

FCC TEST REPORT

CATEGORY : Mobile
PRODUCT NAME : Dual mode 2.4GHz / 5GHz Access Point
FCC ID. : QZE200
FILING TYPE : Certification
BRAND NAME : Trapeze
MODEL NAME : MP-372

APPLICANT : **Trapeze Networks, Inc.**
5753 W. Las Positas Blvd. Pleasanton, CA 94588, US

MANUFACTURER : **Alpha Networks Inc.**
No.8, Li-shing Road VII, Science-based Industrial
Park, Hsinchu, Taiwan

ISSUED BY : **SPORTON INTERNATIONAL INC.**
6F, No. 106, Sec. 1, Hsin Tai Wu Rd., His Chih, Taipei Hsien,
Taiwan, R.O.C.

Statements:

Only the test result of 802.11b/g (2400 ~2483.5MHz) and 802.11a (5745MHz ~ 5825MHz) is shown in this test report.

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

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

Certificate or Test Report could not be used by the applicant to claim the product endorsement by CNLA and any agency of U.S. government.

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



1190
ILAC MRA

SPORTON International Inc.

TEL : 886-2-2696-2468

FAX : 886-2-2696-2255

Table of Contents

HISTORY OF THIS TEST REPORT	II
CERTIFICATE OF COMPLIANCE	III
1. GENERAL DESCRIPTION OF EQUIPMENT UNDER TEST	1
1.1. Applicant.....	1
1.2. Manufacturer	1
1.3. Basic Description of Equipment under Test	1
1.4. Features of Equipment under Test.....	1
1.5. Antenna Description	2
1.6. Table for Carrier Frequencies	2
2. TEST CONFIGURATION OF THE EQUIPMENT UNDER TEST.....	3
2.1. Connection Diagram of Test System.....	3
2.2. The Test Mode Description	4
2.3. Description of Test Supporting Units.....	4
3. GENERAL INFORMATION OF TEST	5
3.1. Test Facility	5
3.2. Standards for Methods of Measurement	5
3.3. DoC Statement.....	5
3.4. Frequency Range Investigated	5
3.5. Test Distance.....	5
3.6. Test Software	5
4. LIST OF MEASUREMENTS.....	7
4.1. Summary of the Test Results	7
5. TEST RESULT	8
5.1. Test of Spurious Radiated Emission	8
5.2. Antenna Requirements.....	16
6. LIST OF MEASURING EQUIPMENTS USED	17
7. COMPANY PROFILE	18
7.1. Certificate of Accreditation	18
7.2. Test Location	18
8. CNLA CERTIFICATE OF ACCREDITATION	19
APPENDIX A. PHOTOGRAPHS OF EUT.....	A1 ~ A13



HISTORY OF THIS TEST REPORT

Received Date: Mar. 4th, 2005

Test Date: May 20, 2005

Original Report Issue Date: May 18, 2005

Report No.: FR530403-01

☒ No additional attachment.

☐ Additional attachment were issued as following record:

Attachment No.	Issue Date	Description

CERTIFICATE OF COMPLIANCE

with

47 CFR FCC Part 15 Subpart C

PRODUCT NAME : Dual mode 2.4GHz / 5GHz Access Point

BRAND NAME : Trapeze

MODEL NAME : MP-372

APPLICANT : **Trapeze Networks, Inc.**
5753 W. Las Positas Blvd. Pleasanton, CA 94588, US

MANUFACTURER : **Alpha Networks Inc.**
No.8, Li-shing Road VII, Science-based Industrial
Park, Hsinchu, Taiwan

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 all test are performed according to 47 CFR FCC Part 15 Subpart C. Testing was carried out on May 20, 2005 at SPORTON International Inc. LAB.



Wayne Hsu

1. General Description of Equipment under Test

1.1. Applicant

Trapeze Networks, Inc.
5753 W. Las Positas Blvd. Pleasanton, CA 94588, US

1.2. Manufacturer

Alpha Networks Inc.
No.8, Li-shing Road VII, Science-based Industrial Park, Hsinchu, Taiwan

1.3. Basic Description of Equipment under Test

This product is a Wireless Access Point with 802.11a/b/g wireless solution. The technical data has been listed on section "Features of Equipment under Test". 4 types of antenna are filed in this project for both 2.4GHz and 5GHz operating frequency band. There are 2 antenna ports in this product for external antenna connection, one is for 2.4GHz band, the other is for 5GHz band. This product will use 5GHz and 2.4GHz band antenna with the same beam width together.

This product is an extension of original one reported under Sporton project number: 530403. Products layout is the same, only an electric capacity was added.

1.4. Features of Equipment under Test

Items	Description
Type of Modulation	DSSS (CCK / DQPSK / DBPSK) OFDM (16QAM / 64QAM / DQPSK / DBPSK)
Number of Channels	11 for 802.11b/g, 5 for 802.11a part
Frequency Band	2400 MHz ~ 2483.5 MHz and 5745 MHz ~ 5825 MHz
Carrier Frequency	See section 1.6 for details
Data Rate	1, 2, 5.5, 11 Mbps 6, 12, 18, 24, 36, 48, 54 Mbps
Max. Conducted Output Power	21.10 dBm
Antenna Type	See section 1.5 for details
Communication Type	Half-Duplex
Testing Duty Cycle	100.00%
Test Power Source	48V dc from POE
Temperature Range (Operating)	0 ~ 50 °C

