FCC RF Test Report

APPLICANT	:	Honeywell International Inc.
EQUIPMENT	:	Dolphin 9700 Mobile computer
BRAND NAME	:	Honeywell
MODEL NAME	:	Dolphin 9700
FCC ID	:	HD59700L0P
STANDARD	:	FCC Part 15 Subpart C §15.247
CLASSIFICATION	:	Digital Transmission System (DTS)

The product was received on Oct. 30, 2009 and completely tested on Dec. 01, 2009. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.4-2003 and shown the compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Reviewed by:

Roy Wu / Manager

Testing Laboratory 1190

SPORTON INTERNATIONAL INC.
No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR9O3036-01A	Rev. 01	Initial issue of report	Dec. 24, 2009

SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.1	15.247(a)(2)	A8.2(a)	6dB Bandwidth	≥ 0.5MHz	Pass	-
3.1	-	Gen 4.4.1	99% Bandwidth	-	Pass	-
3.2	15.247(b)	A8.4	Power Output	≤ 30dBm	Pass	-
3.3	15.247(d)	A8.5	Frequency Band Edges	≤ 20dBc	Pass	-
3.4	15.247(d)	A8.5	Spurious Emission	< 20 dBc	Pass	-
3.5	15.247(e)	A8.2(b)	Power Spectral Density	≤ 8dBm	Pass	-
3.6	15.207	Gen 7.2.2	AC Conducted Emission	15.207(a)	Pass	Under limit 13.2 dB at 0.478 MHz
3.7	15.247(d)	A8.5	Transmitter Radiated Emission	15.209(a) & 15.247(d)	Pass	Under limit 4.49 dB at 7386.00 MHz
3.8	15.203 & 15.247(b)	A8.4	Antenna Requirement	N/A	Pass	-

1 General Description

1.1 Applicant

Honeywell International Inc.
700 Vision Drive, PO Box 208 Skeneateles Falls, NY 13513

1.2 Manufacturer

Honeywell International Inc.
700 Vision Drive, PO Box 208 Skeneateles Falls, NY 13513

1.3 Feature of Equipment Under Test

Product Feature & Specification	
Equipment	Dolphin 9700 Mobile computer
Brand Name	Honeywell
Model Name	Dolphin 9700
FCC ID	HD59700L0P
Tx/Rx Frequency Range	2400 MHz ~ 2483.5 MHz
Number of Channels	11
Carrier Frequency of Each Channel	2412+(n-1)*5 MHz; n=1~11
Channel Spacing	5 MHz
Maximum Output Power to Antenna	802.11b : 19.19 dBm (82.99 mW) 802.11g : 22.15 dBm (164.06 mW)
Antenna Type	PIFA Antenna with gain 2.39 dBi
HW Version	2.1
SW Version	01
Type of Modulation	802.11b : DSSS (BPSK / QPSK / CCK) 802.11g : OFDM (BPSK / QPSK / 16QAM / 64QAM)
EUT Stage	Identical Prototype

Remark:

1. For other wireless features of this EUT, test report will be issued separately.
2. This test report recorded only product characteristics and test results of Digital Transmission System (DTS).

List of Accessory:

Specification of Accessory		
AC Adapter	**Brand Name**	DVE
	Model Name	DSA-0421S-09138
	Power Rating	I/P:100-240Vac, 50-60Hz, 1.2A, 80VA; O/P: 9.5Vdc, 4A
	DC Power Cord Type	1.0 meter non-shielded cable with ferrite core
Battery	**Brand Name**	Honeywell
	Model Name	200003231
	Power Rating	7.4Vdc, 1620mAh
	Type	Li-ion
RS232 Cable 1	**Brand Name**	NA
	Model Name	RS232 Charge Comm. Cable
	Signal Line Type	0.5 meter non-shielded cable without ferrite core
RS232 Cable 2	**Brand Name**	NA
	Model Name	RS232 Charge Comm. Cable
	Signal Line Type	1.8 meter non-shielded cable with ferrite core
USB Cable	**Brand Name**	NA
	Model Name	USB Charge Comm. Cable
	Signal Line Type	1.8 meter shielded cable with ferrite core
LCD Panel	**Brand Name**	CASIO
	Model Name	COM37H3M04XLC
Keypad 1	**Brand Name**	NA
	Model Name	Qwerty
Keypad 2	**Brand Name**	NA
	Model Name	Numeric
Scanner 1	**Brand Name**	Hand Held Products
	Model Name	IT5100 Series
Scanner 2	**Brand Name**	Hand Held Products
	Model Name	IT5300 Series

Remark:

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. For accessories equipped with this EUT, please refer to the appendix of the external photo.

1.4 Testing Site

Test Site	SPORTON INTERNATIONAL INC.		
Test Site Location	No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL: +886-3-3273456 / FAX: +886-3-3284978		
Test Site No.	Sporton Site No.		FCC/IC Registration No.
	CO05-HY	03CH06-HY	TW1022/4086B-1

1.5 Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC Part 15 Subpart C §15.247
- FCC KDB Publication No. 558074 (Measurement Guidelines of DTS)
- ANSI C63.4-2003
- IC RSS-210 Issue 7

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B (DoC), recorded in a separate test report.

1.6 Ancillary Equipment List

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	System Simulator	R&S	CMU 200	N/A	N/A	Unshielded, 1.8 m
2.	WLAN AP	D-Link	DIR-628	KA2DIR628A2	N/A	Unshielded, 1.8 m
3.	PC	DELL	T3400	FCC DoC	N/A	Unshielded, 1.8 m
4.	PC	DELL	OPTIPLEX 760	FCC DoC	N/A	Unshielded, 1.8 m
5.	Notebook	DELL	Vostro 1510	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
6.	Bluetooth Earphone	Nokia	BH-102	PYAHS-107W	N/A	N/A
7.	LCD Monitor	Lenovo	6135-AB1	FCC DoC	Shielded, 1.6 m	Unshielded, 1.8 m
8.	(USB) Mouse	Microsoft	X800898133	FCC DoC	Shielded, 1.8 m	N/A
9.	(USB) Keyboard	DELL	L100	FCC DoC	Shielded, 1.8 m with core	N/A
10.	(USB) Keyboard	DELL	SK-8115	FCC DoC	Shielded, 1.8 m	N/A
11.	i-pod	Apple	A1285	FCC DoC	Shielded, 1.0 m	N/A
12.	i-pod	Apple	A1199	FCC DoC	Unshielded, 1.2 m	N/A
13.	Modem	ACCEX	DM1414	IFAXDM1414	Shielded, 1.5 m	N/A

2 Test Configuration of Equipment Under Test

2.1 RF Power

Preliminary tests were performed in different data rate and recorded the RF power output in the following table:

802.11b RF Peak Power (dBm)					
Channel	Frequency (MHz)	Data Rate			
		1 Mbps	2 Mbps	5.5 Mbps	11 Mbps
CH 01	2412 MHz	19.06	**19.19**	18.40	19.15
CH 06	2437 MHz	18.91	18.96	18.55	19.00
CH 11	2462 MHz	18.88	18.94	18.58	19.03

802.11g RF Peak Power (dBm)									
Channel	Frequency (MHz)	Data Rate							
		6 Mbps	9 Mbps	12 Mbps	18 Mbps	24 Mbps	36 Mbps	48 Mbps	54 Mbps
CH 01	2412 MHz	21.87	21.82	21.75	21.58	21.85	21.79	21.65	21.84
CH 06	2437 MHz	22.03	21.98	21.93	21.80	**22.15**	21.93	22.01	21.84
CH 11	2462 MHz	21.78	21.47	21.70	21.53	21.83	21.66	21.71	21.60

Average Power:

802.11b RF Average Power (dBm)					
Channel	Frequency (MHz)	Data Rate			
		1 Mbps	2 Mbps	5.5 Mbps	11 Mbps
CH 01	2412 MHz	16.65	16.66	16.43	16.66
CH 06	2437 MHz	16.53	16.50	16.58	16.51
CH 11	2462 MHz	16.54	16.55	16.71	16.61

802.11g RF Average Power (dBm)									
Channel	Frequency (MHz)	Data Rate							
		6 Mbps	9 Mbps	12 Mbps	18 Mbps	24 Mbps	36 Mbps	48 Mbps	54 Mbps
CH 01	2412 MHz	13.79	13.78	13.74	13.84	13.66	13.59	13.66	13.67
CH 06	2437 MHz	14.61	14.57	14.59	14.60	14.63	14.49	14.60	14.53
CH 11	2462 MHz	14.39	14.38	14.38	14.44	14.35	14.34	14.34	14.26

Remark:

1. The 802.11b data rates were set in 2 Mbps and 802.11g data rates were set in 24 Mbps for all the test cases, due to the highest RF output power.
2. The EUT is programmed to transmit signals continuously for all testing.

2.2 Test Mode

The EUT has been associated with peripherals pursuant to ANSI C63.4-2003 and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conducted emission (150 kHz to 30 MHz), radiated emission (30 MHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).

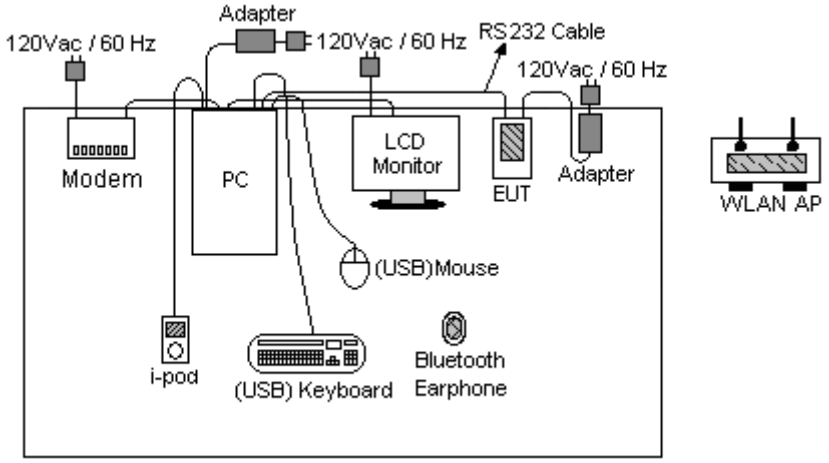
Pre-scanned tests, X, Y, Z in three orthogonal panels, were conducted to determine the final configuration from all possible combinations.

The following tables are showing the test modes as the worst cases and recorded in this report.

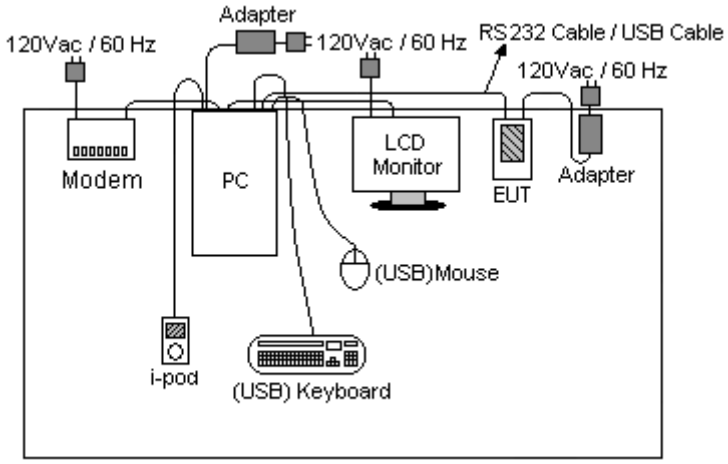
Test Cases		
Test Item	**802.11b**	**802.11g**
Conducted TCs	Mode 1 : CH01_2412 MHz Mode 2 : CH06_2437 MHz Mode 3 : CH11_2462 MHz	Mode 4 : CH01_2412 MHz Mode 5 : CH06_2437 MHz Mode 6 : CH11_2462 MHz
Radiated TCs	Mode 1 : CH01_2412 MHz (EUT with Keypad 1, Scanner 2 and RS232 Cable 1) Mode 2 : CH06_2437 MHz (EUT with Keypad 1, Scanner 2 and RS232 Cable 1) Mode 3 : CH11_2462 MHz (EUT with Keypad 1, Scanner 2 and RS232 Cable 1) Mode 4 : CH11_2462 MHz (EUT with Keypad 2, Scanner 1 and RS232 Cable 1) Mode 5 : CH11_2462 MHz (EUT with Keypad 1, Scanner 2 and USB Cable)	Mode 6 : CH01_2412 MHz (EUT with Keypad 1, Scanner 2 and RS232 Cable 1) Mode 7 : CH06_2437 MHz (EUT with Keypad 1, Scanner 2 and RS232 Cable 1) Mode 8 : CH11_2462 MHz (EUT with Keypad 1, Scanner 2 and RS232 Cable 1)
AC Conducted Emission	Mode 1 :Bluetooth Link + WLAN Link + MP3 + Camera + Adapter + RS232 Cable 2 for EUT with Keypad 2 and Scanner 1	

2.3 Connection Diagram of Test System

<Conducted Emission>



<Radiated Emission>



2.4 RF Utility

The programmed RF utility is installed in EUT to provide channel selection, power level, data rate and the application type. RF Utility can send transmitting signal for all testing. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

3 Test Result

3.1 6dB and 99% Bandwidth Measurement

3.1.1 Limit of 6dB Bandwidth

The minimum 6 dB bandwidth shall be at least 500 kHz.

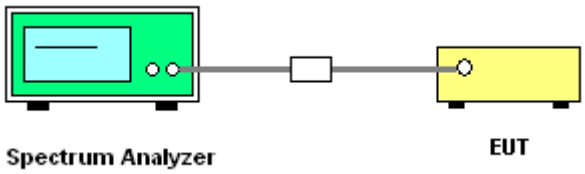
3.1.2 Measuring Instruments

See list of measuring instruments of this test report.

3.1.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 (Measurement Guidelines of DTS).
2. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
3. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. In order to make an accurate measurement, set the span greater than RBW. The 6 dB bandwidth must be greater than 500 kHz.
4. The marker-delta reading at this point is the 6 dB bandwidth of the emission.

3.1.4 Test Setup

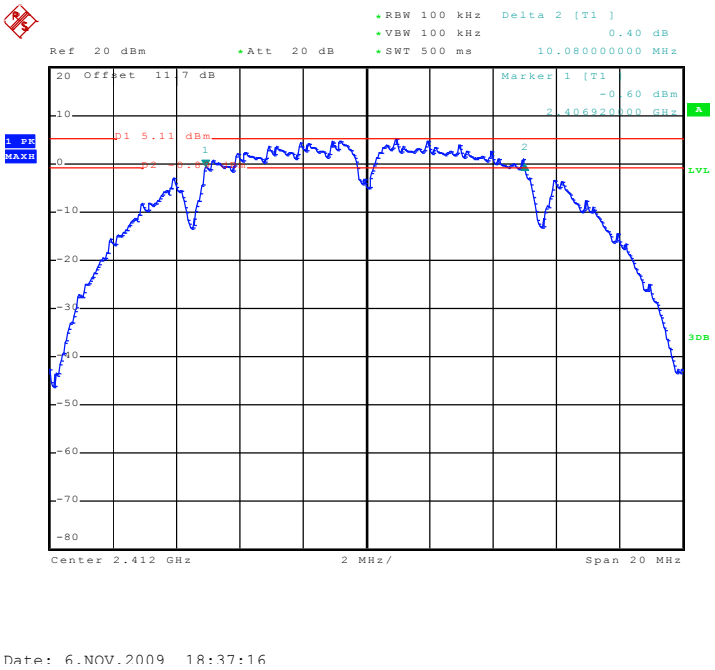


3.1.5 Test Result of 6dB Bandwidth

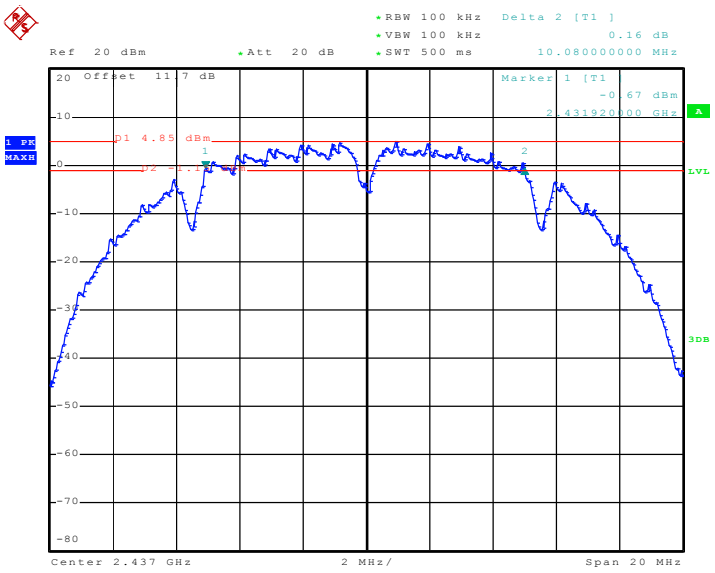
Test Mode :	Mode 1, 2, 3	Temperature :	25~27℃
Test Engineer :	Tang Liu	Relative Humidity :	51~54%

Channel	Frequency (MHz)	802.11b 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	10.08	0.5	Pass
06	2437	10.08	0.5	Pass
11	2462	10.08	0.5	Pass

Mode 1 : 6 dB Bandwidth Plot on 802.11b Channel 01



Mode 2 : 6 dB Bandwidth Plot on 802.11b Channel 06



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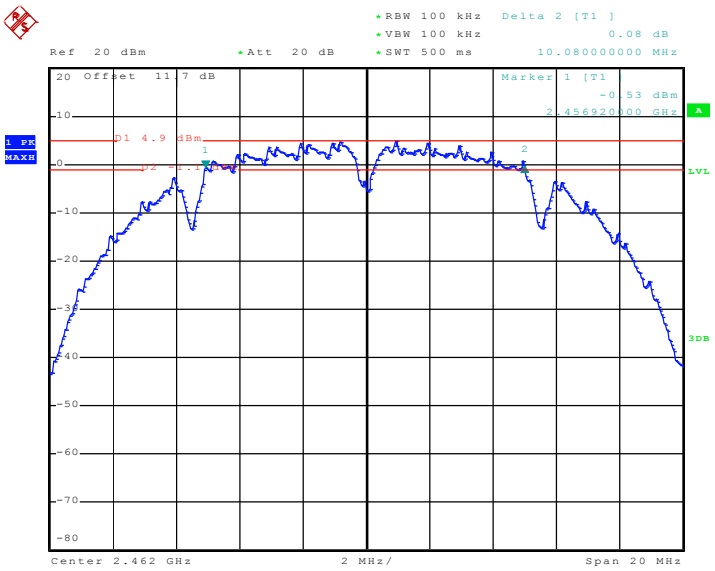
Mode 3 : 6 dB Bandwidth Plot on 802.11b Channel 11

