

EMC TEST REPORT  
for  
Xindao B.V.

GINKGO solar tree  
Model No.: P323.113

Prepared for : Xindao B.V.  
Address : P.O. Box 3082, 2280 GB, Rijswijk, The Netherlands

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

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

Report No. : ATE20140110  
Date of Test : February 14-15, 2014  
Date of Report : February 21, 2014

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## TEST REPORT

Applicant : Xindao B.V.  
Manufacturer : Xindao B.V.  
EUT Description : GINKGO solar tree  
Model No. : P323.113

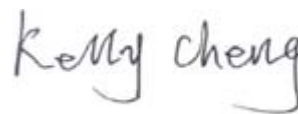
Measurement Procedure Used:

**EN 55022: 2010**  
**EN 55024: 2010 (IEC 61000-4-2: 2008**  
**IEC 61000-4-3: 2010**  
**IEC 61000-4-8: 2009)**

The device described above is tested by Accurate Technology Co., Ltd. to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The measurement results are contained in this test report and Accurate Technology Co., Ltd. is assumed full of responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT (Equipment Under Test) is technically compliant with the above requirements.

This report applies to above tested sample only and shall not be reproduced in part without written approval of Accurate Technology Co., Ltd.

Date of Test : February 14-15, 2014



Prepared by :  
( Kelly Cheng, Engineer)



Approved & Authorized Signer :  
(Sean Liu, Manager)

## 1. TEST RESULTS SUMMARY

| Test Items                               | Test Standard                           | Test Results |
|------------------------------------------|-----------------------------------------|--------------|
| Conducted Emission                       | EN 55022: 2010                          | Pass         |
| Radiated Emission                        | EN 55022: 2010                          | Pass         |
| Electrostatic Discharge Immunity         | EN 55024: 2010<br>(IEC 61000-4-2: 2008) | Pass         |
| Radiated Electromagnetic Fields Immunity | EN 55024: 2010<br>(IEC 61000-4-3: 2010) | Pass         |
| Magnetic Field Immunity                  | EN 55024: 2010<br>(IEC 61000-4-8: 2009) | Pass         |

## 2. GENERAL INFORMATION

### 2.1. Description of Device (EUT)

EUT : GINKGO solar tree

Model No. : P323.113

Rating : DC 5V (Powered by PC)  
DC 3.7V(Powered by battery)

Applicant : Xindao B.V.  
Address : P.O. Box 3082, 2280 GB, Rijswijk, The Netherlands

Manufacturer : Xindao B.V.  
Address : P.O. Box 3082, 2280 GB, Rijswijk, The Netherlands

Date of sample received : February 14, 2014  
Date of Test : February 14-15, 2014

### 2.2. Accessory and Auxiliary Equipment

Notebook PC : Manufacturer: SONY  
M/N: PCG-663P  
S/N: 28123170 7202526

## 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, Changyuan New Material Port, Keyuan Rd.<br>Science & Industry Park, Nanshan, Shenzhen, Guangdong<br>P.R. China |
| Subcontracted Items | : | Radiated RF Electromagnetic Fields                                                                                          |
| Subcontractor       | : | Shenzhen Academy of Metrology and Quality Inspection                                                                        |
| Site Location       | : | Bldg. of Shenzhen Academy of Metrology and Quality Inspection, Longzhu Road, Nanshan, Shenzhen, China.                      |

## 2.4. Measurement Uncertainty

|                                                           |   |             |
|-----------------------------------------------------------|---|-------------|
| Conducted Emission Expanded Uncertainty                   | = | 2.23dB, k=2 |
| Radiated emission expanded uncertainty<br>(30MHz-1000MHz) | = | 4.42dB, k=2 |
| Radiated emission expanded uncertainty<br>(Above 1GHz)    | = | 4.06dB, k=2 |

### 3. MEASURING DEVICE AND TEST EQUIPMENT

#### 3.1.For Conducted Emission Test

| Item | Equipment                              | Manufacturer    | Model No. | Serial No.     | Last Cal.     | Cal. Interval |
|------|----------------------------------------|-----------------|-----------|----------------|---------------|---------------|
| 1.   | Test Receiver                          | Rohde & Schwarz | ESCS30    | 100307         | Jan. 12, 2013 | 1 Year        |
| 2.   | Test Receiver                          | Rohde & Schwarz | ESPI3     | 100396/003     | Jan. 12, 2013 | 1 Year        |
| 3.   | Test Receiver                          | Rohde & Schwarz | ESPI3     | 101526/003     | Jan. 12, 2013 | 1 Year        |
| 4.   | L.I.S.N.                               | Schwarzbeck     | NLSK8126  | 8126431        | Jan. 12, 2013 | 1 Year        |
| 5.   | L.I.S.N.                               | Rohde & Schwarz | ESH3-Z5   | 100305         | Jan. 12, 2013 | 1 Year        |
| 6.   | L.I.S.N.                               | Rohde & Schwarz | ESH3-Z5   | 100310         | Jan. 12, 2013 | 1 Year        |
| 7.   | L.I.S.N.                               | Rohde & Schwarz | ESH3-Z6   | 100132         | Jan. 12, 2013 | 1 Year        |
| 8.   | Pulse Limiter                          | Rohde & Schwarz | ESH3-Z2   | 100305         | Jan. 12, 2013 | 1 Year        |
| 9.   | Pulse Limiter                          | Rohde & Schwarz | ESH3-Z2   | 100312         | Jan. 12, 2013 | 1 Year        |
| 10.  | Pulse Limiter                          | Rohde & Schwarz | ESH3-Z2   | 100815         | Jan. 12, 2013 | 1 Year        |
| 11.  | 50Ω Coaxial Switch                     | Anritsu Corp    | MP59B     | 620028393<br>6 | Jan. 12, 2013 | 1 Year        |
| 12.  | 50Ω Coaxial Switch                     | Anritsu Corp    | MP59B     | 620028393<br>3 | Jan. 12, 2013 | 1 Year        |
| 13.  | 50Ω Coaxial Switch                     | Anritsu Corp    | MP59B     | 620050647<br>4 | Jan. 12, 2013 | 1 Year        |
| 14.  | VOLTAGE PROBE                          | Schwarzbeck     | TK9416    | N/A            | Jan. 12, 2013 | 1 Year        |
| 15.  | RF CURRENT PROBE                       | Rohde & Schwarz | EZ-17     | 100048         | Jan. 12, 2013 | 1 Year        |
| 16.  | 8-Wire Impedance Stabilisation Network | Schwarzbeck     | CAT5 8158 | 8158-0035      | Jan. 12, 2013 | 1 Year        |
| 17.  | RF Coaxial Cable                       | SUHNER          | N-2m      | No.2           | Jan. 12, 2013 | 1 Year        |
| 18.  | RF Coaxial Cable                       | SUHNER          | N-2m      | No.3           | Jan. 12, 2013 | 1 Year        |
| 19.  | RF Coaxial Cable                       | SUHNER          | N-2m      | No.14          | Jan. 12, 2013 | 1 Year        |

#### 3.2.For Radiated Emission Measurement

| Item | Equipment         | Manufacturer   | Model No. | Serial No. | Last Cal.     | Cal. Interval |
|------|-------------------|----------------|-----------|------------|---------------|---------------|
| 1.   | Spectrum Analyzer | Agilent        | E7405A    | MY45115511 | Jan. 12, 2013 | 1 Year        |
| 2.   | Test Receiver     | Rohde&Schwarz  | ESCS30    | 100307     | Jan. 12, 2013 | 1 Year        |
| 3.   | Test Receiver     | Rohde& Schwarz | ESPI3     | 100396/003 | Jan. 12, 2013 | 1 Year        |
| 4.   | Test Receiver     | Rohde& Schwarz | ESPI3     | 101526/003 | Jan. 12, 2013 | 1 Year        |
| 5.   | Bilog Antenna     | Schwarzbeck    | VULB9163  | 9163-194   | Feb. 06, 2013 | 1 Year        |
| 6.   | Bilog Antenna     | Schwarzbeck    | VULB9163  | 9163-323   | Feb. 06, 2013 | 1 Year        |
| 7.   | Loop Antenna      | Schwarzbeck    | FMZB1516  | 1516131    | Feb. 06, 2013 | 1 Year        |



