

APPLICATION FOR VERIFICATION

On Behalf of
Xindao (Shanghai) Co., Ltd.

Sun flower with solar panel
Model No.: P323.233

Prepared for : Xindao (Shanghai) Co., Ltd.
Address : 15th Floor, LZY Tower, No.4711, Jiao Tong Rd.,
Shanghai, P.R. China

Prepared by : Accurate Technology Co., Ltd.
Address : F1, Bldg. A&D, Changyuan New Material Port, Keyuan
Rd., Science & Industry Park, Nanshan District,
Shenzhen 518057, P.R. China

Tel: +86-755-26503290
Fax: +86-755-26503396

Report No. : ATE20120264
Date of Test : March 2-3, 2012
Date of Report : March 6, 2012

TABLE OF CONTENTS

Description	Page
Test Report Verification	
1. TEST RESULTS SUMMARY	4
2. GENERAL INFORMATION.....	5
2.1. Description of Device (EUT).....	5
2.2. Accessory and Auxiliary Equipment.....	5
2.3. Description of Test Facility	6
2.4. Measurement Uncertainty	6
3. MEASURING DEVICE AND TEST EQUIPMENT	7
3.1. For Power Line Conducted Emission	7
3.2. For Radiated Emission Measurement	7
4. POWER LINE CONDUCTED MEASUREMENT	8
4.1. Block Diagram of Test Setup.....	8
4.2. Power Line Conducted Emission Measurement Limits (Class B)	8
4.3. Configuration of EUT on Measurement.....	8
4.4. Operating Condition of EUT	9
4.5. Test Procedure.....	9
4.6. Power Line Conducted Emission Measurement Results.....	10
5. RADIATED EMISSION MEASUREMENT.....	13
5.1. Block Diagram of Test Setup.....	13
5.2. Radiated Emission Limit (Class B)	14
5.3. EUT Configuration on Measurement.....	14
5.4. Operating Condition of EUT	14
5.5. Test Procedure.....	15
5.6. Radiated Emission Noise Measurement Result	16
6. PHOTOGRAPHS	19
6.1. Photo of Conducted Emission Measurement	19
6.2. Photos of Radiated Emission Measurement	19
6.3. Photo of EUT	20

Test Report Verification

Applicant : Xindao (Shanghai) Co., Ltd.
Manufacturer :
EUT Description : Sun flower with solar panel
Model No. : P323.233


Measurement Procedure Used:

FCC Rules and Regulations Part 15 Subpart B Class B ANSI C63.4: 2003

The device described above is tested by Accurate Technology Co., Ltd. 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 Accurate Technology Co., Ltd. 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 Accurate Technology Co., Ltd.

Date of Test : March 2-3, 2012

Prepared by : 
(Jane Lü, Engineer)

Approved & Authorized Signer : 
(Sean Liu, Manager)

1. TEST RESULTS SUMMARY

Test Items	Test Standard	Test Results
Power Line Conducted Emission	FCC Part 15 Subpart B	Pass
Radiated Emission	FCC Part 15 Subpart B	Pass

2. GENERAL INFORMATION

2.1. Description of Device (EUT)

Product : Sun flower with solar panel

Model No. : P323.233

Rating : DC 5V (Powered by PC)

Applicant : Xindao (Shanghai) Co., Ltd.
Address : 15th Floor, LZY Tower, No.4711, Jiao Tong Rd.,
Shanghai, P.R. China

Manufacturer :
Address :

Date of sample receiver : February 28, 2012

Date of Test : March 2-3, 2012

2.2. Accessory and Auxiliary Equipment

PC : Manufacturer: DELL
Model No.: DMC
Serial No.: 3R7LF1X

LCD Monitor : Manufacturer: DELL
Model No.: E172FPt
Serial No.: 434

Keyboard : Manufacturer: DELL
Model No.: SK-8110
Serial No.: LR86682

Mouse : Manufacturer: DELL
Model No.: M071KC
Serial No.: 410042355

Printer : Manufacturer: Canon
Model No.: BJC-1000SP

2.3. Description of Test Facility

EMC Lab : Accredited by TUV Rheinland Shenzhen

Listed by FCC
The Registration Number is 253065

Listed by FCC
The Registration Number is 752051

Listed by Industry Canada
The Registration Number is 5077A-1

Listed by Industry Canada
The Registration Number is 5077A-2

Accredited by China National Accreditation Committee for Laboratories
The Certificate Registration Number is L3193

Name of Firm : Accurate Technology Co., Ltd.