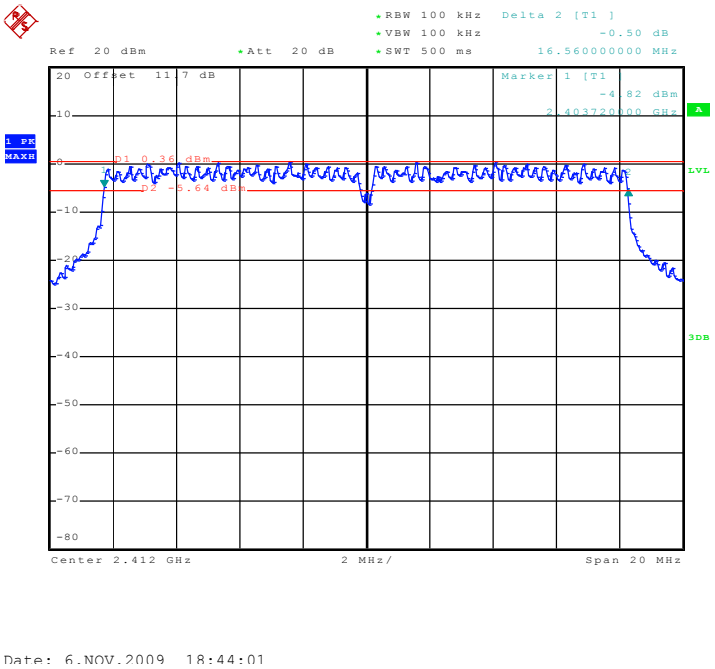


Date: 6.NOV.2009 18:39:30

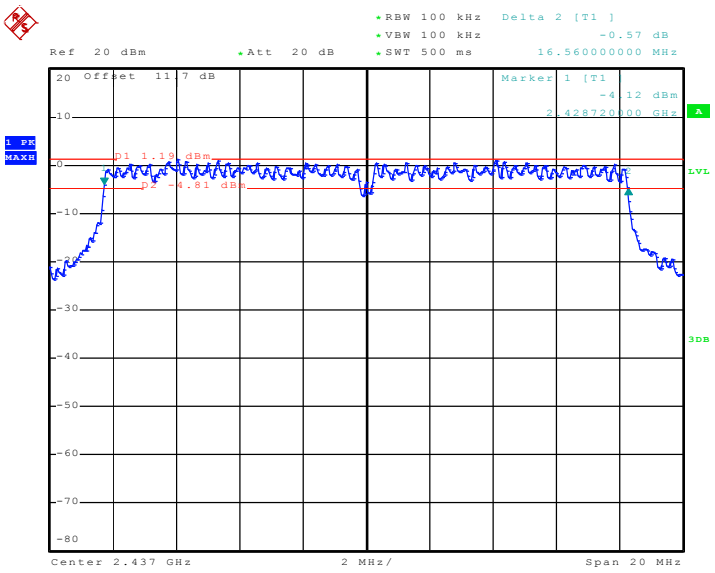
Test Mode :	Mode 4, 5, 6	Temperature :	25~27℃
Test Engineer :	Tang Liu	Relative Humidity :	51~54%

Channel	Frequency (MHz)	802.11g 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	16.56	0.5	Pass
06	2437	16.56	0.5	Pass
11	2462	16.56	0.5	Pass

Mode 4 : 6 dB Bandwidth Plot on 802.11g Channel 01



Mode 5 : 6 dB Bandwidth Plot on 802.11g Channel 06



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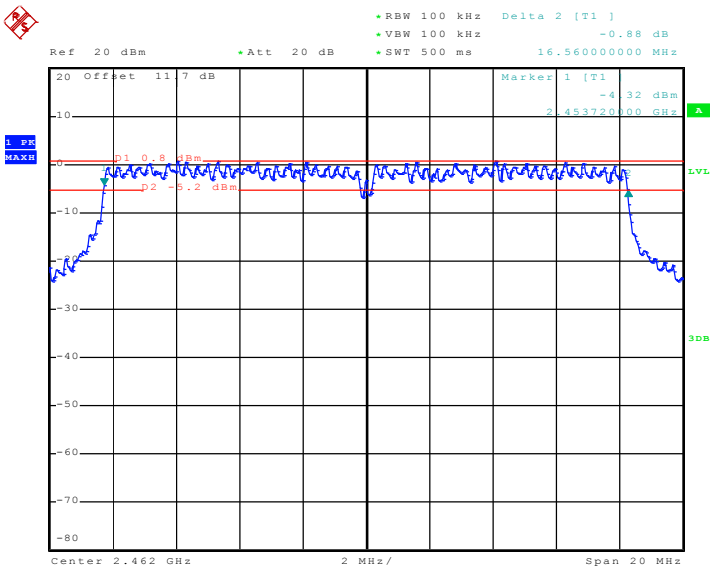
Mode 6 : 6 dB Bandwidth Plot on 802.11g Channel 11



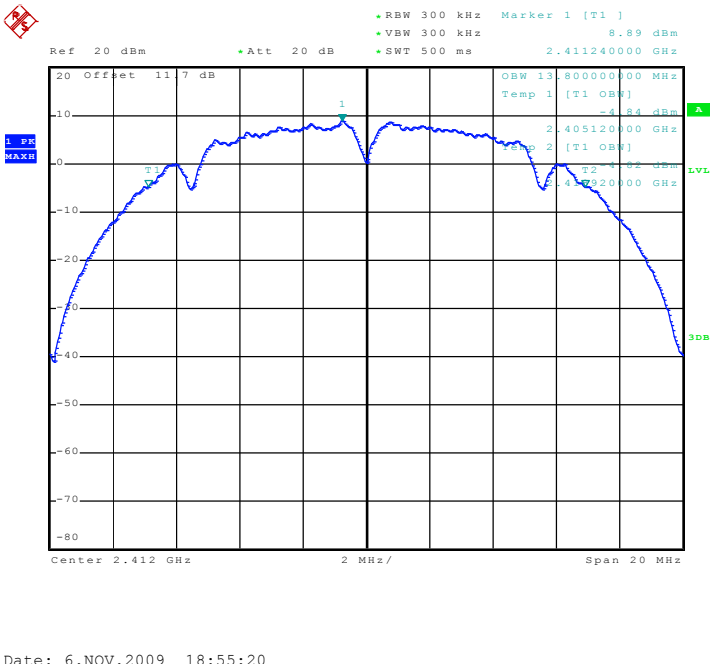
Date: 6.NOV.2009 18:41:04

3.1.6 Test Result of 99% Occupied Bandwidth

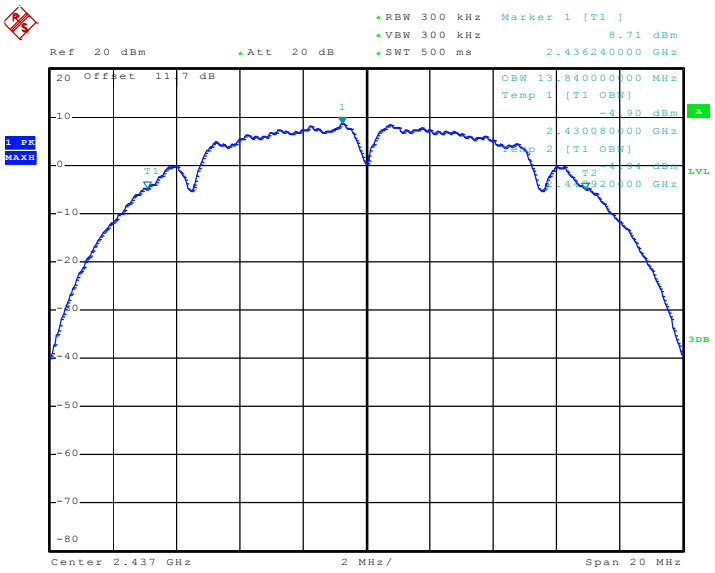
Test Mode :	Mode 1, 2, 3	Temperature :	25~27℃
Test Engineer :	Tang Liu	Relative Humidity :	51~54%

Channel	Frequency (MHz)	802.11b 99% Occupied Bandwidth (MHz)	Pass/Fail
01	2412	13.80	Pass
06	2437	13.84	Pass
11	2462	13.88	Pass

Mode 1 : 99% Occupied Bandwidth Plot on 802.11b Channel 01

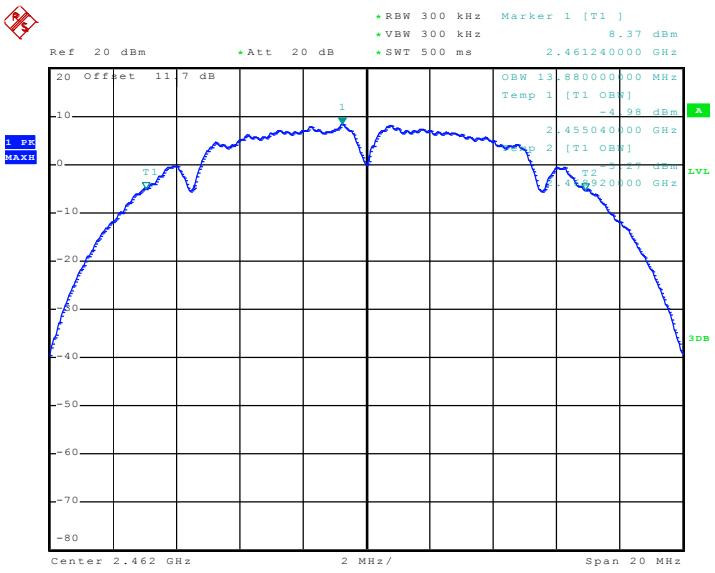


Mode 2 : 99% Occupied Bandwidth Plot on 802.11b Channel 06



Date: 6.NOV.2009 18:55:57

Mode 3 : 99% Occupied Bandwidth Plot on 802.11b Channel 11

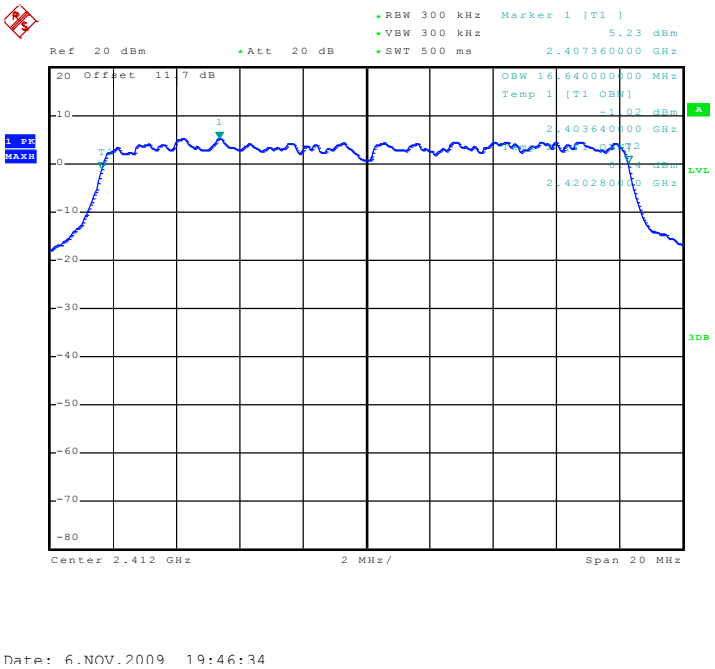


Date: 6.NOV.2009 18:56:26

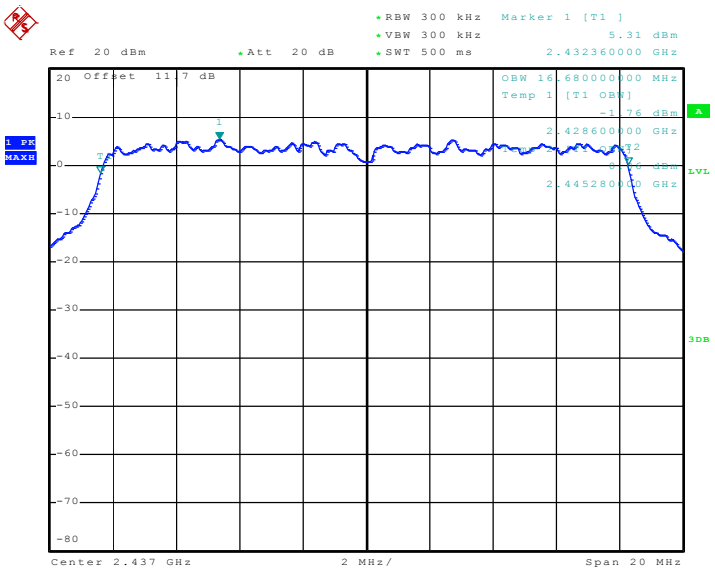
Test Mode :	Mode 4, 5, 6	Temperature :	25~27℃
Test Engineer :	Tang Liu	Relative Humidity :	51~54%

Channel	Frequency (MHz)	802.11g 99% Occupied Bandwidth (MHz)	Pass/Fail
01	2412	16.64	Pass
06	2437	16.68	Pass
11	2462	16.64	Pass

Mode 4 : 99% Occupied Bandwidth Plot on 802.11g Channel 01



Mode 5 : 99% Occupied Bandwidth Plot on 802.11g Channel 06



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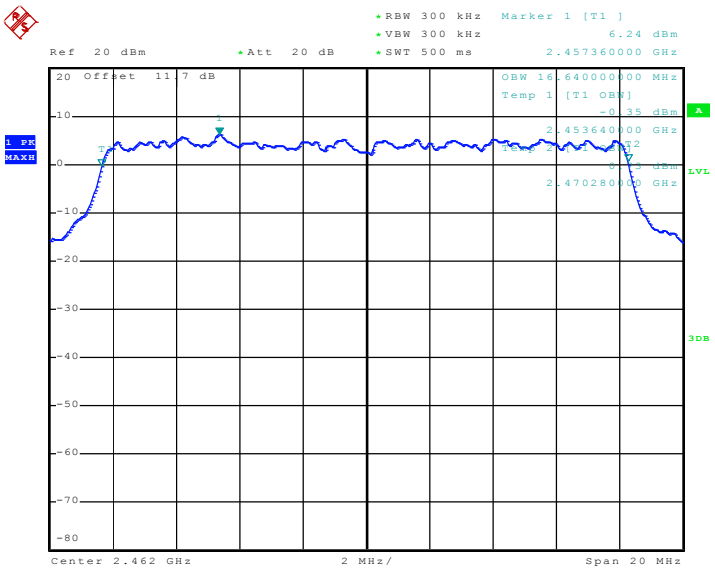
Mode 6 : 99% Occupied Bandwidth Plot on 802.11g Channel 11



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3.2 Output Power Measurement

3.2.1 Limit of Output Power

For systems using digital modulation in the 2400-2483.5MHz, the limit for peak output power is 30dBm. If transmitting antenna of directional gain greater than 6dBi are used the peak output power from the intentional radiator shall be reduced below the above stated value by the amount in dB that the directional gain of the antenna exceeds 6 dBi. 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.

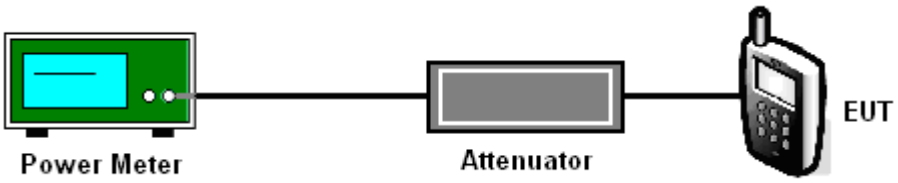
3.2.2 Measuring Instruments

See list of measuring instruments of this test report.

3.2.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 (Measurement Guidelines of DTS).
2. The RF output of EUT was connected to the power meter by a low loss cable.
3. Measure the power by power meter.

3.2.4 Test Setup



3.2.5 Test Result of Output Power

Test Mode :	Mode 1, 2, 3	Temperature :	25~27℃
Test Engineer :	Tang Liu	Relative Humidity :	51~54%

Channel	Frequency (MHz)	802.11b Measured Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	19.19	30	Pass
06	2437	18.96	30	Pass
11	2462	18.94	30	Pass

Test Mode :	Mode 4, 5, 6	Temperature :	25~27℃
Test Engineer :	Tang Liu	Relative Humidity :	51~54%

Channel	Frequency (MHz)	802.11g Measured Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	21.85	30	Pass
06	2437	22.15	30	Pass
11	2462	21.83	30	Pass

3.3 Band Edges Measurement

3.3.1 Limit of Band Edges

In any 100 kHz bandwidth outside the intentional radiation frequency band, the radio frequency power shall be at least 20 dB below the highest level of the radiated power. If the output power of this device was measured by spectrum analyzer, the attenuation under this paragraph shall be 30 dB instead of 20 dB.

3.3.2 Measuring Instruments

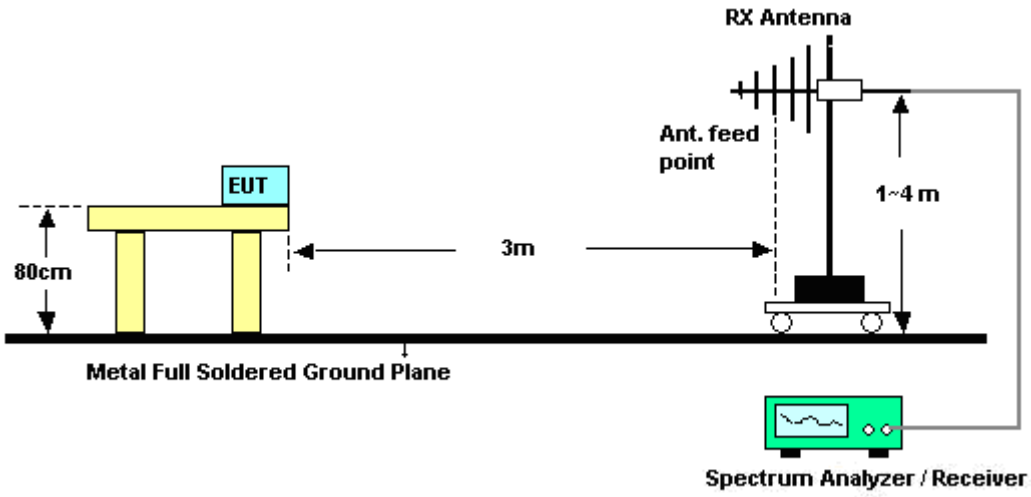
See list of measuring instruments of this test report.

3.3.3 Test Procedures

1. The testing follows the guidelines in ANSI C63.4-2003 and FCC KDB Publication No. 558074 (Measurement Guidelines of DTS).
2. Conducted emission test: Set RBW = 100 kHz, Video bandwidth (VBW) ≥ RBW. Band edge emissions must be at least 20 dB down from the highest emission level within the authorized band as measured with a 100 kHz RBW. Note: If the device complies with the use of power option 2 the attenuation under this paragraph shall be 30 dB instead of 20 dB.
3. Radiated emission test: Apply to band edge emissions that fall in the restricted bands listed in FCC Section 15.205. The maximum permitted average field strength is listed in FCC Section 15.209. A pre-amp is necessary for this measurement. For measurements above 1 GHz, set RBW = 1MHz, VBW = 10 Hz, Sweep=Auto. If the emission is pulsed, modify the unit for continuous operation; use the settings shown above, then correct the reading by subtracting the peak-average correction factor, derived from the appropriate duty cycle calculation as in FCC Section 15.35(b) and (c).

