

產品規格承認書

Specification For Approval

日期：2007 / 10 / 08

Date

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Revision

承認廠商：泰鉅科技股份有限公司

Customer

製造廠商：英碩科技股份有限公司

Manufacturer

型號品名：2.4 GHz Antenna

Part Number

Description

INVAX P/N: AN2400-6414BX

廠商審核：

Approved By

Invax

英碩科技股份有限公司

台北市忠孝東路五段 815 號 4 樓

Tel: 886-2-2788-5218 Fax: 886-2-2783-1658

Cortec

東莞康捷電子有限公司

廣東省東莞市長安鎮振安路
沙頭段咸西工業區

Tel: 86-769-85388261 Fax: 86-769-85397133

Product Number: AN2400-6414BX

Product Name: 2.4 GHz Antenna



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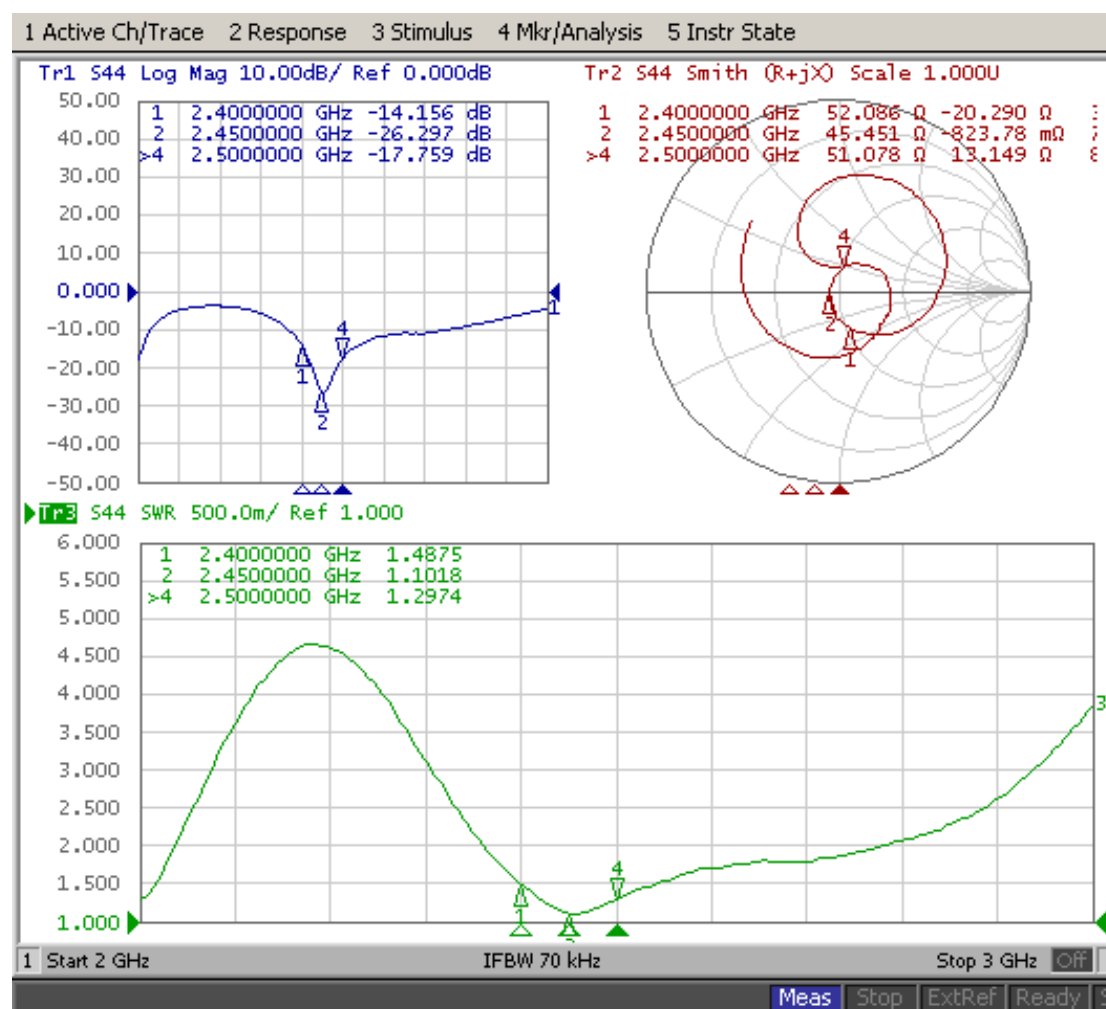
1. Reliability Testing

Test Item	Procedure	Requirement
1. Visual inspection and Dimension Check	Applicable methods using x5 magnification	follow specification
2. Rapid Changing of Temperature	-40°C (30minutes) to 90°C (30minutes); 24 cycles	After 2 hours recovery: 1. no visible damage 2. Freq. Tol.: < ±5%
3. Damp Heat	24 hours at 60°C; 90 ~ 95% RH	After 2 hours recovery: 1. no visible damage 2. Freq. Tol. : < ±5%
4. Endurance	24 hours at 90°C	After 2 hours recovery: 1. no visible damage 2. Freq Tol.: < ±5%

2. Specification

A. Electrical Characteristics	
S.W.R.	≤ 2.0 @ 2400 - 2500 MHz
Antenna Gain	2.0 ± 0.7 dBi (*Typical*)
Radiation Pattern	360 Degree / Omni-Directional
Impedance	50 Ohm
B. Material	
Material of Plastic	PC+ABS / ABS
Material of Metal	Cu
C. Environmental	
Operation Temperature	- 30 °C ~ + 85 °C
Storage Temperature	- 30 °C ~ + 85 °C

3. S Parameter Test Data



Product Number: AN2400-6414BX

Product Name: 2.4 GHz Antenna



4. Antenna Radiation Pattern

Testing Equipment Specification:

