SPORTON International Inc.
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FCC RADIO TEST REPORT

Applicant's company	**G-STAR INDUSTRIAL CO., LTD.**
Applicant Address	7F-15, No.16, Lare 609, Sec.5, Chung Hsin Road, San Chung City, Taipei, Taiwan, R.O.C.
FCC ID	**UDQ-RF2500**
Manufacturer's company	**G-STAR INDUSTRIAL CO., LTD.**
Manufacturer Address	7F-15, No.16, Lare 609, Sec.5, Chung Hsin Road, San Chung City, Taipei, Taiwan, R.O.C.

Product Name	Wireless Headphone Specification
Brand Name	G-STAR
Model Name	RF-2500
Test Rule	47 CFR FCC Part 15 Subpart C § 15.247
Test Freq. Range	2400 ~ 2483.5MHz
Receive Date	Feb. 09, 2007
Final Test Date	Sep. 27, 2007
Submission Type	Original Equipment

Statement

The test result in this report refers exclusively to the presented test model / sample.
Without written approval of SPORTON International Inc., the test report shall not be reproduced except in full.
The measurements and test results shown in this test report were made in accordance with the procedures and found in compliance with the limit given in **ANSI C63.4-2003** and **47 CFR FCC Part 15 Subpart C**.
The test equipment used to perform the test is calibrated and traceable to NML/ROC.

Testing Laboratory
1190

Table of Contents

History of This Test Report

Original Issue Date: Oct. 08, 2007

Report No.: FR720903

■ No additional attachment.

☐ Additional attachment were issued as following record:

Attachment No.	Issue Date	Description

1. CERTIFICATE OF COMPLIANCE

Certificate No.: CB9610013

Product Name	:	Wireless Headphone Specification
Brand Name	:	G-STAR
Model Name	:	RF-2500
Applicant	:	G-STAR INDUSTRIAL CO., LTD.
Test Rule Part(s)	:	47 CFR FCC Part 15 Subpart C § 15.247

Sporton International as requested by the applicant to evaluate the EMC performance of the product sample received on Feb. 09, 2007 would like to declare that the tested sample has been evaluated and found to be in compliance with the tested rule parts. The data recorded as well as the test configuration specified is true and accurate for showing the sample's EMC nature.

Wayne Hsu

SPORTON INTERNATIONAL INC.

2. SUMMARY OF THE TEST RESULT

Applied Standard: 47 CFR FCC Part 15 Subpart C				
Part	**Rule Section**	**Description of Test**	**Result**	**Under Limit**
4.1	15.207	AC Power Line Conducted Emissions	Complies	4.60 dB
4.2	15.247(b)(3)	Maximum Peak Conducted Output Power	Complies	20.2 dB
4.3	15.247(e)	Power Spectral Density	Complies	9.58 dB
4.4	15.247(a)(2)	6dB Spectrum Bandwidth	Complies	-
4.5	15.247(d)	Radiated Emissions	Complies	0.45 dB
4.6	15.247(d)	Band Edge Emissions	Complies	1.06 dB
4.7	15.203	Antenna Requirements	Complies	-

Test Items	Uncertainty	Remark
AC Power Line Conducted Emissions	±2.26dB	Confidence levels of 95%
Maximum Peak Conducted Output Power	±0.5dB	Confidence levels of 95%
Power Spectral Density	±0.71dB	Confidence levels of 95%
6dB Spectrum Bandwidth	±6.25×10-7	Confidence levels of 95%
Radiated Emissions/ Band Edge Emissions	±3.72dB	Confidence levels of 95%

3. GENERAL INFORMATION

3.1. Product Details

Items	Description
Power Type	From Power Adapter / chargeable battery
Modulation	FSK
Frequency Range	2400 ~ 2483.5MHz
Channel Number	8
Channel Band Width (99%)	5224.35 kHz
Conducted Output Power	9.80 dBm
Carrier Frequencies	Please refer to section 3.4
Antenna	Please refer to section 3.3

3.2. Accessories

Power	Brand	Model	Rating
Adapter *2	HON-KWANG	HK-J105-A07	Input: 100-240V, 50/60Hz, 0.2A Output: 7V, 0~0.7A

3.3. Table for Filed Antenna

For Transmitter

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	Remark
A	-	-	Inverted F Antenna	NA	1.5	TX Ant.

For Headphone Receiver

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	Remark
B	-	-	Inverted F Antenna	NA	1.5	RX Ant.
C	-	-	Inverted F Antenna	NA	1.5	RX Ant.

Note: The Headphone Receiver has two RX Antennas.

The EUT supports the antenna with RX diversity function.

3.4. Table for Carrier Frequencies

Freqeuncy Band	Channel No.	Frequency
2400~2483.5MHz	1	2405.376MHz
	2	2415.616MHz
	3	2425.856MHz
	4	2436.096MHz
	5	2446.336MHz
	6	2456.576MHz
	7	2466.816MHz
	8	2477.056 MHz

3.5. Table for Test Modes

Investigation has been done on all the possible configurations for searching the worst cases. The following table is a list of the test modes shown in this test report.

Test Items	Mode	Channel	Antenna
AC Power Line Conducted Emissions	Normal Link (Mode 2)	4	A/B/C
Maximum Peak Conducted Output Power Power Spectral Density 6dB Spectrum Bandwidth	CTX	1/4/8	N/A
Radiated Emissions 9kHz~1GHz	Normal Link (Mode 1)	4	A
Radiated Emissions 1GHz~10th Harmonic	CTX	1/4/8	A
Band Edge Emissions	CTX	1/8	A

The following test modes were performed for Conducted Emissions and Radiated Emissions (9kHz~1GHz) test:

Mode 1: Coaxial Mode

Mode 2: RCA Mode

For Conducted Emissions: Due to Mode 2 generated the worst test result, so it was recorded in this report.

For Radiated Emissions: Due to Mode 1 generated the worst test result, so it was recorded in this report.

Note: CTX=continuously transmitting.

3.6. Table for Testing Locations

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

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

Please refer section 6 for Test Site Address.

3.7. Table for Supporting Units

Support Unit	Brand	Model	FCC ID
DVD Player White-Westinghouse	White-Westinghouse	WDV-5250PK	N/A

3.8. Table for Parameters of Test Software Setting

N/A

3.9. EUT Operation during Test

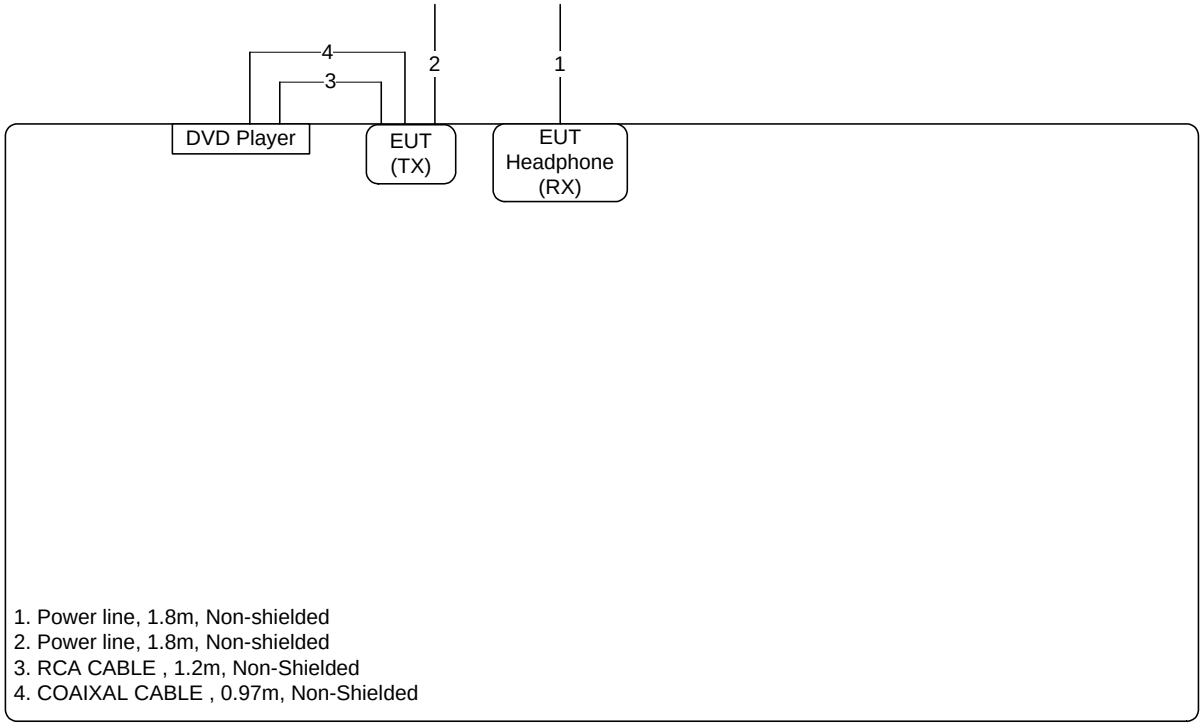
Executed " DVD PLAYER " to play music.

EUT was powered on. After pressed the button, EUT should be in continuously transmitting mode.

3.10. Test Configurations

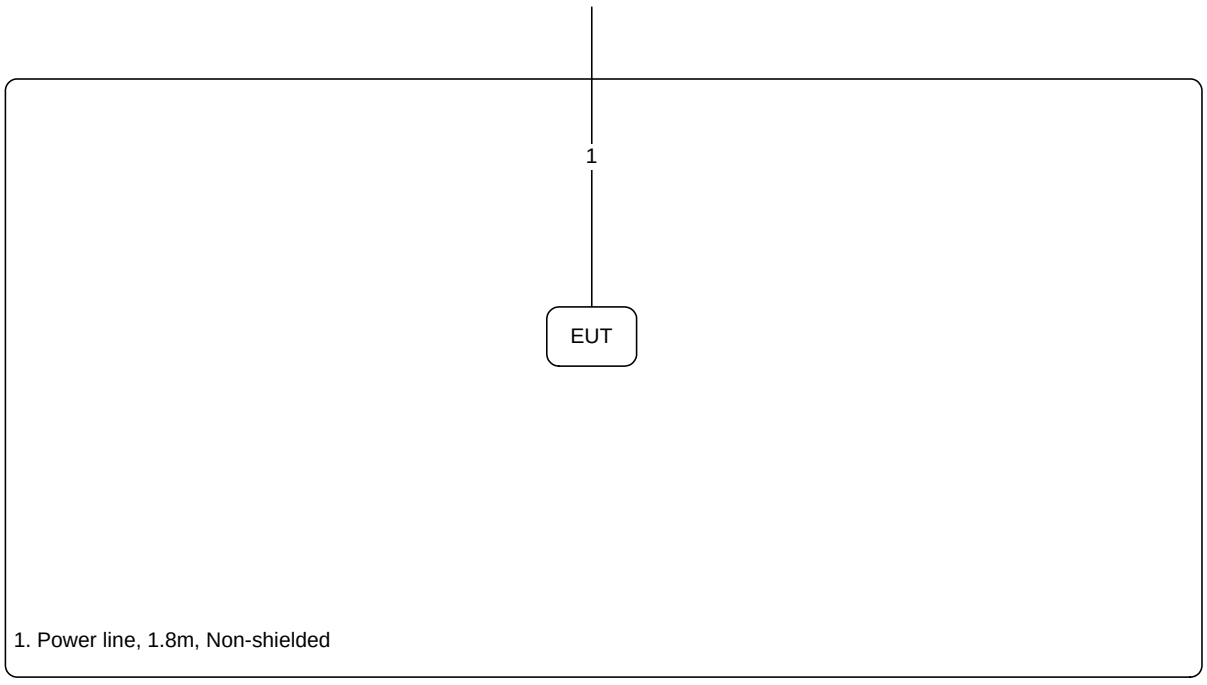
3.10.1. Radiation Emissions Test Configuration

