

APPLICATION FOR CERTIFICATION

On Behalf of

Cheng Fong International Limited

USB FLASH DRIVE

Model No.: CF-U015, CF-U016, CF-U017

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Report Number : 200901672F
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Date of Report : Jan.14, 2009

TABLE OF CONTENTS

Description	
	Page
Test Report Certification	
1. GENERAL INFORMATION	4
1.1. Description of Device (EUT)	4
1.2. Description of Test Facility	5
1.3. Measurement Uncertainty	5
2. POWER LINE CONDUCTED MEASUREMENT	6
2.1. Test Equipment	6
2.2. Block Diagram of Test Setup.....	6
2.3. Power Line Conducted Emission Measurement Limits.....	6
2.4. Configuration of EUT on Measurement	7
2.5. Operating Condition of EUT	7
2.6. Test Procedure	7
2.7. Power Line Conducted Emission Measurement Results	7
3. RADIATED EMISSION MEASUREMENT	10
3.1. Test Equipment	10
3.2. Block Diagram of Test Setup.....	10
3.3. Radiated Emission Limit (FCC Part 15 Paragraph 15.109).....	11
3.4. EUT Configuration on Measurement.....	11
3.5. Operating Condition of EUT	11
3.6. Test Procedure	11
3.7. Radiated Emission Measurement Results	12
4. PHOTOGRAPH	错误！未定义书签。
4.1. Photo of Power Line Conducted Emission Measurement	错误！未定义书签。
4.2. Photo of Radiated Emission Measurement	错误！未定义书签。
APPENDIX I (Photos of EUT) (3 Pages)	

TEST REPORT CERTIFICATION

Applicant : Cheng Fong International Limited
Manufacturer : Cheng Fong International Limited
EUT : USB FLASH DRIVE
(A) MODEL NO. : CF-U015, CF-U016, CF-U017
(B) SERIAL NO. : N/A
(C) POWER SUPPLY: DC 5V via PC
(D) TRADE MARK: N/A

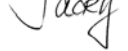
Measurement Procedure Used:

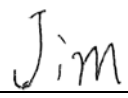
FCC Rules and Regulations Part 15 Subpart B 2007(15.107&15.109) & FCC / ANSI C63.4-2003


The device described above is tested by Anbotek Compliance Laboratory Limited To determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart B limits both radiated and conducted emissions. The measurement results are contained in this test report and Anbotek Compliance Laboratory Limited Is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the Equipment Under Test (EUT) is to be technically compliant with the FCC requirements.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of Anbotek Compliance Laboratory Limited

Date of Test : Jan.06~13, 2009

Prepared by : 
(Engineer)

Reviewer : 
(Project Manager)

Approved & Authorized Signer : 
(Manager)

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

Description	: USB FLASH DRIVE
Model Number	: CF-U015, CF-U016, CF-U017 (Note: All samples are same except the model number & shape of appliances, so we prepare “CF-U015” for FCC test only.)
Notebook PC	: Manufacturer: IBM M/N: 2662 S/N: 99-Y5753 02/02 CE , FCC: DOC
Keyboard	: Manufacturer: Gothink M/N: GO-2039
Mouse	: Manufacturer: Gothink M/N: GO-8027
Monitor	: Manufacturer: MITSUBISHI M/N: NL2501
Printer	: Manufacturer: CANON M/N: LBP3200
Test Power Supply	: AC120V, 60Hz
Applicant	: Cheng Fong International Limited
Address	: Rm 19HG, HangDu Building, HuaFu Road, FuTian District ShenZhen, China
Manufacturer	: Cheng Fong International Limited
Address	: Rm 19HG, HangDu Building, HuaFu Road, FuTian District ShenZhen, China
Date of Sample received	: Jan.02, 2009
Date of Test	: Jan.06~13, 2009

1.2. Description of Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

FCC-Registration No.: 607248

Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 607248, November 12, 2008.