Antenna Anechoic Chamber Dimension: 8 x 4 x 4 m

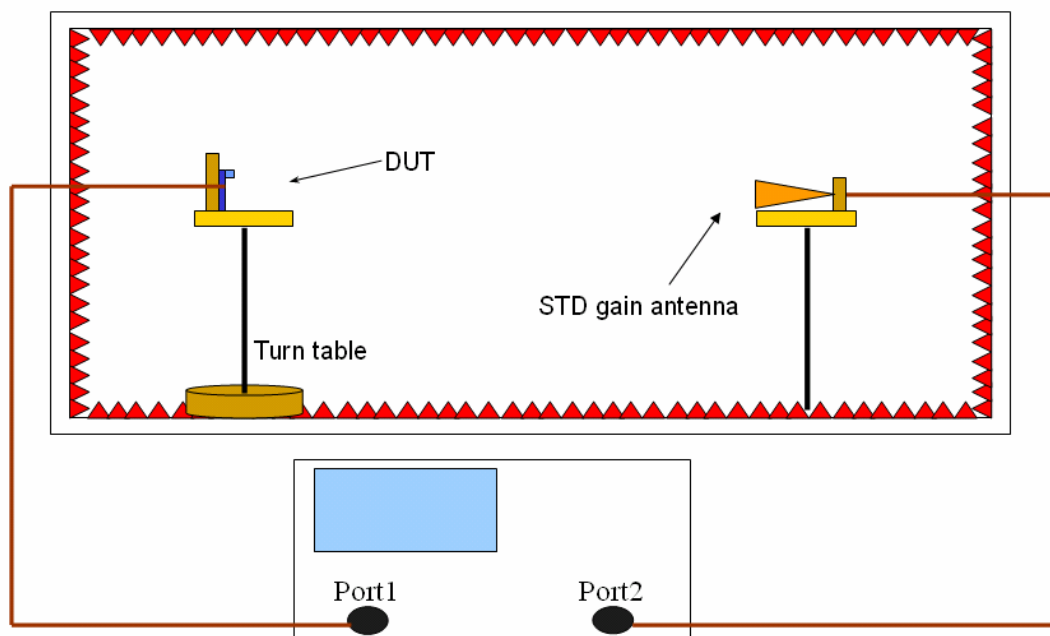
Quiet Zone: 600mm @1 GHz

Isolation: >100dB @ 1 MHz ~ 10 GHz

Testing Equipment: Agilent 5071B

Received Antenna: 0.7 ~ 6.0 GHz for Gain Calibration

Double Ridged Horn Antenna



5. Mechanical Drawing

6. MSDS & SGS Report



Cortec Technology Inc.

广东省东莞市长安镇振安路沙头段咸西工业区

Model : 2.4GHz Antenna
Remark : H-Plane // Vertical Polarization
Tested by : Antenna 3D Chamber // Wang Sheng

Location: **Chamber**

Date: **2007/8/18**

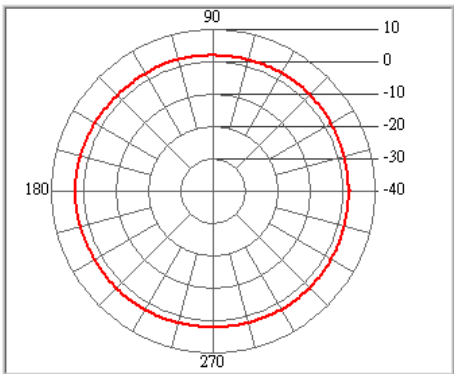
Time: **上午 10:28:19**

Temperatuer (°C): **22.00**

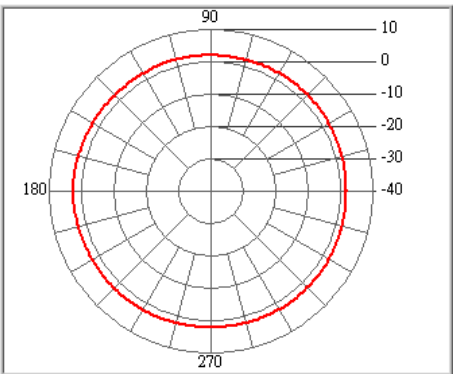
Humidity (%): **55.00**

Approved by:

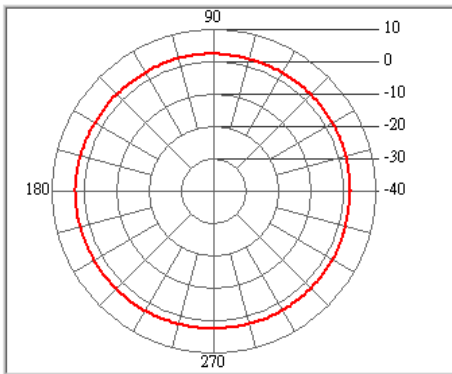
Freq. (MHz)	2390	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Peak Gain (dBi)	2.52	2.53	2.72	2.79	2.85	2.77	2.74	2.71	2.72	2.6	2.4	2.25
Peak Degree	176	177	177	195	195	189	194	189	182	176	176	165
AV Gain (dBi)	2.14	2.14	2.44	2.5	2.48	2.35	2.3	2.28	2.34	2.18	2	1.94