Test Configurations: 9kHz ~ 1GHz



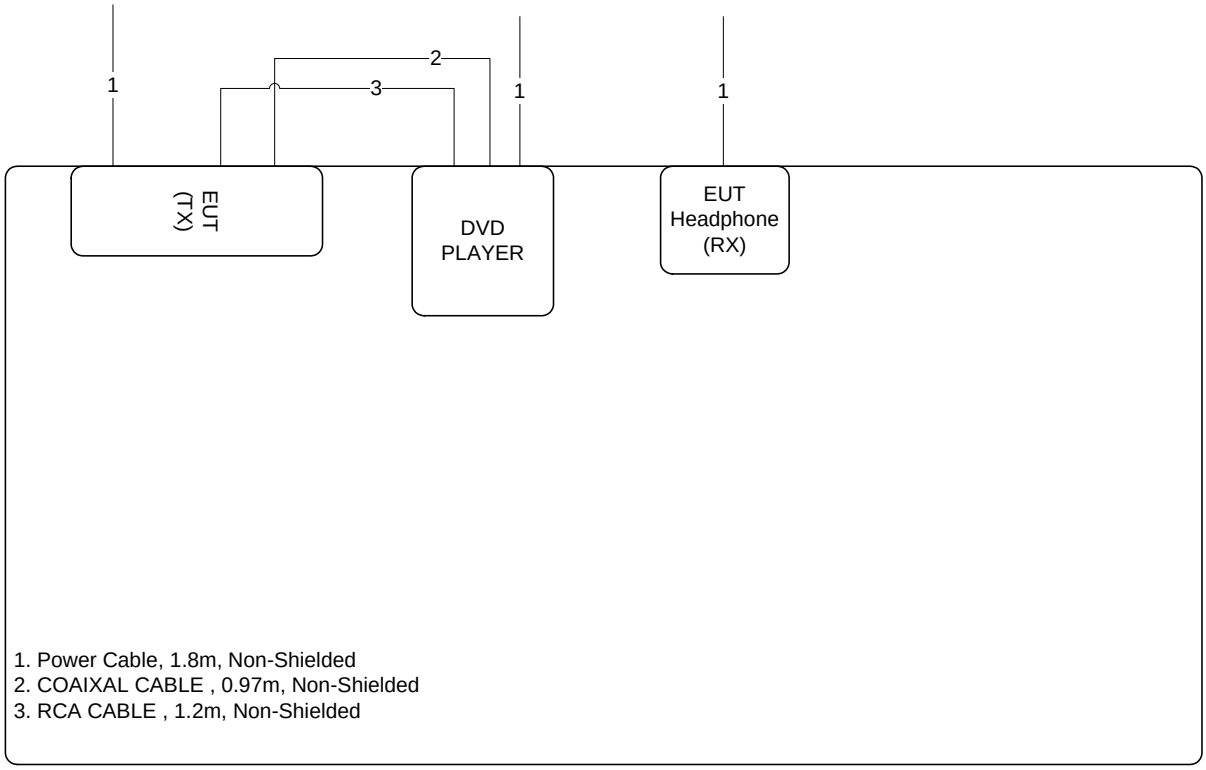
1. Power line, 1.8m, Non-shielded
2. Power line, 1.8m, Non-shielded
3. RCA CABLE , 1.2m, Non-Shielded
4. COAIXAL CABLE , 0.97m, Non-Shielded

Test Configurations: Above 1GHz



1. Power line, 1.8m, Non-shielded

3.10.2. AC Power Line Conduction Emissions Test Configuration



1. Power Cable, 1.8m, Non-Shielded
2. COAIXAL CABLE , 0.97m, Non-Shielded
3. RCA CABLE , 1.2m, Non-Shielded

4. TEST RESULT

4.1. AC Power Line Conducted Emissions Measurement

4.1.1. Limit

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

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

4.1.2. Measuring Instruments and Setting

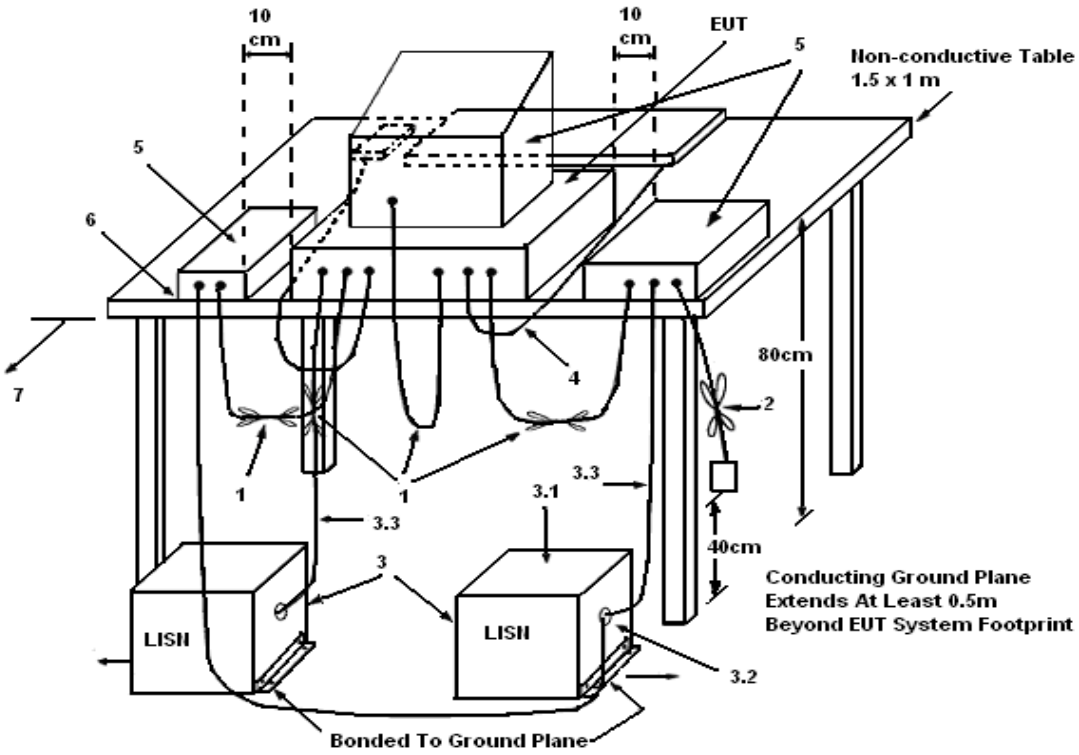
Please refer to section 5 of equipments list in this report. The following table is the setting of the receiver.

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

4.1.3. Test Procedures

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

4.1.4. Test Setup Layout



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

4.1.5. Test Deviation

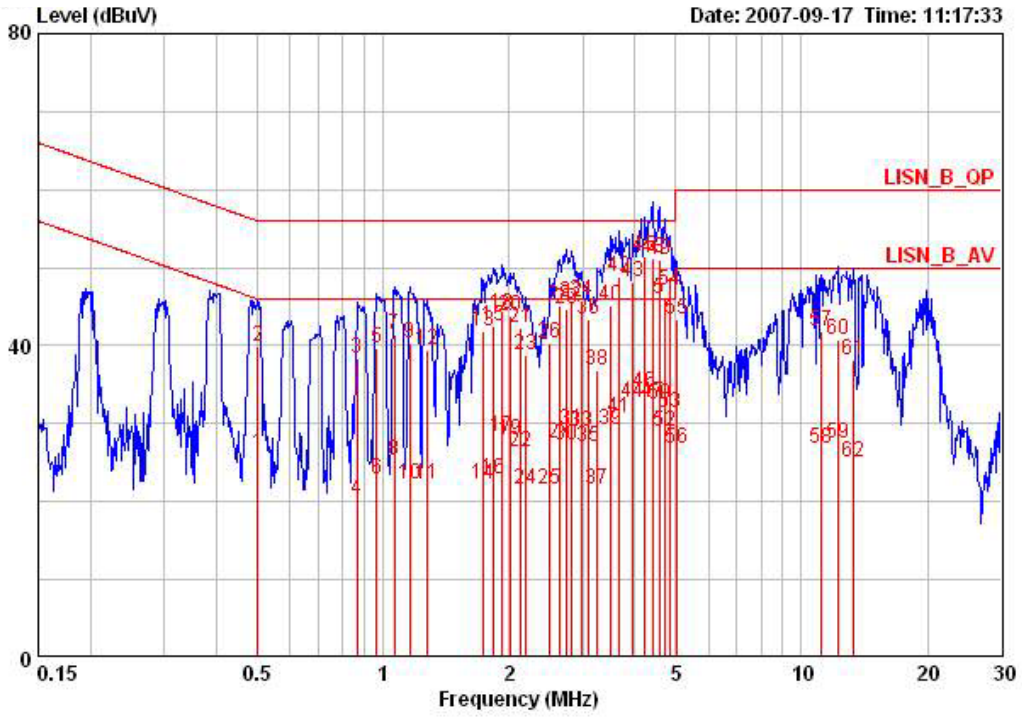
There is no deviation with the original standard.

