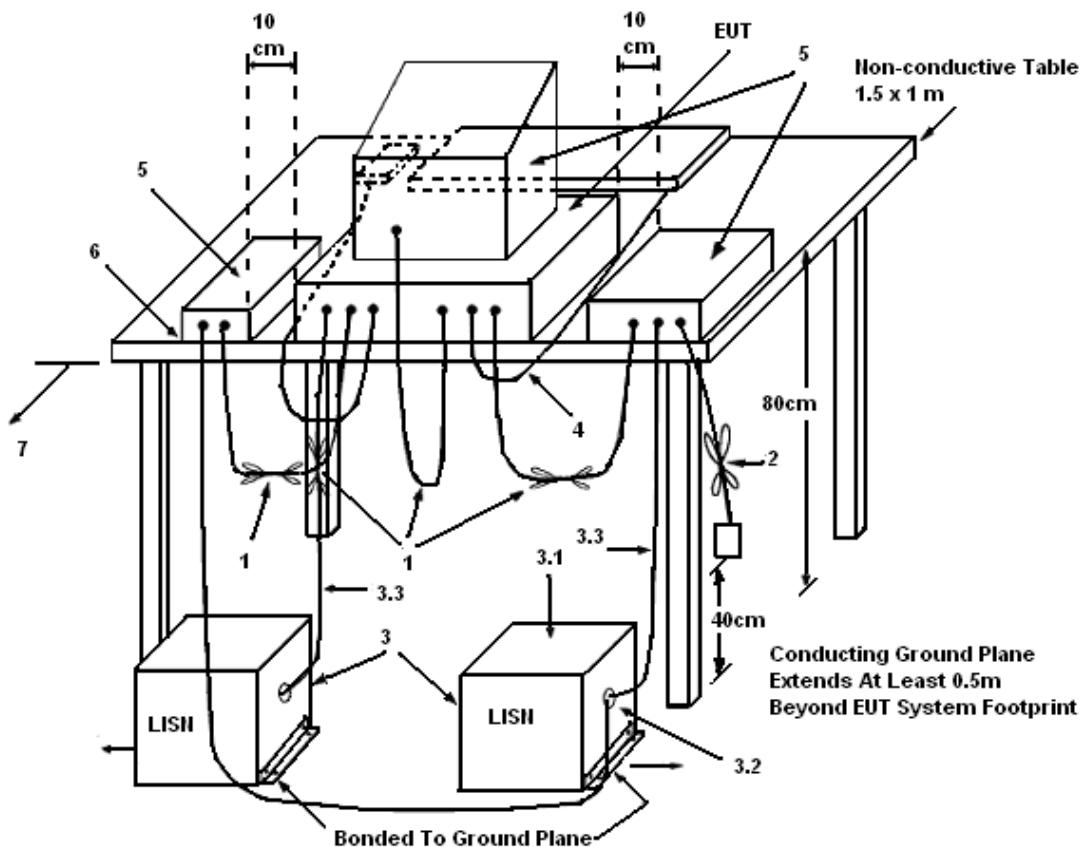
Please refer to section 4 of equipments list in this report. The following table is the setting of the receiver.

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 KHz

##### 3.1.3. Test Procedures

1. Configure the EUT according to ANSI C63.4. The EUT or host of EUT has to be placed 0.4 meter far from the conducting wall of the shielding room and at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT or host of EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connected to the other LISNs. The LISN should provide 50uH/50ohms coupling impedance.
4. The frequency range from 150 KHz to 30 MHz was searched.
5. Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. The measurement has to be done between each power line and ground at the power terminal.

### 3.1.4. Test Setup Layout



## LEGEND:

- (1) Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- (2) I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- (3) EUT connected to one LISN. Unused LISN measuring port connectors shall be terminated in 50 . LISN can be placed on top of, or immediately beneath, reference ground plane.
  - (3.1) All other equipment powered from additional LISN(s).
  - (3.2) Multiple outlet strip can be used for multiple power cords of non-EUT equipment.
  - (3.3) LISN at least 80 cm from nearest part of EUT chassis.
- (4) Cables of hand-operated devices, such as keyboards, mice, etc., shall be placed as for normal use.
- (5) Non-EUT components of EUT system being tested.
- (6) Rear of EUT, including peripherals, shall all be aligned and flush with rear of tabletop.
- (7) Rear of tabletop shall be 40 cm removed from a vertical conducting plane that is bonded to the ground plane.

### 3.1.5. Test Deviation

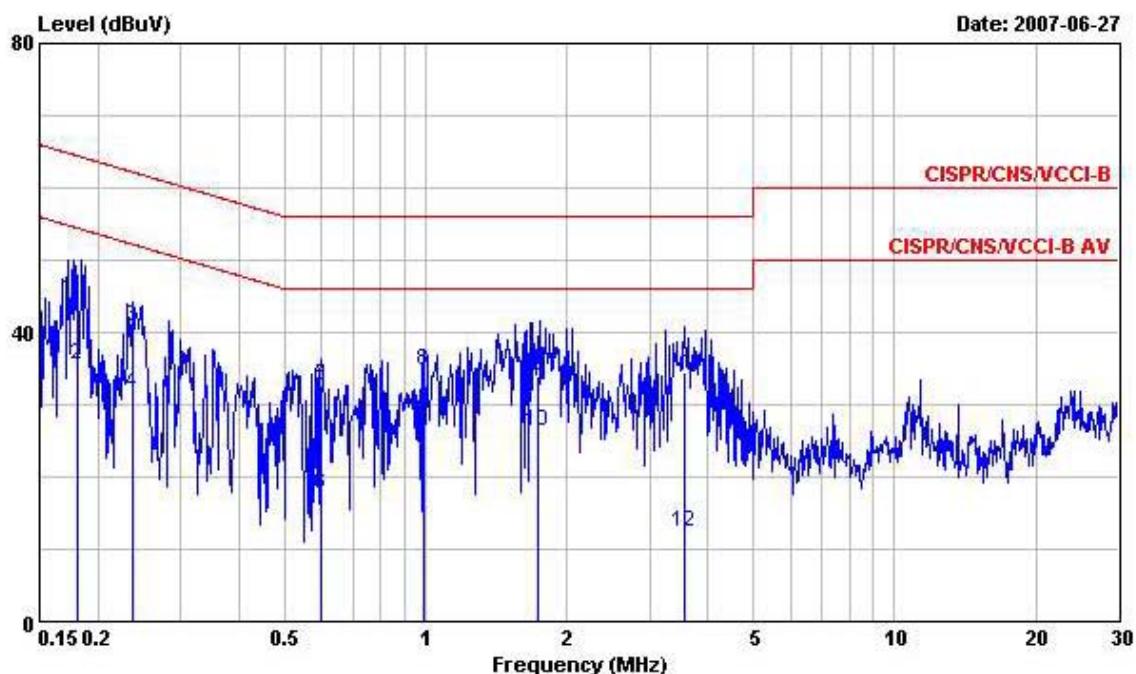
There is no deviation with the original standard.

### 3.1.6. EUT Operation during Test

The EUT was placed on the test table and programmed in normal function.

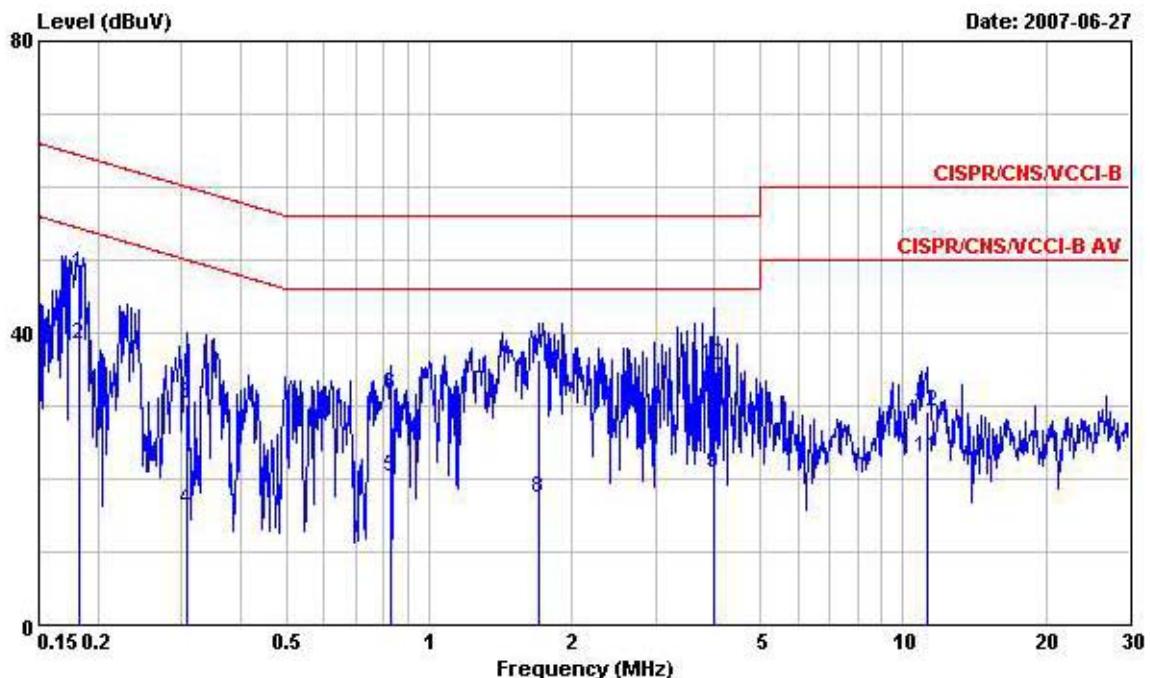
### 3.1.7. Results of AC Power Line Conducted Emissions Measurement

Temperature	29	Humidity	53%
Test Engineer	Ted	Phase	Line
Configuration	Normal Mode (P812N)		



Freq	Level	Over Limit	Limit Line	Read Level	LISN		Cable Loss	Remark
					dB	dBuV		
1	0.1810690	45.93	-18.51	64.44	45.69	0.10	0.14	QP
2	0.1810690	35.53	-18.91	54.44	35.29	0.10	0.14	Average
3	0.2365810	40.79	-21.43	62.22	40.41	0.10	0.28	QP
4	0.2365810	31.63	-20.59	52.22	31.25	0.10	0.28	Average
5	0.5979430	32.69	-23.31	56.00	31.99	0.10	0.60	QP
6	0.5979430	17.75	-28.25	46.00	17.05	0.10	0.60	Average
7	0.9943950	24.47	-21.53	46.00	23.93	0.10	0.44	Average
8	0.9943950	34.68	-21.32	56.00	34.14	0.10	0.44	QP
9	1.737	33.97	-22.03	56.00	33.44	0.10	0.43	QP
10	1.737	26.19	-19.81	46.00	25.66	0.10	0.43	Average
11	3.570	34.58	-21.42	56.00	34.14	0.10	0.34	QP
12	3.570	12.25	-33.75	46.00	11.81	0.10	0.34	Average

Temperature	29	Humidity	53%
Test Engineer	Ted	Phase	Neutral
Configuration	Normal Mode (P812N)		

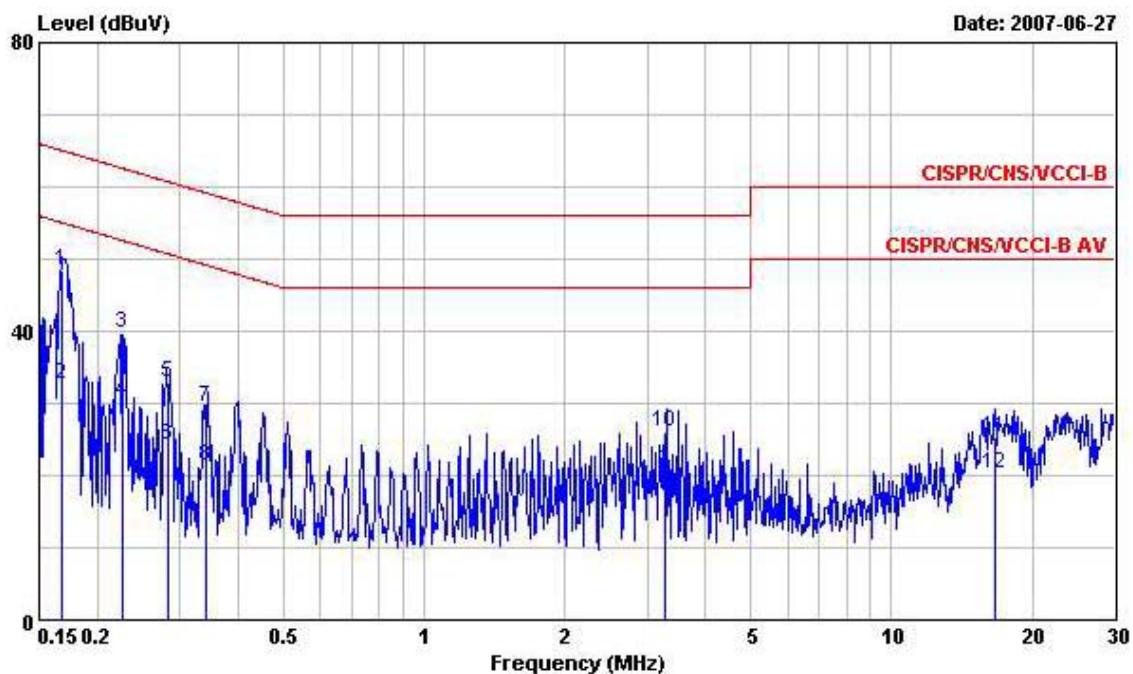


Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss		Remark
						MHz	dBuV	
							dB	
1 0.1830900	48.06	-16.28	64.34	47.82	0.10	0.14	QP	
2 0.1830900	38.55	-15.79	54.34	38.31	0.10	0.14	Average	
3 0.3083410	30.24	-29.78	60.02	29.63	0.10	0.51	QP	
4 0.3083410	15.72	-34.30	50.02	15.11	0.10	0.51	Average	
5 0.8260820	20.18	-25.82	46.00	19.58	0.10	0.50	Average	
6 0.8260820	31.54	-24.46	56.00	30.94	0.10	0.50	QP	
7 1.700	36.27	-19.73	56.00	35.74	0.10	0.43	QP	
8 1.700	17.34	-28.66	46.00	16.81	0.10	0.43	Average	
9 3.990	20.88	-25.12	46.00	20.36	0.20	0.32	Average	
10 3.990	35.45	-20.55	56.00	34.93	0.20	0.32	QP	
11 11.200	22.78	-27.22	50.00	22.28	0.30	0.20	Average	
12 11.200	29.13	-30.87	60.00	28.63	0.30	0.20	QP	