|     |                   |               |                    |            |               |        |
|-----|-------------------|---------------|--------------------|------------|---------------|--------|
| 8.  | Horn Antenna      | Schwarzbeck   | BBHA9120D          | 9120D-655  | Feb. 06, 2013 | 1 Year |
| 9.  | Pre-Amplifier     | Agilent       | 8447D              | 294A10619  | Jan. 12, 2013 | 1 Year |
| 10. | Pre-Amplifier     | Rohde&Schwarz | CBLU11835<br>40-01 | 3791       | Jan. 12, 2013 | 1 Year |
| 11. | 50 Coaxial Switch | Anritsu Corp  | MP59B              | 6200237248 | Jan. 12, 2013 | 1 Year |
| 12. | 50 Coaxial Switch | Anritsu Corp  | MP59B              | 6200506474 | Jan. 12, 2013 | 1 Year |
| 13. | RF Coaxial Cable  | Schwarzbeck   | N-5m               | No.1       | Jan. 12, 2013 | 1 Year |
| 14. | RF Coaxial Cable  | Schwarzbeck   | N-1m               | No.6       | Jan. 12, 2013 | 1 Year |
| 15. | RF Coaxial Cable  | Schwarzbeck   | N-1m               | No.7       | Jan. 12, 2013 | 1 Year |
| 16. | RF Coaxial Cable  | SUHNER        | N-3m               | No.8       | Jan. 12, 2013 | 1 Year |
| 17. | RF Coaxial Cable  | RESENBERGER   | N-3.5m             | No.9       | Jan. 12, 2013 | 1 Year |
| 18. | RF Coaxial Cable  | SUHNER        | N-6m               | No.10      | Jan. 12, 2013 | 1 Year |
| 19. | RF Coaxial Cable  | RESENBERGER   | N-12m              | No.11      | Jan. 12, 2013 | 1 Year |
| 20. | RF Coaxial Cable  | RESENBERGER   | N-0.5m             | No.12      | Jan. 12, 2013 | 1 Year |
| 21. | RF Coaxial Cable  | SUHNER        | N-2m               | No.13      | Jan. 12, 2013 | 1 Year |
| 22. | RF Coaxial Cable  | SUHNER        | N-0.5m             | No.15      | Jan. 12, 2013 | 1 Year |
| 23. | RF Coaxial Cable  | SUHNER        | N-2m               | No.16      | Jan. 12, 2013 | 1 Year |
| 24. | RF Coaxial Cable  | RESENBERGER   | N-6m               | No.17      | Jan. 12, 2013 | 1 Year |

### 3.3.For Electrostatic Discharge Immunity Test

| Item | Equipment  | Manufacturer | Model No. | Serial No. | Last Cal.     | Cal. Interval |
|------|------------|--------------|-----------|------------|---------------|---------------|
| 1.   | ESD Tester | HAEFELY      | PESD1610  | H4001552   | Jan. 15, 2013 | 1 Year        |

### 3.4.For RF Strength Susceptibility Test

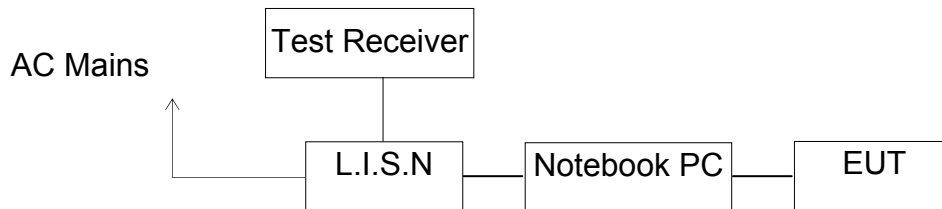
| Item | Equipment             | Manufacturer  | Model No.        | Serial No. | Last Cal.     | Cal. Interval |
|------|-----------------------|---------------|------------------|------------|---------------|---------------|
| 1.   | Broad Band Antenna    | SCHAFFNER     | CBL6111C         | SB2622     | Jan. 20, 2013 | 1 Year        |
| 2.   | Signal Generator      | Rohde&Schwarz | SMT03            | SB3433     | Jan. 12, 2013 | 1 Year        |
| 3.   | Audio analyzer        | Rohde&Schwarz | UPL              | SB3439     | Dec. 19, 2013 | 1 Year        |
| 4.   | RF Synthesis detector | Rohde&Schwarz | CMU200           | SB3441     | Mar. 30, 2013 | 1 Year        |
| 5.   | Power Amplifier       | AR            | AT4002A          | SB3937     | Mar. 10, 2013 | 1 Year        |
| 6.   | Horn Antenna          | Chase         | CBL6111C         | 2576       | Jan. 20, 2013 | 1 Year        |
| 7.   | Supplybridge          | SPARNEX       | SFB 1050         | SB5304     | Mar. 16, 2013 | 1 Year        |
| 8.   | Power Amplifier       | AR            | 250W1000A        | SB7933     | Jan. 20, 2013 | 1 Year        |
| 9.   | Power Amplifier       | MILMEGA       | AS0860-75/<br>45 | SB7934     | Jan. 20, 2013 | 1 Year        |

### 3.5.For Magnetic Field Immunity Test

| Item | Equipment             | Manufacturer | Model No. | Serial No. | Last Cal.     | Cal. Interval |
|------|-----------------------|--------------|-----------|------------|---------------|---------------|
| 1.   | Magnetic Field Tester | HAEFELY      | MAG100    | 150577     | Jan. 12, 2013 | 1 Year        |

## 4. POWER LINE CONDUCTED EMISSION MEASUREMENT

### 4.1. Block Diagram of Test Setup



(EUT: GINKGO solar tree)

### 4.2. Measuring Standard

EN 55022: 2010

### 4.3. Power Line Conducted Emission Limits (Class B)

| Frequency<br>(MHz) | Limit dB(μV)     |               |
|--------------------|------------------|---------------|
|                    | 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.

### 4.4. EUT Configuration on Measurement

The following equipments are installed on Conducted Emission Measurement to meet EN 55022 requirements and operating in a manner, which tends to maximize its emission characteristics in a normal application.

#### 4.4.1. GINKGO solar tree (EUT)

Model Number : P323.113  
 Manufacturer : Xindao B.V.

## 4.5. Operating Condition of EUT

4.5.1. Setup the EUT as shown on Section 4.1.

4.5.2. Turn on the power of all equipments.

4.5.3. Let the EUT work in measuring mode (Charging) and measure it.

## 4.6. Test Procedure

The EUT is put on the plane 0.8m high above the ground by insulating support and connected to the AC mains through Line Impedance Stability Network (L.I.S.N). This provided a 50ohm coupling impedance for the tested equipments. Both sides of AC line are investigated to find out the maximum conducted emission according to the EN55022 regulations during conducted emission measurement.

The bandwidth of the field strength meter (R&S Test Receiver ESCS30) is set at 9kHz in 150kHz-30MHz and 200Hz in 9kHz -150kHz.

The frequency range from 150kHz to 30MHz is investigated for AC mains.

## 4.7.Measuring Results

**PASS.**

The frequency range from 150 kHz to 30MHz is investigated

| Test Mode: Charging                         |               |              |               |              |          |      |     |  |
|---------------------------------------------|---------------|--------------|---------------|--------------|----------|------|-----|--|
| Live                                        |               |              |               |              |          |      |     |  |
| <b>MEASUREMENT RESULT: "Y-0214-01_fin"</b>  |               |              |               |              |          |      |     |  |
| 2014-2-14 16:21                             |               |              |               |              |          |      |     |  |
| Frequency<br>MHz                            | Level<br>dBμV | Transd<br>dB | Limit<br>dBμV | Margin<br>dB | Detector | Line | PE  |  |
| 0.156424                                    | 54.50         | 10.4         | 66            | 11.2         | QP       | L1   | GND |  |
| 0.503116                                    | 37.80         | 12.5         | 56            | 18.2         | QP       | L1   | GND |  |
| 3.109106                                    | 29.10         | 12.3         | 56            | 26.9         | QP       | L1   | GND |  |
| <b>MEASUREMENT RESULT: "Y-0214-01_fin2"</b> |               |              |               |              |          |      |     |  |
| 2014-2-14 16:21                             |               |              |               |              |          |      |     |  |
| Frequency<br>MHz                            | Level<br>dBμV | Transd<br>dB | Limit<br>dBμV | Margin<br>dB | Detector | Line | PE  |  |
| 0.155956                                    | 39.70         | 10.4         | 56            | 16.0         | AV       | L1   | GND |  |
| 0.501611                                    | 33.00         | 12.5         | 46            | 13.0         | AV       | L1   | GND |  |
| 2.222957                                    | 27.40         | 12.3         | 46            | 18.6         | AV       | L1   | GND |  |
| Neutral                                     |               |              |               |              |          |      |     |  |
| <b>MEASUREMENT RESULT: "Y-0214-02_fin"</b>  |               |              |               |              |          |      |     |  |
| 2014-2-14 16:24                             |               |              |               |              |          |      |     |  |
| Frequency<br>MHz                            | Level<br>dBμV | Transd<br>dB | Limit<br>dBμV | Margin<br>dB | Detector | Line | PE  |  |
| 0.152264                                    | 54.90         | 10.4         | 66            | 11.0         | QP       | N    | GND |  |
| 2.999330                                    | 28.30         | 12.3         | 56            | 27.7         | QP       | N    | GND |  |
| 26.157658                                   | 27.90         | 12.0         | 60            | 32.1         | QP       | N    | GND |  |
| <b>MEASUREMENT RESULT: "Y-0214-02_fin2"</b> |               |              |               |              |          |      |     |  |
| 2014-2-14 16:24                             |               |              |               |              |          |      |     |  |
| Frequency<br>MHz                            | Level<br>dBμV | Transd<br>dB | Limit<br>dBμV | Margin<br>dB | Detector | Line | PE  |  |
| 0.156894                                    | 39.10         | 10.4         | 56            | 16.5         | AV       | N    | GND |  |
| 0.498615                                    | 33.10         | 12.5         | 46            | 12.9         | AV       | N    | GND |  |
| 1.818731                                    | 26.80         | 12.3         | 46            | 19.2         | AV       | N    | GND |  |

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

The spectral diagrams are attached as below.