3.3.4 Test Setup

<Radiated Band Edges>



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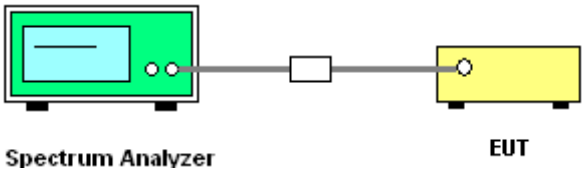


3.3.5 Test Result of Radiated Band Edges

Test Mode :	Mode 1	**Temperature :**	21~23°C
Test Band :	802.11b	**Relative Humidity :**	46~48%
Test Channel :	01	**Test Engineer :**	Mac Lin and Elvis Chen

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	**Level (dBuV/m)**	**Over Limit (dB)**	**Limit Line (dBuV/m)**	**Read Level (dBuV)**	**Antenna Factor (dB)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Ant Pos (cm)**	**Table Pos (deg)**	**Remark**
2386.57	55.01	-18.99	74.00	55.51	31.86	3.92	36.28	165	0	Peak
2386.57	45.92	-8.08	54.00	46.42	31.86	3.92	36.28	165	0	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	**Level (dBuV/m)**	**Over Limit (dB)**	**Limit Line (dBuV/m)**	**Read Level (dBuV)**	**Antenna Factor (dB)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Ant Pos (cm)**	**Table Pos (deg)**	**Remark**
2385.81	54.95	-19.05	74	55.45	31.86	3.92	36.28	119	340	Peak
2385.81	45.42	-8.58	54	45.92	31.86	3.92	36.28	119	340	Average

Test Mode :	Mode 3	**Temperature :**	21~23°C
Test Band :	802.11b	**Relative Humidity :**	46~48%
Test Channel :	11	**Test Engineer :**	Mac Lin and Elvis Chen

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	**Level (dBuV/m)**	**Over Limit (dB)**	**Limit Line (dBuV/m)**	**Read Level (dBuV)**	**Antenna Factor (dB)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Ant Pos (cm)**	**Table Pos (deg)**	**Remark**
2484.42	53.29	-20.71	74.00	53.55	31.98	4.05	36.29	103	6	Peak
2484.42	40.93	-13.07	54.00	41.19	31.98	4.05	36.29	103	6	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	**Level (dBuV/m)**	**Over Limit (dB)**	**Limit Line (dBuV/m)**	**Read Level (dBuV)**	**Antenna Factor (dB)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Ant Pos (cm)**	**Table Pos (deg)**	**Remark**
2486.70	51.49	-22.51	74.00	51.75	31.98	4.05	36.29	100	329	Peak
2486.70	38.62	-15.38	54.00	38.88	31.98	4.05	36.29	100	329	Average

Test Mode :	Mode 4	Temperature :	21~23°C
Test Band :	802.11b	Relative Humidity :	46~48%
Test Channel :	11	Test Engineer :	Mac Lin and Elvis Chen

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.50	51.41	-22.59	74.00	51.67	31.98	4.05	36.29	108	8	Peak
2483.50	40.22	-13.78	54.00	40.48	31.98	4.05	36.29	108	8	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.50	52.1	-21.9	74.00	52.36	31.98	4.05	36.29	100	329	Peak
2483.50	39.23	-14.77	54.00	39.49	31.98	4.05	36.29	100	329	Average

Test Mode :	Mode 5	Temperature :	21~23°C
Test Band :	802.11b	Relative Humidity :	46~48%
Test Channel :	11	Test Engineer :	Mac Lin and Elvis Chen

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.50	51.26	-22.74	74.00	51.32	31.98	4.05	36.09	163	39	Peak
2483.50	39.32	-14.68	54.00	39.38	31.98	4.05	36.09	163	39	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.50	51.6	-22.4	74.00	51.66	31.98	4.05	36.09	100	320	Peak
2483.50	39.26	-14.74	54.00	39.32	31.98	4.05	36.09	100	320	Average

Test Mode :	Mode 6	Temperature :	21~23°C
Test Band :	802.11g	Relative Humidity :	46~48%
Test Channel :	01	Test Engineer :	Mac Lin and Elvis Chen

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.99	64.86	-9.14	74.00	65.36	31.86	3.92	36.28	169	358	Peak
2389.99	47.26	-6.74	54.00	47.76	31.86	3.92	36.28	169	358	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.99	65.46	-8.54	74.00	65.96	31.86	3.92	36.28	100	329	Peak
2389.99	47.51	-6.49	54.00	48.01	31.86	3.92	36.28	100	329	Average

Test Mode :	Mode 8	Temperature :	21~23°C
Test Band :	802.11g	Relative Humidity :	46~48%
Test Channel :	11	Test Engineer :	Mac Lin and Elvis Chen

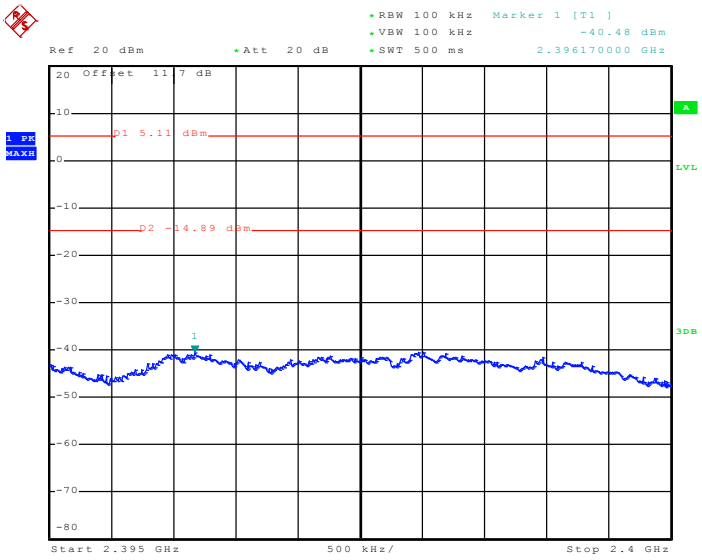
ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.5	62.51	-11.49	74.00	62.77	31.98	4.05	36.29	109	7	Peak
2483.5	45.50	-8.50	54.00	45.76	31.98	4.05	36.29	109	7	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.5	60.64	-13.36	74.00	60.9	31.98	4.05	36.29	100	329	Peak
2483.5	43.81	-10.19	54.00	44.07	31.98	4.05	36.29	100	329	Average

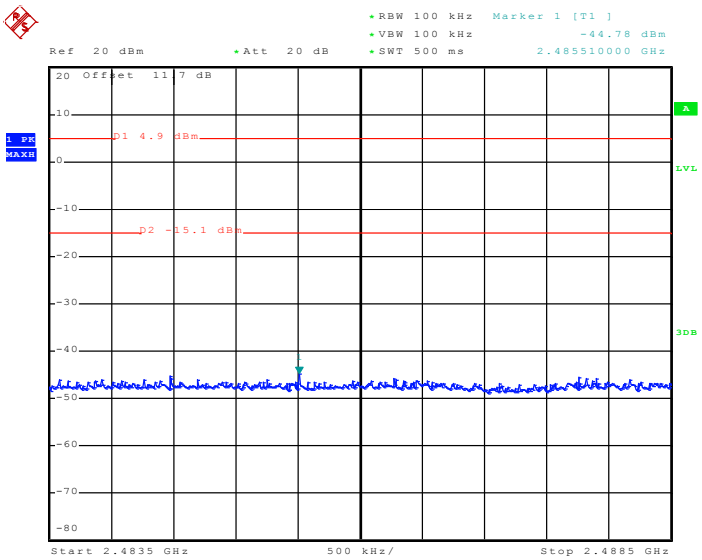
3.3.6 Test Plots of Conducted Band Edges

Test Mode :	Mode 1 and 3	**Temperature :**	25~27℃
Test Band :	802.11b	**Relative Humidity :**	51~54%
Test Channel :	01 and 11	**Test Engineer :**	Tang Liu

Low Band Edge Plot on 802.11b Channel 01

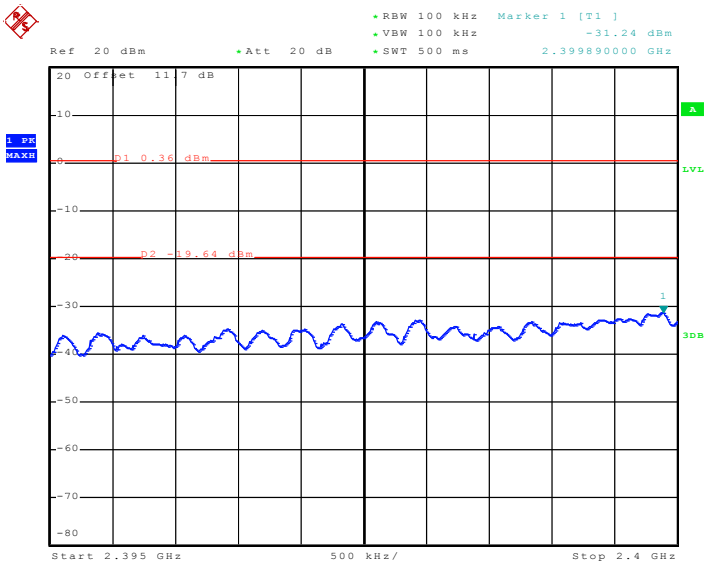


High Band Edge Plot on 802.11b Channel 11



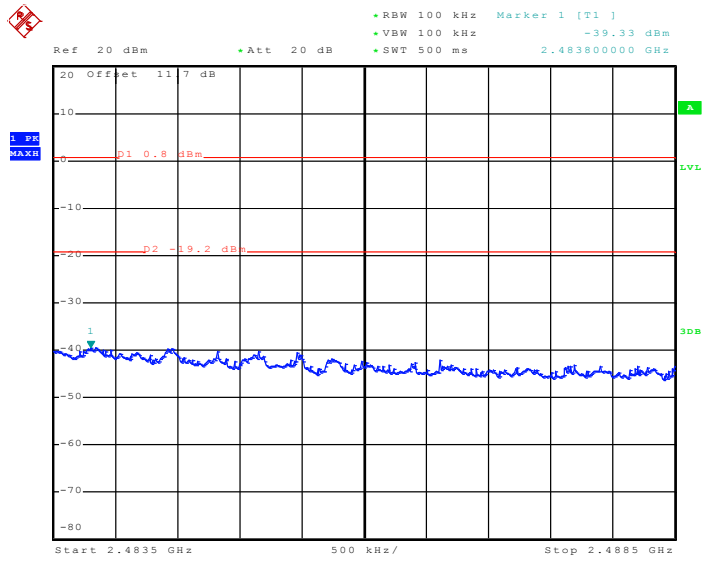
Test Mode :	Mode 4 and 6	Temperature :	25~27℃
Test Band :	802.11g	Relative Humidity :	51~54%
Test Channel :	01 and 11	Test Engineer :	Tang Liu

Low Band Edge Plot on 802.11g Channel 01



Date: 6.NOV.2009 18:50:26

High Band Edge Plot on 802.11g Channel 11



Date: 6.NOV.2009 18:52:51

3.4 Spurious Emission Measurement

3.4.1 Limit of Spurious Emission Measurement

All harmonics/spurs must be at least 20 dB down from the highest emission level within the authorized band.

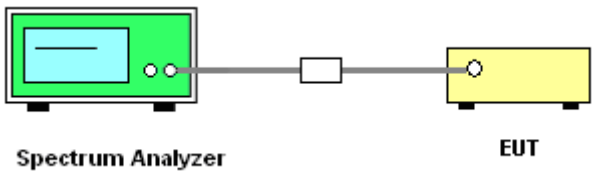
3.4.2 Measuring Instruments

See list of measuring instruments of this test report.

3.4.3 Test Procedure

1. The transmitter output was connected to the spectrum analyzer via a low lose cable.
2. Set RBW = 100 kHz, Video bandwidth (VBW) ≥ RBW, scan up through 10th harmonic. All harmonics/spurs must be at least 20 dB down from the highest emission level within the authorized band as measured with a 100 kHz RBW.

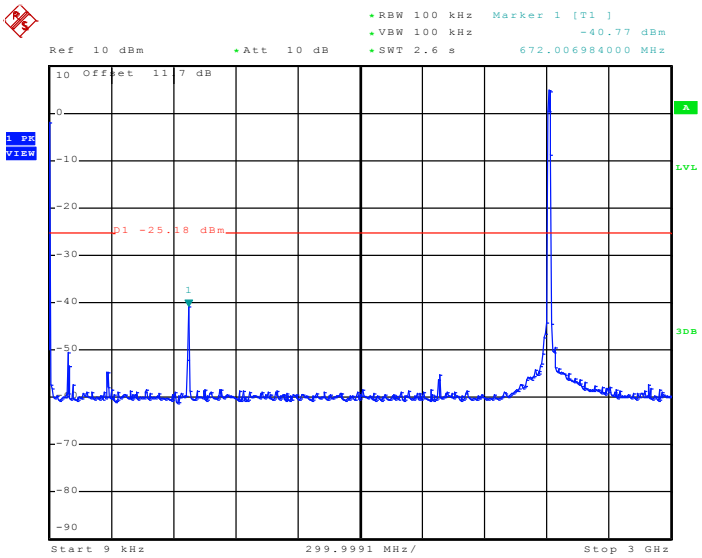
3.4.4 Test Setup



3.4.5 Test Plots of Spurious Emission

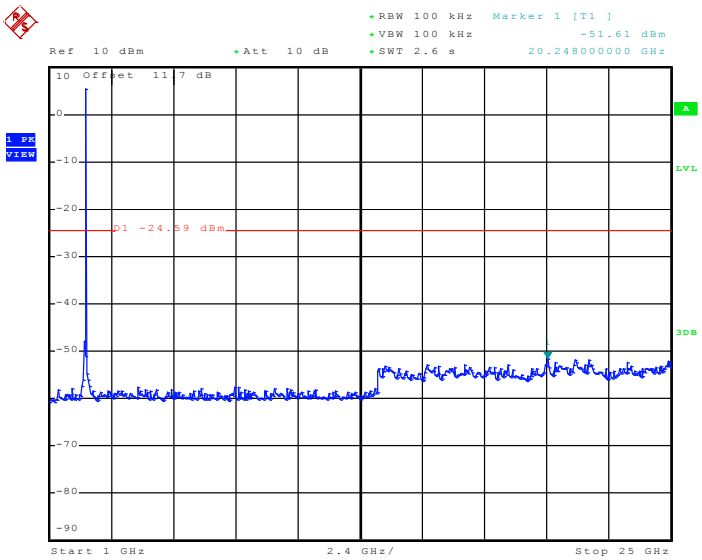
Test Mode :	Mode 1	Temperature :	25~27℃
Test Channel :	01	Relative Humidity :	51~54%
		Test Engineer :	Tang Liu

Conducted Spurious Emission Plot between 9 kHz ~ 3 GHz



Date: 6.NOV.2009 19:01:15

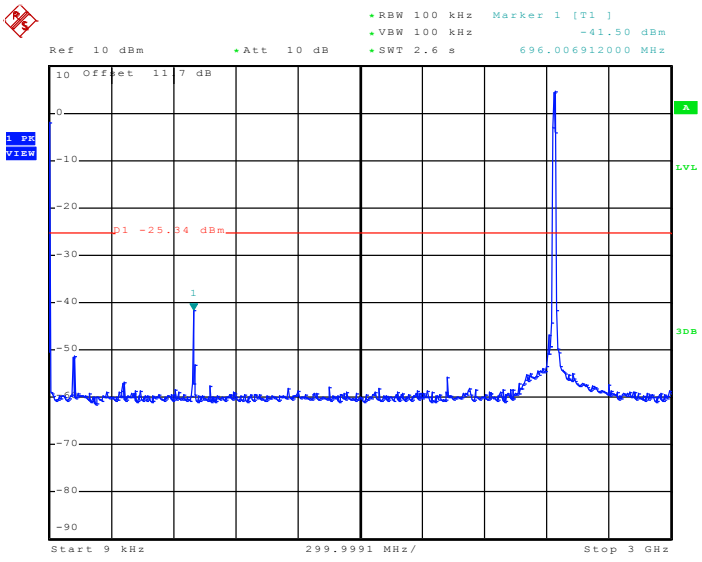
Conducted Spurious Emission Plot between 1GHz ~ 25 GHz



Date: 6.NOV.2009 19:01:38

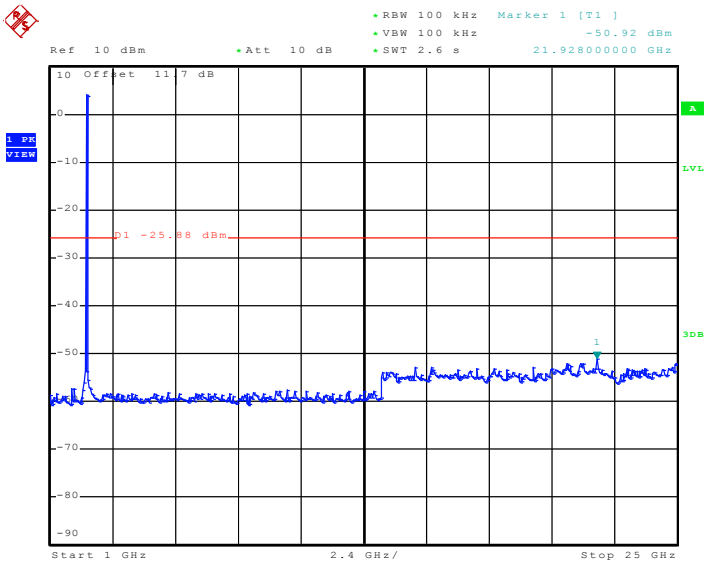
Test Mode :	Mode 2	Temperature :	25~27℃
Test Channel :	06	Relative Humidity :	51~54%
		Test Engineer :	Tang Liu

Conducted Spurious Emission Plot between 9 kHz ~ 3 GHz



Date: 6.NOV.2009 19:02:21

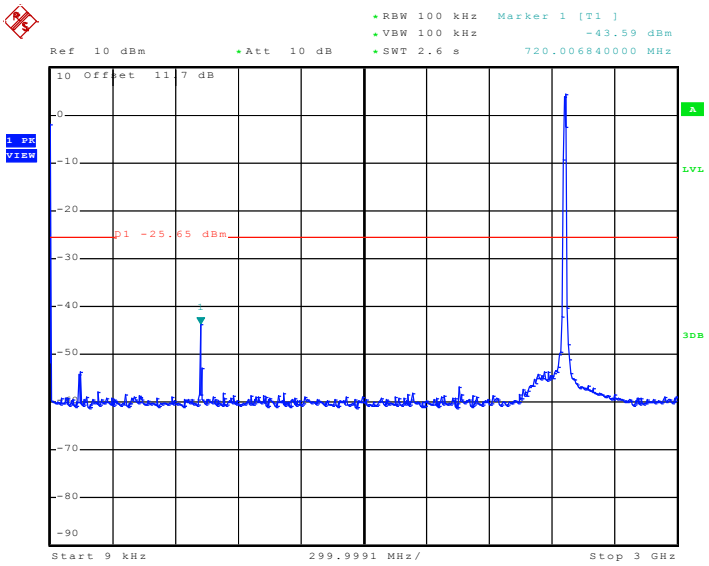
Conducted Spurious Emission Plot between 1GHz ~ 25 GHz



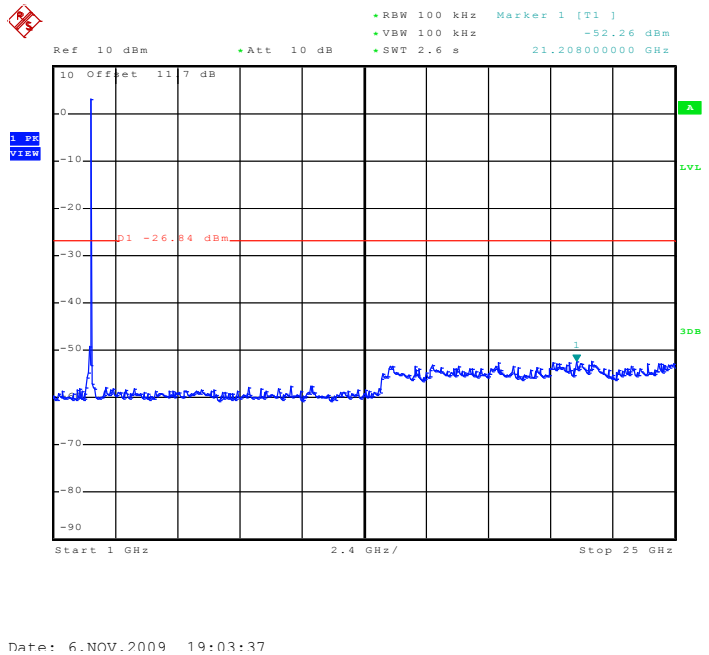
Date: 6.NOV.2009 19:02:39

Test Mode :	Mode 3	Temperature :	25~27℃
Test Channel :	11	Relative Humidity :	51~54%
		Test Engineer :	Tang Liu

