

CE EMC CERTIFICATION

according to

**European Standard EN 55022:1998/A1:2000 Class A,
EN 61000-3-2:2000, EN 61000-3-3:1995/A1:2001 and
EN 55024:1998/A1:2001 (IEC 61000-4-2:1995,
IEC 61000-4-3:1995, IEC 61000-4-4:1995, IEC 61000-4-5:1995,
IEC 61000-4-6:1996, IEC 61000-4-8:1993, IEC 61000-4-11:1994)**

Equipment : Trans Mitter

Model No. : TD, TK, TR, TA, TP, TMF, TMT, TL

Applicant : **AXE Technology Corp.**
No. 70, Lane 83, Hwa Chen Road,
Hsing Chuang City, Taipei Hsien, Taiwan, R.O.C.

I HEREBY CERTIFY THAT :

The measurements shown in this test report were made in accordance with the procedures given in **EUROPEAN COUNCIL DIRECTIVE 89/336/EEC**. The equipment was **passed** the test performed according to **European Standard EN 55022:1998/A1:2000 Class A, EN 61000-3-2:2000, EN 61000-3-3:1995/A1:2001 and EN 55024:1998/A1:2001 (IEC 61000-4-2:1995, IEC 61000-4-3:1995, IEC 61000-4-4:1995, IEC 61000-4-5:1995, IEC 61000-4-6:1996, IEC 61000-4-8:1993, IEC 61000-4-11:1994)**. The test was carried out on **Sep. 27, 2004** at SPORTON INTERNATIONAL INC. LAB.



Alex Chen

Manager

SPORTON INTERNATIONAL INC.

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Hsi Chih, Taipei Hsien, Taiwan, R.O.C.
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ISSUED DATE: Oct. 05, 2004

APPENDIX A. GENERAL DESCRIPTION OF EQUIPMENT UNDER TEST

A.1. APPLICANT

AXE Technology Corp.
No. 70, Lane 83, Hwa Chen Road,
Hsing Chuang City, Taipei Hsien, Taiwan, R.O.C.

A.2. APPLICANT

Same as A.1.

A.3. BASIC DESCRIPTION OF EQUIPMENT UNDER TEST

Equipment	: Trans Mitter
Model No.	: TD, TK, TR, TA, TP, TMF, TMT, TL
Trade Name	: AXE
Power Supply Type	: Switching
AC Power Cord	: Non-Shielded, 1.75m, 3pin

A.4. FEATURE OF EQUIPMENT UNDER TEST

- Please refer to user manual.

APPENDIX B. GENERAL INFORMATION OF TEST

B.1. TEST FACILITY

< EMI >

Test Site Location : No. 3, Lane 238, Kang Lo Street, Nei Hwu District,
Taipei 11424, Taiwan, R.O.C..
TEL : 886-2-2631-4739
FAX : 886-2-2631-9740

Test Site No. : CO01-NH, OS01-NH

< EMS >

This test was carried out by SPORTON International Inc.

Test Site Location : No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park,
Kwei-Shan Hsiag, Tao Yuan Hsien, Taiwan, R.O.C..
TEL : 886-3-327-3456
FAX : 886-3-318-0055

B.2. TEST VOLTAGE

230V/50Hz

B.3. STANDARD FOR METHODS OF MEASUREMENT

EMI Test (conduction and radiation) : European Standard EN 55022 Class A
Harmonics Test : European Standard EN 61000-3-2.
Voltage Fluctuations Test : European Standard EN 61000-3-3.
EMS Test : European Standard EN 55024.
(ESD: IEC 61000-4-2, RS: IEC 61000-4-3, EFT: IEC 61000-4-4, SURGE: IEC 61000-4-5,
CS: IEC 61000-4-6, Power Frequency Magnetic Field: IEC 61000-4-8, DIPS: IEC 61000-4-11)

B.4. TEST IN COMPLIANCE WITH

EMI Test (conduction and radiation) : European Standard EN 55022 Class A
Harmonics Test : European Standard EN 61000-3-2.
Voltage Fluctuations Test : European Standard EN 61000-3-3.
EMS Test : European Standard EN 55024.
(ESD: IEC 61000-4-2, RS: IEC 61000-4-3, EFT: IEC 61000-4-4, SURGE: IEC 61000-4-5,
CS: IEC 61000-4-6, Power Frequency Magnetic Field: IEC 61000-4-8, DIPS: IEC 61000-4-11)

B.5. FREQUENCY RANGE INVESTIGATED

- a. Conducted emission test: from 150 kHz to 30 MHz
- b. Radiated emission test: from 30 MHz to 1,000 MHz
- c. Radio frequency electromagnetic field immunity test : 80-1000 MHz.