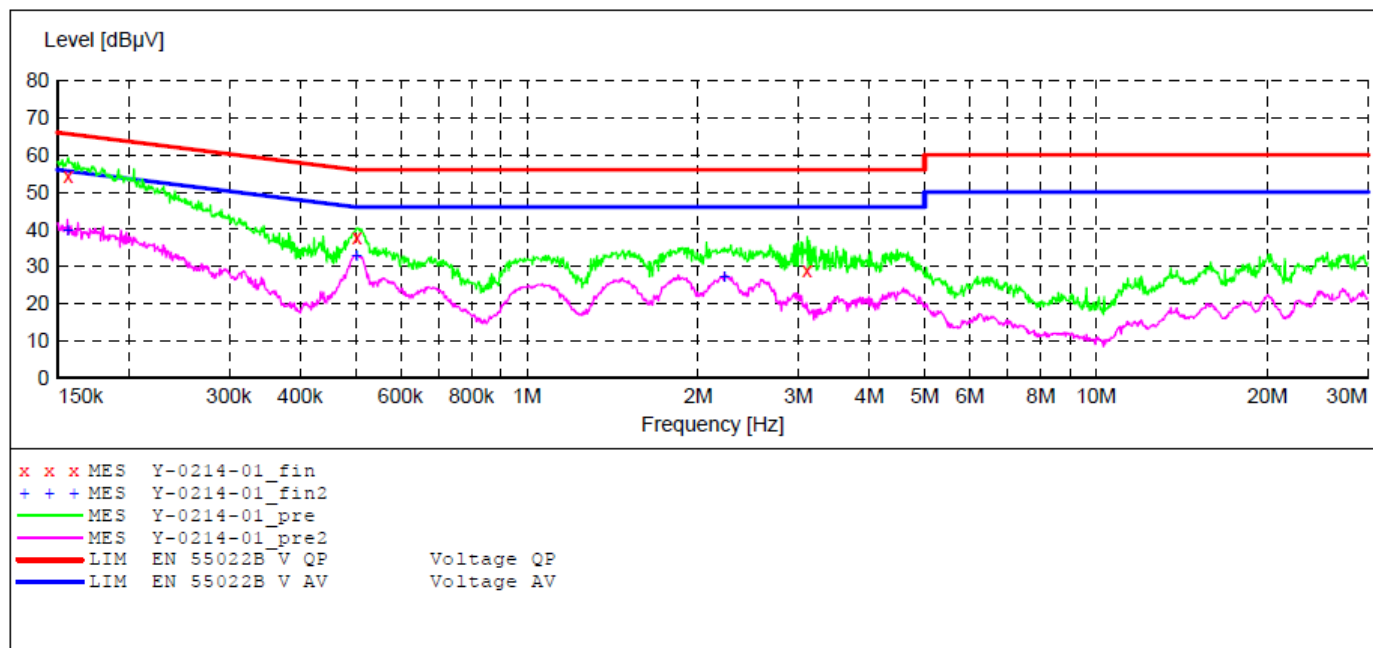
**ACCURATE TECHNOLOGY CO., LTD**

**CONDUCTED EMISSION STANDARD EN 55022 B**

EUT: GINKGO solar tree M/N:P323.113  
 Manufacturer: Xindao B.V.  
 Operating Condition: Charging  
 Test Site: 2#Shielding Room  
 Operator: Alen  
 Test Specification: L 230V/50Hz  
 Comment: Report No:ATE20140110  
 Start of Test: 2014-2-14 / 16:20:02

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

| Short Description: |           |       | SUB STD VTERM2 1.70 |       |        |                |  |
|--------------------|-----------|-------|---------------------|-------|--------|----------------|--|
| Start              | Stop      | Step  | Detector            | Meas. | IF     | Transducer     |  |
| Frequency          | Frequency | Width |                     | Time  | Bandw. |                |  |
| 150.0 kHz          | 30.0 MHz  | 0.4 % | QuasiPeak           | 1.0 s | 9 kHz  | LISN (ESH3-Z5) |  |
|                    |           |       | Average             |       |        |                |  |



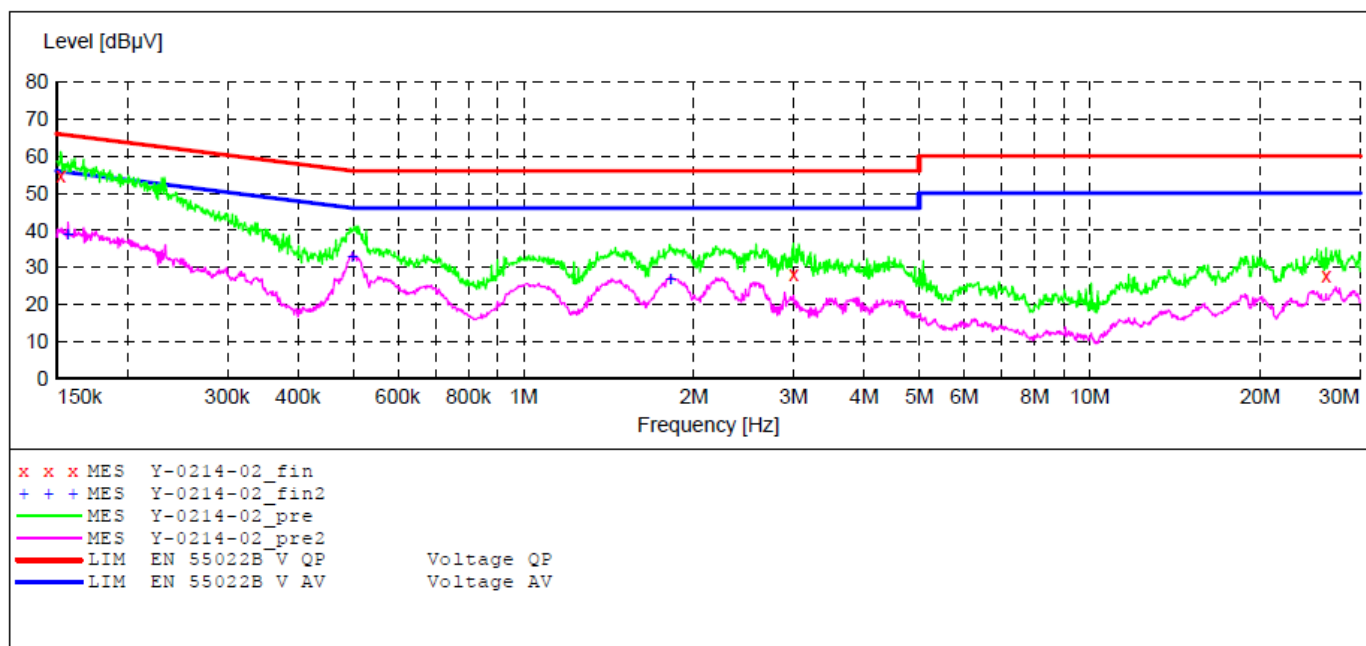
**ACCURATE TECHNOLOGY CO., LTD**

**CONDUCTED EMISSION STANDARD EN 55022 B**

EUT: GINKGO solar tree M/N:P323.113  
 Manufacturer: Xindao B.V.  
 Operating Condition: Charging  
 Test Site: 2#Shielding Room  
 Operator: Alen  
 Test Specification: N 230V/50Hz  
 Comment: Report No:ATE20140110  
 Start of Test: 2014-2-14 / 16:22:43

