CERTIFICATE

of Conformity

EC Council Directive 89/336/EEC
as last amended by EC Directive 93/68/EEC
Electromagnetic Compatibility

Registration No.: ATE20051112

Applicant:	Ningbo Dsw Electronics Co., Ltd.		
	Rm1121 Linqiao Piazza, Ningbo City, 315010, China		
Product:	Piezo Siren		
Identification:	Model No.	:	EPA-100P
	Serial No.	:	n.a.
	Rating	:	DC 12V
Standards:	EN 55022: 1998 + A1: 2000 + A2: 2003		
	EN 61000-6-3: 2001		
	EN 61000-6-1: 2001		

The certificate of conformity is based on an evaluation of a sample of the above-mentioned product. Technical report and documentation are at the applicant's disposal. This is to certify that the tested sample is in conformity with all provisions of Annex III of Council Directive 89/336/EEC, in its latest amended version, referred to EMC Directive. This certificate does not imply assessment of the production and does not permit the use of ATC's logo. The applicant of the certificate is authorized to use this certificate in connection with the EC declaration of conformity according to Article 10.1 of the Directive.

Certified by

July 14, 2005
Date

ACCURATE TECHNOLOGY CO. LTD. APPROVED

Martin
Martin Lü

CE

The CE Marking may only be used if all relevant and effective EC Directives are complied with.

CE

ACCURATE TECHNOLOGY CO. LTD - F1, Bldg. A, Changyuan New Material Port, Keyuan Rd.
Science & Industry Park, Nanshan Dist., Shenzhen 518057, P.R. China
Tel.: +86-755-2650 3290 Fax: +86-755-2650 3396 E-mail: webmaster@atc-lab.com

EMC TEST REPORT
for
Ningbo Dsw Electronics Co., Ltd.

Piezo Siren
Model No.: EPA-100P

Prepared for	:	Ningbo Dsw Electronics Co., Ltd.
Address	:	Rm1121 Linqiao Piazza, Ningbo City, 315010, China
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.	:	ATE20051112
Date of Test	:	July 13, 2005
Date of Report	:	July 14, 2005