Note:

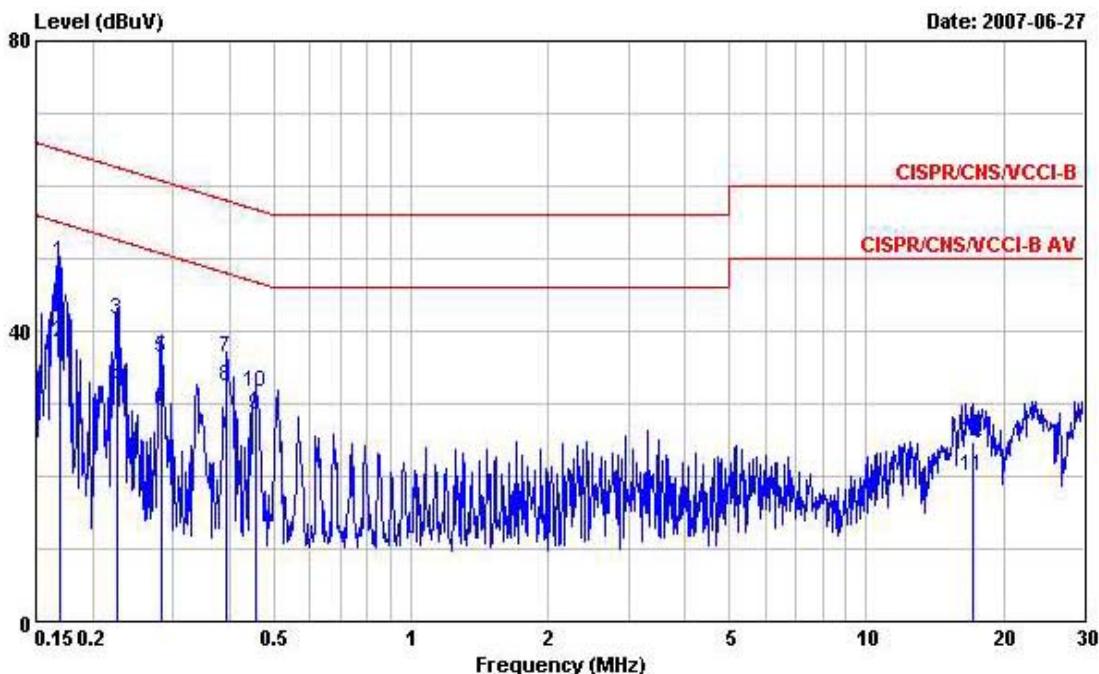
Level = Read Level + LISN Factor + Cable Loss.

Temperature	29	Humidity	53%
Test Engineer	Ted	Phase	Line
Configuration	Normal Mode (P912N)		



Freq	Level	Over Limit	Limit Line	Read Level	LISN		Cable Loss	Remark
					dBuV	dB		
1 0.1685540	48.48	-16.55	65.03	48.24	0.10	0.14	QP	
2 0.1685540	32.52	-22.51	55.03	32.28	0.10	0.14	Average	
3 0.2254970	39.62	-22.99	62.61	39.28	0.10	0.24	QP	
4 0.2254970	30.20	-22.41	52.61	29.86	0.10	0.24	Average	
5 0.2842530	32.81	-27.88	60.69	32.27	0.10	0.44	QP	
6 0.2842530	24.13	-26.56	50.69	23.59	0.10	0.44	Average	
7 0.3398250	29.46	-29.75	59.21	28.77	0.10	0.59	QP	
8 0.3398250	21.29	-27.92	49.21	20.60	0.10	0.59	Average	
9 3.288	20.42	-25.58	46.00	19.97	0.10	0.35	Average	
10 3.288	25.92	-30.08	56.00	25.47	0.10	0.35	QP	
11 16.665	25.29	-34.71	60.00	24.75	0.44	0.10	QP	
12 16.665	20.36	-29.64	50.00	19.82	0.44	0.10	Average	

Temperature	29	Humidity	53%
Test Engineer	Ted	Phase	Neutral
Configuration	Normal Mode (P912N)		



Freq	Level	Over Limit	Limit	Read		LISN	Cable
				Line	Level		
MHz	dBuV		dB	dBuV	dB		dB
1 0.1695440	49.46	-15.52	64.98	49.22	0.10	0.14	QP
2 0.1695440	38.54	-16.44	54.98	38.30	0.10	0.14	Average
3 0.2258780	41.69	-20.91	62.60	41.35	0.10	0.24	QP
4 0.2258780	32.23	-20.37	52.60	31.89	0.10	0.24	Average
5 0.2827790	36.37	-24.36	60.73	35.84	0.10	0.43	QP
6 0.2827790	28.94	-21.79	50.73	28.41	0.10	0.43	Average
7 0.3934400	36.40	-21.59	57.99	35.58	0.10	0.72	QP
8 0.3934400	32.25	-15.74	47.99	31.43	0.10	0.72	Average
9 0.4542140	28.38	-18.42	46.80	27.59	0.10	0.69	Average
10 0.4542140	31.56	-25.24	56.80	30.77	0.10	0.69	QP
11	17.199	19.90	-30.10	50.00	19.51	0.30	0.09 Average
12	17.199	24.85	-35.15	60.00	24.46	0.30	0.09 QP

Note:

Level = Read Level + LISN Factor + Cable Loss.

### 3.2. Maximum Peak Output Power Measurement

#### 3.2.1. Limit

For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, the limit for peak output power is 1Watt (30dBm). For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts (21dBm). The limit has to be reduced by the amount in dB that the gain of the antenna exceeds 6dBi. In case of point-to-point operation, the limit has to be reduced by 1dB for every 3dB that the directional gain of the antenna exceeds 6dBi.

#### 3.2.2. Measuring Instruments and Setting

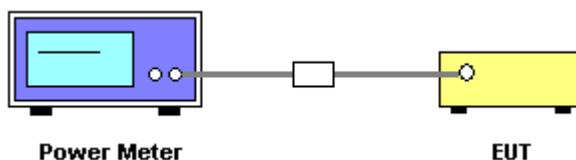
Please refer to section 4 of equipments list in this report. The following table is the setting of the power meter.

Power Meter Parameter	Setting
Filter No.	Auto
Measurement time	0.135 s ~ 26 s
Used Peak Sensor	NRV-Z32 (model 04)

#### 3.2.3. Test Procedures

1. The transmitter output (antenna port) was connected to the power meter.
2. Turn on the EUT and power meter and then record the peak power value.
3. Repeat above procedures on all channels needed to be tested.

#### 3.2.4. Test Setup Layout



#### 3.2.5. Test Deviation

There is no deviation with the original standard.

#### 3.2.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

**3.2.7. Test Result of Maximum Peak Output Power**

<b>Temperature</b>	25	<b>Humidity</b>	60%
<b>Test Engineer</b>	Murphy	<b>Configurations</b>	FHSS (GFSK)

<b>Channel</b>	<b>Frequency</b>	<b>Conducted Power (dBm)</b>	<b>Max. Limit (dBm)</b>	<b>Result</b>
1	2413.152 MHz	2.31	21.00	<b>Complies</b>
18	2442.528 MHz	1.84	21.00	<b>Complies</b>
34	2470.176 MHz	0.90	21.00	<b>Complies</b>

### 3.3. Hopping Channel Separation Measurement

#### 3.3.1. Limit

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 2/3 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater.

#### 3.3.2. Measuring Instruments and Setting

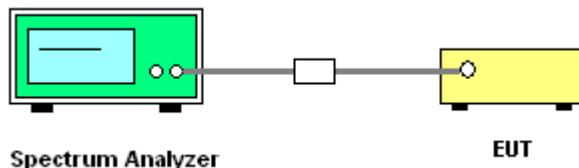
Please refer to section 4 of equipments list in this report. The following table is the setting of spectrum analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	> Measurement Bandwidth or Channel Separation
RB	100 kHz
VB	100 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

#### 3.3.3. Test Procedures

1. The transmitter output (antenna port) was connected to the spectrum analyser in peak hold mode.
2. The resolution bandwidth of 100 kHz and the video bandwidth of 100 kHz were utilised for 20 dB bandwidth measurement.
3. The resolution bandwidth of 100 kHz and the video bandwidth of 100 kHz were utilised for channel separation measurement.

#### 3.3.4. Test Setup Layout



#### 3.3.5. Test Deviation

There is no deviation with the original standard.

**3.3.6. EUT Operation during Test**

The EUT was programmed to be in continuously transmitting mode.

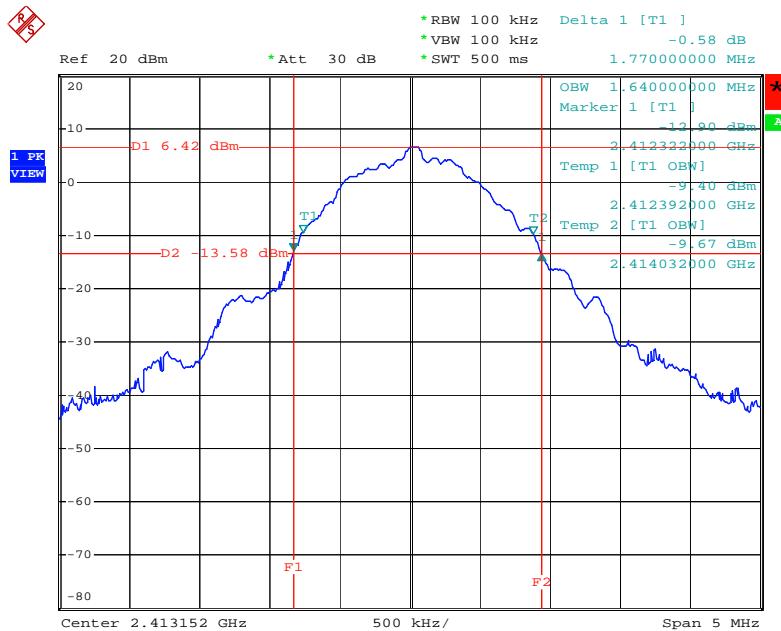
**3.3.7. Test Result of Hopping Channel Separation**

<b>Temperature</b>	25	<b>Humidity</b>	60%
<b>Test Engineer</b>	Murphy	<b>Configurations</b>	FHSS (GFSK)

<b>Frequency</b>	<b>20dB Bandwidth (kHz)</b>	<b>99% Occupied BW (kHz)</b>	<b>Channel Spacing (kHz)</b>	<b>Channel Spacing Min. Limits (kHz)</b>	<b>Result</b>
2413.152 MHz	1770.00	1640.00	1728.00	1180.00	Complies
2442.528 MHz	1820.00	1670.00	1728.00	1213.33	Complies
2470.176 MHz	1840.00	1700.00	1728.00	1226.67	Complies

