FCC TEST REPORT
FOR
Art. Lebedev Studio

USB Receiver
Model No.: MUS3 Receiver

Prepared for	:	Art. Lebedev Studio
Address	:	5 Gazetny per. Moscow, Russia, 125009

Prepared By	:	Anbotek Compliance Laboratory Limited
Address	:	1/F, 1 /Build, SEC Industrial Park, No. 4 Qianhai Road, Nanshan District, Shenzhen, 518054 China Tel: (86) 755-26014771 Fax: (86) 755-26014772

Report Number	:	201011742F-2
Date of Test	:	Nov. 27~Dec. 03, 2010
Date of Report	:	Dec. 04, 2010

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TEST REPORT

Applicant	:	Art. Lebedev Studio
Manufacturer	:	Dongguan Togran Electronics Co. Ltd.
EUT	:	USB Receiver
Model No.	:	MUS3 Receiver
Rating	:	DC 5V via USB Port
Trade Mark	:	Art. Lebedev

Measurement Procedure Used:

FCC Rules and Regulations Part 15 Subpart B 15.107&15.109-2007 & 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 Class 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 : Nov. 27~Dec. 03, 2010

Prepared by : Rock zeng

(Test Engineer / Rock Zeng)

Reviewer : Coco. Xiang

(Project Manager / Coco Xiang)

Approved & Authorized Signer : Tom. Chen

(Manager / Tom Chen)

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

Description	:	USB Receiver
Model Number	:	MUS3 Receiver
Test Power Supply	:	AC 120V, 60Hz for PC
PC	:	Manufacturer: DELL M/N: OPTIPLEX 380 S/N: 1J63X2X CE , FCC: DOC
MONITOR	:	Manufacturer: DELL M/N: E170Sc S/N: CN-00V539-64180-055-0UPS CE , FCC: DOC
KEYBOARD	:	Manufacturer: DELL M/N: SK-8115 S/N: CN-0DJ313-71616-06C-02XN CE , FCC: DOC
FAX All-in One	:	Manufacturer: Brother M/N: MFC-3360C S/N: N/A CE , FCC: DOC
Applicant	:	Art. Lebedev Studio
Address	:	5 Gazetny per. Moscow, Russia, 125009
Manufacturer	:	Dongguan Togran Electronics Co. Ltd.
Address	:	262 Shidan Rd., the 3rd Industrial Area, Juzhou, Shijie Town, Dongguan, Guangdong 523290, P.R.C.
Date of Sample received	:	Nov. 26, 2010
Date of Test	:	Nov. 27~Dec. 03, 2010

1.2. Description of Test Facility

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

CNAS - LAB Code: L3503
Anbotek Compliance Laboratory Limited., Laboratory has been assessed and in compliance with CNAS/CL01: 2006 accreditation criteria for testing laboratories (identical to ISO/IEC 17025:2005 General Requirements) for the Competence of Testing Laboratories.

FCC-Registration No.: 752021
Anbotek Compliance Laboratory Limited, EMC Laboratory has been registed 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 752021, August 20, 2010.

IC-Registration No.: 8058A
Anbotek Compliance Laboratory Limited., EMC Laboratory has been registered and fully described in a report filed with the (IC) Industry Canada. The acceptance letter from the IC is maintained in our files. Registration 8058A, November 12, 2008.

Test Location
All Emissions tests were performed
Anbotek Compliance Laboratory Limited. at 1/F, 1 /Build, SEC Industrial Park, No. 4 Qianhai Road, Nanshan District, Shenzhen, 518054 China