Conducted Spurious Emission Plot between 9 kHz ~ 3 GHz

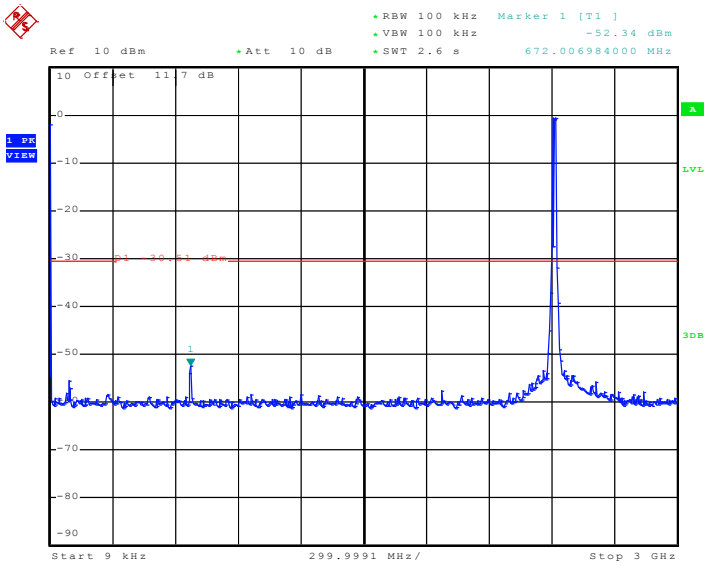


Conducted Spurious Emission Plot between 1GHz ~ 25 GHz



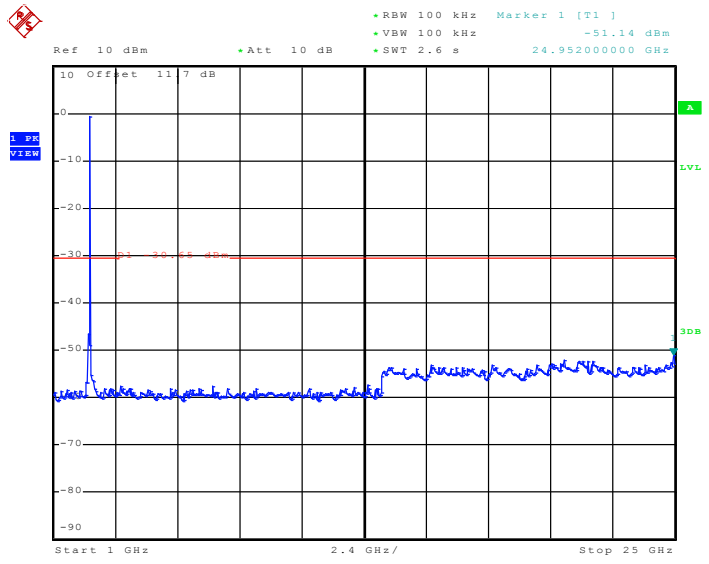
Test Mode :	Mode 4	Temperature :	25~27℃
Test Channel :	01	Relative Humidity :	51~54%
		Test Engineer :	Tang Liu

Conducted Spurious Emission Plot between 9 kHz ~ 3 GHz



Date: 6.NOV.2009 19:04:36

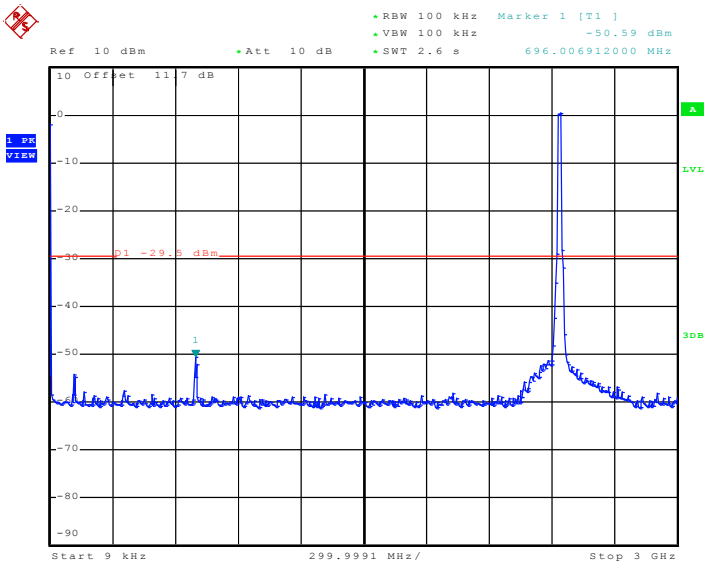
Conducted Spurious Emission Plot between 1GHz ~ 25 GHz



Date: 6.NOV.2009 19:04:54

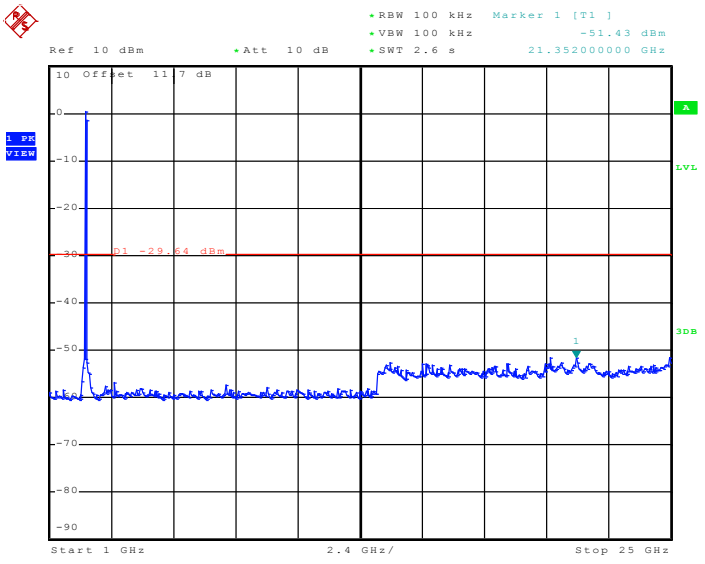
Test Mode :	Mode 5	Temperature :	25~27℃
Test Channel :	06	Relative Humidity :	51~54%
		Test Engineer :	Tang Liu

Conducted Spurious Emission Plot between 9 kHz ~ 3 GHz



Date: 6.NOV.2009 19:05:36

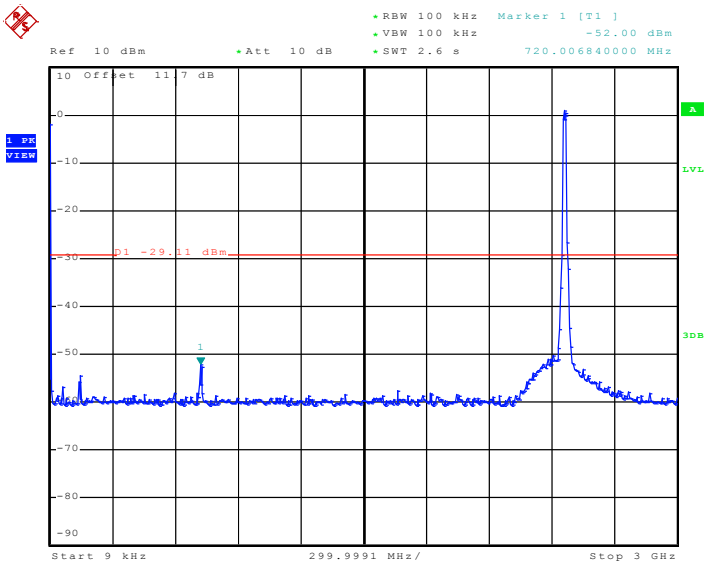
Conducted Spurious Emission Plot between 1GHz ~ 25 GHz



Date: 6.NOV.2009 19:05:54

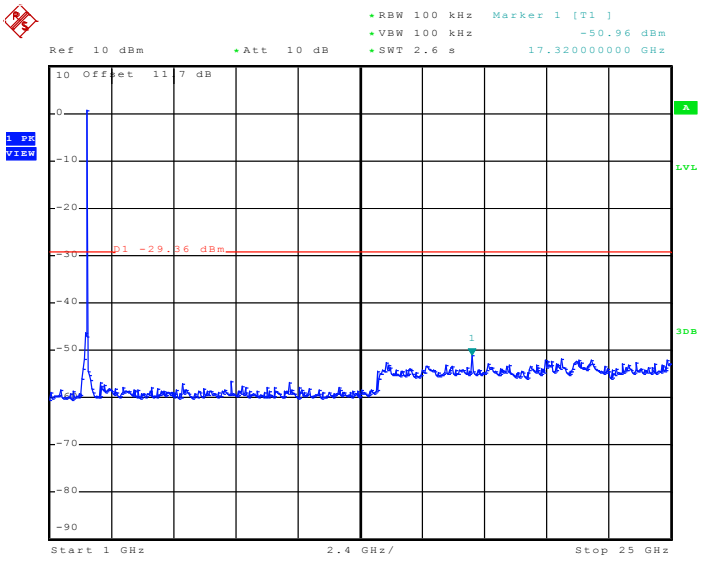
Test Mode :	Mode 6	**Temperature :**	25~27℃
Test Channel :	11	**Relative Humidity :**	51~54%
		Test Engineer :	Tang Liu

Conducted Spurious Emission Plot between 9 kHz ~ 3 GHz



Date: 6.NOV.2009 19:06:44

Conducted Spurious Emission Plot between 1GHz ~ 25 GHz



Date: 6.NOV.2009 19:07:05

3.5 Power Spectral Density Measurement

3.5.1 Limit of Power Spectral Density

The peak power spectral density shall not be greater than 8dBm in any 3kHz band at any time interval of continuous transmission.

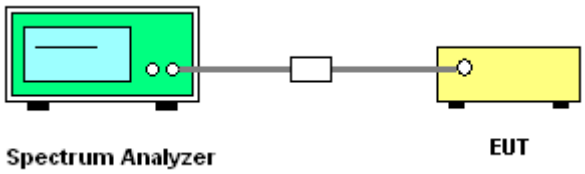
3.5.2 Measuring Instruments

See list of measuring instruments of this test report.

3.5.3 Test Procedures

1. The test follows FCC KDB Publication No. 558074 (Measurement Guidelines of DTS).
2. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
3. Take the measured data from spectrum analyzer.

3.5.4 Test Setup

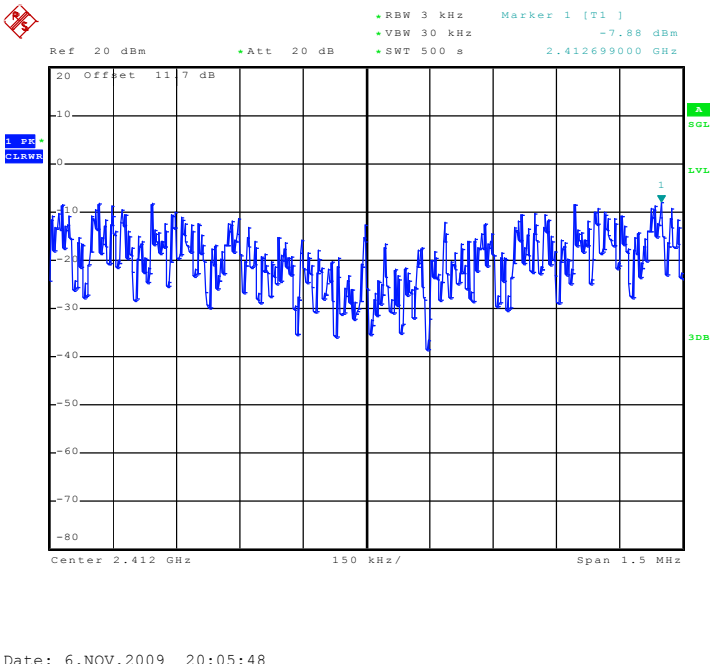


3.5.5 Test Result of Power Spectral Density

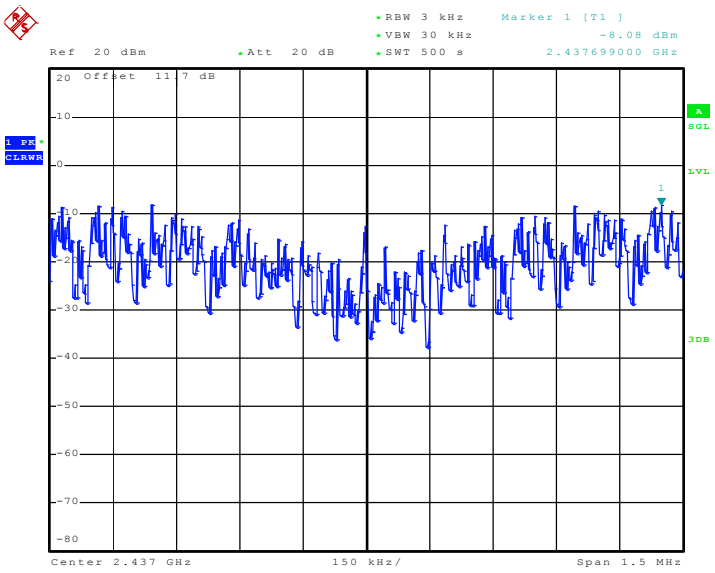
Test Mode :	Mode 1, 2, 3	Temperature :	25~27℃
Test Engineer :	Tang Liu	Relative Humidity :	51~54%

Channel	Frequency (MHz)	802.11b Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	-7.88	8	Pass
06	2437	-8.08	8	Pass
11	2462	-8.21	8	Pass

Mode 1 : PSD Plot on 802.11b Channel 01

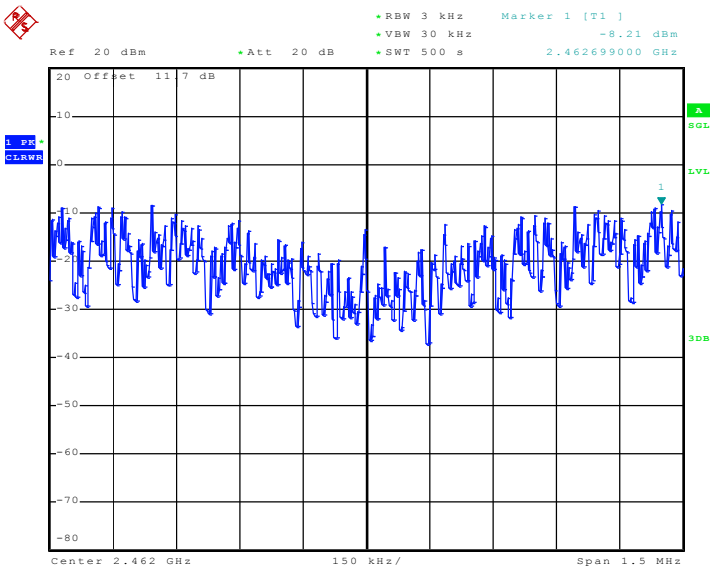


Mode 2 : PSD Plot on 802.11b Channel 06



Date: 6.NOV.2009 19:36:00

Mode 3 : PSD Plot on 802.11b Channel 11

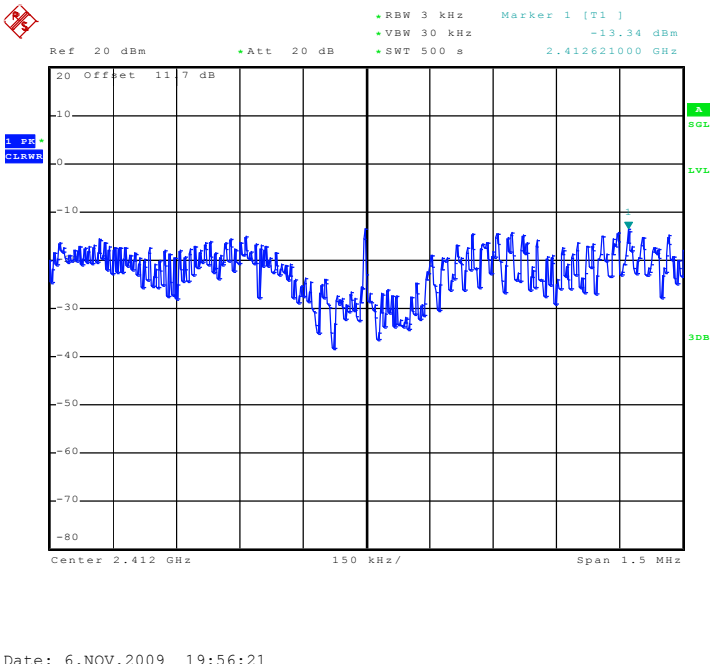


Date: 6.NOV.2009 20:16:40

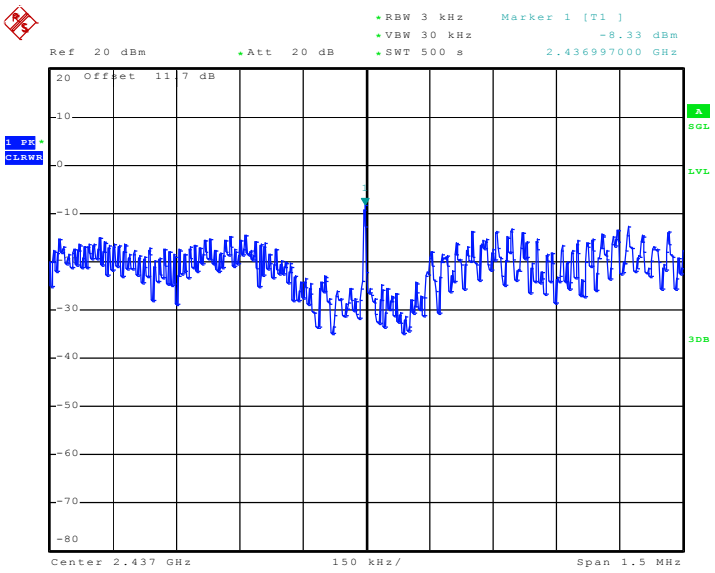
Test Mode :	Mode 4, 5, 6	Temperature :	25~27℃
Test Engineer :	Tang Liu	Relative Humidity :	51~54%

Channel	Frequency (MHz)	802.11g Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	-13.34	8	Pass
06	2437	-8.33	8	Pass
11	2462	-7.70	8	Pass

Mode 6 : PSD Plot on 802.11g Channel 01

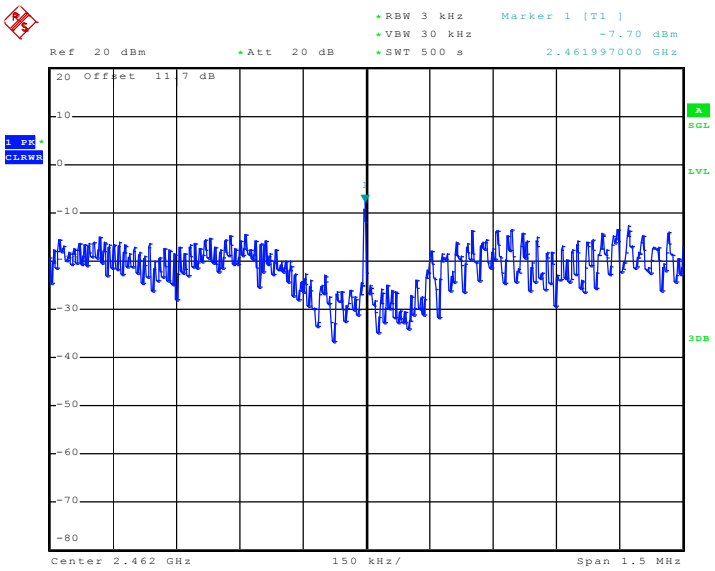


Mode 7 : PSD Plot on 802.11g Channel 06



Date: 6.NOV.2009 19:44:58

Mode 8 : PSD Plot on 802.11g Channel 11



Date: 6.NOV.2009 19:17:19

3.6 AC Conducted Emission Measurement

3.6.1 Limit of AC Conducted Emission

For equipment that is designed to be connected to the public utility (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 the limits in the following table.