Test Location

All Emissions tests were performed at:
2F, Langfeng Building, Kefa Road North, Hi-tech Industrial Park, Nanshan District, Shenzhen 518057, China

1.3. Measurement Uncertainty

Radiation Uncertainty : $U_r = \pm 4.26\text{dB}$

Conduction Uncertainty : $U_c = \pm 2.66\text{dB}$

2. POWER LINE CONDUCTED MEASUREMENT

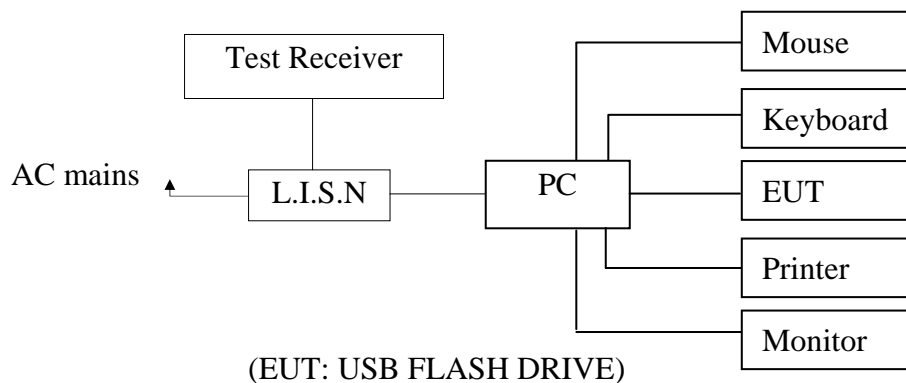
2.1. Test Equipment

The following test equipments are used during the power line conducted measurement:

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	EMI Test Receiver	Rohde & Schwarz	ESPI	1101604	Jun. 21, 2008	1 Year
2.	Spectrum Analyzer	Agilent	E7405A	MY45114970	Jun. 21, 2008	1 Year
3.	Artificial Mains	Rohde & Schwarz	ENV216	100055	Jun. 21, 2008	1 Year
4.	CE Variac	QUANLI	TDGC2-5	N/A	N/A	N/A
5.	Coaxial cable	SCHWARZBECK	RG214-N-3	11066	Jun. 21, 2008	1 Year
6.	EMI Test Software	SHURPLE	N/A	N/A	N/A	N/A

2.2. Block Diagram of Test Setup

2.2.1. Block diagram of connection between the EUT and simulators



2.3. Power Line Conducted Emission Measurement Limits

FCC Part 15 Paragraph 15.107		
Frequency Range	Limits (dB μ V)	
	QP	AV
0.15 ~ 0.50	66 ~ 56*	56 ~ 46*
0.50 ~ 5.00	56	46
5.00 ~ 30.00	60	50

Notes: 1. *Decreasing linearly with logarithm of frequency.

2. The lower limit shall apply at the transition frequencies.

2.4. Configuration of EUT on Measurement

The following equipments are installed on Power Line Conducted Emission Measurement to meet the commission requirement and operating regulations in a manner which tends to maximize its emission characteristics in a normal application.

EUT	:	USB FLASH DRIVE
Model Number	:	CF-U015
Applicant	:	Cheng Fong International Limited

2.5. Operating Condition of EUT

- 2.5.1. Setup the EUT and simulator as shown as Section 2.2.
- 2.5.2. Turn on the power of all equipment.
- 2.5.3. Let the EUT work in test mode (Connect to PC) and measure it.

2.6. Test Procedure

The EUT system is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to FCC ANSI C63.4-2003 on Conducted Emission Measurement.

The bandwidth of test receiver (E7405A) is set at 9KHz.

The frequency range from 150KHz to 30MHz is checked.

The test result reported on Section 2.7.