Photo 3

View: EPA-100P

[ ] front

[ ] rear

[ ] right side

[ ] left side

[ ] top

[ ] bottom

[√] internal

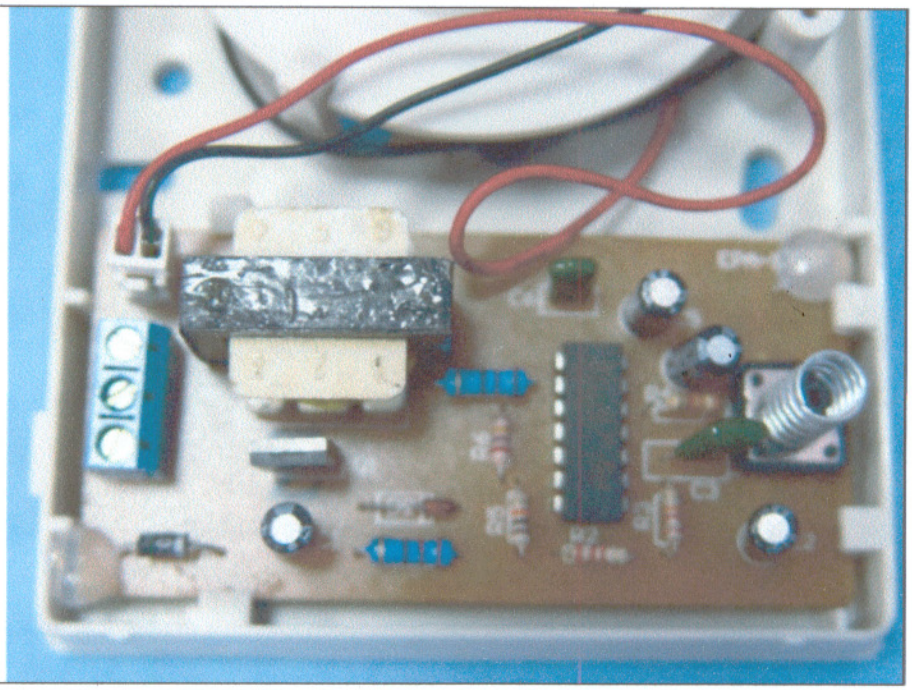


Photo 7

View: EPA-100P

[ ] front

[ ] rear

[ ] right side

[ ] left side

[ ] top

[ ] bottom

[√] internal

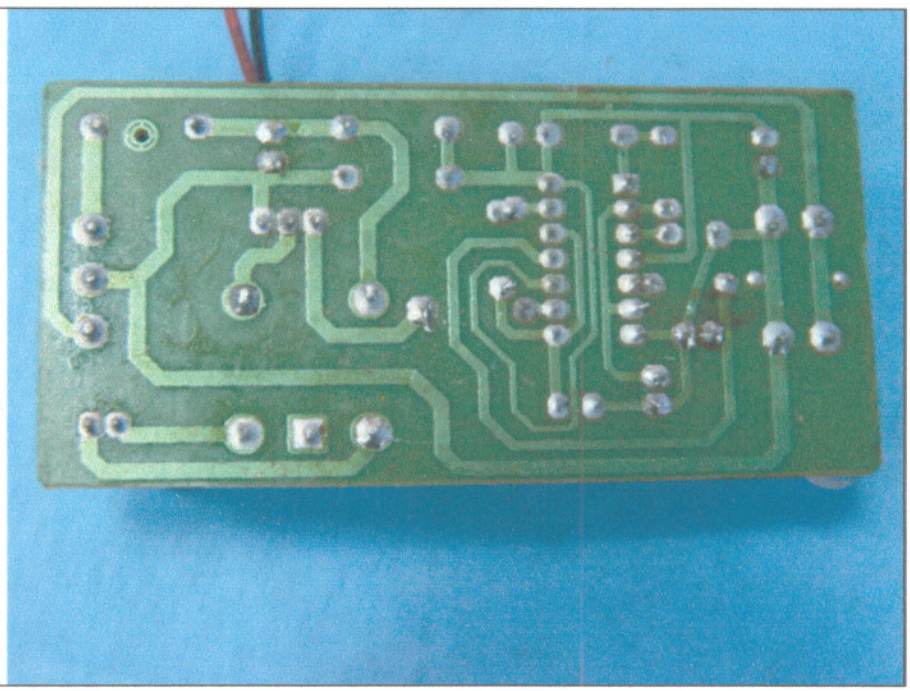


Photo documentation

Photo 1

View: EPA-100P

[√] front

[ ] rear

[ ] right side

[ ] left side

[ ] top

[ ] bottom

[ ] internal

Photo 2

View: EPA-100P

[ ] front

[√] rear

[ ] right side

[ ] left side

[ ] top

[ ] bottom

[ ] internal

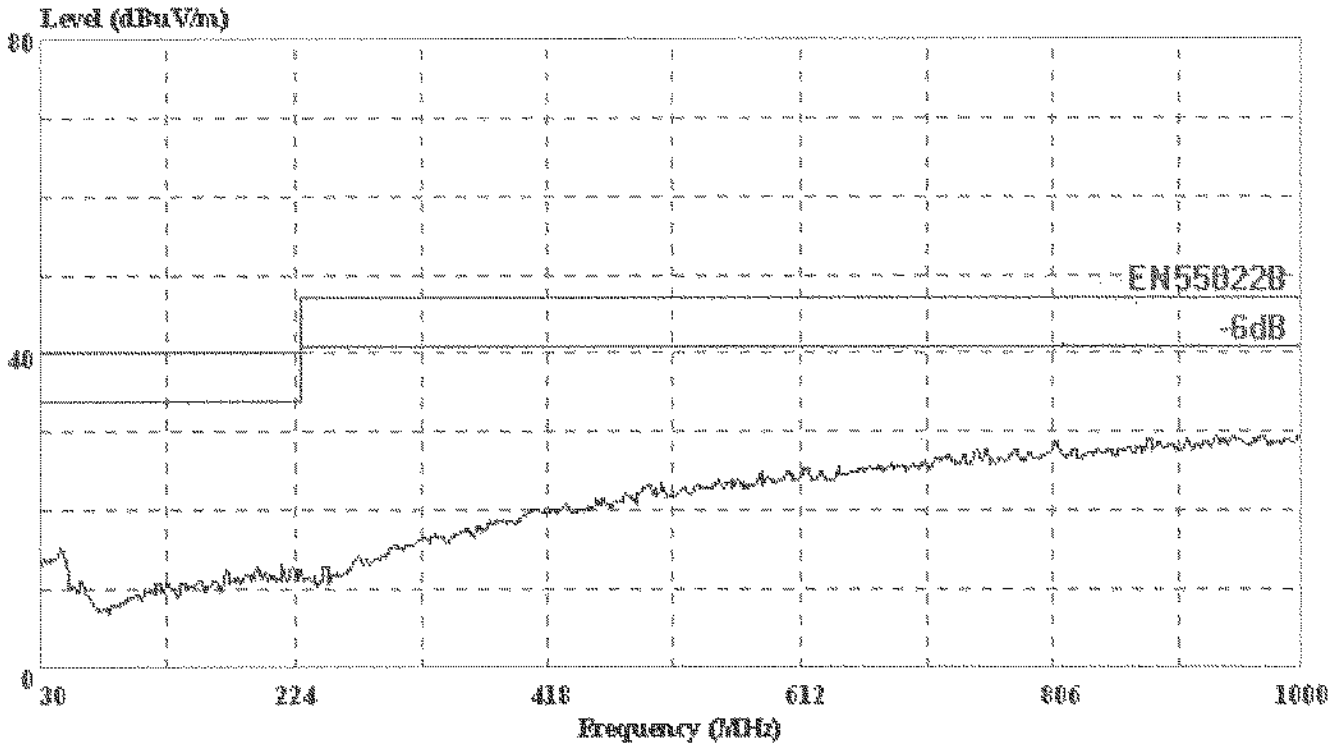
APPENDIX II
(Photos of the EUT)

PROVIEW

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

PROVIEW TECHNOLOGY(SHENZHEN)CO.,LTD.

Data#: 866 File#: Lin.emi Date: 07-13-2005 Time: 18:45:05



Trace: Ref Trace:

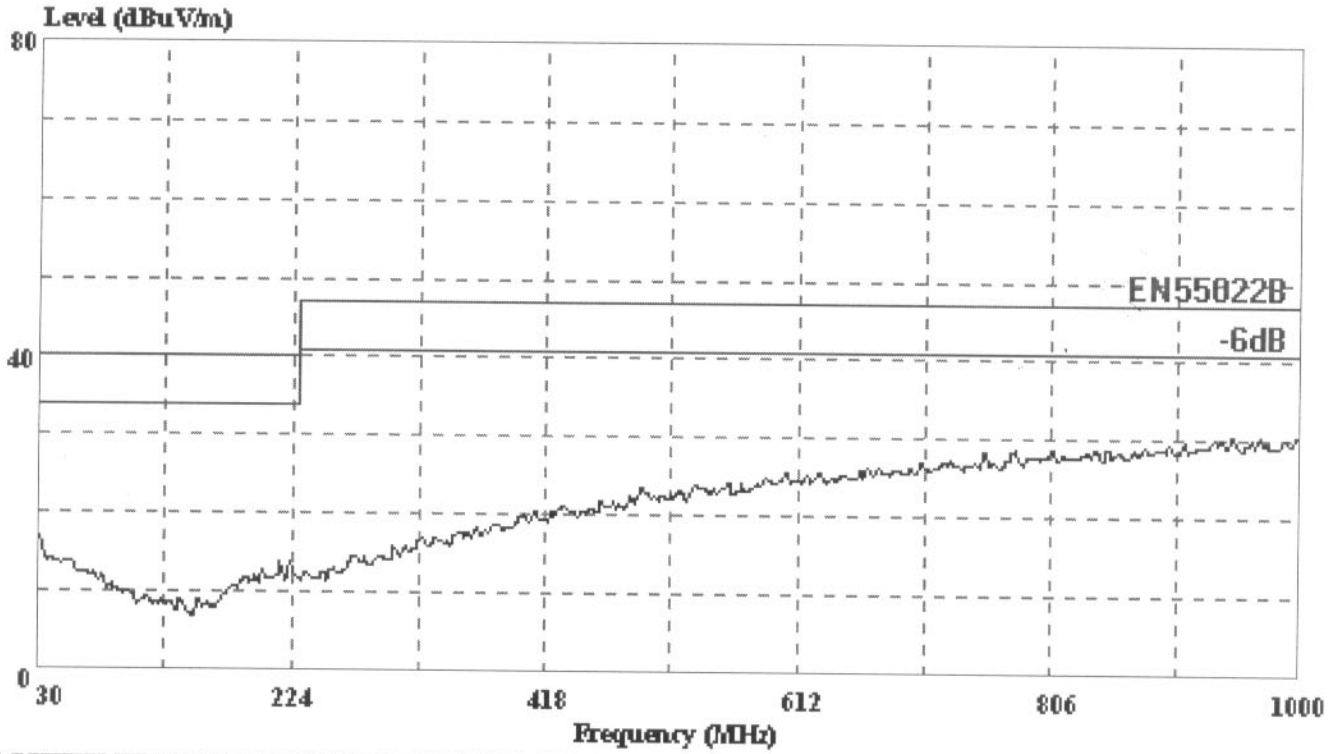
Condition: EN55022B 3m ATC VULB9163(NEW) VERTICAL
eut : PIEZO SIREN
power: DC 12V
memo : ON
manuf: DSW
m/n : DPA-100P

PROVIEW

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

PROVIEW TECHNOLOGY(SHENZHEN)CO.,LTD.