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-Peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

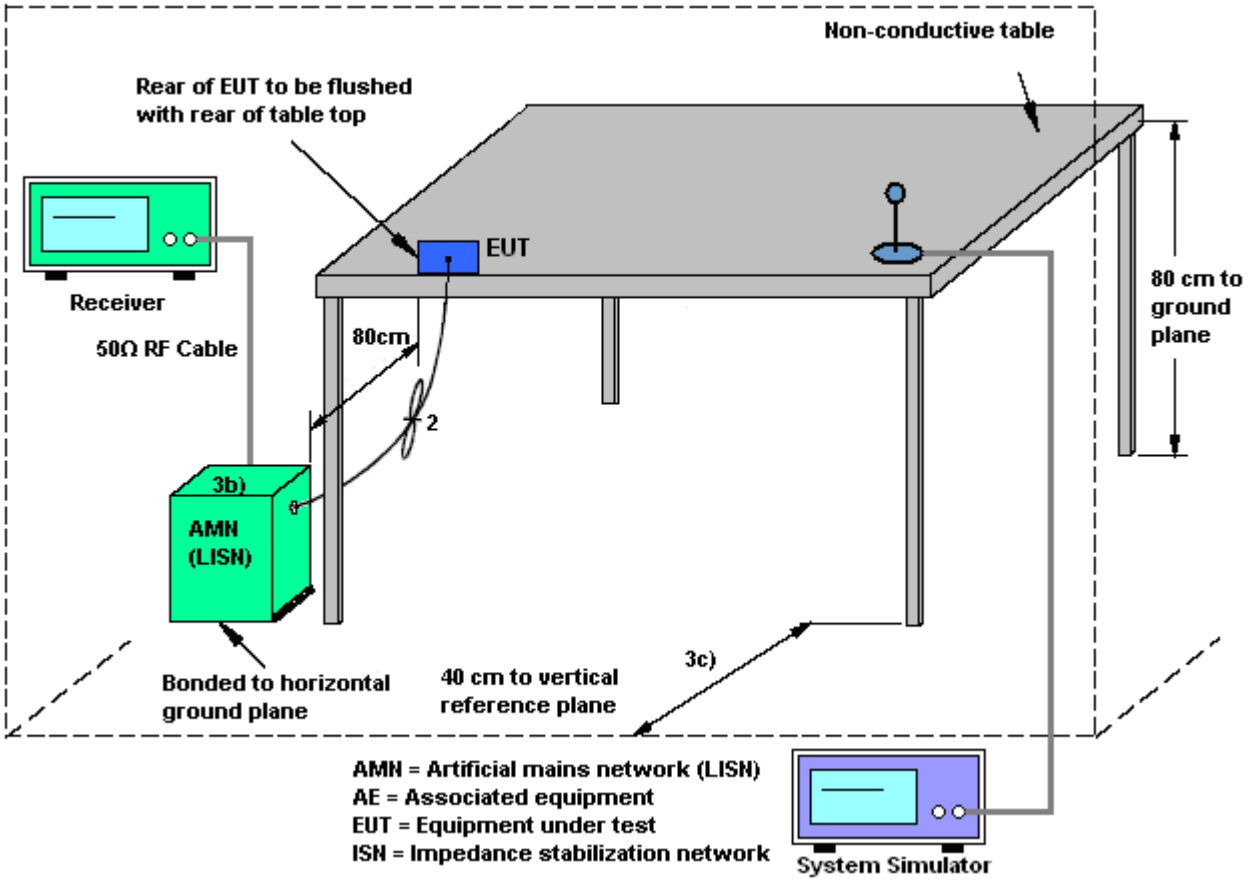
3.6.2 Measuring Instruments

See list of measuring instruments of this test report.

3.6.3 Test Procedures

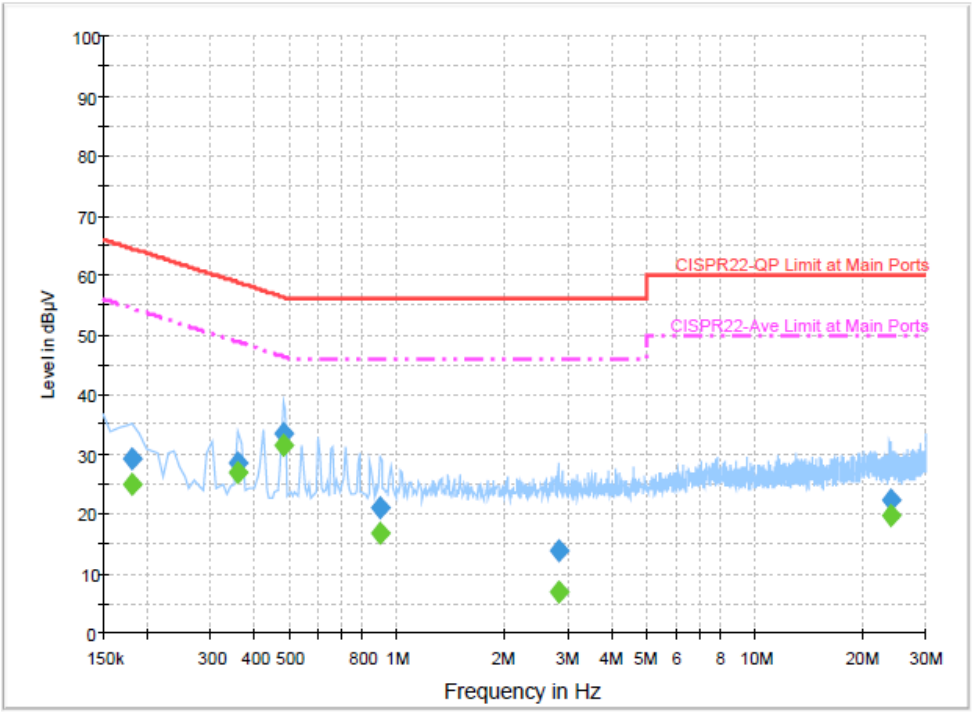
1. The testing follows the guidelines in ANSI C63.4-2003.
2. The EUT was placed 0.4 meter from the conducting wall of the shielding room, and it was kept at least 80 centimeters from any other grounded conducting surface.
3. Connect EUT to the power mains through a line impedance stabilization network (LISN).
4. All the support units are connecting to the other LISN.
5. The LISN provides 50 ohm coupling impedance for the measuring instrument.
6. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
7. Both sides of AC line were checked for maximum conducted interference.
8. The frequency range from 150 kHz to 30 MHz was searched.
9. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.

3.6.4 Test Setup



3.6.5 Test Result of AC Conducted Emission

Test Mode :	Mode 1	**Temperature :**	22~24℃
Test Engineer :	Hayden Wu	**Relative Humidity :**	40~43%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line
Function Type :	Bluetooth Link + WLAN Link + MP3 + Camera + Adapter + RS232 Cable 2 for EUT with Keypad 2 and Scanner 1		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



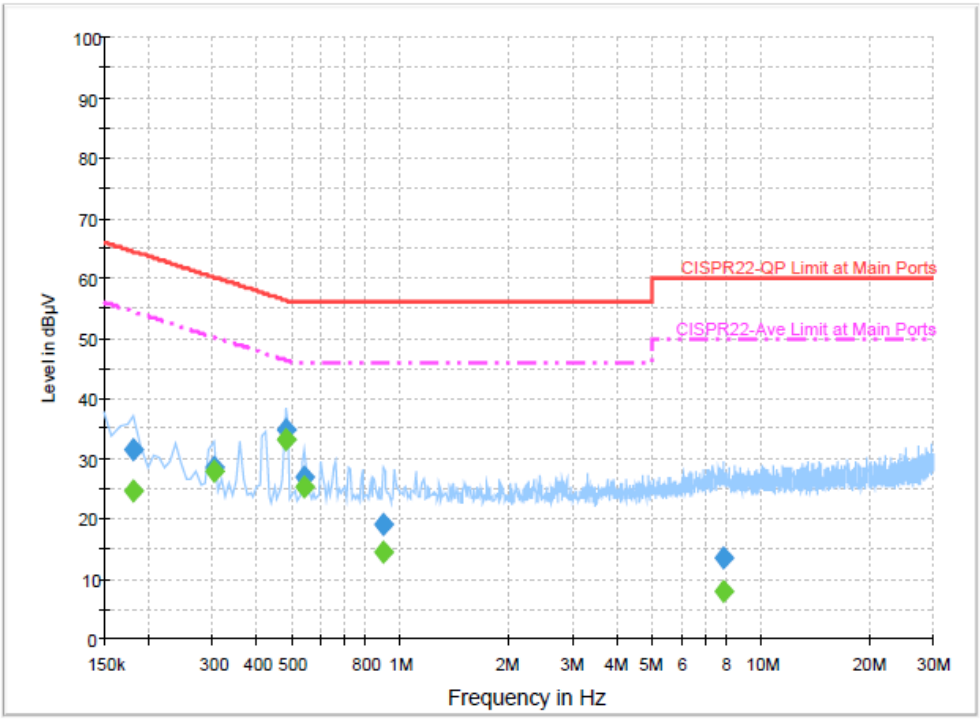
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.182000	29.2	Off	L1	19.5	35.2	64.4
0.358000	28.5	Off	L1	19.5	30.3	58.8
0.478000	33.5	Off	L1	19.4	22.9	56.4
0.894000	20.8	Off	L1	19.4	35.2	56.0
2.814000	13.6	Off	L1	19.5	42.4	56.0
23.998000	22.2	Off	L1	19.7	37.8	60.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.182000	24.8	Off	L1	19.5	29.6	54.4
0.358000	26.7	Off	L1	19.5	22.1	48.8
0.478000	31.6	Off	L1	19.4	14.8	46.4
0.894000	16.8	Off	L1	19.4	29.2	46.0
2.814000	6.9	Off	L1	19.5	39.1	46.0
23.998000	19.7	Off	L1	19.7	30.3	50.0

Test Mode :	Mode 1	**Temperature :**	22~24℃
Test Engineer :	Hayden Wu	**Relative Humidity :**	40~43%
Test Voltage :	120Vac / 60Hz	**Phase :**	Neutral
Function Type :	Bluetooth Link + WLAN Link + MP3 + Camera + Adapter + RS232 Cable 2 for EUT with Keypad 2 and Scanner 1		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.182000	31.6	Off	N	19.5	32.8	64.4
0.302000	28.5	Off	N	19.4	31.7	60.2
0.478000	34.8	Off	N	19.4	21.6	56.4
0.542000	27.0	Off	N	19.5	29.0	56.0
0.894000	19.1	Off	N	19.4	36.9	56.0
7.846000	13.6	Off	N	19.6	46.4	60.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.182000	24.6	Off	N	19.5	29.8	54.4
0.302000	27.9	Off	N	19.4	22.3	50.2
0.478000	33.2	Off	N	19.4	13.2	46.4
0.542000	25.3	Off	N	19.5	20.7	46.0
0.894000	14.5	Off	N	19.4	31.5	46.0
7.846000	7.8	Off	N	19.6	42.2	50.0

3.7 Radiated Emission Measurement

3.7.1 Limit of Radiated Emission

In any 100 kHz bandwidth outside the intentional radiator frequency band, all harmonics/spurious must be at least 20 dB below the highest emission level within the authorized band. If the output power of this device was measured by spectrum analyzer, the attenuation under this paragraph shall be 30 dB instead of 20 dB. In addition, radiated emissions which fall in the restricted bands must also comply with the FCC section 15.209 limits as below.

Frequency (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

3.7.2 Measuring Instruments

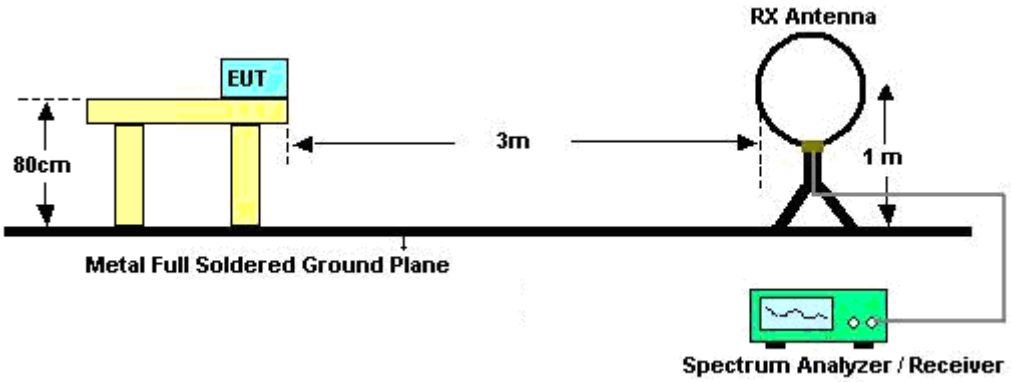
See list of measuring instruments of this test report.

3.7.3 Test Procedures

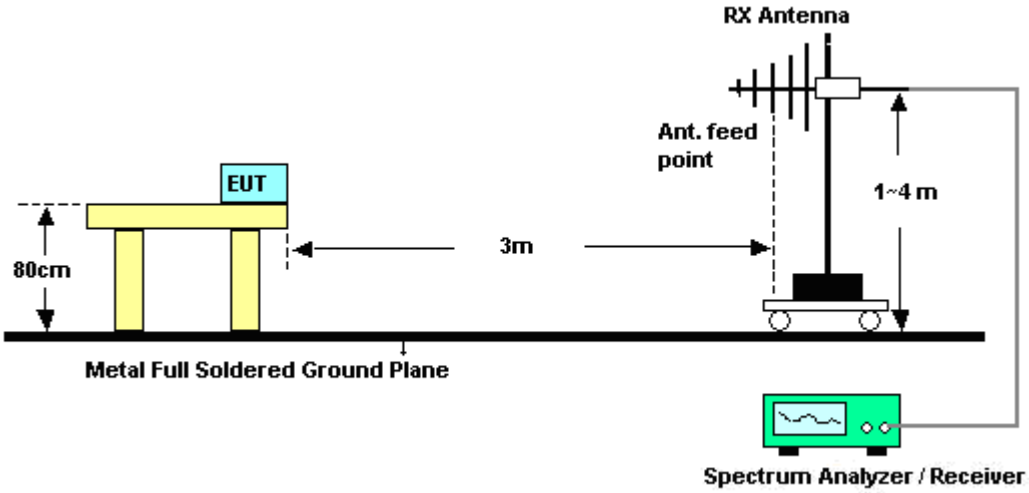
1. The testing follows the guidelines in FCC KDB Publication No. 558074 (Measurement Guidelines of DTS).
2. Use the following spectrum analyzer settings:
   Span = wide enough to fully capture the emission being measured; RBW = 1 MHz for f ≥ 1 GHz, 100 kHz for f < 1 GHz; VBW ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold.
3. Follow the guidelines in **ANSI C63.4-2003** with respect to maximizing the emission by rotating the EUT, measuring the emission for three EUT orthogonal planes, and adjusting the measurement antenna height and polarization. A pre-amp and a high pass filter are used for this test in order to get the good signal level.

3.7.4 Test Setup

For radiated emissions below 30MHz



For radiated emissions above 30MHz



3.7.5 Test Results of Radiated Emissions (9 kHz ~ 30 MHz)

Test Engineer :	Mac Lin and Elvis Chen	Temperature :	21~23°C
		Relative Humidity :	46~48%

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

Note:

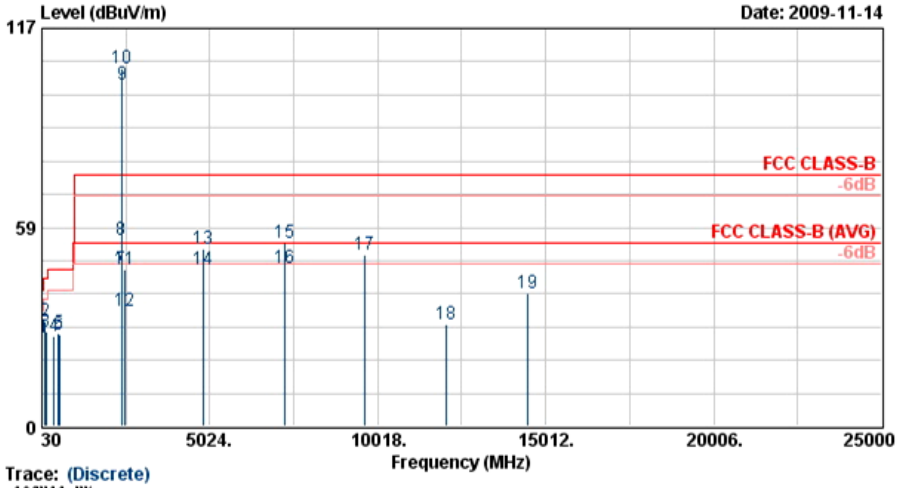
The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Distance extrapolation factor = 40 log (specific distance / test distance) (dB);

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

3.7.6 Test Result of Radiated Emission (30 MHz ~ 10th Harmonic)

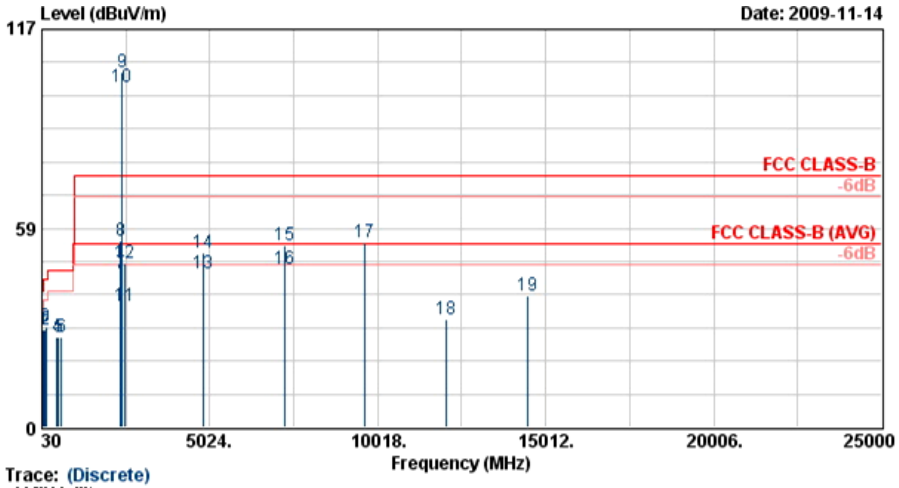
Test Mode :	Mode 1	Temperature :	21~23°C
Test Channel :	01	Relative Humidity :	46~48%
Test Engineer :	Mac Lin and Elvis Chen	Polarization :	Horizontal
Remark :	#9 and #10 are Fundamental Signals which can be ignored.		