1.3. Measurement Uncertainty

Radiation Uncertainty	**:**	Ur = 4.3dB
Conduction Uncertainty	**:**	Uc = 3.4dB

2. POWER LINE CONDUCTED MEASUREMENT

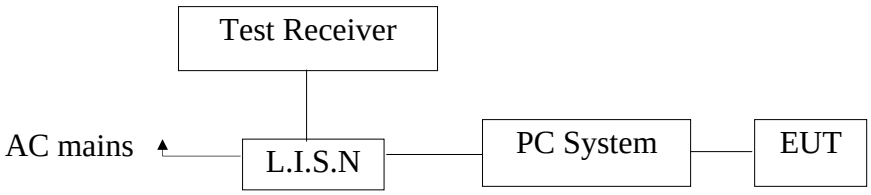
2.1. Test Equipment

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 Receiver	Rohde & Schwarz	ESCI	100627	Nov. 12, 2010	1 Year
2.	Artificial Mains	Rohde & Schwarz	ENV216	10055	Nov. 12, 2010	1 Year
3.	RF Switching Unit	Compliance Direction	RSU-M2	38303	N/A	N/A
4.	EMI Test Software	R/S	N/A	N/A	N/A	N/A
5.	Coaxial cable	ANBOTEK	N/A	N/A	Nov. 05, 2010	1 Year

2.2. Block Diagram of Test Setup

2.2.1. Block diagram of connection between the EUT and simulators



(EUT: USB Receiver)

2.3. Power Line Conducted Emission Measurement Limits (FCC Part 15B Class B)

Frequency MHz	Limits dB(μV)	
	Quasi-peak Level	Average Level
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 Receiver
Model Number	**:**	MUS3 Receiver
Applicant	**:**	Art. Lebedev Studio

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 (ON) 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 (ESCI) set at 9KHz.

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

The test result are reported on Section 2.7.

2.7. Power Line Conducted Emission Measurement Results

PASS.

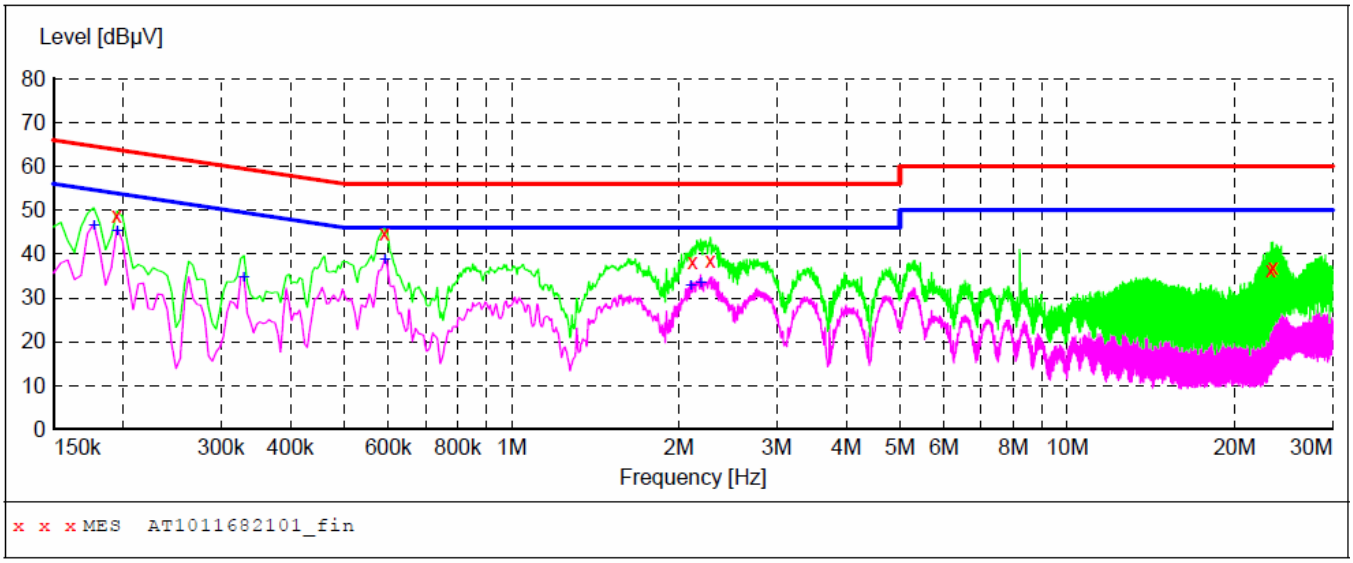
The frequency range from 150KHz to 30 MHz is investigated.