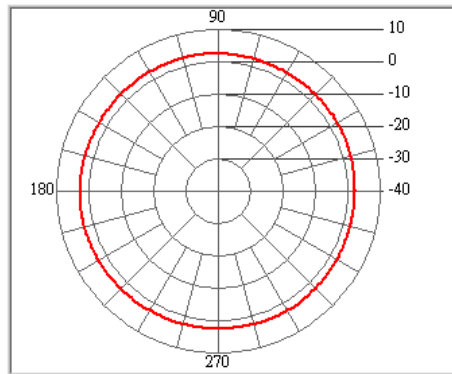
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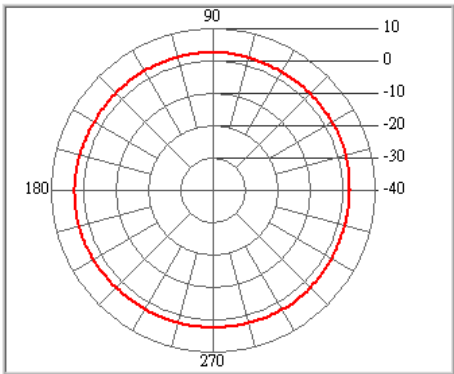
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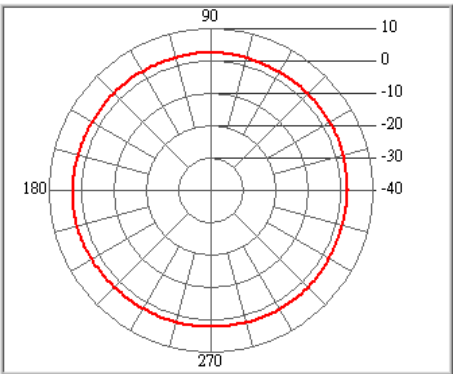
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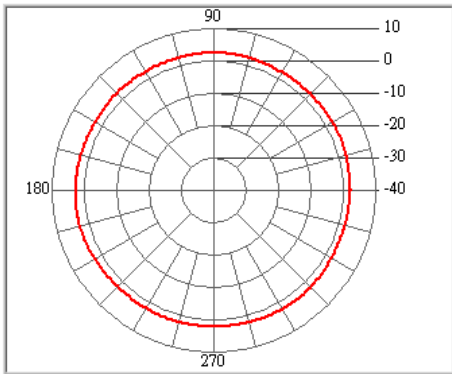
2420



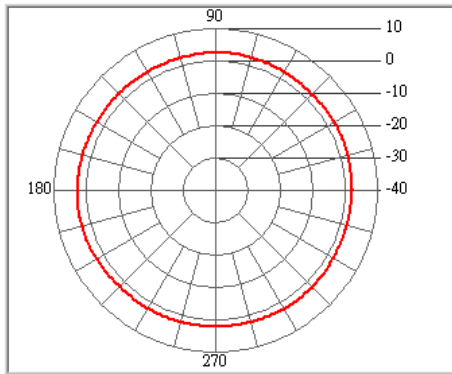
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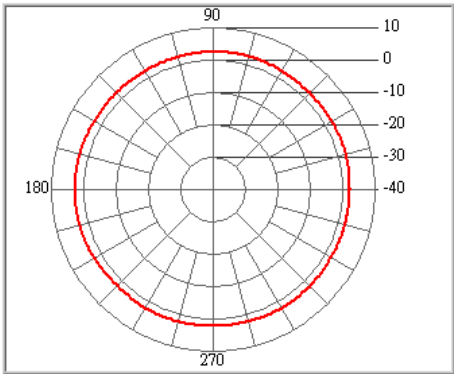
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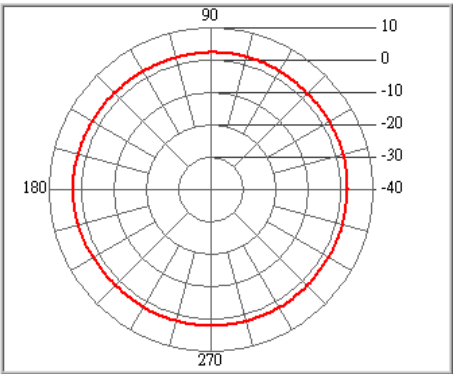
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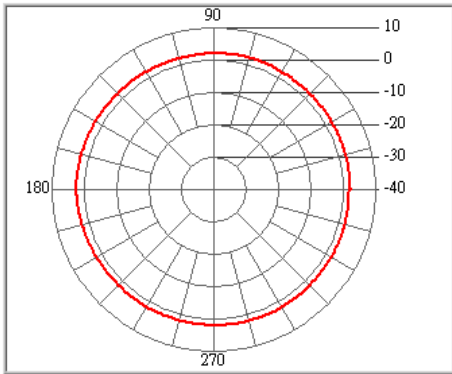
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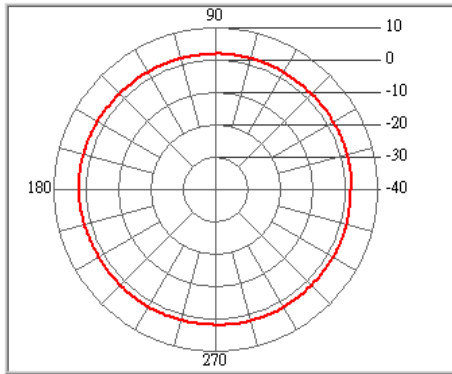
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2480



2490

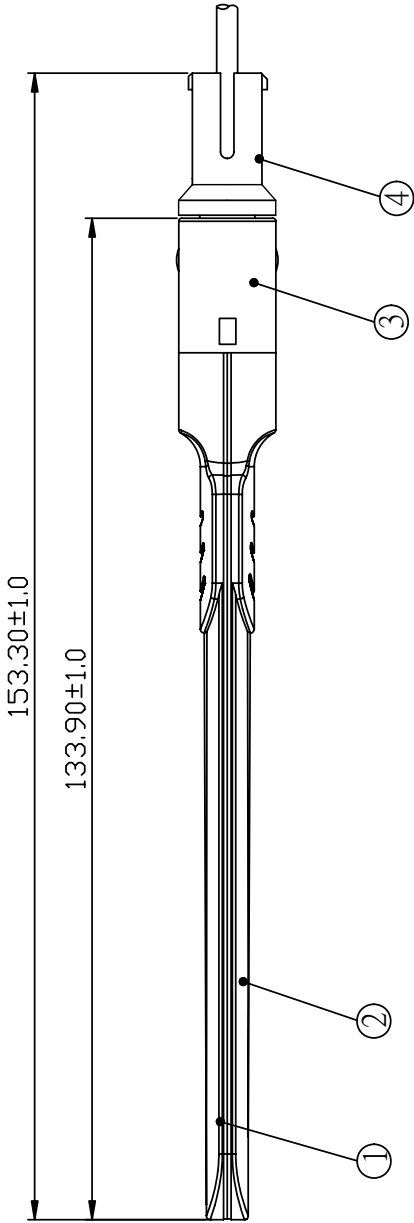
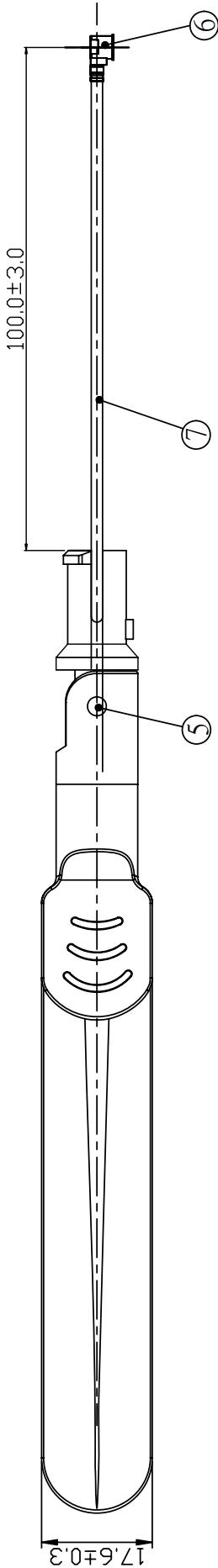