Site : 03CH06-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN HORIZONTAL
Project : FR 903036

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	112.08	26.28	-17.22	43.50	45.11	11.27	1.72	31.82	---	---	Peak
2	138.54	30.71	-12.79	43.50	49.36	11.15	1.92	31.73	100	297	Peak
3	151.23	27.74	-15.76	43.50	47.15	10.28	2.02	31.71	---	---	Peak
4	397.30	26.70	-19.30	46.00	39.45	15.61	3.52	31.88	---	---	Peak
5	519.80	27.24	-18.76	46.00	37.57	17.72	4.03	32.09	---	---	Peak
6	554.80	26.79	-19.21	46.00	36.60	18.15	4.16	32.13	---	---	Peak
7	2386.57	45.92	-8.08	54.00	46.42	31.86	3.92	36.28	165	0	Average
8	2386.57	55.01	-18.99	74.00	55.51	31.86	3.92	36.28	165	0	Peak
9 @	2412.00	100.52			100.97	31.88	3.95	36.28	165	0	Average
10 X	2412.00	105.12			105.57	31.88	3.95	36.28	165	0	Peak
11	2484.00	45.92	-28.08	74.00	46.18	31.98	4.05	36.30	165	0	Peak
12	2484.00	34.01	-19.99	54.00	34.28	31.98	4.05	36.30	165	0	Average
13	4824.00	52.10	-21.90	74.00	48.57	33.90	5.77	36.14	103	351	Peak
14	4824.00	46.14	-7.86	54.00	42.61	33.90	5.77	36.14	103	351	Average
15	7236.00	54.03	-19.97	74.00	47.70	35.65	7.18	36.50	129	29	Peak
16	7236.00	46.39	-7.61	54.00	40.06	35.65	7.18	36.50	129	29	Average
17	9648.00	50.51	-23.49	74.00	89.91	-10.29	7.94	37.06	100	0	Peak
18	12060.00	30.03	-43.97	74.00	67.90	-10.63	9.31	36.56	100	0	Peak
19	14472.00	39.26	-34.74	74.00	70.41	-5.60	9.72	35.26	100	0	Peak

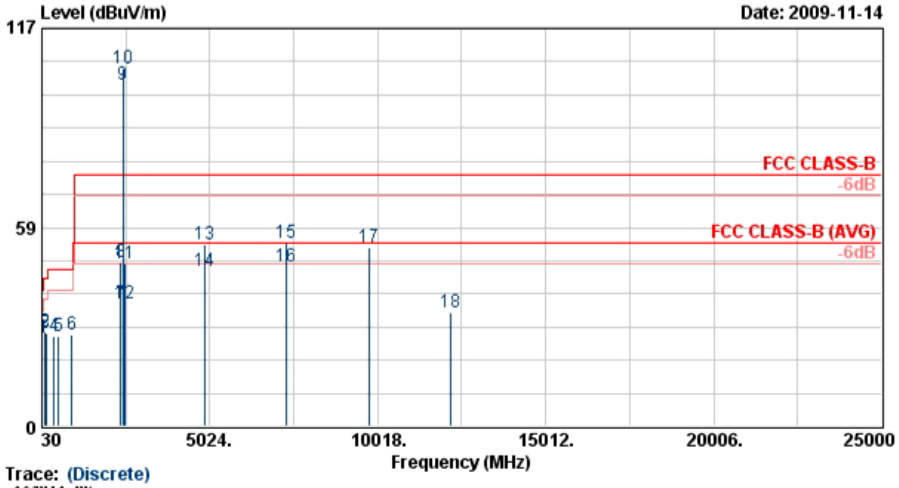
Test Mode :	Mode 1	Temperature :	21~23°C
Test Channel :	01	Relative Humidity :	46~48%
Test Engineer :	Mac Lin and Elvis Chen	Polarization :	Vertical
Remark :	#9 and #10 are Fundamental Signals which can be ignored.		



Site : 03CH06-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN VERTICAL
Project : FR 903036

		Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1		88.59	28.88	-14.62	43.50	50.88	8.62	1.48	32.11	---	---	Peak
2		138.54	28.64	-14.86	43.50	47.29	11.15	1.92	31.73	---	---	Peak
3		156.09	29.77	-13.73	43.50	49.37	10.17	2.07	31.83	100	237	Peak
4		484.80	26.46	-19.54	46.00	37.41	17.20	3.90	32.06	---	---	Peak
5		519.80	26.56	-19.44	46.00	36.90	17.72	4.03	32.09	---	---	Peak
6		623.40	26.66	-19.34	46.00	35.36	18.84	4.50	32.04	---	---	Peak
7		2385.81	45.42	-8.58	54.00	45.92	31.86	3.92	36.28	119	340	Average
8		2385.81	54.95	-19.05	74.00	55.45	31.86	3.92	36.28	119	340	Peak
9	X	2412.00	104.31			104.76	31.88	3.95	36.28	119	340	Peak
10	X	2412.00	99.83			100.28	31.88	3.95	36.28	119	340	Average
11		2486.00	35.86	-18.14	54.00	36.13	31.98	4.05	36.30	119	340	Average
12		2486.00	48.30	-25.70	74.00	48.57	31.98	4.05	36.30	119	340	Peak
13		4824.00	45.21	-8.79	54.00	41.68	33.90	5.77	36.14	100	202	Average
14		4824.00	51.30	-22.70	74.00	47.76	33.90	5.77	36.14	100	202	Peak
15		7236.00	53.61	-20.39	74.00	47.28	35.65	7.18	36.50	100	115	Peak
16		7236.00	46.44	-7.56	54.00	40.11	35.65	7.18	36.50	100	115	Average
17		9648.00	54.40	-19.60	74.00	93.78	-10.27	7.94	37.06	100	55	Peak
18		12060.00	31.91	-42.09	74.00	69.78	-10.63	9.31	36.56	100	0	Peak
19		14472.00	38.78	-35.22	74.00	69.93	-5.60	9.72	35.26	100	0	Peak

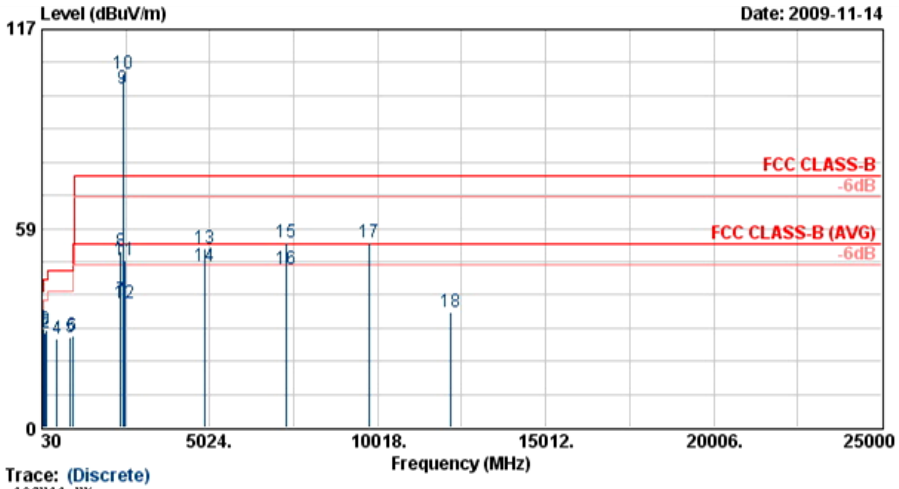
Test Mode :	Mode 2	Temperature :	21~23°C
Test Channel :	06	Relative Humidity :	46~48%
Test Engineer :	Mac Lin and Elvis Chen	Polarization :	Horizontal
Remark :	#9 and #10 are Fundamental Signals which can be ignored.		



Site : 03CH06-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN HORIZONTAL
Project : FR 903036

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	116.94	26.20	-17.30	43.50	44.79	11.43	1.75	31.77	---	---	Peak
2	135.84	27.97	-15.53	43.50	46.47	11.32	1.89	31.71	100	247	Peak
3	156.09	27.61	-15.89	43.50	47.20	10.17	2.07	31.83	---	---	Peak
4	397.30	26.63	-19.37	46.00	39.38	15.61	3.52	31.88	---	---	Peak
5	519.80	26.55	-19.45	46.00	36.88	17.72	4.03	32.09	---	---	Peak
6	924.40	27.08	-18.92	46.00	32.29	20.83	5.51	31.55	---	---	Peak
7	2380.00	35.97	-18.03	54.00	36.49	31.83	3.92	36.28	105	5	Average
8	2380.00	48.17	-25.83	74.00	48.70	31.83	3.92	36.28	105	5	Peak
9 @	2437.00	100.66			101.03	31.93	3.99	36.29	105	5	Average
10 X	2437.00	105.12			105.51	31.90	3.99	36.29	105	5	Peak
11	2486.00	47.83	-26.17	74.00	48.10	31.98	4.05	36.30	105	5	Peak
12	2486.00	36.21	-17.79	54.00	36.48	31.98	4.05	36.30	105	5	Average
13	4874.00	53.68	-20.32	74.00	50.10	33.90	5.80	36.13	100	29	Peak
14	4874.00	45.63	-8.38	54.00	42.05	33.90	5.80	36.13	100	29	Average
15	7311.00	54.04	-19.96	74.00	47.72	35.64	7.20	36.52	121	30	Peak
16	7311.00	47.00	-7.00	54.00	40.68	35.64	7.20	36.52	121	30	Average
17	9748.00	52.75	-21.25	74.00	91.88	-10.02	7.98	37.10	100	31	Peak
18	12185.00	33.59	-40.41	74.00	71.34	-10.66	9.39	36.48	100	0	Peak

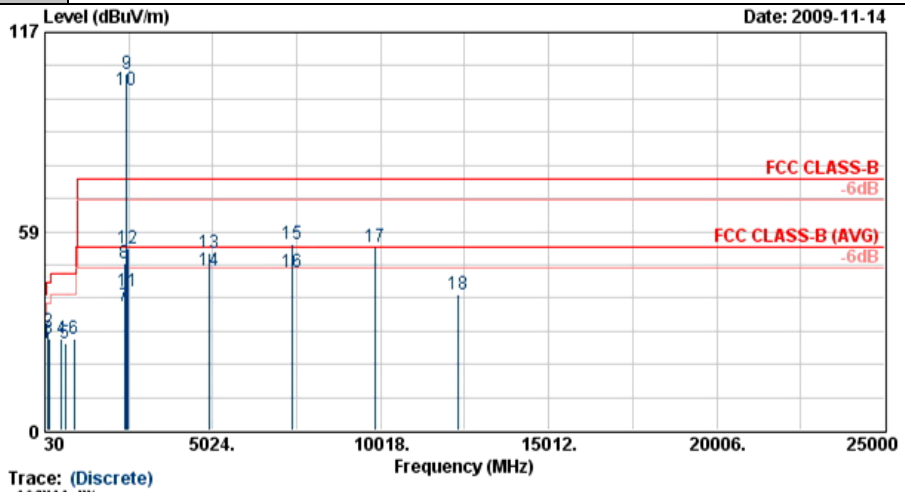
Test Mode :	Mode 2	Temperature :	21~23°C
Test Channel :	06	Relative Humidity :	46~48%
Test Engineer :	Mac Lin and Elvis Chen	Polarization :	Vertical
Remark :	#9 and #10 are Fundamental Signals which can be ignored.		



Site : 03CH06-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN VERTICAL
Project : FR 903036

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	89.94	29.13	-14.37	43.50	50.84	8.93	1.49	32.13	100	45	Peak
2	138.54	27.96	-15.54	43.50	46.61	11.15	1.92	31.73	---	---	Peak
3	152.04	28.78	-14.72	43.50	48.22	10.26	2.03	31.73	---	---	Peak
4	484.80	26.20	-19.80	46.00	37.15	17.20	3.90	32.06	---	---	Peak
5	873.30	26.55	-19.45	46.00	32.68	20.55	5.38	32.06	---	---	Peak
6	952.40	27.18	-18.82	46.00	32.06	20.94	5.57	31.39	---	---	Peak
7	2366.00	37.60	-16.40	54.00	38.18	31.81	3.89	36.28	120	339	Average
8	2366.00	51.72	-22.28	74.00	52.30	31.81	3.89	36.28	120	339	Peak
9 X	2437.00	99.68			100.05	31.93	3.99	36.29	120	339	Average
10 X	2437.00	104.15			104.55	31.90	3.99	36.29	120	339	Peak
11	2484.00	49.10	-24.90	74.00	49.37	31.98	4.05	36.30	120	339	Peak
12	2484.00	36.43	-17.57	54.00	36.70	31.98	4.05	36.30	120	339	Average
13	4874.00	52.57	-21.43	74.00	48.99	33.90	5.80	36.13	100	179	Peak
14	4874.00	47.27	-6.73	54.00	43.69	33.90	5.80	36.13	100	179	Average
15	7311.00	54.42	-19.58	74.00	48.10	35.64	7.20	36.52	100	244	Peak
16	7311.00	46.47	-7.53	54.00	40.15	35.64	7.20	36.52	100	244	Average
17	9748.00	54.22	-19.78	74.00	93.35	-10.02	7.98	37.10	100	73	Peak
18	12185.00	33.93	-40.07	74.00	71.69	-10.66	9.39	36.48	100	0	Peak

Test Mode :	Mode 3	Temperature :	21~23°C
Test Channel :	11	Relative Humidity :	46~48%
Test Engineer :	Mac Lin and Elvis Chen	Polarization :	Horizontal
Remark :	#9 and #10 are Fundamental Signals which can be ignored.		

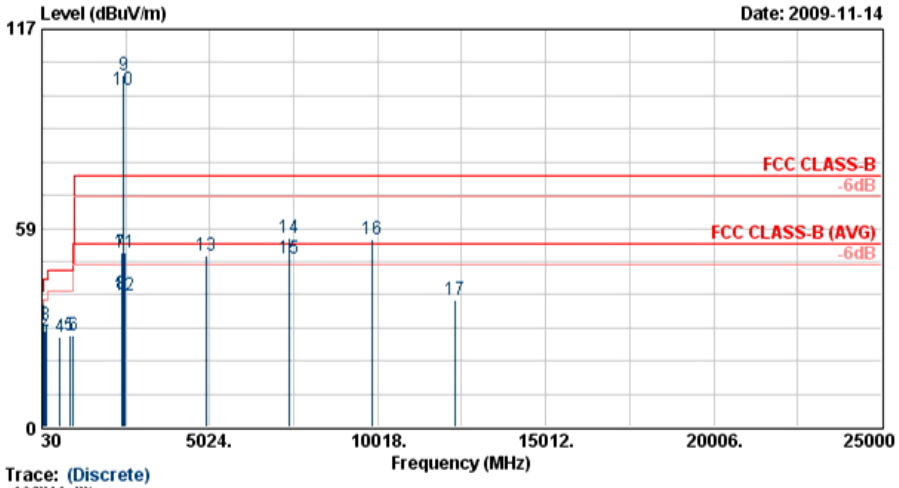


Trace: (Discrete)

Site : 03CH06-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN HORIZONTAL
Project : FR 903036

		Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1		116.94	25.62	-17.88	43.50	44.21	11.43	1.75	31.77	---	---	Peak
2		138.54	29.08	-14.42	43.50	47.74	11.15	1.92	31.73	100	67	Peak
3		152.04	26.95	-16.55	43.50	46.39	10.26	2.03	31.73	---	---	Peak
4		519.80	26.82	-19.18	46.00	37.15	17.72	4.03	32.09	---	---	Peak
5		640.90	25.87	-20.13	46.00	34.32	18.93	4.55	31.93	---	---	Peak
6		906.90	27.12	-18.88	46.00	32.52	20.76	5.47	31.64	---	---	Peak
7		2390.00	36.56	-17.44	54.00	37.06	31.86	3.92	36.28	103	6	Average
8		2390.00	49.26	-24.74	74.00	49.76	31.86	3.92	36.28	103	6	Peak
9	X	2462.00	104.89			105.21	31.95	4.02	36.29	103	6	Peak
10	@	2462.00	100.15			100.47	31.95	4.02	36.29	103	6	Average
11		2484.42	40.93	-13.07	54.00	41.20	31.98	4.05	36.30	103	6	Average
12		2484.42	53.29	-20.71	74.00	53.56	31.98	4.05	36.30	103	6	Peak
13		4924.00	52.11	-21.89	74.00	48.47	33.90	5.85	36.12	100	57	Peak
14		4924.00	46.86	-7.14	54.00	43.22	33.90	5.85	36.12	100	57	Average
15		7386.00	54.76	-19.24	74.00	48.47	35.62	7.23	36.55	100	307	Peak
16		7386.00	46.59	-7.41	54.00	40.29	35.62	7.23	36.55	100	307	Average
17		9848.00	53.85	-20.15	74.00	92.72	-9.77	8.04	37.14	100	192	Peak
18		12310.00	39.90	-34.10	74.00	77.55	-10.70	9.47	36.42	100	0	Peak

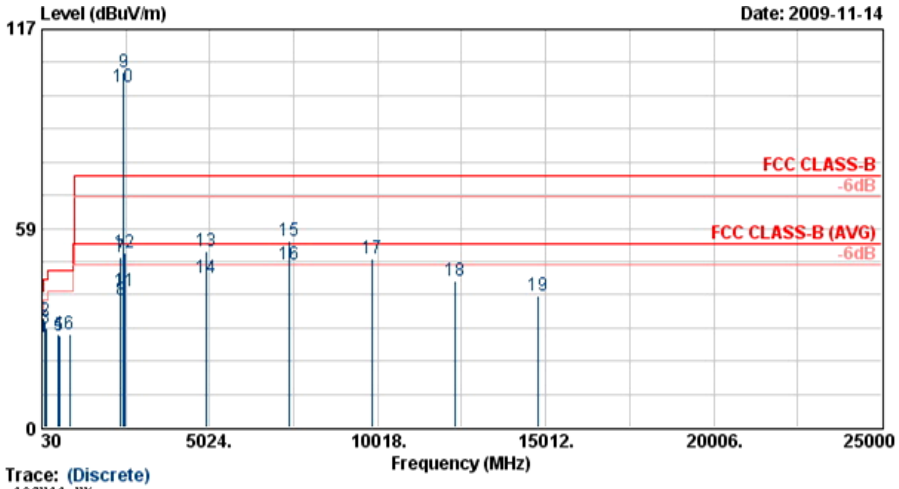
Test Mode :	Mode 3	Temperature :	21~23°C
Test Channel :	11	Relative Humidity :	46~48%
Test Engineer :	Mac Lin and Elvis Chen	Polarization :	Vertical
Remark :	#9 and #10 are Fundamental Signals which can be ignored.		



Site : 03CH06-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN VERTICAL
Project : FR 903036

		Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1		89.13	30.27	-13.23	43.50	52.13	8.77	1.49	32.12	100	203	Peak
2		118.29	28.18	-15.32	43.50	46.72	11.46	1.75	31.75	---	---	Peak
3		156.09	29.80	-13.70	43.50	49.39	10.17	2.07	31.83	---	---	Peak
4		572.30	26.59	-19.41	46.00	36.09	18.37	4.27	32.15	---	---	Peak
5		845.30	26.81	-19.19	46.00	33.52	20.37	5.29	32.38	---	---	Peak
6		959.40	27.13	-18.87	46.00	31.86	20.97	5.59	31.30	---	---	Peak
7		2390.00	51.20	-22.80	74.00	51.71	31.86	3.92	36.28	100	329	Peak
8		2390.00	39.26	-14.74	54.00	39.76	31.86	3.92	36.28	100	329	Average
9	X	2462.00	103.64			103.96	31.95	4.02	36.29	100	329	Peak
10	X	2462.00	99.05			99.37	31.95	4.02	36.29	100	329	Average
11		2486.70	51.49	-22.51	74.00	51.76	31.98	4.05	36.30	100	329	Peak
12		2486.70	38.62	-15.38	54.00	38.89	31.98	4.05	36.30	100	329	Average
13		4924.00	50.31	-23.69	74.00	46.68	33.90	5.85	36.12	100	0	Peak
14		7386.00	55.80	-18.20	74.00	49.50	35.62	7.23	36.55	100	230	Peak
15	!	7386.00	49.51	-4.49	54.00	43.21	35.62	7.23	36.55	100	230	Average
16		9848.00	55.15	-18.85	74.00	94.02	-9.77	8.04	37.14	100	55	Peak
17		12310.00	37.43	-36.57	74.00	75.08	-10.70	9.47	36.42	100	0	Peak

Test Mode :	Mode 4	Temperature :	21~23°C
Test Channel :	11	Relative Humidity :	46~48%
Test Engineer :	Mac Lin and Elvis Chen	Polarization :	Horizontal
Remark :	#9 and #10 are Fundamental Signals which can be ignored.		