B.6. TEST DISTANCE

- a. The test distance of radiated emission test from antenna to EUT is 10 M.
- b. The test distance of radio frequency electromagnetic field immunity test from antenna to EUT is 3 M.

APPENDIX C. TEST RESULT

C.1. CONDUCTED POWERLINE

The CONDUCTED EMISSION test was passed at

Frequency (MHz)	Line or Neutral	Meter Reading		Limits		Margin	
		Q.P. (dBuV)	A.V. (dBuV)	Q.P. (dBuV)	A.V. (dBuV)	Q.P. (dB)	A.V. (dB)
14.215	L	42.20	12.90	73.00	60.00	-30.80	-47.10

C.2. RADIATED EMISSION

The RADIATED EMISSION test was passed at

Frequency (MHz)	Polarity	Limits (dBuV/m)	Emission (dBuV/m)	Margin (dB)	Antenna High	TurnTable Degree
45.400	V	40.00	29.65	-10.35	1m	200°

C.3. HARMONICS

As specified on clause 7 and figure Z1 of EN 61000-3-2:2000, the limits are not specified for equipment with a rated power of 75W or less.

The EUT meets the above condition, so it conforms to EN 61000-3-2.

C.4. VOLTAGE FLUCTUATIONS AND FLICKER

Urms = 228.9V Freq = 50.000 Range: 0.25 A
Irms = 0.017A Ipk = 0.033A cf = 1.907
P = 1.970W Pap = 3.912VA pf = 0.503

Test - Time : 1 x 10min = 10min (100 %)

LIN (Line Impedance Network) : SLIN 0.24ohm +j0.15ohm N:0.16ohm +j0.10ohm

Limits : Plt : 0.65 Pst : 1.00
 dmax : 4.00 % dc : 3.30 %
 dtLim : 3.30 % dt>Lim: 500ms

Test completed, Result: PASSED

Plt = 0.072

	Pst	P50s	P10s	P3s	P1s	P0.1s	dmax	dc	dt>Lim
1	0.072	0.010	0.010	0.010	0.010	0.010	0.000	0.000	0.000

C.5. ELECTROSTATIC DISCHARGE IMMUNITY TEST (ESD)

- FINAL TEST RESULT : **PASS**
- Pass Performance Criteria : B
- Required performance criteria : B
- Observation : During the test, the voltage varied slightly. After the test, the equipment continued to operate as intended without operator intervention.

C.6. RADIO FREQUENCY ELECTROMAGNETIC FIELD IMMUNITY TEST (RS)

- FINAL TEST RESULT : **PASS**
- Pass Performance Criteria : A
- Required performance criteria : A
- Observation : Normal

C.7. ELECTRICAL FAST TRANSIENT/BURST IMMUNITY TEST (EFT/BURST)

- FINAL TEST RESULT : **PASS**
- Pass Performance Criteria : B
- Required performance criteria : B
- Observation : During the test, the voltage varied slightly. After the test, the equipment continued to operate as intended without operator intervention.

C.8. SURGE IMMUNITY TEST

- FINAL TEST RESULT : **PASS**
- Pass Performance Criteria : A
- Required performance criteria : B
- Observation : Normal

C.9. CONDUCTED DISTURBANCES INDUCED BY RADIO-FREQUENCY FIELD

IMMUNITY TEST (CS)

- FINAL TEST RESULT : **PASS**
- Pass Performance Criteria : A
- Required performance criteria : A
- Observation : Normal

C.10. POWER FREQUENCY MAGNETIC FIELD IMMUNITY TESTS

- FINAL TEST RESULT : **PASS**
- Pass Performance Criteria : A
- Required performance criteria : A
- Observation : Normal

C.11. VOLTAGE DIPS, SHORT INTERRUPTIONS AND VOLTAGE VARIATIONS

IMMUNITY TESTS

- FINAL TEST RESULT : **PASS**
- Pass Performance Criteria : C for voltage interruption, A for voltage dips
- Required performance criteria : C for voltage interruption, B/C for voltage dips
- Observation : After the interruption, the power of EUT reset automatically.