Site Location : F1, Bldg. A&D, Changyuan New Material Port, Keyuan Rd.
Science & Industry Park, Nanshan District, Shenzhen
518057, P.R. China

2.4. Measurement Uncertainty

Conducted Emission Expanded Uncertainty = 2.23dB, k=2

Power Disturbance Expanded Uncertainty = 2.92 dB, k=2

Radiated emission expanded uncertainty (9kHz-30MHz) = 3.08dB, k=2

Radiated emission expanded uncertainty (30MHz-1000MHz) = 4.42dB, k=2

Radiated emission expanded uncertainty (Above 1GHz) = 4.06dB, k=2

3. MEASURING DEVICE AND TEST EQUIPMENT

3.1. For Power Line Conducted Emission

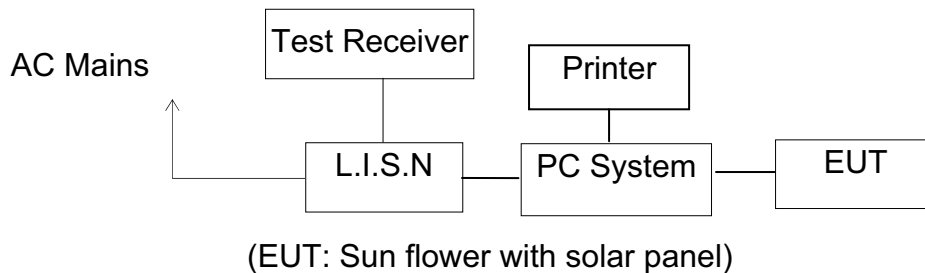
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde & Schwarz	ESCS30	100307	Jan. 7, 2012	1 Year
2.	L.I.S.N.	Schwarzbeck	NSLK8126	8126431	Jan. 7, 2012	1 Year
3.	L.I.S.N.	Rohde & Schwarz	ESH3-Z5	100310	Jan. 7, 2012	1 Year
4.	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100815	Jan. 7, 2012	1 Year
5.	50Ω Coaxial Switch	Anritsu Corp	MP59B	620028393 3	Jan. 7, 2012	1 Year
6.	RF Coaxial Cable	SUHNER	N-2m	No.3	Jan. 7, 2012	1 Year

3.2. For Radiated Emission Measurement

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	ANRITSU	MS2651B	6200238856	Jan. 7, 2012	1 Year
2.	Test Receiver	Rohde&Schwarz	ESCS30	100307	Jan. 7, 2012	1 Year
3.	Bilog Antenna	Schwarzbeck	VULB9163	9163-194	Jan. 7, 2012	1 Year
4.	50 Coaxial Switch	Anritsu Corp	MP59B	6200237248	Jan. 7, 2012	1 Year
5.	RF Coaxial Cable	Schwarzbeck	N-5m	No.1	Jan. 7, 2012	1 Year
6.	RF Coaxial Cable	Schwarzbeck	N-1m	No.6	Jan. 7, 2012	1 Year
7.	RF Coaxial Cable	Schwarzbeck	N-1m	No.7	Jan. 7, 2012	1 Year
8.	RF Coaxial Cable	RESENBERGER	N-0.5m	No.12	Jan. 7, 2012	1 Year
9.	Pre-Amplifier	Agilent	8447D	294A10619	Jan. 7, 2012	1 Year

4. POWER LINE CONDUCTED MEASUREMENT

4.1. Block Diagram of Test Setup



4.2. Power Line Conducted Emission Measurement Limits (Class B)

Frequency (MHz)	Limit dB(μ V)	
	Quasi-peak Level	Average Level
0.15 - 0.50	66.0 – 56.0 *	56.0 – 46.0 *
0.50 - 5.00	56.0	46.0
5.00 - 30.00	60.0	50.0

NOTE1: The lower limit shall apply at the transition frequencies.
 NOTE2: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.50MHz.