2.7. Power Line Conducted Emission Measurement Results

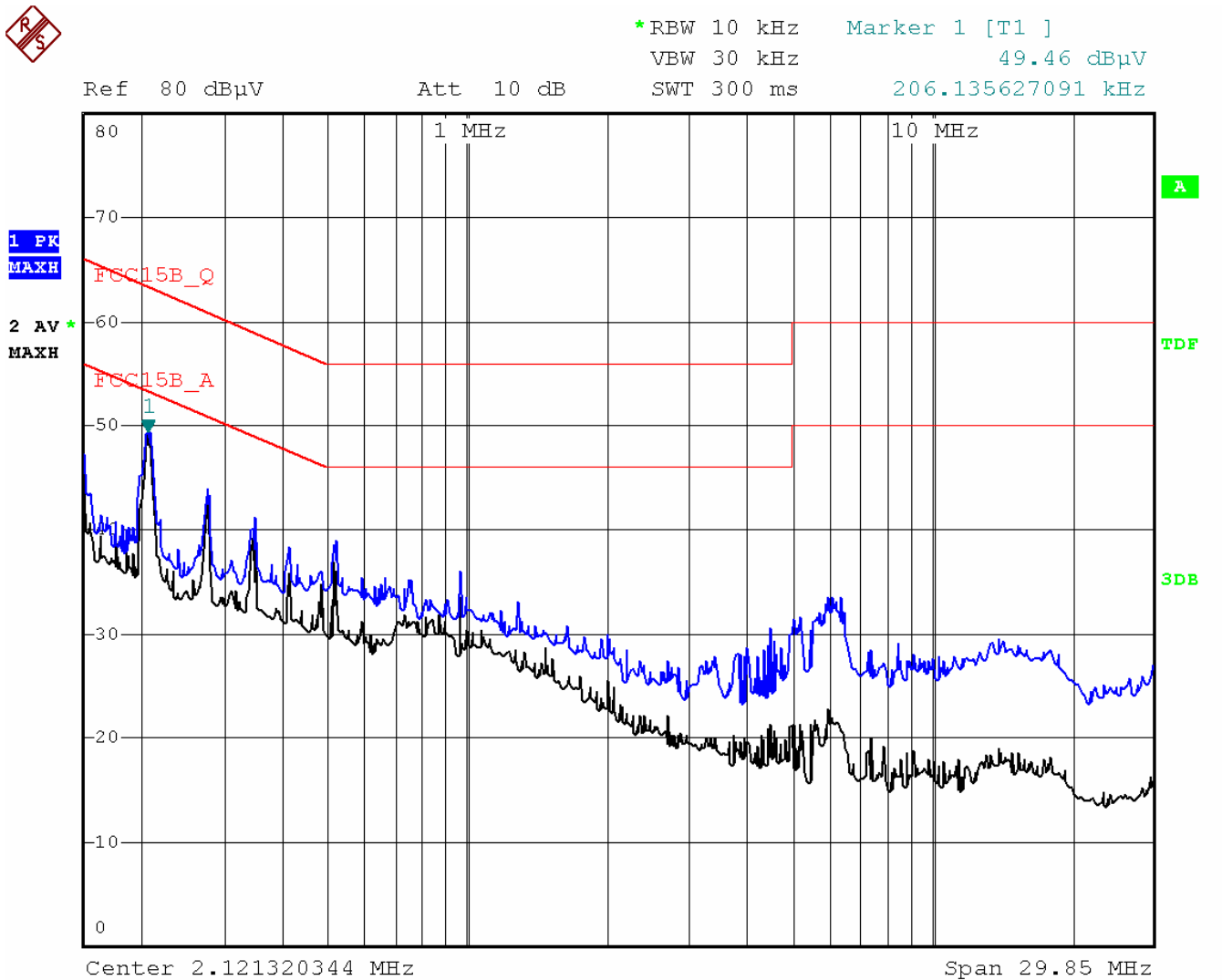
PASS.

The frequency range from 150KHz to 30MHz is investigated.

The test curves are shown in the follow page.