The test curves Please refer the following pages.

CONDUCTED EMISSION TEST DATA

EUT:	USB Receiver M/N: MUS3 Receiver
Operating Condition:	ON
Test Site:	1# Shielded Room
Operator:	Rock Zeng
Test Specification:	AC 120V/60Hz for PC
Comment:	Live Line
	Tem:25℃ Hum:50%

SCAN TABLE: "Voltage(150K~30M)FIN"
Short Description: 150K-30M Disturbance Voltages



MEASUREMENT RESULT: "AT1011682101_fin"

11/29/2010 1:35PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.195000	48.70	10.7	64	15.1	QP	L1	GND
0.591000	44.70	9.9	56	11.3	QP	L1	GND
2.116500	38.30	9.8	56	17.7	QP	L1	GND
2.278500	38.60	9.8	56	17.4	QP	L1	GND
23.257500	36.30	10.8	60	23.7	QP	L1	GND
23.446500	37.00	10.9	60	23.0	QP	L1	GND

MEASUREMENT RESULT: "AT1011682101_fin2"

11/29/2010 1:35PM

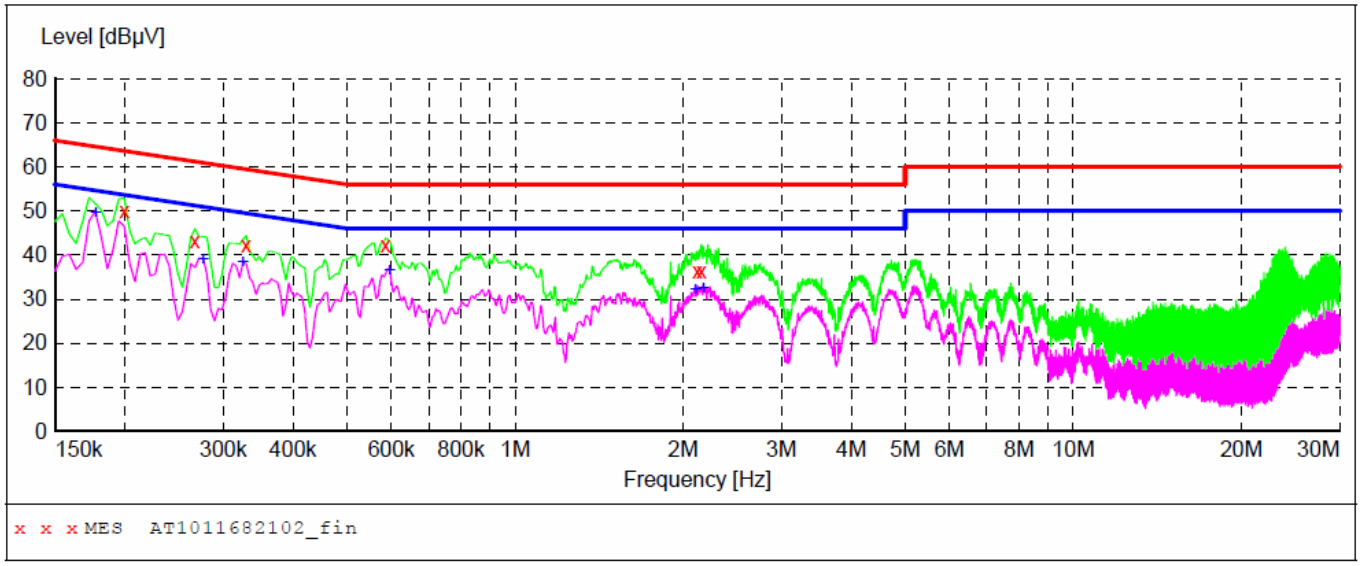
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.177000	46.70	10.8	55	7.9	AV	L1	GND
0.195000	45.50	10.7	54	8.3	AV	L1	GND
0.330000	34.70	10.2	50	14.8	AV	L1	GND
0.591000	38.90	9.9	46	7.1	AV	L1	GND
2.098500	32.80	9.8	46	13.2	AV	L1	GND
2.188500	33.40	9.8	46	12.6	AV	L1	GND