Data#: 865 File#: Lin.emi Date: 07-13-2005 Time: 18:43:30



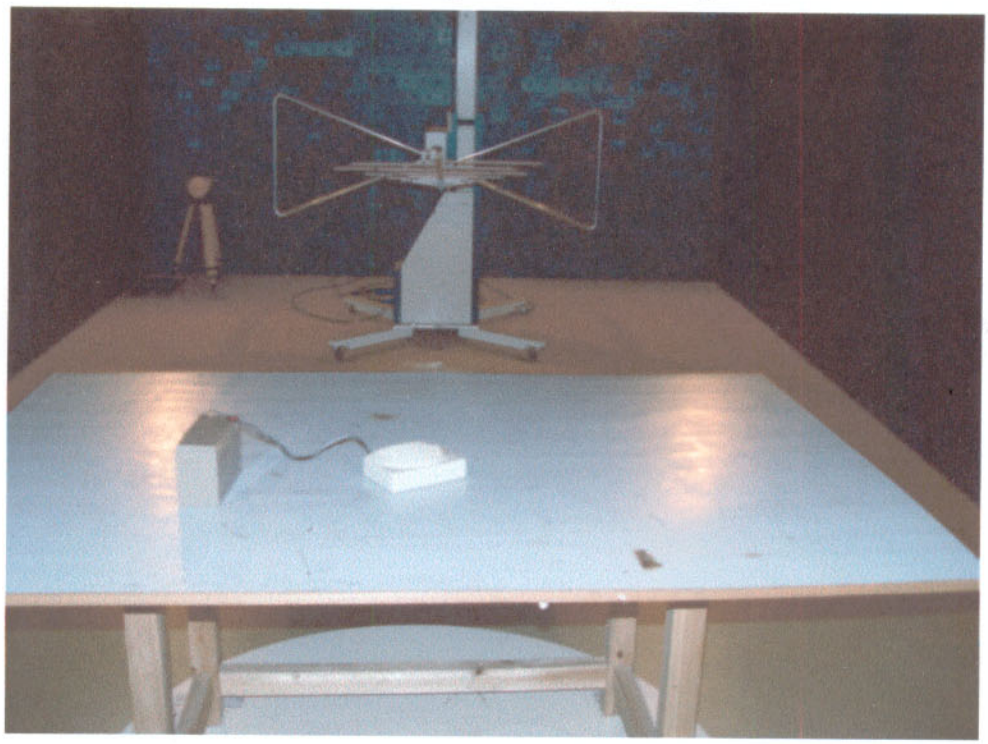
PROVIEW TECHNOLOGY(SHENZHEN)CO.,LTD. (ATC)

Trace: Ref Trace:

Condition: EN55022B 3m ATC VULB9163(NEW) HORIZONTAL
eut : PIEZO SIREN
power: DC 12V
memo : ON
manuf: DSW
m/n : DPA-100P

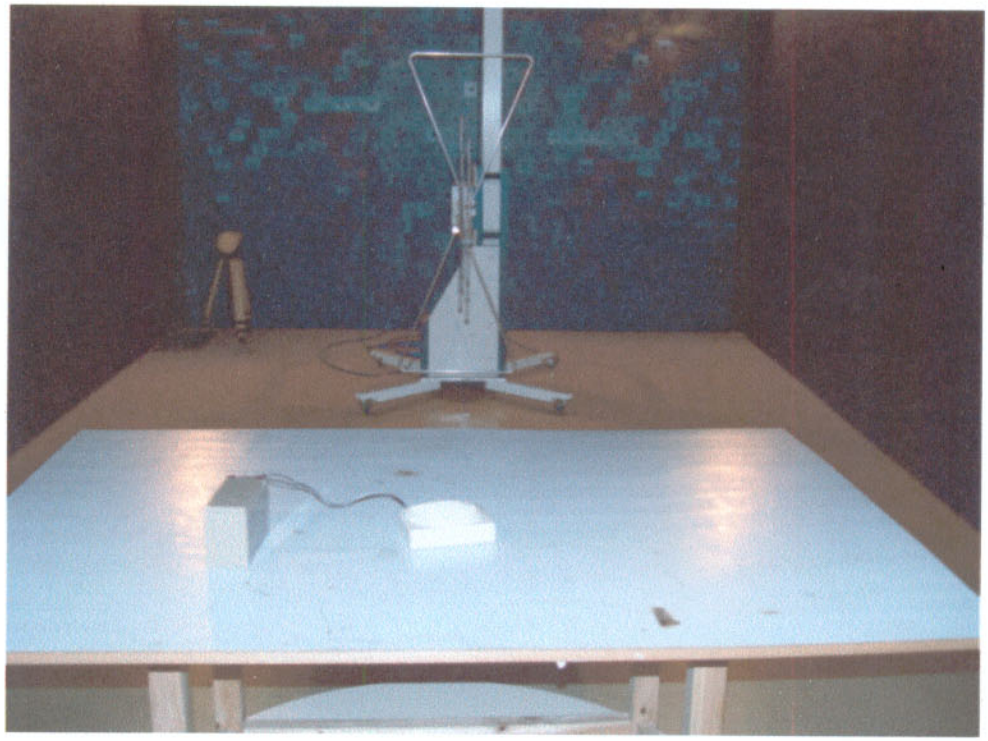
APPENDIX I

6.3.Photo of RF Field Strength susceptibility Test

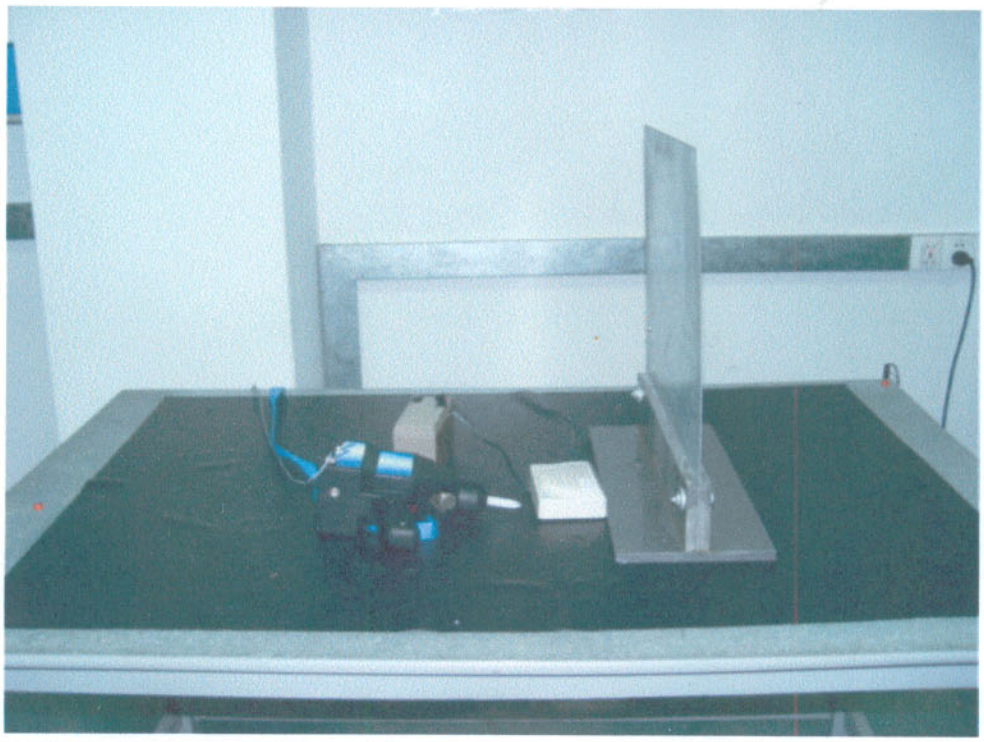


6. PHOTOGRAPHS

6.1.Photo of Radiated Emission Measurement



6.2.Photo of Electrostatic Discharge Test



RF Field Strength Susceptibility Test Results

Accurate Technology Co., Ltd.

Applicant :	Ningbo Dsw Electronics Co., Ltd.	Test Date :	July 13, 2005
EUT :	Piezo Siren	Temperature :	22°C
Model No. :	EPA-100P	Humidity :	58%
Field Strength	3 V/m	Criterion :	A
Power Supply	DC 12V	Test Mode :	On
Frequency Range: 80MHz to 1000 MHz		Test Engineer :	Jane

Modulation: ☐ None ☐ Pulse ☑ AM 1kHz 80%

	Frequency Range 1:80-1000 MHz		Frequency Range 2:	
Steps	# / %		# / %	
	Horizontal	Vertical	Horizontal	Vertical
Front	PASS	PASS		
Right	PASS	PASS		
Rear	PASS	PASS		
Left	PASS	PASS		

Test Equipment :
1. Signal Generator : SML01 (Rohde & Schwarz)
2. Power Amplifier : 500A/ 100; 100W/1000M (A&R)
3. Power Antenna : VULB9163 (Schwarzbeck)
4. Field Monitor : FM2000 (A&R)

Note:

Reviewer:

5.3.Severity Levels and Performance Criterion

5.3.1.Severity Level

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

5.3.2.Performance Criterion: **A**

5.4.EUT Configuration on Test

The configuration of the EUT is same as Section 3.4.

