

FCC TEST REPORT

for

47 CFR Part 15 Subpart C

Equipment : ST585v6 HP

Model No. : DSLBB883 TP

FCC ID : RSE-ST585V6HP

Applicant : **Thomson Telecom Belgium**

- The test result refers exclusively to the test presented test model / sample.
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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

Report No.	Issue Date	Description
FR552534-02	Nov. 30, 2006	Original report.

CERTIFICATE OF COMPLIANCE

for

47 CFR Part 15 Subpart C

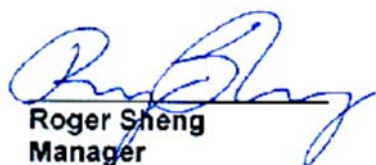
Equipment : ST585v6 HP

Model No. : DSLBB883 TP

Applicant : **Thomson Telecom Belgium**

I HEREBY CERTIFY THAT:

The measurements shown in this test report were made in accordance with the procedures given in **ANSI C63.4 - 2003** and the equipment under test complied with all test items required in 47 CFR Part 15 subpart C, relative to the equipment under test. Testing was carried out on Nov. 24, 2006 at **SPORTON International Inc. LAB.**



Roger Sheng
Manager

SPORTON International Inc.

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

1. General Description of Equipment under Test

1.1. Applicant

Thomson Telecom Belgium
Prins Boudewijnlaan 47
B-2650 Edegem
Belgium

1.2. Manufacturer

Same 1.1

1.3. Basic Description of Equipment under Test

Hardware Version : PEM 2
Extreme temperature : -20°C to +50°C

Equipment	Model number	PWR	ADSL ADSL2+	Ethernet	WLAN
ST585v6 HP	DSLBB883 TP	1	1	4	1

Information of the switched power supply unit:

Trade Name	Product Number	Input Rating	Output Rating	Type	Company Info
FRIWO	FW7346/24	110 Vac	24 Vdc / 750 mA	Switched / Wall mount	FRIWO Gerätebau GmbH / FRIWO Mobile Power GmbH P.O. Box 1164 Von-Liebig-Straße 11 D-48346 Ostbevern

Equipment Under Test:

The EUT is the combination of the modem and the power supply unit.

1.4. Radio Interface of the EUT

The table below shows the radio information of the EUT:

Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
Radio Technology	DSSS, OFDM
Transfer Rate	IEEE 802.11b: 11/5.5/2/1Mbps IEEE 802.11g: 54/48/36/24/18/12/9/6Mbps
Frequency Range	2400MHz ~ 2483.5MHz
Number of Channel	11

List of the carrier frequency is shown as below:

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

1.5. Features of Equipment under Test

Please refer to user manual.

2. Test Configuration of Equipment under Test

2.1. Test Manner

- a. The EUT has been associated with personal computer and peripherals pursuant to ANSI C63.4-2003 and the configuration operated in a manner which tended to maximize its emission characteristics in a typical application.
- b. The EUT can operate on 11 channels listed in section 1.4. Three channels (CH01, CH06 and CH11) in both DSSS and OFDM radio technologies were set for the measurements.
- c. The data rate of DSSS was set to 11Mbps.
- d. The data rate of OFDM was set to 54Mbps.
- e. Frequency range investigated: Conducted emission: 150 KHz to 30 MHz, Radiated emission: 30 MHz to 25000 MHz

2.2. Description of Test System

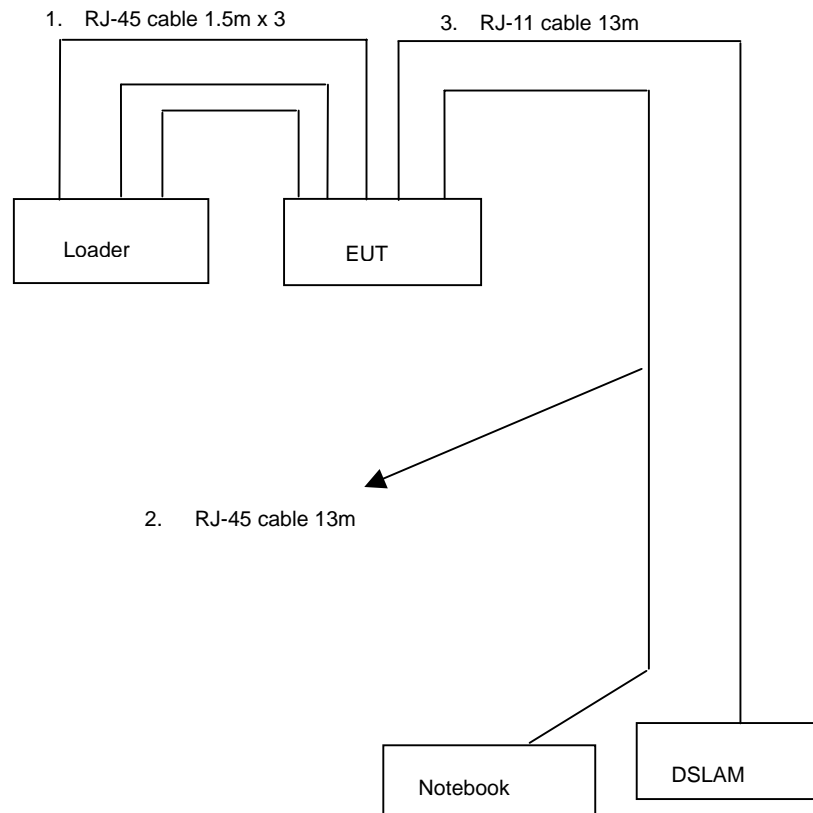
Support Unit 1. -- Notebook – for remote workstation

FCC ID	: N/A
Power Supply Type	: Switching
Power Cord	: Non-Shielded
Remark	: This support device was tested to comply with FCC standards and authorized under a declaration of conformity.

Support Unit 2. –ADSL DSLAM (ALCATEL) – for remote workstation

FCC ID	: N/A
Model No.	: 7300UD

2.3. Connection Diagram of Test System



1. One RJ-45 cable was connected between the EUT and the Notebook.
2. The RJ-11 cable was connected between the EUT and the ADSL DSLAM.

The Notebook is used to control the EUT to stay on the specific operational modes of the radio interface:

- (1) Continuous transmitting mode,
- (2) Continuous receiving mode,
- (3) Normal operation mode.

The operational modes are achieved by the software pre-installed in the EUT.

3. General Information of Test

Test Site Location : No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park,
Kwei-Shan Hsiag, Tao Yuan Hsien, Taiwan, R.O.C.
TEL : 886-3-327-3456
FAX : 886-3-318-0055

Test Site No : CO04-HY, 03CH03-HY, TH01-HY

3.1. Test Voltage

120Vac / 60Hz

3.2. Standard for Methods of Measurement

ANSI C63.4-2003 for conducted power line test and radiated emission test.

3.3. Test in Compliance with

47 CFR Part 15 Subpart C

3.4. Frequency Range Investigated

- a. Conduction: from 150 kHz to 30 MHz
- b. Radiation: from 30 MHz to 25000 MHz

4. Report of Measurements and Examinations

4.1. List of Measurements and Examinations

Applied Standard: 47CFR FCC Part 15 Subpart C			
4.2	15.247(a)(2)	6dB Spectrum Bandwidth	Pass
4.3	15.247(b)(3)	Maximum Peak Conducted Output Power	Pass
4.4	15.247(e)	Peak Power Spectral Density	Pass
4.5	15.247(d)	Band Edges Emission	Pass
4.6	15.207	AC Power Line Conducted Emission	Pass
4.7	15.247(d)	Spurious Radiated Emission	Pass
4.8	15.203/15.247(b)/(c)	Antenna Requirement	Pass
4.9	2.1091	Maximum Permissible Exposure	Pass

4.2. 6dB Bandwidth

4.2.1. Applicable Standard

Section 15.247(a)(2): For digital modulation systems, the minimum 6dB bandwidth shall be at least 500kHz.

4.2.2. Instrument for the measurement

Please refer to section 5.

4.2.3. Detailed settings of the instrument

- Spectrum Analyzer : R&S FSP30
- Attenuation : Auto
- Center Frequency : 2412MHz / 2437MHz / 2462MHz
- Span Frequency : > 6dB Bandwidth
- RB : 100kHz
- VB : 100kHz
- Detector : Peak
- Trace : Max Hold
- Sweep Time : Auto

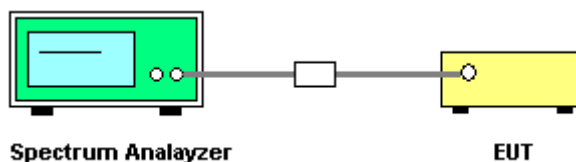
4.2.4. Test Procedure

The radio output port of the EUT was connected to the spectrum analyzer through an attenuator.

The radio interface of the EUT was set to continuous transmitting mode.

The 6dB bandwidth is the spectrum with level higher than 6dB below the peak level.

4.2.5. Test Setup



4.2.6. Test Criteria

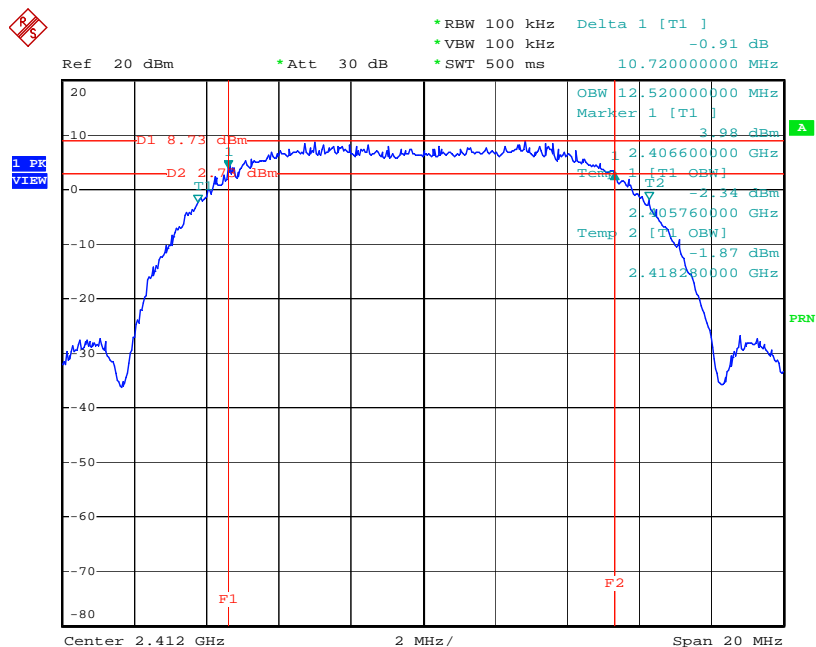
All test results complied with the requirements of 15.247(a)(2). Measurement Uncertainty is 1×10^{-5} .

4.2.7. Test Result

- Temperature: 26.8℃
- Relative Humidity: 54%
- Test Engineer: Eason Lu

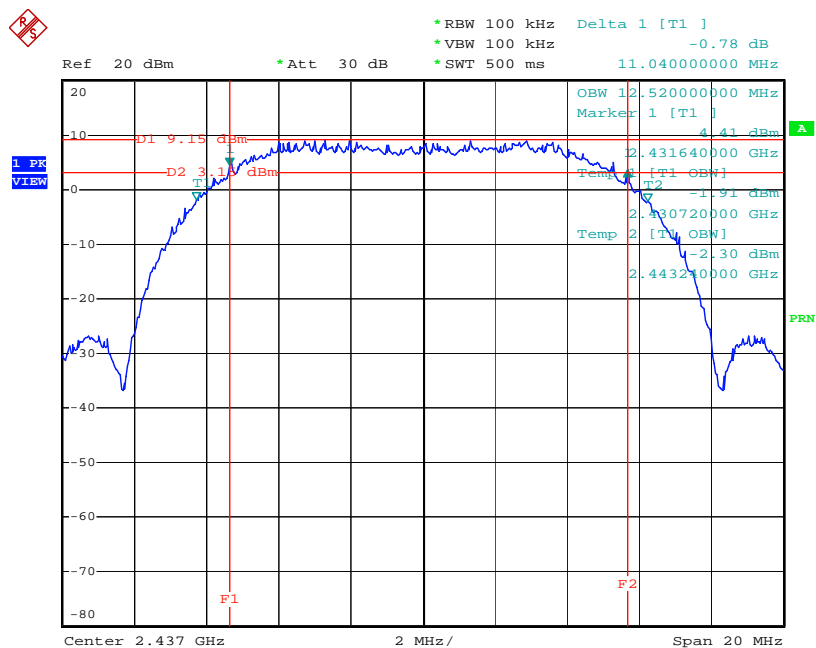
Modulation Type	Channel No.	Frequency (MHz)	6dB Bandwidth (MHz)	Min. Limit (MHz)
DSSS	01	2412 MHz	10.72	0.5
DSSS	06	2437 MHz	11.04	0.5
DSSS	11	2462 MHz	10.68	0.5
OFDM	01	2412 MHz	15.52	0.5
OFDM	06	2437 MHz	15.48	0.5
OFDM	11	2462 MHz	15.44	0.5

Modulation Type: DSSS (Channel 01) :



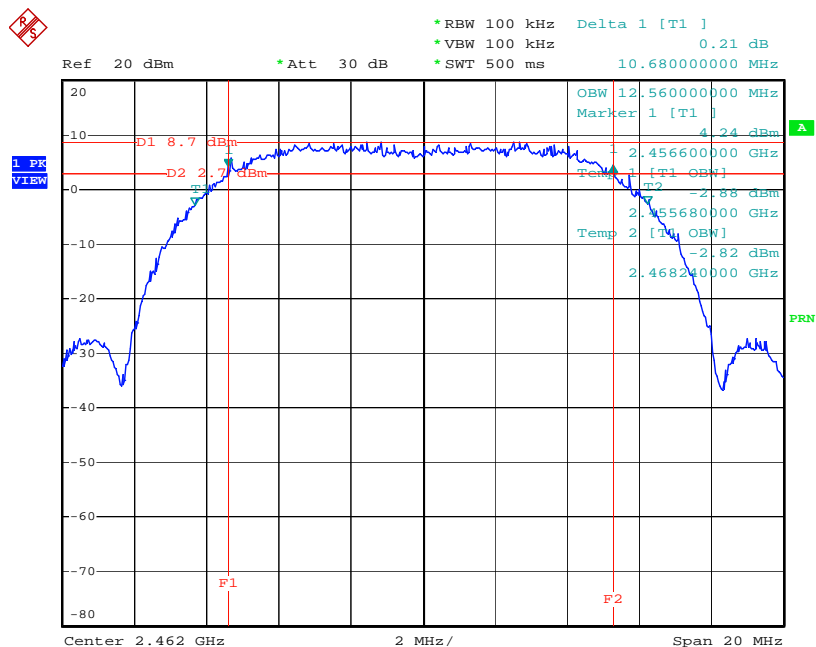
Date: 21.NOV.2006 22:20:11

Modulation Type: DSSS (Channel 06) :