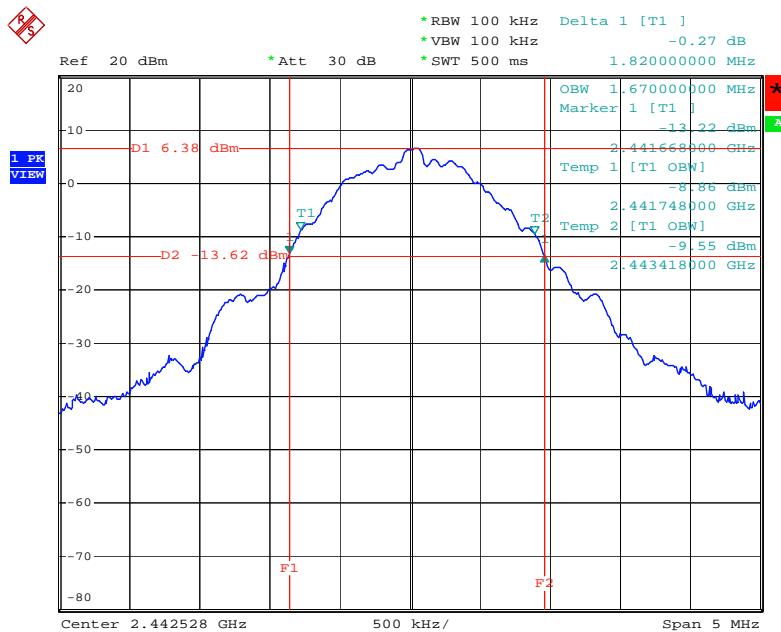
**Ch. Separation Limits: >20dB bandwidth or >2/3 of 20dB bandwidth**

## 20 dB Bandwidth Plot on Channel 1 / 2413.152 MHz



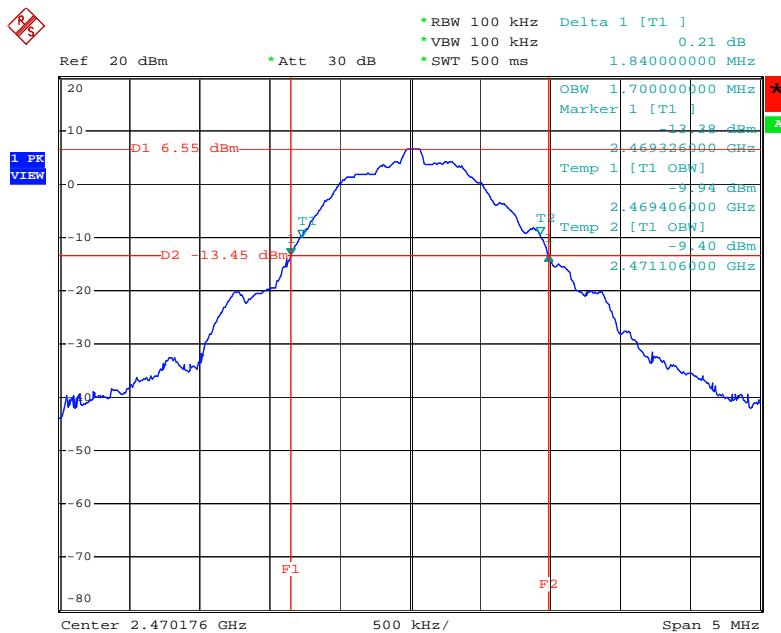
Date: 2.AUG.2007 03:23:11

## 20 dB Bandwidth Plot on Channel 18 / 2442.528 MHz



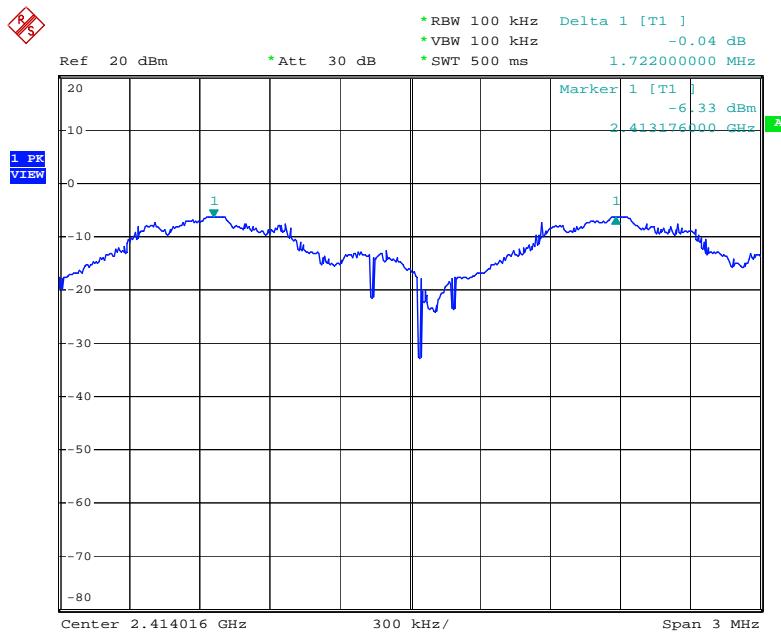
Date: 2.AUG.2007 03:27:25

## 20 dB Bandwidth Plot on Channel 34 / 2470.176 MHz



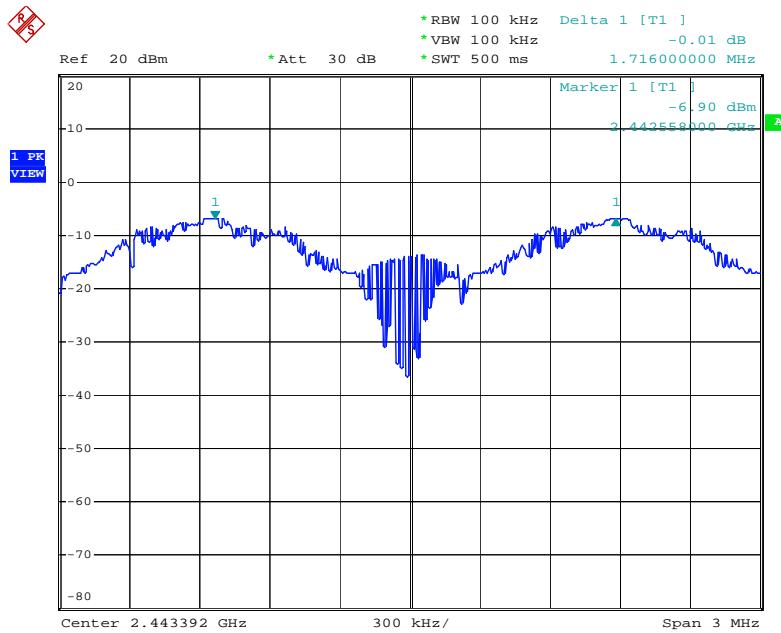
Date: 2.AUG.2007 03:29:55

## Channel Separation Plot on Channel 1~2 / 2413.152 MHz ~ 2414.880 MHz



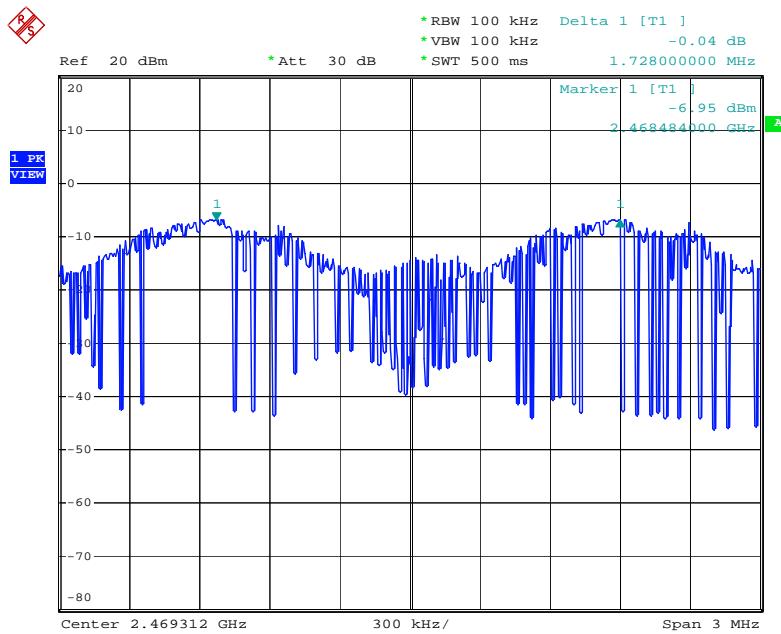
Date: 2.AUG.2007 03:55:57

Channel Separation Plot on Channel 18~19 / 2442.528 MHz ~ 2444.256 MHz



Date: 2.AUG.2007 04:00:05

Channel Separation Plot on Channel 33~34 / 2468.448 MHz ~ 2470.176 MHz



Date: 2.AUG.2007 04:11:30

### 3.4. Number of Hopping Frequency Measurement

#### 3.4.1. Limit

For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 15 non-overlapping hopping channels.

#### 3.4.2. Measuring Instruments and Setting

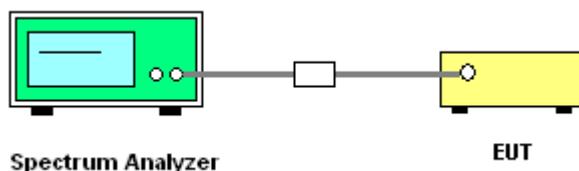
Please refer to section 4 of equipments list in this report. The following table is the setting of spectrum analyzer.

Spectrum Parameters	Setting
Attenuation	Auto
Span Frequency	> Operating Frequency Range
RB	100 kHz
VB	100 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

#### 3.4.3. Test Procedures

1. The transmitter output (antenna port) was connected to the spectrum analyser in peak hold mode.
2. The resolution bandwidth of 100 kHz and the video bandwidth of 100 kHz were utilised.
3. Observe frequency hopping in 2400MHz~2483.5MHz, there are at least 15 non-overlapping channels.

#### 3.4.4. Test Setup Layout



### 3.4.5. Test Deviation

There is no deviation with the original standard.

### 3.4.6. EUT Operation during Test

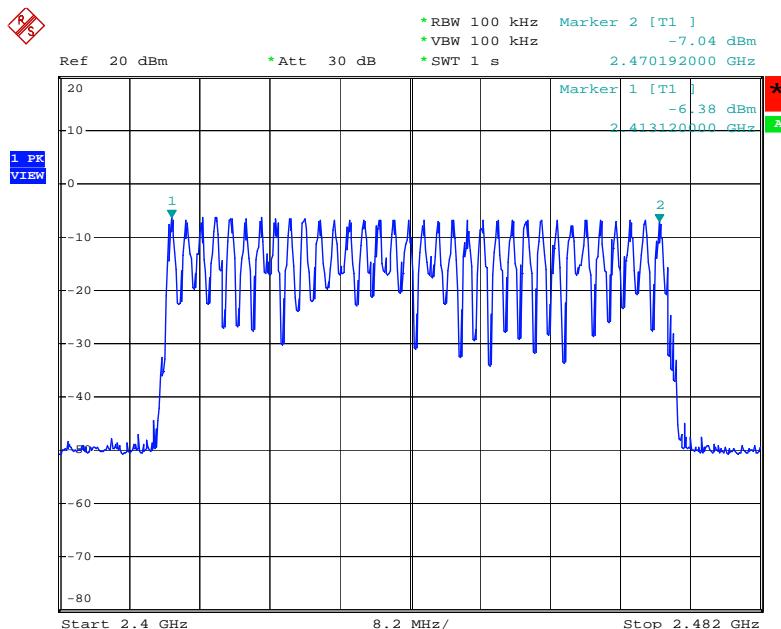
The EUT was programmed to be in continuously transmitting mode.

### 3.4.7. Test Result of Number of Hopping Frequency

Temperature	25	Humidity	60%
Test Engineer	Murphy	Configurations	Hopping

Channel No.	Frequency (MHz)	Hopping Ch. (Channels)	Min. Limit (Channels)	Test Result
1~34	2413.152 MHz ~ 2470.176 MHz	34	15	Complies

Number of Hopping Channel Plot on Channel 1~34 / 2413.152 MHz ~ 2470.176 MHz



Date: 2.AUG.2007 03:48:34

### 3.5. Dwell Time Measurement

#### 3.5.1. Limit

Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

#### 3.5.2. Measuring Instruments and Setting

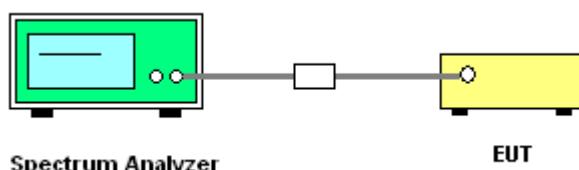
Please refer to section 4 of equipments list in this report. The following table is the setting of spectrum analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	0 MHz
RB	1000 kHz
VB	1000 kHz
Detector	Peak
Trace	Single Trigger

#### 3.5.3. Test Procedures

1. The transmitter output (antenna port) was connected to the spectrum analyzer
2. Set RBW of spectrum analyzer to 1000kHz and VBW to 1000kHz.
3. Use a video trigger with the trigger level set to enable triggering only on full pulses.
4. Sweep Time is more than once pulse time.
5. Set the center frequency on any frequency would be measure and span to zero span.
6. Measure the maximum time duration of one single pulse.
7. Count the number of pulses in the dwell time duration (0.4 seconds multiplied by the number of hopping channels).
8. Dwell time=pulse duration x number of pulses / measure time x dwell time duration.