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

|                    |           |       |                     |       |        |               |
|--------------------|-----------|-------|---------------------|-------|--------|---------------|
| Short Description: |           |       | SUB STD VTERM2 1.70 |       |        |               |
| Start              | Stop      | Step  | Detector            | Meas. | IF     | Transducer    |
| Frequency          | Frequency | Width |                     | Time  | Bandw. |               |
| 150.0 kHz          | 30.0 MHz  | 0.4 % | QuasiPeak           | 1.0 s | 9 kHz  | LISN(ESH3-Z5) |
|                    |           |       | Average             |       |        |               |



## 5. RADIATED EMISSION MEASUREMENT

### 5.1. Block Diagram of Test

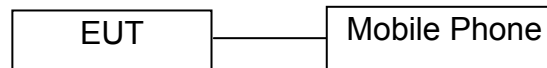
#### 5.1.1. Block diagram of connection between the EUT and simulators

##### 5.1.1.1. For Charging



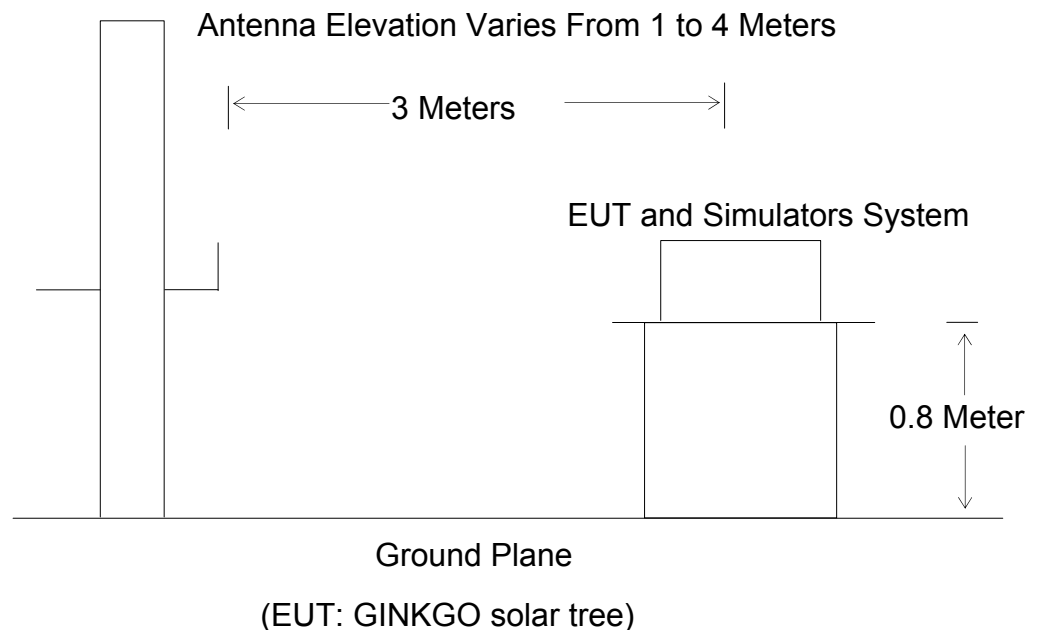
(EUT: GINKGO solar tree)

##### 5.1.1.2. For Discharging



(EUT: GINKGO solar tree)

#### 5.1.2. Block diagram of test setup (In chamber)



### 5.2. Measuring Standard

EN 55022: 2010

### 5.3. Radiated Emission Limits

#### 5.3.1. Limit below 1GHz

| Frequency<br>(MHz)                                                                                                                                                                                                                   | Quasi-peak limits<br>dB( $\mu$ V/m) |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| 30 – 230                                                                                                                                                                                                                             | 40                                  |
| 230 - 1000                                                                                                                                                                                                                           | 47                                  |
| Note: (1) The smaller limit shall apply at the combination point between two frequency bands.<br>(2) Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the EUT. |                                     |

#### 5.3.2. Limit above 1GHz

| Frequency<br>(GHz)                                         | Average Limit<br>dB( $\mu$ V/m) | Peak Limit<br>dB( $\mu$ V/m) |
|------------------------------------------------------------|---------------------------------|------------------------------|
| 1 – 3                                                      | 50                              | 70                           |
| 3 - 6                                                      | 54                              | 74                           |
| Note: The lower limit applies at the transition frequency. |                                 |                              |

### 5.4. Conditional Testing Procedure

If the highest frequency of the internal sources of the EUT is less than 108MHz, the measurement shall only be made up to 1GHz.

If the highest frequency of the internal sources of the EUT is between 108MHz, and 500MHz, the measurement shall only be made up to 2GHz.

If the highest frequency of the internal sources of the EUT is between 500MHz, and 1GHz, the measurement shall only be made up to 5GHz.

If the highest frequency of the internal sources of the EUT is above 1GHz, the measurement shall only be made up to 5 times the highest frequency or 6GHz, whichever is less.

### 5.5. EUT Configuration on Test

The configuration of the EUT is same as Section 4.4.



## 5.6. Operating Condition of EUT

5.6.1. Setup the EUT as shown on Section 5.1.

5.6.2. Turn on the power of all equipments.

5.6.3. Let the EUT work in measuring mode (Charging, Discharging) and measure it.

## 5.7. Test Procedure

The EUT is placed on a turntable, which is 0.8 meter high above the ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna, which is mounted on an antenna tower. The antenna can be moved up and down from 1 to 4 meters to find out the maximum emission level. Bilog antenna (calibrated by Dipole Antenna) is used as a receiving antenna. Both horizontal and vertical polarizations of the antenna are set on test.

The bandwidth of the Receiver (ESCS30) is set at 120kHz in 30-1000MHz, and 1MHz in above 1000MHz.

## 5.8.Measuring Results

**PASS.**

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

| Test Mode: Charging    |     |                |                     |                |                    |                   |                |          |
|------------------------|-----|----------------|---------------------|----------------|--------------------|-------------------|----------------|----------|
| Polarization           |     |                |                     |                |                    |                   |                |          |
| Horizontal             | No. | Freq.<br>(MHz) | Reading<br>(dBuV/m) | Factor<br>(dB) | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Detector |
|                        | 1   | 131.2965       | 50.54               | -23.09         | 27.45              | 40.00             | -12.55         | QP       |
|                        | 2   | 200.6880       | 48.87               | -20.22         | 28.65              | 40.00             | -11.35         | QP       |
|                        | 3   | 866.0878       | 46.32               | -6.69          | 39.63              | 47.00             | -7.37          | QP       |
| Vertical               | No. | Freq.<br>(MHz) | Reading<br>(dBuV/m) | Factor<br>(dB) | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Detector |
|                        | 1   | 128.5629       | 56.35               | -22.95         | 33.40              | 40.00             | -6.60          | QP       |
|                        | 2   | 374.6225       | 49.45               | -15.82         | 33.63              | 47.00             | -13.37         | QP       |
|                        | 3   | 869.1300       | 43.01               | -6.64          | 36.37              | 47.00             | -10.63         | QP       |
| Test Mode: Discharging |     |                |                     |                |                    |                   |                |          |
| Polarization           |     |                |                     |                |                    |                   |                |          |
| Horizontal             | No. | Freq.<br>(MHz) | Reading<br>(dBuV/m) | Factor<br>(dB) | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Detector |
|                        | 1   | 163.1818       | 58.52               | -22.52         | 36.00              | 40.00             | -4.00          | QP       |
|                        | 2   | 323.3204       | 60.01               | -17.26         | 42.75              | 47.00             | -4.25          | QP       |
|                        | 3   | 435.5898       | 48.08               | -15.02         | 33.06              | 47.00             | -13.94         | QP       |
| Vertical               | No. | Freq.<br>(MHz) | Reading<br>(dBuV/m) | Factor<br>(dB) | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Detector |
|                        | 1   | 162.6106       | 57.21               | -22.58         | 34.63              | 40.00             | -5.37          | QP       |
|                        | 2   | 252.9482       | 52.86               | -19.57         | 33.29              | 47.00             | -13.71         | QP       |
|                        | 3   | 300.3672       | 58.65               | -17.86         | 40.79              | 47.00             | -6.21          | QP       |

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

The spectral diagrams are attached as below.

**ACCURATE TECHNOLOGY CO., LTD.**F1,Bldg,A,Changyuan New Material Port Keyuan Rd,  
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: alen #3500

Standard: EN55022 ClassB Radiated

Test item: Radiation Test

Temp.( C)/Hum.(%) 25 C / 55 %

EUT: GINKGO solar tree

Mode: Charging

Model: P323.113

Manufacturer: Xindao B.V.