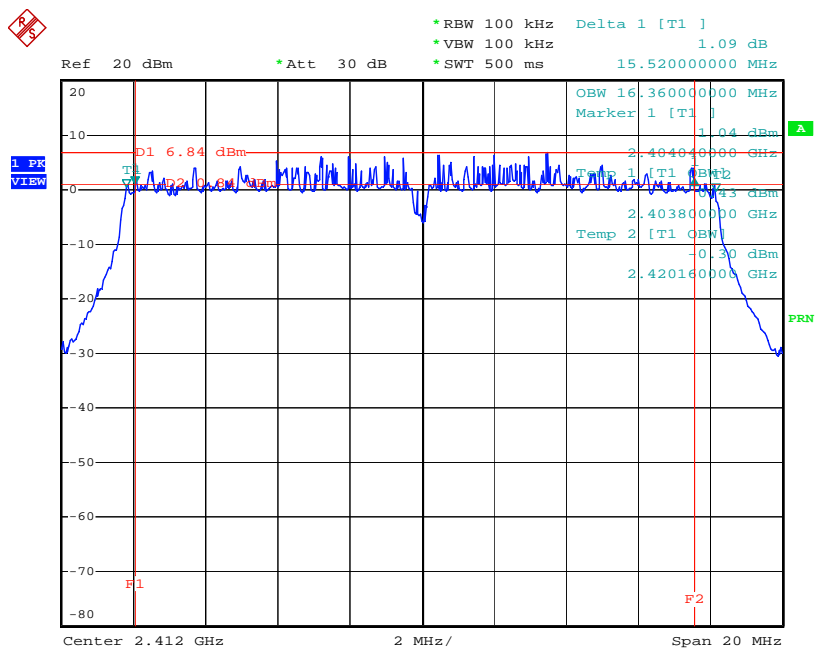


Date: 21.NOV.2006 22:22:08

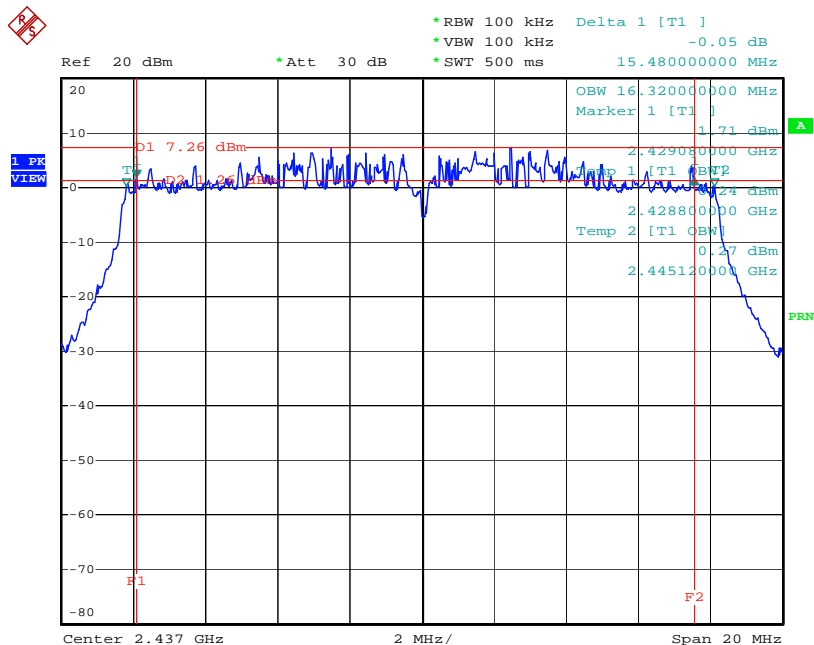
Modulation Type: DSSS (Channel 11) :



Modulation Type: OFDM (Channel 01) :

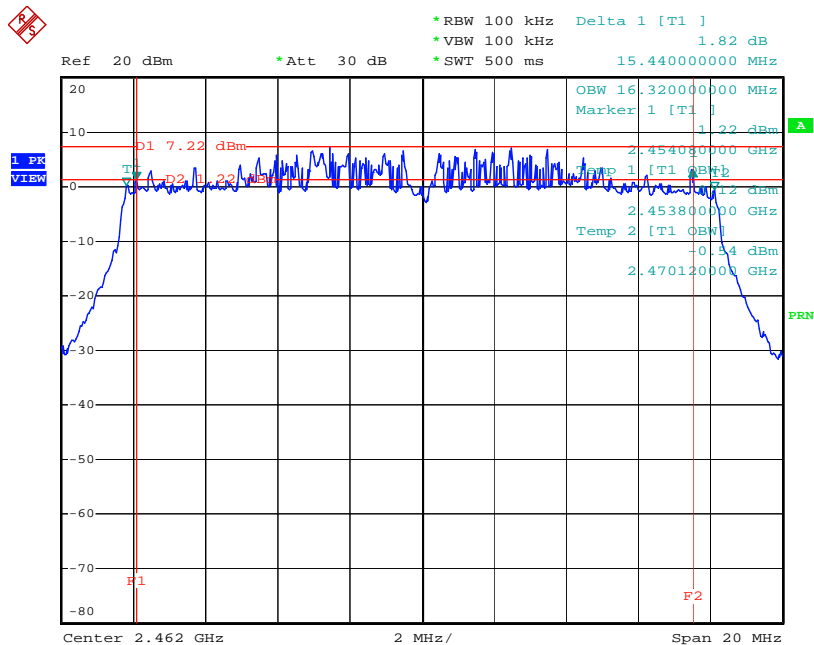


Modulation Type: OFDM (Channel 06) :



Date: 21.NOV.2006 21:55:19

Modulation Type: OFDM (Channel 11) :



Date: 21.NOV.2006 21:47:02

4.3. Maximum Peak Conducted Output Power

4.3.1. Applicable Standard

Section 15.247(b)(3): The maximum peak output power shall not exceed 1 watt (30dBm). Except as shown below, if transmitting antennas of directional gain greater than 6dBi are used the peak output power from the intentional radiator shall be reduced below the above stated values by the amount in dB that the directional gain of the antenna exceeds 6dBi.

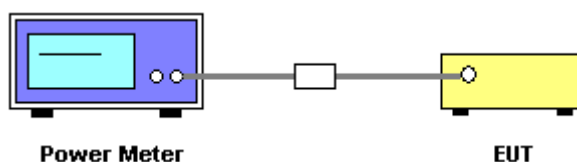
4.3.2. Instruments for the measurement

Please refer to section 5.

4.3.3. Test Procedure

The radio output port of the EUT was connected to the peak power meter through an attenuator.

4.3.4. Test Setup



4.3.5. Test Criteria

All test results complied with the requirements of 15.247(b)(3). Measurement Uncertainty is 1.5dB.

4.3.6. Test Result of Conducted Power

- Temperature: 26.8°C
- Relative Humidity: 54%
- Test Engineer: Eason Lu

Modulation Type	Channel No.	Frequency (MHz)	Output Power (dBm)	Limits (dBm)
DSSS	01	2412 MHz	20.31	30
DSSS	06	2437 MHz	20.80	30
DSSS	11	2462 MHz	20.97	30
OFDM	01	2412 MHz	21.88	30
OFDM	06	2437 MHz	21.85	30
OFDM	11	2462 MHz	21.32	30

4.4. Peak Power Spectral Density

4.4.1. Applicable Standard

Section 15.247(e): For digital modulation systems, the peak power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3kHz band during any time interval of continuous transmission.

4.4.2. Instrument of the measurement

Please refer to section 5.

4.4.3. Detailed settings of the instrument

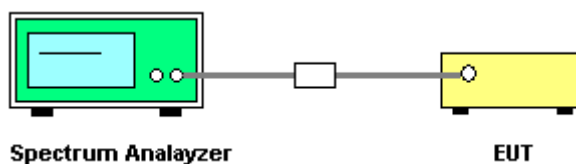
- Spectrum Analyzer : R&S FSP30
- Attenuation : Auto
- Center Frequency : 2412MHz / 2437MHz / 2462MHz
- Span Frequency : 1.5MHz
- RB : 3kHz
- VB : 30kHz
- Detector : Peak
- Trace : Max Hold
- Sweep Time : 500s

4.4.4. Test Procedure

The radio output port of the EUT was connected to the spectrum analyzer through an attenuator.

The radio interface of the EUT was set to continuous transmitting mode.

4.4.5. Test Setup



4.4.6. Test Criteria

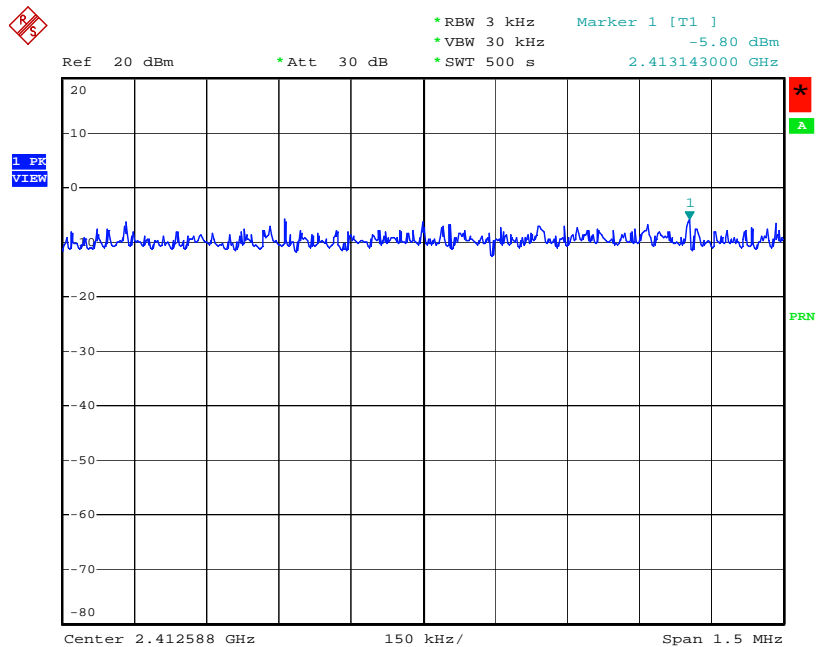
All test results complied with the requirements of 15.247(e). Measurement Uncertainty is 1.5dB.

4.4.7. Test Result

- Temperature: 26.8℃
- Relative Humidity: 54%
- Test Engineer: Eason Lu

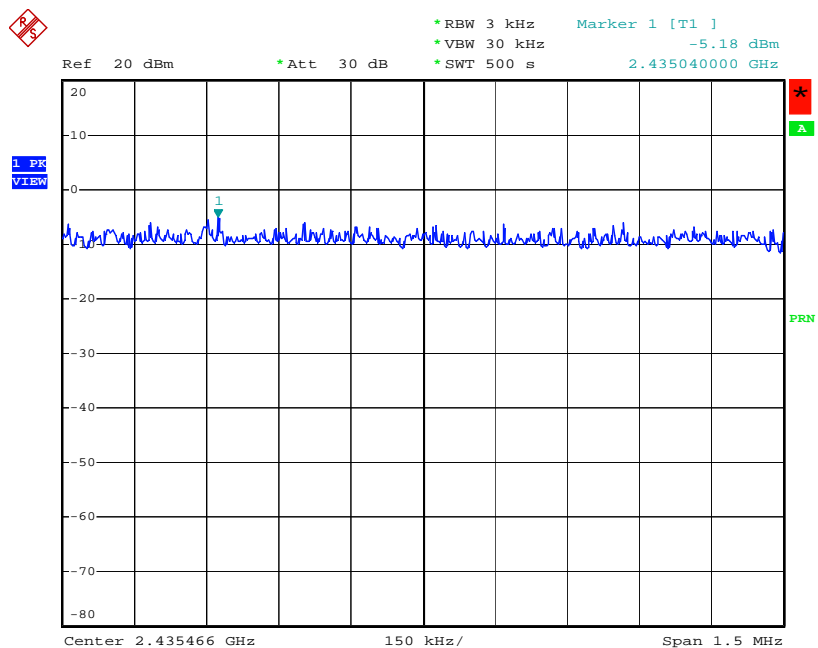
Modulation Type	Channel No.	Frequency (MHz)	Power Density (dBm)	Limits (dBm)
DSSS	01	2412 MHz	-5.80	8
DSSS	06	2437 MHz	-5.18	8
DSSS	11	2462 MHz	-6.04	8
OFDM	01	2412 MHz	-8.45	8
OFDM	06	2437 MHz	-8.60	8
OFDM	11	2462 MHz	-7.75	8

Modulation Type: DSSS (Channel 01) :



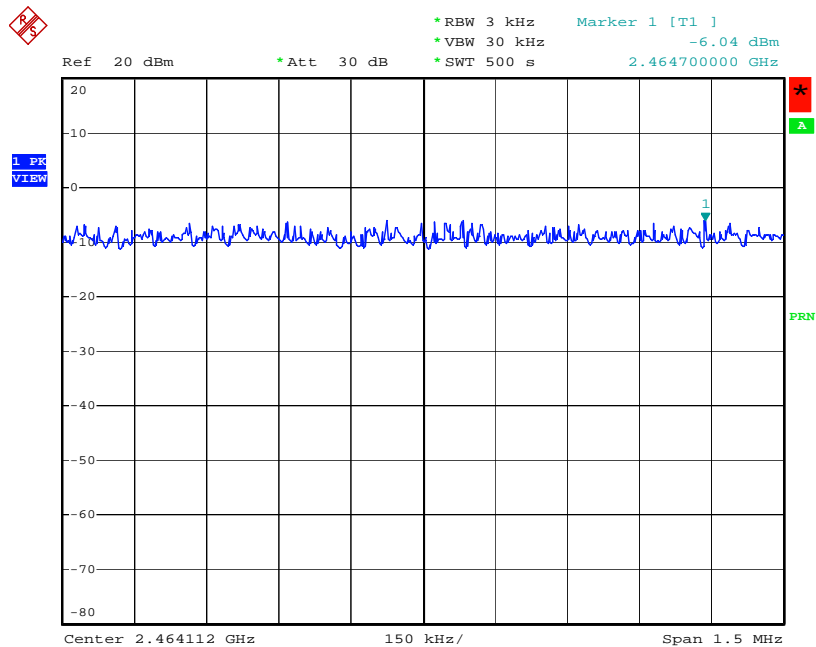
Date: 21.NOV.2006 22:16:51

Modulation Type: DSSS (Channel 06) :



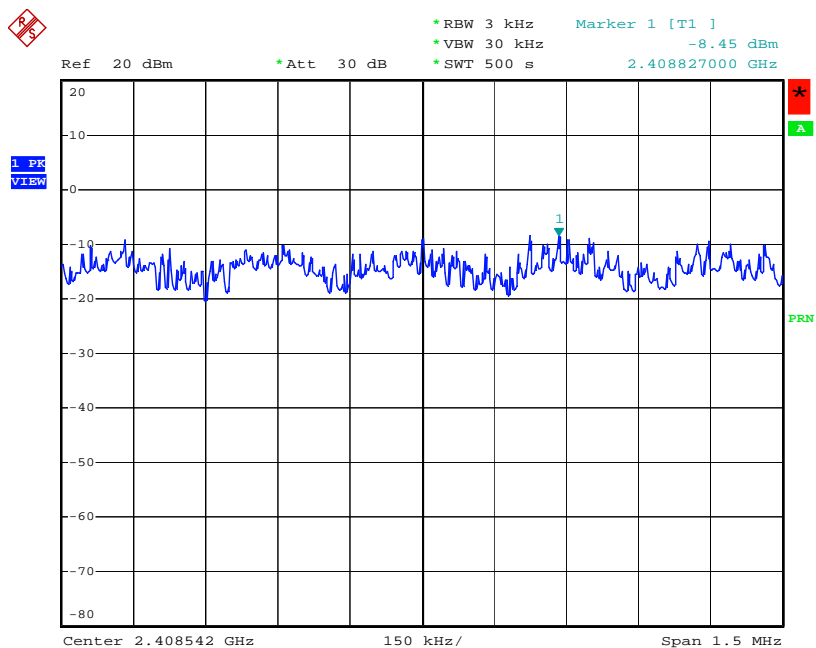
Date: 21.NOV.2006 22:24:08

Modulation Type: DSSS (Channel 11) :