1.5. Antenna Description

No.	Brand Name	Model Name	Antenna Type	Gain (dBi)
1	CENTURION	CAF94400	Surface Mount Ant.	3.00 @2.4GHz
2	SuperPass	ANT-1180 (SPDG12H)	180° Panel Ant.	6.00 @2.4GHz
3	SuperPass	ANT-1120 (SPDG11T)	120° Panel Ant.	7.00 @2.4GHz
4	SuperPass	ANT-1060 (SPLG11)	60° Panel Ant.	10.00 @2.4GHz

No.	Antenna Type	Gain (dBi)
1	Internal PIFA Antenna (CAF94400)	4.00 @5.0GHz
2	External Panel Antenna ANT-5180 (ASTN6H) 180°	10.80 @5.0GHz
3	External Panel Antenna ANT-5120 (ASTN6T) 120°	12.50 @5.0GHz
4	External Panel Antenna ANT-5060 (ASTN6S) 60°	14.50 @5.0GHz

1.6. Table for Carrier Frequencies

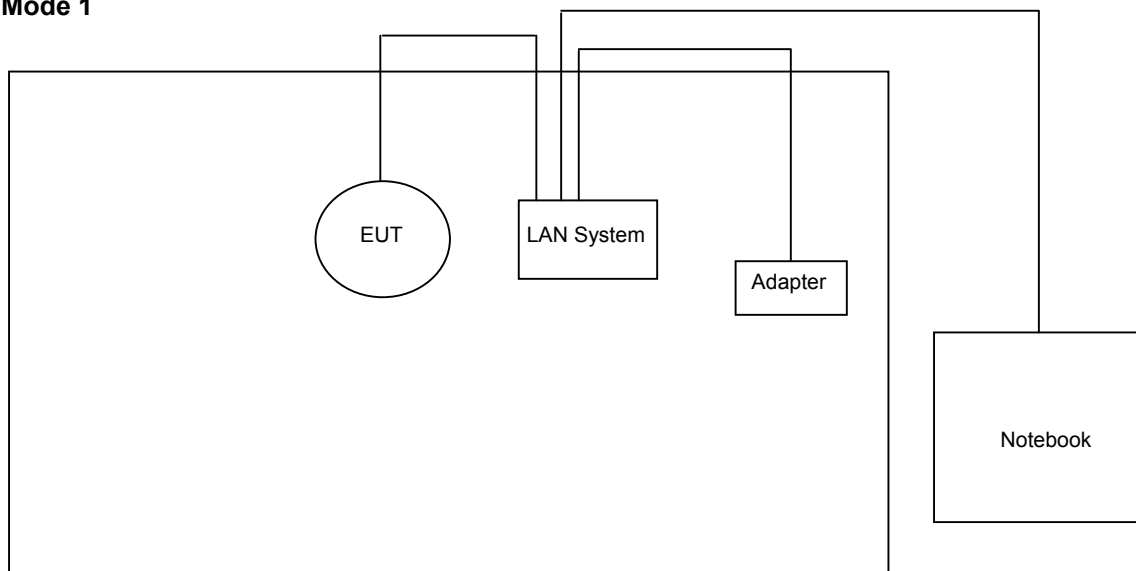
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
01	2412 MHz	05	2432 MHz	09	2452 MHz	-	-
02	2417 MHz	06	2437 MHz	10	2457 MHz	-	-
03	2422 MHz	07	2442 MHz	11	2462 MHz	-	-
04	2427 MHz	08	2447 MHz	-	-	-	-

Channel	Frequency
100	5745 MHz
104	5765 MHz
108	5785 MHz
112	5805 MHz
116	5825 MHz

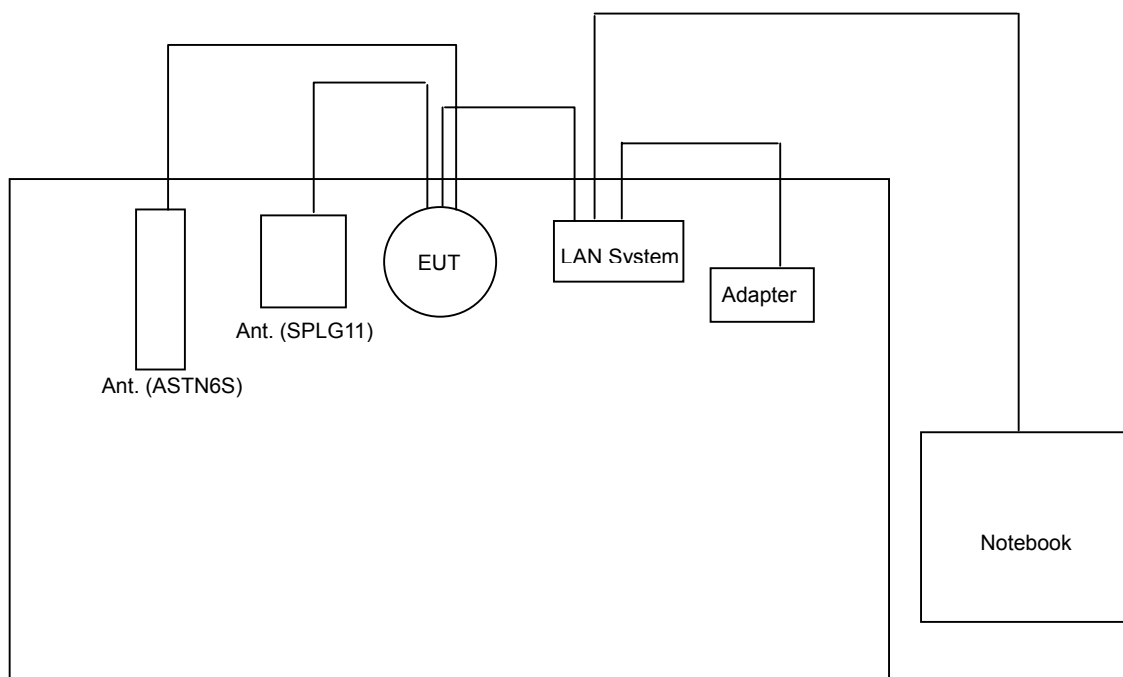
2. Test Configuration of the Equipment under Test