2500

RoHS

Compatible

SIGN	DATE	DESCRIPTION	APPROVER
A			
A			
A			



7	R-CB-113B	Cable	Ø1.13(BLACK)	L=185.0mm	1
6	R-CB-TEE113-01	CONN	I-PEX	MHF	1
5	R-AN03-514CZ	Hinge Pin	Brass	Black Plated	2
4	R-AN2401-01A	Body2	PC+ABS	Black	1
3	R-AN03-T12B	Body1	PC+ABS	Black	1
2	R-AN6401-02	Top Cover	ABS	Black	1
1	R-AN6401-01	Bottom Cover	ABS	Black	1
No.	Part Number	Description	Material	Finish	Q'ty

Cortec®

Cortec Technology Inc.

PART NAME: Antenna-2.4GHz 2dBi		TITLE: AP ANTENNA	
PART NO.: AN2400-6414BX		DWG NAME: AN2400-6414BX.DWG	
APPROVED BY	CHECKED BY	DESIGNED BY	Tolerance
Grant	Liu Kui	Roger	UNITS: mm
2007/10/04	2007/10/04	2007/10/04	SCALE: 1/1
			REVISION: A

PC Datasheet

TEIJIN POLYCARBONATE SINGAPORE PTE. LTD.

#01-01 111 SAKRA AVE. SINGAPORE 627881 SINGAPORE

Material Designation: L-1250#(f2), L-1250U#, L-1250V#, L-1250Z#

Product Description: Polycarbonate (PC)

Color	Min. thick. (mm)	Flame Class	HWI	HAI	RTI. Elec.	RTI. Imp.	RTI. Str.
ALL	0.40	V-2	4	3	80	80	80
	0.84	V-2	4	3	80	80	80
	1.5	HB	4	0	125	115	125
	3.0	HB	1	0	125	115	125
	6.0	HB	1	0	125	115	125
CXT:2, HVTR:2, D495:5							

Material designation may be suffixed with any one or two letters.

Subjected to one or more of the following tests; Ultraviolet Light,
Water Exposure in accordance with UL 746C, where the
acceptability for outdoor use is to be determined by UL Inc.

Report Date: 1999-07-29

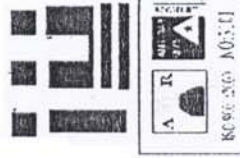
ABS Datasheet

台灣台達化學工業股份有限公司
 ABS 通用級(一般用)規格性質一覽表

性 質 Properties			試驗 方法 ASTM	通用級（一般用）General Purpose						
				3000H	3000D	3000	6000	1000	5000	5000s
M E C H A N I C A L	機 械 質	ZOD 沖擊強度 (IZOD Impact Strength)	D256	34 50	30 38	25 33	23 30	21 27	17 21	13 16
		抗張彌度-降伏點 (Tensile Strength at Yield)	D638	400	410	380	400	430	460	480
		抗張強度-斷裂點 (Tensile Strength at Break)		340	360	310	340	340	360	380
		伸張率-斷裂點 (Elongation at Break)	D638	60	40	40	30	30	20	20
		抗折強度 (Flexural Yield)	D790	620	600	580	640	700	750	800
		抗折系數 (Flexural Modulus)	D790	21,000	21,000	20,000	22,000	24,000	26,000	30,000
T H E R M A L	熱 性 質	熱變形溫度 (Heat Distortion Temp)	D648	87	86	85	86	87	88	89
		Vicat 軟化溫度 (Vicat Softening Temp)	D1525	102	101	100	101	102	103	104
		流動指數 (Melt Flow index)	D1238	0.5 6.0	1.0 10.0	1.2 12.0	1.6 16.0	1.8 18.0	2.2 20.0	2.1 19.0
		燃燒性 (Flammability)	UL-94	94HB	94HB	94HB	94HB	94HB	94HB	94HB
E L E C T R I C A L	電 氣 性	相對溫度指數 (Relative Temp index)	UL-746B	-	-	60	60	60	60	60
		抗熱線燃燒性 (High Current Arc ignition)	UL-746A	-	-	15	13	17	18	15
		抗電弧性 (High Current Arc ignition)	UL-746A	-	-	200	200	200	200	15
		電弧產生速率 (Arc Tracking Rate)	UL-746A	-	-	0	0	0	0	0
O T H E R S	其 他	比重 (Specific Gravity)	D792	1.03	1.03	1.03	1.03	1.03	1.03	1.04
		硬度 (Rockwell Hardness)	D785	103	102	100	107	110	115	119
		成型收縮 (Mold shrinkage)	D955	0.4	0.4	0.4	0.4	0.4	0.4	0.4
		吸水率 (Water Absorption)	D570	0.3	0.3	0.3	0.3	0.3	0.3	0.3

Coaxial Cable Datasheet

O.D. 1.13 mm (AWG32) Coaxial Cable Specification		
1. Cable Type	O.D. 1.13 mm (AWG32)	
2. Impedance	50 ± 3 ohm	
3. Inner Conductor	Material	silver-coated cooper
	Conductor Numbers	7
	Conductor Size	0.08 mm
	Outer Diameter	0.24 mm
4. Dielectric Layer	Material	FEP
	Color	Clear
	Average Thickness	0.22 mm
	Diameter	0.68 mm
5. Braid (Shielding)	Material	tin-coated cooper
	Construction	16-4-0.05 mm
	Coverage	90 %
6. Outer Cover	Material	FEP
	Color	Black / white / gray
	Average Thickness	0.10 mm
	Diameter	1.13 ± 0.05 mm
7. V.S.W.R Testing (DC ~ 6GHz)	< 1.3	
8. Attenuation (dB / 1 meter)	100 MHz	0.60
	400 MHz	1.25
	1800 MHz	2.23
	2400 MHz	2.70
	5200 MHz	4.15
9. Capacitance	97 ± 3 (pF / meter)	
10. Maximum Power	30 dBm	
11. Spark Test	500 V	
12. Rating Temp. and Volt.	200°C / 30V	
13. Conductor Resistance	520 ohm / KM / 20°C max.	
14. Dielectric Resistance	1500 M ohm / KM / 20°C min.	