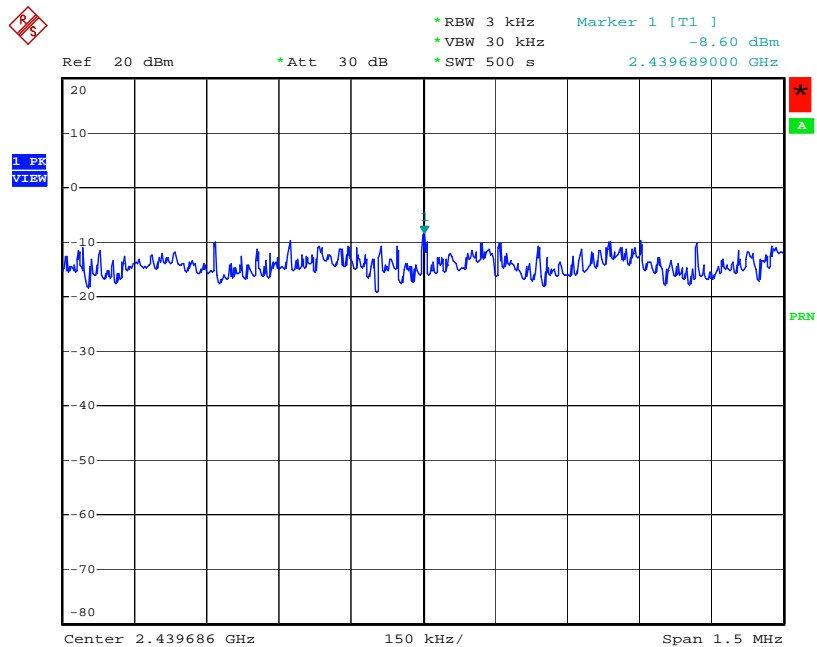
Date: 21.NOV.2006 22:27:01

Modulation Type: OFDM (Channel 01) :



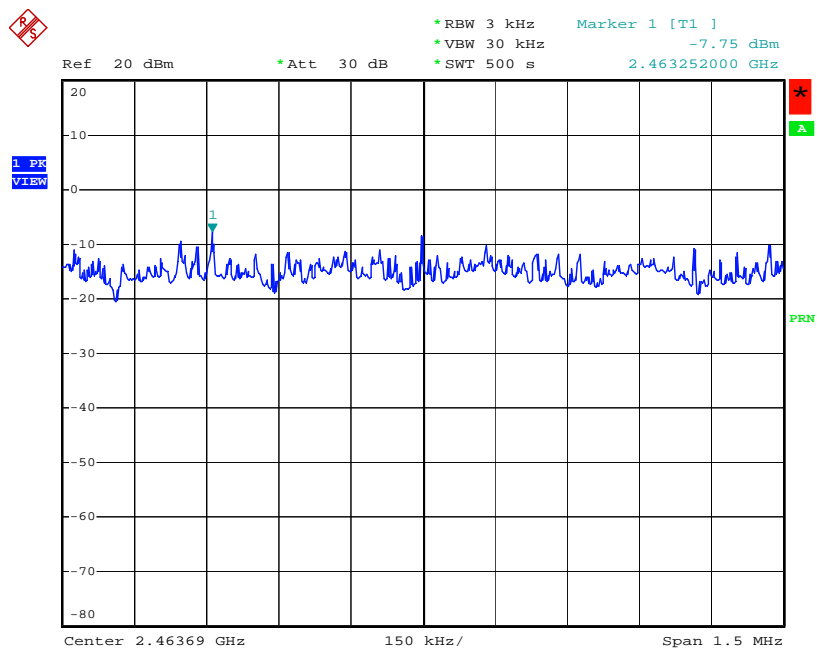
Date: 21.NOV.2006 22:01:20

Modulation Type: OFDM (Channel 06) :



Date: 21.NOV.2006 21:53:24

Modulation Type: OFDM (Channel 11) :



Date: 21.NOV.2006 21:49:44

4.5. Band Edges Emission

4.5.1. Applicable Standard

Section 15.247(d): In any 100kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. In addition, radiated emissions that fall in the restricted bands, as defined in Section 15.205, must also comply with the radiated emission limits specified in Section 15.209.

4.5.2. Instruments for the measurement

Radiated measurement: Please refer to section 5.

Conducted measurement: Please refer to section 5.

4.5.3. Detailed settings of the instruments

- Spectrum Analyzer : R&S FSP30 (Conducted Measurement)
 - Attenuation : Auto
 - Center Frequency : 2412MHz / 2462MHz
 - Span Frequency : 100MHz
 - RB : 100kHz
 - VB : 100kHz
 - Detector : Peak
 - Trace : Max Hold
 - Sweep Time : Auto

- Spectrum Analyzer : R&S FSP40 (Radiated Measurement)
 - Attenuation : Auto
 - Center Frequency : 2412MHz / 2462MHz
 - Span Frequency : 100MHz
 - RB : 1MHz for PK value / 1MHz for AV value
 - VB : 1MHz for PK value / 10Hz for AV value
 - Detector : Peak
 - Trace : Max Hold
 - Sweep Time : Auto

4.5.4. Test Procedure

Only channel 01 and channel 11 were investigated.

Radiated Measurement

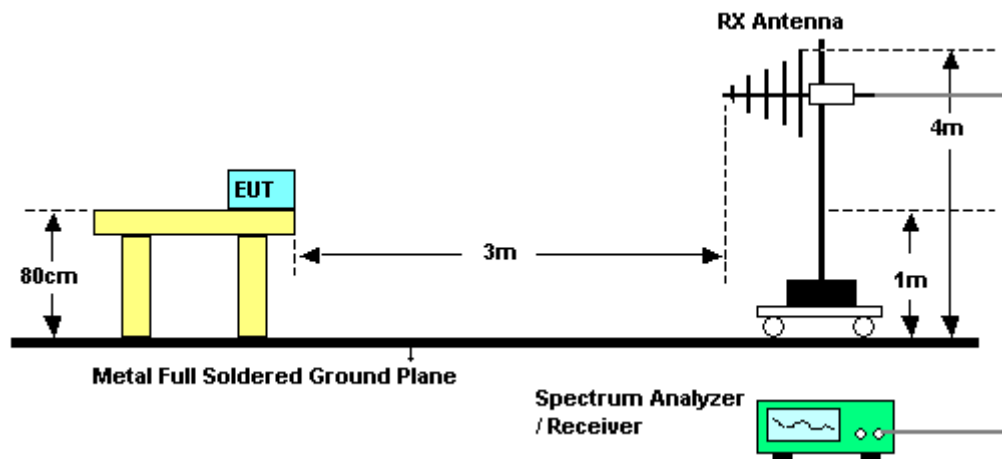
- The EUT was placed on a table 0.8 meter above the ground reference plane which is constituted by a turn table.
- The EUT was set 3 meters from the interference-receiving antenna which was mounted on the top of a variable height antenna tower.
- The table was rotated 360 degrees to determine the position of the highest radiation.
- The height of the horn antenna is varied between one meter and four meters above ground to find the maximum value of the field strength.
- For each suspected emission, the EUT was arranged to its worst case and then tune the antenna tower (from 1M to 4M) and turn table (from 0 degree to 360 degrees) to find the maximum reading.

Conducted Measurement

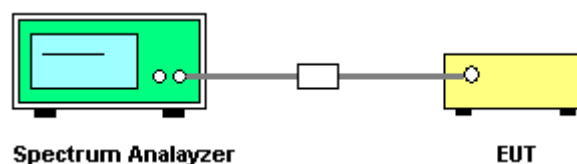
The radio output port of the EUT was connected to the spectrum analyzer through an attenuator. The radio interface of the EUT was set to continuous transmitting mode.

4.5.5. Test Setup

Radiated Method



Conducted Method

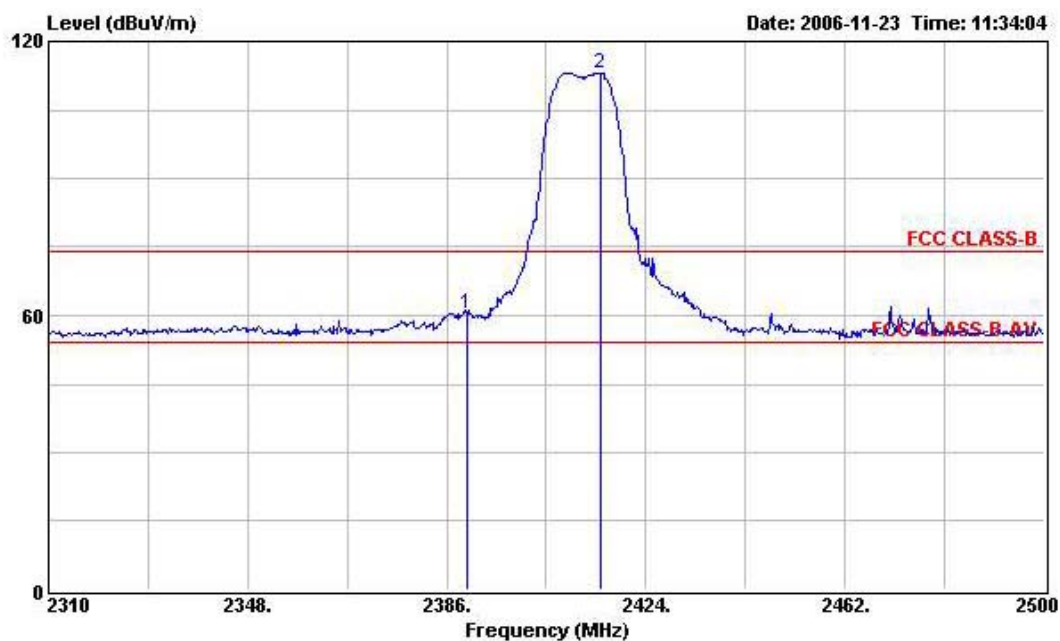


4.5.6. Test Criteria

All test results complied with the requirements of 15.247(d). Measurement Uncertainty is 1×10^{-5} .

4.5.7. Results of Radiated Emission Test

- Temperature: 26.8°C
- Relative Humidity: 54%
- Modulation Type: DSSS
- Tested Channel: CH01
- Test Engineer: Vic Hsiao

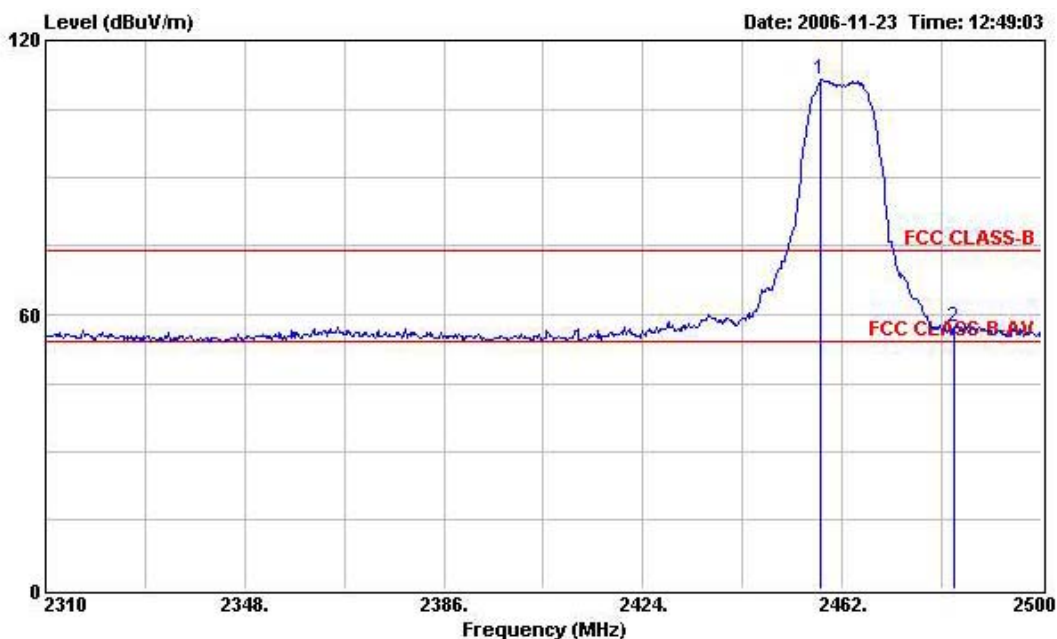


Site : 03CH02-HY
 Condition : FCC CLASS-B 3m HORN-6903-04-09 VERTICAL

POWER :
 MEMO : ST585v6 HP
 MEMO : TX CH01 2412MHz 11b

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamplifier Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	2390.000	60.49	-13.51	74.00	30.18	28.21	2.10	0.00	Peak	---	---
2 X	2415.260	113.18			82.81	28.26	2.11	0.00	Peak	---	---
1	2390.000	45.50	-8.50	54.00	15.19	28.21	2.10	0.00	Average	---	---
2 X	2414.690	103.50			73.14	28.26	2.10	0.00	Average	---	---

- Temperature: 26.8°C
- Relative Humidity: 54%
- Modulation Type: DSSS
- Tested Channel: CH11
- Test Engineer: Vic Hsiao



Site : 03CH02-HY
 Condition : FCC CLASS-B 3m HORN-6903-04-09 VERTICAL

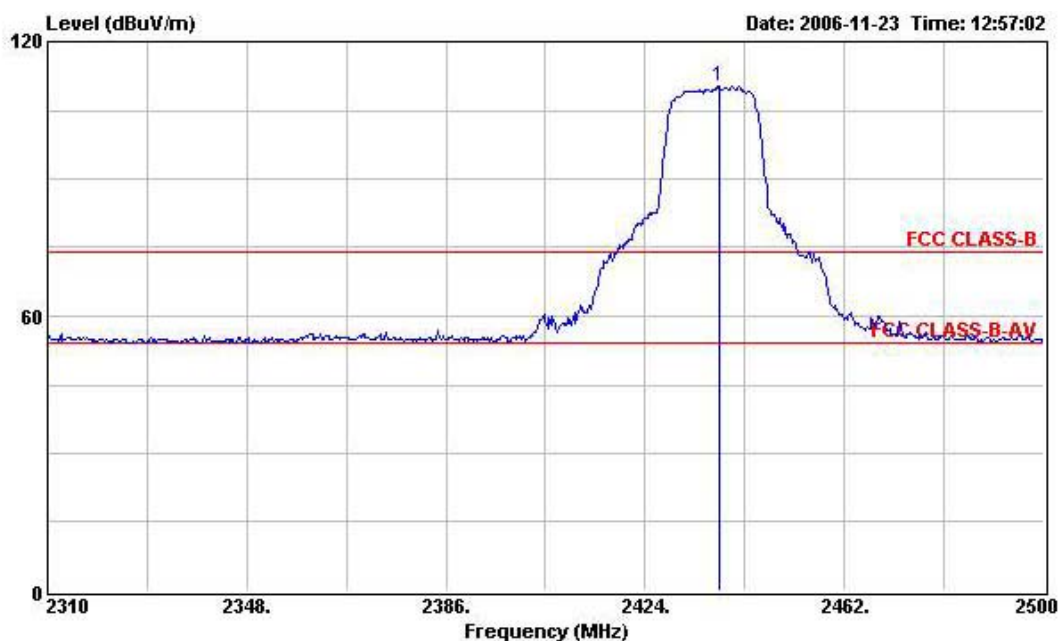
POWER :
 MEMO : ST585v6 HP
 MEMO : TX CH11 2462MHz 11b

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1 X	2458.010	111.34			80.83	28.40	2.11	0.00	Peak	---	---
2	2483.500	57.10	-16.90	74.00	26.53	28.45	2.12	0.00	Peak	---	---
1 X	2458.770	101.57			71.06	28.40	2.11	0.00	Average	---	---
2	2483.500	45.78	-8.22	54.00	15.21	28.45	2.12	0.00	Average	---	---

FCC TEST REPORT

Report No. : FR552534-02

- Temperature: 26.8°C
- Relative Humidity: 54%
- Modulation Type: OFDM
- Tested Channel: CH01
- Test Engineer: Vic Hsiao



Site : 03CH02-HY
Condition : FCC CLASS-B 3m HORN-6903-04-09 VERTICAL

POWER :
MEMO : ST585v6 HP
MEMO : TX CH06 2412MHz 11g

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1 X	2438.060	110.29			79.82	28.36	2.11	0.00	Peak	---	---
1	2390.000	48.14	-5.86	54.00	17.83	28.21	2.10	0.00	Average	---	---
2 X	2418.490	98.21			67.84	28.26	2.11	0.00	Average	---	---

SPORTON International Inc.