CONDUCTED EMISSION TEST DATA

EUT:	USB Receiver M/N: MUS3 Receiver
Operating Condition:	ON
Test Site:	1# Shielded Room
Operator:	Rock Zeng
Test Specification:	AC 120V/60Hz for PC
Comment:	Neutral Line
	Tem:25℃ Hum:50%

SCAN TABLE: "Voltage(150K~30M)FIN"

Short Description: 150K-30M Disturbance Voltages



MEASUREMENT RESULT: "AT1011682102_fin"

11/29/2010 1:39PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.199500	50.20	10.7	64	13.4	QP	N	GND
0.267000	43.20	10.3	61	18.0	QP	N	GND
0.330000	42.20	10.2	60	17.3	QP	N	GND
0.586500	42.40	9.9	56	13.6	QP	N	GND
2.121000	36.20	9.8	56	19.8	QP	N	GND
2.157000	36.40	9.8	56	19.6	QP	N	GND

MEASUREMENT RESULT: "AT1011682102_fin2"

11/29/2010 1:39PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.177000	49.80	10.8	55	4.8	AV	N	GND
0.276000	39.20	10.8	51	11.7	AV	N	GND
0.325500	38.50	10.2	50	11.1	AV	N	GND
0.595500	36.60	9.9	46	9.4	AV	N	GND
2.103000	32.20	9.8	46	13.8	AV	N	GND
2.175000	32.60	9.8	46	13.4	AV	N	GND

3. RADIATED EMISSION MEASUREMENT

3.1. Test Equipment

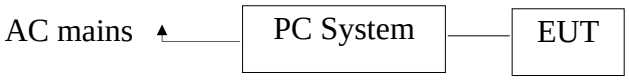
The following test equipments are used during the radiated emission measurement:

3.1.1. For Anechoic Chamber

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	EMI Test Receiver	SHURPLE	ESPI	101604	Nov. 12, 2010	1 Year
2.	Bilog Antenna	Schwarzbeck	VULB9163	100015	Nov. 12, 2010	1 Year
3.	Pre-amplifier	Compliance Direction	PAP-0203	22008	Nov. 12, 2010	1 Year
4.	EMI Test Software	SHURPLE	N/A	N/A	N/A	N/A
5.	Coaxial cable	ANBOTEK	N/A	N/A	N/A	N/A

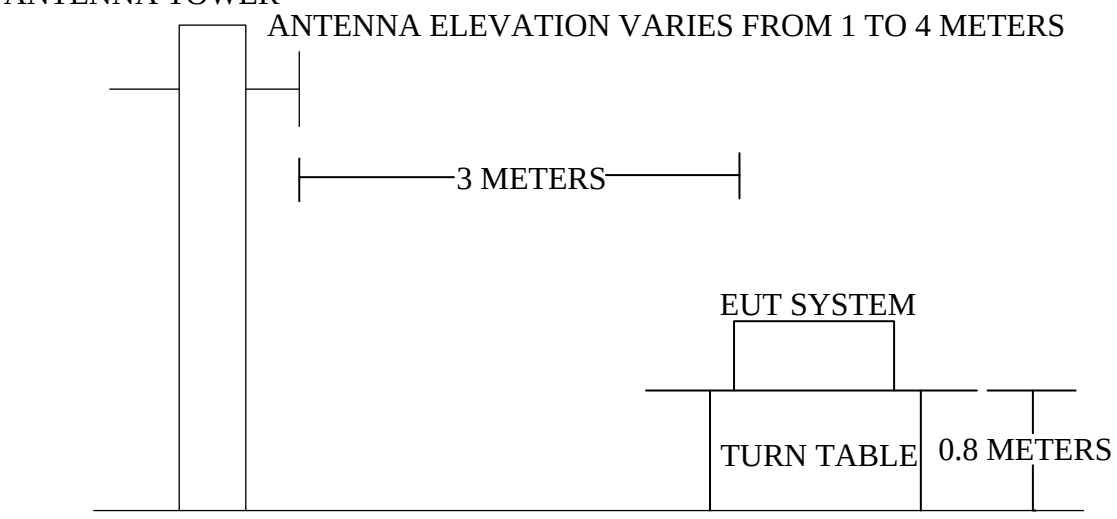
3.2. Block Diagram of Test Setup

3.2.1. Block diagram of connection between the EUT and simulators



(EUT: USB Receiver)