Polarization: Horizontal

Power Source: DC 5V

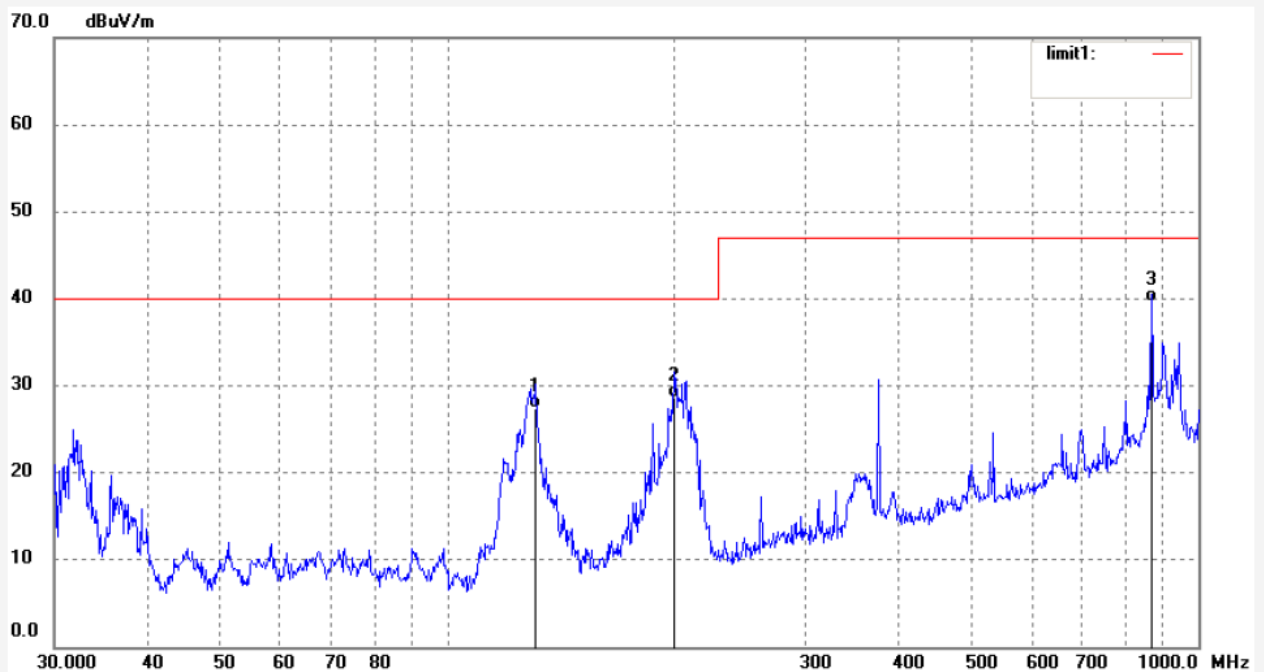
Date: 14/02/15/

Time: 9/30/30

Engineer Signature:

Distance: 3m

Note: Report No:ATE20140110



**ACCURATE TECHNOLOGY CO., LTD.**F1,Bldg,A,Changyuan New Material Port Keyuan Rd,  
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: alen #3499

Standard: EN55022 ClassB Radiated

Test item: Radiation Test

Temp.( C)/Hum.(%) 25 C / 55 %

EUT: GINKGO solar tree

Mode: Charging

Model: P323.113

Manufacturer: Xindao B.V.

Polarization: Vertical

Power Source: DC 5V

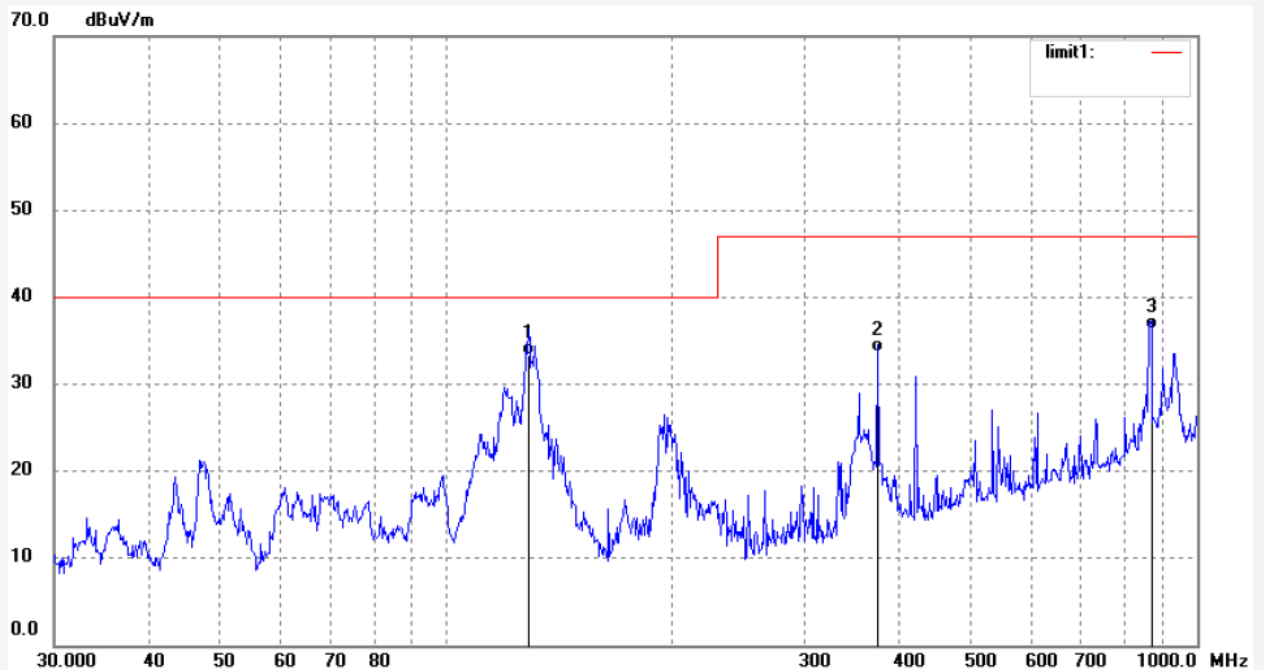
Date: 14/02/15/

Time: 9/29/23

Engineer Signature:

Distance: 3m

Note: Report No:ATE20140110



**ACCURATE TECHNOLOGY CO., LTD.**F1,Bldg,A,Changyuan New Material Port Keyuan Rd,  
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: alen #3498

Standard: EN55022 ClassB Radiated

Test item: Radiation Test

Temp.( C)/Hum.(%) 25 C / 55 %

EUT: GINKGO solar tree

Mode: Discharging

Model: P323.113

Manufacturer: Xindao B.V.

Polarization: Horizontal

Power Source: DC 3.7V

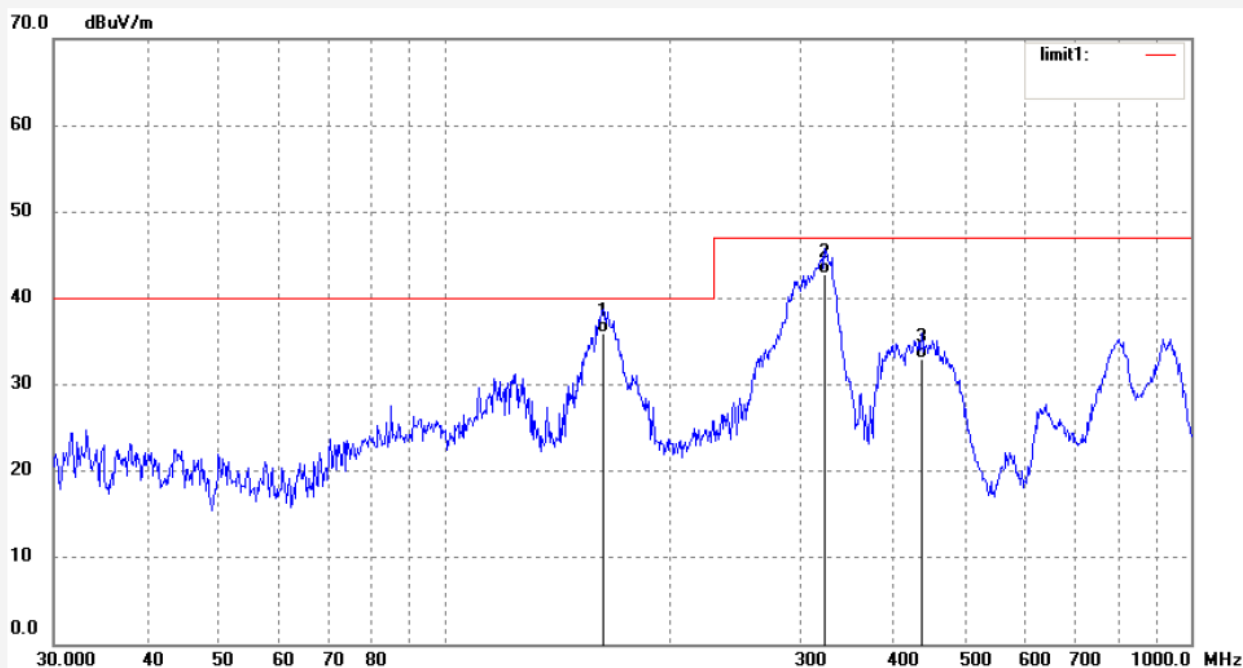
Date: 14/02/15/

Time: 9/23/18

Engineer Signature:

Distance: 3m

Note: Report No:ATE20140110



**ACCURATE TECHNOLOGY CO., LTD.**F1,Bldg,A,Changyuan New Material Port Keyuan Rd,  
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: alen #3497

Standard: EN55022 ClassB Radiated

Test item: Radiation Test

Temp.( C)/Hum.(%) 25 C / 55 %

EUT: GINKGO solar tree

Mode: Discharging

Model: P323.113

Manufacturer: Xindao B.V.

Polarization: Vertical

Power Source: DC 3.7V

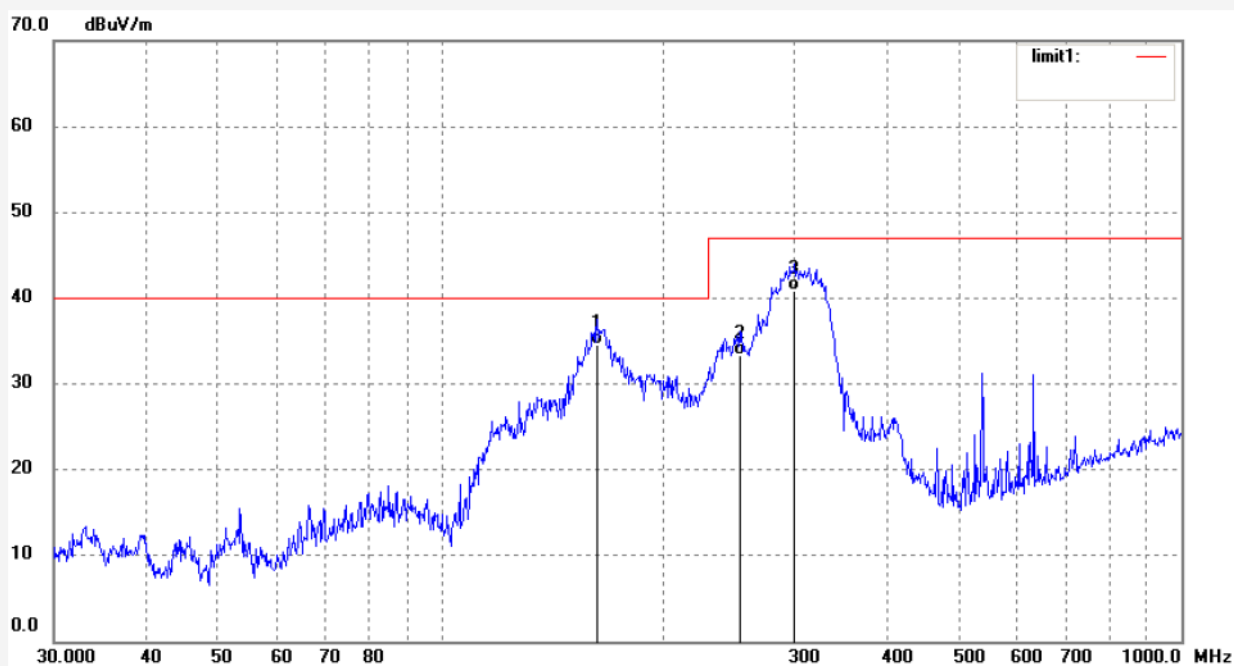
Date: 14/02/15/

Time: 9/22/45

Engineer Signature:

Distance: 3m

Note: Report No:ATE20140110



## 6. ELECTROSTATIC DISCHARGE IMMUNITY TEST

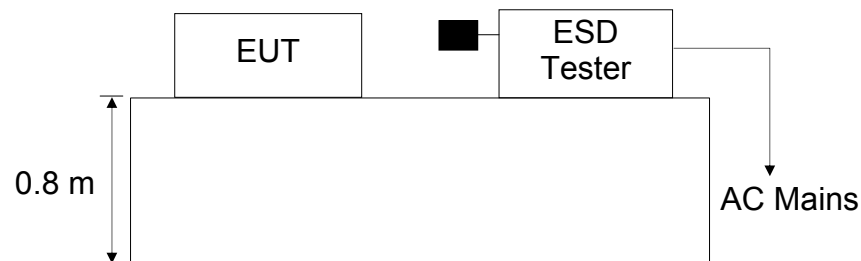
### 6.1. Block Diagram of Test Setup

#### 6.1.1. Block diagram of connection between the EUT and simulators



(EUT: GINKGO solar tree)

#### 6.1.2. Block diagram of test setup



(EUT: GINKGO solar tree)

### 6.2. Test Standard

EN 55024: 2010 (IEC61000-4-2: 2008)

Severity Level: 3 / Air Discharge:  $\pm 8$  kV, Level: 2 / Contact Discharge:  $\pm 4$  kV)

Testing shall also be satisfied at the lower levels)

### 6.3. Severity Levels and Performance Criterion

#### 6.3.1. Severity level

| Level | Test Voltage<br>Contact Discharge (kV) | Test Voltage<br>Air Discharge (kV) |
|-------|----------------------------------------|------------------------------------|
| 1.    | $\pm 2$                                | $\pm 2$                            |
| 2.    | $\pm 4$                                | $\pm 4$                            |
| 3.    | $\pm 6$                                | $\pm 8$                            |
| 4.    | $\pm 8$                                | $\pm 15$                           |
| X     | Special                                | Special                            |

#### 6.3.2. Performance Criterion: **B**

## 6.4.EUT Configuration

The configuration of the EUT is same as Section 4.4.

## 6.5.Operating Condition of EUT

Same as conducted emission measurement, which is listed in Section 4.5 except for the test set up replaced by Section 6.1.

## 6.6.Test Procedure

### 6.6.1.Contact discharges to the conductive surfaces and to coupling planes:

The EUT shall be exposed to at least 200 discharges, 100 each at negative and positive polarity, at a minimum of four test points (a minimum of 50 discharges at each point). One of the test points shall be subjected to at least 50 indirect discharges (contact) to the centre of the front edge of the horizontal coupling plane. The remaining three test points shall each receive at least 50 direct contact discharges. If no direct contact test points are available, then at least 200 indirect discharges shall be applied in the indirect mode [see IEC 61000-4-2 for use of the Vertical Conducting Plane (VCP)]. Tests shall be performed at a maximum repetition rate of one discharge per second.

### 6.6.2.Air discharge at slots and apertures, and insulating surfaces:

On those parts of the EUT where it is not possible to perform contact discharge testing, the equipment should be investigated to identify user accessible points where breakdown may occur; examples are openings at edges of keys, or in the cover of keyboards and telephone handsets. Such points are tested using the air discharge method. See also IEC 61000-4-2 regarding painted surfaces. This investigation should be restricted to those areas normally handled by the user. A minimum of 10 single air discharges shall be applied to the selected test point for each such area.

The application of electrostatic discharges to the contacts of open connectors is not required by this publication.

## 6.7.Test Results

PASS

Please refer to the following page.