#### 3.5.4. Test Setup Layout



#### 3.5.5. Test Deviation

There is no deviation with the original standard.

**3.5.6. EUT Operation during Test**

The EUT was programmed to be in continuously transmitting mode.

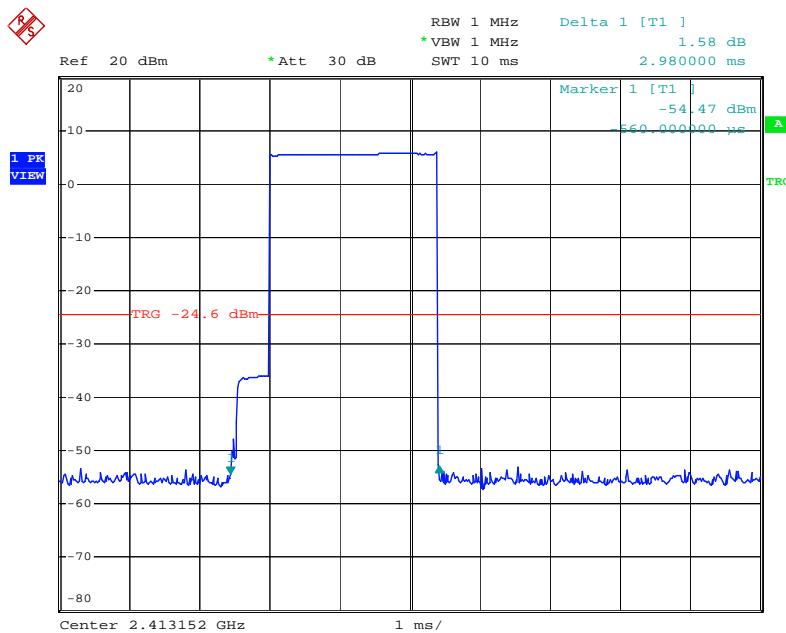
**3.5.7. Test Result of Dwell Time**

<b>Temperature</b>	20	<b>Humidity</b>	70%
<b>Test Engineer</b>	Sam Lee	<b>Configurations</b>	Hopping

<b>Frequency</b>	<b>Pulse Duration (ms)</b>	<b>Number of Pulses</b>	<b>Measure Time (s)</b>	<b>Dwell time duration (s)</b>	<b>Dwell Time (s)</b>	<b>Limits (s)</b>	<b>Test Result</b>
2413.152 MHz	2.9800	37	10	14	0.1540	0.4000	Complies
2442.528 MHz	2.9800	36	10	14	0.1459	0.4000	Complies
2470.176 MHz	2.9600	37	10	14	0.1489	0.4000	Complies

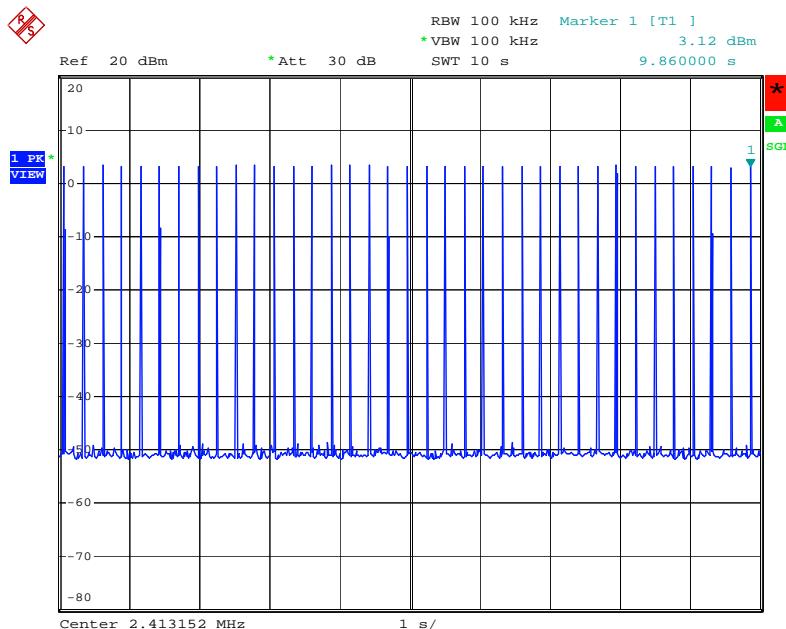
Note: Dwell time=pulse duration x number of pulses / measure time x dwell time duration

## Single Pulse Plot on Channel 1 / 2413.152 MHz



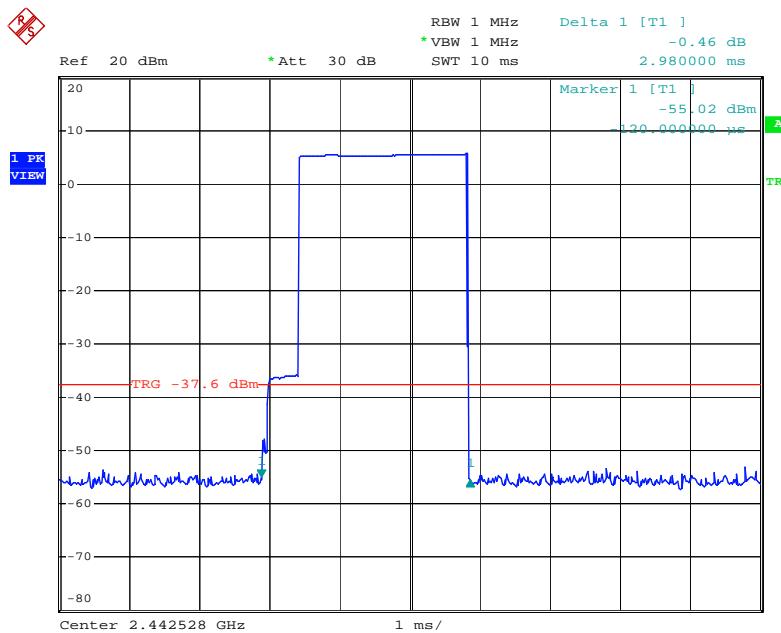
Date: 2.AUG.2007 03:39:31

## Number of Pulses Plot on Channel 1 / 2413.152 MHz



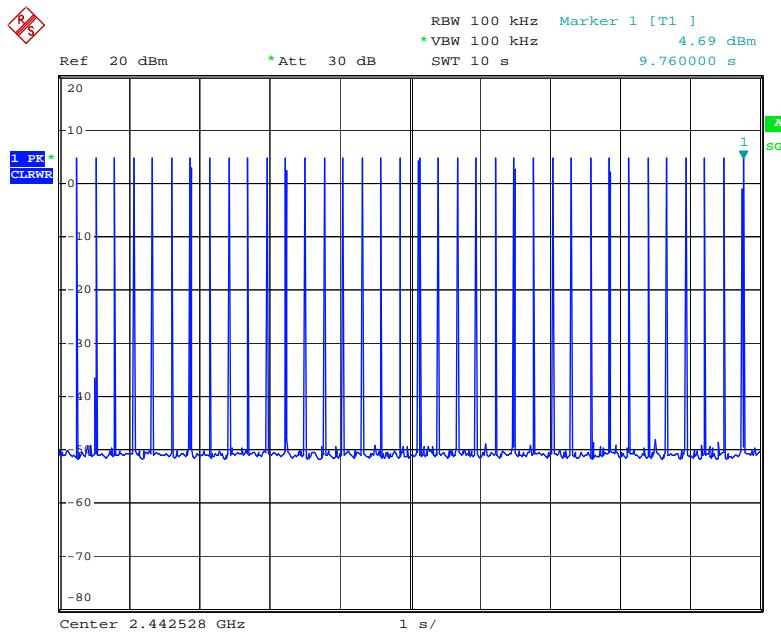
Date: 2.AUG.2007 03:36:49

## Single Pulse Plot on Channel 18 / 2442.528 MHz



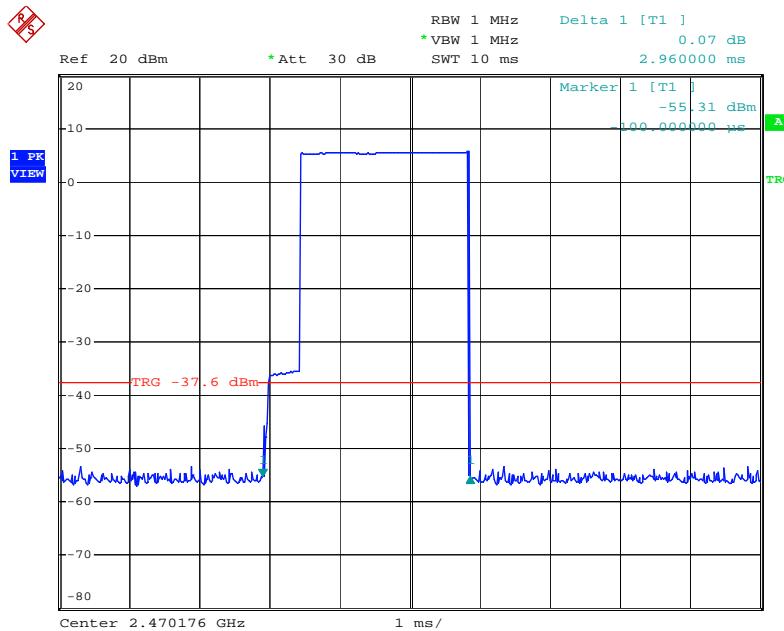
Date: 2.AUG.2007 03:41:11

## Number of Pulses Plot on Channel 18 / 2442.528 MHz



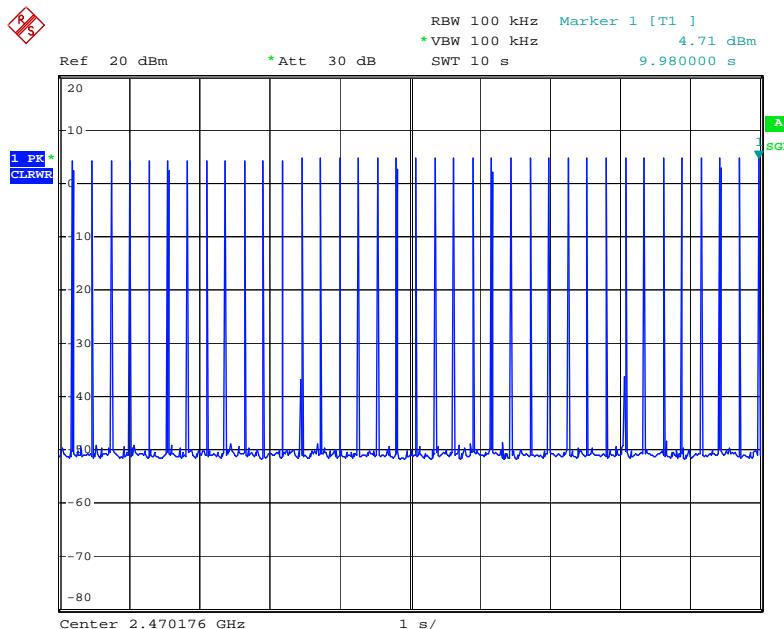
Date: 2.AUG.2007 03:42:09

## Single Pulse Plot on Channel 34 / 2470.176 MHz



Date: 2.AUG.2007 03:43:48

## Number of Pulses Plot on Channel 34 / 2470.176 MHz



Date: 2.AUG.2007 03:43:02

### 3.6. Radiated Emissions Measurement

#### 3.6.1. Limit

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (microvolt/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

#### 3.6.2. Measuring Instruments and Setting

Please refer to section 4 of equipments list in this report. The following table is the setting of spectrum analyzer and receiver.