4.1.6. EUT Operation during Test

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

4.1.7. Results of AC Power Line Conducted Emissions Measurement

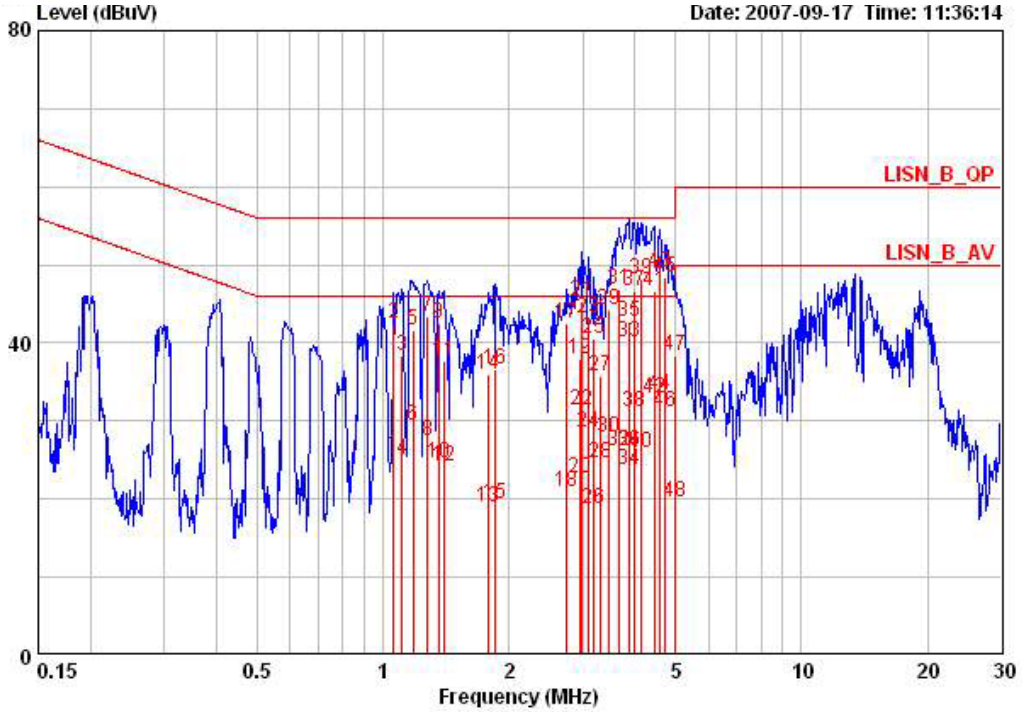
Temperature	28℃	Humidity	62%
Test Engineer	Johnson Chang	Phase	Line
Configuration	Normal Link		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark	Pol/Phase
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.50203	26.20	-19.80	46.00	25.92	0.08	0.20	AVERAGE	LINE
2	0.50203	39.91	-16.09	56.00	39.63	0.08	0.20	QP	LINE
3	0.86643	38.33	-17.67	56.00	38.11	0.02	0.20	QP	LINE
4	0.86643	20.34	-25.66	46.00	20.12	0.02	0.20	AVERAGE	LINE
5	0.96328	39.66	-16.35	56.00	39.45	0.01	0.20	QP	LINE
6	0.96328	22.87	-23.14	46.00	22.66	0.01	0.20	AVERAGE	LINE
7	1.065	41.34	-14.66	56.00	41.16	0.00	0.18	QP	LINE
8	1.065	25.21	-20.79	46.00	25.03	0.00	0.18	AVERAGE	LINE
9	1.160	40.27	-15.73	56.00	40.11	0.00	0.16	QP	LINE
10	1.160	22.22	-23.78	46.00	22.06	0.00	0.16	AVERAGE	LINE
11	1.269	22.22	-23.78	46.00	22.08	0.00	0.14	AVERAGE	LINE
12	1.269	39.38	-16.62	56.00	39.24	0.00	0.14	QP	LINE
13	1.730	41.75	-14.25	56.00	41.60	0.00	0.15	QP	LINE
14	1.730	22.28	-23.72	46.00	22.13	0.00	0.15	AVERAGE	LINE
15	1.839	42.50	-13.50	56.00	42.33	0.00	0.17	QP	LINE
16	1.839	22.92	-23.08	46.00	22.75	0.00	0.17	AVERAGE	LINE
17	1.928	28.38	-17.62	46.00	28.19	0.00	0.19	AVERAGE	LINE
18	1.928	44.02	-11.98	56.00	43.83	0.00	0.19	QP	LINE
19	2.023	27.89	-18.11	46.00	27.69	0.00	0.20	AVERAGE	LINE
20	2.023	43.88	-12.12	56.00	43.68	0.00	0.20	QP	LINE
21	2.133	42.37	-13.63	56.00	42.17	0.00	0.20	QP	LINE
22	2.133	26.36	-19.64	46.00	26.16	0.00	0.20	AVERAGE	LINE
23	2.201	38.83	-17.17	56.00	38.63	0.00	0.20	QP	LINE

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark	Pol/Phase
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
24	2.201	21.50	-24.50	46.00	21.30	0.00	0.20	AVERAGE	LINE
25	2.500	21.65	-24.35	46.00	21.45	0.00	0.20	AVERAGE	LINE
26	2.500	40.38	-15.62	56.00	40.18	0.00	0.20	QP	LINE
27	2.640	27.46	-18.54	46.00	27.26	0.00	0.20	AVERAGE	LINE
28	2.640	45.23	-10.77	56.00	45.03	0.00	0.20	QP	LINE
29	2.736	44.79	-11.21	56.00	44.59	0.00	0.20	QP	LINE
30	2.736	27.17	-18.83	46.00	26.97	0.00	0.20	AVERAGE	LINE
31	2.824	29.12	-16.88	46.00	28.92	0.00	0.20	AVERAGE	LINE
32	2.824	45.63	-10.37	56.00	45.43	0.00	0.20	QP	LINE
33	2.993	29.10	-16.90	46.00	28.90	0.00	0.20	AVERAGE	LINE
34	2.993	45.67	-10.33	56.00	45.47	0.00	0.20	QP	LINE
35	3.090	26.94	-19.06	46.00	26.72	0.00	0.22	AVERAGE	LINE
36	3.090	43.48	-12.52	56.00	43.26	0.00	0.22	QP	LINE
37	3.258	21.61	-24.39	46.00	21.36	0.00	0.25	AVERAGE	LINE
38	3.258	36.83	-19.17	56.00	36.58	0.00	0.25	QP	LINE
39	3.509	29.11	-16.89	46.00	28.81	0.00	0.30	AVERAGE	LINE
40	3.509	45.16	-10.84	56.00	44.86	0.00	0.30	QP	LINE
41	3.681	30.79	-15.21	46.00	30.49	0.00	0.30	AVERAGE	LINE
42	3.681	48.90	-7.10	56.00	48.60	0.00	0.30	QP	LINE
43	3.943	48.15	-7.85	56.00	47.85	0.00	0.30	QP	LINE
44	3.943	32.71	-13.29	46.00	32.41	0.00	0.30	AVERAGE	LINE
45	4.232	51.40	-4.60	56.00	51.10	0.00	0.30	QP	LINE
46	4.232	34.07	-11.93	46.00	33.77	0.00	0.30	AVERAGE	LINE
47	4.421	32.77	-13.23	46.00	32.46	0.01	0.30	AVERAGE	LINE
48	4.421	51.31	-4.69	56.00	51.00	0.01	0.30	QP	LINE
49	4.566	51.11	-4.89	56.00	50.80	0.01	0.30	QP	LINE
50	4.566	32.49	-13.51	46.00	32.18	0.01	0.30	AVERAGE	LINE
51	4.696	46.04	-9.96	56.00	45.73	0.01	0.30	QP	LINE
52	4.696	28.97	-17.03	46.00	28.66	0.01	0.30	AVERAGE	LINE
53	4.848	31.33	-14.67	46.00	31.02	0.01	0.30	AVERAGE	LINE
54	4.848	47.00	-9.00	56.00	46.69	0.01	0.30	QP	LINE
55	5.031	43.33	-16.67	60.00	43.01	0.02	0.30	QP	LINE
56	5.031	26.82	-23.18	50.00	26.50	0.02	0.30	AVERAGE	LINE
57	11.139	41.79	-18.21	60.00	41.29	0.10	0.40	QP	LINE
58	11.139	26.88	-23.12	50.00	26.38	0.10	0.40	AVERAGE	LINE
59	12.188	27.55	-22.45	50.00	27.05	0.10	0.40	AVERAGE	LINE
60	12.188	40.70	-19.30	60.00	40.20	0.10	0.40	QP	LINE
61	13.337	38.24	-21.76	60.00	37.74	0.10	0.40	QP	LINE
62	13.337	25.12	-24.88	50.00	24.62	0.10	0.40	AVERAGE	LINE

Temperature	28℃	Humidity	62%
Test Engineer	Johnson Chang	Phase	Neutral
Configuration	Normal Link		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark	Pol/Phase
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	1.060	25.63	-20.37	46.00	25.34	0.10	0.19	AVERAGE	NEUTRAL
2	1.060	42.58	-13.42	56.00	42.29	0.10	0.19	QP	NEUTRAL
3	1.111	38.36	-17.64	56.00	38.09	0.10	0.17	QP	NEUTRAL
4	1.111	25.16	-20.84	46.00	24.89	0.10	0.17	AVERAGE	NEUTRAL
5	1.178	41.59	-14.41	56.00	41.33	0.10	0.16	QP	NEUTRAL
6	1.178	29.33	-16.67	46.00	29.07	0.10	0.16	AVERAGE	NEUTRAL
7	1.276	43.45	-12.55	56.00	43.21	0.10	0.14	QP	NEUTRAL
8	1.276	27.50	-18.50	46.00	27.26	0.10	0.14	AVERAGE	NEUTRAL
9	1.359	42.57	-13.43	56.00	42.35	0.10	0.12	QP	NEUTRAL
10	1.359	24.61	-21.39	46.00	24.39	0.10	0.12	AVERAGE	NEUTRAL
11	1.396	37.65	-18.35	56.00	37.43	0.10	0.12	QP	NEUTRAL
12	1.396	24.11	-21.89	46.00	23.89	0.10	0.12	AVERAGE	NEUTRAL
13	1.790	18.90	-27.10	46.00	18.64	0.10	0.16	AVERAGE	NEUTRAL
14	1.790	36.06	-19.94	56.00	35.80	0.10	0.16	QP	NEUTRAL
15	1.858	19.49	-26.51	46.00	19.22	0.10	0.17	AVERAGE	NEUTRAL
16	1.858	36.62	-19.38	56.00	36.35	0.10	0.17	QP	NEUTRAL
17	2.750	42.51	-13.49	56.00	42.21	0.10	0.20	QP	NEUTRAL
18	2.750	20.87	-25.13	46.00	20.57	0.10	0.20	AVERAGE	NEUTRAL
19	2.946	37.99	-18.01	56.00	37.69	0.10	0.20	QP	NEUTRAL
20	2.946	22.76	-23.24	46.00	22.46	0.10	0.20	AVERAGE	NEUTRAL
21	2.993	45.37	-10.63	56.00	45.07	0.10	0.20	QP	NEUTRAL
22	2.993	31.33	-14.67	46.00	31.03	0.10	0.20	AVERAGE	NEUTRAL
23	3.090	43.24	-12.76	56.00	42.92	0.10	0.22	QP	NEUTRAL