4.3. 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.

4.3.1. Sun flower with solar panel (EUT)

Model Number: P323.233

Serial Number: N/A

Manufacturer: :

4.4. Operating Condition of EUT

4.4.1. Setup the EUT and simulator as shown as Section 4.2.

4.4.2. Turn on the power of all equipment.

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

4.5. Test Procedure

The EUT is put on the plane 0.8m high above the ground by insulating support and 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 lines 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 ANSI C63.4: 2003 on Conducted Emission Measurement.

The bandwidth of test receiver (R & S ESCS30) is set at 9kHz.

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

4.6. Power Line Conducted Emission Measurement Results

PASS.

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

Test mode: Connect to PC								
MEASUREMENT RESULT: "TT02_fin"								
3/3/2012 3:32AM								
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE	
0.151202	42.50	11.0	66	23.4	QP	L1	GND	
0.306497	36.10	11.6	60	24.0	QP	L1	GND	
0.613892	33.80	11.9	56	22.2	QP	L1	GND	
MEASUREMENT RESULT: "TT02_fin2"								
3/3/2012 3:32AM								
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE	
0.553370	34.70	12.0	46	11.3	AV	L1	GND	
0.798945	34.50	11.9	46	11.5	AV	L1	GND	
1.043940	33.50	11.8	46	12.5	AV	L1	GND	
MEASUREMENT RESULT: "TT01_fin"								
3/3/2012 3:28AM								
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE	
0.150000	40.20	11.0	66	25.8	QP	N	GND	
2.274000	30.10	11.6	56	25.9	QP	N	GND	
3.502500	29.10	11.5	56	26.9	QP	N	GND	
MEASUREMENT RESULT: "TT01_fin2"								
3/3/2012 3:28AM								
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE	
0.186000	39.30	11.2	54	14.9	AV	N	GND	
2.769000	29.60	11.6	46	16.4	AV	N	GND	
3.259500	29.90	11.5	46	16.1	AV	N	GND	

Emissions attenuated more than 20 dB below the permissible value are not reported.

The spectral diagrams are attached as below.