SHIYANG (ZHONG SHAN) METAL PRODUCTS CO., LTD

世扬金属制品有限公司

TEST CERTIFICATE

材質证明书



CLIENT 客户	天诚		certificate NO. 证明书号		070127-15					
name article 品名										
Brass										
LOT NO.	SIZE(MM) STANDARD	OUTW GT (KG)	DESIGNATION	Cu(%)	Pb(%)	Fe(%)	Fe+Sn(%)	Cd(%)	Zn(%)	REMARK
7916	14.5 φ		JISC3604	57~61	1.8~3.7	≤0.5	≤1.2	≤0.0075	REM	
			JISC3604	58.92	2.986	0.446	0.971	0.0042	REM	
兹证明本表所列产品,均依材料规格制造及试验,并符合规格之要求.										
WE HEREBY CERTIFY THAT MATERIAL DESCRIBED JERE IN MAS BEEN MANUFACTURED AND TESTED WITH SATISFACTORY RESULTS IN ACCORDANCE WITH THE REQUIREMENT OF THE ABOVE MATERIAL SPECIFICATION.										

MANAGER: 曾敦毅

PABLE: 李玉奎

DATE:2007/02/27

THE THREE INDUSTRIAL AREA NAN LANG TOWN ZHONG SHAN CITY
中国广东省中山市南朗镇第三工业区

TEL:0760-5214770 FAX:0760-5214769
E-Mail:sales@shiyangmetal.com



Survey Report

INVAX SYSTEM TECHNOLOGY CORP.
CORTEC TECHNOLOGY INC.

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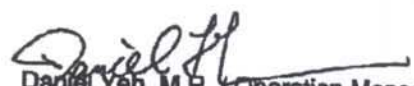


The following sample(s) was/were submitted and identified by/on behalf of the client as :

Sample Description : COAXIAL SERIES
Style/Item No : COAXIAL SERIES
Testing Period : 2005/01/28 TO 2006/07/17

Test Result(s) : Please refer to next page(s).

* This report is combined with 4 copies of test reports which hereby certified by SGS through the verification of each above certification provided by client.*


Daniel Yeh, M.R. / Operation Manager
Signed for and on behalf of
SGS TAIWAN LTD.

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NO. 136-1, Wu Kung Road, WuKu Industrial Zone, Taipei county, Taiwan.
t(886-2) 22993939 f(886-2) 2299-3237 www.sgs.com.tw



Survey Report

INVAX SYSTEM TECHNOLOGY CORP.
CORTEC TECHNOLOGY INC.

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Test Result(s)

PART NAME NO.1	:	GRAY METAL(CE/2005/95123)
PART NAME NO.2	:	IRON-GRAY METAL(CE/2006/46186)
PART NAME NO.3	:	MIXED ALL PARTS(MULTILAYER FERRITE CHIP BEADS, MULTILAYER FERRITE CHIP INDUCTORS)(CE/2006/26763)
PART NAME NO.4	:	MIXED ALL PARTS(MULTILAYER FERRITE CHIP BEADS, HIGH CURRENT FERRITE CHIP BEADS, BEAD ARRAY, MULTILAYER FERRITE COMMON MODE CHOKE)(CE/2006/22877)
PART NAME NO.5	:	MIXED ALL PARTS(聚脂,聚胺基甲酸酯(2芯束絞漆包銅線))(CE/2006/57221)
PART NAME NO.6	:	SILVER COLORED SOLDER(CE/2006/25828)
PART NAME NO.7	:	MIXED ALL PARTS(IC)(CE/2006/26941)
PART NAME NO.8	:	MIXED ALL PARTS(TOSHIBA SEMICONDUCTOR)(CE/2005/B6346A)
PART NAME NO.9	:	MIXED ALL PARTS(BODY)(CE/2005/60638A NO.1)
PART NAME NO.10	:	SILVER COLORED METAL PIN(CE/2005/60638A NO.2)
PART NAME NO.11	:	BLACK EPOXY(CE/2005/91990B NO.3)
PART NAME NO.12	:	SILVER COLORED METAL(CE/2006/20960A)
PART NAME NO.13	:	MLCC(KA/2006/60498)
PART NAME NO.14	:	THICK FILM CHIP RESISTORS & CHIP ARRAY(KA/2006/62695)
PART NAME NO.15	:	SILVER COLORED METAL(CE/2006/31989A NO.1)
PART NAME NO.16	:	SILVER COLORED PLATING(CE/2006/31989A NO.2)
PART NAME NO.17	:	PET FILM (MYLAR)(KA/2005/B0923A-01)
PART NAME NO.18	:	MIXED ALL PARTS(SYLGARD 170 A & B SILICONE ELASTOMER)(CE/2005/87166)
PART NAME NO.19	:	COPPER/SILVER COLORED METAL(CE/2005/A2849)
PART NAME NO.20	:	BLACK PASTE(CE/2006/21870)
PART NAME NO.21	:	TRANSPARENT LIQUID(CE/2006/21871)
PART NAME NO.22	:	WHITE INK(CE/2005/A0062)
PART NAME NO.23	:	GREEN PCB(SH6006519/CHEM)
PART NAME NO.24	:	BLACK PELLETS(CE/2005/C2222)
PART NAME NO.25	:	COPPER COLORED METAL SHEET(C5191 (PBP))(CE/2006/30709)
PART NAME NO.26	:	YELLOW TAPE(CE/2005/15543)
PART NAME NO.27	:	LT. YELLOW LIQUID(CE/2006/21993)
PART NAME NO.28	:	GOLDEN COLORED METAL(SZR0607121195405C)(CTI)
PART NAME NO.29	:	GREEN LIQUID(GZ0603035698/CHEM)
PART NAME NO.30	:	WHITE PLASTIC BAR(SH6060096/CHEM)

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INVAX SYSTEM TECHNOLOGY CORP.
CORTEC TECHNOLOGY INC.

