

# TEST REPORT


Test Report No. : EM/2009/30087

Applicant : AIM TOP INTERNATIONAL L.L.C

Address : 114 Barksdale Professional Center, City of Newark County of  
New Castle, Aip Code 19711, USA

Equipment Under Test (EUT) :

Name : MOTOR

Brand Name : 

Model No. : MO series MOTOR

Added Model(s) : SPIDER MOTORS, SCUDERIA MOTORS, HIGH TORQUE-UP  
MOTOR, HIGH RPM MOTOR

## Standards:

EN55014-1 : 2006

EN55014-2 : 1997+A1 : 2001, Category I

In the configuration tested, the EUT complied with the standards specified above.

Date of Receipt : Mar. 17, 2009

Date of Test : Mar. 17 ~ May 06, 2009

Date of Issue : May 08, 2009

## Remarks:

This report details the results of the testing carried out on one sample, the results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

This report may only be reproduced and distributed in full. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS Taiwan Electronics & Communication Laboratory or testing done by SGS Taiwan Electronics & Communication Laboratory in connection with distribution or use of the product described in this report must be approved by SGS Taiwan Electronics & Communication Laboratory in writing.

Test By:

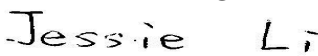


Date

May 08, 2009

Cone Lee(Engineer)

Prepared By:



Date

May 08, 2009

Jessie Li(Clerk)

Approved By



Date

May 08, 2009

Victor Wen(Assistant Manager)

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# 1. General Description

## 1.1 General Description of EUT

Name of EUT	: MOTOR
Brand Name	: 
Model No.(s)	: MO series MOTOR
Added Model(s)	: SPIDER MOTORS, SCUDERIA MOTORS, HIGH TORQUE-UP MOTOR, HIGH RPM MOTOR
Variant Description:	1. For different customer. 2. Package and name are different.

## 1.2 Details of EUT

Power Supply	: DC 8.4V
Power Cord	: N/A
Modes/Function	: Operation Mode

## 1.3 Description of Support Units

PRODUCT	MANUFACTURER	MODEL NO.	SERIAL NO.
N/A	N/A	N/A	N/A

## 1.4 Operation Procedure

1. Set down EUT with support units and turn on the power of all equipment.
2. Pre-test the EUT in all modes by each model, then figure the worst case out.
3. Execute the appropriate program to exercise the EUT.
4. Monitor the EUT to determine if it works properly to meet the required performance criteria during immunity tests.

## 1.5 The worst case of the EUT

EUT will be carried out in the worst case as followings:

Model No. : MO series MOTOR

Mode : Operation Mode

## 1.6 Modification List

No modification by SGS Taiwan Electronics & Communication Laboratory.

## 1.7 Configuration of Tested System



## 1.8 Cable List

Cable Type	Length	Shield
N/A	N/A	N/A

## 1.9 Summary of Results

Highest Emission					
Standard	Test Type	Result	Phase/Polar.	Frequency(MHz)	Margin(dB)
EN55014-1 : 2006	Conducted Emission	N/A	N/A	N/A	N/A
			N/A	N/A	N/A
	Radiated Emission	PASS	Hor.	590.4050	-1.04(QP)

Immunity(EN55014-2: 1997+A1:2001, Category I)
Category I apparatus is deemed to fulfill the relevant immunity requirements without testing.

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## 2. Radio Disturbance

EN55014-1 : 2006

CISPR 22 : 2005+A1:2005+A2:2006 Class B

### 2.1 Test Results

Test Item	Result
Conducted Emission (EN 55014-1)	N/A
Radiated Emission (CISPR 22)	PASS

### 2.2 Frequency Range

Radiated Emission : 30 MHz - 1000 MHz

### 2.3 Methods and Procedures

Standard	Date	Description
CISPR 22	2005+A1:2005 +A2:2006 Class B	Limits and methods of measurement of radio interference characteristics of information technology equipment.