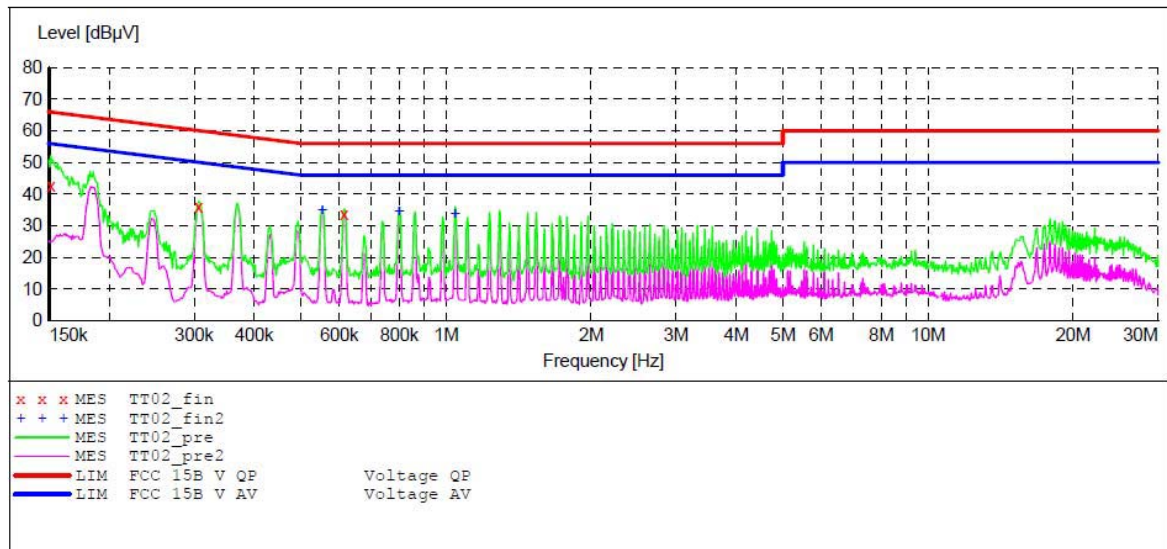
ACCURATE TECHNOLOGY CO., LTD

CONDUCTED EMISSION STANDARD FCC PART 15 B

EUT: Sun flower with solar panel M/N:P323.233
 Manufacturer: YuanGuangHao
 Operating Condition: CONNECT TO PC
 Test Site: 1#Shielding Room
 Operator: TOM
 Test Specification: L 120V/60Hz
 Comment: Report No.:ATE20120264
 Start of Test: 3/3/2012 / 3:29:45AM

SCAN TABLE: "V 150K-30MHz fin"

Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
150.0 kHz	30.0 MHz	0.8 %	QuasiPeak	1.0 s	9 kHz	NSLK8126 2008
Average						



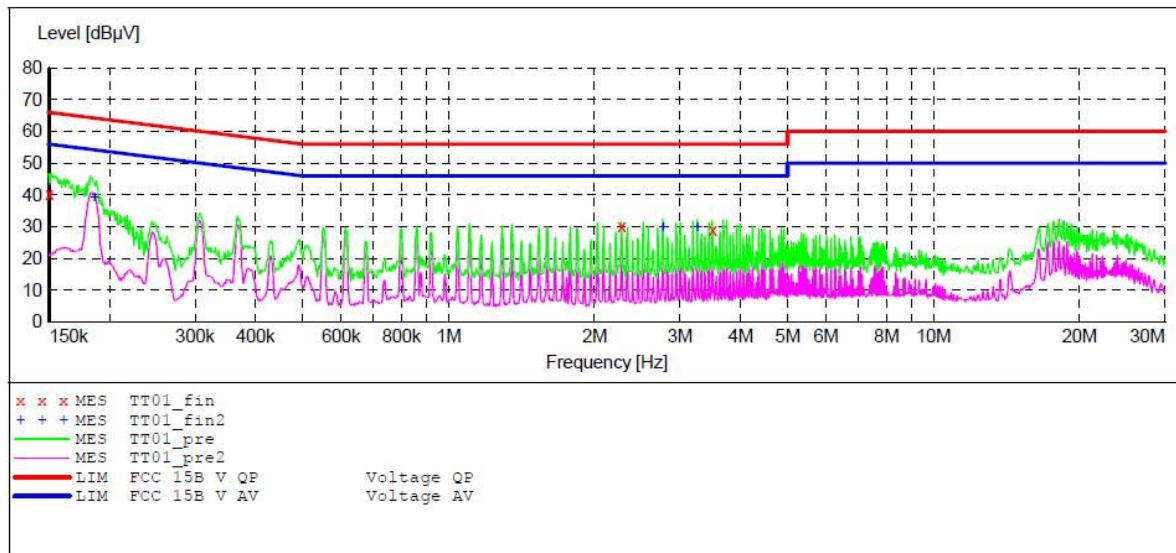
ACCURATE TECHNOLOGY CO., LTD

CONDUCTED EMISSION STANDARD FCC PART 15 B

EUT: Sun flower with solar panel M/N:P323.233
 Manufacturer: YuanGuangHao
 Operating Condition: CONNECT TO PC
 Test Site: 1#Shielding Room
 Operator: TOM
 Test Specification: N 120V/60Hz
 Comment: Report No.:ATE20120264
 Start of Test: 3/3/2012 / 3:24:22AM