3.2.2. Anechoic Chamber Test Setup Diagram



(EUT: USB Receiver)

3.3. Radiated Emission Limit (Subpart B Class B)

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		μV/m	dB(μV)/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 (dB)μV = 20 log Emission level μV/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 Receiver
Model Number : MUS3 Receiver
Applicant : Art. Lebedev Studio

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 (ON) 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 (ESPI) is set at 120kHz.

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

The test mode (ON) 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 Please refer the following pages.

Remarks: All measurements were carried out in peak mode. As long as the values stay under the limit line 6dB, No QP measurement are carried out.

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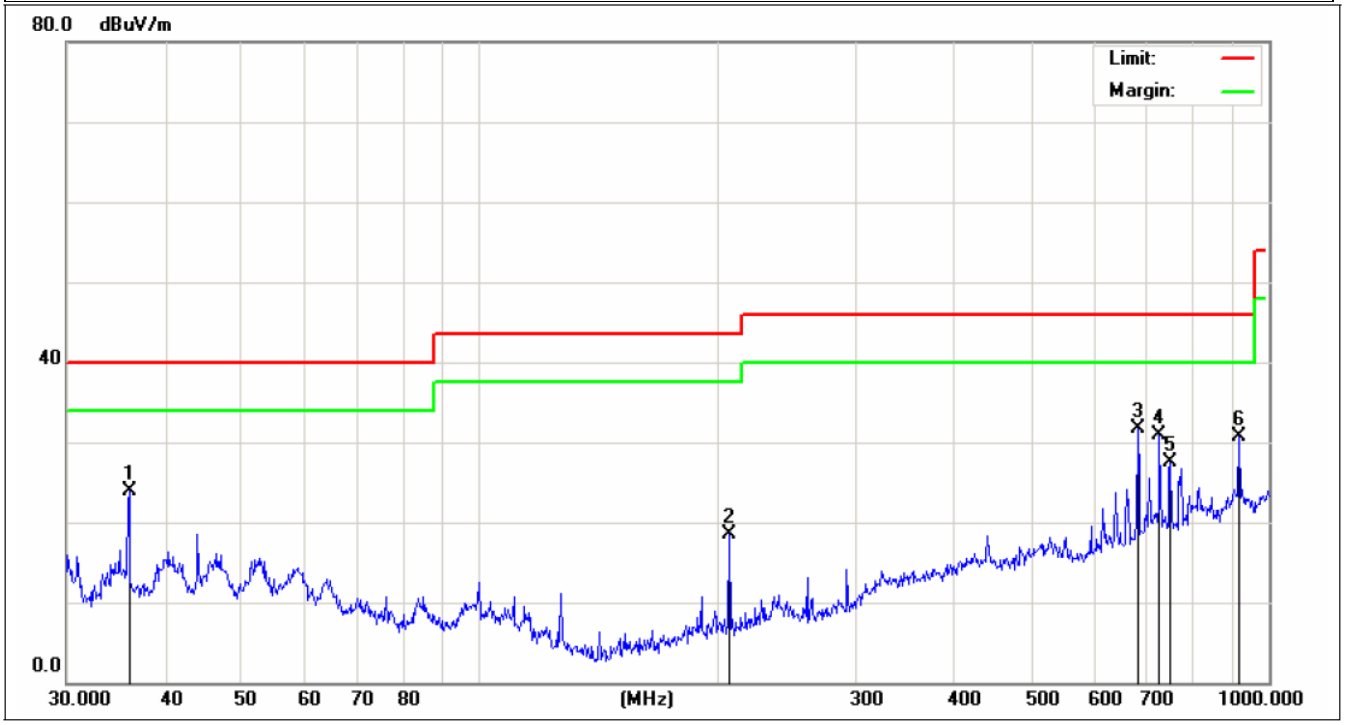
Job No.:	**AT1010682F**	**Polarziation:**	**Horizontal**
Standard:	**(RE)FCC Part 15_class B_3m**	**Power Source:**	**DC 5V via USB Port**
Test item:	**Radiation Test**	**Date:**	**2010/11/29**
Temp.(C)/Hum.(%RH):	**24.3(C)/55%RH**	**Time:**	**12:33:34**
EUT:	**USB Receiver**	**Test By:**	**Rock Zeng**
Model:	**MUS3 Receiver**	**Distance:**	**3m**
Note:	**ON**		