APPENDIX D. TEST INSTRUMENT

D.1. EMI

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Spectrum Monitor	R&S	EZM	894987/011	9KHz – 1.3GHz	Aug. 13, 2004	Conduction (CO01-NH)
Test Receiver	R&S	ESH3	893495/013	9 KHz - 30 MHz	Aug. 10, 2004	Conduction (CO01-NH)
LISN	Rolf Heine	NNB-2/16Z	99079	9 KHz - 30 MHz	Dec. 25, 2003	Conduction (CO01-NH)
LISN	KYORITSU	KNW-407	8-1010-15	9 KHz - 30 MHz	Nov. 28, 2003	Conduction (CO01-NH)
Power Filter	CORCOM	MR12030	N/A	30A*2	N/A	Conduction (CO01-NH)
RF Cable-CON	Suhner Switzerland	RG223/U	CB004	9KHz~30MHz	Dec. 18, 2003	Conduction (CO01-NH)
Open Area Test Site	SPORTON	OATS-10	OS01-NH	30MHz~1GHz 10m	Mar. 13, 2004	Radiation (OS01-NH)
Spectrum Analyzer	HP	8568B	3634A03000	100Hz – 1.5GHz	Nov. 28, 2003	Radiation (OS01-NH)
Quasi-peak Adapter	HP	85650A	2521A00821	9KHz -1GHz	Apr. 12, 2004	Radiation (OS01-NH)
Amplifier	HP	8447D	2944A06292	0.1MHz ~ 1.3GHz	Mar. 15, 2004	Radiation (OS01-NH)
Bilog Antenna	SCHAFFNER	CBL6111C	2738	30MHz - 1GHz	Jan. 03, 2004	Radiation (OS01-NH)
Turn Table	EMCO	1060-1.211	9507-1805	0 ~ 360 degree	N/A	Radiation (OS01-NH)
Antenna Mast	EMCO	1051-1.2	9503-1876	1 m - 4 m	N/A	Radiation (OS01-NH)
RF Cable-R10m	BELDEN	RG8/U	CB001	30MHz~1GHz	Dec. 13, 2003	Radiation (OS01-NH)

Calibration Interval of instruments listed above is one year.

D.2. EMS

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
ESD Simulator	KEYTEK	MZ-15/EC	0406338	Air: 0 KV - 15 KV Contact: 0 KV -8KV	Jul. 16, 2004	ESD
Antenna	CHASE	CBL6121A	1027	26 MHz - 1 GHz	Dec. 08, 2003	RS01
Field Strength Monitoring Antennas (Probe)	AR	FP3000A	16077	0.1 MHz - 1 GHz	Aug. 12, 2004	RS
RS immunity Test system	HP	EMS test System	2062	80 MHz - 1 GHz 3V/m, 10v/m	Dec. 08, 2003	RS
Amplifier	AR	100W 1000M3	16060	80 MHz - 1 GHz	Dec. 08, 2003	RS
Power Meter	EMC Automation	438A	3513U04050	100 KHz -4.2 GHz	Dec. 08, 2003	RS
Signal Generator	HP	8648A	3426A00771	100 KHz - 1 GHz	Dec. 04, 2003	RS
Power Sensor	HP	8481D	3318A13140	100 KHz - 1 GHz	Dec. 08, 2003	RS
Power Sensor	HP	8482A	3318A26464	100 KHz - 1 GHz	Dec. 08, 2003	RS
Attenuator	HP	8491A	53603	100 KHz - 1 GHz	Dec. 08, 2003	RS
EFT Generator	EMC -PARTNER	TRANSIENT -2000	TRA2000-376	0KV - 4.4 KV	Apr. 29, 2004	EFT
SURGE Generator	EMC -PARTNER	TRANSIENT -2000	TRA2000-376	0 KV -6 KV/2 0KV-500V/12	Apr. 29, 2004	SURGE
Conducted Immunity Test System	FRANKONIA	CIT-10	102C3115	100KHz ~ 266MHz	Apr. 08, 2004	CS
Conducted Immunity Test System Amplifier	A.R	75A220	16980	15~230MHz FM1KHz80 % 75W	Apr. 09, 2004	CS
Coupling and Decoupling Network	FRANKONIA	CDN M2	A30020007	150KHz ~ 230MHz	Apr. 10, 2004	CS
Magnetic Generator	FCC (KEYTEK)	F-1000-4-8-G-125A	03007	30A//CONTINUOUS 100A/2Hrs 230A/30SEC	Apr. 13, 2004	PFMF
Magnetic field Immunity Loop	FCC (KEYTEK)	F-1000-4-8/9/10-L-M	03003	30A//CONTINUOUS 100A/2Hrs 230A/30SEC	Apr. 13, 2004	PFMF
DIP Generator	EMC -PARTNER	TRANSIENT -2000	TRA2000-376	230VA/50Hz/60Hz 0%Open/5S 0%Short/5S 40%/0.10S 70%/0.01S	Apr. 29, 2004	DIP
Harmonic/Flicker Test System	EMC PARTNER	Harmonics -1000	HAR1000-41	4000VA 16A PEAK	Nov. 18, 2003	Harmonics, Flicker

Calibration Interval of instruments listed above is one year.