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Test Item(s):	Unit	Method	MDL	Result				
				NO.1	NO.2	NO.3	NO.4	NO.5
Monobromobiphenyl	ppm	With reference to USEPA3540C, Analysis was performed by GC/MS and screening via USEPA 3550C with HPLC/DAD/MS	5	---	---	N.D.	---	N.D.
Dibromobiphenyl	ppm		5	---	---	N.D.	---	N.D.
Tribromobiphenyl	ppm		5	---	---	N.D.	---	N.D.
Tetrabromobiphenyl	ppm		5	---	---	N.D.	---	N.D.
Pentabromobiphenyl	ppm		5	---	---	N.D.	---	N.D.
Hexabromobiphenyl	ppm		5	---	---	N.D.	---	N.D.
Heptabromobiphenyl	ppm		5	---	---	N.D.	---	N.D.
Octabromobiphenyl	ppm		5	---	---	N.D.	---	N.D.
Nonabromobiphenyl	ppm		5	---	---	N.D.	---	N.D.
Decabromobiphenyl	ppm		5	---	---	N.D.	---	N.D.
Total PBBs	ppm		-	---	---	N.D.	---	N.D.
Monobromobiphenyl ether	ppm	With reference to USEPA3540C, Analysis was performed by GC/MS and screening via USEPA 3550C with HPLC/DAD/MS	5	---	---	N.D.	---	N.D.
Dibromobiphenyl ether	ppm		5	---	---	N.D.	---	N.D.
Tribromobiphenyl ether	ppm		5	---	---	N.D.	---	N.D.
Tetrabromobiphenyl ether	ppm		5	---	---	N.D.	---	N.D.
Pentabromobiphenyl ether	ppm		5	---	---	N.D.	---	N.D.
Hexabromobiphenyl ether	ppm		5	---	---	N.D.	---	N.D.
Heptabromobiphenyl ether	ppm		5	---	---	N.D.	---	N.D.
Octabromobiphenyl ether	ppm		5	---	---	N.D.	---	N.D.
Nonabromobiphenyl ether	ppm		5	---	---	N.D.	---	N.D.
Decabromobiphenyl ether	ppm		5	---	---	N.D.	---	N.D.
Total PBBEs(PBDEs)	ppm		-	---	---	N.D.	---	N.D.
Total of Mono to Nona(Note 4)	ppm		-	---	---	N.D.	---	N.D.

Test Item(s):	Unit	Method	MDL	Result				
				NO.1	NO.2	NO.3	NO.4	NO.5
Hexavalent Chromium (CrVI)	ppm	With reference to US EPA Method 3060A & 7196A for Hexavalent Chromium. Analysis was performed by UVM/Vis Spectrometry.	2	N.D.	N.D.	N.D.	---	N.D.
Cadmium (Cd)	ppm	With reference to BS EN 1122:2001, Method B for Cadmium Content. Analysis was performed by ICP-AES.	2	N.D.	N.D.	N.D.	---	N.D.
Mercury (Hg)	ppm	With reference to US EPA Method 3052 for Mercury Content. Analysis was performed by ICP-AES.	2	N.D.	N.D.	N.D.	---	N.D.
Lead (Pb)	ppm	With reference to US EPA Method 3050B for Lead Content. Analysis was performed by ICP-AES.	2	N.D.	89.6	---	N.D.	N.D.

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Test Item(s):	Unit	Method	MDL	Result				
				NO.6	NO.7	NO.8	NO.9	NO.10
Monobromobiphenyl	ppm	With reference to USEPA3540C, Analysis was performed by GC/MS and screening via USEPA 3550C with HPLC/DAD/MS	5	N.D.	N.D.	N.D.	N.D.	---
Dibromobiphenyl	ppm		5	N.D.	N.D.	N.D.	N.D.	---
Tribromobiphenyl	ppm		5	N.D.	N.D.	N.D.	N.D.	---
Tetrabromobiphenyl	ppm		5	N.D.	N.D.	N.D.	N.D.	---
Pentabromobiphenyl	ppm		5	N.D.	N.D.	N.D.	N.D.	---
Hexabromobiphenyl	ppm		5	N.D.	N.D.	N.D.	N.D.	---
Heptabromobiphenyl	ppm		5	N.D.	N.D.	N.D.	N.D.	---
Octabromobiphenyl	ppm		5	N.D.	N.D.	N.D.	N.D.	---
Nonabromobiphenyl	ppm		5	N.D.	N.D.	N.D.	N.D.	---
Decabromobiphenyl	ppm		5	N.D.	N.D.	N.D.	N.D.	---
Total PBBs	ppm		5	N.D.	N.D.	N.D.	N.D.	---
Monobromobiphenyl ether	ppm	With reference to USEPA3540C, Analysis was performed by GC/MS and screening via USEPA 3550C with HPLC/DAD/MS	-	N.D.	N.D.	N.D.	N.D.	---
Dibromobiphenyl ether	ppm		5	N.D.	N.D.	N.D.	N.D.	---
Tribromobiphenyl ether	ppm		5	N.D.	N.D.	N.D.	N.D.	---
Tetrabromobiphenyl ether	ppm		5	N.D.	N.D.	N.D.	N.D.	---
Pentabromobiphenyl ether	ppm		5	N.D.	N.D.	N.D.	N.D.	---
Hexabromobiphenyl ether	ppm		5	N.D.	N.D.	N.D.	N.D.	---
Heptabromobiphenyl ether	ppm		5	N.D.	N.D.	N.D.	N.D.	---
Octabromobiphenyl ether	ppm		5	N.D.	N.D.	N.D.	N.D.	---
Nonabromobiphenyl ether	ppm		5	N.D.	N.D.	N.D.	N.D.	---
Decabromobiphenyl ether	ppm		5	N.D.	N.D.	N.D.	N.D.	---
Total PBBEs(PBDEs)	ppm		-	N.D.	N.D.	N.D.	N.D.	---
Total of Mono to Nona(Note 4)	ppm		-	N.D.	N.D.	N.D.	N.D.	---
Test Item(s):	Unit	Method	MDL	Result				
				NO.6	NO.7	NO.8	NO.9	NO.10
Hexavalent Chromium (CrVI)	ppm	With reference to US EPA Method 3060A & 7196A for Hexavalent Chromium. Analysis was performed by UV/Vis Spectrometry.	2	N.D.	N.D.	N.D.	N.D.	N.D.
Cadmium (Cd)	ppm	With reference to BS EN 1122:2001, Method B for Cadmium Content. Analysis was performed by ICP-AES.	2	N.D.	N.D.	N.D.	N.D.	N.D.
Mercury (Hg)	ppm	With reference to US EPA Method 3052 for Mercury Content. Analysis was performed by ICP-AES.	2	N.D.	N.D.	N.D.	N.D.	N.D.
Lead (Pb)	ppm	With reference to US EPA Method 3050B for Lead Content. Analysis was performed by ICP-AES.	2	71.6	N.D.	11.0	---	24.8

