DECLARATION OF CONFORMITY
On Behalf of
Guangzhou Shangchen Electronics Co., LTD.

Wireless Laser Barcode Scanner
Model No.: 880W, 810W, 830W, 870W

Prepared for	:	Guangzhou Shangchen Electronics Co., LTD.
Address	:	1th floor, 4th Building, Shuguang industrial area, Baoya North road, Tan Village, Shijing Town, Baiyun Area, Guangzhou, China Tel: 020-86422209 Fax: 020-86417912
Prepared By	:	Anbotek Compliance Laboratory Limited
Address	:	1/F, 1 /Building, SEC Industrial Park, No. 4 Qianhai Road, Nanshan District, Shenzhen, 518054, China Tel: (86) 755-26066544 Fax: (86) 755-26014772

Report Number	:	201207800F-1
Date of Test	:	Jun.16~Sept.04, 2012
Date of Report	:	Sept.04, 2012

TABLE OF CONTENTS

Description

Page

Test Report Verification

TEST REPORT VERIFICATION

Applicant	:	Guangzhou Shangchen Electronics Co., LTD.
Manufacturer	:	Guangzhou Shangchen Electronics Co., LTD.
EUT	:	Wireless Laser Barcode Scanner
Model No.	:	880W, 810W, 830W, 870W
Rating	:	DC 5V±5% ,30mA-100mA
Trade Mark	:	N.A.

Measurement Procedure Used:

FCC Rules and Regulations Part 15 Subpart B 2011 & FCC / ANSI C63.4-2009

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 : Jun.16~Sept.04, 2012

Prepared by : Andy chen

(Engineer/ Andy Chen)

Reviewer : Jerry Du

(Project Manager/ Jerry Du)

Approved & Authorized Signer : Tom. Chen

(Manager/ Tom Chen)

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

Description	:	Wireless Laser Barcode Scanner
Model Number	:	880W, 810W, 830W, 870W (Note: All samples are the same except the model number & shape of appliances, so we prepare “880W” for EMC test only.)
Test Power Supply	:	DC 5V
Applicant	:	Guangzhou Shangchen Electronics Co., LTD.
Address	:	1th floor, 4th Building, Shuguang industrial area, Baoya North road, Tan Village, Shijing Town, Baiyun Area, Guangzhou, China
Manufacturer	:	Guangzhou Shangchen Electronics Co., LTD.
Address	:	1th floor, 4th Building, Shuguang industrial area, Baoya North road, Tan Village, Shijing Town, Baiyun Area, Guangzhou, China
Date of Sample received	:	Jun.16, 2012
Date of Test	:	Jun.16~Sept.04, 2012

2. POWER LINE CONDUCTED MEASUREMENT

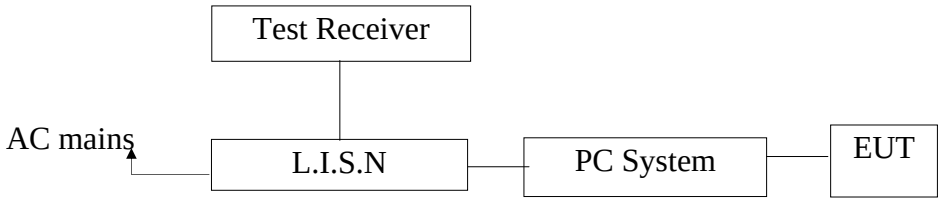
2.1. Test Equipment

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	Apr.25, 2012	1 Year
2.	Two-Line V-network	Rohde & Schwarz	ENV216	10055	Apr.25, 2012	1 Year
3.	RF Switching Unit	Compliance Direction	RSU-M2	38303	Apr.25, 2012	1 Year
4.	EMI Test Software	ES-K1	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



(EUT: Wireless Laser Barcode Scanner)

2.3. Power Line Conducted Emission Measurement Limits (FCC Part 15 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	:	Wireless Laser Barcode Scanner
Model Number	:	880W
Applicant	**:**	Guangzhou Shangchen Electronics Co., LTD.

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 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 C63.4-2009 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.