# Electrostatic Discharge Test Results

Accurate Technology Co., Ltd.

| Applicant : Xindao B.V.             | Test Date : February 15, 2014                            |        |
|-------------------------------------|----------------------------------------------------------|--------|
| EUT : GINKGO solar tree             | Temperature : 25°C                                       |        |
| M/N : P323.113                      | Humidity : 45%                                           |        |
| Power Supply: DC 3.7V               | Criterion : B                                            |        |
| Air discharge : ± 2kV; ± 4kV; ± 8kV | Test Engineer: Tom                                       |        |
| Contact discharge: ± 2kV; ± 4kV     |                                                          |        |
| Test Mode: Discharging              |                                                          |        |
| Location                            | Kind<br>A-Air Discharge<br>C-Contact<br>Discharge        | Result |
| Conductive Enclosure                | C                                                        | PASS   |
| HCP                                 | C                                                        | PASS   |
| VCP of front                        | C                                                        | PASS   |
| VCP of rear                         | C                                                        | PASS   |
| VCP of left                         | C                                                        | PASS   |
| VCP of right                        | C                                                        | PASS   |
|                                     |                                                          |        |
|                                     |                                                          |        |
|                                     |                                                          |        |
| Remark:                             | Test Equipment :<br>ESD Simulator (HAEFELY,<br>PESD1610) |        |

## 7. RF FIELD STRENGTH SUSCEPTIBILITY TEST

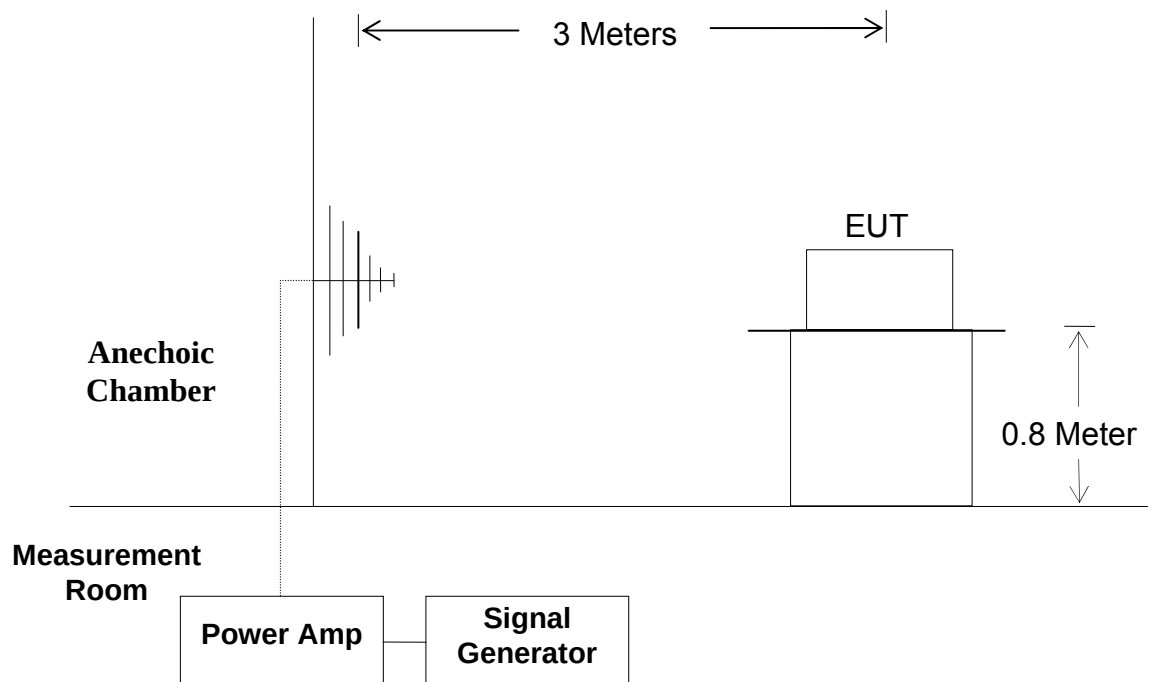
### 7.1. Block Diagram of Test

#### 7.1.1. Block diagram of connection between the EUT and simulators



(EUT: GINKGO solar tree)

#### 7.1.2. Block diagram of R/S test setup



(EUT: GINKGO solar tree)

### 7.2. Test Standard

EN 55024: 2010  
(IEC 61000-4-3: 2010, Severity Level: 2, 3V/m)

## 7.3. Severity Levels and Performance Criterion

### 7.3.1. Severity Level

| Level | Field Strength V/m |
|-------|--------------------|
| 1.    | 1                  |
| 2.    | 3                  |
| 3.    | 10                 |
| X     | Special            |

### 7.3.2. Performance Criterion: A

## 7.4. EUT Configuration on Test

The configuration of the EUT is same as Section 4.4.

## 7.5. Operating Condition of EUT

Same as conducted emission measurement, which is listed in Section 4.5 except the test setup replaced as Section 7.1.

## 7.6. Test Procedure

The EUT are placed on a table, which is 0.8 meter high above the ground. The EUT is set 3 meters away from the transmitting antenna, which is mounted on an antenna tower. Both horizontal and vertical polarizations of the antenna are set on test. Each of the four sides of the EUT must be faced this transmitting antenna and measured individually.

In order to judge the EUT performance, a CCD camera is used to monitor its screen. All the scanning conditions are as following:

| Condition of Test         | Remark                  |
|---------------------------|-------------------------|
| 1. Fielded Strength       | 3V/m (Severity Level 2) |
| 2. Radiated Signal        | Unmodulated             |
| 3. Scanning Frequency     | 80-1000MHz              |
| 4. Sweep time of radiated | 0.0015 Decade/s         |
| 5. Dwell Time             | 1 Sec.                  |

## 7.7. Test Results

**PASS.**

Please refer to the following page.

# RF Field Strength Susceptibility Test Results

Accurate Technology Co., Ltd.

|                                                                                                                                                                                                                           |                                                                                                              |   |                  |                    |          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|---|------------------|--------------------|----------|
| Applicant:                                                                                                                                                                                                                | Xindao B.V.                                                                                                  |   | Test Date:       | February 15, 2014  |          |
| EUT:                                                                                                                                                                                                                      | GINKGO solar tree                                                                                            |   | Temperature:     | 25°C               |          |
| M/N:                                                                                                                                                                                                                      | P323.113                                                                                                     |   | Humidity:        | 45%                |          |
| Field Strength:                                                                                                                                                                                                           | 3 V/m                                                                                                        |   | Criterion:       | A                  |          |
| Power Supply:                                                                                                                                                                                                             | DC 3.7V                                                                                                      |   | Frequency Range: | 80 MHz to 1000MHz  |          |
| Test Mode:                                                                                                                                                                                                                | Discharging                                                                                                  |   |                  |                    |          |
| Modulation:                                                                                                                                                                                                               | <input type="checkbox"/> None <input type="checkbox"/> Pulse <input checked="" type="checkbox"/> AM 1kHz 80% |   |                  |                    |          |
|                                                                                                                                                                                                                           | Frequency Range 1:80- 1000MHz                                                                                |   |                  | Frequency Range 2: |          |
| Steps                                                                                                                                                                                                                     | #                                                                                                            | / | %                | #                  | /        |
|                                                                                                                                                                                                                           | Horizontal                                                                                                   |   | Vertical         | Horizontal         | Vertical |
| Front                                                                                                                                                                                                                     | PASS                                                                                                         |   | PASS             |                    |          |
| Right                                                                                                                                                                                                                     | PASS                                                                                                         |   | PASS             |                    |          |
| Rear                                                                                                                                                                                                                      | PASS                                                                                                         |   | PASS             |                    |          |
| Left                                                                                                                                                                                                                      | PASS                                                                                                         |   | PASS             |                    |          |
| <p>Test Equipment :</p> <ol style="list-style-type: none"> <li>1. Signal Generator : SML03 (Rohde &amp; Schwarz)</li> <li>2. Power Amplifier : 150W1000 (A&amp;R)</li> <li>3. Bilog Antenna : CBL6111C (Chase)</li> </ol> |                                                                                                              |   |                  |                    |          |
| <p>Note:</p>                                                                                                                                                                                                              |                                                                                                              |   |                  |                    |          |

## 8. MAGNETIC FIELD IMMUNITY TEST

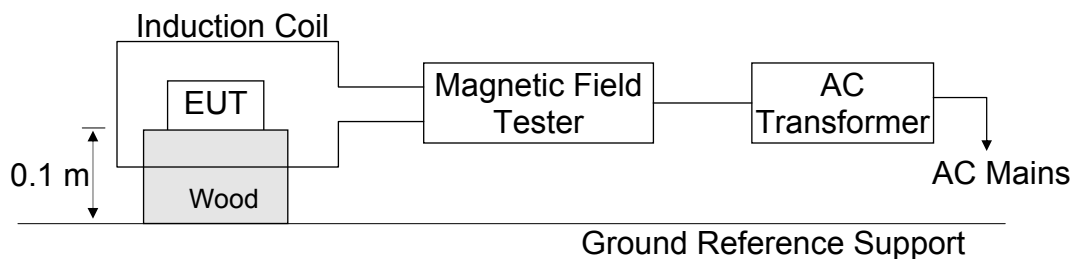
### 8.1. Block Diagram of Test Setup

#### 8.1.1. Block diagram of connection between the EUT and simulators



(EUT: GINKGO solar tree)

#### 8.1.2. Block Diagram of Test Setup



(EUT: GINKGO solar tree)

### 8.2. Test Standard

EN55024: 2010  
(IEC61000-4-8: 2009, Severity Level 1: 1A/m)

### 8.3. Severity Levels and Performance Criterion

#### 8.3.1. Severity level

| Level | Magnetic Field Strength A/m |
|-------|-----------------------------|
| 1.    | 1                           |
| 2.    | 3                           |
| 3.    | 10                          |
| 4.    | 30                          |
| 5.    | 100                         |
| X     | Special                     |

#### 8.3.2. Performance Criterion: A

#### 8.4.EUT Configuration

The configuration of the EUT is same as Section 4.4.