5.5.Operating Condition of EUT

Same as radiated emission measurement, which is listed in Section 3.5 except the test setup replaced as Section 5.1.

5.6.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.

5.7.Test Results

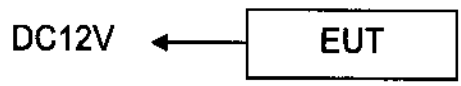
PASS.

Please refer to the following page.

5. RF FIELD STRENGTH SUSCEPTIBILITY TEST

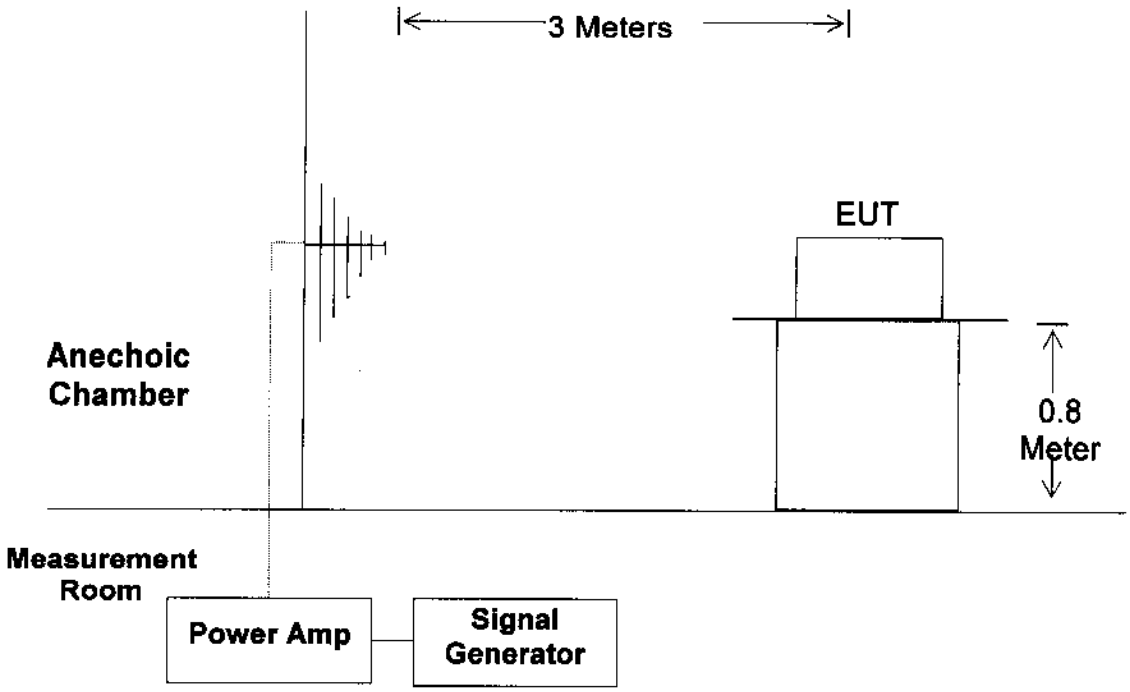
5.1.Block Diagram of Test

5.1.1.Block diagram of connection between the EUT and simulators



(EUT: Piezo Siren)

5.1.2.Block diagram of R/S test setup



(EUT: Piezo Siren)

5.2.Test Standard

EN 61000-6-1: 2001 (IEC 61000-4-3: 2002 + A1: 2002, Severity Level: 2, 3V / m)

Electrostatic Discharge Test Results

Accurate Technology Co., Ltd.

Applicant :	Ningbo Dsw Electronics Co., Ltd.	Test Date :	July 13, 2005
EUT :	Piezo Siren	Temperature :	22 °C
Model No. :	EPA-100P	Humidity :	45%
Power Supply :	DC 12V	Test Mode :	On
Air discharge :	±8.0kV	Criterion :	B
Contact discharge:	±4.0kV	Test Engineer:	Jane

Location		Kind A-Air Discharge C-Contact Discharge	Result
Slot of the EUT	26 points	A	PASS
Screw	2 points	C	PASS
HCP		C	PASS
The front of the VCP		C	PASS
The rear of the VCP		C	PASS
The left of the VCP		C	PASS
The right of the VCP		C	PASS

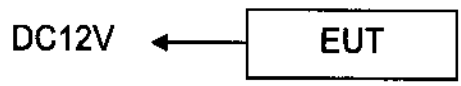
Remark :	Test Equipment : ESD Simulator (HAEFELY, PESD1610)

Reviewer:

5. RF FIELD STRENGTH SUSCEPTIBILITY TEST

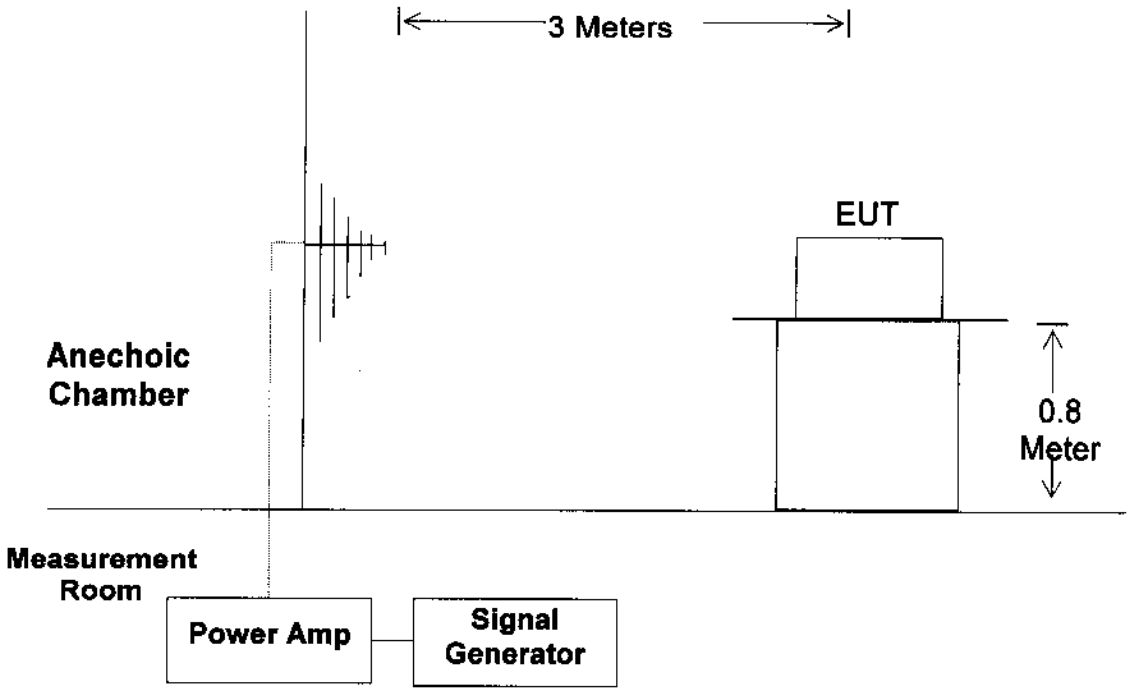
5.1.Block Diagram of Test

5.1.1.Block diagram of connection between the EUT and simulators



(EUT: Piezo Siren)

5.1.2.Block diagram of R/S test setup



(EUT: Piezo Siren)

5.2.Test Standard

EN 61000-6-1: 2001 (IEC 61000-4-3: 2002 + A1: 2002, Severity Level: 2, 3V / m)

5.3.Severity Levels and Performance Criterion

5.3.1.Severity Level

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

5.3.2.Performance Criterion: **A**

5.4.EUT Configuration on Test

The configuration of the EUT is same as Section 3.4.