2.1. Connection Diagram of Test System

Mode 1



Mode 2



2.2. The Test Mode Description

1. For DSSS modulation, CCK (11 Mbps) is the worst case on all test items.
2. For OFDM modulation, BPSK (6 Mbps) is the worst case on all test items.
3. According to ANSI C63.4-2003: If frequency range of EUT is more than 10 MHz, we have to test the lowest, middle and highest channels of EUT.
4. It is found, for spurious emission below 1GHz, that there is no difference between 802.11b/g and 802.11a configurations.
5. Spurious emission below 1GHz is independent of channel selection and modulation types. So only channel 11 with OFDM modulation was tested.
6. Products layout is the same, only an electric capacity was added, so we only need to test Radiation Emission below 1GHz.
7. There are 4 types of antennas, 3 of them are in the same type. So only 2 antennas was tested.

Mode 1 : Ant. 1 (CAF94400) – Internal Antenna

Mode 2 : Ant. 4 (SPLG11) – External Antenna

2.3. Description of Test Supporting Units

Support unit	Brand	Model No.	Serial No.	FCC ID	Data cable (m)
Notebook	DELL	C600	10004	DoC	-
POE	-	-	-	-	-
Adapter	LB	SA06L48	-	-	1.5

3. General Information of Test

3.1. Test Facility

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 : 03CH03-HY

3.2. Standards for Methods of Measurement

Here is the list of the standards followed in this test report.

ANSI C63.4-2003

47 CFR FCC Part 15 Subpart C

3.3. DoC Statement

This EUT is also classified as a device of computer peripheral Class B which DoC has to be followed. It has been verified according to the rule of 47 CFR part 15 Subpart B, and found that all the requirements has been fulfilled.

3.4. Frequency Range Investigated

Radiated emission test: from 30 MHz to 10th carrier harmonic

3.5. Test Distance

The test distance of radiated emission (30MHz~1GHz) test from antenna to EUT is 3 M.

The test distance of radiated emission (1GHz~10th carrier harmonic) test from antenna to EUT is 3 M.

3.6. Test Software

During testing, Channel & Power Controlling Software: This was provided by the manufacturer and is able to let the test engineer select the operating channel as well as the RF output power. The parameters for channel selection is trying to offer the test engineer the ability to fix the operating channel for testing, both normal data and continuously transmitting modes are allowed, and that for 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.

Power Parameter Table

Mode 1

Software Version	:	ART
Power Set Ch01 / DSSS	:	19/TX Power FRAME,ob=4,db=3,b_ob=2,d-db=1 (INT ANT.1)
Power Set Ch06 / DSSS	:	20/TX Power FRAME,ob=4,db=3,b_ob=2,d-db=1 (INT ANT.1)
Power Set Ch11 / DSSS	:	20/TX Power FRAME,ob=4,db=3,b_ob=2,d-db=1 (INT ANT.1)
Power Set Ch01 / OFDM	:	14/TX Power FRAME,ob=4,db=3,b_ob=2,d-db=1 (INT ANT.1)
Power Set Ch06 / OFDM	:	19/TX Power FRAME,ob=4,db=3,b_ob=2,d-db=1 (INT ANT.1)
Power Set Ch11 / OFDM	:	15/TX Power FRAME,ob=4,db=3,b_ob=2,d-db=1 (INT ANT.1)
IP Address of EUT	:	Art \remote=192.168.1.20 \id=a034

Mode 2

Software Version	:	ART
Power Set Ch01 / DSSS	:	18/TX Power FRAME,ob=4,db=3,b_ob=2,d-db=1 (EXT ANT.4)
Power Set Ch06 / DSSS	:	20/TX Power FRAME,ob=4,db=3,b_ob=2,d-db=1 (EXT ANT.4)
Power Set Ch11 / DSSS	:	19/TX Power FRAME,ob=4,db=3,b_ob=2,d-db=1 (EXT ANT.4)
Power Set Ch01 / OFDM	:	14/TX Power FRAME,ob=4,db=3,b_ob=2,d-db=1 (EXT ANT.4)
Power Set Ch06 / OFDM	:	18/TX Power FRAME,ob=4,db=3,b_ob=2,d-db=1 (EXT ANT.4)
Power Set Ch11 / OFDM	:	14/TX Power FRAME,ob=4,db=3,b_ob=2,d-db=1 (EXT ANT.4)
IP Address of EUT	:	Art \remote=192.168.1.20 \id=a034



4. List of Measurements

4.1. Summary of the Test Results

Applied Standard: 47 CFR FCC Part 15 Subpart C			
Paragraph	FCC Section	Description of Test	Result
5.1	15.247(d)	Spurious Radiated Emission	Pass
5.2	15.203/15.247(b)/(c)	Antenna Requirement	Pass

5. Test Result

5.1. Test of Spurious Radiated Emission

5.1.1. Applicable Standard

Section 15.247(d): In any 100 kHz 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 20 dB below that in the 100 kHz 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.