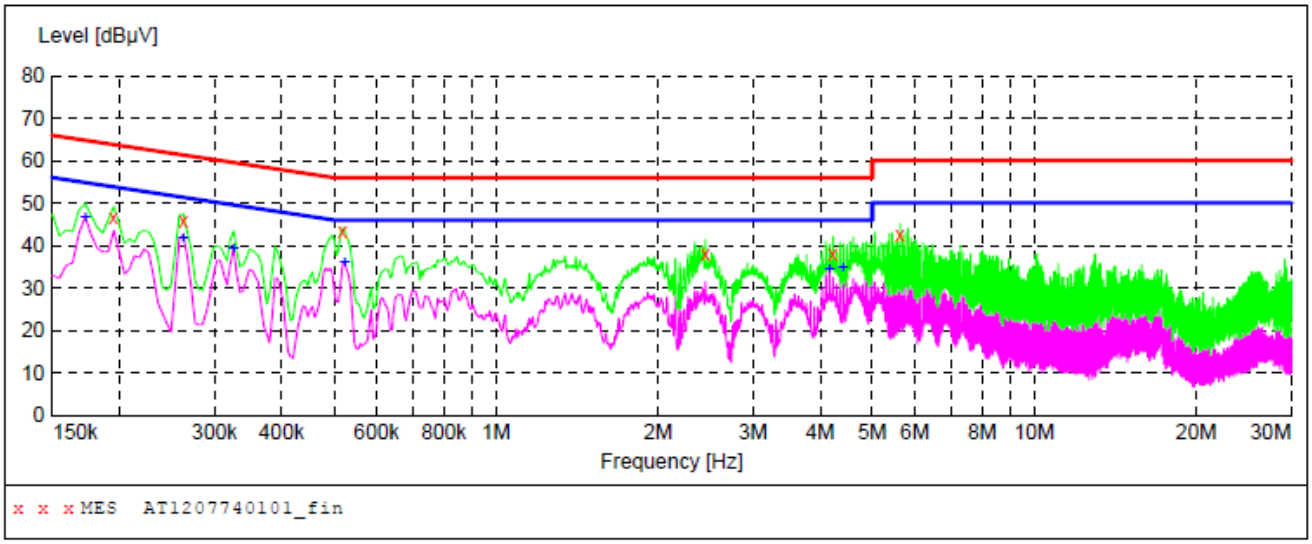
The test curves are shown in the following pages.

CONDUCTED EMISSION TEST DATA

EUT:	Wireless Laser Barcode Scanner M/N:880W
Operating Condition:	On
Test Site:	1# Shielded Room
Operator:	Andy Chen
Test Specification:	DC 5V
Comment:	L
	Tem:25℃ Hum:50%

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

Short Description: 150K-30M Disturbance Voltages



MEASUREMENT RESULT: "AT1207740101_fin"

7/25/2012 9:13AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.195000	46.70	10.1	64	17.1	QP	L1	GND
0.262500	45.80	10.1	61	15.6	QP	L1	GND
0.519000	43.50	10.1	56	12.5	QP	L1	GND
2.449000	37.90	10.3	56	18.1	QP	L1	GND
4.222000	38.00	10.5	56	18.0	QP	L1	GND
5.630500	42.60	10.5	60	17.4	QP	L1	GND

MEASUREMENT RESULT: "AT1207740101_fin2"

7/25/2012 9:13AM

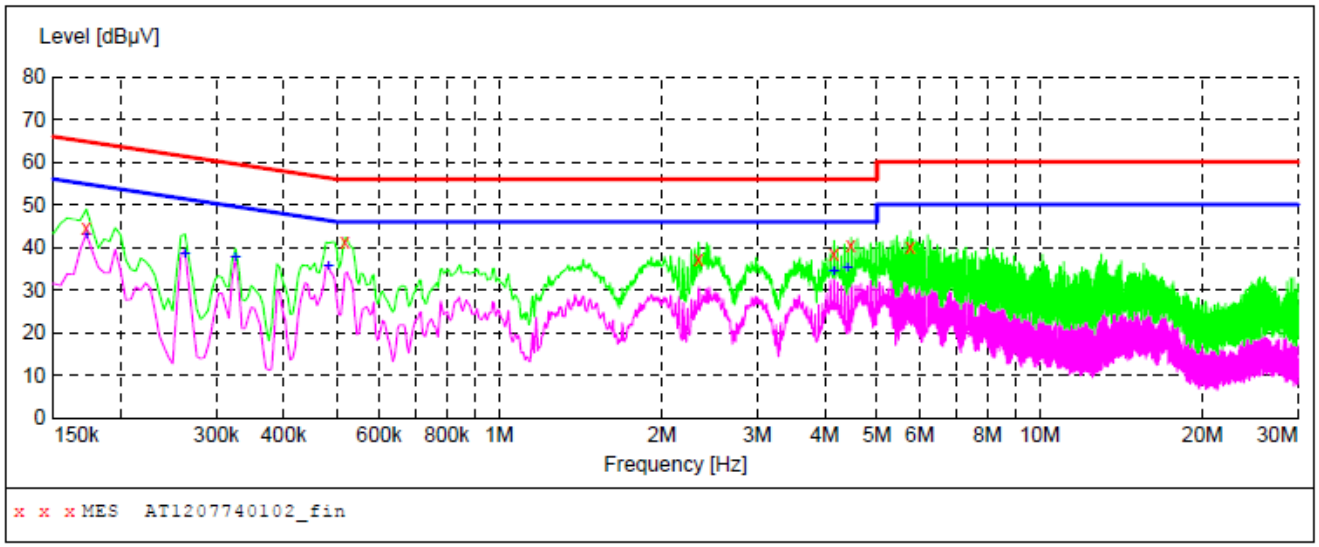
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.172500	46.70	10.1	55	8.1	AV	L1	GND
0.262500	41.80	10.1	51	9.6	AV	L1	GND
0.325500	39.10	10.1	50	10.5	AV	L1	GND
0.523500	36.00	10.1	46	10.0	AV	L1	GND
4.159000	34.20	10.5	46	11.8	AV	L1	GND
4.415500	34.70	10.5	46	11.3	AV	L1	GND