TEL : 886-2-2696-2468

FAX : 886-2-2696-2255

FCC ID : RSE-ST585V6HP

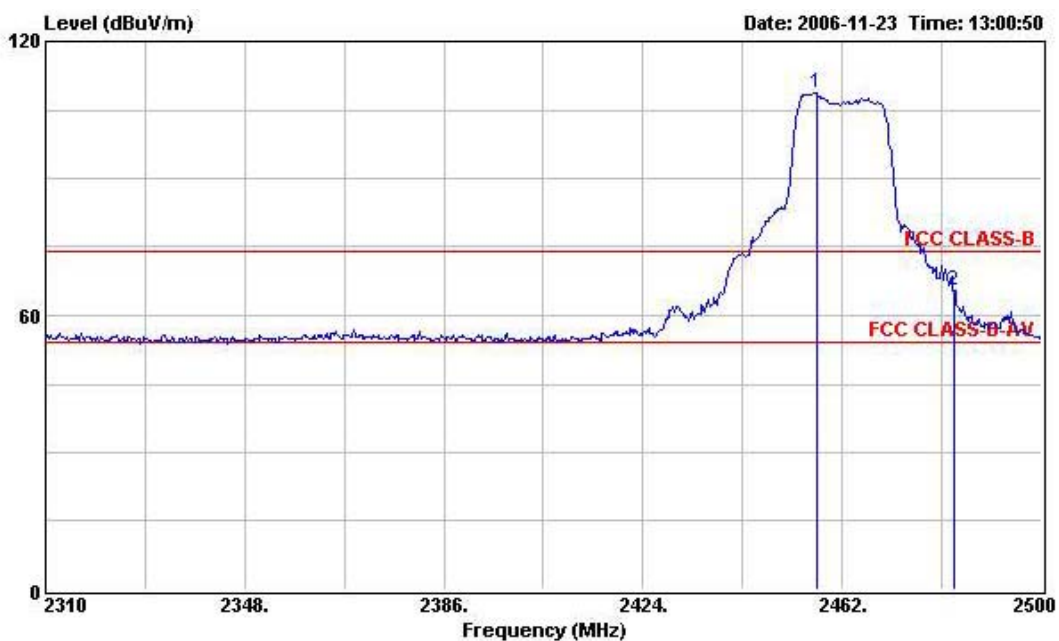
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Issued Date : Nov. 30, 2006

FCC TEST REPORT

Report No. : FR552534-02

- Temperature: 26.8°C
- Relative Humidity: 54%
- Modulation Type: OFDM
- Tested Channel: CH11
- Test Engineer: Vic Hsiao



Site : 03CH02-HY
Condition : FCC CLASS-B 3m HORN-6903-04-09 VERTICAL

POWER :
MEMO : ST585v6 HP
MEMO : TX CH11 2462MHz 11g

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBu		dB	dB	dB		cm	deg
1 X	2457.060	108.88			78.37	28.40	2.11	0.00	Peak	---	---
2	2483.500	65.44	-8.56	74.00	34.87	28.45	2.12	0.00	Peak	---	---
1 X	2454.780	98.26			67.75	28.40	2.11	0.00	Average	---	---
2	2483.500	47.27	-6.73	54.00	16.70	28.45	2.12	0.00	Average	---	---

SPORTON International Inc.

TEL : 886-2-2696-2468

FAX : 886-2-2696-2255

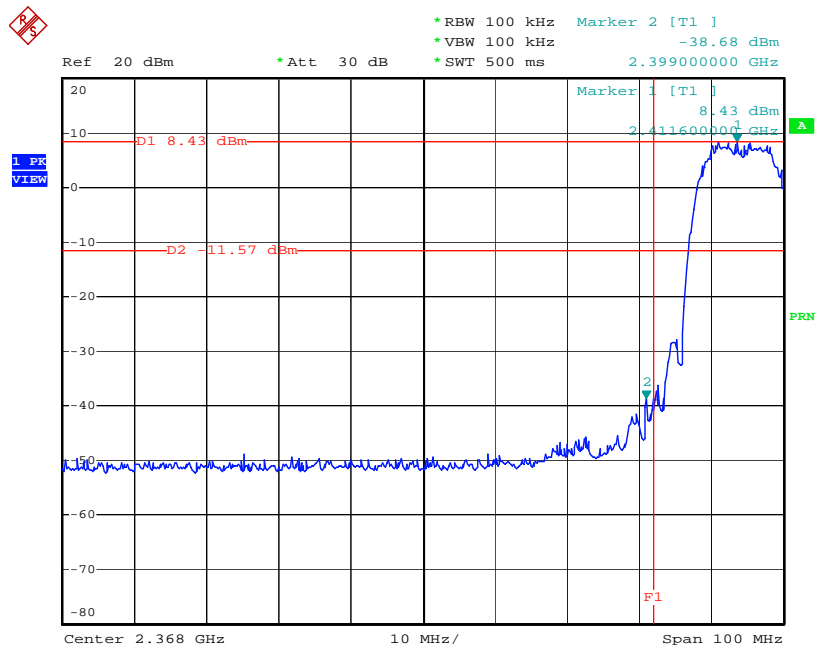
FCC ID : RSE-ST585V6HP

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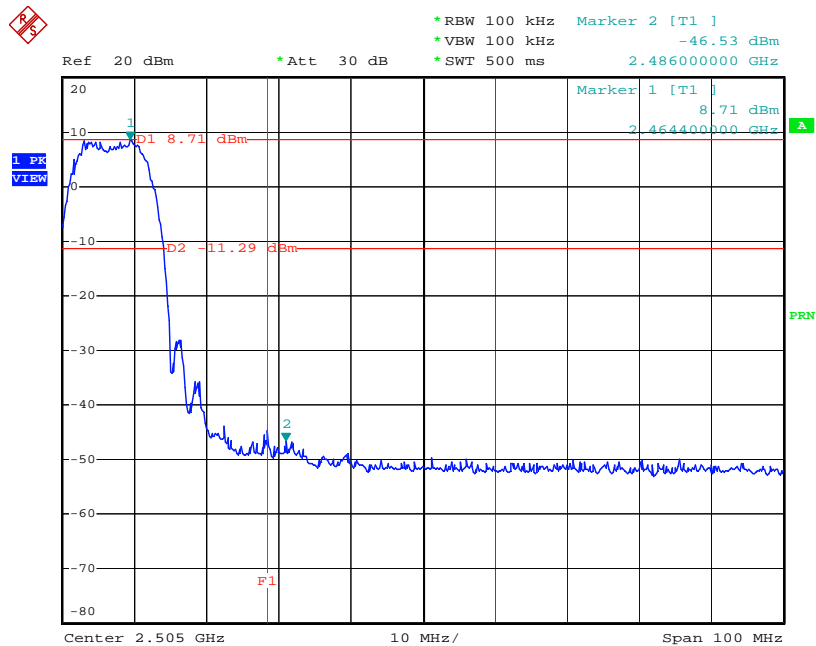
4.5.8. Results of Conducted Emission Test

Modulation Type: DSSS (Channel 01) :



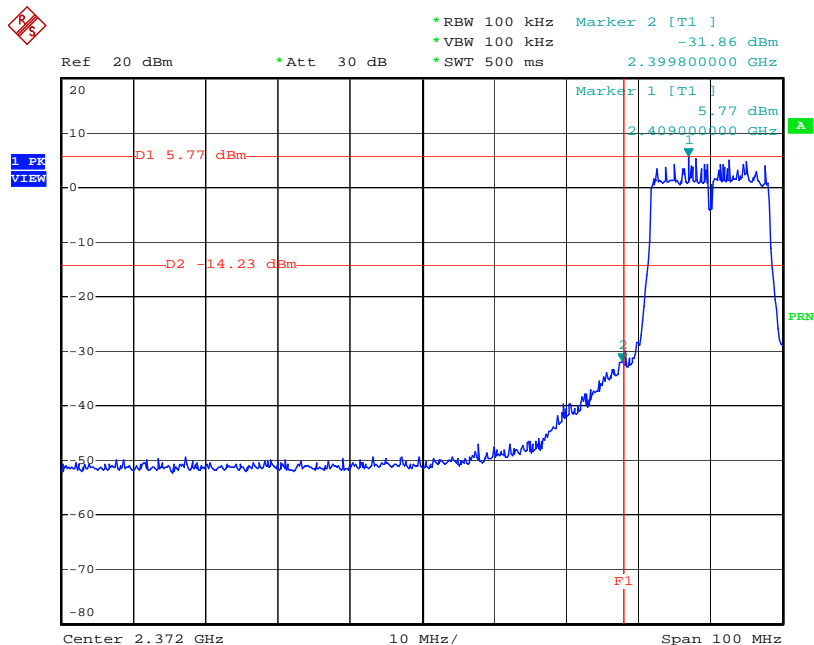
Date: 21.NOV.2006 22:18:33

Modulation Type: DSSS (Channel 11) :



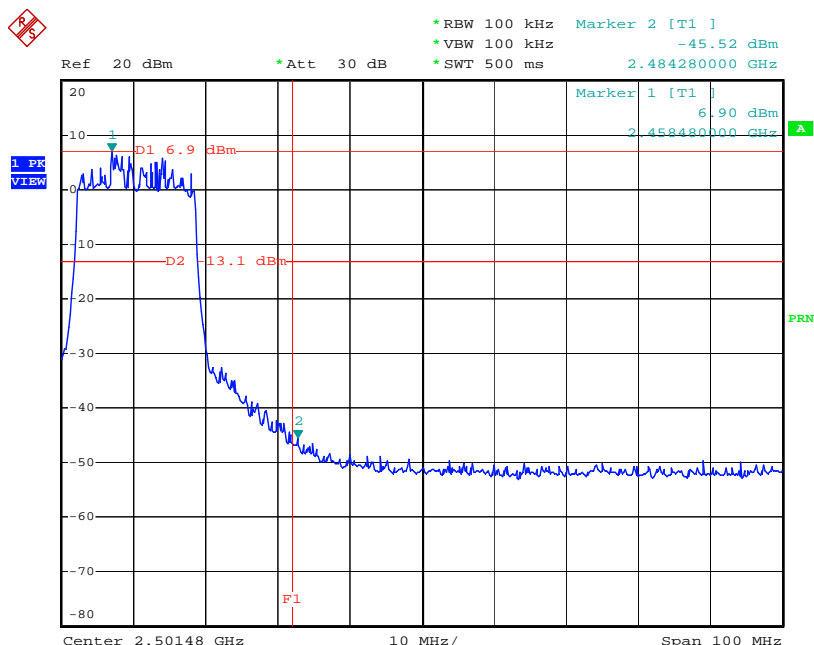
Date: 21.NOV.2006 22:30:21

Modulation Type: OFDM (Channel 01) :



Date: 21.NOV.2006 21:59:03

Modulation Type: OFDM (Channel 11) :



Date: 21.NOV.2006 21:44:56

4.6. Conducted Emission

Conducted Emissions were measured from 150 kHz to 30 MHz with a bandwidth of 9 KHz and return leads of the EUT according to the methods defined in ANSI C63.4-2003 Section 3.1. The EUT was placed on a nonmetallic stand in a shielded room 0.8 meters above the ground plane. The interface cables and equipment positioning were varied within limits of reasonable applications to determine the position produced maximum conducted emissions.

4.6.1. Instrument for the measurement

• Test Receiver	(R&S ESCS 30)
Attenuation	10dB
Start Frequency	0.15MHz
Stop Frequency	30MHz
IF Bandwidth	9kHz

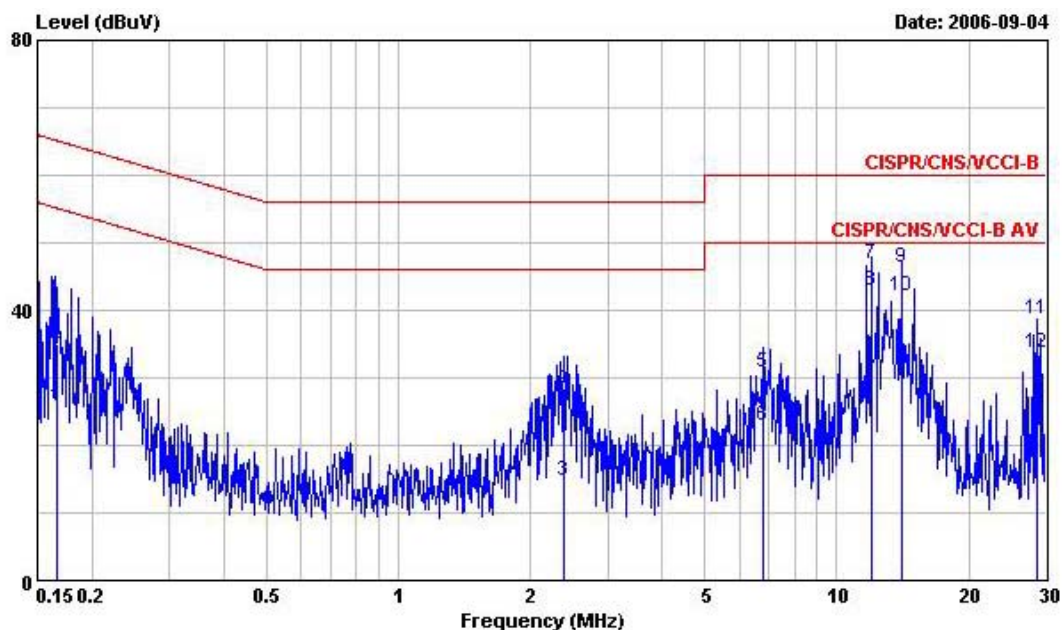
4.6.2. Test Procedure

- a. The EUT was set to the normal operation.
- b. The EUT was placed on a desk 0.8 meters height from the metal ground plane and 0.4 meter from the conducting wall of the shielding room and it was kept at least 0.8 meters from any other grounded conducting surface.
- c. Connection of the EUT to the AC mains power was done through a Line Impedance Stabilization Network (LISN).
- d. All the support units were connected to the other LISN's.
- e. The LISN provides 50 ohm coupling impedance for the measuring instrument.
- f. The CISPR states that a 50 ohm, 50 microhenry LISN should be used.
- g. Both sides of AC line were checked for maximum conducted interference.
- h. The frequency range from 150 kHz to 30 MHz was investigated.
- i. The test-receiver system was set in its Peak Detect Function and specified bandwidth with Maximum Hold Mode.