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark	Pol/Phase
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
24	3.090	28.60	-17.40	46.00	28.28	0.10	0.22	AVERAGE	NEUTRAL
25	3.190	40.64	-15.36	56.00	40.30	0.10	0.24	QP	NEUTRAL
26	3.190	18.72	-27.28	46.00	18.38	0.10	0.24	AVERAGE	NEUTRAL
27	3.310	35.84	-20.16	56.00	35.48	0.10	0.26	QP	NEUTRAL
28	3.310	24.61	-21.39	46.00	24.25	0.10	0.26	AVERAGE	NEUTRAL
29	3.454	44.30	-11.70	56.00	43.91	0.10	0.29	QP	NEUTRAL
30	3.454	27.89	-18.11	46.00	27.50	0.10	0.29	AVERAGE	NEUTRAL
31	3.661	46.79	-9.21	56.00	46.39	0.10	0.30	QP	NEUTRAL
32	3.661	26.25	-19.75	46.00	25.85	0.10	0.30	AVERAGE	NEUTRAL
33	3.860	40.14	-15.86	56.00	39.74	0.10	0.30	QP	NEUTRAL
34	3.860	23.76	-22.24	46.00	23.36	0.10	0.30	AVERAGE	NEUTRAL
35	3.868	42.72	-13.28	56.00	42.32	0.10	0.30	QP	NEUTRAL
36	3.868	26.15	-19.85	46.00	25.75	0.10	0.30	AVERAGE	NEUTRAL
37	3.985	46.75	-9.25	56.00	46.35	0.10	0.30	QP	NEUTRAL
38	3.985	31.26	-14.74	46.00	30.86	0.10	0.30	AVERAGE	NEUTRAL
39	4.136	48.12	-7.88	56.00	47.72	0.10	0.30	QP	NEUTRAL
40	4.136	25.85	-20.15	46.00	25.45	0.10	0.30	AVERAGE	NEUTRAL
41	4.454	46.73	-9.27	56.00	46.33	0.10	0.30	QP	NEUTRAL
42	4.454	32.97	-13.03	46.00	32.57	0.10	0.30	AVERAGE	NEUTRAL
43	4.574	49.14	-6.86	56.00	48.74	0.10	0.30	QP	NEUTRAL
44	4.574	33.39	-12.61	46.00	32.99	0.10	0.30	AVERAGE	NEUTRAL
45	4.721	48.38	-7.62	56.00	47.98	0.10	0.30	QP	NEUTRAL
46	4.721	31.20	-14.80	46.00	30.80	0.10	0.30	AVERAGE	NEUTRAL
47	4.978	38.38	-17.62	56.00	37.98	0.10	0.30	QP	NEUTRAL
48	4.978	19.69	-26.31	46.00	19.29	0.10	0.30	AVERAGE	NEUTRAL

Note:

Level = Read Level + LISN Factor + Cable Loss.

4.2. Maximum Peak Output Power Measurement

4.2.1. Limit

For systems using digital modulation in the 2400-2483.5MHz, the limit for peak output power is 30dBm. The limited has to be reduced by the amount in dB that the gain of the antenna exceed 6dBi. In case of point-to-point operation, the limit has to be reduced by 1dB for every 3dB that the directional gain of the antenna exceeds 6dBi.

4.2.2. Measuring Instruments and Setting

Please refer to section 5 of equipments list in this report. The following table is the setting of the power meter.

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

4.2.3. Test Procedures

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

4.2.4. Test Setup Layout

4.2.5. Test Deviation

There is no deviation with the original standard.

4.2.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.2.7. Test Result of Maximum Peak Output Power

Temperature	24.3℃	Humidity	56%
Test Engineer	Beck Wu	Configurations	CH1 / CH 4 / CH 8

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
1	2405.376 MHz	9.80	30.00	Complies
4	2436.096 MHz	9.43	30.00	Complies
8	2477.056 MHz	8.72	30.00	Complies

4.3. Power Spectral Density Measurement

4.3.1. Limit

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

4.3.2. Measuring Instruments and Setting

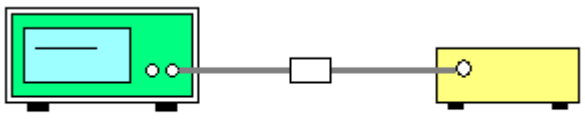
Please refer to section 5 of equipments list in this report. The following table is the setting of Spectrum Analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	1.5MHz
RB	3 kHz
VB	30 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	500s

4.3.3. Test Procedures

1. The transmitter output (antenna port) was connected to the spectrum analyser.
2. Set RBW of spectrum analyzer to 3kHz and VBW to 30kHz. Set Detector to Peak, Trace to Max Hold.
3. Mark the frequency with maximum peak power as the center of the display of the spectrum.
4. Set the span to 1.5MHz and the sweep time to 500s and record the maximum peak value.

4.3.4. Test Setup Layout



4.3.5. Test Deviation

There is no deviation with the original standard.

4.3.6. EUT Operation during Test

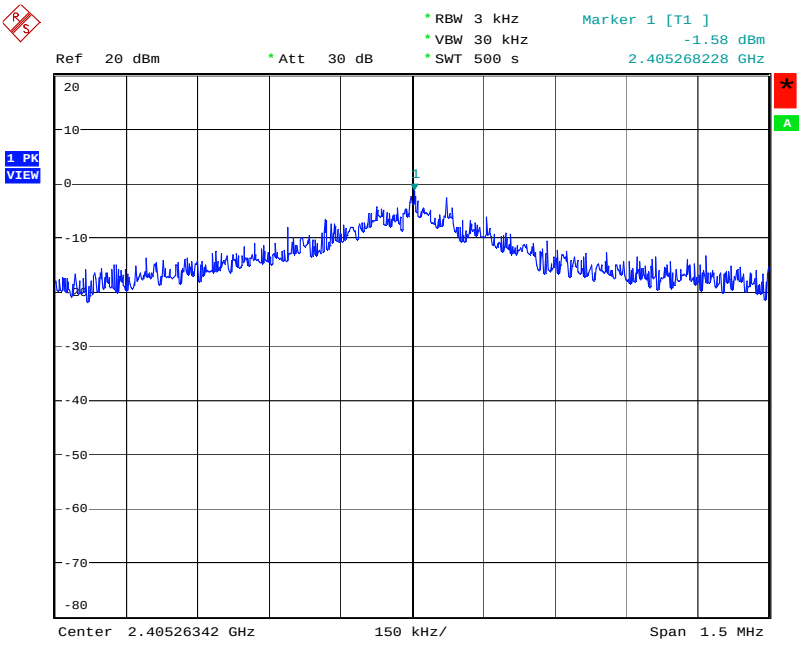
The EUT was programmed to be in continuously transmitting mode.

4.3.7. Test Result of Power Spectral Density

Temperature	24.3℃	Humidity	56%
Test Engineer	Beck Wu	Configurations	CH1 / CH 4 / CH 8

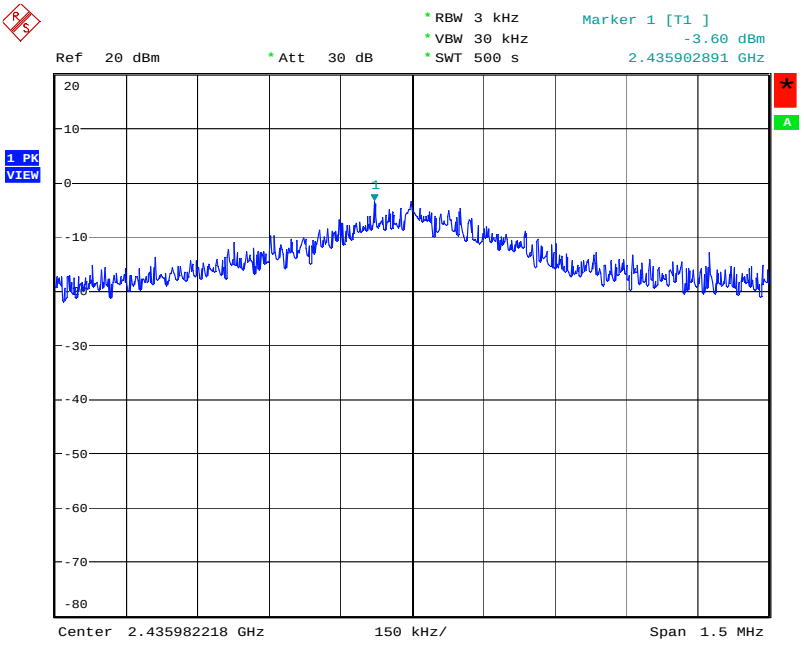
Channel	Frequency	Power Density (dBm)	Max. Limit (dBm)	Result
1	2405.376 MHz	-1.58	8.00	Complies
4	2436.096 MHz	-3.60	8.00	Complies
8	2477.056 MHz	-5.09	8.00	Complies

Power Density Plot on 2405.376 MHz



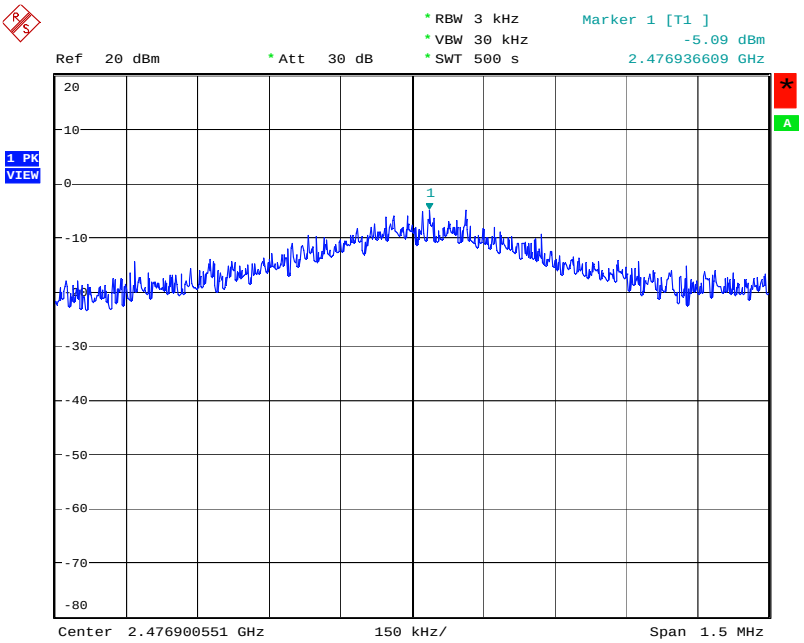
Date: 27.SEP.2007 09:50:43

Power Density Plot on 2436.096 MHz



Date: 27.SEP.2007 09:52:46

Power Density Plot on 2477.056 MHz



Date: 27.SEP.2007 09:54:03

4.4. 6dB Spectrum Bandwidth Measurement

4.4.1. Limit

For digital modulation systems, the minimum 6 dB bandwidth shall be at least 500 kHz.

4.4.2. Measuring Instruments and Setting

Please refer to section 5 of equipments list in this report. The following table is the setting of the Spectrum Analyzer.

Spectrum Parameters	Setting
Attenuation	Auto
Span Frequency	> 6dB Bandwidth
RB	100 kHz
VB	100 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

4.4.3. Test Procedures

1. The transmitter output (antenna port) was connected to the spectrum analyser in peak hold mode.
2. The resolution bandwidth of 100 kHz and the video bandwidth of 100 kHz were used.
3. Measured the spectrum width with power higher than 6dB below carrier.

4.4.4. Test Setup Layout

4.4.5. Test Deviation

There is no deviation with the original standard.