SCAN TABLE: "V 150K-30MHz fin"

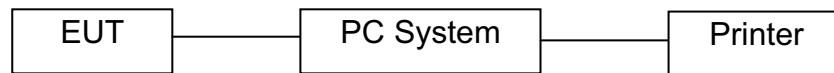
Short Description:		_SUB_STD_VTERM2 1.70					
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer	
150.0 kHz	30.0 MHz	0.8 %	QuasiPeak	1.0 s	9 kHz	NSLK8126 2008	
			Average				



5. RADIATED EMISSION MEASUREMENT

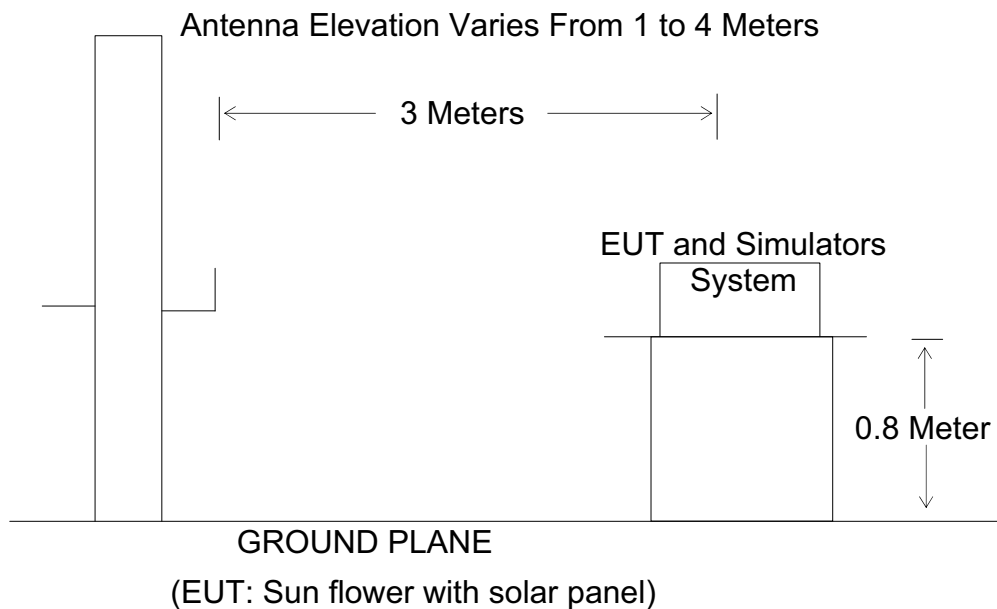
5.1. Block Diagram of Test Setup

5.1.1. Block diagram of connection between the EUT and simulators



(EUT: Sun flower with solar panel)

5.1.2. Anechoic Chamber Test Setup Diagram



5.2. Radiated Emission Limit (Class B)

All emanations from a class B device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified below:

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 $\text{dB}(\mu\text{V}) = 20 \log$ 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.

5.3. 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.

5.3.1. Sun flower with solar panel (EUT)

Model Number: P323.233

Serial Number: N/A

Manufacturer:

5.4. Operating Condition of EUT

5.4.1. Setup the EUT and simulator as shown as Section 4.2.

5.4.2. Turn on the power of all equipment.

5.4.3. Let the EUT work in test modes (Connect to PC) and measure it.

5.5. Test Procedure

The EUT and its simulators are placed on a turntable, which is 0.8 meter high above ground. The turntable 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 an 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 (calibrated bilog 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 (R&S ESCS30) is set at 120kHz.

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

5.6. Radiated Emission Noise Measurement Result

PASS.