No.	Frequency	Reading	Correct	Result	Limit	Over Limit	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	36.0007	47.82	-23.92	23.90	40.00	-16.10	peak
2	207.1226	47.65	-29.12	18.53	43.50	-24.97	peak
3	682.3484	47.71	-16.00	31.71	46.00	-14.29	peak
4	726.8052	45.88	-14.92	30.96	46.00	-15.04	peak
5	750.1083	42.01	-14.49	27.52	46.00	-18.48	peak
6	916.0687	42.28	-11.52	30.76	46.00	-15.24	peak

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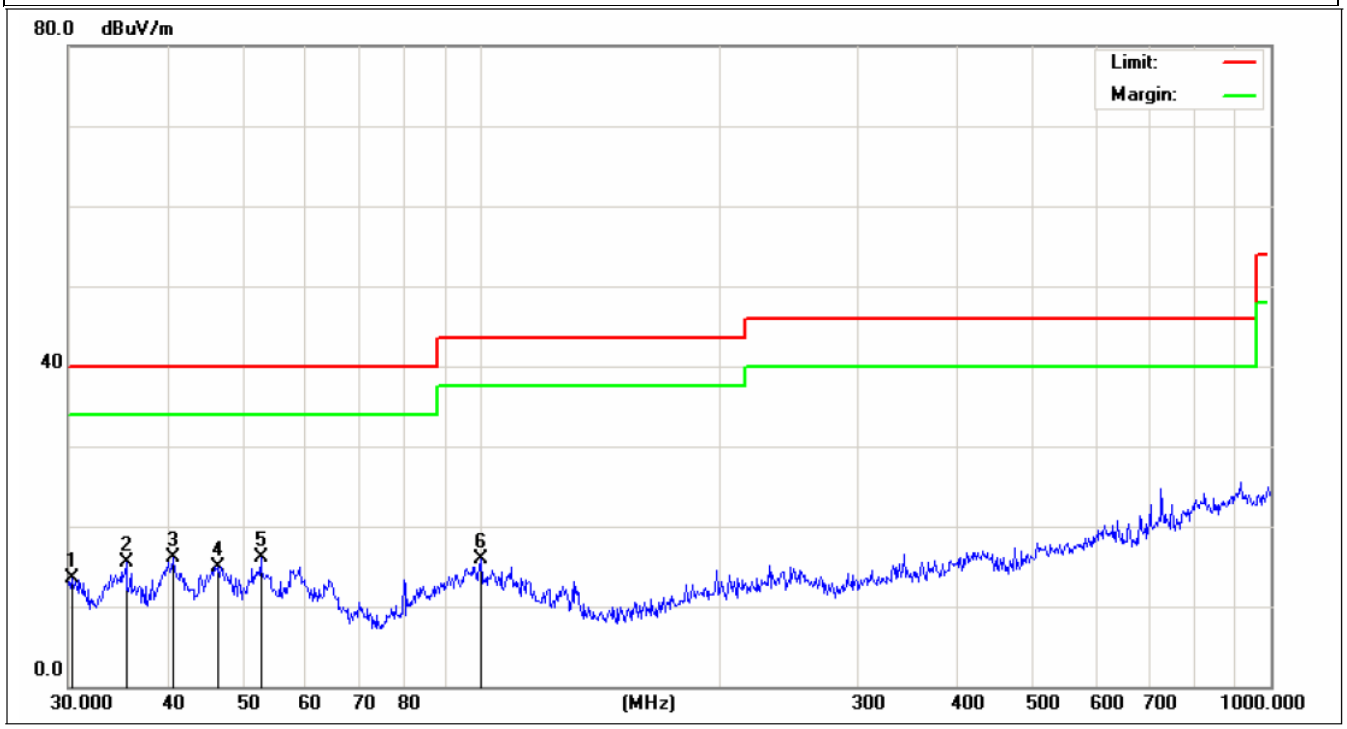
Job No.:	**AT1010682F**	**Polarziation:**	**Vertical**
Standard:	**(RE)FCC Part 15_class B_3m**	**Power Source:**	**DC 5V via USB Port**
Test item:	**Radiation Test**	**Date:**	**2010/11/29**
Temp.(C)/Hum.(%RH):	**24.3(C)/55%RH**	**Time:**	**12:30:53**
EUT:	**USB Receiver**	**Test By:**	**Rock Zeng**
Model:	**MUS3 Receiver**	**Distance:**	**3m**
Note:	**ON**		