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RB / VB (Emission in restricted band)	1MHz / 1MHz for Peak, 1 MHz / 10Hz for Average
RB / VB (Emission in non-restricted band)	1000KHz / 1000KHz for peak

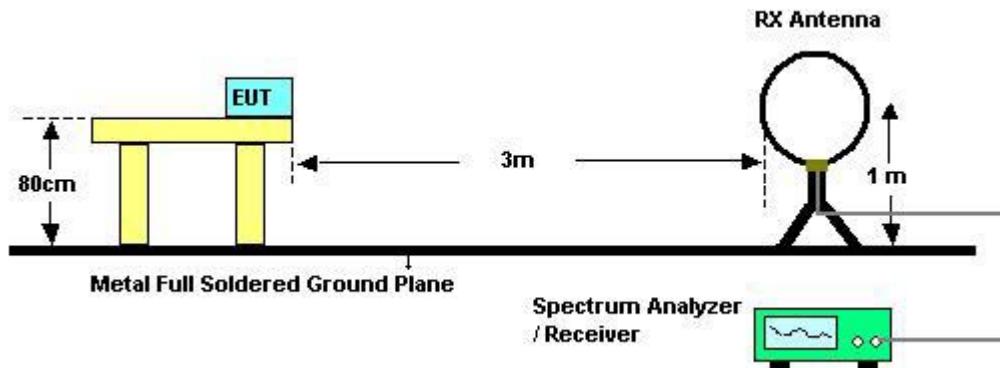
Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

### 3.6.3. Test Procedures

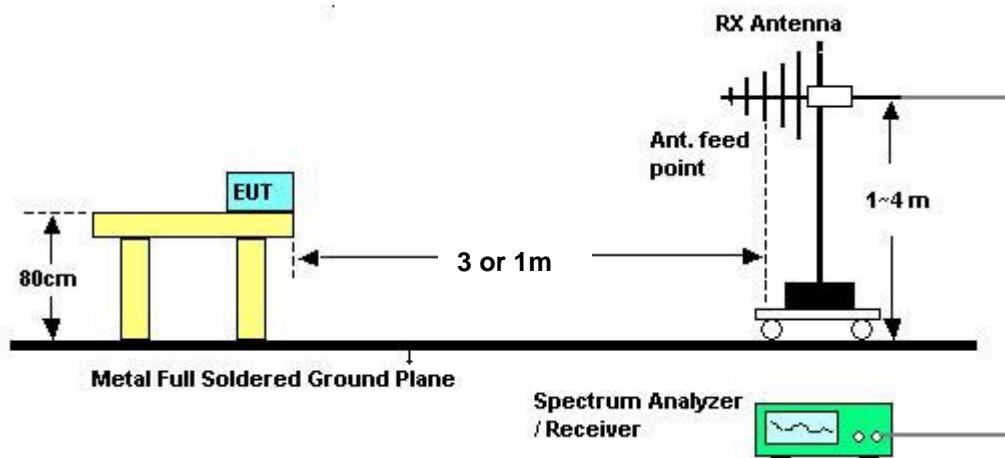
1. Configure the EUT according to ANSI C63.4. The EUT was placed on the top of the turntable 0.8 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emissions, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
6. For emissions above 1GHz, use 1MHz VBW and RBW for peak reading. Then 1MHz RBW and 10Hz VBW for average reading in spectrum analyzer.
7. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum value.
8. If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
9. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
10. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High – Low scan is not required in this case.

### 3.6.4. Test Setup Layout

For radiated emissions below 30MHz



For radiated emissions above 30MHz



Above 10 GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade from 3m to 1m.

Distance extrapolation factor =  $20 \log (\text{specific distance [3m]} / \text{test distance [1m]})$  (dB);

Limit line = specific limits (dBuV) + distance extrapolation factor [9.54 dB].

### 3.6.5. Test Deviation

There is no deviation with the original standard.

### 3.6.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

## 3.6.7. Results of Radiated Emissions (9kHz~30MHz)

Temperature	25	Humidity	56%
Test Engineer	Vic		

Freq. (MHz)	Level (dBuV)	Over Limit (dB)	Limit Line (dBuV)	Remark
-	-	-	-	See Note

Note:

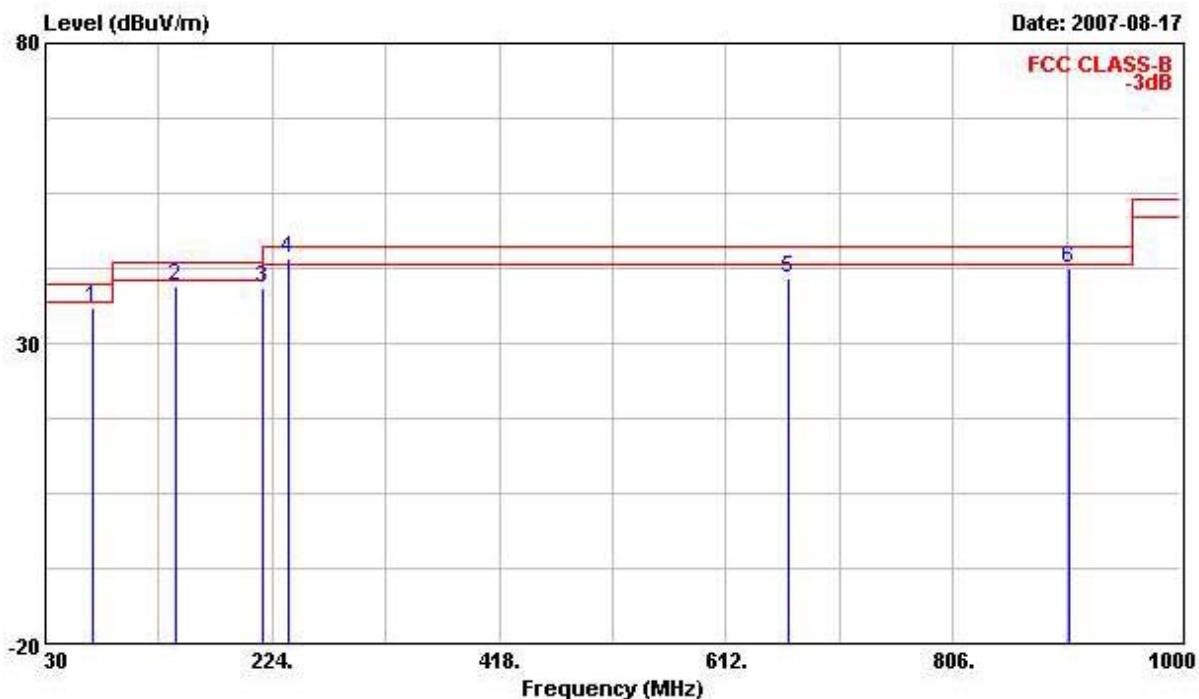
The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Distance extrapolation factor =  $40 \log (\text{specific distance} / \text{test distance})$  (dB);

Limit line = specific limits (dBuV) + distance extrapolation factor.

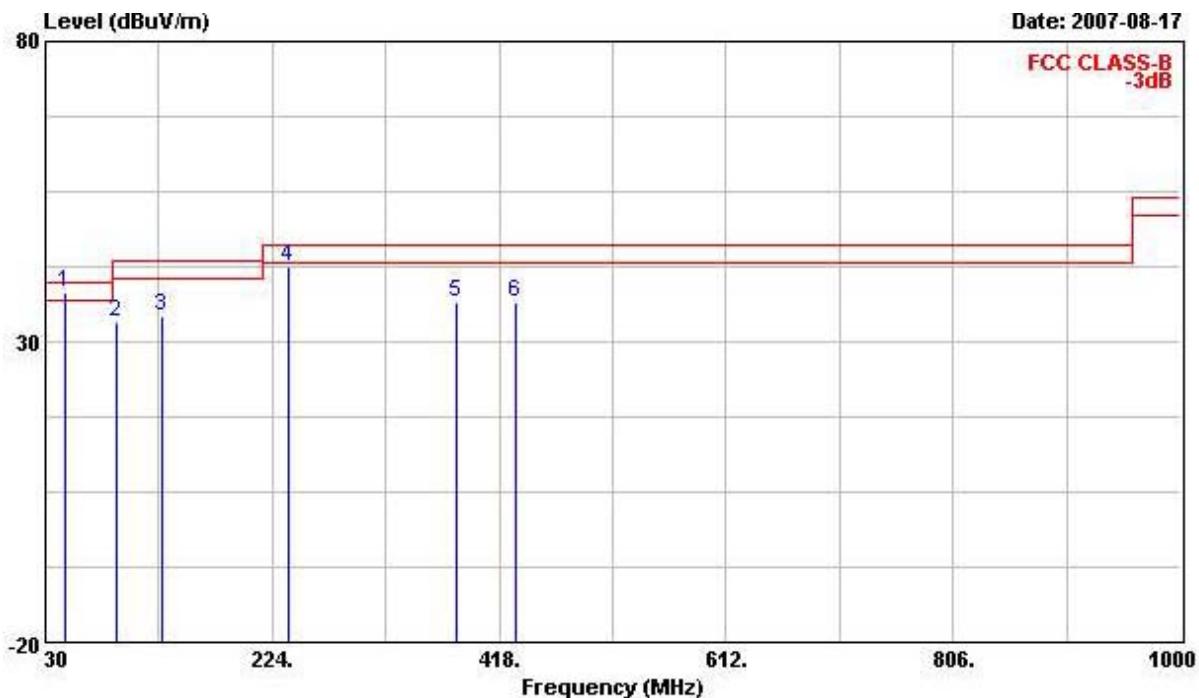
## 3.6.8. Results of Radiated Emissions (30MHz~1GHz)

Temperature	25	Humidity	56%
Test Engineer	Vic	Configurations	Normal Mode (P812N)

**Horizontal**

Freq	Level	Read	Over	Limit	Antenna	Cable	Preamp	Remark
		Level	Limit	Line Factor	dB/m	dB	dB	
1	70.740	35.90	54.10	-4.10	40.00	6.10	3.42	27.73 QP
2	141.550	39.48	53.20	-4.02	43.50	11.26	2.96	27.93 Peak
3	215.270	39.23	54.74	-4.27	43.50	9.27	3.43	28.21 Peak
4	238.550	44.10	57.25	-1.90	46.00	11.44	3.62	28.20 QP
5	665.350	40.78	45.57	-5.22	46.00	19.73	5.28	29.80 QP
6	905.910	42.55	45.25	-3.45	46.00	21.06	6.14	29.90 Peak

## Vertical



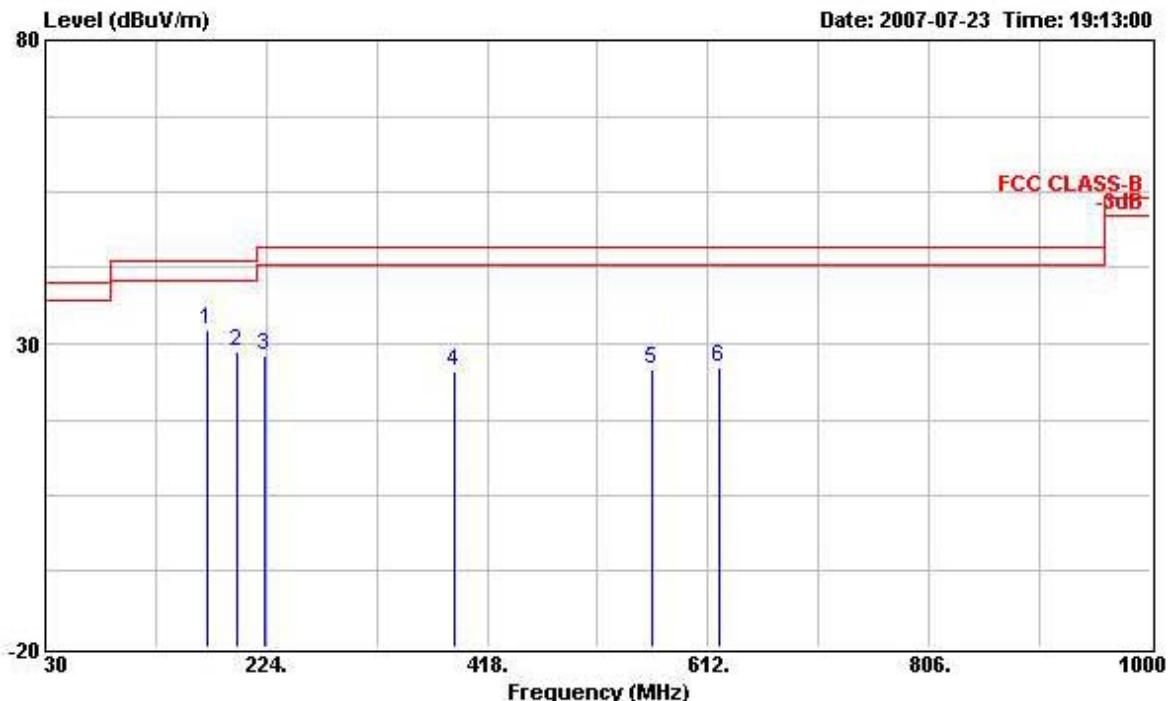
Freq	Level	Read	Over	Limit	Antenna	Cable	Preamp	Remark
		MHz	dBuV/m	dBuV	dB	dBuV/m	dB/m	
1	30	47.460	38.34	53.74	-1.66	40.00	9.27	3.08 27.76 QP
2	30	90.140	33.19	48.90	-10.31	43.50	9.50	2.41 27.62 Peak
3	30	129.910	34.38	46.96	-9.12	43.50	12.38	2.97 27.93 Peak
4	30	238.550	42.65	55.80	-3.35	46.00	11.44	3.62 28.20 Peak
5	30	382.110	36.72	45.47	-9.28	46.00	15.85	4.31 28.91 Peak
6	30	431.580	36.54	43.95	-9.46	46.00	17.09	4.41 28.91 Peak