#### 8.5.Operating Condition of EUT

Same as conducted emission measurement, which is listed in Section 4.5 except the test setup replaced as Section 8.1.

#### 8.6.Test Procedure

- 1) Set up the EUT system as shown on Section 8.1.2.
- 2) The Induction coil is set up in horizontal or vertical.
- 3) Let the EUT work in test mode and measure it.

#### 8.7.Test Results

**PASS.**

Please refer to the following page.

# Magnetic Field Immunity Test Results

Accurate Technology Co., Ltd.

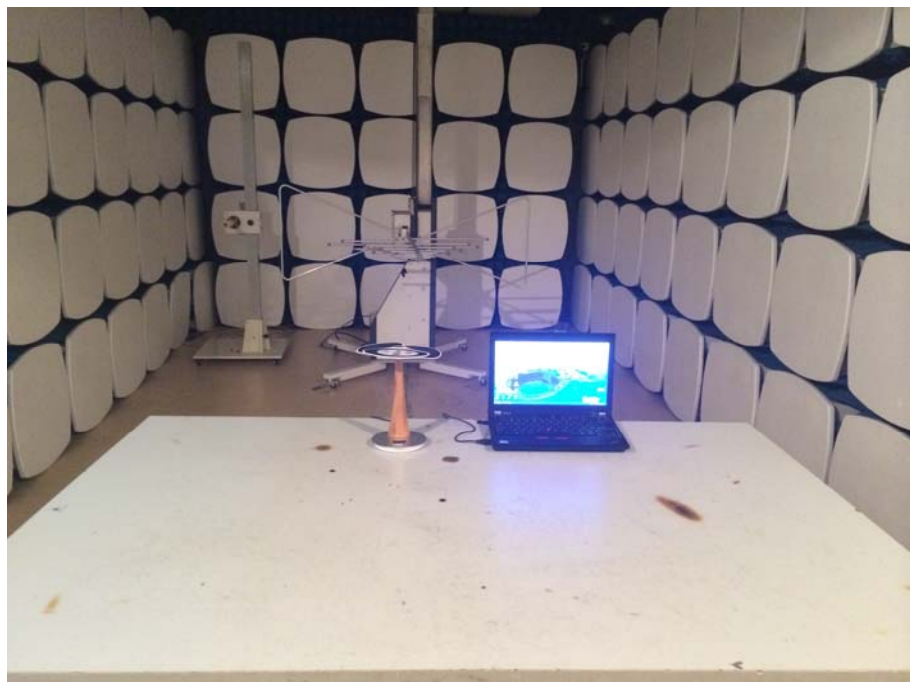
|                         |                  |                                                                              |                               |        |
|-------------------------|------------------|------------------------------------------------------------------------------|-------------------------------|--------|
| Applicant : Xindao B.V. |                  |                                                                              | Test Date : February 15, 2014 |        |
| EUT : GINKGO solar tree |                  |                                                                              | Temperature : 25 °C           |        |
| M/N : P323.113          |                  |                                                                              | Humidity : 45%                |        |
| Test Mode: Discharging  |                  |                                                                              |                               |        |
| Test Level              | Testing Duration | Coil Orientation                                                             | Criterion                     | Result |
| 1A/M                    | 5 mins           | Horizontal                                                                   | A                             | PASS   |
| 1A/M                    | 5 mins           | Vertical                                                                     | A                             | PASS   |
| Remark:                 |                  | Test Equipment:<br>Magnetic Field Tester: MAG100<br>AC Transformer: TDGC2J-5 |                               |        |

## 9. PHOTOGRAPHS

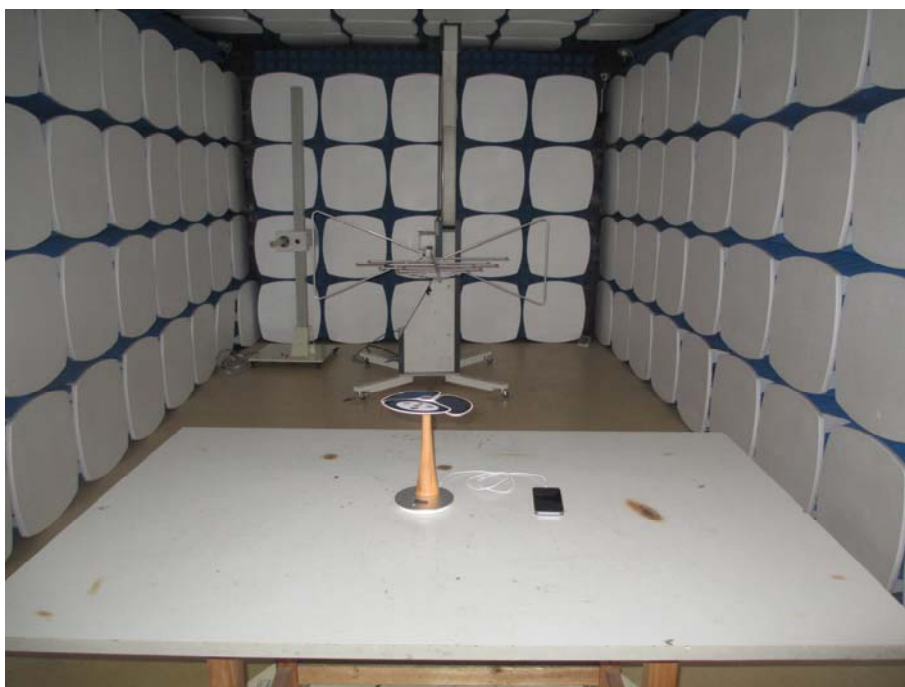
### 9.1.Photo of Power Line Conducted Emission Measurement



### 9.2.Photo of Radiation Emission Measurement



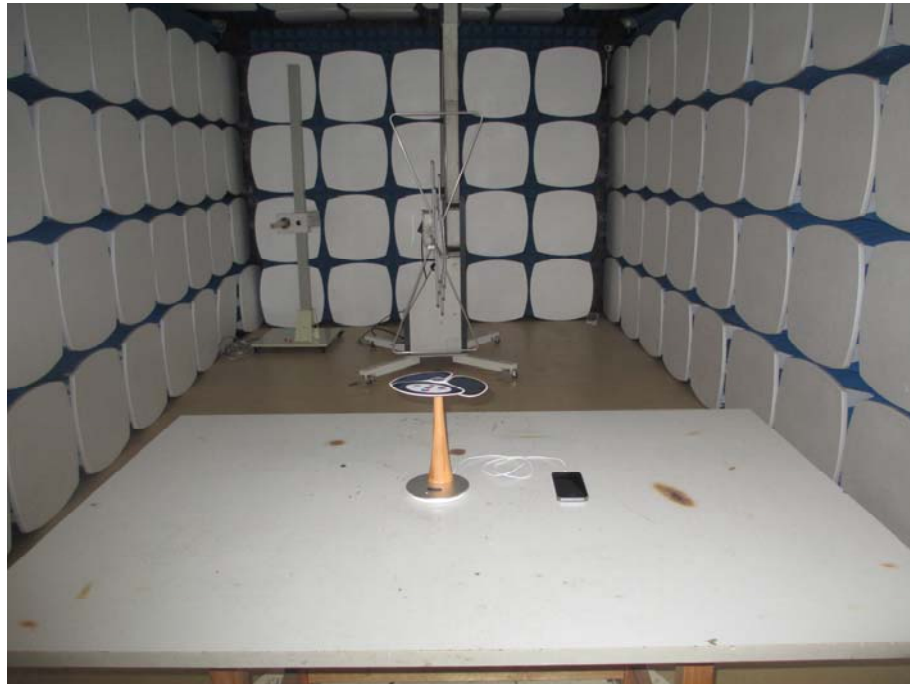




### 9.3.Photo of Electrostatic Discharge Test



#### 9.4.Photo of RF Field Strength Susceptibility Test



#### 9.5.Photo of Magnetic Field Susceptibility Test



## 9.6.Photo of EUT