5.1.2. Measuring Instruments

Please reference item 1~17 in chapter 6 for the instruments used for testing.

5.1.3. Description of Major Test Instruments Setting

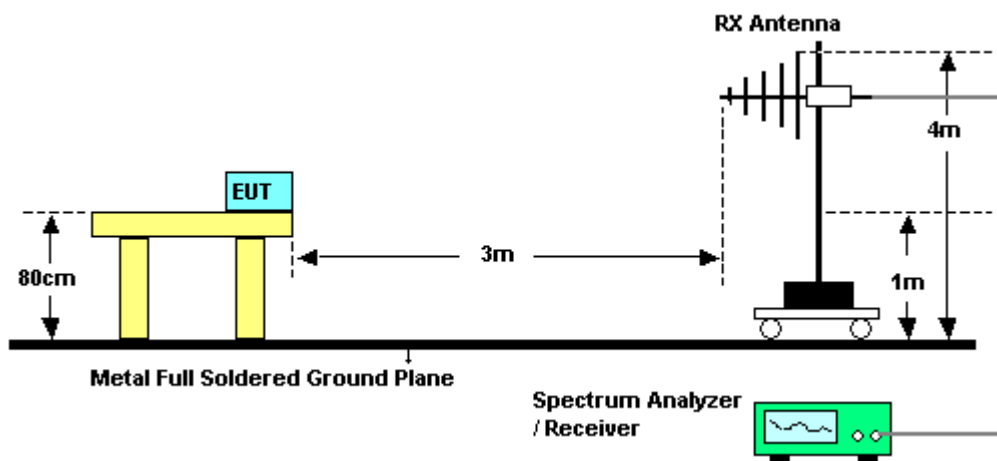
- Spectrum Analyzer : R&S FSP40
 - Attenuation : Auto
 - Start Frequency : 1000 MHz
 - Stop Frequency : 10th carrier harmonic
 - RB / VB : 1 MHz / 1MHz for Peak
 - RB / VB : 1 MHz / 10Hz for Average
- Test Receiver : R&S ESCS 30
 - Attenuation : Auto
 - Start Frequency : 30 MHz
 - Stop Frequency : 1000 MHz
 - RB : 120 KHz for QP or PK

5.1.4. Test Procedures

1. Configure the EUT according to ANSI C63.4.
2. The EUT was placed on the top of the turntable 0.8 meter above ground.
3. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
4. Power on the EUT and all the supporting units.
5. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
6. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emission field strength of both horizontal and vertical polarization.
7. For each suspected emission, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
8. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.

9. For emission above 1GHz, use 1MHz VBW and RBW for peak reading. Then 1MHz RBW and 10Hz VBW for average reading in spectrum analyzer.
10. If the emission level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz and average method for above the 1GHz. the reported.
11. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB higher 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.

5.1.5. Test Setup Layout



5.1.6. Test Criteria

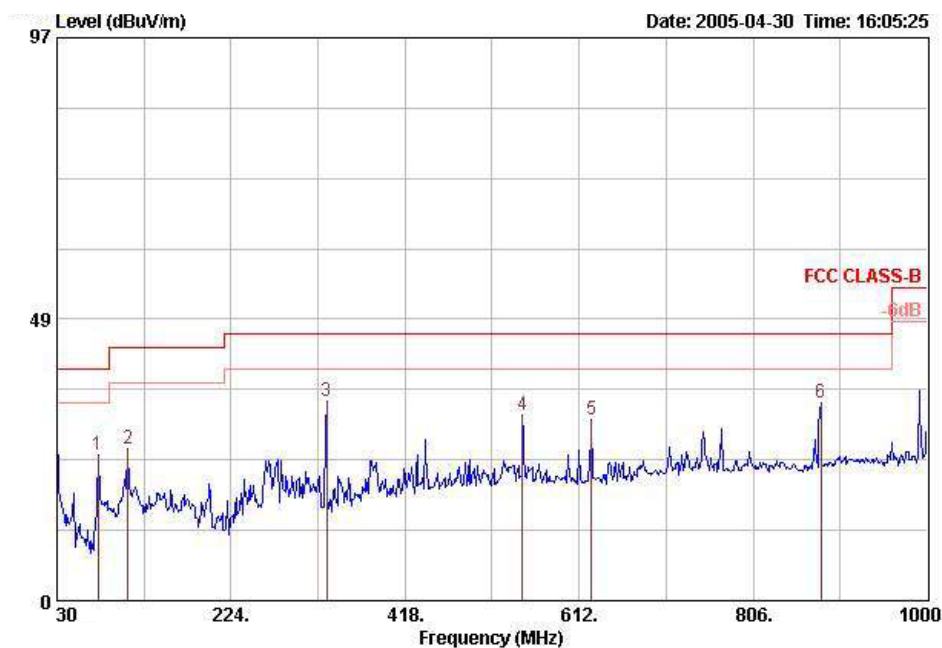
All test results complied with the requirements of 15.247(d). Measurement Uncertainty is 2.26dB.