## Note:

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

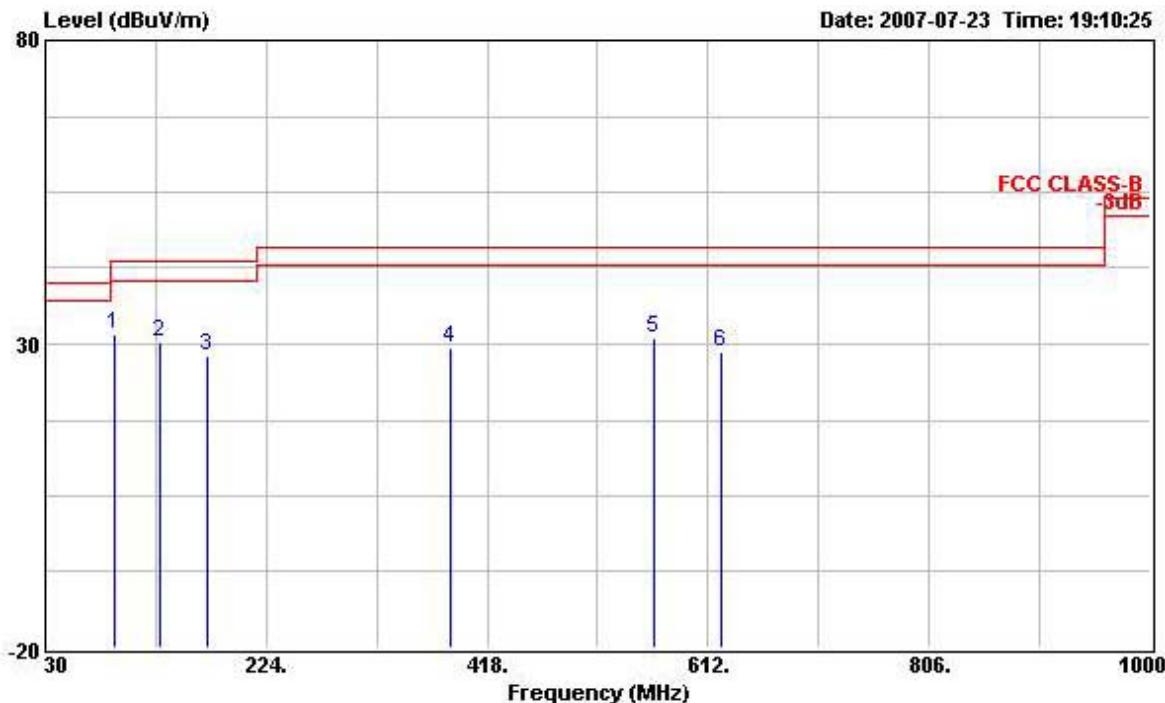
Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Temperature	25	Humidity	56%
Test Engineer	Vic	Configurations	Charging Mode (P912N)

**Horizontal**

Freq	Level	Over	Limit	Read	Cable	Remark	Ant	Table	Preamp	Probe
		Limit	Line	Level	Cable					
MHz	dBuV/m	dB	dBuV/m	dBuV	dB		cm	deg	dB	dB
1 172.590	32.25	-11.25	43.50	50.31	2.58	Peak	---	---	30.65	10.01
2 198.780	28.74	-14.76	43.50	45.22	2.84	Peak	---	---	30.60	11.28
3 223.030	27.90	-18.10	46.00	43.38	2.96	Peak	---	---	30.55	12.11
4 388.900	25.34	-20.66	46.00	36.63	3.84	Peak	---	---	30.22	15.09
5 563.500	25.66	-20.34	46.00	31.69	4.57	Peak	---	---	29.71	19.11
6 621.700	25.99	-20.01	46.00	30.65	4.96	Peak	---	---	29.51	19.89

## Vertical



Freq	Level	Over	Limit	Read	Cable	Remark	Ant	Table	Preamp	Probe
		Limit	Line	Level	Cable					
MHz	dBuV/m	dB	dBuV/m	dBuV	dB		cm	deg	dB	dB
1 90.140	31.71	-11.79	43.50	51.08	1.93	Peak	---	---	30.80	9.50
2 129.910	30.35	-13.15	43.50	46.03	2.26	Peak	---	---	30.74	12.80
3 172.590	28.07	-15.43	43.50	46.13	2.58	Peak	---	---	30.65	10.01
4 385.990	29.45	-16.55	46.00	40.82	3.82	Peak	---	---	30.23	15.04
5 564.470	30.85	-15.15	46.00	36.85	4.57	Peak	---	---	29.71	19.14
6 622.670	28.60	-17.40	46.00	33.26	4.97	Peak	---	---	29.51	19.88

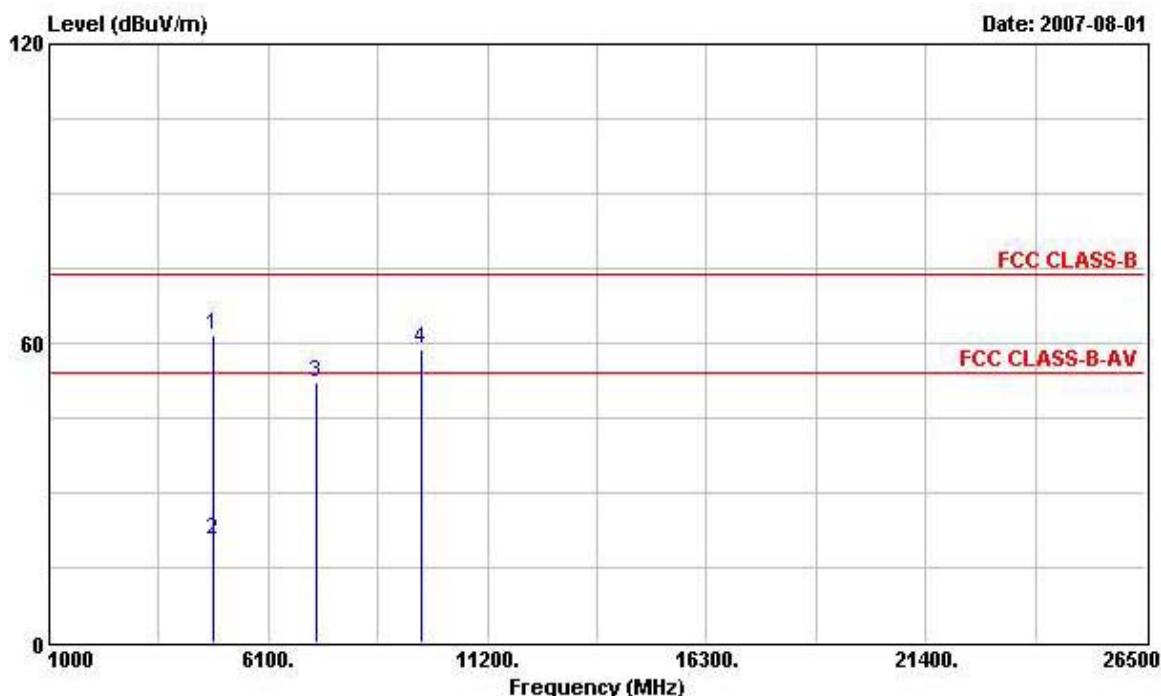
## Note:

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

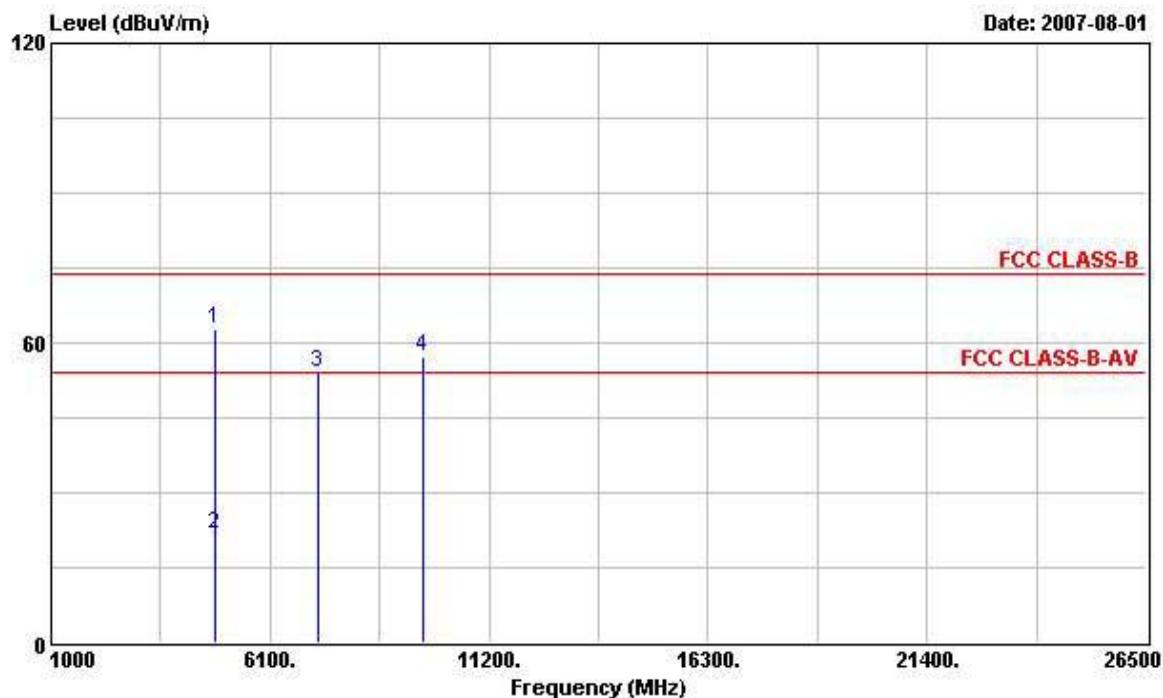
3.6.9. Results for Radiated Emissions (1GHz~10<sup>th</sup> Harmonic)

Temperature	25	Humidity	56%
Test Engineer	Vic	Configurations	Normal Mode (P912N) FHSS (GFSK) / Channel 1

**Horizontal**

Freq	Level	Read	Over	Limit	Antenna	Cable	Preamp	Remark
		MHz	dBuV/m	dBuV	dB	dBuV/m	dB/m	
1	4828.000	61.69	57.02	-12.31	74.00	33.06	4.35	32.74 PEAK
2	4828.000	20.65	15.98	-33.35	54.00	33.06	4.35	32.74 Average
3	7240.000	52.23	44.22			35.78	5.18	32.95 PEAK
4	9652.000	58.66	47.17			38.41	6.48	33.40 PEAK

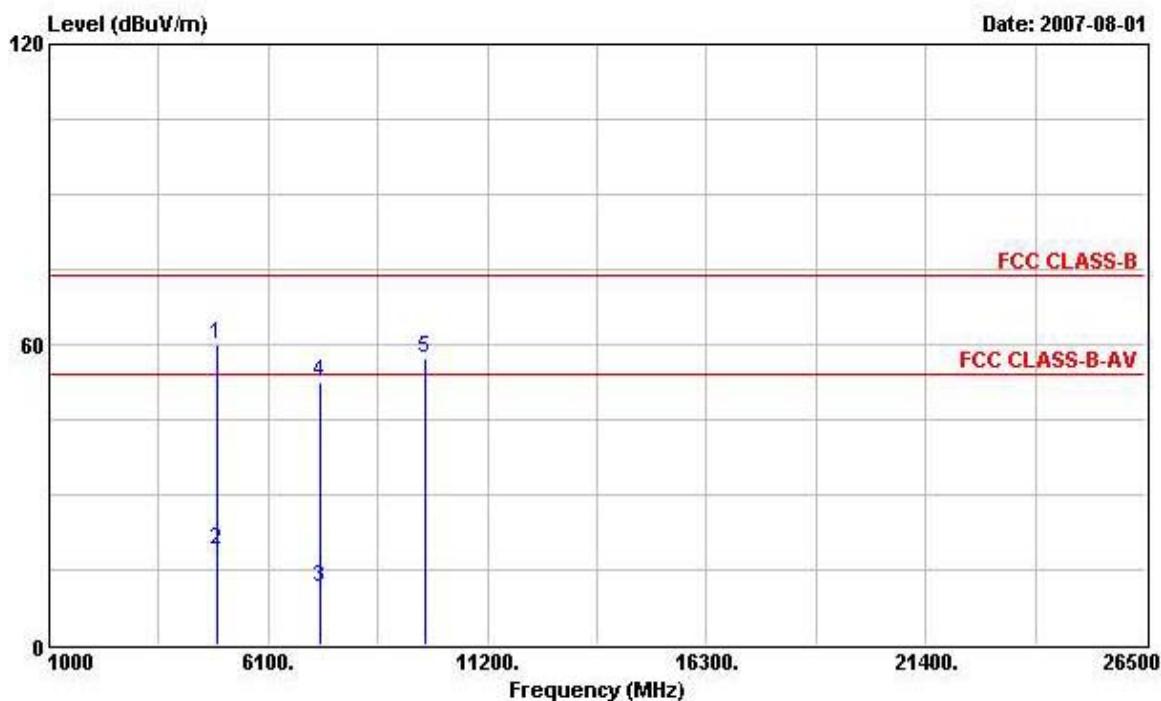
Note: Items 3 and 4 are on un-restricted band, so the limit is -20dBc for the field strength of the fundamental emissions (see section 3.7.7).