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

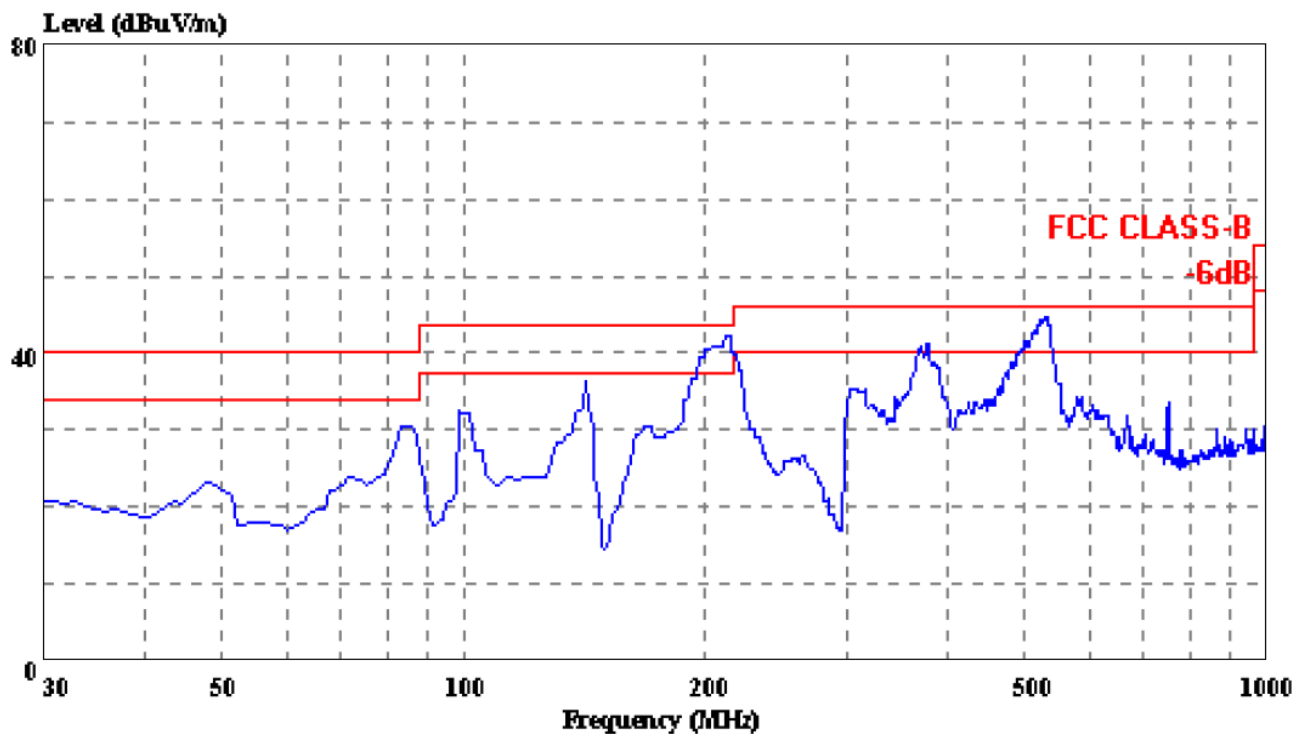
Test Mode: Connect to PC						
Polarization						
Horizontal	Freq	Level	Limit	Over	Probe	
	MHz	dBuV/m	dBuV/m	dB	dB	
1	141.550	34.53	43.50	-8.97	5.43	
2 !	214.300	41.36	43.50	-2.14	9.66	
3 !	529.550	43.60	46.00	-2.40	17.38	
Vertical	Freq	Level	Limit	Over	Probe	
	MHz	dBuV/m	dBuV/m	dB	dB	
1	86.260	31.13	40.00	-8.87	5.69	
2 !	214.300	40.76	43.50	-2.74	8.88	
3	381.140	37.75	46.00	-8.25	14.62	

Emissions attenuated more than 20 dB below the permissible value are not reported.

The spectral diagrams are attached as below.