No.	Frequency	Reading	Correct	Result	Limit	Over Limit	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	30.3173	37.77	-24.31	13.46	40.00	-26.54	peak
2	35.4993	39.53	-24.07	15.46	40.00	-24.54	peak
3	40.7016	38.87	-22.81	16.06	40.00	-23.94	peak
4	46.5030	37.78	-22.79	14.99	40.00	-25.01	peak
5	52.5753	39.20	-23.02	16.18	40.00	-23.82	peak
6	99.8777	38.38	-22.53	15.85	43.50	-27.65	peak

4. PHOTOGRAPH

4.1. Photo of Power Line Conducted Emission Test

4.2. Photo of Radiated Emission Test

APPENDIX I
(Photos of EUT)

Figure 1
The EUT-Front View

Figure 2
The EUT-Back View

Figure 3
PCB of the EUT-Front View

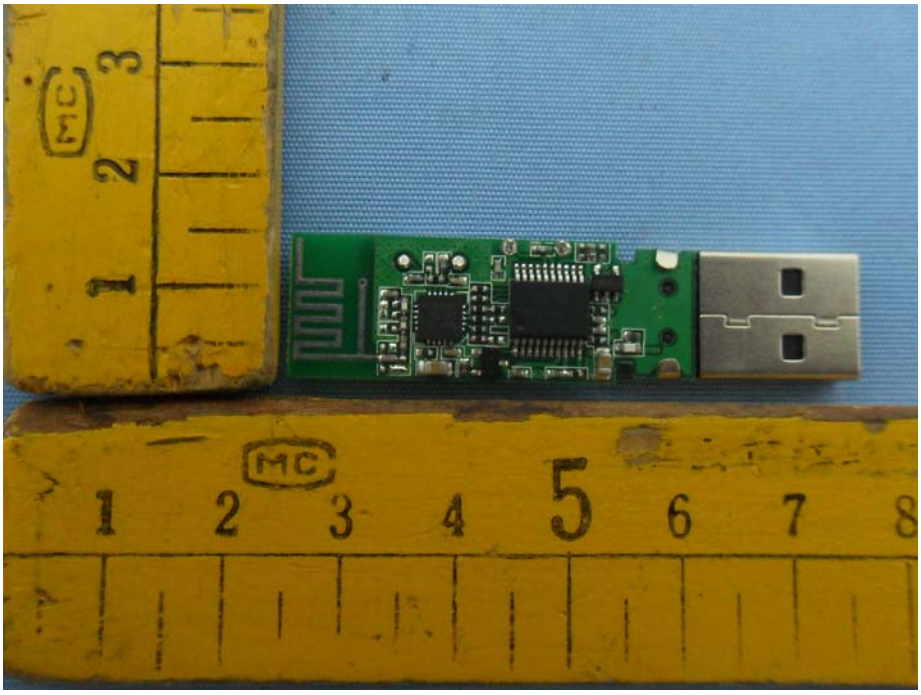


Figure 4
PCB of the EUT-Back View