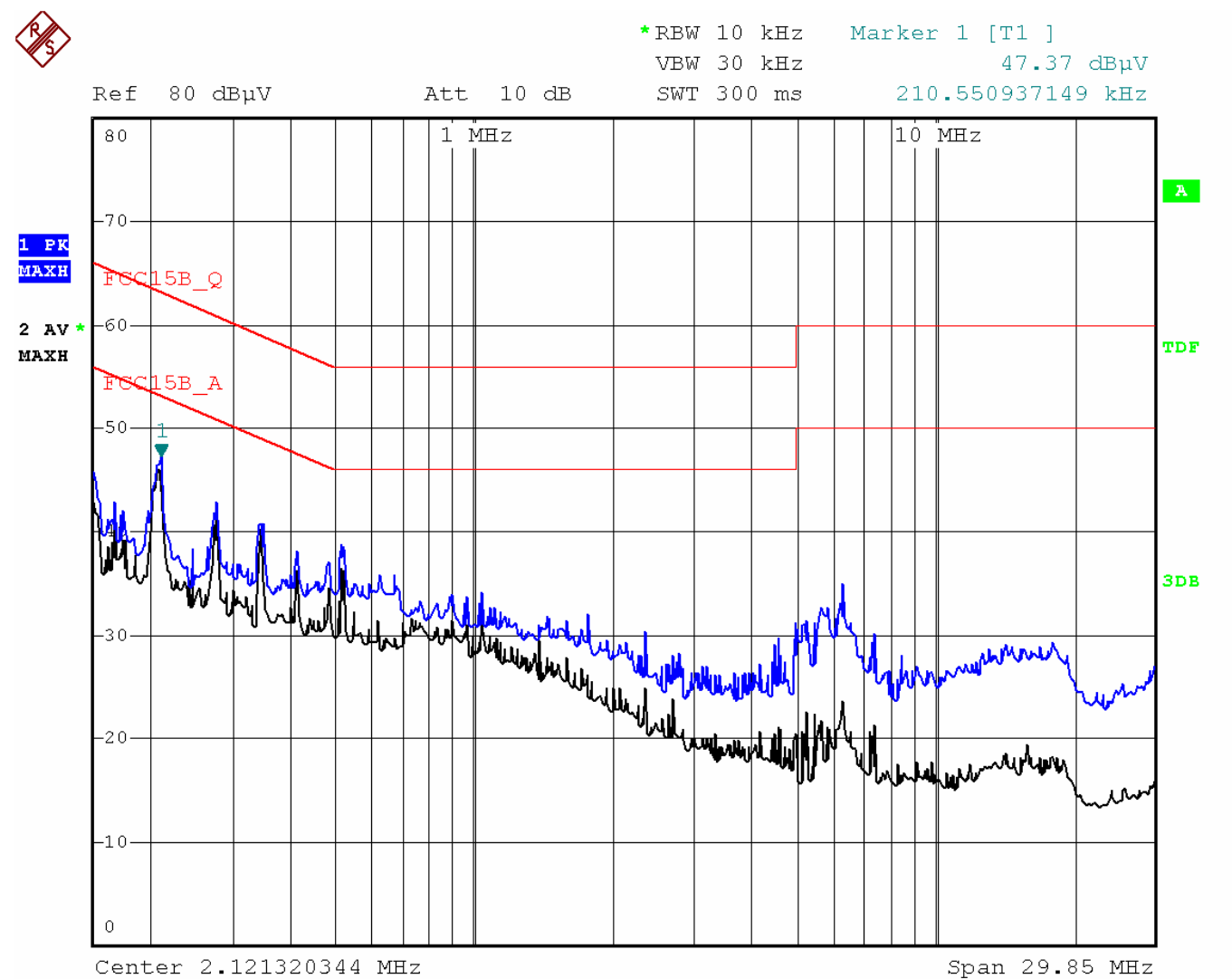
EUT: USB FLASH DRIVE M/N: CF-U015
Op Cond: Connected to PC
Test Spec: L-Line
Comment: AC120V/60Hz
Data: 2009-01-08

L-Line



EUT: USB FLASH DRIVE M/N: CF-U015
Op Cond: Connected to PC
Test Spec: N-Line
Comment: AC120V/60Hz
Data: 2009-01-08

N-Line



Frequency(MHz)	Reading Level(dBμV)	Limit(dBμV)	Over limit(dB)	Detector
0.211	42.90	63.16	-20.26	QP
0.211	31.83	53.16	-21.33	AV
0.350	34.35	58.96	-24.61	QP
0.350	27.16	48.96	-21.80	AV
6.319	26.42	60.00	-33.58	QP
6.319	17.96	50.00	-32.04	AV

3. RADIATED EMISSION MEASUREMENT

3.1. Test Equipment

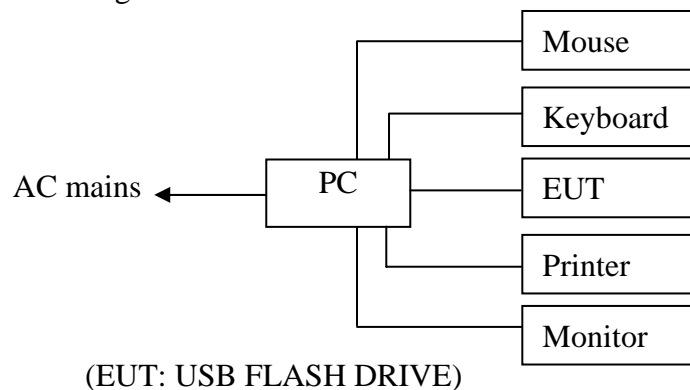
The following test equipments are used during the radiated emission measurement:

3.1.1. For Anechoic Chamber

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Trilog Broadband Antenna	SCHWARZBECK	VULB9163	345	Mar. 21, 2008	1 Year
2.	Spectrum Analyzer	Agilent	E7405A	MY45114970	Jun. 21, 2008	1 Year
3.	EMI Test Receiver	Rohde & Schwarz	ESPI	1101604	Jun. 21, 2008	1 Year
4.	EMI Test Software	Shurple	N/A	N/A	N/A	N/A
5.	Coaxial cable	SCHWARZBECK	RG214-N-8	11065	Jun. 21, 2008	1 Year
6.	PC	N/A	486DX2	N/A	N/A	N/A

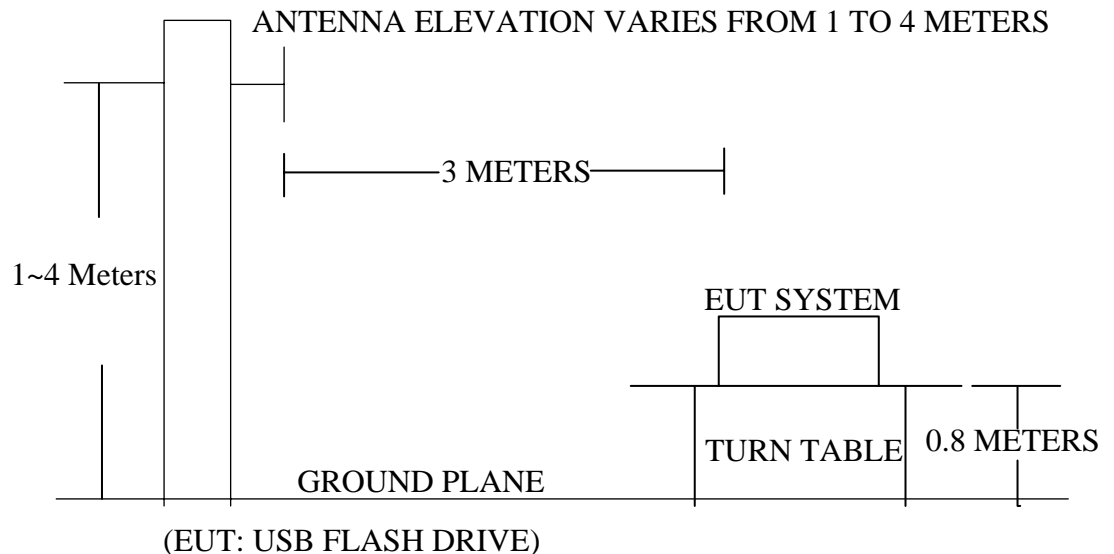
3.2. Block Diagram of Test Setup

3.2.1. Block diagram of connection between the EUT and simulators



3.2.2. Anechoic Chamber Test Setup Diagram

ANTENNA TOWER



3.3. Radiated Emission Limit (FCC Part 15 Paragraph 15.109)

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		$\mu\text{V}/\text{m}$	$\text{dB}(\mu\text{V})/\text{m}$
30~88	3	100	40.0
88~216	3	150	43.5
216~960	3	200	46.0
960~1000	3	500	54.0

- Remark :
- (1) Emission level $(\text{dB})\mu\text{V} = 20 \log \text{Emission level } \mu\text{V}/\text{m}$
 - (2) The smaller limit shall apply at the cross point between two frequency bands.
 - (3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

3.4. EUT Configuration on Measurement

The following equipments are installed on Radiated Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

EUT : USB FLASH DRIVE
 Model Number : CF-U015
 Applicant : Cheng Fong International Limited

3.5. Operating Condition of EUT

3.5.1. Setup the EUT as shown in Section 3.2.

3.5.2. Let the EUT work in test mode (Connect to PC) and measure it.

3.6. Test Procedure

EUT and its simulators are placed on a turn table, which is 0.8 meter high above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (Trilog Broadband Antenna) is used as receiving antenna. Both horizontal and vertical polarizations of the antenna are set on measurement. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.4-2003 on radiated emission measurement.

The bandwidth of the EMI test receiver (E7405A) is set at 120kHz.

The frequency range from 30MHz to 1000MHz is checked.