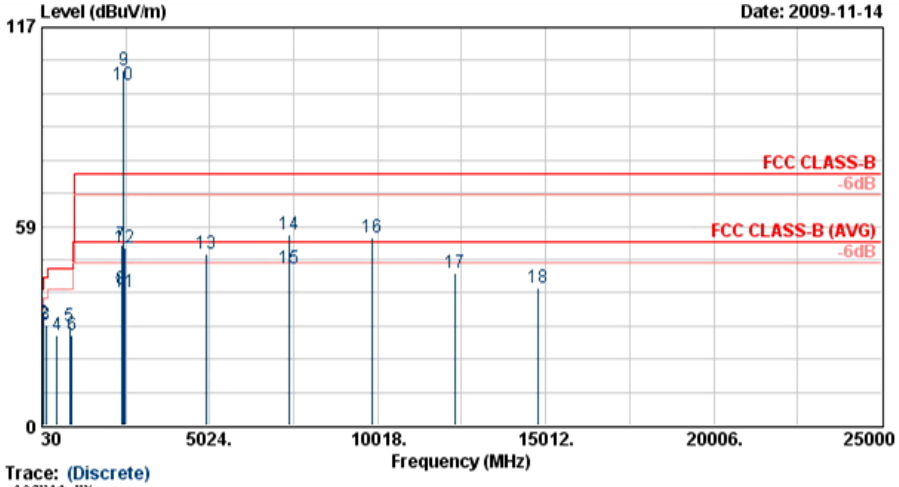


Trace: (Discrete)

Site : 03CH06-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN HORIZONTAL
Project : FR 903036

		Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1		116.13	26.39	-17.11	43.50	45.03	11.40	1.74	31.78	---	---	Peak
2		138.54	31.39	-12.11	43.50	50.04	11.15	1.92	31.73	100	117	Peak
3		156.09	28.95	-14.55	43.50	48.54	10.17	2.07	31.83	---	---	Peak
4		519.80	27.50	-18.50	46.00	37.84	17.72	4.03	32.09	---	---	Peak
5		554.80	26.89	-19.11	46.00	36.70	18.15	4.16	32.13	---	---	Peak
6		848.80	27.30	-18.70	46.00	34.00	20.39	5.31	32.40	---	---	Peak
7		2382.00	50.05	-23.95	74.00	50.58	31.83	3.92	36.28	108	8	Peak
8		2382.00	37.48	-16.52	54.00	38.00	31.83	3.92	36.28	108	8	Average
9	X	2462.00	104.37			104.69	31.95	4.02	36.29	108	8	Peak
10	@	2462.00	99.94			100.26	31.95	4.02	36.29	108	8	Average
11		2483.50	40.22	-13.78	54.00	40.49	31.98	4.05	36.30	108	8	Average
12		2483.50	51.41	-22.59	74.00	51.68	31.98	4.05	36.30	108	8	Peak
13		4924.00	51.63	-22.37	74.00	47.99	33.90	5.85	36.12	142	38	Peak
14		4924.00	43.87	-10.14	54.00	40.23	33.90	5.85	36.12	142	38	Average
15		7386.00	54.94	-19.06	74.00	48.64	35.62	7.23	36.55	121	323	Peak
16		7386.00	47.88	-6.12	54.00	41.58	35.62	7.23	36.55	121	323	Average
17		9848.00	49.45	-24.55	74.00	88.31	-9.77	8.04	37.14	100	0	Peak
18		12310.00	43.07	-30.93	74.00	80.70	-10.70	9.47	36.41	100	0	Peak
19		14772.00	38.69	-35.31	74.00	70.73	-5.79	9.38	35.63	100	0	Peak

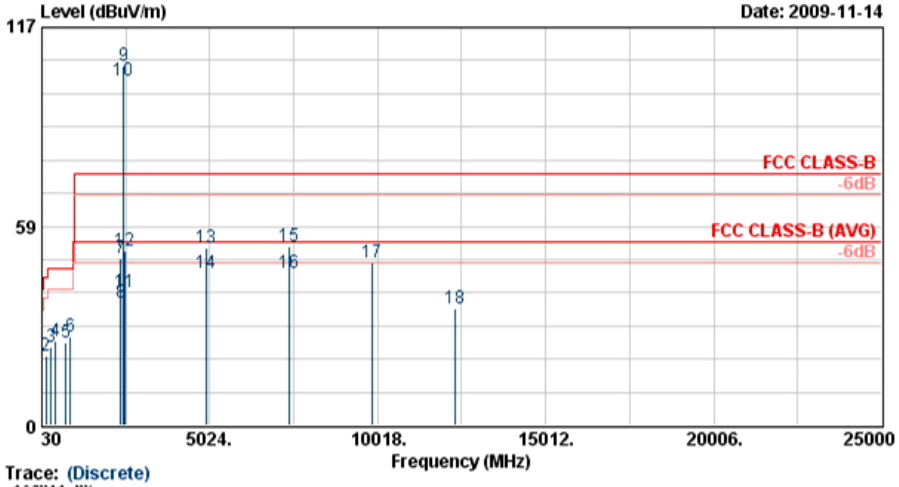
Test Mode :	Mode 4	Temperature :	21~23°C
Test Channel :	11	Relative Humidity :	46~48%
Test Engineer :	Mac Lin and Elvis Chen	Polarization :	Vertical
Remark :	#9 and #10 are Fundamental Signals which can be ignored.		



Site : 03CH06-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN VERTICAL
Project : FR 903036

		Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1		83.73	27.97	-12.03	40.00	50.73	7.84	1.46	32.05	100	252	Peak
2		89.94	29.84	-13.66	43.50	51.55	8.93	1.49	32.13	---	---	Peak
3		151.23	29.62	-13.88	43.50	49.02	10.28	2.02	31.71	---	---	Peak
4		484.80	26.67	-19.33	46.00	37.63	17.20	3.90	32.06	---	---	Peak
5		848.80	29.11	-16.89	46.00	35.81	20.39	5.31	32.40	---	---	Peak
6		925.80	26.66	-19.34	46.00	31.85	20.84	5.51	31.54	---	---	Peak
7		2388.00	52.97	-21.03	74.00	53.47	31.86	3.92	36.28	100	329	Peak
8		2388.00	39.96	-14.04	54.00	40.46	31.86	3.92	36.28	100	329	Average
9	X	2462.00	104.42			104.74	31.95	4.02	36.29	100	329	Peak
10	@	2462.00	99.96			100.28	31.95	4.02	36.29	100	329	Average
11		2483.50	39.23	-14.77	54.00	39.50	31.98	4.05	36.30	100	329	Average
12		2483.50	52.10	-21.90	74.00	52.37	31.98	4.05	36.30	100	329	Peak
13		4924.00	50.48	-23.52	74.00	46.84	33.90	5.85	36.12	100	0	Peak
14		7386.00	56.31	-17.69	74.00	50.01	35.62	7.23	36.55	100	331	Peak
15		7386.00	46.10	-7.90	54.00	39.80	35.62	7.23	36.55	100	331	Average
16		9848.00	55.33	-18.67	74.00	94.20	-9.77	8.04	37.14	100	358	Peak
17		12310.00	44.91	-29.09	74.00	82.54	-10.70	9.47	36.41	100	0	Peak
18		14772.00	40.44	-33.56	74.00	72.48	-5.79	9.38	35.63	100	0	Peak

Test Mode :	Mode 5	Temperature :	21~23°C
Test Channel :	11	Relative Humidity :	46~48%
Test Engineer :	Mac Lin and Elvis Chen	Polarization :	Horizontal
Remark :	#9 and #10 are Fundamental Signals which can be ignored.		

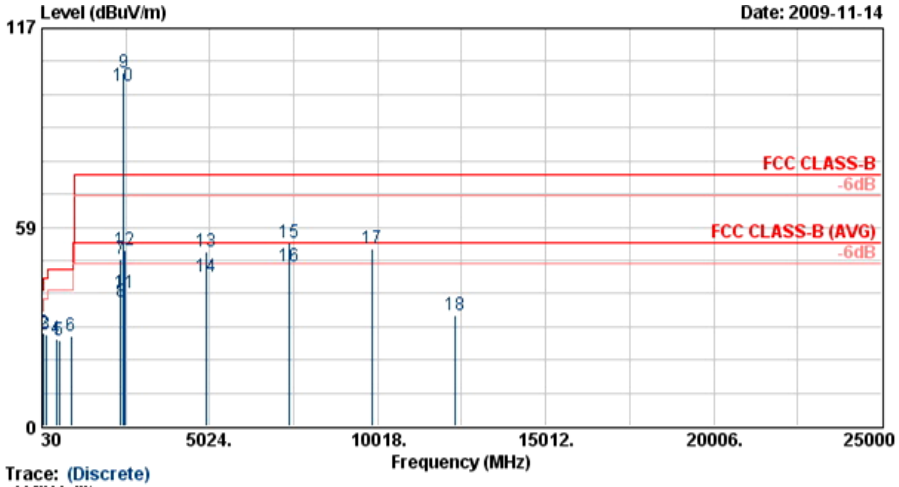


Trace: (Discrete)

Site : 03CH06-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN HORIZONTAL
Project : FR 903036

		Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1		30.00	17.50	-22.50	40.00	29.72	18.51	0.83	31.56	---	---	Peak
2		151.23	20.42	-23.08	43.50	39.83	10.28	2.02	31.71	---	---	Peak
3		294.33	22.96	-23.04	46.00	39.07	13.03	2.98	32.11	---	---	Peak
4		432.30	24.60	-21.40	46.00	36.66	16.26	3.67	31.99	---	---	Peak
5		752.90	24.46	-21.54	46.00	31.90	19.68	4.95	32.07	---	---	Peak
6		878.90	26.27	-19.73	46.00	32.26	20.59	5.40	31.98	100	163	Peak
7		2380.00	48.94	-25.06	74.00	49.26	31.83	3.92	36.08	163	39	Peak
8		2380.00	36.25	-17.75	54.00	36.57	31.83	3.92	36.08	163	39	Average
9	X	2462.00	105.78			105.91	31.95	4.02	36.09	163	39	Peak
10	@	2462.00	101.15			101.27	31.95	4.02	36.09	163	39	Average
11		2483.50	39.32	-14.68	54.00	39.39	31.98	4.05	36.10	163	39	Average
12		2483.50	51.26	-22.74	74.00	51.33	31.98	4.05	36.10	163	39	Peak
13		4924.00	52.13	-21.87	74.00	48.48	33.90	5.85	36.10	100	45	Peak
14		4924.00	44.95	-9.05	54.00	41.30	33.90	5.85	36.10	100	45	Average
15		7386.00	52.80	-21.20	74.00	46.40	35.62	7.23	36.45	119	318	Peak
16		7386.00	44.97	-9.03	54.00	38.57	35.62	7.23	36.45	119	318	Average
17		9848.00	47.86	-26.14	74.00	86.82	-9.90	8.04	37.10	100	0	Peak
18		12310.00	34.50	-39.50	74.00	71.96	-10.52	9.47	36.41	100	0	Peak

Test Mode :	Mode 5	Temperature :	21~23°C
Test Channel :	11	Relative Humidity :	46~48%
Test Engineer :	Mac Lin and Elvis Chen	Polarization :	Vertical
Remark :	#9 and #10 are Fundamental Signals which can be ignored.		

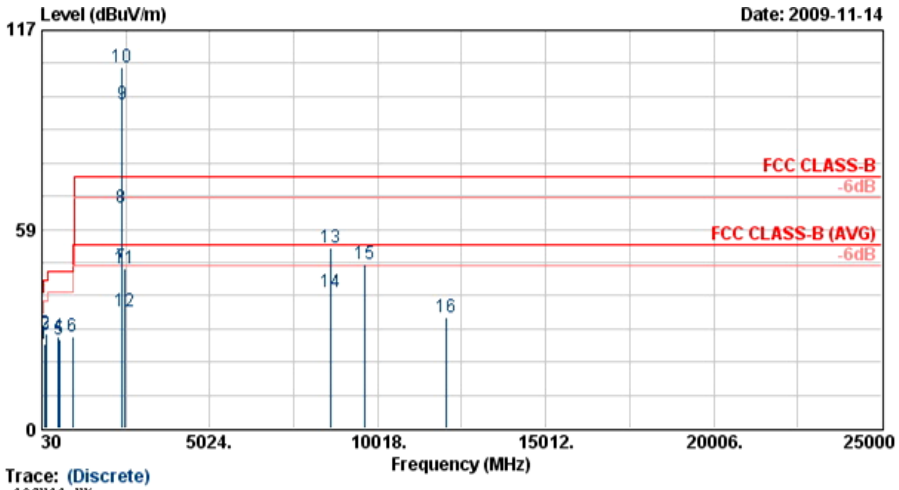


Trace: (Discrete)

Site : 03CH06-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN VERTICAL
Project : FR 903036

		Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1		37.29	33.26	-6.74	40.00	50.02	14.04	0.95	31.75	100	125	Peak
2		89.94	27.44	-16.06	43.50	49.15	8.93	1.49	32.13	---	---	Peak
3		156.09	27.07	-16.43	43.50	46.66	10.17	2.07	31.83	---	---	Peak
4		449.80	25.84	-20.16	46.00	37.56	16.57	3.75	32.04	---	---	Peak
5		537.30	25.43	-20.57	46.00	35.51	17.94	4.09	32.11	---	---	Peak
6		903.40	26.38	-19.62	46.00	31.83	20.74	5.47	31.66	---	---	Peak
7		2380.00	49.26	-24.74	74.00	49.58	31.83	3.92	36.08	100	320	Peak
8		2380.00	36.57	-17.43	54.00	36.89	31.83	3.92	36.08	100	320	Average
9	X	2462.00	104.13			104.25	31.95	4.02	36.09	100	320	Peak
10	X	2462.00	99.83			99.95	31.95	4.02	36.09	100	320	Average
11		2483.50	39.26	-14.74	54.00	39.33	31.98	4.05	36.10	100	320	Average
12		2483.50	51.60	-22.40	74.00	51.67	31.98	4.05	36.10	100	320	Peak
13		4924.00	51.19	-22.81	74.00	47.54	33.90	5.85	36.10	116	191	Peak
14		4924.00	44.04	-9.96	54.00	40.39	33.90	5.85	36.10	116	191	Average
15		7386.00	54.14	-19.86	74.00	47.75	35.62	7.23	36.45	100	242	Peak
16		7386.00	47.06	-6.94	54.00	40.66	35.62	7.23	36.45	100	242	Average
17		9848.00	52.01	-21.99	74.00	90.98	-9.90	8.04	37.10	100	0	Peak
18		12310.00	32.71	-41.29	74.00	70.17	-10.52	9.47	36.41	100	0	Peak

Test Mode :	Mode 6	Temperature :	21~23°C
Test Channel :	01	Relative Humidity :	46~48%
Test Engineer :	Mac Lin and Elvis Chen	Polarization :	Horizontal
Remark :	#9 and #10 are Fundamental Signals which can be ignored.		

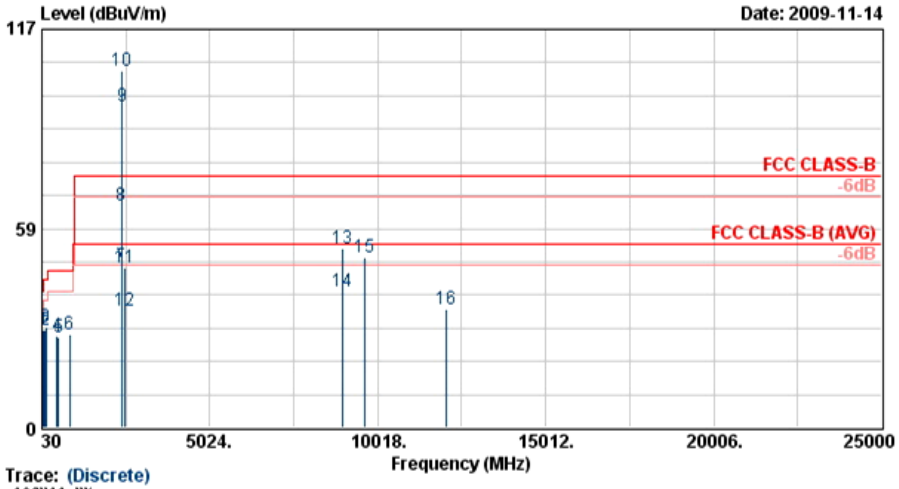


Trace: (Discrete)

Site : 03CH06-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN HORIZONTAL
Project : FR 903036

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	116.94	24.70	-18.80	43.50	43.29	11.43	1.75	31.77	---	---	Peak
2	141.78	27.64	-15.86	43.50	46.46	10.95	1.94	31.72	100	31	Peak
3	151.23	27.50	-16.00	43.50	46.91	10.28	2.02	31.71	---	---	Peak
4	519.80	26.99	-19.01	46.00	37.32	17.72	4.03	32.09	---	---	Peak
5	554.80	26.10	-19.90	46.00	35.91	18.15	4.16	32.13	---	---	Peak
6	936.30	26.79	-19.21	46.00	31.88	20.88	5.53	31.50	---	---	Peak
7	2389.99	47.26	-6.74	54.00	47.76	31.86	3.92	36.28	169	358	Average
8	2389.99	64.86	-9.14	74.00	65.36	31.86	3.92	36.28	169	358	Peak
9 @	2412.00	95.10			95.55	31.88	3.95	36.28	169	358	Average
10 X	2412.00	105.94			106.39	31.88	3.95	36.28	169	358	Peak
11	2486.00	46.85	-27.15	74.00	47.12	31.98	4.05	36.30	169	358	Peak
12	2486.00	34.56	-19.44	54.00	34.83	31.98	4.05	36.30	169	358	Average
13	8631.00	53.07	-20.93	74.00	46.66	35.81	7.36	36.75	100	36	Peak
14	8631.00	40.22	-13.78	54.00	33.81	35.81	7.36	36.75	100	36	Average
15	9648.00	48.33	-25.67	74.00	87.74	-10.29	7.94	37.06	100	0	Peak
16	12060.00	32.60	-41.40	74.00	70.47	-10.63	9.31	36.56	100	0	Peak

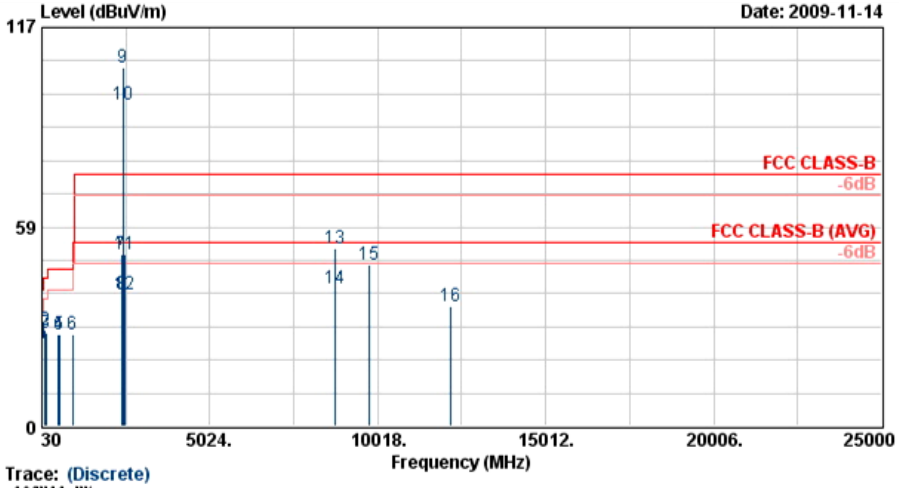
Test Mode :	Mode 6	Temperature :	21~23°C
Test Channel :	01	Relative Humidity :	46~48%
Test Engineer :	Mac Lin and Elvis Chen	Polarization :	Vertical
Remark :	#9 and #10 are Fundamental Signals which can be ignored.		