CONDUCTED EMISSION TEST DATA

EUT:	Wireless Laser Barcode Scanner M/N:880W
Operating Condition:	On
Test Site:	1# Shielded Room
Operator:	Andy Chen
Test Specification:	DC 5V
Comment:	N
	Tem:25℃ Hum:50%

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

Short Description: 150K-30M Disturbance Voltages



MEASUREMENT RESULT: "AT1207740102_fin"

7/25/2012 9:16AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.172500	44.40	10.1	65	20.4	QP	N	GND
0.519000	41.30	10.1	56	14.7	QP	N	GND
2.336500	37.40	10.3	56	18.6	QP	N	GND
4.159000	38.60	10.5	56	17.4	QP	N	GND
4.478500	40.40	10.5	56	15.6	QP	N	GND
5.761000	40.00	10.5	60	20.0	QP	N	GND

MEASUREMENT RESULT: "AT1207740102_fin2"

7/25/2012 9:16AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.172500	43.10	10.1	55	11.7	AV	N	GND
0.262500	38.40	10.1	51	13.0	AV	N	GND
0.325500	37.60	10.1	50	12.0	AV	N	GND
0.483000	35.50	10.1	46	10.8	AV	N	GND
4.159000	34.50	10.5	46	11.5	AV	N	GND
4.415500	35.20	10.5	46	10.8	AV	N	GND

3. RADIATED EMISSION MEASUREMENT

3.1. Test Equipment

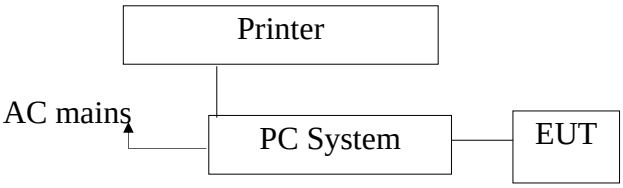
The following test equipments are used during the radiated emission measurement:

3.1.1. For Anechoic Chamber

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	EMI Test Receiver	Rohde & Schwarz	ESCI	101604	Apr.25, 2012	1 Year
2.	Bilog Antenna	Schwarzbeck	VULB9163	100015	Apr.25, 2012	1 Year
3.	Pre-amplifier	Compliance Direction	PAP-0203	22008	Apr.25, 2012	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