The test mode (Connect to PC) is tested in chamber and all the test results are listed in Section 3.7.

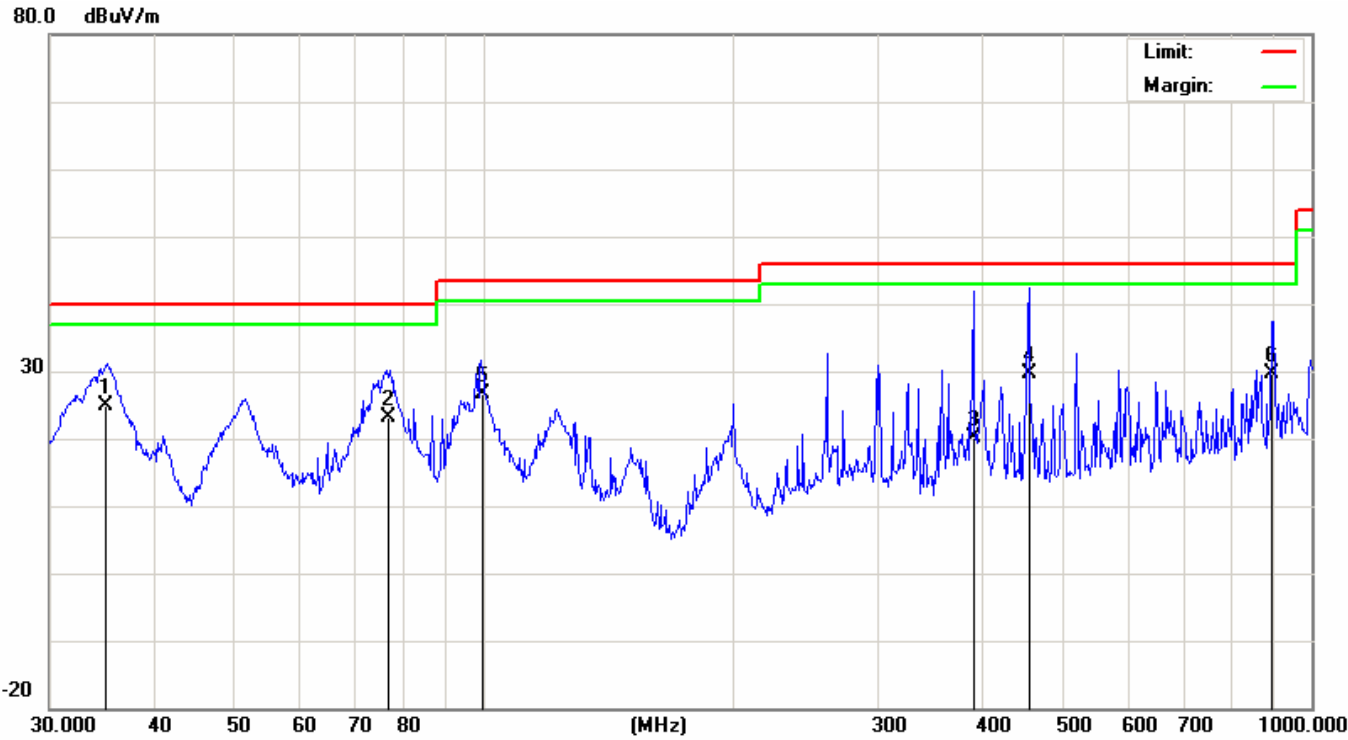
3.7. Radiated Emission Measurement Results

PASS.

The test curves are shown in the follow pages.