### 2.4 Test of Radiated Emission

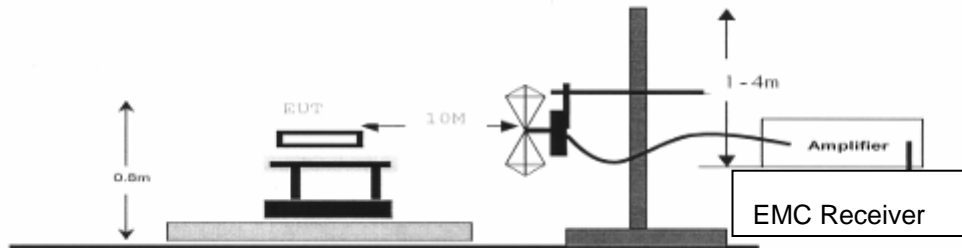
#### 2.4.1 Test Instruments

Description	Manufacturer	Model No.	Serial No.	Date of Calibration
EMI Test Receiver	ROHDE&SCHWARZ	ESCI	100335	Feb. 05, 2009
RF-Amplifier	Agilent	8447D	2944A09469	Nov. 29, 2008
Broadband Antenna	SCHWAZBECK	VULB9160	9160-3224	Mar. 03, 2009
Coaxial Cables	N/A	OS RE Cable	N/A	Nov. 29, 2008
Antenna Master	HD GmbH	MA 240	240/515	N/A
Turn Table	HD GmbH	DT420	420/542	N/A
Controller	HD GmbH	HD 100	100/589	N/A

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## 2.4.2 Test Setup



## 2.4.3 Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 10 meters.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on Measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to CISPR 22 : 2005+A1:2005+A2:2006 Class B on radiated measurement.

Radiated emissions were investigated over the frequency range from 30MHz to 1 GHz using a receiver bandwidth of 120kHz. Radiated was performed at an antenna to EUT distance of 10 meters.

## 2.4.4 Test Site

SGS Taiwan LTD. Electronics & Communication Laboratory  
No. 29, Pau-Tou-Tsuo Valley, Chia-Pau Tsuen, Linkou Hsiang, Taipei County 244, Taiwan (R.O.C.)

## 2.4.5 EUT Operating Condition

Environment :

Temperature	Humidity
24 °C	61 %RH

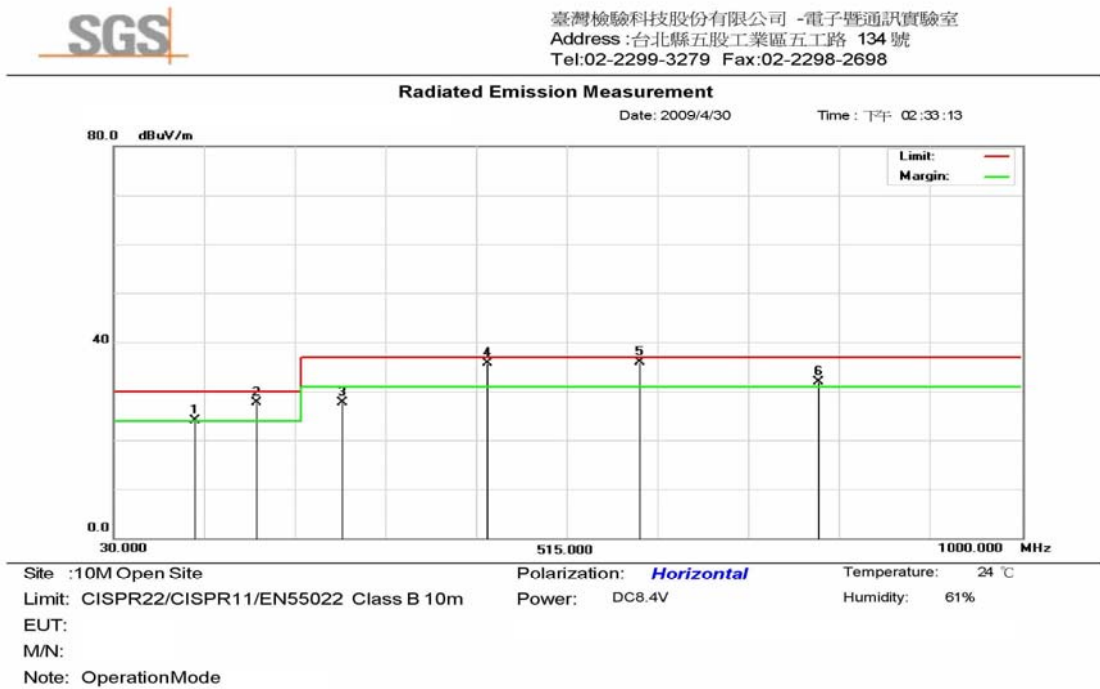
Test setup : Please refer to photo of RE testing set-up