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Test Item(s):	Unit	Method	MDL	Result				
				NO.11	NO.12	NO.13	NO.14	NO.15
Monobromobiphenyl	ppm	With reference to USEPA3540C, Analysis was performed by GC/MS and screening via USEPA 3550C with HPLC/DAD/MS	5	---	N.D.	N.D.	N.D.	N.D.
Dibromobiphenyl	ppm		5	---	N.D.	N.D.	N.D.	N.D.
Tribromobiphenyl	ppm		5	---	N.D.	N.D.	N.D.	N.D.
Tetrabromobiphenyl	ppm		5	---	N.D.	N.D.	N.D.	N.D.
Pentabromobiphenyl	ppm		5	---	N.D.	N.D.	N.D.	N.D.
Hexabromobiphenyl	ppm		5	---	N.D.	N.D.	N.D.	N.D.
Heptabromobiphenyl	ppm		5	---	N.D.	N.D.	N.D.	N.D.
Octabromobiphenyl	ppm		5	---	N.D.	N.D.	N.D.	N.D.
Nonabromobiphenyl	ppm		5	---	N.D.	N.D.	N.D.	N.D.
Decabromobiphenyl	ppm		5	---	N.D.	N.D.	N.D.	N.D.
Total PBBs	ppm		-	---	N.D.	N.D.	N.D.	N.D.
Monobromobiphenyl ether	ppm	With reference to USEPA3540C, Analysis was performed by GC/MS and screening via USEPA 3550C with HPLC/DAD/MS	5	---	N.D.	N.D.	N.D.	N.D.
Dibromobiphenyl ether	ppm		5	---	N.D.	N.D.	N.D.	N.D.
Tribromobiphenyl ether	ppm		5	---	N.D.	N.D.	N.D.	N.D.
Tetrabromobiphenyl ether	ppm		5	---	N.D.	N.D.	N.D.	N.D.
Pentabromobiphenyl ether	ppm		5	---	N.D.	N.D.	N.D.	N.D.
Hexabromobiphenyl ether	ppm		5	---	N.D.	N.D.	N.D.	N.D.
Heptabromobiphenyl ether	ppm		5	---	N.D.	N.D.	N.D.	N.D.
Octabromobiphenyl ether	ppm		5	---	N.D.	N.D.	N.D.	N.D.
Nonabromobiphenyl ether	ppm		5	---	N.D.	N.D.	N.D.	N.D.
Decabromobiphenyl ether	ppm		5	---	N.D.	N.D.	N.D.	N.D.
Total PBBEs(PBDEs)	ppm		-	---	N.D.	N.D.	N.D.	N.D.
Total of Mono to Nona(Note 4)	ppm		-	---	N.D.	N.D.	N.D.	N.D.

Test Item(s):	Unit	Method	MDL	Result				
				NO.11	NO.12	NO.13	NO.14	NO.15
Hexavalent Chromium (CrVI)	ppm	With reference to US EPA Method 3060A & 7196A for Hexavalent Chromium. Analysis was performed by UVMis Spectrometry.	2	---	N.D.	N.D.	N.D.	N.D.
Cadmium (Cd)	ppm	With reference to BS EN 1122:2001, Method B for Cadmium Content. Analysis was performed by ICP-AES.	2	---	N.D.	N.D.	N.D.	N.D.
Mercury (Hg)	ppm	With reference to US EPA Method 3052 for Mercury Content. Analysis was performed by ICP-AES.	2	---	N.D.	N.D.	N.D.	N.D.
Lead (Pb)	ppm	With reference to US EPA Method 3050B for Lead Content. Analysis was performed by ICP-AES.	2	26.4	N.D.	N.D.	254.0	N.D.