**Vertical**

Freq	Level	Read		Over Limit	Antenna Line Factor	Cable Preamp		Remark
		MHz	dBuV/m	dBuV	dB	dB/m	dB	
1	4828.000	62.82	58.15	-11.18	74.00	33.06	4.35	32.74 Peak
2	4828.000	21.78	17.11	-32.22	54.00	33.06	4.35	32.74 Average
3	7240.000	54.20	46.19			35.78	5.18	32.95 PERK
4	9652.000	57.14	45.66			38.41	6.48	33.40 PERK

Note: Items 3 and 4 are on un-restricted band, so the limit is -20dBc for the field strength of the fundamental emissions (see section 3.7.7).

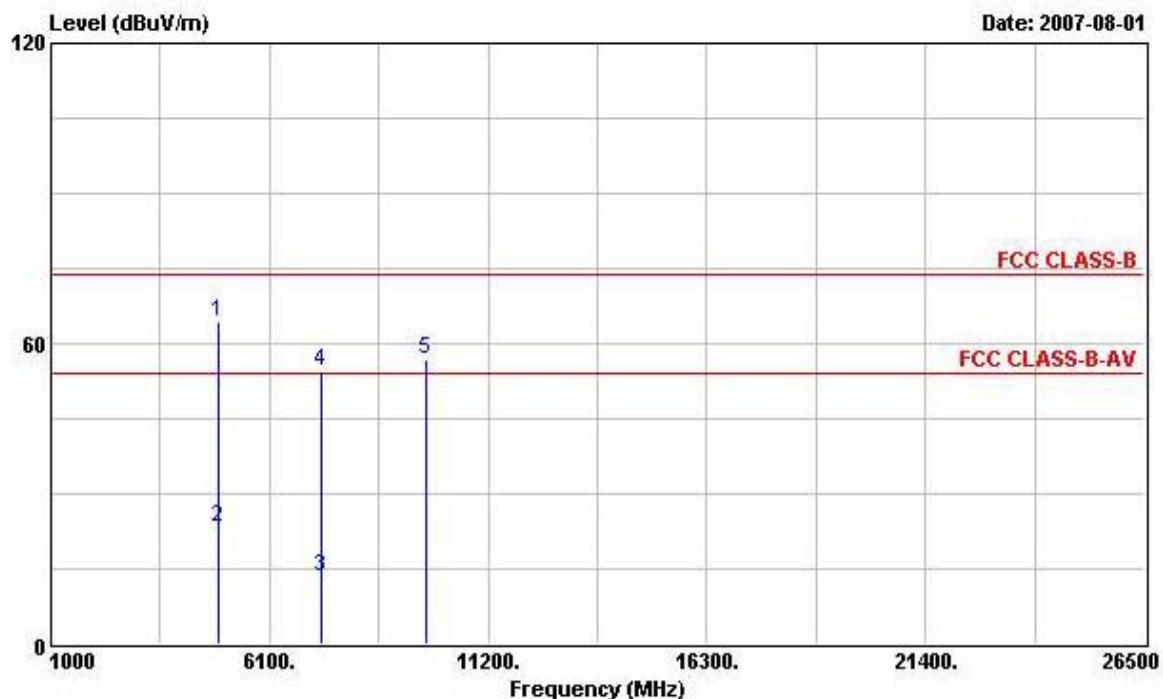
Temperature	25	Humidity	56%
Test Engineer	Vic	Configurations	Normal Mode (P912N) FHSS (GFSK) / Channel 18

**Horizontal**

Freq	Level	Read	Over	Limit	Antenna	Cable	Preamp	Remark
		Level	Limit	Line Factor	dB/m	dB	dB	
MHz	dBuV/m	dBuV	dB	dBuV/m	dB/m	dB	dB	
1	4888.000	60.14	55.29	-13.86	74.00	33.19	4.38	32.73 PERK
2	4888.000	19.10	14.25	-34.90	54.00	33.19	4.38	32.73 Average
3	7328.000	11.33	3.01	-42.67	54.00	35.99	5.30	32.97 Average
4	7328.000	52.37	44.05	-21.63	74.00	35.99	5.30	32.97 PERK
5	9768.000	57.35	45.46			38.65	6.64	33.40 PERK

Note: Item 5 is on un-restricted band, so the limit is -20dBc for the field strength of the fundamental emissions (see section 3.7.7).

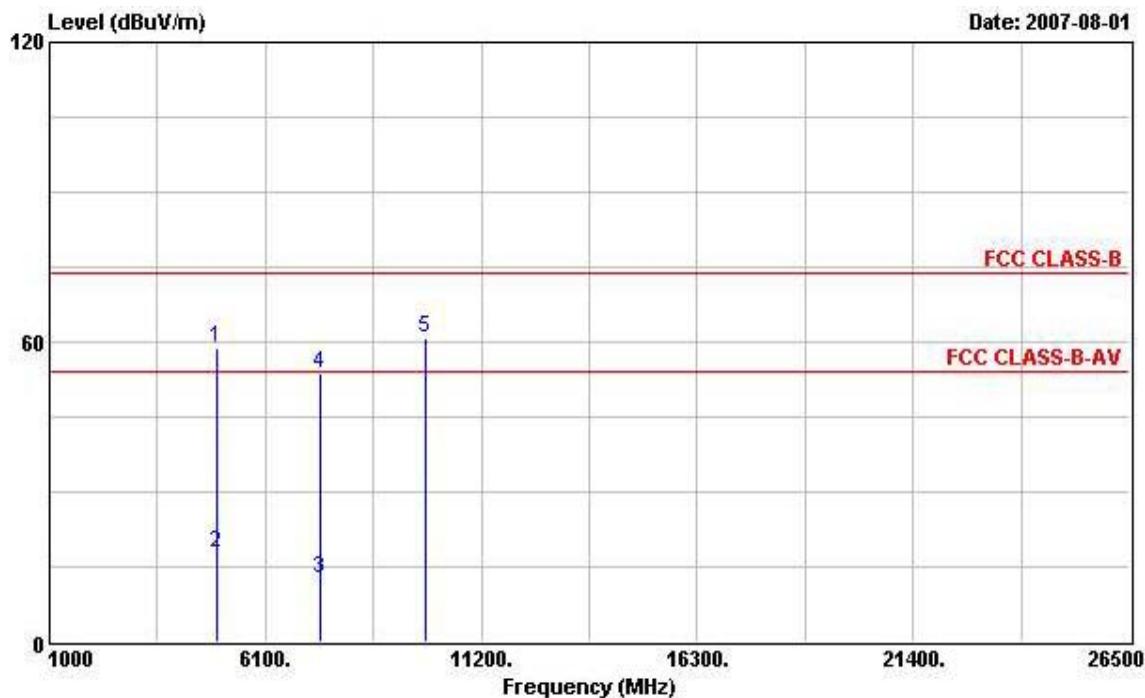
## Vertical



Freq	Level	Read	Over	Limit	Antenna	Cable	Preamp	Remark
		Level	Limit	Line	Factor	Loss	Factor	
	MHz	dBuV/m	dBuV	dB	dBuV/m	dB/m	dB	
1	4888.000	64.48	59.64	-9.52	74.00	33.19	4.38	32.73 PERK
2	4888.000	23.44	18.59	-30.56	54.00	33.19	4.38	32.73 Average
3	7328.000	13.32	5.00	-40.68	54.00	35.99	5.30	32.97 Average
4	7328.000	54.36	46.04	-19.64	74.00	35.99	5.30	32.97 PERK
5	9772.000	56.91	45.02			38.65	6.64	33.40 PERK

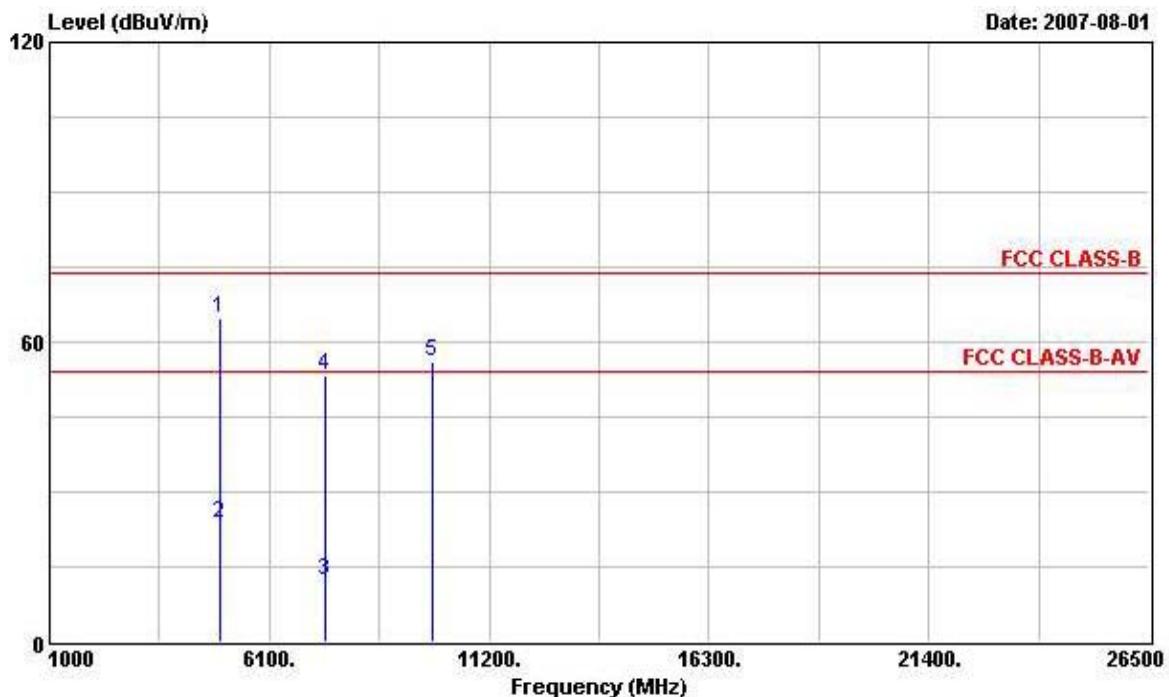
Note: Item 5 is on un-restricted band, so the limit is -20dBc for the field strength of the fundamental emissions (see section 3.7.7).

Temperature	25	Humidity	56%
Test Engineer	Vic	Configurations	Normal Mode (P912N) FHSS (GFSK) / Channel 34

**Horizontal**

Freq	Level	Read	Over	Limit	Antenna	Cable	Preamp	Remark
		Level	Limit	Line Factor	dB/m	dB	dB	
MHz	dBuV/m	dBuV	dB	dBuV/m	dB/m	dB	dB	
1	4944.000	58.72	53.74	-15.28	74.00	33.30	4.40	32.71 PERK
2	4944.000	17.68	12.70	-36.32	54.00	33.30	4.40	32.71 Average
3	7408.000	12.69	4.06	-41.31	54.00	36.19	5.41	32.98 Average
4	7408.000	53.73	45.10	-20.27	74.00	36.19	5.41	32.98 PERK
5	9884.000	60.88	48.59			38.89	6.80	33.40 PERK

Note: Item 5 is on un-restricted band, so the limit is -20dBc for the field strength of the fundamental emissions (see section 3.7.7).

**Vertical**

Freq	Level	Read	Over	Limit	Antenna	Cable	Preamp	Remark
		Level	Limit	Line Factor	dB/m	dB	dB	
MHz	dBuV/m	dBuV	dB	dBuV/m	dB/m	dB	dB	
1	4944.000	64.65	59.67	-9.35	74.00	33.30	4.40	32.71 PEAK
2	4944.000	23.61	18.63	-30.39	54.00	33.30	4.40	32.71 Average
3	7412.000	12.25	3.62	-41.75	54.00	36.19	5.41	32.98 Average
4	7412.000	53.29	44.66	-20.71	74.00	36.19	5.41	32.98 PEAK
5	9880.000	56.12	43.86		38.86	6.80	33.40	PEAK

## Note:

An item 5 is on un-restricted band, so the limit is -20dBc for the field strength of the fundamental emissions (see section 3.7.7).

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

### 3.7. Band Edge Emissions Measurement

#### 3.7.1. Limit

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (microvolt/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

#### 3.7.2. Measuring Instruments and Setting

Please refer to section 4 of equipments list in this report. The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	100 MHz
RB / VB (Emission in restricted band)	1MHz / 1MHz for Peak, 1 MHz / 10Hz for Average
RB / VB (Emission in non-restricted band)	100 KHz /100 KHz for Peak

#### 3.7.3. Test Procedures

1. The test procedure is the same as section 3.5.3, only the frequency range investigated is limited to 100MHz around bandedges.
2. In case the emission is fail due to the used RB/VB is too wide, marker-delta method of FCC Public Notice DA00-705 will be followed.