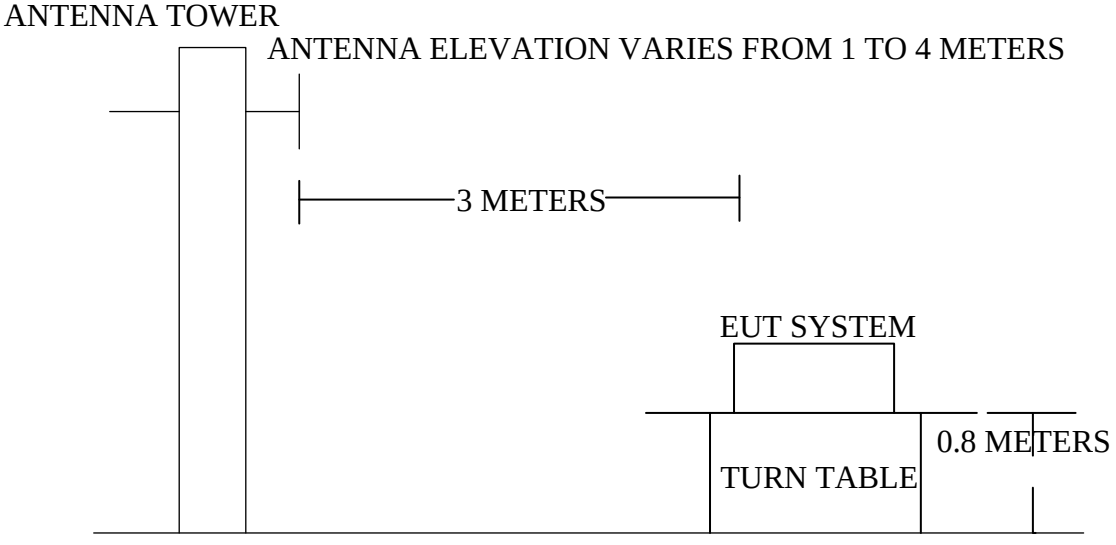
3.2. Block Diagram of Test Setup

3.2.1. Block diagram of connection between the EUT and simulators



(EUT: Wireless Laser Barcode Scanner)

3.2.2. Anechoic Chamber Test Setup Diagram



(EUT: Wireless Laser Barcode Scanner)

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	:	Wireless Laser Barcode Scanner
Model Number	:	880W
Applicant	:	Guangzhou Shangchen Electronics Co., LTD.

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 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 C63.4-2009 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. Radiated Emission Measurement Results

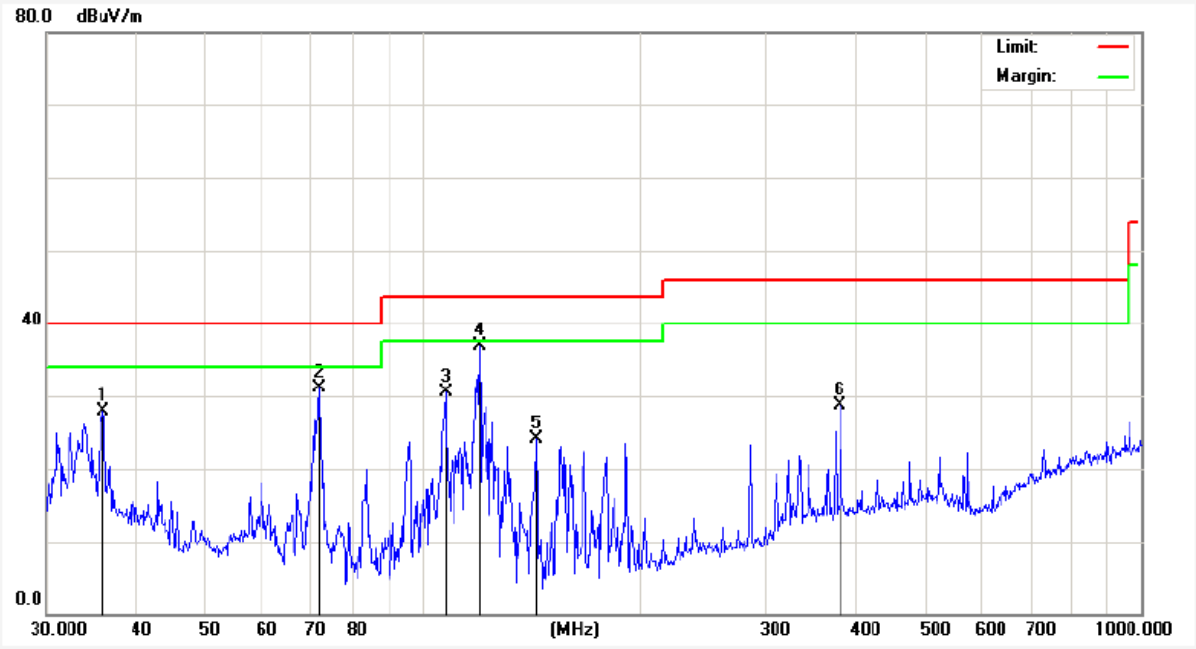
PASS.

The test curves are shown in the following pages.

Anbotek Compliance Laboratory Limited
1/F, 1 /Building, SEC Industrial Park, No.4 Qianhai Road,
Nanshan District, Shenzhen, 518054, China

Tel: (86)755-26066544
Fax: (86)755-26014772
Http://www.anbotek.com

Job No.:	**AT1207740F-1**	**Polarziation:**	**Horizontal**
Standard:	**(RE)FCC PART15 B _3m**	**Power Source:**	**DC 5V**
Test item:	**Radiation Test**	**Date:**	**2012/08/11**
Temp.(C)/Hum.(%RH):	**24.3(C)/55%RH**	**Time:**	**11:06:24**
EUT:	**Wireless Laser Barcode Scanner**	**Test By:**	**Andy Chen**
Model:	**880W**	**Distance:**	**3m**
Note:	**On**		