4.6.3. Results of Conducted Emission Test

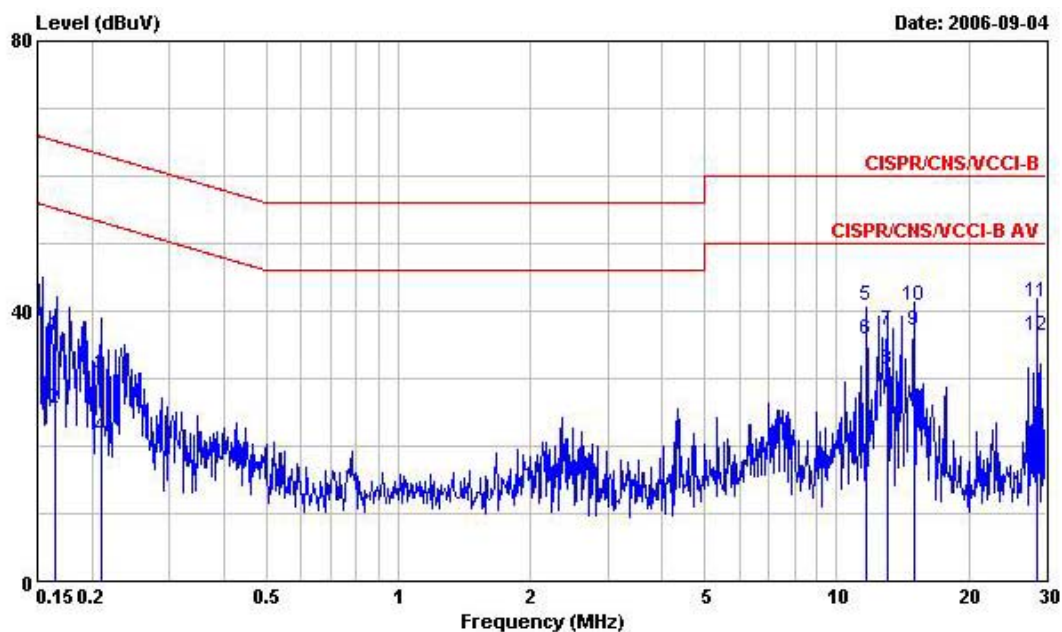
- ADSL operational Mode: ADSL2+ Annex A
- Frequency Range investigated: from 150 kHz to 30 MHz.
- Temperature: 24.4°C
- Relative Humidity: 53%
- Test Engineer: Ted Chiu

■ The test was passed at the minimum margin that marked by the frame in the following table



Site : CO04-HY
 Condition : CISPR/CNS/VCCI-B LISN 200604 99041 LINE
 EUT : ST585v6 HP
 POWER:
 MODEL : ST585v6 HP
 Testport : AC Port
 ADSL mode : ADSL2+ Annex A
 Loop length : 3000 ft
 Adapter : FRIWO

	Freq	Level	Over	Limit	Read	LISN	Cable	
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1666400	25.85	-29.28	55.13	25.71	0.10	0.04	Average
2	0.1666400	35.00	-30.13	65.13	34.86	0.10	0.04	QP
3	2.380	14.74	-31.26	46.00	14.39	0.10	0.25	Average
4	2.380	28.50	-27.50	56.00	28.15	0.10	0.25	QP
5	6.763	30.90	-29.10	60.00	30.23	0.16	0.51	QP
6	6.763	22.88	-27.12	50.00	22.21	0.16	0.51	Average
7	11.966	46.91	-13.09	60.00	45.93	0.38	0.60	QP
8	11.966	43.03	-6.97	50.00	42.05	0.38	0.60	Average
9	14.039	46.27	-13.73	60.00	45.13	0.54	0.60	QP
10	14.039	42.10	-7.90	50.00	40.96	0.54	0.60	Average
11	28.744	38.74	-21.26	60.00	38.14	0.38	0.22	QP
12	28.744	33.56	-16.44	50.00	32.96	0.38	0.22	Average



Site : CO04-HY
 Condition : CISPR/CNS/VCCI-B LISN 200604 99041 NEUTRAL
 EUT : ST585v6 HP
 POWER:
 MODEL : ST585v6 HP
 Testport : AC Port
 ADSL mode : ADSL2+ Annex A
 Loop length : 3000 ft
 Adapter : FRIWO

	Freq	Level	Over	Limit	Read	LISN	Cable	
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1644270	36.19	-29.05	65.24	36.05	0.10	0.04	QP
2	0.1644270	25.63	-29.61	55.24	25.49	0.10	0.04	Average
3	0.2094380	30.62	-32.61	63.23	30.48	0.10	0.04	QP
4	0.2094380	21.30	-31.93	53.23	21.16	0.10	0.04	Average
5	11.638	40.83	-19.17	60.00	39.93	0.30	0.60	QP
6	11.638	35.70	-14.30	50.00	34.80	0.30	0.60	Average
7	13.060	37.14	-22.86	60.00	36.24	0.30	0.60	QP
8	13.060	31.26	-18.74	50.00	30.36	0.30	0.60	Average
9	14.963	37.19	-12.81	50.00	36.29	0.30	0.60	Average
10	14.963	40.79	-19.21	60.00	39.89	0.30	0.60	QP
11	28.685	41.36	-18.64	60.00	40.84	0.30	0.22	QP
12	28.685	36.27	-13.73	50.00	35.75	0.30	0.22	Average

4.6.4. Photographs of Conducted Powerline Test Configuration

- The photographs show the configuration that generates the maximum emission.

FRONT VIEW**REAR VIEW**

SIDE VIEW



SIDE VIEW



4.7. Radiated Emission

Radiated emissions from 30 MHz to 25 GHz were measured according to the methods defines in ANSI C63.4-2003. The EUT was placed, 0.8 meter above the ground plane, as shown in section 5.4.3. The interface cables and equipment positions were varied within limits of reasonable applications to determine the positions producing maximum radiated emissions

4.7.1. Instruments of the measurement

- Amplifier (SCHAFFNER CPA9231A)
 - RF Gain 30dB
 - Signal Input 9kHz -2GHz

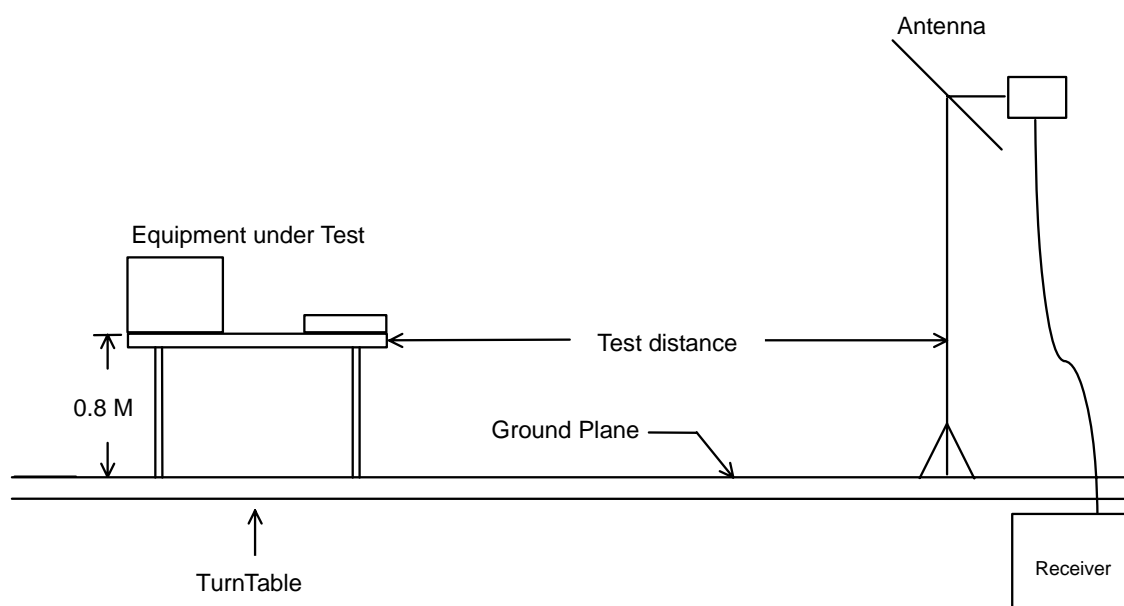
- Spectrum Analyzer (R&S FSP40)
 - Attenuation 10dB
 - Start Frequency 1GHz
 - Stop Frequency 18GHz
 - Resolution Bandwidth 1MHz
 - Video Bandwidth 1MHz
 - Signal Input 9kHz to 40GHz

- Amplifier (MITEQ AFS44)
 - RF Gain 40dB
 - Signal Input 100MHz to 26.5GHz

4.7.2. Test Procedure

1. The EUT was placed on a rotatable table top 0.8 meter above ground.
2. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiation.
4. The antenna is a broadband antenna and its height is varied between one meter and four meters above ground to find the maximum value of the field strength both horizontal polarization and vertical polarization of the antenna are set to make the measurement.
5. For each suspected emission the EUT was arranged to its worst case and then tune the antenna tower (from 1M to 4M) and turn table (from 0 degree to 360 degrees) to find the maximum reading.
6. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function and specified bandwidth with Maximum Hold Mode.
7. If the emission level of the EUT in peak mode was 3dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3dB margin will be repeated one by one using the quasi-peak method and reported.
8. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission 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.

4.7.3. Typical Test Setup Layout of Radiated Emission



4.7.4. Results of Radiated Emission Test

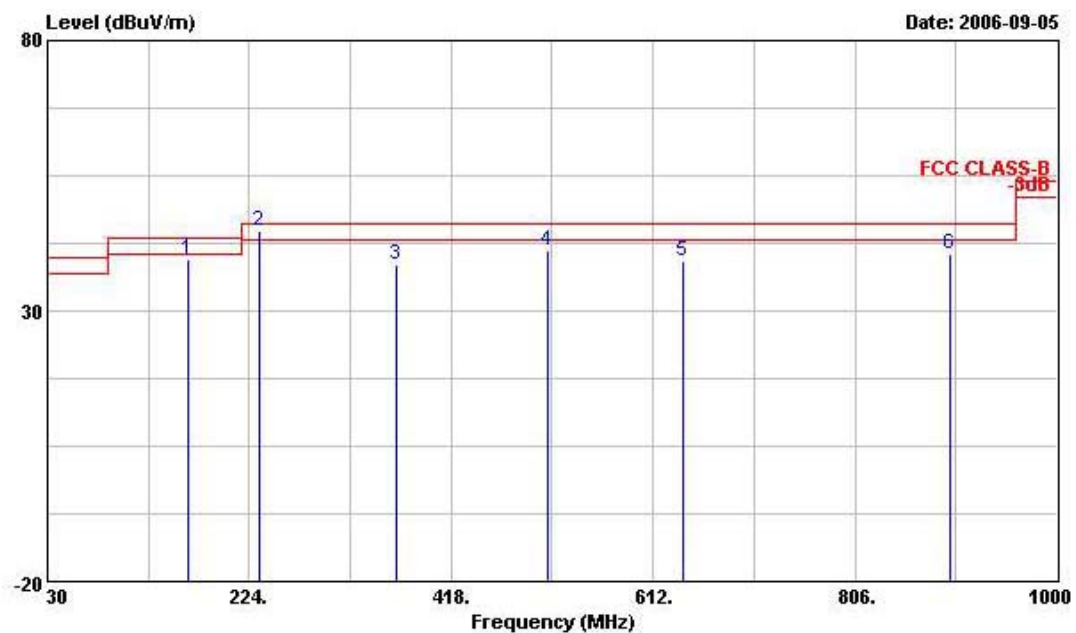
- ADSL operation mode: ADSL2+ Annex A
- Radio operation mode: Continuous transmission
- Test Mode: OFDM CH06

Note: This mode is determined as the worst-case mode from all possible combinations between the available modulations and channels.

- Test Distance: 3M
- Temperature: 27°C
- Relative Humidity: 58%
- Emission level (dBuV/m) = 20 log Emission level (uV/m)
- Corrected Reading: Probe Factor + Cable Loss + Read Level - Preamp Factor = Level
- Test Engineer: Vic Hsiao

■ The test was passed at the minimum margin that marked by the frame in the following table

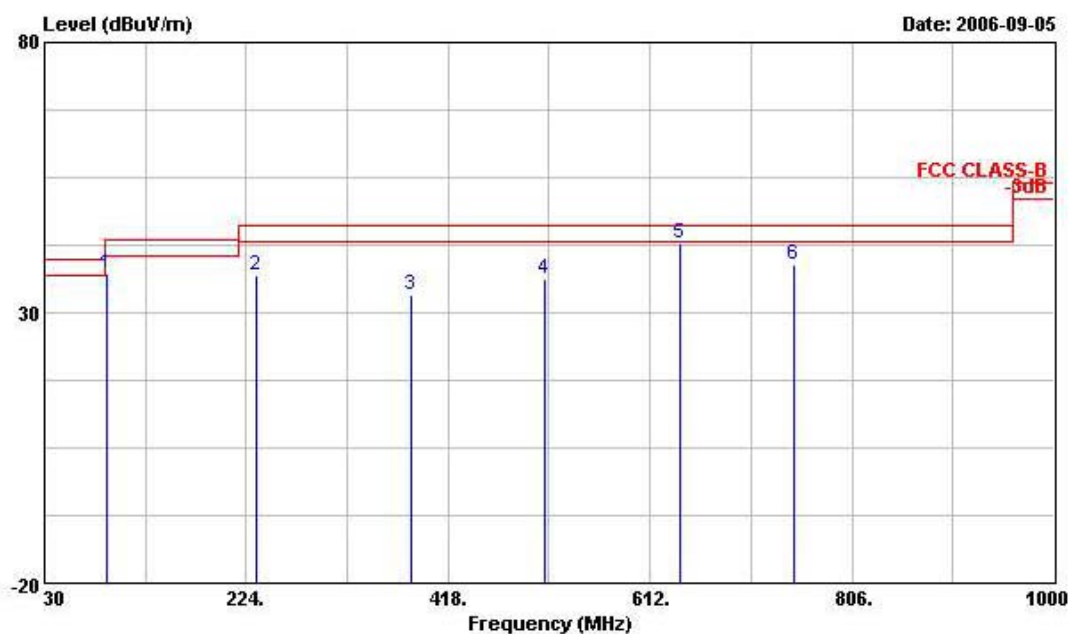
■ Spurious Emission



Site : 03CH03-HY
Condition: FCC CLASS-B 3m LF-BILOG HORIZONTAL

Model : ST585v6 HP
Memo : CH06 2437MHz 11g

	Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	Factor	Remark
			dB	dBuV/m	dBuV	dB/m	dB	dB	
1	164.830	39.38	-4.12	43.50	55.77	9.80	1.88	28.07	Peak
2	233.700	44.88	-1.12	46.00	59.82	10.89	2.53	28.36	QP
3	365.620	38.45	-7.55	46.00	48.67	15.39	3.32	28.93	Peak
4	510.150	41.25	-4.75	46.00	48.89	18.18	3.87	29.69	Peak
5	641.100	39.22	-6.78	46.00	44.95	19.70	4.58	30.01	Peak
6	897.180	40.42	-5.58	46.00	43.95	20.98	5.52	30.03	Peak