5.5.Operating Condition of EUT

Same as radiated emission measurement, which is listed in Section 3.5 except the test setup replaced as Section 5.1.

5.6.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.

5.7.Test Results

PASS.

Please refer to the following page.

RF Field Strength Susceptibility Test Results

Accurate Technology Co., Ltd.

Applicant :	Ningbo Dsw Electronics Co., Ltd.	Test Date :	July 13, 2005
EUT :	Piezo Siren	Temperature :	22°C
Model No. :	EPA-100P	Humidity :	58%
Field Strength	3 V/m	Criterion :	A
Power Supply	DC 12V	Test Mode :	On
Frequency Range: 80MHz to 1000 MHz		Test Engineer :	Jane

Modulation: ☐ None ☐ Pulse ☑ AM 1kHz 80%

	Frequency Range 1:80-1000 MHz		Frequency Range 2:	
Steps	# / %		# / %	
	Horizontal	Vertical	Horizontal	Vertical
Front	PASS	PASS		
Right	PASS	PASS		
Rear	PASS	PASS		
Left	PASS	PASS		

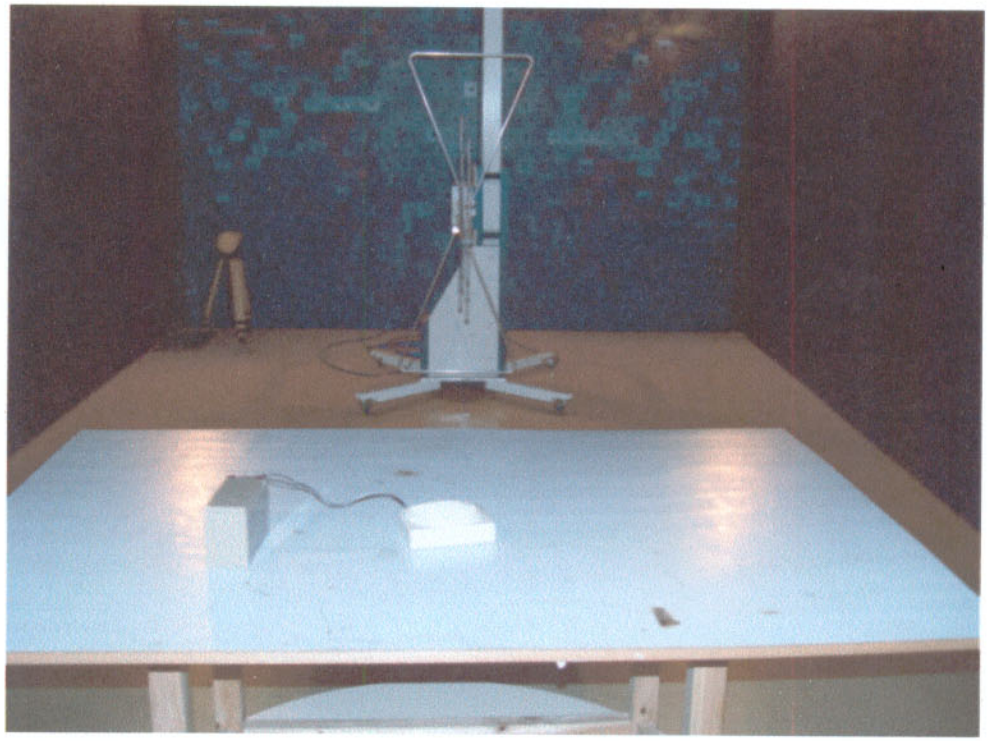
Test Equipment :
1. Signal Generator : SML01 (Rohde & Schwarz)
2. Power Amplifier : 500A/ 100; 100W/1000M (A&R)
3. Power Antenna : VULB9163 (Schwarzbeck)
4. Field Monitor : FM2000 (A&R)

Note:

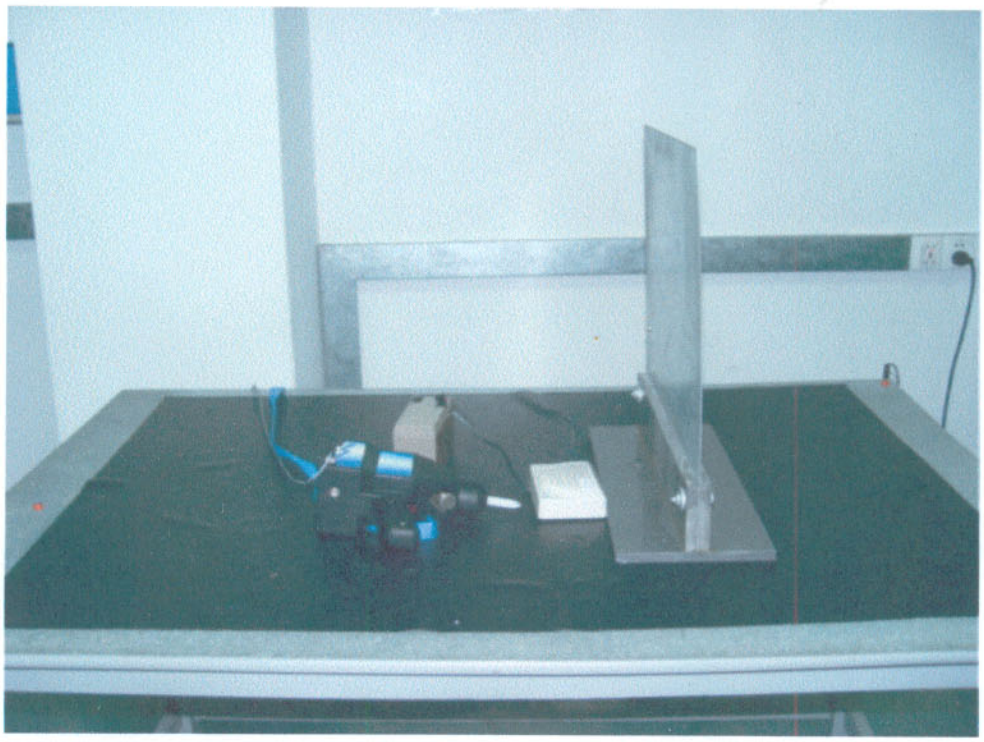
Reviewer:

6. PHOTOGRAPHS

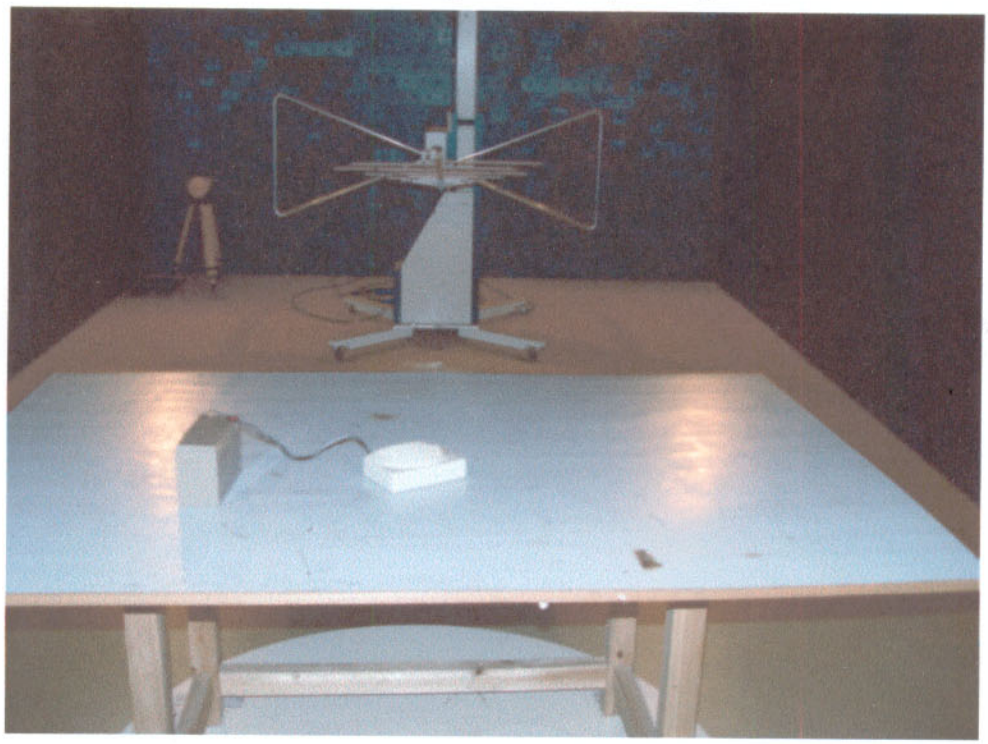
6.1.Photo of Radiated Emission Measurement



6.2.Photo of Electrostatic Discharge Test



6.3.Photo of RF Field Strength susceptibility Test



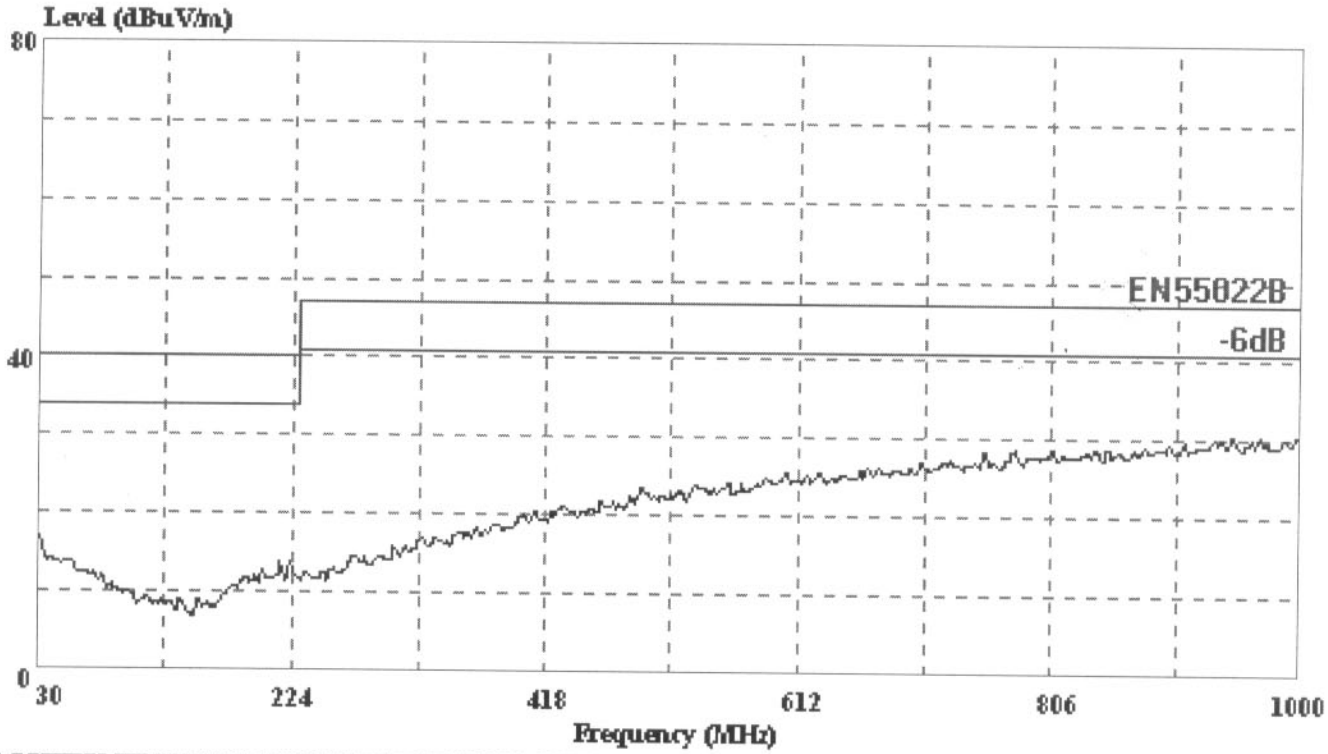
APPENDIX I

PROVIEW

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

PROVIEW TECHNOLOGY(SHENZHEN)CO.,LTD.

Data#: 865 File#: Lin.emi Date: 07-13-2005 Time: 18:43:30



PROVIEW TECHNOLOGY(SHENZHEN)CO.,LTD. (ATC)

Trace: Ref Trace:

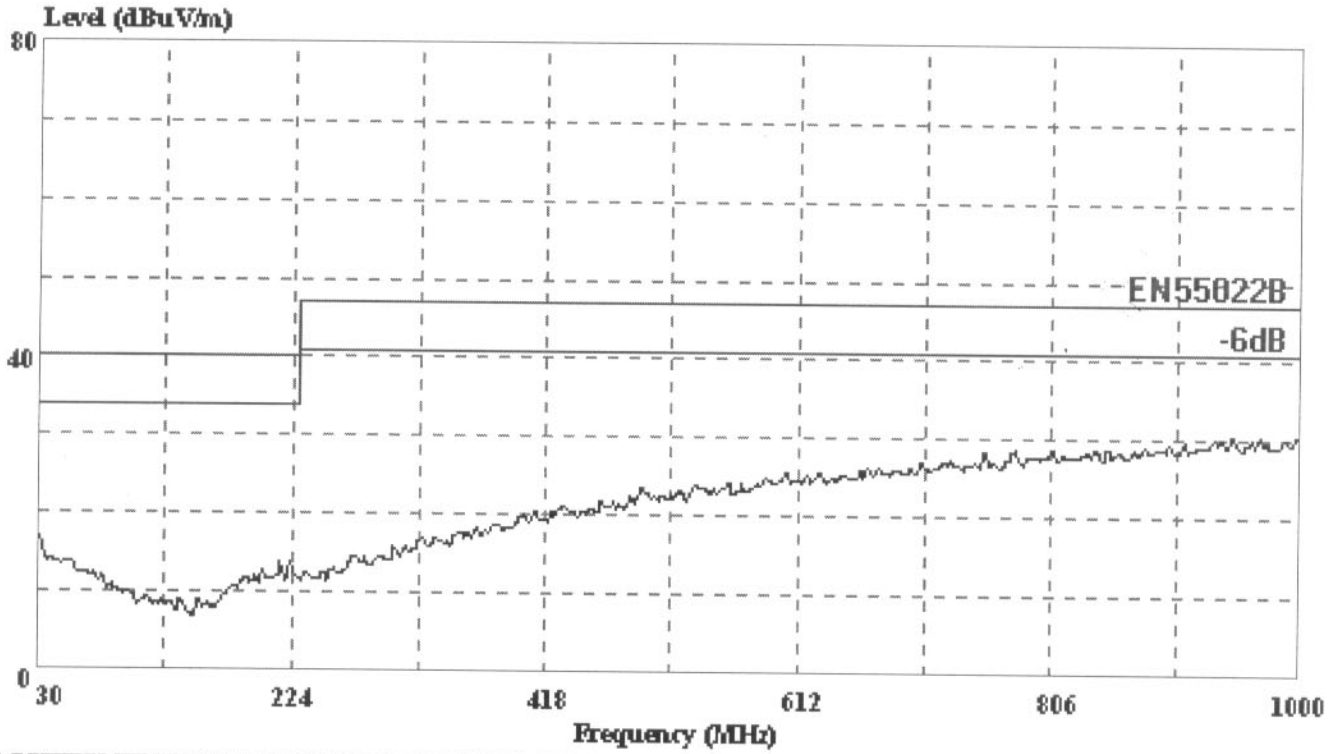
Condition: EN55022B 3m ATC VULB9163(NEW) HORIZONTAL
eut : PIEZO SIREN
power: DC 12V
memo : ON
manuf: DSW
m/n : DPA-100P