4.4.6. EUT Operation during Test

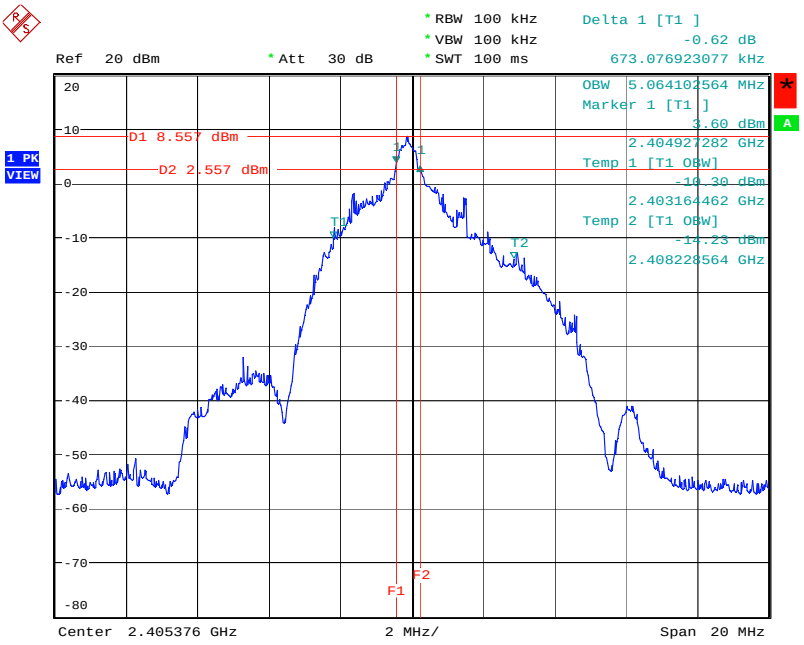
The EUT was programmed to be in continuously transmitting mode.

4.4.7. Test Result of 6dB Spectrum Bandwidth

Temperature	24.3℃	Humidity	56%
Test Engineer	Beck Wu	Configurations	CH1 / CH 4 / CH 8

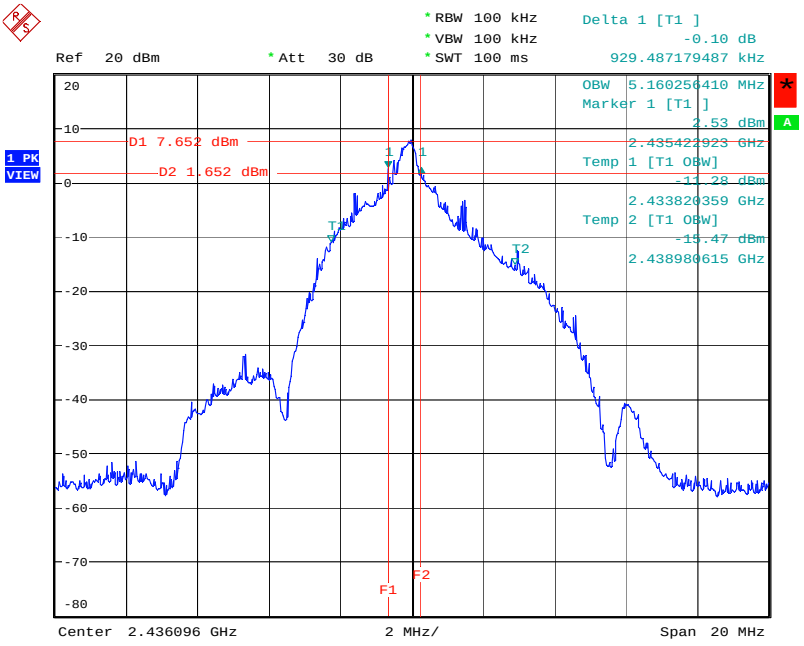
Channel	Frequency	6dB Bandwidth (kHz)	99% Occupied Bandwidth (kHz)	Min. Limit (kHz)	Test Result
1	2405.376 MHz	673.07	5064.10	500	Complies
4	2436.096 MHz	929.48	5160.25	500	Complies
8	2477.056 MHz	769.23	5224.35	500	Complies

6 dB Bandwidth Plot on 2405.376 MHz



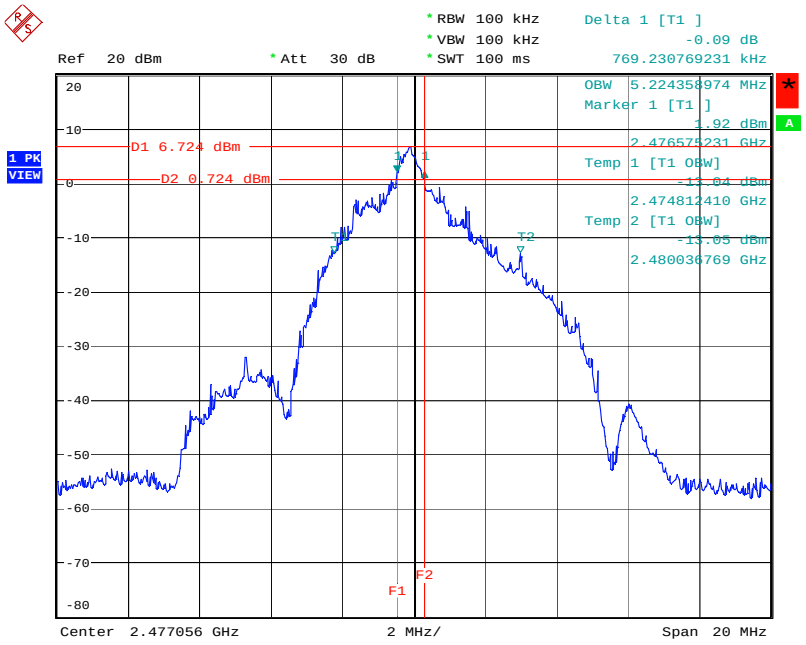
Date: 27.SEP.2007 09:50:28

6 dB Bandwidth Plot on 2436.096 MHz



Date: 27.SEP.2007 09:52:31

6 dB Bandwidth Plot on 2477.056 MHz



4.5. Radiated Emissions Measurement

4.5.1. Limit

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

Frequencies (MHz)	Field Strength (micorvolts/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

4.5.2. Measuring Instruments and Setting

Please refer to section 5 of equipments list in this report. The following table is the setting of spectrum analyzer and receiver.

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RB / VB (Emission in restricted band)	1MHz / 1MHz for Peak, 1 MHz / 10Hz for Average
RB / VB (Emission in non-restricted band)	100KHz / 100KHz for peak

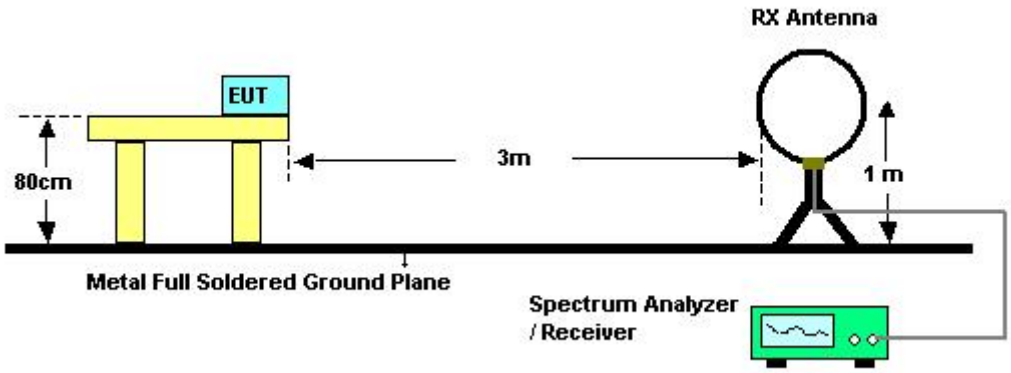
Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

4.5.3. Test Procedures

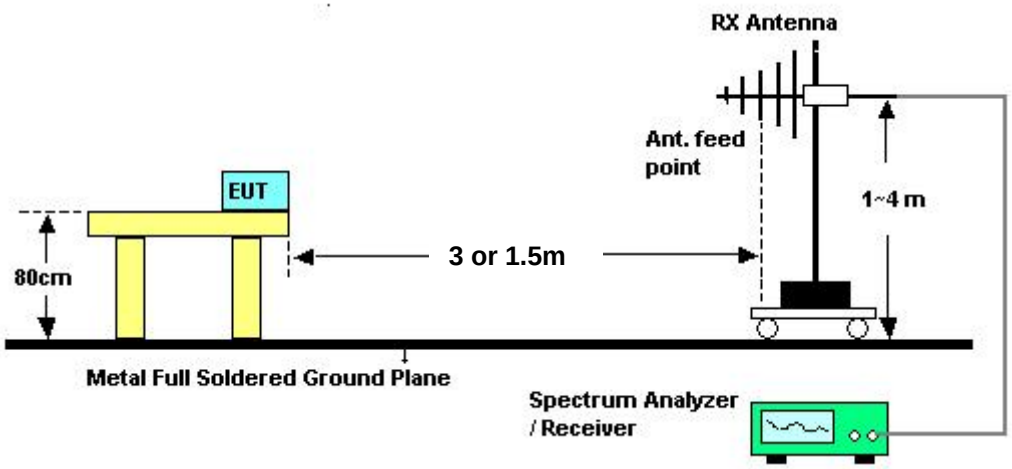
1. Configure the EUT according to ANSI C63.4. The EUT was placed on the top of the turntable 0.8 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting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

4.5.4. Test Setup Layout

For radiated emissions below 30MHz



For radiated emissions above 30MHz



Above 10 GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade form 3m to 1.5m.

Distance extrapolation factor = 20 log (specific distanc [3m] / test distance [1.5m]) (dB);

Limit line = specific limits (dBuV) + distance extrapolation factor [6 dB].

4.5.5. Test Deviation

There is no deviation with the original standard.