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## 2.5.4 Measurement Data

### A. Horizontal measurement



No.	Mk.	Freq. MHz	Reading Level dBuV	Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	!	116.7650	48.68	-24.49	24.19	30.00	-5.81	QP	
2	!	180.8230	50.19	-22.43	27.76	30.00	-2.24	QP	
3		273.2930	48.63	-20.96	27.67	37.00	-9.33	QP	
4	!	429.5500	52.35	-16.64	35.71	37.00	-1.29	QP	
5	*	590.4050	46.85	-10.89	35.96	37.00	-1.04	QP	
6	!	783.1000	41.16	-9.29	31.87	37.00	-5.13	QP	

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## B. Vertical measurement

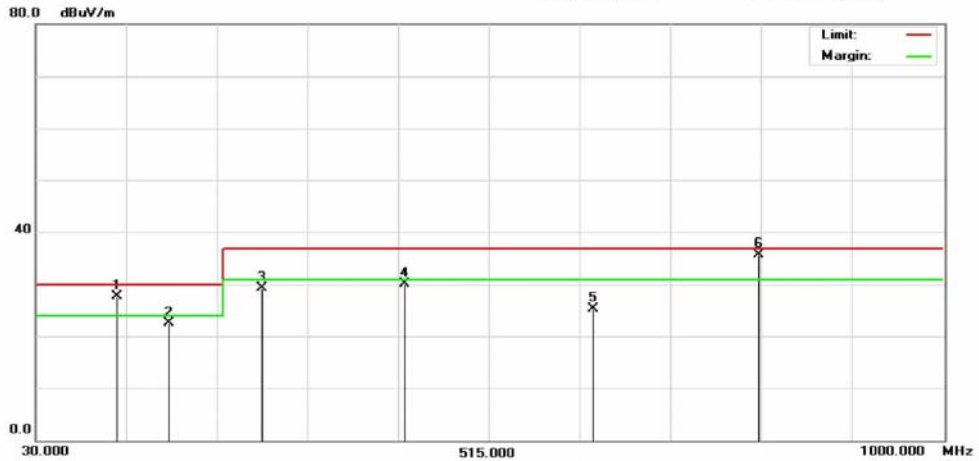


臺灣檢驗科技股份有限公司 - 電子暨通訊實驗室  
 Address : 台北縣五股工業區五工路 134 號  
 Tel:02-2299-3279 Fax:02-2298-2698

### Radiated Emission Measurement

Date: 2009/4/30

Time : 下午 02:31:15



Site : 10M Open Site      Polarization: **Vertical**      Temperature: 24 °C  
 Limit: CISPR22/CISPR11/EN55022 Class B 10m      Power: DC8.4V      Humidity: 61%  
 EUT:  
 M/N:  
 Note: OperationMode

No.	Mk.	Freq.	Reading Level	Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1	!	116.0130	46.52	-18.90	27.62	30.00	-2.38	QP	
2		172.7280	38.20	-15.75	22.45	30.00	-7.55	QP	
3		270.5250	44.80	-15.59	29.21	37.00	-7.79	QP	
4		425.0900	45.75	-15.67	30.08	37.00	-6.92	QP	
5		624.6600	38.91	-13.53	25.38	37.00	-11.62	QP	
6	*	802.2430	45.12	-9.51	35.61	37.00	-1.39	QP	

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### 3. IMMUNITY

EN55014-2 : 1997+A1:2001

Immunity(EN55014-2: 1997+A1:2001, Category I)

Category I apparatus is deemed to fulfill the relevant immunity requirements without testing.

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## Photography of General Testing Set-up

### RE Testing Set-up



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## Photographs of Product



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**\*\*End of Report\*\***

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