PROVIEW

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

PROVIEW TECHNOLOGY(SHENZHEN)CO.,LTD.

Data#: 865 File#: Lin.emi Date: 07-13-2005 Time: 18:43:30



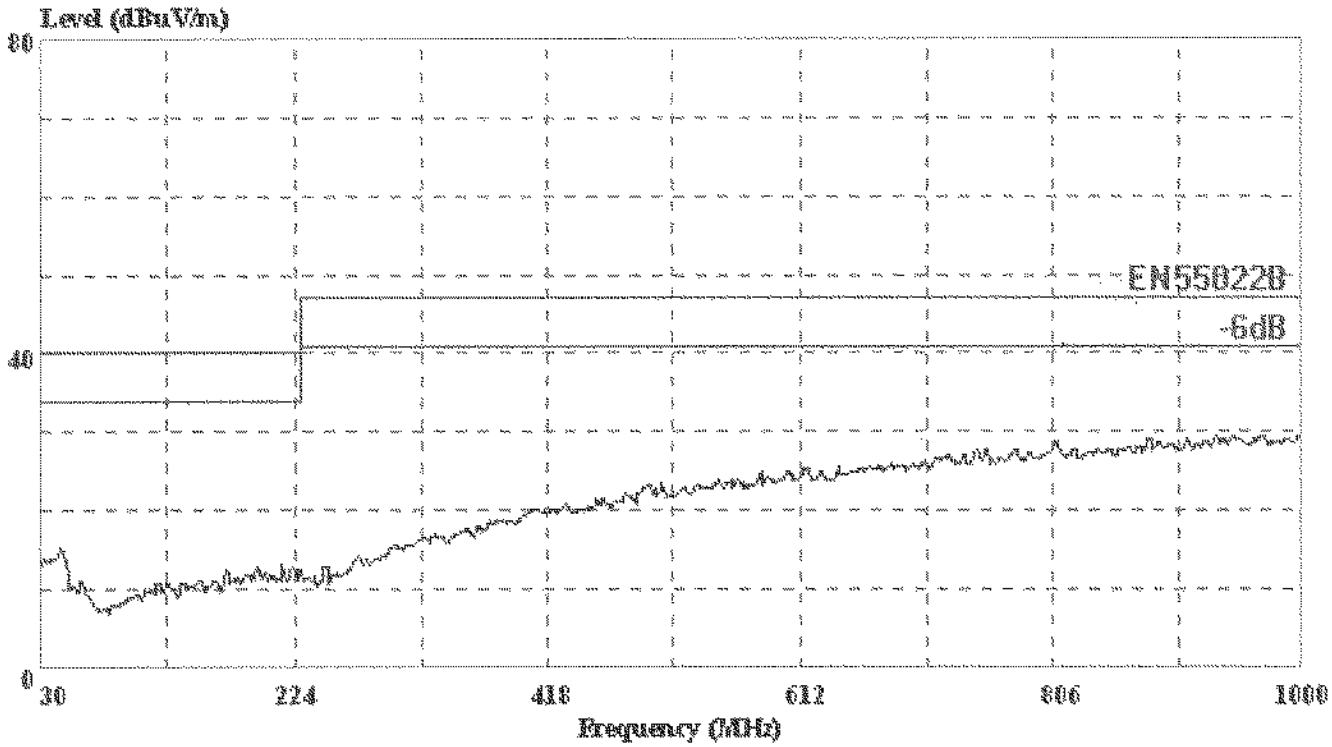
PROVIEW TECHNOLOGY(SHENZHEN)CO.,LTD. (ATC)

Trace: Ref Trace:

Condition: EN55022B 3m ATC VULB9163(NEW) HORIZONTAL
eut : PIEZO SIREN
power: DC 12V
memo : ON
manuf: DSW
m/n : DPA-100P

F1,Bldg.A,Changyuan New Material Port
Keyuan Rd.,Science&Industry Park,
Nanshan Shenzhen,P.R. China
PROVIEW TECHNOLOGY(SHENZHEN)CO.,LTD.

Data#: 866 File#: Lin.emi Date: 07-13-2005 Time: 18:45:05



Trace: Ref Trace:

Condition: EN55022B 3m ATC VULB9163(NEW) VERTICAL
eut : PIEZO SIREN
power: DC 12V
memo : ON
manuf: DSW
m/n : DPA-100P

APPENDIX II
(Photos of the EUT)