Job No.:	AT0901612F	Polarziation:	Vertical
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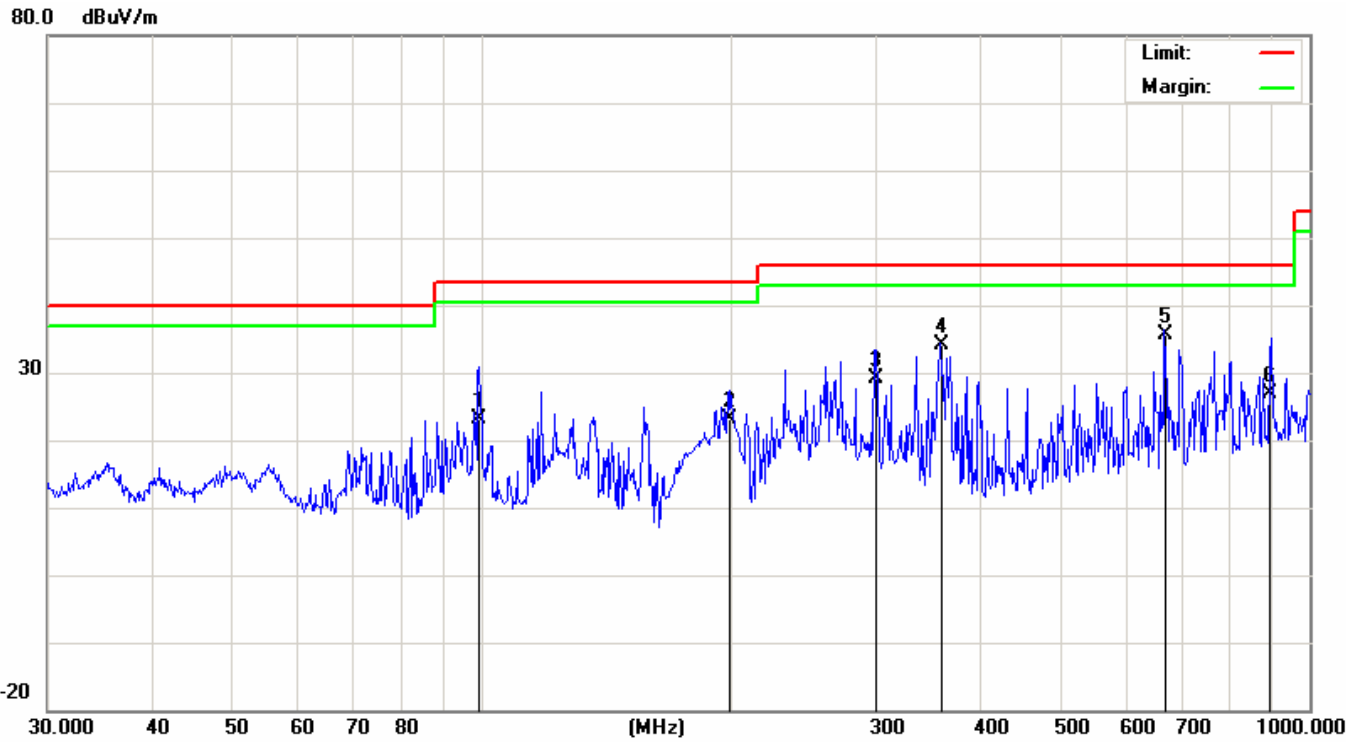
Standard:	FCC Subpart B 15.109	Power Source:	DC 5V Via PC
Test item:	Radiation Test	Date:	2009/01/12
Temp.(C)/Hum.(%RH):	24(C)/60%RH	Time:	14:06:35
EUT:	USB FLASH DRIVE	Test By:	Jacky
Model:	CF-U015	Distance:	3m
Note:			



No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	35.0411	52.27	-27.39	24.88	40.00	-15.12	QP
2	76.8721	54.99	-31.78	23.21	40.00	-16.79	QP
3	390.3125	45.31	-25.13	20.18	46.00	-25.82	QP
4	454.8657	53.47	-23.84	29.63	46.00	-16.37	QP
5	99.5980	54.00	-27.34	26.66	43.50	-16.84	QP
6	896.9714	44.08	-14.56	29.52	46.00	-16.48	QP

Job No.:	AT0901612F	Polarziation:	Horizontal
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Standard:	FCC Subpart B 15.109	Power Source:	DC 5V Via PC
Test item:	Radiation Test	Date:	2009/01/12
Temp.(C)/Hum.(%RH):	24(C)/60%RH	Time:	14:11:08
EUT:	USB FLASH DRIVE	Test By:	Jacky
Model:	CF-U015	Distance:	3m
Note:			



No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	99.4881	50.49	-27.33	23.16	43.50	-20.34	QP
2	199.2535	52.50	-29.37	23.13	43.50	-20.37	QP
3	299.2958	55.76	-26.71	29.05	46.00	-16.95	QP
4	357.9486	59.55	-25.42	34.13	46.00	-11.87	QP
5	668.3222	54.04	-18.53	35.51	46.00	-10.49	QP
6	896.0874	41.54	-14.58	26.96	46.00	-19.04	QP