Site : 03CH06-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN VERTICAL
Project : FR 903036

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	89.13	28.70	-14.80	43.50	50.56	8.77	1.49	32.12	---	---	Peak
2	118.29	28.58	-14.92	43.50	47.11	11.46	1.75	31.75	---	---	Peak
3	152.04	29.37	-14.13	43.50	48.82	10.26	2.03	31.73	100	245	Peak
4	484.80	26.88	-19.12	46.00	37.84	17.20	3.90	32.06	---	---	Peak
5	519.80	26.49	-19.51	46.00	36.83	17.72	4.03	32.09	---	---	Peak
6	847.40	27.60	-18.40	46.00	34.31	20.38	5.30	32.39	---	---	Peak
7	2389.99	47.51	-6.49	54.00	48.01	31.86	3.92	36.28	100	329	Average
8	2389.99	65.46	-8.54	74.00	65.96	31.86	3.92	36.28	100	329	Peak
9 X	2412.00	94.26			94.71	31.88	3.95	36.28	100	329	Average
10 X	2412.00	104.75			105.18	31.90	3.95	36.29	100	329	Peak
11	2486.00	46.95	-27.05	74.00	47.22	31.98	4.05	36.30	100	329	Peak
12	2486.00	34.33	-19.67	54.00	34.60	31.98	4.05	36.30	100	329	Average
13	8976.00	52.47	-21.53	74.00	45.52	36.07	7.77	36.89	100	43	Peak
14	8976.00	40.11	-13.89	54.00	33.16	36.07	7.77	36.89	100	43	Average
15	9648.00	50.22	-23.78	74.00	89.60	-10.27	7.94	37.06	100	0	Peak
16	12060.00	34.79	-39.21	74.00	72.66	-10.63	9.31	36.56	100	0	Peak

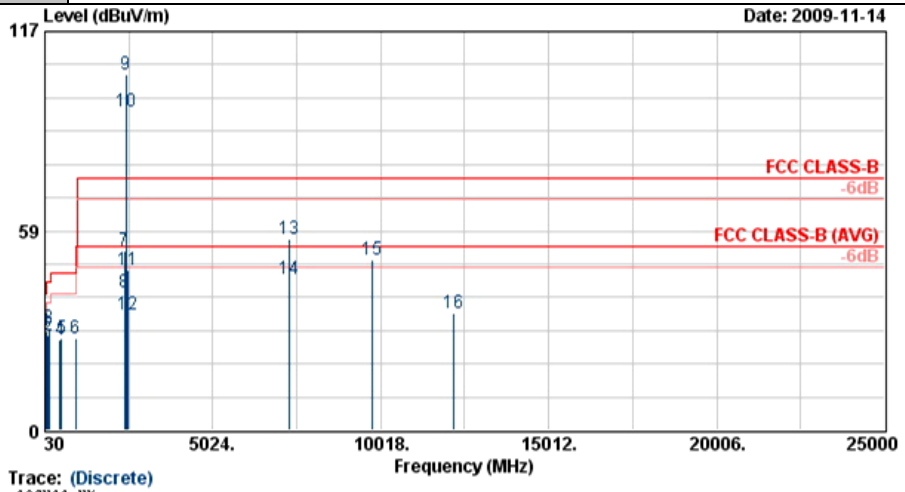
Test Mode :	Mode 7	Temperature :	21~23°C
Test Channel :	06	Relative Humidity :	46~48%
Test Engineer :	Mac Lin and Elvis Chen	Polarization :	Horizontal
Remark :	#9 and #10 are Fundamental Signals which can be ignored.		



Site : 03CH06-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN HORIZONTAL
Project : FR 903036

		Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1		116.94	24.36	-19.14	43.50	42.94	11.43	1.75	31.77	---	---	Peak
2		138.54	28.10	-15.40	43.50	46.76	11.15	1.92	31.73	100	257	Peak
3		156.09	27.40	-16.10	43.50	46.99	10.17	2.07	31.83	---	---	Peak
4		519.80	27.08	-18.92	46.00	37.42	17.72	4.03	32.09	---	---	Peak
5		554.80	26.93	-19.07	46.00	36.74	18.15	4.16	32.13	---	---	Peak
6		953.80	26.83	-19.17	46.00	31.68	20.95	5.57	31.38	---	---	Peak
7		2390.00	50.36	-23.64	74.00	50.87	31.86	3.92	36.28	106	5	Peak
8		2390.00	38.61	-15.39	54.00	39.11	31.86	3.92	36.28	106	5	Average
9	X	2437.00	105.38			105.77	31.90	3.99	36.29	106	5	Peak
10	@	2437.00	94.33			94.70	31.93	3.99	36.29	106	5	Average
11		2484.00	50.66	-23.34	74.00	50.93	31.98	4.05	36.30	106	5	Peak
12		2484.00	38.61	-15.39	54.00	38.88	31.98	4.05	36.30	106	5	Average
13		8736.00	52.24	-21.76	74.00	45.67	35.89	7.48	36.79	100	173	Peak
14		8736.00	40.33	-13.67	54.00	33.76	35.89	7.48	36.79	100	173	Average
15		9748.00	47.47	-26.53	74.00	86.60	-10.02	7.98	37.10	100	0	Peak
16		12185.00	35.12	-38.88	74.00	72.87	-10.66	9.39	36.48	100	0	Peak

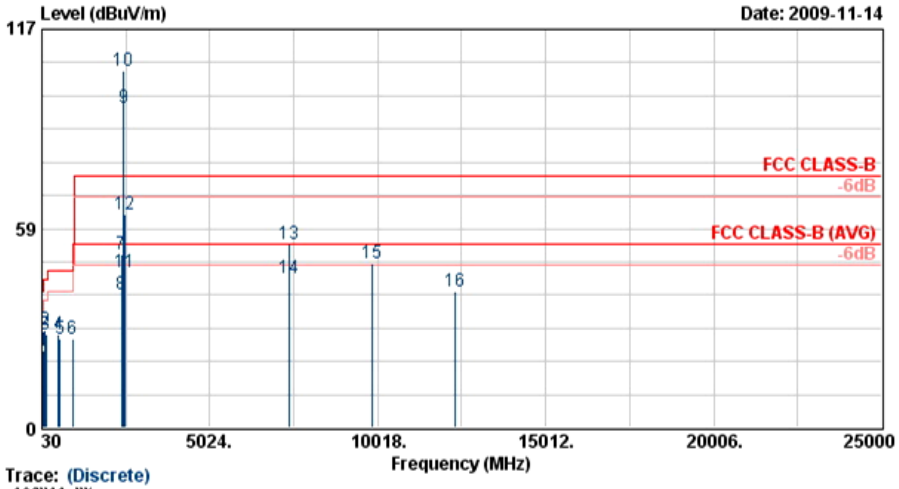
Test Mode :	Mode 7	Temperature :	21~23°C
Test Channel :	06	Relative Humidity :	46~48%
Test Engineer :	Mac Lin and Elvis Chen	Polarization :	Vertical
Remark :	#9 and #10 are Fundamental Signals which can be ignored.		



Site : 03CH06-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN VERTICAL
Project : FR 903036

		Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1		89.13	28.99	-14.51	43.50	50.85	8.77	1.49	32.12	---	---	Peak
2		119.64	28.05	-15.45	43.50	46.54	11.50	1.76	31.74	---	---	Peak
3		150.69	29.91	-13.59	43.50	49.28	10.30	2.01	31.68	100	295	Peak
4		484.80	26.44	-19.56	46.00	37.40	17.20	3.90	32.06	---	---	Peak
5		519.80	26.98	-19.02	46.00	37.31	17.72	4.03	32.09	---	---	Peak
6		948.90	26.77	-19.23	46.00	31.72	20.93	5.56	31.43	---	---	Peak
7		2390.00	52.50	-21.50	74.00	53.01	31.86	3.92	36.28	100	330	Peak
8		2390.00	40.46	-13.54	54.00	40.96	31.86	3.92	36.28	100	330	Average
9	X	2437.00	104.29			104.69	31.90	3.99	36.29	100	330	Peak
10	X	2437.00	93.36			93.73	31.93	3.99	36.29	100	330	Average
11		2484.00	46.94	-27.06	74.00	47.21	31.98	4.05	36.30	100	330	Peak
12		2484.00	34.01	-19.99	54.00	34.28	31.98	4.05	36.30	100	330	Average
13		7311.00	55.98	-18.02	74.00	49.66	35.64	7.20	36.52	119	251	Peak
14		7311.00	44.34	-9.66	54.00	38.02	35.64	7.20	36.52	119	251	Average
15		9748.00	50.03	-23.97	74.00	89.18	-10.04	7.98	37.10	100	0	Peak
16		12185.00	34.50	-39.50	74.00	72.27	-10.66	9.37	36.50	100	0	Peak

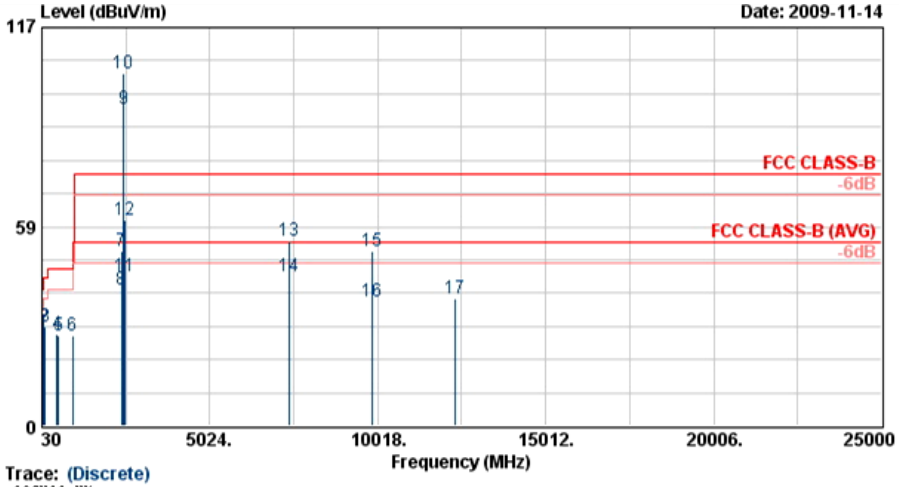
Test Mode :	Mode 8	Temperature :	21~23°C
Test Channel :	11	Relative Humidity :	46~48%
Test Engineer :	Mac Lin and Elvis Chen	Polarization :	Horizontal
Remark :	#9 and #10 are Fundamental Signals which can be ignored.		



Site : 03CH06-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN HORIZONTAL
Project : FR 903036

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	83.73	22.79	-17.21	40.00	45.55	7.84	1.46	32.05	---	---	Peak
2	138.54	28.74	-14.76	43.50	47.40	11.15	1.92	31.73	100	57	Peak
3	150.69	27.24	-16.26	43.50	46.61	10.30	2.01	31.68	---	---	Peak
4	519.80	27.38	-18.62	46.00	37.72	17.72	4.03	32.09	---	---	Peak
5	572.30	26.30	-19.70	46.00	35.81	18.37	4.27	32.15	---	---	Peak
6	948.90	26.26	-19.74	46.00	31.21	20.93	5.56	31.43	---	---	Peak
7	2390.00	51.10	-22.90	74.00	51.60	31.86	3.92	36.28	109	7	Peak
8	2390.00	39.15	-14.85	54.00	39.65	31.86	3.92	36.28	109	7	Average
9 @	2462.00	94.07			94.39	31.95	4.02	36.29	109	7	Average
10 X	2462.00	105.02			105.34	31.95	4.02	36.29	109	7	Peak
11	2483.50	45.50	-8.50	54.00	45.77	31.98	4.05	36.30	109	7	Average
12	2483.50	62.51	-11.49	74.00	62.78	31.98	4.05	36.30	109	7	Peak
13	7386.00	54.14	-19.86	74.00	47.84	35.62	7.23	36.55	100	24	Peak
14	7386.00	43.74	-10.26	54.00	37.44	35.62	7.23	36.55	100	24	Average
15	9848.00	48.47	-25.53	74.00	87.34	-9.77	8.04	37.14	100	0	Peak
16	12310.00	40.10	-33.90	74.00	77.75	-10.70	9.47	36.42	100	0	Peak

Test Mode :	Mode 8	Temperature :	21~23°C
Test Channel :	11	Relative Humidity :	46~48%
Test Engineer :	Mac Lin and Elvis Chen	Polarization :	Vertical
Remark :	#9 and #10 are Fundamental Signals which can be ignored.		



Site : 03CH06-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN VERTICAL
Project : FR 903036

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	83.73	27.25	-12.75	40.00	50.01	7.84	1.46	32.05	100	112	Peak
2	89.13	28.92	-14.58	43.50	50.78	8.77	1.49	32.12	---	---	Peak
3	124.23	29.03	-14.47	43.50	47.12	11.83	1.79	31.71	---	---	Peak
4	484.80	26.81	-19.19	46.00	37.77	17.20	3.90	32.06	---	---	Peak
5	519.80	26.59	-19.41	46.00	36.93	17.72	4.03	32.09	---	---	Peak
6	952.40	26.75	-19.25	46.00	31.62	20.94	5.57	31.39	---	---	Peak
7	2388.00	51.49	-22.51	74.00	51.99	31.86	3.92	36.28	100	329	Peak
8	2388.00	39.81	-14.19	54.00	40.31	31.86	3.92	36.28	100	329	Average
9 X	2462.00	92.92			93.24	31.95	4.02	36.29	100	329	Average
10 X	2462.00	103.66			103.98	31.95	4.02	36.29	100	329	Peak
11	2483.50	43.81	-10.19	54.00	44.08	31.98	4.05	36.30	100	329	Average
12	2483.50	60.64	-13.36	74.00	60.91	31.98	4.05	36.30	100	329	Peak
13	7386.00	54.24	-19.76	74.00	47.95	35.62	7.23	36.55	100	243	Peak
14	7386.00	43.89	-10.11	54.00	37.59	35.62	7.23	36.55	100	243	Average
15	9848.00	51.19	-22.81	74.00	90.09	-9.79	8.03	37.14	100	60	Peak
16	9848.00	36.49	-17.51	54.00	75.36	-9.77	8.04	37.14	100	60	Average
17	12310.00	37.55	-36.45	74.00	75.17	-10.70	9.49	36.41	100	0	Peak

3.8 Antenna Requirements

3.8.1 Standard Applicable

If directional gain of transmitting antennas is greater than 6dBi, the power shall be reduced by the same level in dB comparing to gain minus 6dBi. For the fixed point-to-point operation, the power shall be reduced by one dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi. 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 FCC rule.

3.8.2 Antenna Connected Construction

The antennas type used in this product is PIFA Antenna without connector and it is considered to meet antenna requirement.

3.8.3 Antenna Gain

The antenna peak gain of EUT is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit.

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Due Date	Remark
Spectrum Analyzer	R&S	FSP40	100055	9kHz~40GHz	Jun. 23, 2009	Jun. 22, 2010	Conducted (TH02-HY)
Power Meter	Anritsu	ML2495A	0932001	N/A	Sep. 17, 2009	Sep. 16, 2010	Conducted (TH02-HY)
Power Sensor	Anritsu	MA2411B	0846202	N/A	Sep. 10, 2009	Sep. 09, 2010	Conducted (TH02-HY)
EMI Test Receive	R&S	ESCS 30	100356	9KHz – 2.75GHz	Aug. 05, 2009	Aug. 04, 2010	Conduction (CO05-HY)
Two-LISN	R&S	ENV216	11-100081	9kHz~30MHz	Nov. 30, 2009	Nov. 29, 2010	Conduction (CO05-HY)
Two-LISN	R&S	ENV216	11-100080	9kHz~30MHz	Nov. 23, 2009	Nov. 22, 2010	Conduction (CO05-HY)
AC Power Source	APC	APC-1000W	N/A	N/A	N/A	N/A	Conduction (CO05-HY)
Spectrum Analyzer	Agilent	E4408B	MY44211030	9KHz-26.5GHz	Oct. 23, 2009	Oct. 22, 2010	Radiation (03CH06-HY)
Spectrum Analyzer	R&S	FSP40	100057	9KHz-40GHz	Oct. 20, 2009	Oct. 19, 2010	Radiation (03CH06-HY)
EMI Test Receiver	R&S	ESVS10	834468/003	20MHz-1000MHz	Apr. 28, 2009	Apr. 27, 2010	Radiation (03CH06-HY)
Bilog Antenna	SCHAFFNER	CBL6112B	2885	30MHz -2GHz	Oct. 31, 2009	Oct. 30, 2010	Radiation (03CH06-HY)
Double Ridge Horn Antenna	EMCO	3117	00066583	1GHz~18GHz	Aug. 20, 2009	Aug. 19, 2010	Radiation (03CH06-HY)
Double Ridge Horn Antenna	Training Research	AH-0801	95119	8GHz~18GHz	Nov. 02, 2009	Nov. 01, 2010	Radiation (03CH06-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	15GHz- 40GHz	Oct. 14, 2009	Oct. 13, 2010	Radiation (03CH06-HY)
Pre Amplifier	Agilent	8449B	3008A01917	1GHz- 26.5GHz	Nov. 11, 2009	Nov. 10, 2010	Radiation (03CH06-HY)
Amplifier	Agilent	310N	186713	9KHz~1GHz	Apr. 20, 2009	Apr. 19, 2010	Radiation (03CH06-HY)
Loop Antenna	R&S	HFH2-Z2	860004/001	9KHz~30MHz	May 22, 2008	May 21, 2010	Radiation (03CH06-HY)
System Simulator	R&S	CMU200	116456	N/A	Jun. 05, 2008	Jun. 04, 2010	-

5 Uncertainty of Evaluation

Uncertainty of Conducted Emission Measurement (150 kHz ~ 30 MHz)

Contribution	Uncertainty of X_i		$u(X_i)$
	dB	Probability Distribution	
Receiver Reading	0.10	Normal (k=2)	0.05
Cable Loss	0.10	Normal (k=2)	0.05
AMN Insertion Loss	2.50	Rectangular	0.63
Receiver Specification	1.50	Rectangular	0.43
Site Imperfection	1.39	Rectangular	0.80
Mismatch	+0.34 / -0.35	U-Shape	0.24
Combined Standard Uncertainty Uc(y)	**1.13**		
Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.26**		

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Contribution	Uncertainty of X_i		$u(X_i)$
	dB	Probability Distribution	
Receiver Reading	0.41	Normal (k=2)	0.21
Antenna Factor Calibration	0.83	Normal (k=2)	0.42
Cable Loss Calibration	0.25	Normal (k=2)	0.13
Pre-Amplifier Gain Calibration	0.27	Normal (k=2)	0.14
RCV/SPA Specification	2.50	Rectangular	0.72
Antenna Factor Interpolation for Frequency	1.00	Rectangular	0.29
Site Imperfection	1.43	Rectangular	0.83
Mismatch	+0.39 / -0.41	U-Shape	0.28
Combined Standard Uncertainty Uc(y)	**1.27**		
Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.54**		

Uncertainty of Radiated Emission Measurement (1 GHz ~ 40 GHz)

Contribution	Uncertainty of X_i		$u(X_i)$	C_i	$C_i * u(X_i)$
	dB	Probability Distribution			
Receiver Reading	±0.10	Normal (k=2)	0.10	1	0.10
Antenna Factor Calibration	±1.70	Normal (k=2)	0.85	1	0.85
Cable Loss Calibration	±0.50	Normal (k=2)	0.25	1	0.25
Receiver Correction	±2.00	Rectangular	1.15	1	1.15
Antenna Factor Directional	±1.50	Rectangular	0.87	1	0.87
Site Imperfection	±2.80	Triangular	1.14	1	1.14
Mismatch Receiver VSWR Γ1 = 0.197 Antenna VSWR Γ2 = 0.194 Uncertainty = 20Log(1-Γ1*Γ2)	+0.34 / -0.35	U-Shape	0.244	1	0.244
Combined Standard Uncertainty Uc(y)	**2.36**				
Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.72**				

6 Certification of TAF Accreditation

Certificate No. : L1190-090417

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 Accreditation Program for BSMI Mutual Recognition Arrangment with Foreign Authorities

Jay-San Chen
President, Taiwan Accreditation Foundation
Date : April 17, 2009

P1, total 20 pages

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

Appendix A. Photographs of EUT

Please refer to Sporton report number EP9O3036-01 as below.