Site : 03CH03-HY
 Condition: FCC CLASS-B 3m LF-BILOG VERTICAL

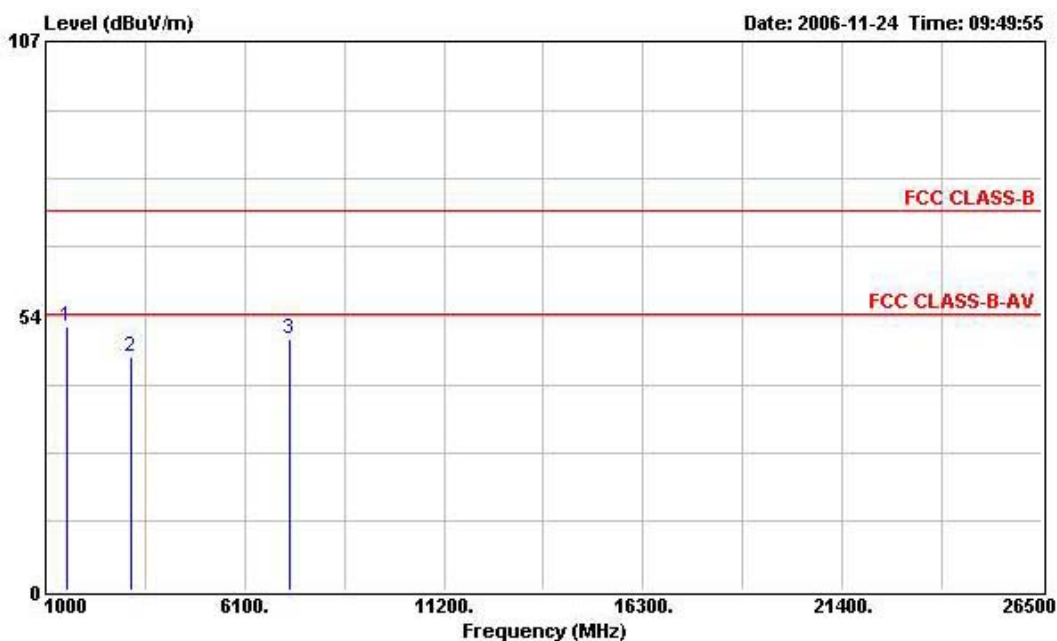
Model : ST585v6 HP
 Memo : CH06 2437MHz 11g

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	
1	90.140	37.31	-6.19	43.50	54.32	9.50	1.30	Peak
2	233.700	36.76	-9.24	46.00	51.76	10.84	2.53	Peak
3	382.110	33.37	-12.63	46.00	43.21	15.85	3.35	Peak
4	510.150	36.19	-9.81	46.00	43.65	18.36	3.87	Peak
5	641.100	42.90	-3.10	46.00	48.76	19.57	4.58	Peak
6	749.740	38.79	-7.21	46.00	42.93	20.71	4.86	Peak

- ADSL operation mode: ADSL2+ Annex A
- Radio operation mode: Continuous transmission
- Test Mode: DSSS CH01
- Test Distance: 3M
- Temperature: 27°C
- Relative Humidity: 58%
- Emission level (dBuV/m) = 20 log Emission level (uV/m)
- Corrected Reading: Probe Factor + Cable Loss + Read Level - Preamp Factor = Level
- Test Engineer: Vic Hsiao

■ The test was passed at the minimum margin that marked by the frame in the following table

- Spurious Emission



Site : 03CH02-HY

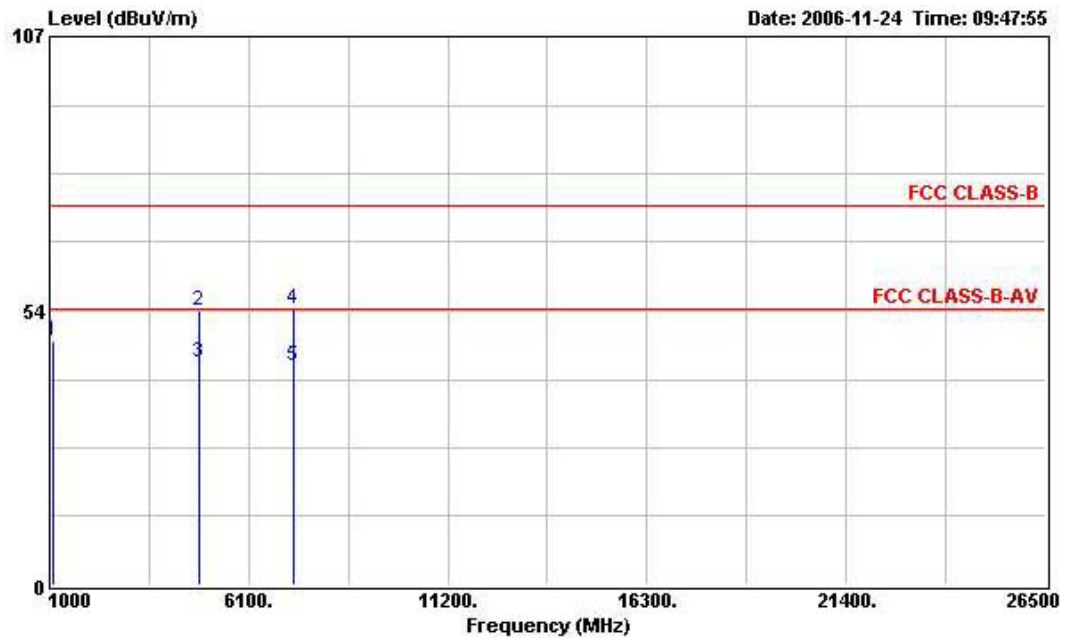
Condition : FCC CLASS-B 3m HORN-6903-04-09 HORIZONTAL

POWER :

MEMO : ST585v6 HP

MEMO : TX CH01 2412MHz 11b

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	1534.000	51.54	-22.46	74.00	57.41	25.42	1.78	33.07	Peak	---	---
2	3196.000	45.47	-28.53	74.00	45.06	30.52	2.60	32.71	Peak	---	---
3	7236.000	48.96	-25.04	74.00	41.61	36.03	3.88	32.56	Peak	---	---



Site : 03CH02-HY
 Condition : FCC CLASS-B 3m HORN-6903-04-09 VERTICAL

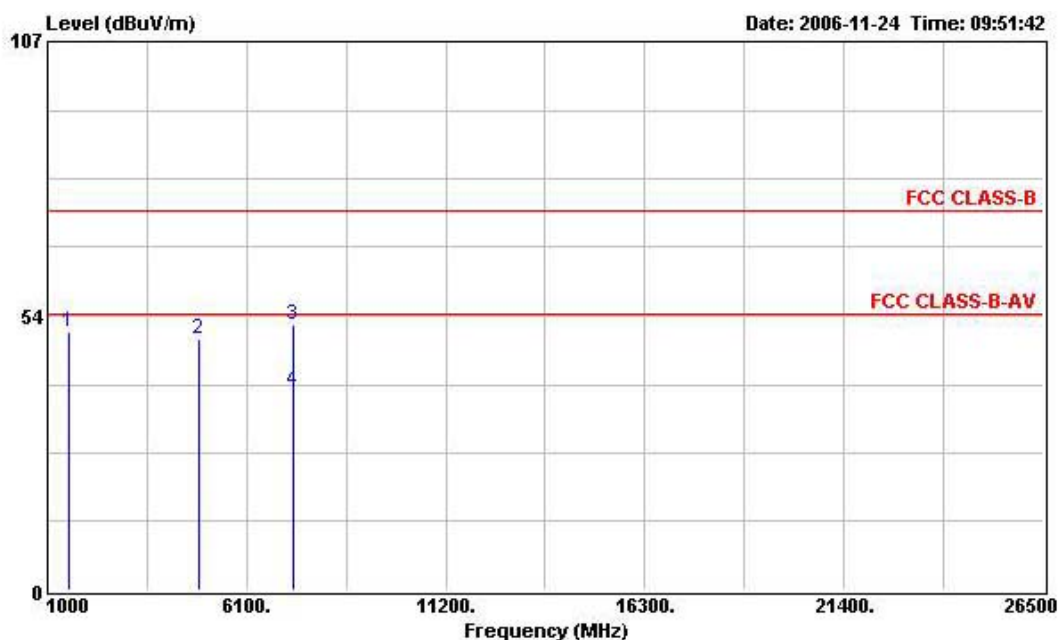
POWER :
 MEMO : ST585v6 HP
 MEMO : TX CH01 2412MHz 11b

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	1086.000	47.52	-26.48	74.00	55.11	24.31	1.51	33.41	Peak	---	---
2	4824.000	53.57	-20.43	74.00	49.72	33.02	3.16	32.33	Peak	---	---
3	4824.000	43.39	-10.61	54.00	39.54	33.02	3.16	32.33	Average	---	---
4	7236.000	53.71	-20.29	74.00	46.36	36.03	3.88	32.56	Peak	---	---
5	7236.000	42.81	-11.19	54.00	35.46	36.03	3.88	32.56	Average	---	---

- ADSL operation mode: ADSL2+ Annex A
- Radio operation mode: Continuous transmission
- Test Mode: DSSS CH 06
- Test Distance: 3M
- Temperature: 27°C
- Relative Humidity: 58%
- Emission level (dBuV/m) = 20 log Emission level (uV/m)
- Corrected Reading: Probe Factor + Cable Loss + Read Level - Preamp Factor = Level
- Test Engineer: Vic Hsiao

■ The test was passed at the minimum margin that marked by the frame in the following table

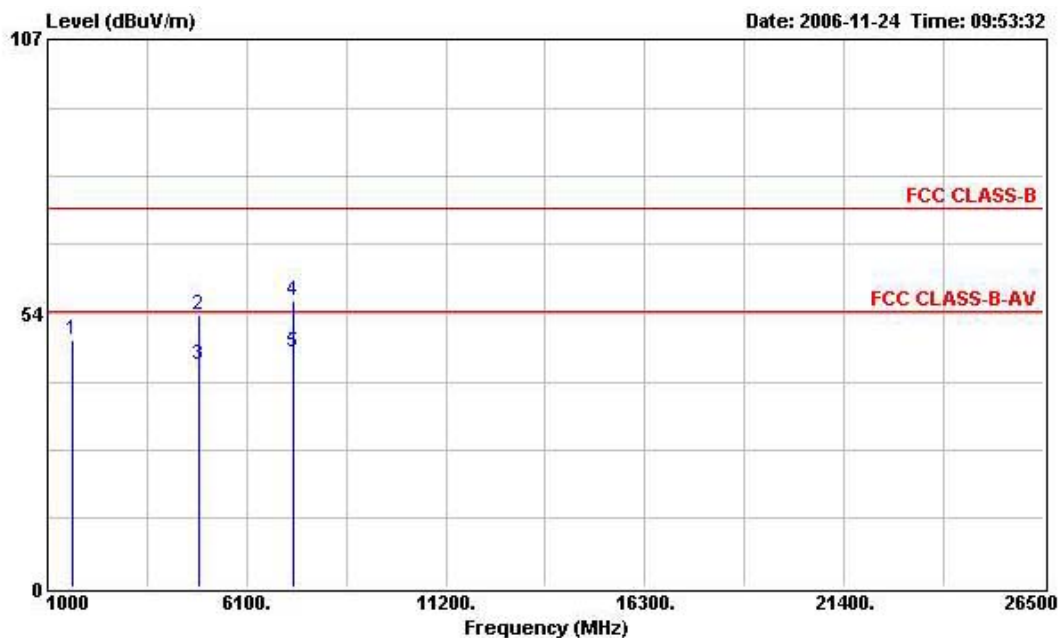
- Spurious Emission



Site : 03CH02-HY
 Condition : FCC CLASS-B 3m HORN-6903-04-09 HORIZONTAL

POWER :
 MEMO : ST585v6 HP
 MEMO : TX CH06 2437MHz 11b

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	1534.000	50.27	-23.73	74.00	56.14	25.42	1.78	33.07	Peak	---	---
2	4876.000	48.89	-25.11	74.00	44.91	33.11	3.17	32.30	Peak	---	---
3	7316.000	51.71	-22.29	74.00	44.18	36.25	3.88	32.60	Peak	---	---
4	7316.000	38.80	-15.20	54.00	31.27	36.25	3.88	32.60	Average	---	---



Site : 03CH02-HY
 Condition : FCC CLASS-B 3m HORN-6903-04-09 VERTICAL

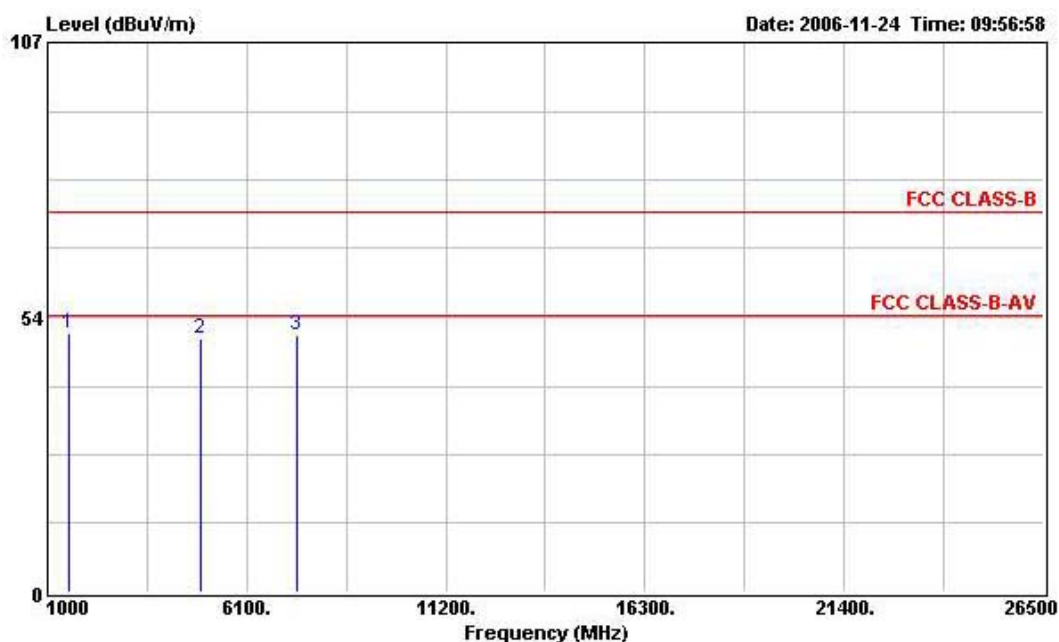
POWER :
 MEMO : ST585v6 HP
 MEMO : TX CH06 2437MHz 11b