Photo documentation

Photo 1

View: EPA-100P

[√] front

[ ] rear

[ ] right side

[ ] left side

[ ] top

[ ] bottom

[ ] internal

Photo 2

View: EPA-100P

[ ] front

[√] rear

[ ] right side

[ ] left side

[ ] top

[ ] bottom

[ ] internal

Photo 3

View: EPA-100P

[ ] front

[ ] rear

[ ] right side

[ ] left side

[ ] top

[ ] bottom

[√] internal

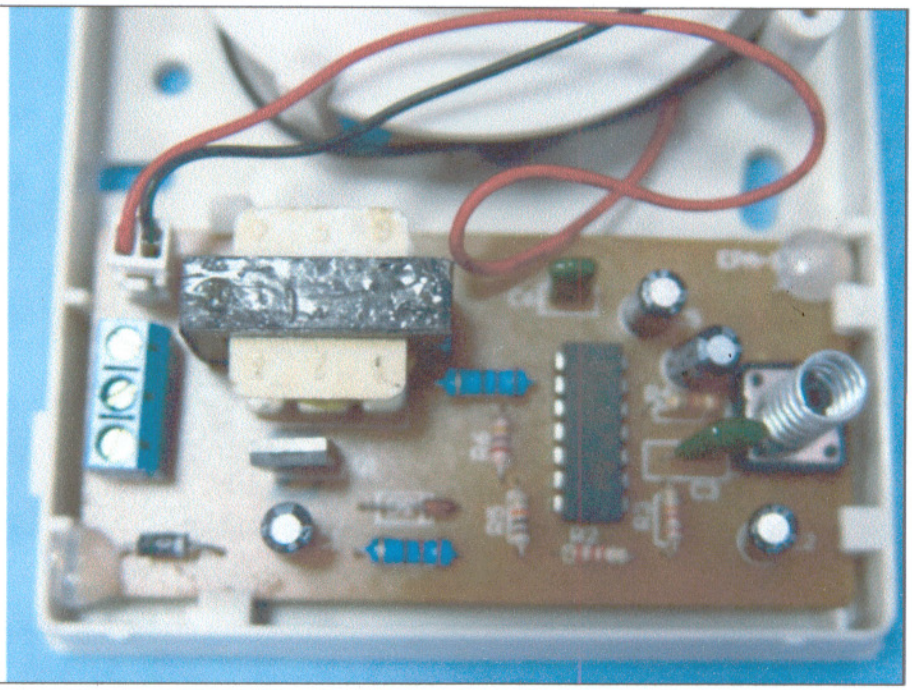


Photo 7

View: EPA-100P

[ ] front

[ ] rear

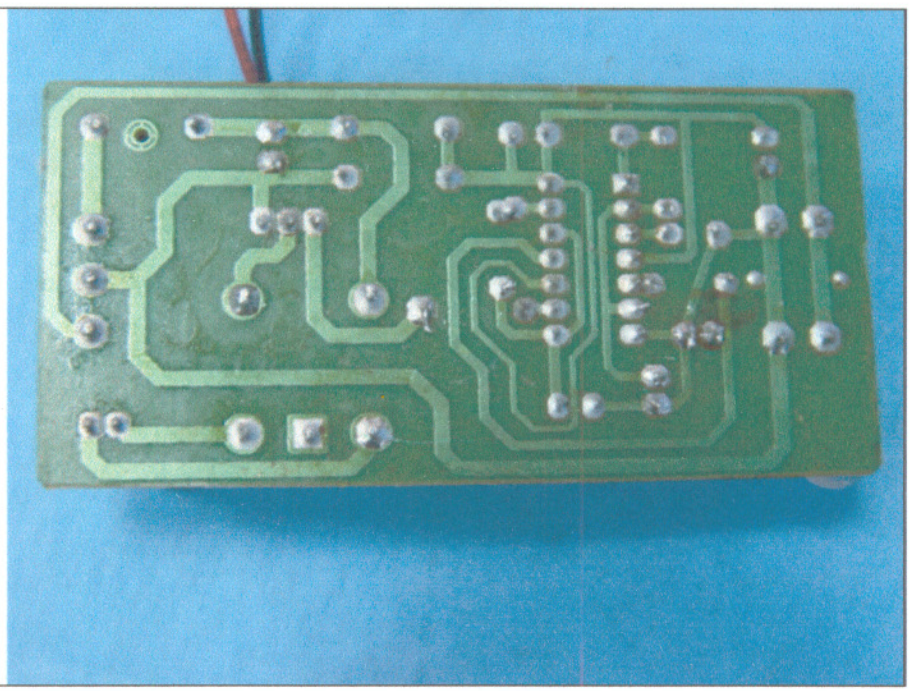
[ ] right side

[ ] left side

[ ] top

[ ] bottom

[√] internal



TÜV

TÜV Rheinland (Shenzhen) Co., Ltd.

Certificate

of
Qualification

Witness Test Level

for

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

has been authorized to carry out EMC tests by order and under supervision of TÜV Rheinland. It has successfully demonstrated capability to conduct measurement and to process test data according to:

European and international EMC standards
as listed in the
Scope of Authorization on the attachment to this certificate

An assessment of the facility was conducted according to the document "Laboratory Qualification Program for Second- and Manufacturer Laboratories" by a TÜV Rheinland auditor

TÜV Rheinland (Shenzhen) Co., Ltd.
Shenzhen, May 10, 2004

Dipl.-Ing. Klaus Juergen Herrmann

Shawn Peng

FEDERAL COMMUNICATIONS COMMISSION

Laboratory Division
7435 Oakland Mills Road
Columbia, MD 21046

May 10, 2004

Registration Number: 253065

Accurate Technology Co., Ltd.
F1, Bldg.A, Changyuan New Material Port,
Keyuan Rd.,Science&Industry Park, Nanshan District
Shenzhen, 518057
China
Attention: Sean Liu

Re: Measurement facility located at Shenzhen
Anechoic chamber (3 meters)
Date of Listing: May 10, 2004

Dear Sir or Madam:

Your request for registration of the subject measurement facility has been reviewed and found to be in compliance with the requirements of Section 2.948 of the FCC rules. The information has, therefore, been placed on file and the name of your organization added to the list of facilities whose measurement data will be accepted in conjunction with applications for Certification under Parts 15 or 18 of the Commission's Rules. Please note that the file must be updated for any changes made to the facility and the registration must be renewed at least every three years.

Measurement facilities that have indicated that they are available to the public to perform measurement services on a fee basis may be found on the FCC website www.fcc.gov under E-Filing, OET Equipment Authorization Electronic Filing, Test Firms.

Sincerely,

Thomas W Phillips
Electronics Engineer

Industry Canada Industrie Canada

May 18, 2004

Our File: 46405-5077
Submission: 101252

Mr Sean Liu
Accurate Technology Co. Ltd.
F1, Bldg. A, Changyuan New Meterial Port, Keyuan Rd.
Science & Industry Park, Nanshan District,
518057, Shenzhen,
P.R. China

Dear Mr. Liu,

The Bureau has received your test report for a 3m Alternate Test Site located in Shenzhen, P.R. China. I have reviewed the report and find it complies with RSS 212, Issue 1 (Provisional).

The site is acceptable to Industry Canada for the performance of radiated measurements.

Please reference the file number (**IC 5077**) in the body of all test reports containing measurements made on this site.

This reference number is the indication to the Industry Canada Certification Officers that the site meets the requirements of RSS 212, Issue 1 (Provisional). Your company has been added to our published list of filed sites on the Bureau's web page. Please keep the contact information current by notifying us if it changes or is in error.

Keep informed of the latest Industry Canada regulations by visiting the Bureau's site on the World Wide Web:

http://strategis.ic.gc.ca/epic/internet/inceb-bhst.nsf/vwGeneratedInterE/h_pe00010e.html

Whenever major construction or repairs to the site are completed, a re-submission of the site attenuation characteristics will be required, or every three years.

Yours sincerely,

Stéphane Proulx
for Wireless Laboratory Manager
Certification and Engineering Bureau
3701 Carling Ave., Building 94
P.O. Box 11490, Station "H"
Ottawa, Ontario
K2H 8S2
Tel. No. (613) 990-3796
Fax. No. (613) 990-4752

TÜV Rheinland (Shenzhen) Co., Ltd.

TÜV

Certificate

of

Qualification

Witness Test Level

for

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

has been authorized to carry out safety tests by order and under supervision of TÜV Rheinland. It has successfully demonstrated capability to conduct measurement and to process test data according to:

European and international safety standards as listed in the Scope of Authorization on the attachment to this certificate

An assessment of the facility was conducted according to the document "Laboratory Qualification Program for Second- and Manufacturer Laboratories" by a TÜV Rheinland auditor

TÜV Rheinland (Shenzhen) Co., Ltd.
Shenzhen, 08-05-2004

C.D. Reeves

C.D. Reeves

Yonger Cao

Yonger Cao

CERTIFICATE OF QUALIFICATION

issued by

Underwriters' Laboratories of Canada

on behalf of

Underwriters Laboratories Inc.

on

2004 December 9

ACCURATE TECHNOLOGY CO LTD
F1 Bldg A Changyuan, New Material Port
Keyuan Road, Science & Industry Park, Shenzhen, China

has been assessed and found to be eligible to participate in
Underwriters Laboratories Inc.
WITNESS TEST DATA PROGRAM

Standards: UL60950 and UL60065

Normand Breton
Regional Chief Engineer
Underwriters' Laboratories of Canada

Reassess by: December, 2005