4.5.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

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

Temperature	24.3℃	Humidity	56%
Test Engineer	Roy Huang	Configurations	Normal Link

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

Note:

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

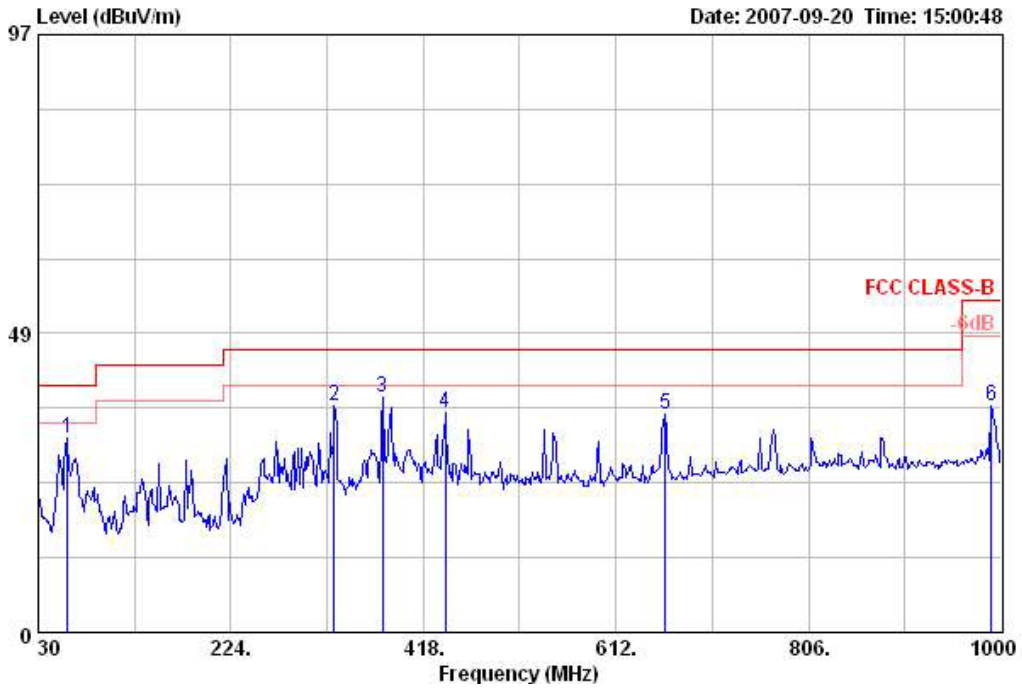
Distance extrapolation factor = 40 log (specific distance / test distance) (dB);

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

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

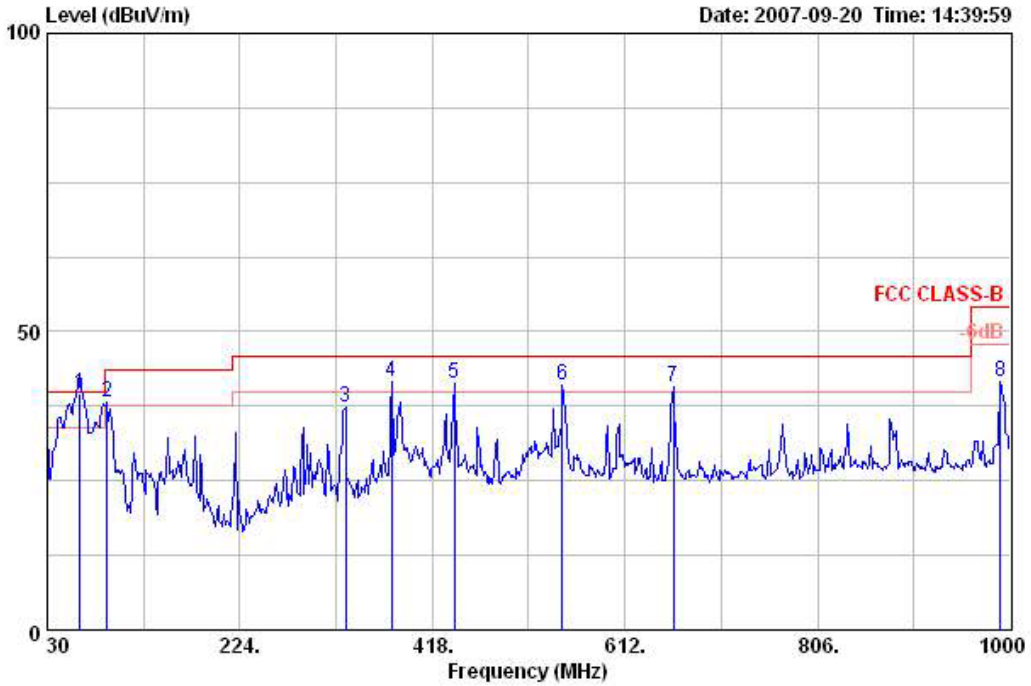
Temperature	24.3℃	Humidity	56%
Test Engineer	Roy Huang	Configurations	Normal Link

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Table Pos	Ant Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		deg	cm	
1	59.100	31.39	-8.61	40.00	53.12	5.05	27.64	0.86	Peak	0	400	HORIZONTAL
2	327.790	36.83	-9.17	46.00	47.64	13.84	26.65	2.00	Peak	0	400	HORIZONTAL
3	377.260	38.19	-7.81	46.00	48.38	14.90	27.20	2.11	Peak	0	400	HORIZONTAL
4	440.310	35.54	-10.46	46.00	44.55	16.30	27.63	2.31	Peak	0	400	HORIZONTAL
5	661.470	35.31	-10.69	46.00	41.28	18.91	27.15	2.27	Peak	0	400	HORIZONTAL
6	990.300	36.67	-17.33	54.00	39.39	20.35	26.43	3.37	Peak	0	400	HORIZONTAL

Vertical



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Table Pos	Ant Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		deg	cm	
1 @	62.980	39.55	-0.45	40.00	61.50	4.85	27.68	0.88	QP	0	2	VERTICAL
2 !	90.140	38.29	-5.21	43.50	56.13	8.60	27.51	1.07	Peak	0	400	VERTICAL
3	330.700	37.30	-8.70	46.00	48.07	13.91	26.64	1.96	Peak	0	400	VERTICAL
4 !	377.260	41.48	-4.52	46.00	51.67	14.90	27.20	2.11	Peak	0	400	VERTICAL
5 !	440.310	41.32	-4.68	46.00	50.34	16.30	27.63	2.31	Peak	0	400	VERTICAL
6 !	548.950	40.90	-5.10	46.00	47.61	18.49	27.55	2.35	Peak	0	400	VERTICAL
7 !	660.500	40.77	-5.23	46.00	46.73	18.92	27.16	2.27	Peak	0	400	VERTICAL
8	990.300	41.65	-12.35	54.00	44.36	20.35	26.43	3.37	Peak	0	400	VERTICAL

Note:

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

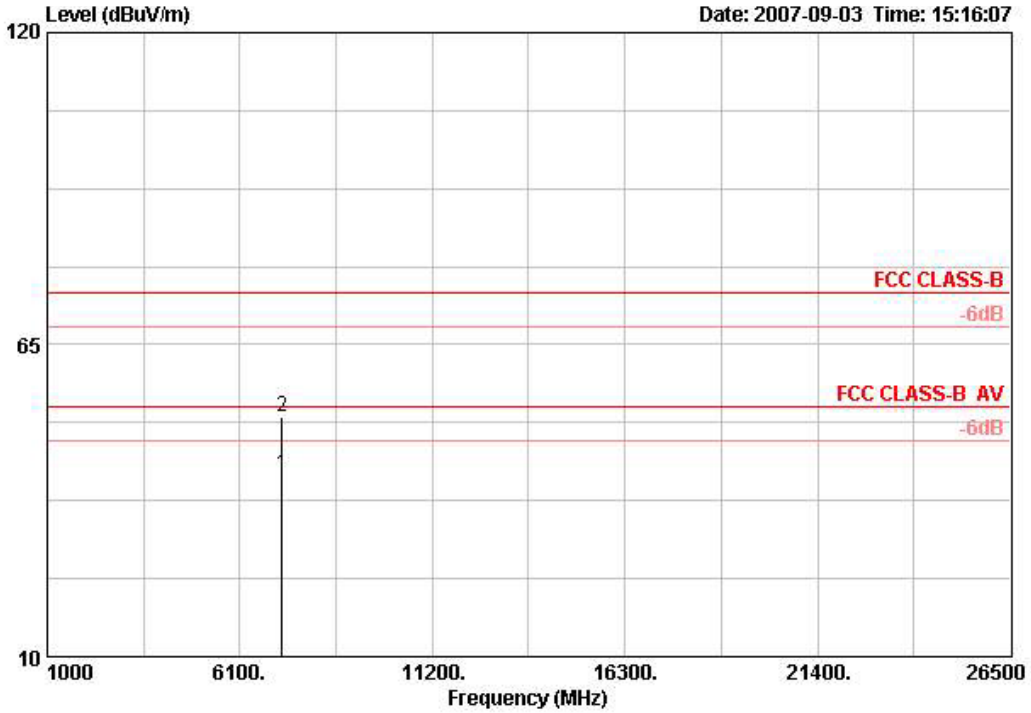
Emission level (dBuV/m) = 20 log Emission level (uV/m).

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

4.5.9. Results for Radiated Emissions (1GHz~10th Harmonic)

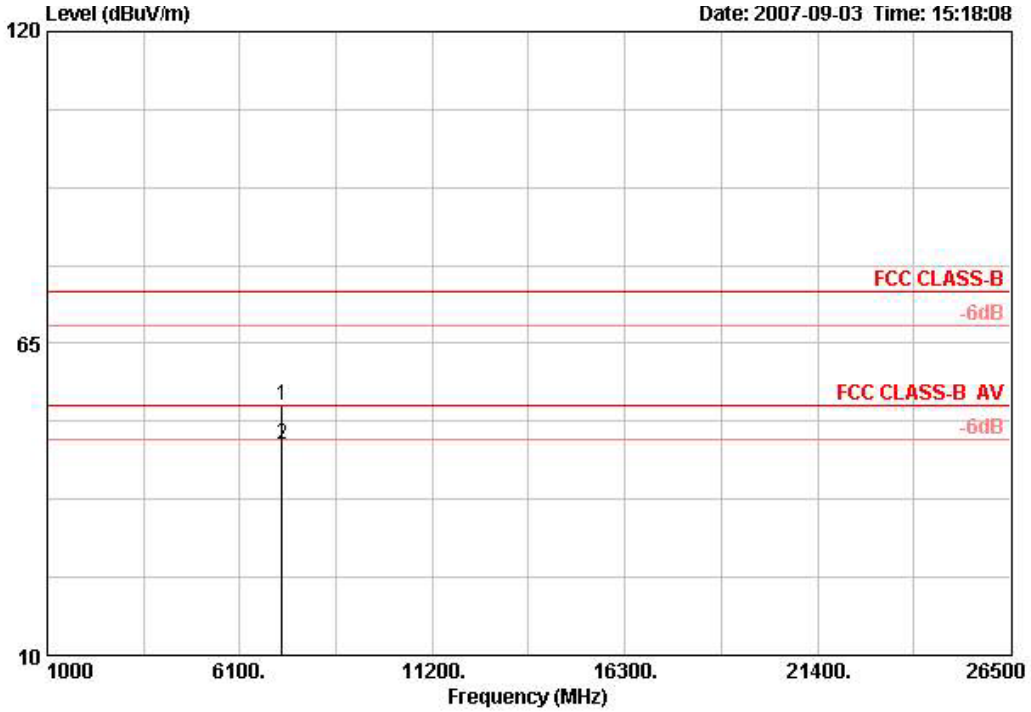
Temperature	24.3℃	Humidity	56%
Test Engineer	Roy Huang	Configurations	CH 1

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	
1 @	7214.380	42.22	-11.79	54.00	33.33	35.75	8.34	35.21	AVERAGE	124	HORIZONTAL
2	7214.480	52.14	-21.86	74.00	43.26	35.75	8.34	35.21	PEAK	124	HORIZONTAL