#### 3.7.4. Test Setup Layout

This test setup layout is the same as that shown in section 3.6.4.

#### 3.7.5. Test Deviation

There is no deviation with the original standard.

#### 3.7.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

## 3.7.7. Test Result of Band Edge and Fundamental Emissions

Temperature	25	Humidity	56%
Test Engineer	Vic	Configurations	Normal Mode (P912N) FHSS (GFSK) / Channel 1, 18, 34

## Channel 1

	Freq	Level	Read	Over	Limit	Antenna	Cable	Preamp
			Level	Limit	Line	Factor	Loss	Factor
			MHz	dBuV/m	dBuV	dB	dBuV/m	dB/m
1	2330.140	57.71	26.78	-16.29	74.00	28.16	2.78	0.00 Peak
2 X	2413.170	112.69	81.54			28.33	2.82	0.00 Peak
1	2330.140	47.29	16.36	-26.71	74.00	28.16	2.78	0.00 Peak
2 X	2413.170	111.73	80.58			28.33	2.82	0.00 Peak

## Channel 18

	Freq	Level	Read	Over	Limit	Antenna	Cable	Preamp
			Level	Limit	Line	Factor	Loss	Factor
			MHz	dBuV/m	dBuV	dB	dBuV/m	dB/m
1 X	2442.620	112.35	81.11			28.40	2.85	0.00 Peak
1 X	2442.620	111.53	80.29			28.40	2.85	0.00 Average

## Channel 34

	Freq	Level	Read	Over	Limit	Antenna	Cable	Preamp
			Level	Limit	Line	Factor	Loss	Factor
			MHz	dBuV/m	dBuV	dB	dBuV/m	dB/m
1 X	2470.170	112.61	81.31			28.43	2.87	0.00 Peak
2	2484.420	62.46	31.12	-11.54	74.00	28.47	2.87	0.00 Peak
1 @	2470.170	111.69	80.39			28.43	2.87	0.00 Average
2	2484.420	19.47	-11.87	-34.53	54.00	28.47	2.87	0.00 Average

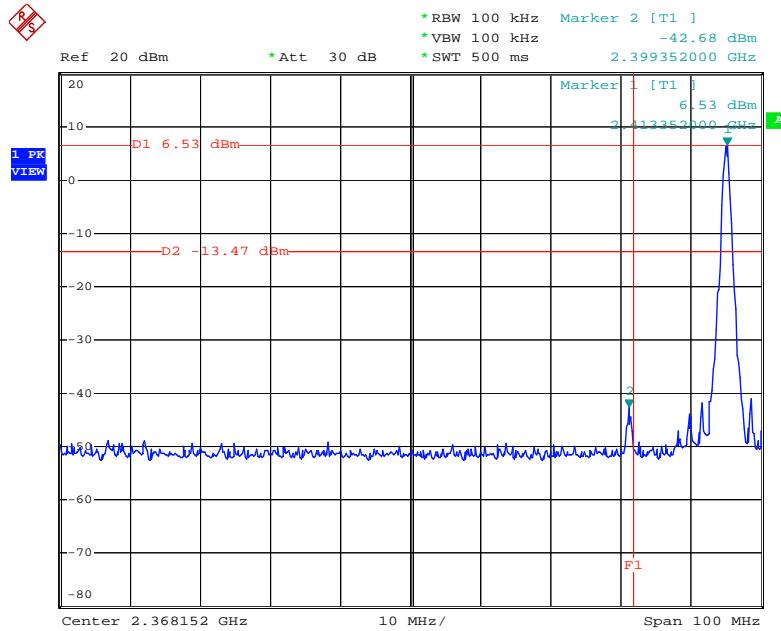
Note:

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

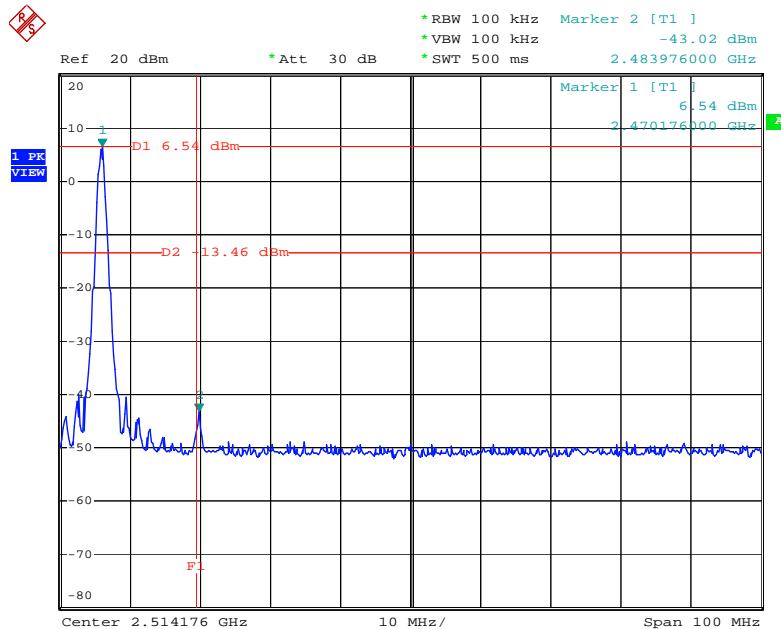
## For Emission not in Restricted Band

## Low Band Edge Plot on Channel 1 / 2413.152 MHz



Date: 2.AUG.2007 03:33:48

## High Band Edge Plot on Channel 34 / 2470.176 MHz



Date: 2.AUG.2007 03:32:45

### **3.8. Antenna Requirements**

#### **3.8.1. Limit**

Except for special regulations, the Low-power Radio-frequency Devices must not be equipped with any jacket for installing an antenna with extension cable. An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited.

#### **3.8.2. Antenna Connector Construction**

Please refer to section 2.3 in this test report; antenna connector complied with the requirements.

## 4. LIST OF MEASURING EQUIPMENTS

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
EMC Receiver	R&S	ESCS 30	100359	9kHz – 2.75GHz	Mar. 01, 2007	Conduction (CO04-HY)
LISN	MessTec	NNB-2/16Z	99079	9kHz – 30MHz	Mar. 31, 2007	Conduction (CO04-HY)
LISN (Support Unit)	EMCO	3810/2NM	9703-1839	9kHz – 30MHz	Mar. 22, 2007	Conduction (CO04-HY)
RF Cable-CON	UTIFLEX	3102-26886-4	CB049	9kHz – 30MHz	Apr. 20, 2007	Conduction (CO04-HY)
EMI Filter	LINDGREN	LRE-2030	2651	< 450 Hz	N/A	Conduction (CO04-HY)
Isolation Transformer	Erika Fiedler OHG	D-65396 Walluf	58	45MHz-2.15GHz	N/A	Conduction (CO04-HY)
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	30 MHz - 1 GHz 3m	Jun. 14, 2007	Radiation (03CH03-HY)
Amplifier	SCHAFFNER	CPA9231A	1886	9 kHz - 2 GHz	Jan. 22, 2007	Radiation (03CH03-HY)
Amplifier	Agilent	8449B	3008A02120	1 GHz - 26.5 GHz	Jun. 07, 2007	Radiation (03CH03-HY)
Spectrum Analyzer	R&S	FSP40	100004/040	9 kHz - 40 GHz	Sep. 21, 2006	Radiation (03CH03-HY)
Bilog Antenna	SCHAFFNER	CBL 6112D	22237	30 MHz – 1 GHz	Jul. 21, 2007	Radiation (03CH03-HY)
Horn Antenna	EMCO	3115	6741	1GHz ~ 18GHz	May 04, 2007	Radiation (03CH03-HY)
Horn Antenna	SCHWARZBECK	BBHA9170	BBHA9170154	15 GHz - 40 GHz	NCR	Radiation (03CH03-HY)
RF Cable-R03m	Jye Bao	RG142	CB021	30 MHz - 1 GHz	Dec. 02, 2006	Radiation (03CH03-HY)
RF Cable-HIGH	SUHNER	SUCOFLEX 106	03CH03-HY	1 GHz - 40 GHz	Dec. 02, 2006	Radiation (03CH03-HY)
Turn Table	HD	DS 420	420/650/00	0 – 360 degree	N/A	Radiation (03CH03-HY)
Antenna Mast	HD	MA 240	240/560/00	1 m - 4 m	N/A	Radiation (03CH03-HY)
Spectrum Analyzer	R&S	FSP30	100023	9kHz ~ 30GHz	Dec. 17, 2006	Conducted (TH01-HY)
Power Meter	R&S	NRVS	100444	DC ~ 40GHz	Jun. 27, 2007	Conducted (TH01-HY)
Power Sensor	R&S	NRV-Z51	100458	DC ~ 30GHz	Jun. 27, 2007	Conducted (TH01-HY)
Power Sensor	R&S	NRV-Z32	100057	30MHz ~ 6GHz	Jun. 27, 2007	Conducted (TH01-HY)
DC Power Source	G.W.	GPC-6030D	C671845	DC 1V ~ 60V	Mar. 03, 2007	Conducted (TH01-HY)
Temp. and Humidity Chamber	KSON	THS-C3L	612	N/A	Oct. 02, 2006	Conducted (TH01-HY)
RF CABLE-1m	Jye Bao	RG142	CB034-1m	20MHz ~ 7GHz	Dec. 01, 2006	Conducted (TH01-HY)
RF CABLE-2m	Jye Bao	RG142	CB035-2m	20MHz ~ 1GHz	Dec. 01, 2006	Conducted (TH01-HY)
Vector Signal Generator	R&S	SMU200A	102098	100kHz ~ 6GHz	Nov. 14, 2006	Conducted (TH01-HY)
Signal Generator	R&S	SMR40	100116	10MHz ~ 40GHz	Mar. 07, 2007	Conducted (TH01-HY)

Note: Calibration Interval of instruments listed above is one year. NCR: Non-Calibration required.

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Amplifier	MITEQ	AMF-6F-260400	923364	26.5 GHz - 40 GHz	Jan. 22, 2007*	Radiation (03CH03-HY)
Loop Antenna	R&S	HFH2-Z2	860004/001	9 kHz - 30 MHz	May 23, 2006*	Radiation (03CH03-HY)
AC Power Source	HPC	HPA-500W	HPA-9100024	AC 0 ~ 300V	May 04, 2007*	Conducted (TH01-HY)

Note: Calibration Interval of instruments listed above is two year.

**5. TEST LOCATION**

SHIJR	ADD : 6Fl., No. 106, Sec. 1, Shintai 5th Rd., Shijr City, Taipei, Taiwan 221, R.O.C. TEL : 886-2-2696-2468 FAX : 886-2-2696-2255
HWA YA	ADD : No. 52, Hwa Ya 1st Rd., Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL : 886-3-327-3456 FAX : 886-3-318-0055
LINKOU	ADD : No. 30-2, Dingfu Tsuen, Linkou Shiang, Taipei, Taiwan 244, R.O.C TEL : 886-2-2601-1640 FAX : 886-2-2601-1695
DUNGHU	ADD : No. 3, Lane 238, Kangle St., Neihu Chiu, Taipei, Taiwan 114, R.O.C. TEL : 886-2-2631-4739 FAX : 886-2-2631-9740
JUNGHE	ADD : 7Fl., No. 758, Jungjeng Rd., Junghe City, Taipei, Taiwan 235, R.O.C. TEL : 886-2-8227-2020 FAX : 886-2-8227-2626
NEIHU	ADD : 4Fl., No. 339, Hsin Hu 2 <sup>nd</sup> Rd., Taipei 114, Taiwan, R.O.C. TEL : 886-2-2794-8886 FAX : 886-2-2794-9777
JHUBEI	ADD : No.8, Lane 728, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C. TEL : 886-3-656-9065 FAX : 886-3-656-9085

## 6. TAF CERTIFICATE OF ACCREDITATION



Certificate No.: L1190-070110

財團法人全國認證基金會  
Taiwan Accreditation Foundation

## Certificate of Accreditation

This is to certify that

**Sporton International Inc.**  
**EMC & Wireless Communications Laboratory**  
No.52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien,  
Taiwan, R.O.C.

is accredited in respect of laboratory

**Accreditation Criteria** : ISO/IEC 17025:2005  
**Accreditation Number** : 1190  
**Originally Accredited** : December 15, 2003  
**Effective Period** : January 10, 2007 to January 09, 2010  
**Accredited Scope** : Testing Field, see described in the Appendix  
**Specific Accreditation Program** : Accreditation Program for Designated Testing Laboratory  
for Commodities Inspection  
Accreditation Program for Telecommunication Equipment  
Testing Laboratory

Jay-San Chen  
President, Taiwan Accreditation Foundation  
Date : January 10, 2007

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The Appendix forms an integral part of this Certificate, which shall be invalid when used without the Appendix.