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	1622.000	48.41	-25.59	74.00	53.79	25.78	1.82	32.98	Peak	---	---
2	4876.000	53.09	-20.91	74.00	49.11	33.11	3.17	32.30	Peak	---	---
3	4876.000	43.26	-10.74	54.00	39.28	33.11	3.17	32.30	Average	---	---
4	7312.000	55.95	-18.05	74.00	48.46	36.21	3.88	32.60	Peak	---	---
5	7312.000	45.75	-8.25	54.00	38.26	36.21	3.88	32.60	Average	---	---

- ADSL operation mode: ADSL2+ Annex A
- Radio operation mode: Continuous transmission
- Test Mode: DSSS CH11
- Test Distance: 3M
- Temperature: 27°C
- Relative Humidity: 58%
- Emission level (dBuV/m) = 20 log Emission level (uV/m)
- Corrected Reading: Probe Factor + Cable Loss + Read Level - Preamp Factor = Level
- Test Engineer: Vic Hsiao

■ The test was passed at the minimum margin that marked by the frame in the following table

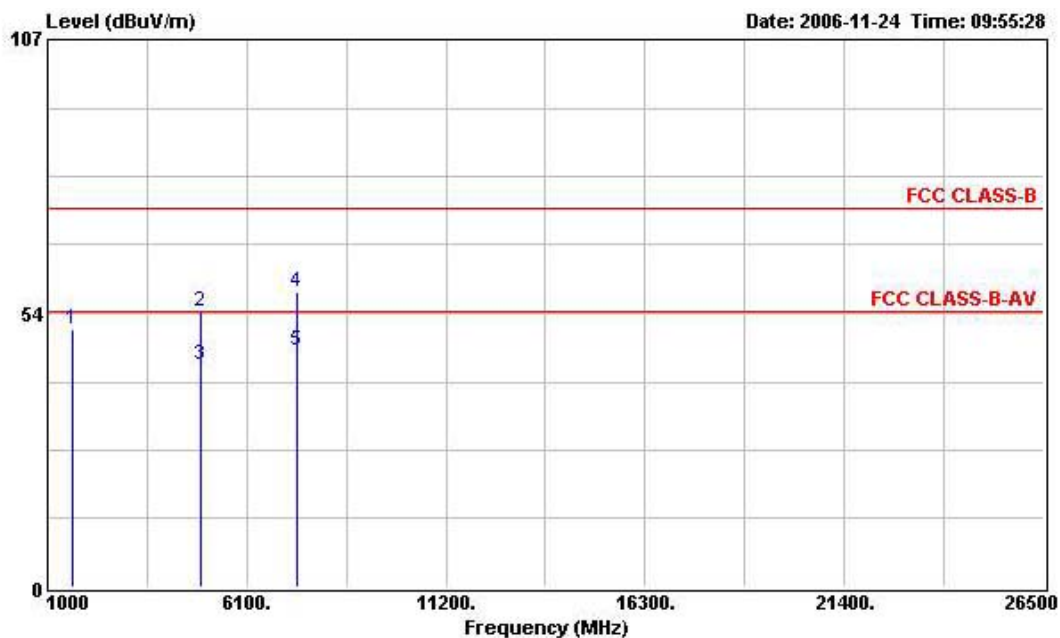
- Spurious Emission



Site : 03CH02-HY
Condition : FCC CLASS-B 3m HORN-6903-04-09 HORIZONTAL

POWER :
MEMO : ST585v6 HP
MEMO : TX CH11 2462MHz 11b

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	1534.000	50.48	-23.52	74.00	56.35	25.42	1.78	33.07	Peak	---	---
2	4924.000	49.37	-24.63	74.00	45.29	33.19	3.17	32.28	Peak	---	---
3	7386.000	50.08	-23.92	74.00	42.41	36.43	3.88	32.64	Peak	---	---



Site : 03CH02-HY
 Condition : FCC CLASS-B 3m HORN-6903-04-09 VERTICAL

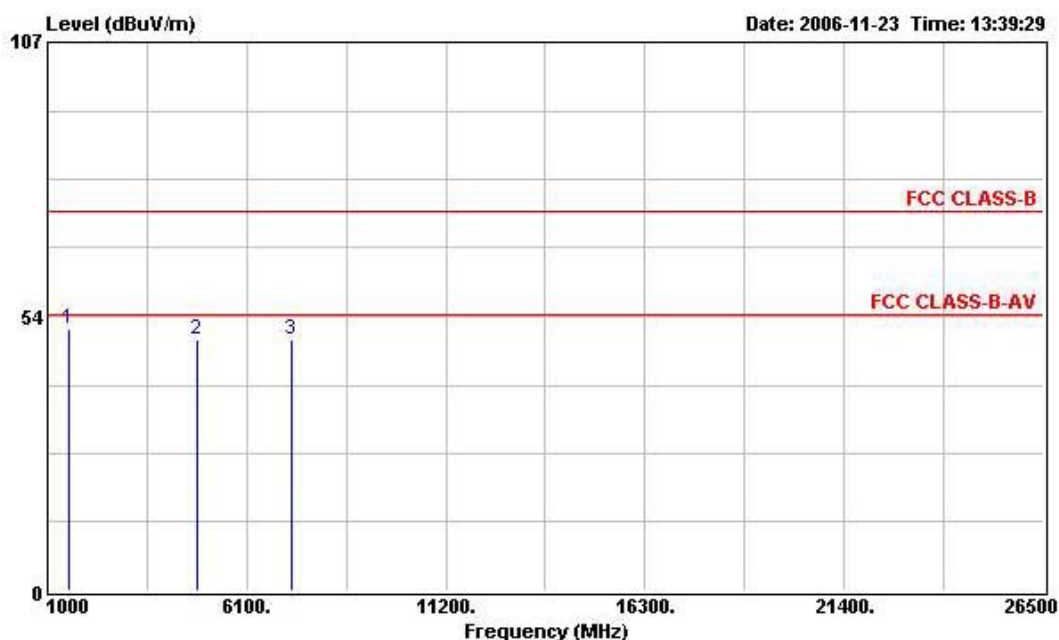
POWER :
 MEMO : ST585v6 HP
 MEMO : TX CH11 2462MHz 11b

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	1638.000	50.54	-23.46	74.00	55.82	25.84	1.84	32.96	Peak	---	---
2	4924.000	53.99	-20.01	74.00	49.91	33.19	3.17	32.28	Peak	---	---
3	4924.000	43.27	-10.73	54.00	39.19	33.19	3.17	32.28	Average	---	---
4	7376.000	57.55	-16.45	74.00	49.91	36.39	3.88	32.63	Peak	---	---
5	7376.000	46.05	-7.95	54.00	38.41	36.39	3.88	32.63	Average	---	---

- ADSL operation mode: ADSL2+ Annex A
- Radio operation mode: Continuous transmission
- Test Mode: OFDM CH 01
- Test Distance: 3M
- Temperature: 27°C
- Relative Humidity: 58%
- Emission level (dBuV/m) = 20 log Emission level (uV/m)
- Corrected Reading: Probe Factor + Cable Loss + Read Level - Preamp Factor = Level
- Test Engineer: Vic Hsiao

■ The test was passed at the minimum margin that marked by the frame in the following table

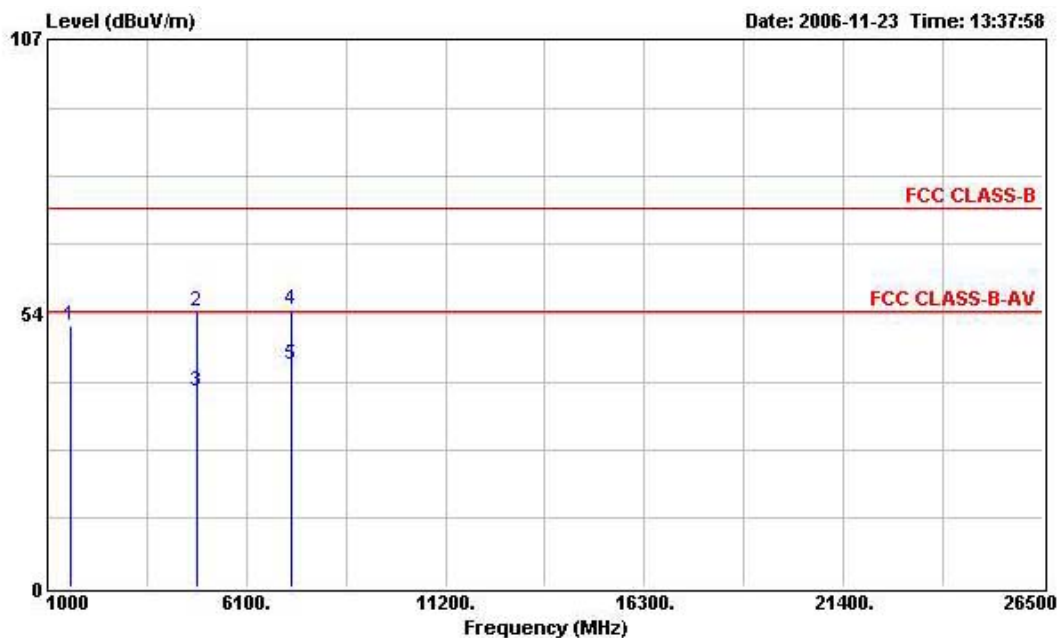
- Spurious Emission



Site : 03CH02-HY
 Condition : FCC CLASS-B 3m HORN-6903-04-09 HORIZONTAL

POWER :
 MEMO : ST585v6 HP
 MEMO : TX CH01 2412MHz 11g

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	1534.000	50.97	-23.03	74.00	56.84	25.42	1.78	33.07	Peak	---	---
2	4824.000	48.96	-25.04	74.00	45.11	33.02	3.16	32.33	Peak	---	---
3	7236.000	49.01	-24.99	74.00	41.66	36.03	3.88	32.56	Peak	---	---



Site : 03CH02-HY
 Condition : FCC CLASS-B 3m HORN-6903-04-09 VERTICAL

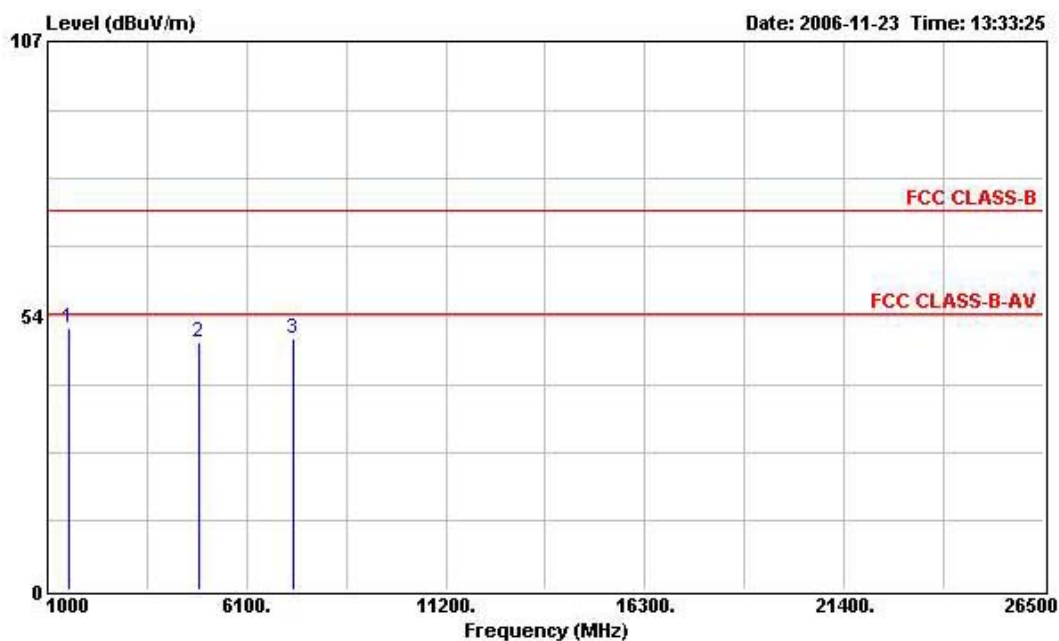
POWER :
 MEMO : ST585v6 HP
 MEMO : TX CH01 2412MHz 11g

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m		dBuV/m	dBuV	dB	dB	dB		cm	deg
1	1606.000	50.97	-23.03	74.00	56.42	25.72	1.82	32.99	Peak	---	---
2	4824.000	53.92	-20.08	74.00	50.07	33.02	3.16	32.33	Peak	---	---
3	4824.000	38.35	-15.65	54.00	34.50	33.02	3.16	32.33	Average	---	---
4	7228.000	54.30	-19.70	74.00	46.99	35.98	3.88	32.55	Peak	---	---
5	7228.000	43.46	-10.54	54.00	36.15	35.98	3.88	32.55	Average	---	---

- ADSL operation mode: ADSL2+ Annex A
- Radio operation mode: Continuous transmission
- Test Mode: OFDM CH06
- Test Distance: 3M
- Temperature: 27°C
- Relative Humidity: 58%
- Emission level (dBuV/m) = 20 log Emission level (uV/m)
- Corrected Reading: Probe Factor + Cable Loss + Read Level - Preamp Factor = Level
- Test Engineer: Vic Hsiao

■ The test was passed at the minimum margin that marked by the frame in the following table

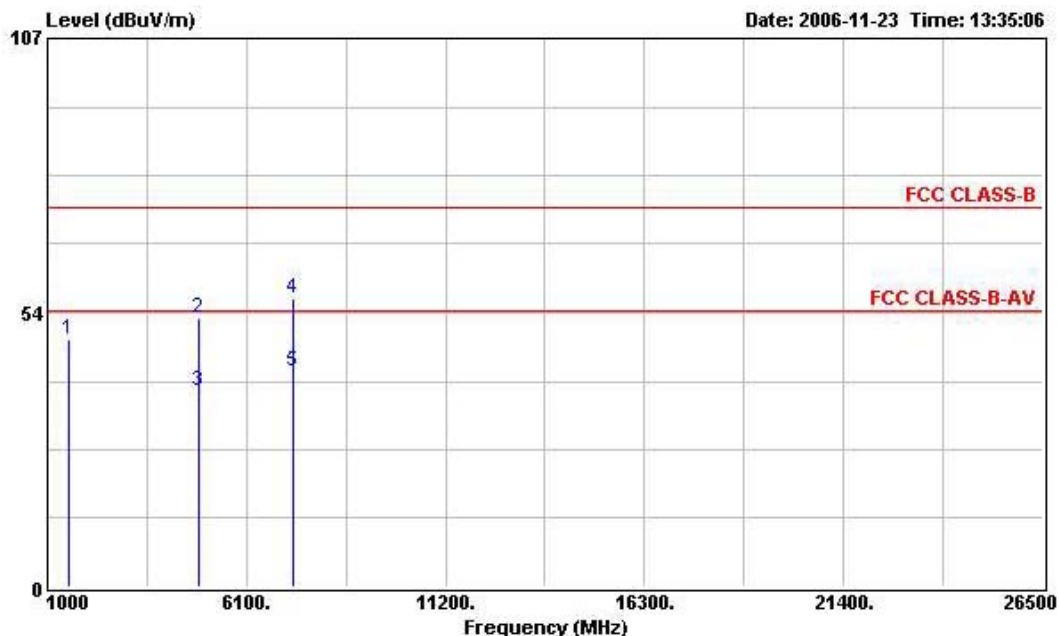
- Spurious Emission



Site : 03CH02-HY
Condition : FCC CLASS-B 3m HORN-6903-04-09 HORIZONTAL

POWER :
MEMO : ST585v6 HP
MEMO : TX CH06 2437MHz 11g

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	1534.000	50.92	-23.08	74.00	56.79	25.42	1.78	33.07	Peak	---	---
2	4874.000	48.45	-25.55	74.00	44.47	33.11	3.17	32.30	Peak	---	---
3	7311.000	49.14	-24.86	74.00	41.65	36.21	3.88	32.60	Peak	---	---