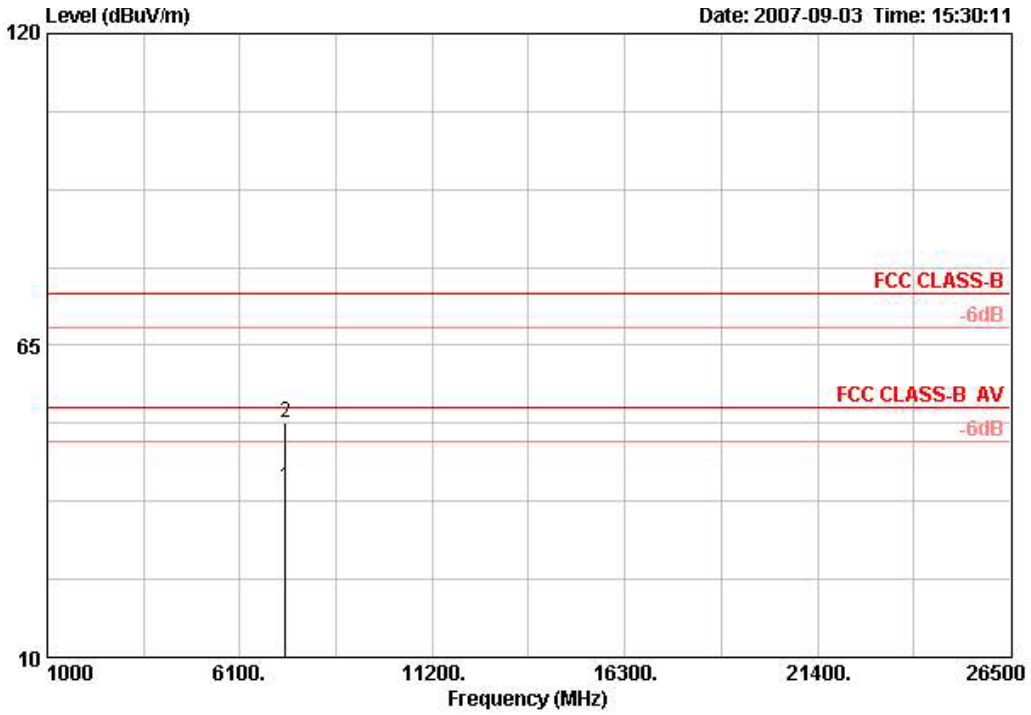
Vertical



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	
1	7214.390	54.03	-19.97	74.00	45.15	35.75	8.34	35.21	PEAK	107	VERTICAL
2 @	7214.400	47.06	-6.94	54.00	38.18	35.75	8.34	35.21	AVERAGE	107	VERTICAL

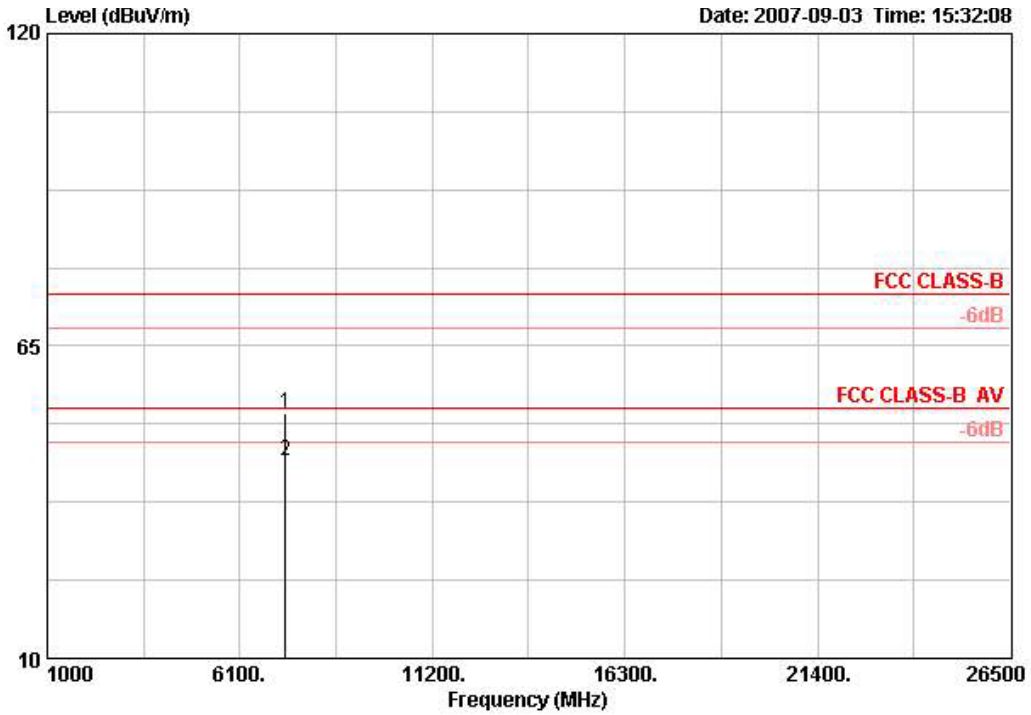
Temperature	24.3℃	Humidity	56%
Test Engineer	Roy Huang	Configurations	CH 4

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	
1	7306.580	39.85	-14.15	54.00	30.71	35.92	8.40	35.19	AVERAGE	127	HORIZONTAL
2	7306.720	51.35	-22.65	74.00	42.21	35.92	8.40	35.19	PEAK	127	HORIZONTAL

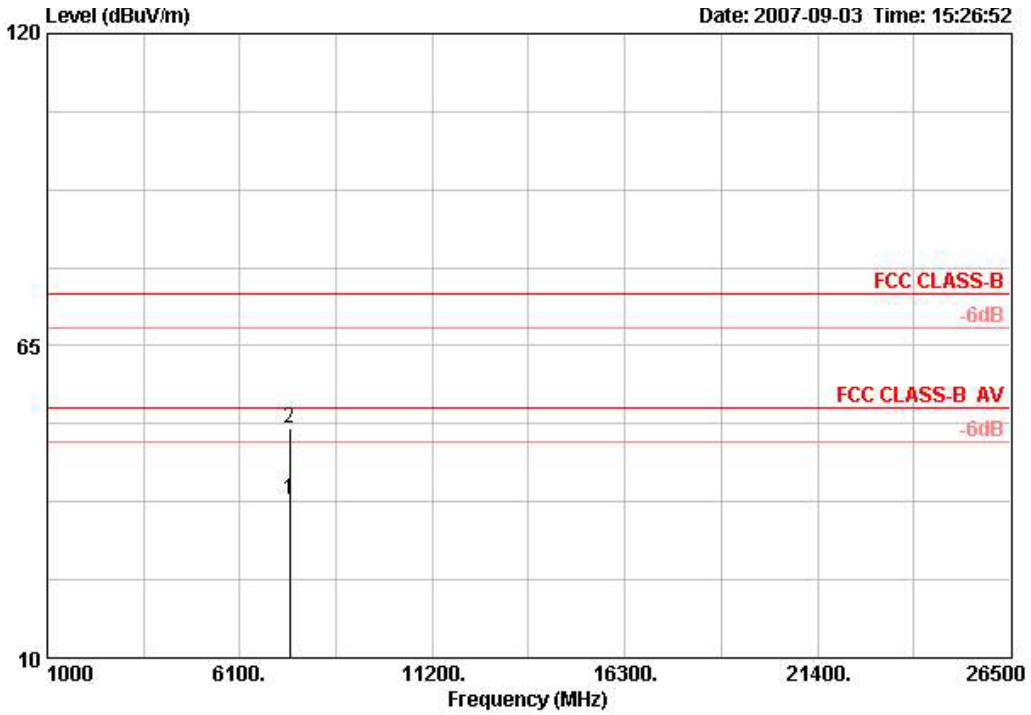
Vertical



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	
1	7306.560	53.08	-20.92	74.00	43.94	35.92	8.40	35.19	PEAK	106	VERTICAL
2 @	7306.600	44.87	-9.13	54.00	35.73	35.92	8.40	35.19	AVERAGE	106	VERTICAL

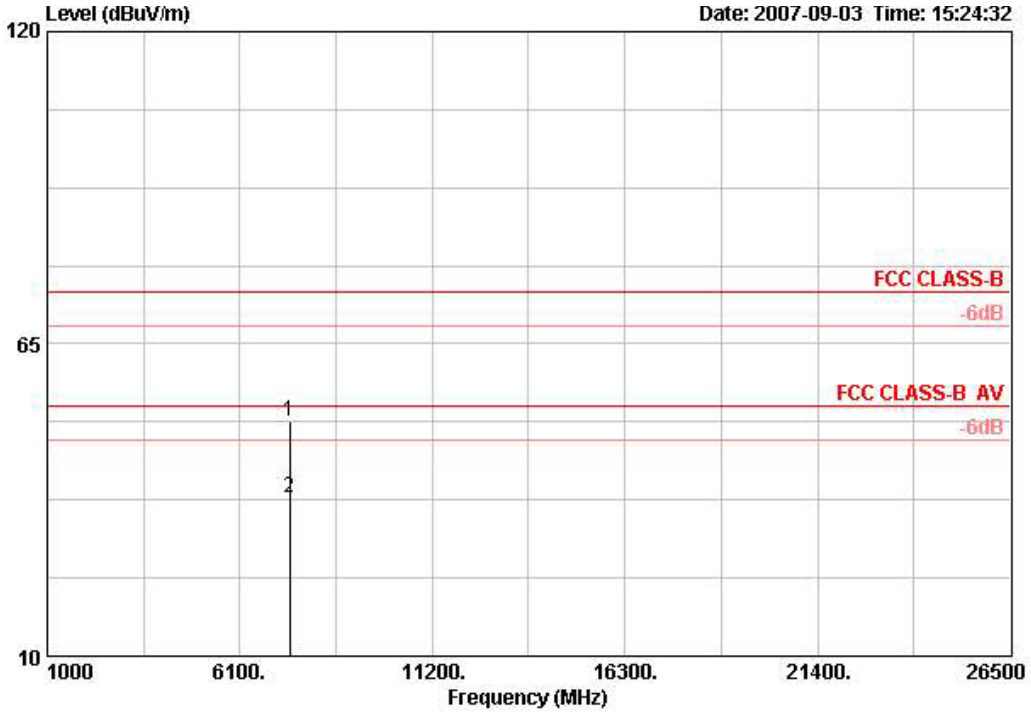
Temperature	24.3℃	Humidity	56%
Test Engineer	Roy Huang	Configurations	CH 8

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	
1	7429.580	37.92	-16.08	54.00	28.40	36.16	8.51	35.15	AVERAGE	100	HORIZONTAL
2	7430.780	50.61	-23.39	74.00	41.09	36.16	8.51	35.15	PEAK	100	HORIZONTAL

Vertical



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	
1	7427.760	51.35	-22.65	74.00	41.82	36.16	8.51	35.15	PEAK	100	VERTICAL
2	7429.460	37.90	-16.10	54.00	28.38	36.16	8.51	35.15	AVERAGE	100	VERTICAL

Note:

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

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

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

4.6. Band Edge Emissions Measurement

4.6.1. Limit

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

Frequencies (MHz)	Field Strength (micorvolts/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

4.6.2. Measuring Instruments and Setting

Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

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

4.6.3. Test Procedures

1. The test procedure is the same as section 4.5.3, only the freqeuncy range investigated is limited to 100MHz around bandedges.
2. In case the emission is fail due to the used RB/VB is too wide, marker-delta method of FCC Public Notice DA00-705 will be followed.