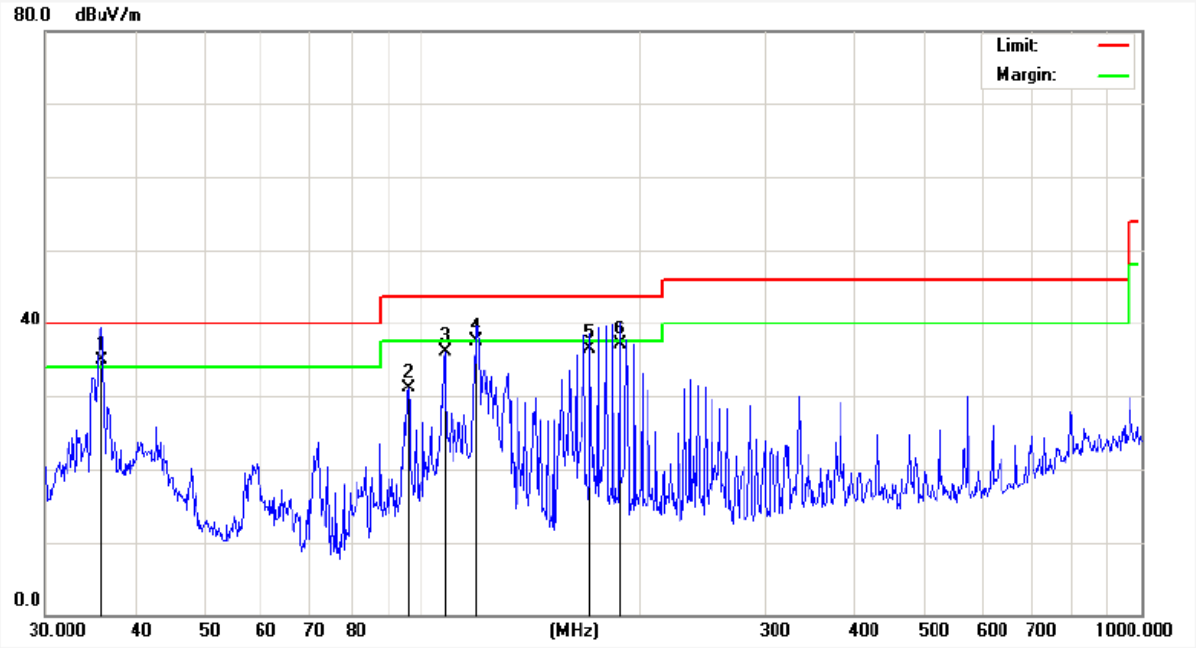


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	35.8746	55.53	-27.66	27.87	40.00	-12.13	peak			
2	71.5806	63.19	-32.10	31.09	40.00	-8.91	peak			
3	107.5101	62.11	-31.52	30.59	43.50	-12.91	peak			
4	119.8556	69.09	-32.12	36.97	43.50	-6.53	peak			
5	143.8295	58.19	-34.10	24.09	43.50	-19.41	peak			
6	381.2487	52.02	-23.40	28.62	46.00	-17.38	peak			

Anbotek Compliance Laboratory Limited
1/F, 1 /Building, SEC Industrial Park, No.4 Qianhai Road,
Nanshan District, Shenzhen, 518054, China

Tel: (86)755-26066544
Fax: (86)755-26014772
Http://www.anbotek.com

Job No.:	**AT1207740F-1**	**Polarziation:**	**Vertical**
Standard:	**(RE)FCC PART15 B _3m**	**Power Source:**	**DC 5V**
Test item:	**Radiation Test**	**Date:**	**2012/08/11**
Temp.(C)/Hum.(%RH):	**24.3(C)/55%RH**	**Time:**	**11:11:28**
EUT:	**Wireless Laser Barcode Scanner**	**Test By:**	**Andy Chen**
Model:	**880W**	**Distance:**	**3m**
Note:	**On**		



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	35.9046	62.57	-27.65	34.92	40.00	-5.08	QP	100	360	
2	95.7622	58.16	-27.06	31.10	43.50	-12.40	peak			
3	107.5101	62.65	-26.52	36.13	43.50	-7.37	peak			
4	119.0180	64.63	-27.07	37.56	43.50	-5.94	QP	100	360	
5	171.3926	64.44	-27.98	36.46	43.50	-7.04	QP	100	360	
6	188.4125	63.57	-26.50	37.07	43.50	-6.43	QP	100	0	

4. PHOTOGRAPH

4.1. Photo of Power Line Conducted Emission Test

4.2. Photo of Power Line Radiated Emission Test