Site : 03CH02-HY
 Condition : FCC CLASS-B 3m HORN-6903-04-09 VERTICAL

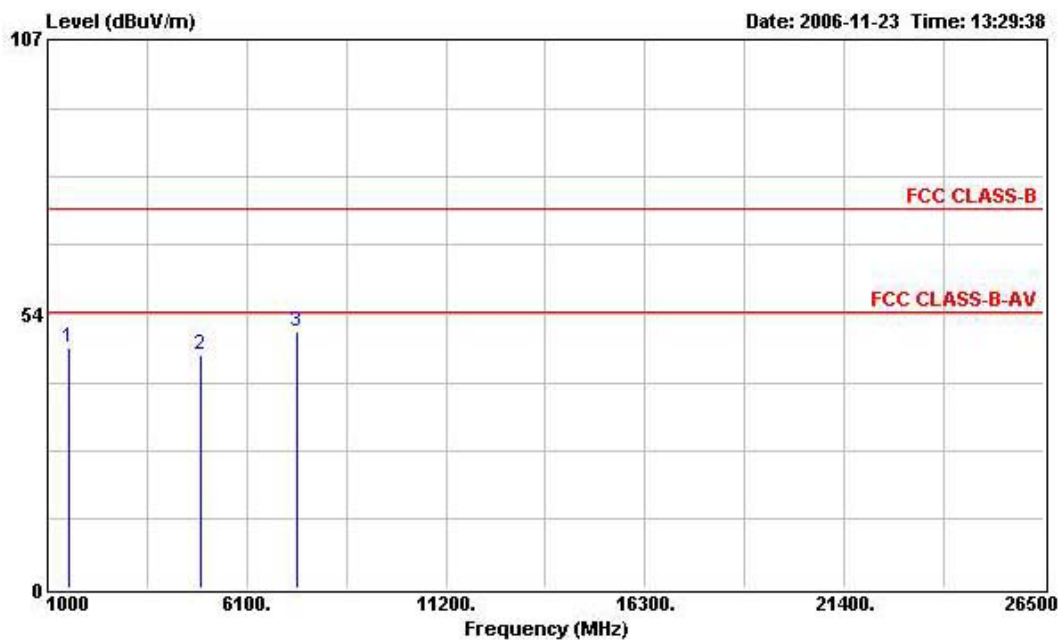
POWER :
 MEMO : ST585v6 HP
 MEMO : TX CH06 2437MHz 11g

	Freq	Level	Over	Limit	Read	Probe	Cable	Preamp		Ant	Table
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	Factor	Remark	Pos	Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	1534.000	48.16	-25.84	74.00	54.03	25.42	1.78	33.07	Peak	---	---
2	4876.000	52.31	-21.69	74.00	48.33	33.11	3.17	32.30	Peak	---	---
3	4876.000	38.34	-15.66	54.00	34.36	33.11	3.17	32.30	Average	---	---
4	7312.000	56.37	-17.63	74.00	48.88	36.21	3.88	32.60	Peak	---	---
5	7312.000	41.91	-12.09	54.00	34.42	36.21	3.88	32.60	Average	---	---

- ADSL operation mode: ADSL2+ Annex A
- Radio operation mode: Continuous transmission
- Test Mode: OFDM CH11
- Test Distance: 3M
- Temperature: 27°C
- Relative Humidity: 60%
- Emission level (dBuV/m) = 20 log Emission level (uV/m)
- Corrected Reading: Probe Factor + Cable Loss + Read Level - Preamp Factor = Level
- Test Engineer: Vic Hsiao

■ The test was passed at the minimum margin that marked by the frame in the following table

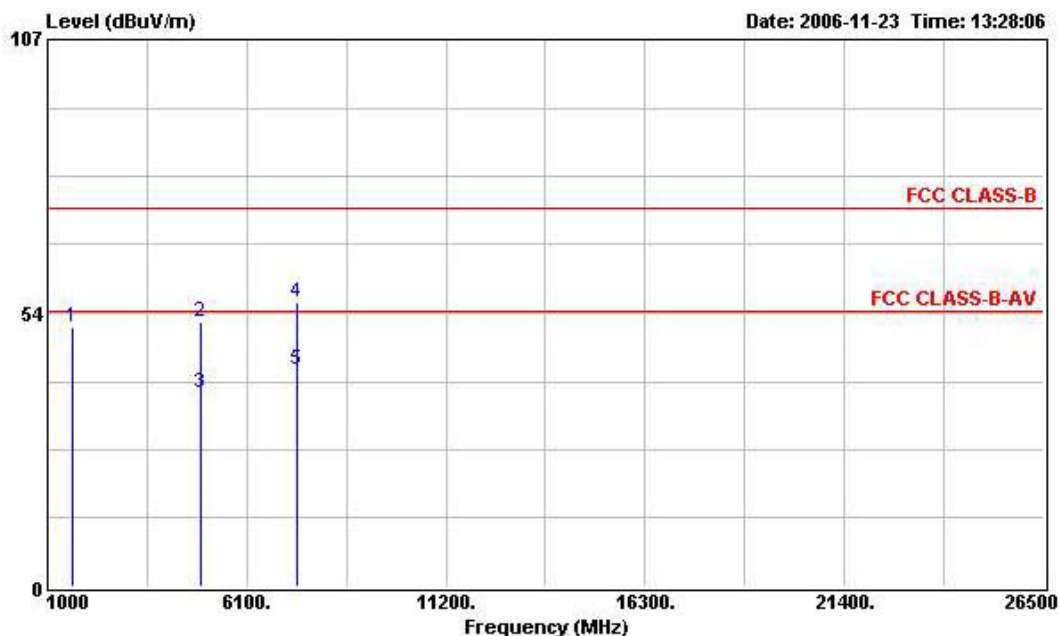
- Spurious Emission



Site : 03CH02-HY
Condition : FCC CLASS-B 3m HORN-6903-04-09 HORIZONTAL

POWER :
MEMO : ST585v6 HP
MEMO : TX CH11 2462MHz 11g

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	1534.000	47.02	-26.98	74.00	52.89	25.42	1.78	33.07	Peak	---	---
2	4924.000	45.36	-28.64	74.00	41.28	33.19	3.17	32.28	Peak	---	---
3	7386.000	50.16	-23.84	74.00	42.49	36.43	3.88	32.64	Peak	---	---



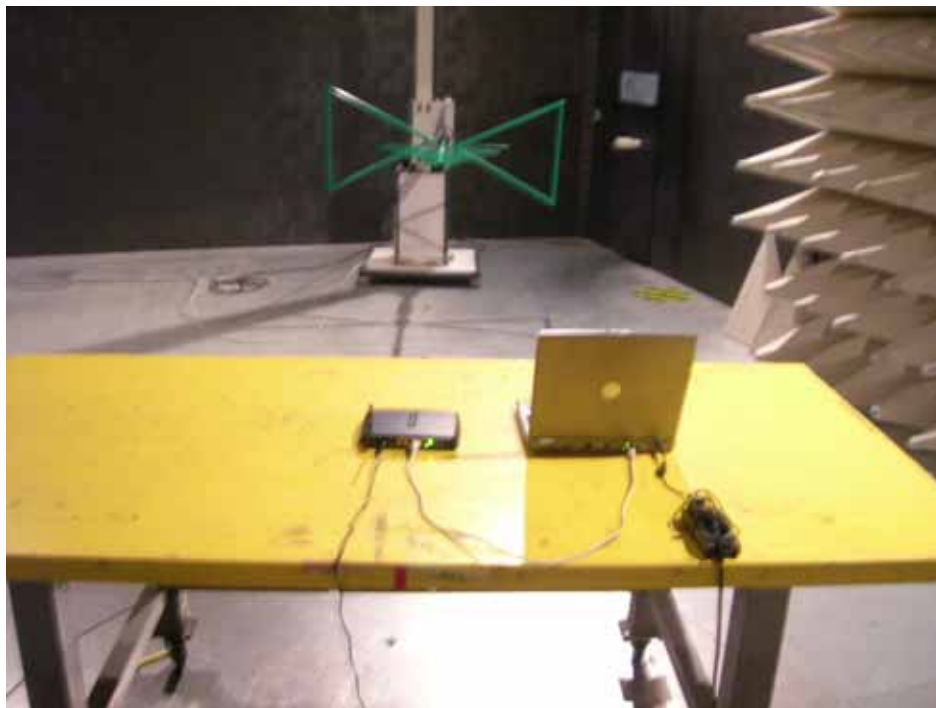
Site : 03CH02-HY
 Condition : FCC CLASS-B 3m HORN-6903-04-09 VERTICAL

POWER :
 MEMO : ST585v6 HP
 MEMO : TX CH11 2462MHz 11g

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	1638.000	50.59	-23.41	74.00	55.87	25.84	1.84	32.96	Peak	---	---
2	4924.000	51.67	-22.33	74.00	47.59	33.19	3.17	32.28	Peak	---	---
3	4924.000	37.95	-16.05	54.00	33.87	33.19	3.17	32.28	Average	---	---
4	7388.000	55.62	-18.38	74.00	47.94	36.43	3.89	32.64	Peak	---	---
5	7388.000	42.51	-11.49	54.00	34.83	36.43	3.89	32.64	Average	---	---

4.7.5. Photographs of Radiated Emission Test Configuration

- The photographs show the configuration that generates the maximum emission.

FRONT VIEW**REAR VIEW**

4.8. Antenna Requirements

4.8.1. Standard Applicable

For intentional device, according to FCC 47 CFR Section 15.203, 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.

And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

4.8.2. Antenna Connected Construction

Two antennas are equipped on the EUT. The internal PIFA antenna is without any connector. The external dipole antenna connector fixed with a coaxial cable is MHF-type.

4.9. RF Exposure

FCC Rules and Regulations Part 1.1307, 1.1310, 2.1091, 2.1093:

RF Exposure Compliance

4.9.1. Limits of Maximum Permissible Exposure (MPE)**(A) Limits for Occupational / Controlled Exposure**

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-100,000			5	6

(B) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1.0	30

F=frequency in MHz

*Plane-wave equivalent power density

4.9.2. MPE Calculations

$$E \text{ (V/m)} = \frac{\sqrt{30 \times P \times G}}{d} \quad \text{Power Density: } Pd \text{ (mW/cm}^2\text{)} = \frac{E^2}{377}$$

E = Electric field (V/m)

P = Peak output power (mW)

G = Antenna numeric gain (numeric)

d = Separation distance (m)

Because the EUT is belong to General Population/ Uncontrolled Exposure. So the Limit of Power Density is 1.0 mW/cm². We can change the formula to:

$$d = \sqrt{\frac{30 \times P \times G}{377}}$$

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)
3.8	2.3988	21.8800	154.1700	0.073612	1

4.9.3. FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna shall not be less than 20cm (8 inches) during normal operation. It is proposed to include the RF exposure safety information in user manual.

5. List of Measuring Equipments Used

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
EMC Receiver	R&S	ESCS 30	100174	9kHz-2.75GHz	Feb. 22, 2006	Conduction (CO04-HY)
LISN	MessTec	NNB-2/16Z	99079	9kHz-30MHz	Dec. 19, 2005	Conduction (CO04-HY)
LISN (Support Unit)	EMCO	3810/2NM	9708-1839	9kHz-30MHz	Mar. 18, 2006	Conduction (CO04-HY)
RF Cable-CON	UTIFLEX	3102-26886-4	CB049	9kHz-30MHz	Apr. 20, 2006	Conduction (CO04-HY)
EMI Filter	LINDGREN	LRE-2030	2651	< 450Hz	N/A	Conduction (CO04-HY)
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	30 MHz - 1 GHz 3m	Jun. 15, 2006	Radiation (03CH03-HY)
Amplifier	SCHAFFNER	CPA9231A	18667	9 kHz - 2 GHz	Jan. 18, 2006	Radiation (03CH03-HY)
Amplifier	Agilent	8449B	3008A02120	1 GHz - 26.5 GHz	May 29, 2006	Radiation (03CH03-HY)
Amplifier	MITEQ	AMF-6F-260400	923364	26.5 GHz - 40 GHz	Jan. 24, 2006*	Radiation (03CH03-HY)
Spectrum Analyzer	R&S	FSP40	100004/040	9 kHz - 40 GHz	Sep. 21, 2006	Radiation (03CH03-HY)
Loop Antenna	R&S	HFH2-Z2	860004/001	9 kHz - 30 MHz	May 23, 2006*	Radiation (03CH03-HY)
Bilog Antenna	SCHAFFNER	CBL 6112D	22237	30 MHz – 1 GHz	Jul. 24, 2006	Radiation (03CH03-HY)
Horn Antenna	EMCO	3115	6903	1GHz ~ 18GHz	Mar. 15, 2006	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, 2005	Radiation (03CH03-HY)
RF Cable-HIGH	SUHNER	SUCOFLEX 106	03CH03-HY	1 GHz - 40 GHz	Dec.02, 2005	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)

Calibration Interval of instruments listed above is one year.

*Calibration Interval of instruments listed above is two year.

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Spectrum Analyzer	R&S	FSP30	100023	9kHz ~ 30GHz	Nov. 25, 2006	Conducted (TH01-HY)
Power Meter	R&S	NRVS	100764	DC ~ 40GHz	Jul, 20, 2006	Conducted (TH01-HY)
Power Sensor	R&S	NRV-Z51	100666	DC ~ 40GHz	Jul. 20, 2006	Conducted (TH01-HY)
Power Sensor	R&S	NRV-Z32	100057	30MHz ~ 6GHz	Jun, 10, 2006	Conducted (TH01-HY)
AC Power Source	HPC	HPA-500W	HPA-9100024	AC 0 ~ 300V	Apr. 21, 2005*	Conducted (TH01-HY)
DC Power Source	G.W.	GPC-6030D	C671845	DC 1V ~ 60V	Dec. 28, 2005	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. 30, 2006	Conducted (TH01-HY)
RF CABLE-2m	Jye Bao	RG142	CB035-2m	20MHz ~ 1GHz	Dec. 30, 2006	Conducted (TH01-HY)
Oscilloscope	Tektronix	TDS1012	CO38515	100MHz / 1GS/s	Jun. 20, 2006	Conducted (TH01-HY)
Signal Generator	R&S	SMR40	100116	10MHz ~ 40GHz	Dec. 30, 2005	Conducted (TH01-HY)
Data Generator	Tektronix	DG2030	063-2920-50	0.1Hz~400MHz	Jun. 16, 2006	Conducted (TH01-HY)

Calibration Interval of instruments listed above is one year.

*Calibration Interval of instruments listed above is two year.

6. Uncertainty of Test Site

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

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 Spec	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 (30MHz ~ 1000MHz)

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-shaped	0.28
combined standard uncertainty Uc(y)	1.27		
Measuring uncertainty for a level of confidence of 95% U=2Uc(y)	2.54		