5.1.7. Test Results for CH 11 / 2462 MHz (for emission below 1GHz)

- Modulation Type: OFDM
- Temperature: 26°C
- Relative Humidity: 64%
- Duty Cycle of the Equipment During the Test: 100.00%
- Test Engineer: Steven Lu

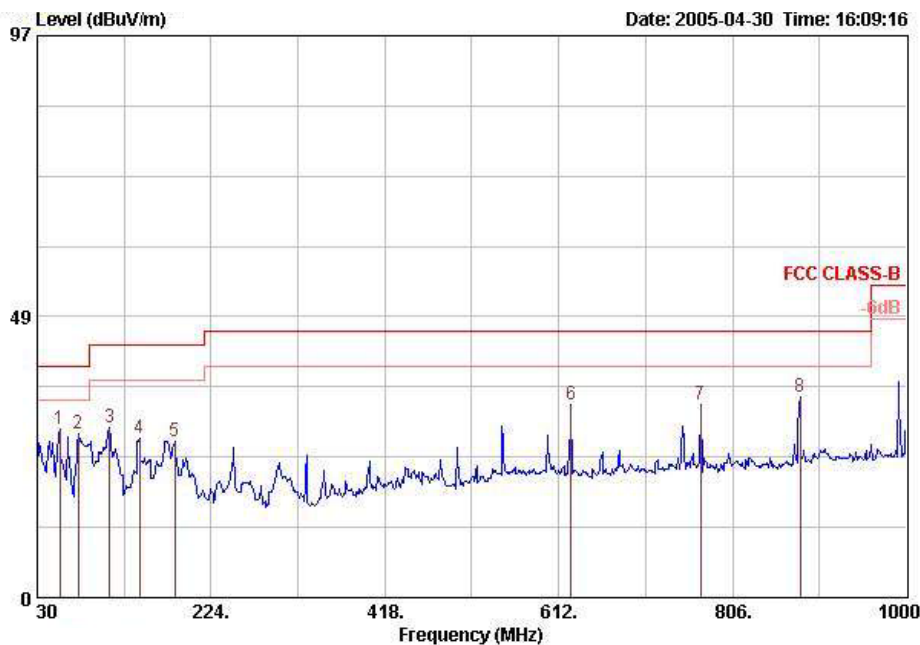
Mode 1

(A) Polarization: Horizontal



	Freq	Level	Over Limit	Limit	Antenna Line Factor	Cable Loss	Preamp Factor	Read Level	Pol/Phase	Remark
	MHz	dBuV/m	dB	dBuV/m	dB/m	dB	dB	dBuV		
1	75.590	25.09	-14.91	40.00	6.20	0.70	29.97	48.15	HORIZONTAL	Peak
2	109.540	26.05	-17.45	43.50	11.50	0.84	30.07	43.78	HORIZONTAL	Peak
3	330.700	34.36	-11.64	46.00	13.87	1.43	30.50	49.56	HORIZONTAL	Peak
4	548.950	32.04	-13.96	46.00	18.28	1.87	30.63	42.52	HORIZONTAL	Peak
5	625.580	31.15	-14.85	46.00	18.75	1.97	30.59	41.02	HORIZONTAL	Peak
6	881.660	34.09	-11.91	46.00	20.32	2.39	29.18	40.56	HORIZONTAL	Peak

(B) Polarization: Vertical



	Freq	Level	Over	Limit	Antenna	Cable	Preamp	Read		
	MHz	dBuV/m	Limit	Line	Factor	Loss	Factor	Level	Pol/Phase	Remark
			dB	dBuV/m	dB/m	dB	dB	dBuV		
1	55.220	29.15	-10.85	40.00	6.25	0.63	29.81	52.08	VERTICAL	Peak
2	75.590	28.16	-11.84	40.00	6.20	0.70	29.97	51.22	VERTICAL	Peak
3	110.510	29.22	-14.28	43.50	11.50	0.84	30.07	46.94	VERTICAL	Peak
4	144.460	27.40	-16.10	43.50	10.63	0.95	30.06	45.89	VERTICAL	Peak
5	183.260	27.01	-16.49	43.50	8.30	1.07	30.02	47.66	VERTICAL	Peak
6	625.580	33.31	-12.69	46.00	18.75	1.97	30.59	43.18	VERTICAL	Peak
7	770.110	33.27	-12.73	46.00	19.92	2.19	30.09	41.24	VERTICAL	Peak
8	881.660	34.61	-11.39	46.00	20.32	2.39	29.18	41.07	VERTICAL	Peak

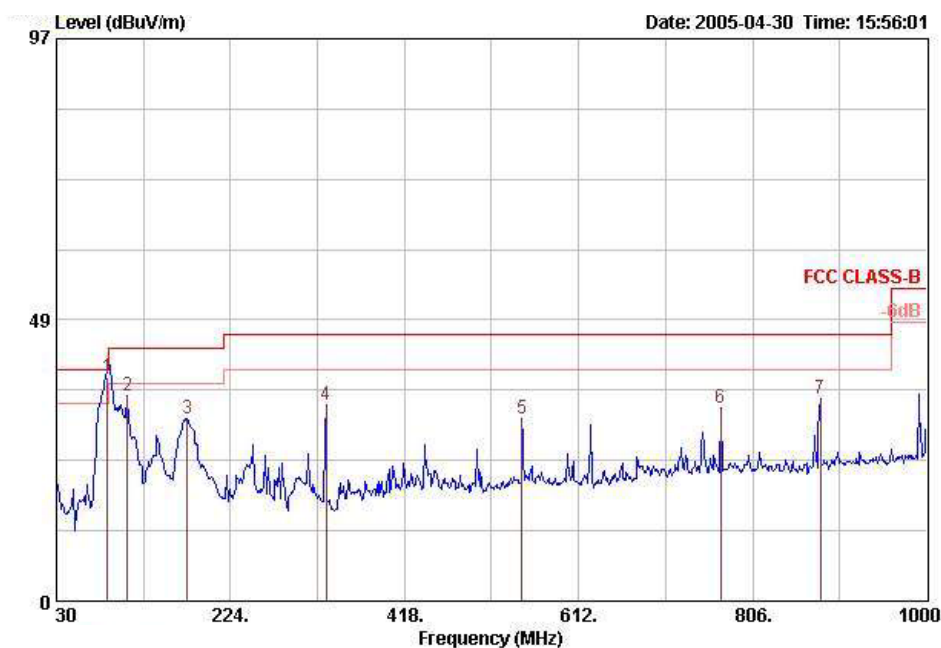
Note:

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

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

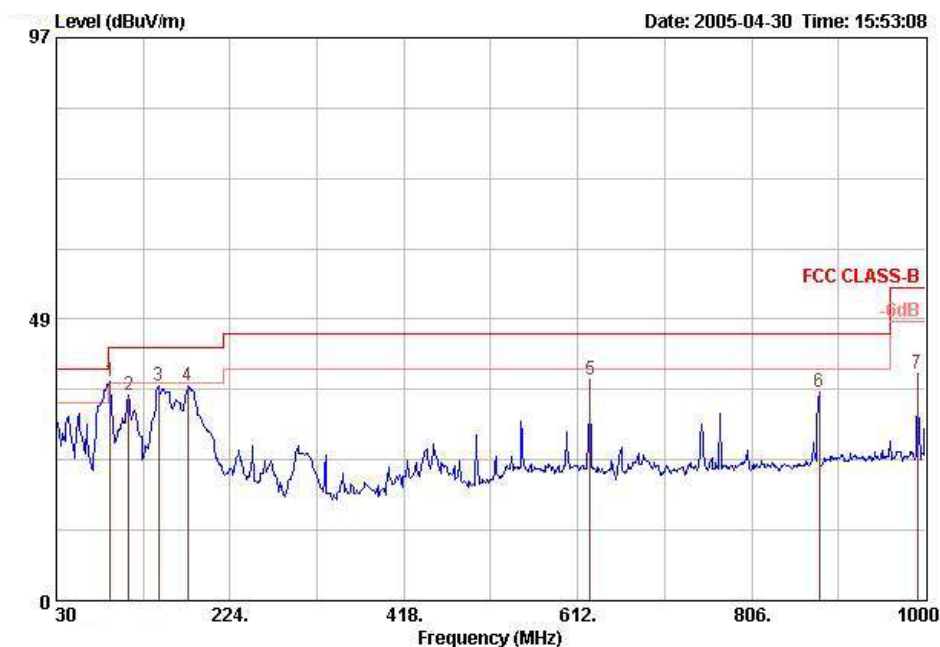
Mode 2

(A) Polarization: Horizontal



	Freq	Level	Over	Limit	Antenna	Cable	Preamp	Read		
	MHz	dBuV/m	Limit		Line Factor	Loss	Factor	Level	Pol/Phase	Remark
	MHz	dBuV/m	dB	dBuV/m	dB/m	dB	dB	dBuV		
1 @	87.230	38.70	-1.30	40.00	8.20	0.75	30.04	59.78	HORIZONTAL	Peak
2	109.540	35.38	-8.12	43.50	11.50	0.84	30.07	53.11	HORIZONTAL	Peak
3	175.500	31.52	-11.98	43.50	8.66	1.05	30.12	51.93	HORIZONTAL	Peak
4	330.700	33.84	-12.16	46.00	13.87	1.43	30.50	49.04	HORIZONTAL	Peak
5	548.950	31.46	-14.54	46.00	18.28	1.87	30.63	41.94	HORIZONTAL	Peak
6	770.110	33.32	-12.68	46.00	19.92	2.19	30.09	41.29	HORIZONTAL	Peak
7	881.660	34.89	-11.11	46.00	20.32	2.39	29.18	41.36	HORIZONTAL	Peak

(B) Polarization: Vertical



	Freq	Level	Over	Limit	Antenna	Cable	Preamp	Read		
	MHz	dBuV/m	Limit	Line	Factor	Loss	Factor	Level	Pol/Phase	Remark
			dB	dBuV/m	dB/m	dB	dB	dBuV		
1 @	90.140	37.86	-5.64	43.50	8.90	0.78	30.09	58.27	VERTICAL	Peak
2	110.510	35.52	-7.98	43.50	11.50	0.84	30.07	53.24	VERTICAL	Peak
3 @	144.460	36.89	-6.61	43.50	10.63	0.95	30.06	55.38	VERTICAL	Peak
4 @	176.470	36.88	-6.62	43.50	8.59	1.05	30.11	57.35	VERTICAL	Peak
5	625.580	38.01	-7.99	46.00	18.75	1.97	30.59	47.88	VERTICAL	Peak
6	881.660	35.90	-10.10	46.00	20.32	2.39	29.18	42.36	VERTICAL	Peak
7	991.270	39.07	-14.93	54.00	20.90	2.52	28.65	44.30	VERTICAL	Peak

Note:

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

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

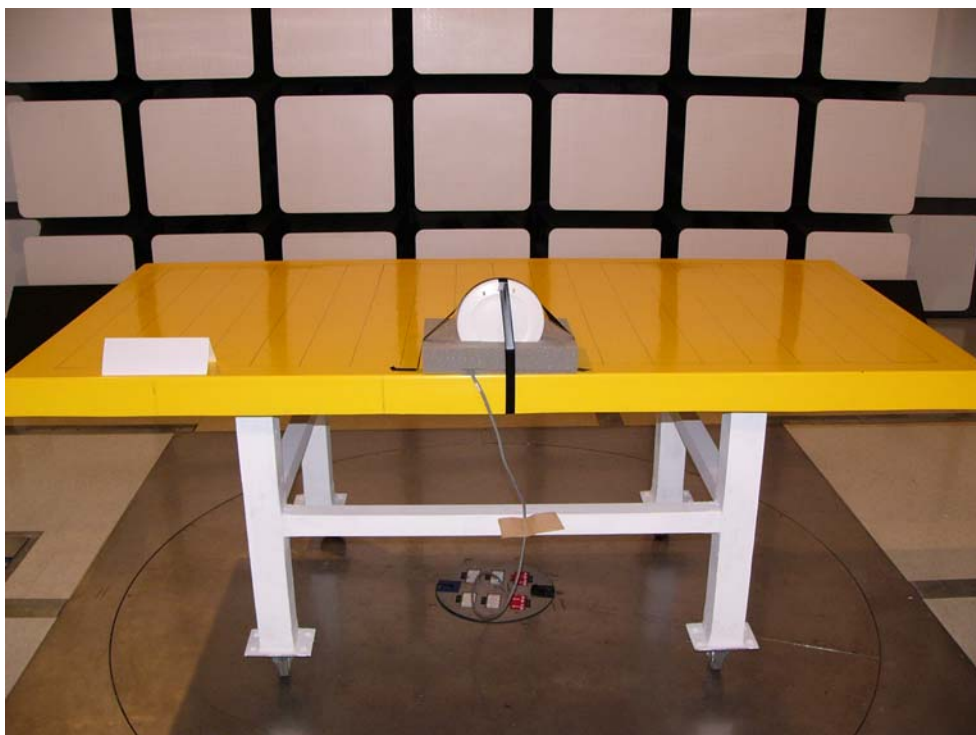
5.1.8. Photographs of Radiated Emission Test Configuration

Mode 1

FRONT VIEW



REAR VIEW

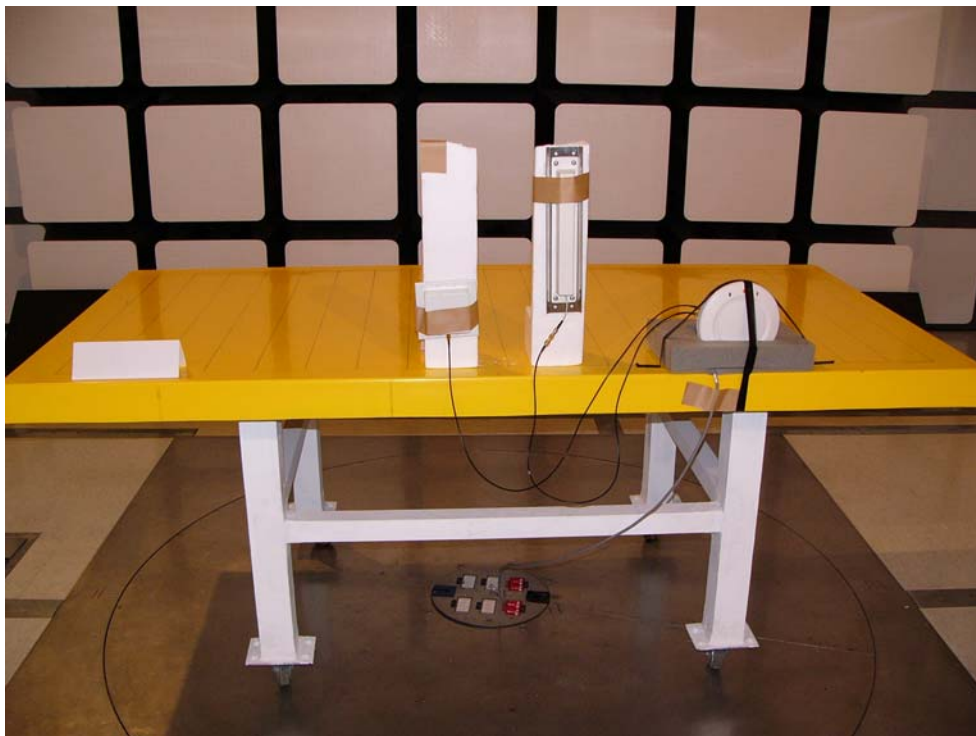


Mode 2

FRONT VIEW



REAR VIEW





5.2. Antenna Requirements

5.2.1. Standard Applicable

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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

Section 15.247(b)/(c):

If transmitting antennas of directional gain greater than 6 dBi are used, the peak output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

If the intentional radiator is used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6 dBi provided the maximum peak output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

5.2.2. Antenna Connected Construction

SMA connector is used for 3 sets of external antennas. There is no antenna connector for internal antenna. Since this product is classified as professional use, so standard connector should be allowed.

5.2.3. Antenna Gain

Gain of antenna 1 is less than 6dBi. That of Antenna 4 is more than 6dBi. Therefore peak conducted power limit shall be degraded. Antenna report of manufacturer will have more detail antenna gain or antenna pattern.

5.2.4. Test Criteria

All test results complied with the requirements of 15.203/15.247(b)/(c).