Data#: 3420 File#: tom.EMI

Date: 2012-03-03 Time: 00:10:25



Trace:

Ref Trace:

Condition: FCC CLASS-B 3m ATC VULB9163 (NEW) HORIZONTAL

Manufacturer: YuanGuangHao

EUT : Sun flower with solar panel

M/N : P323.233

memo : CONNECT TO PC

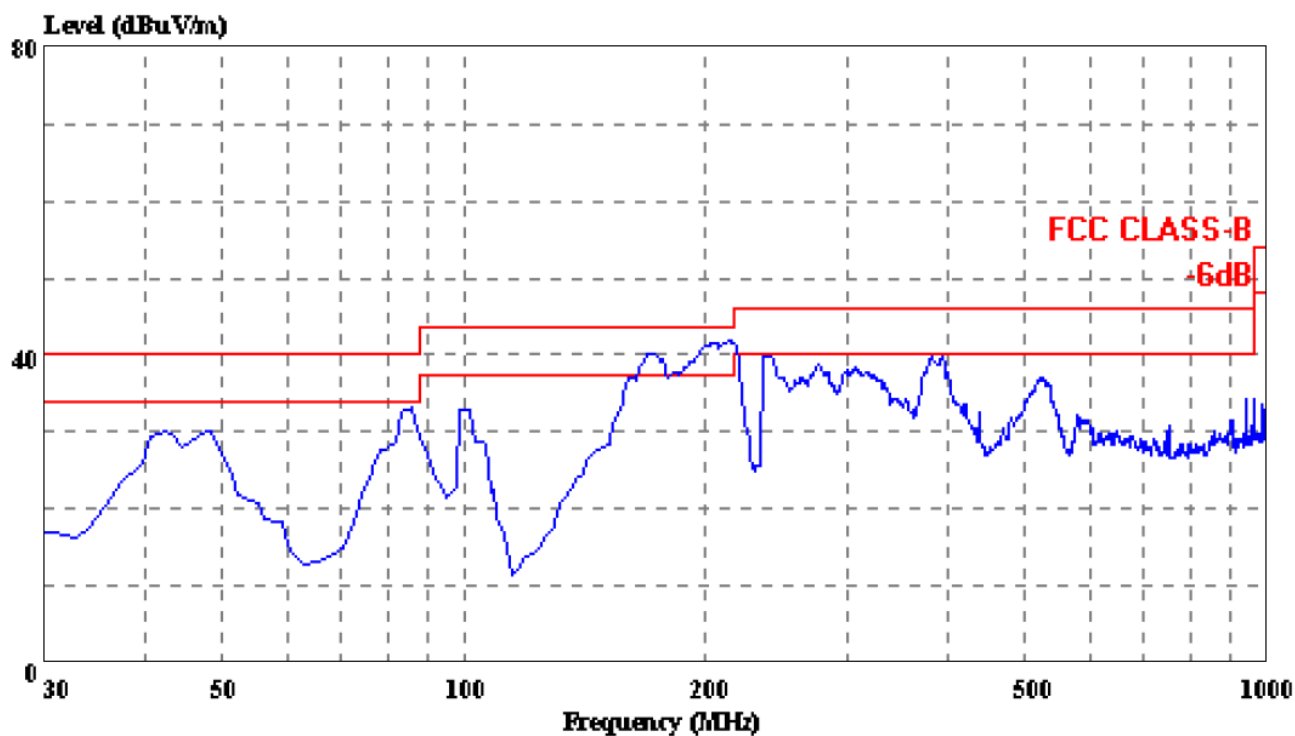
Power : DC 5V

Report No. : ATE20120264

Sample No. : 1200438

Data#: 3418 File#: tom.EMI

Date: 2012-03-03 Time: 00:10:01



Trace:

Ref Trace:

Condition: FCC CLASS-B 3m ATC VULB9163 (NEW) VERTICAL

Manufacturer: YuanGuangHao

EUT : Sun flower with solar panel

M/N : P323.233

memo : CONNECT TO PC

Power : DC 5V

Report No. : ATE20120264

Sample No. : 1200438

6. PHOTOGRAPHS

6.1. Photo of Conducted Emission Measurement



6.2. Photos of Radiated Emission Measurement



6.3.Photo of EUT