4.6.4. Test Setup Layout

This test setup layout is the same as that shown in section 4.5.4.

4.6.5. Test Deviation

There is no deviation with the original standard.

4.6.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.6.7. Test Result of Band Edge and Fundamental Emissions

Temperature	24.3℃	Humidity	56%
Test Engineer	Leo Hung	Configurations	CH 1, 4, 8

CH 1

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	
1	2383.800	55.84	-18.16	74.00	24.48	28.13	3.23	0.00	PEAK	136	HORIZONTAL
2 @	2390.000	44.32	-9.68	54.00	12.91	28.17	3.24	0.00	AVERAGE	136	HORIZONTAL
3 @	2404.800	104.21			72.76	28.21	3.24	0.00	PEAK	136	HORIZONTAL
4 @	2405.200	102.81			71.36	28.21	3.24	0.00	AVERAGE	136	HORIZONTAL

Item 3, 4 are the fundamental frequency.

CH 4

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	
1 @	2435.600	104.76			73.27	28.25	3.25	0.00	PEAK	194	HORIZONTAL
2 @	2436.000	103.63			72.14	28.25	3.25	0.00	AVERAGE	194	HORIZONTAL

Item 1, 2 are the fundamental frequency.

CH 8

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	
1 @	2476.600	102.66			71.03	28.36	3.27	0.00	PEAK	224	HORIZONTAL
2 @	2477.000	101.35			69.72	28.36	3.27	0.00	AVERAGE	224	HORIZONTAL
3 @	2483.500	52.94	-1.06	54.00	21.31	28.36	3.27	0.00	AVERAGE	224	HORIZONTAL
4	2483.500	60.85	-13.15	74.00	29.23	28.36	3.27	0.00	PEAK	224	HORIZONTAL

Item 1, 2 are the fundamental frequency.

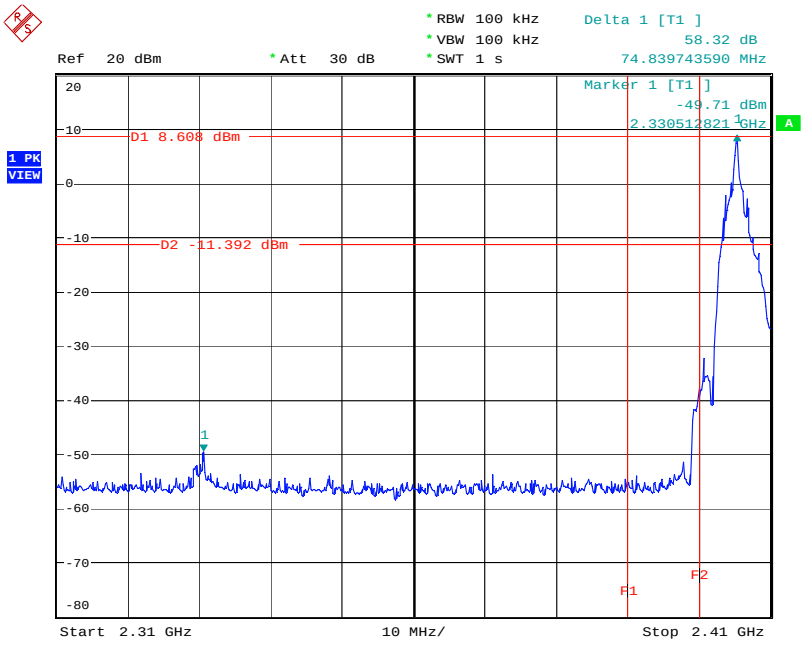
Note:

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

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

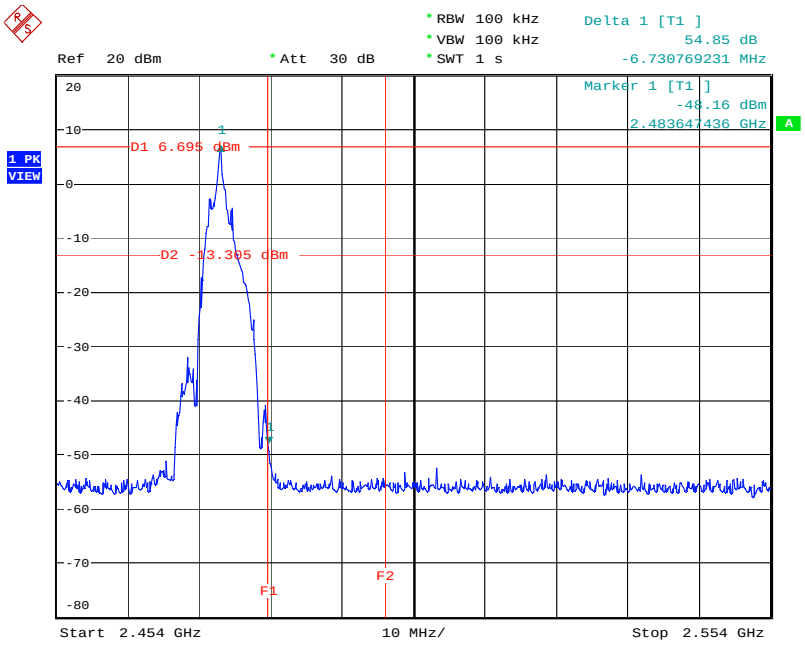
For Emission not in Restricted Band

Low Band Edge Plot on 2405.376 MHz



Date: 27.SEP.2007 09:50:51

High Band Edge Plot on 2477.056 MHz



Date: 27.SEP.2007 09:54:11

4.7. Antenna Requirements

4.7.1. Limit

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

4.7.2. Antenna Connector Construction

Please refer to section 3.3 in this test report, antenna connector complied with the requirements.

5. LIST OF MEASURING EQUIPMENTS

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	30 MHz - 1 GHz 3m	Jun. 14, 2007	Radiation (03CH03-HY)
Amplifier	SCHAFFNER	CPA9231A	1886	9 kHz - 2 GHz	Jan. 22, 2007	Radiation (03CH03-HY)
Amplifier	Agilent	8449B	3008A02120	1 GHz - 26.5 GHz	Jun.07, 2007	Radiation (03CH03-HY)
Amplifier	MITEQ	AMF-6F-260400	923364	26.5 GHz - 40 GHz	Jan. 22, 2007*	Radiation (03CH03-HY)
Spectrum Analyzer	R&S	FSP40	100004/040	9 kHz - 40 GHz	Aug. 31, 2007	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. 21, 2007	Radiation (03CH03-HY)
Horn Antenna	EMCO	3115	6741	1GHz ~ 18GHz	May 04, 2007	Radiation (03CH03-HY)
Horn Antenna	SCHWARZBECK	BBHA9170	BBHA9170154	15 GHz - 40 GHz	NCR	Radiation (03CH03-HY)
RF Cable-R03m	Jye Bao	RG142	CB021	30 MHz - 1 GHz	Dec. 02, 2006	Radiation (03CH03-HY)
RF Cable-HIGH	SUHNER	SUCOFLEX 106	03CH03-HY	1 GHz - 40 GHz	Dec. 02, 2006	Radiation (03CH03-HY)
Turn Table	HD	DS 420	420/650/00	0 – 360 degree	N/A	Radiation (03CH03-HY)
Antenna Mast	HD	MA 240	240/560/00	1 m - 4 m	N/A	Radiation (03CH03-HY)
EMC Receiver	R&S	ESCS 30	100359	9kHz – 2.75GHz	Mar. 01, 2007	Conduction (CO04-HY)
LISN	MessTec	NNB-2/16Z	99079	9kHz – 30MHz	Mar. 31, 2007	Conduction (CO04-HY)
LISN (Support Unit)	EMCO	3810/2NM	9703-1839	9kHz – 30MHz	Mar. 22, 2007	Conduction (CO04-HY)
RF Cable-CON	UTIFLEX	3102-26886-4	CB049	9kHz – 30MHz	Apr. 20, 2007	Conduction (CO04-HY)
ISN	SCHAFFNER	ISN T400	21653	9kHz –30MHz	May 09, 2007	Conduction (CO04-HY)
EMI Filter	LINDGREN	LRE-2030	2651	< 450 Hz	N/A	Conduction (CO04-HY)
Isolation Transformer	Erika Fiedler OHG	D-65396 Walluf	58	45MHz-2.15GHz	N/A	Conduction (CO04-HY)
Spectrum Analyzer	R&S	FSP30	100023	9kHz ~ 30GHz	Dec. 17, 2006	Conducted (TH01-HY)
Power Meter	R&S	NRVS	100444	DC ~ 40GHz	Jun. 27, 2007	Conducted (TH01-HY)
Power Sensor	R&S	NRV-Z51	100458	DC ~ 30GHz	Jun. 27, 2007	Conducted (TH01-HY)
Power Sensor	R&S	NRV-Z32	100057	30MHz ~ 6GHz	Jun. 27, 2007	Conducted (TH01-HY)
AC Power Source	HPC	HPA-500W	HPA-9100024	AC 0 ~ 300V	May 04, 2007*	Conducted (TH01-HY)
DC Power Source	G.W.	GPC-6030D	C671845	DC 1V ~ 60V	Mar. 03, 2007	Conducted (TH01-HY)

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Temp. and Humidity Chamber	KSON	THS-C3L	612	N/A	Oct. 02, 2006	Conducted (TH01-HY)
RF CABLE-1m	Jye Bao	RG142	CB034-1m	20MHz ~ 7GHz	Dec. 01, 2006	Conducted (TH01-HY)
RF CABLE-2m	Jye Bao	RG142	CB035-2m	20MHz ~ 1GHz	Dec. 01, 2006	Conducted (TH01-HY)
Vector Signal Generator	R&S	SMU200A	102098	100kHz ~ 6GHz	Nov. 14, 2006	Conducted (TH01-HY)
Signal Generator	R&S	SMR40	100116	10MHz ~ 40GHz	Mar. 07, 2007	Conducted (TH01-HY)

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

* Calibration Interval of instruments listed above is two year.

NCR means Non-Calibration required.

6. SPORTON 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 familial 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.

6.1. 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., 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 2nd Rd., Taipei 114, Taiwan, R.O.C. TEL : 02-2794-8886 FAX : 02-2794-9777
JHUBEI	ADD : No.8, Lane 724, Bo-ai St., Jhubei City, Hsinchu County 302, Taiwan, R.O.C. TEL : 03-656-9065 FAX : 03-656-9085

7. TAF CERTIFICATE OF ACCREDITATION

Certificate No. : L1190-070110

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

Certificate of Accreditation

This is to certify that

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

is accredited in respect of laboratory

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

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

P1, total 9 pages

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