6. List of Measuring Equipments Used

Items	Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
1	3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	30MHz~1GHz 3m	Jun. 21, 2004	Radiation (03CH03-HY)
2	Spectrum Analyzer	R&S	FSP40	100004	9KHZ~4GHz	Aug. 31, 2004	Radiation (03CH03-HY)
3	Amplifier	Schaffner	CPA9231A	18667	9KHz – 2GHz	Jan. 04, 2005	Radiation (03CH03-HY)
4	Biconical Antenna	SCHWARZBECK	VHBB 9124	301	30MHz –200MHz	Jul. 23, 2004	Radiation (03CH03-HY)
5	Log Antenna	SCHWARZBECK	VUSLP 9111	221	200MHz -1GHz	Jul. 23, 2004	Radiation (03CH03-HY)
6	RF Cable-R03m	Jye Bao	RG142	CB021	30MHz~1GHz	Dec. 02, 2004	Radiation (03CH03-HY)
7	Amplifier	MITEQ	AFS44	879984	1GHz~26.5GHz	Mar. 25, 2005	Radiation (03CH03-HY)
8	Horn Antenna	COMPOWER	AH-118	10092	1GHz – 18GHz	Feb. 18, 2005	Radiation (03CH03-HY)
9	Turn Table	HD	DS 420	420/650/00	0 ~ 360 degree	N/A	Radiation (03CH03-HY)
10	Antenna Mast	HD	MA 240	240/560/00	1 m - 4 m	N/A	Radiation (03CH03-HY)
11	Horn Antenna	Schwarzbeck	BBHA9170	154	15GHz~40GHz	Jun. 09, 2004	Radiation (03CH03-HY)
12	RF Cable-HIGH	SUHNER	SUCOFLES 106	SN30094/6	1GHz~26.5GHz	Mar. 05, 2005	Radiation (03CH03-HY)

※ Calibration Interval of instruments listed above is one year.

7. Company Profile

SPORTON Lab. was established in 1986 with one shielded room: the first private EMI test facility, offering local manufacturers an alternative EMI test facility apart from ERSO. In 1988, one 3M and 10M/3M open area test site were setup and also obtained official accreditation from FCC, VCCI and NEMKO. In 1993, a Safety laboratory was founded and obtained accreditation from UL of USA, CSA of Canada and TUV (Rhineland & PS) of Germany. In 1995, one EMC lab, including EMI and EMS test facilities was setup. In 1997, SPORTON Group has provided financial expense to relocate the headquarter to Orient Scientific Park in Taipei Hsien to offer more comprehensive, more qualified and better service to local suppliers and manufactures. In 1999, Safety Group and Component Group were setup. In 2001, SPORTON has established 3M/10M chamber in Hwa Ya Technology Park.

7.1. Certificate of Accreditation

Taiwan	BSMI, CNLA, DGT
USA	FCC, NVLAP, UL
EU	Nemko, TUV
Japan	VCCI
Canada	Industry Canada

7.2. Test Location

SHIJR	ADD : 6Fl., No. 106, Sec. 1, Shintai 5th Rd., Shijr City, Taipei, Taiwan 221, R.O.C. TEL : 02-2696-2468 FAX : 02-2696-2255
HWA YA	ADD : No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL : 03-327-3456 FAX : 03-318-0055
LINKOU	ADD : No. 30-2, Dingfu Tsuen, Linkou Shiang, Taipei, Taiwan 244, R.O.C TEL : 02-2601-1640 FAX : 02-2601-1695
DUNGHU	ADD : No. 3, Lane 238, Kangle St., Neihu Chiu, Taipei, Taiwan 114, R.O.C. TEL : 02-2631-4739 FAX : 02-2631-9740
JUNGHE	ADD : 7Fl., No. 758, Jungjeng Rd., Junghe City, Taipei, Taiwan 235, R.O.C. TEL : 02-8227-2020 FAX : 02-8227-2626
NEIHU	ADD : 4Fl., No. 339, Hsin Hu 2 nd Rd., Taipei 114, Taiwan, R.O.C. TEL : 02-2794-8886 FAX : 02-2794-9777

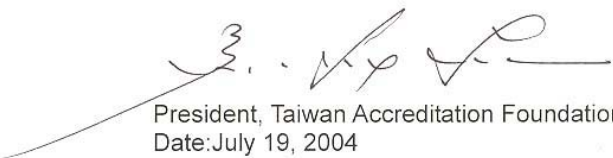
8. CNLA Certificate of Accreditation

Test Lab. : Sporton International Inc.
Accreditation Number : 1190
Originally Accredited : 2003/12/15
Effective Period : 2003/12/15~2006/12/14
Accredited Scope : 47 CFR FCC Part 15 Subpart C (9kHz~40GHz)



Taiwan Accreditation Foundation
Chinese National Laboratory Accreditation
Certificate of Accreditation

Accreditation Criteria: ISO 17025
Accreditation Number: 1190
Organization/Laboratory: EMC & Wireless Communications Laboratory, Sporton International Inc.
Originally Accredited: December 15, 2003
Effective Period: December 15, 2003 To December 14, 2006
Accredited Scope: Electrical Testing Field, 7 items, details shown in the following pages.
Specific Accreditation Program: Recognition and Approval of Designated Laboratory for Commodities Inspection


President, Taiwan Accreditation Foundation
Date: July 19, 2004

(This document is invalid unless accompanied by all 4 pages)

CNLA-ZL03191E Page 1 of 4