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Test Item(s):	Unit	Method	MDL	Result				
				NO.16	NO.17	NO.18	NO.19	NO.20
Monobromobiphenyl	ppm	With reference to USEPA3540C, Analysis was performed by GC/MS and screening via USEPA 3550C with HPLC/DAD/MS	5	---	N.D.	N.D.	N.D.	N.D.
Dibromobiphenyl	ppm		5	---	N.D.	N.D.	N.D.	N.D.
Tribromobiphenyl	ppm		5	---	N.D.	N.D.	N.D.	N.D.
Tetrabromobiphenyl	ppm		5	---	N.D.	N.D.	N.D.	N.D.
Pentabromobiphenyl	ppm		5	---	N.D.	N.D.	N.D.	N.D.
Hexabromobiphenyl	ppm		5	---	N.D.	N.D.	N.D.	N.D.
Heptabromobiphenyl	ppm		5	---	N.D.	N.D.	N.D.	N.D.
Octabromobiphenyl	ppm		5	---	N.D.	N.D.	N.D.	N.D.
Nonabromobiphenyl	ppm		5	---	N.D.	N.D.	N.D.	N.D.
Decabromobiphenyl	ppm		5	---	N.D.	N.D.	N.D.	N.D.
Total PBBs	ppm		-	---	N.D.	N.D.	N.D.	N.D.
Monobromobiphenyl ether	ppm	With reference to USEPA3540C, Analysis was performed by GC/MS and screening via USEPA 3550C with HPLC/DAD/MS	5	---	N.D.	N.D.	N.D.	N.D.
Dibromobiphenyl ether	ppm		5	---	N.D.	N.D.	N.D.	N.D.
Tribromobiphenyl ether	ppm		5	---	N.D.	N.D.	N.D.	N.D.
Tetrabromobiphenyl ether	ppm		5	---	N.D.	N.D.	N.D.	N.D.
Pentabromobiphenyl ether	ppm		5	---	N.D.	N.D.	N.D.	N.D.
Hexabromobiphenyl ether	ppm		5	---	N.D.	N.D.	N.D.	N.D.
Heptabromobiphenyl ether	ppm		5	---	N.D.	N.D.	N.D.	N.D.
Octabromobiphenyl ether	ppm		5	---	N.D.	N.D.	N.D.	N.D.
Nonabromobiphenyl ether	ppm		5	---	N.D.	N.D.	N.D.	N.D.
Decabromobiphenyl ether	ppm		5	---	N.D.	N.D.	N.D.	N.D.
Total PBBEs(PBDEs)	ppm		-	---	N.D.	N.D.	N.D.	N.D.
Total of Mono to Nona(Note 4)	ppm		-	---	N.D.	N.D.	N.D.	N.D.

Test Item(s):	Unit	Method	MDL	Result				
				NO.16	NO.17	NO.18	NO.19	NO.20
Hexavalent Chromium (CrVI)	ppm	With reference to US EPA Method 3060A & 7196A for Hexavalent Chromium. Analysis was performed by UV/Vis Spectrometry.	2	---	N.D.	N.D.	N.D.	N.D.
Cadmium (Cd)	ppm	With reference to BS EN 1122:2001, Method B for Cadmium Content. Analysis was performed by ICP-AES.	2	---	N.D.	N.D.	N.D.	N.D.
Mercury (Hg)	ppm	With reference to US EPA Method 3052 for Mercury Content. Analysis was performed by ICP-AES.	2	---	N.D.	N.D.	N.D.	N.D.
Lead (Pb)	ppm	With reference to US EPA Method 3050B for Lead Content. Analysis was performed by ICP-AES.	2	---	N.D.	N.D.	21.5	N.D.
Hexavalent Chromium (CrVI)	**	With reference to IEC 62321, Ed.1 111/54/CDV. Analysis was performed by UV-VIS	0.02mg/kg with 50 cm ² surface area	Negative	---	---	---	---

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Test Item(s):	Unit	Method	MDL	Result				
				NO.21	NO.22	NO.23	NO.24	NO.25
Monobromobiphenyl	ppm	With reference to USEPA3540C, Analysis was performed by GC/MS and screening via USEPA 3550C with HPLC/DAD/MS	5	N.D.	N.D.	N.D.	N.D.	N.D.
Dibromobiphenyl	ppm		5	N.D.	N.D.	N.D.	N.D.	N.D.
Tribromobiphenyl	ppm		5	N.D.	N.D.	N.D.	N.D.	N.D.
Tetrabromobiphenyl	ppm		5	N.D.	N.D.	N.D.	N.D.	N.D.
Pentabromobiphenyl	ppm		5	N.D.	N.D.	N.D.	N.D.	N.D.
Hexabromobiphenyl	ppm		5	N.D.	N.D.	N.D.	N.D.	N.D.
Heptabromobiphenyl	ppm		5	N.D.	N.D.	N.D.	N.D.	N.D.
Octabromobiphenyl	ppm		5	N.D.	N.D.	N.D.	N.D.	N.D.
Nonabromobiphenyl	ppm		5	N.D.	N.D.	N.D.	N.D.	N.D.
Decabromobiphenyl	ppm		5	N.D.	N.D.	N.D.	N.D.	N.D.
Total PBBs	ppm		-	N.D.	N.D.	N.D.	N.D.	N.D.
Monobromobiphenyl ether	ppm	With reference to USEPA3540C, Analysis was performed by GC/MS and screening via USEPA 3550C with HPLC/DAD/MS	5	N.D.	N.D.	N.D.	N.D.	N.D.
Dibromobiphenyl ether	ppm		5	N.D.	N.D.	N.D.	N.D.	N.D.
Tribromobiphenyl ether	ppm		5	N.D.	N.D.	N.D.	N.D.	N.D.
Tetrabromobiphenyl ether	ppm		5	N.D.	N.D.	N.D.	N.D.	N.D.
Pentabromobiphenyl ether	ppm		5	N.D.	N.D.	N.D.	N.D.	N.D.
Hexabromobiphenyl ether	ppm		5	N.D.	N.D.	N.D.	N.D.	N.D.
Heptabromobiphenyl ether	ppm		5	N.D.	N.D.	N.D.	N.D.	N.D.
Octabromobiphenyl ether	ppm		5	N.D.	N.D.	N.D.	N.D.	N.D.
Nonabromobiphenyl ether	ppm		5	N.D.	N.D.	N.D.	N.D.	N.D.
Decabromobiphenyl ether	ppm		5	N.D.	N.D.	N.D.	N.D.	N.D.
Total PBBEs(PBDEs)	ppm		-	N.D.	N.D.	N.D.	N.D.	N.D.
Total of Mono to Nona(Note 4)	ppm		-	N.D.	N.D.	N.D.	N.D.	N.D.

Test Item(s):	Unit	Method	MDL	Result				
				NO.21	NO.22	NO.23	NO.24	NO.25
Hexavalent Chromium (CrVI)	ppm	With reference to US EPA Method 3060A & 7196A for Hexavalent Chromium. Analysis was performed by UV/Vis Spectrometry.	2	N.D.	N.D.	N.D.	N.D.	N.D.
Cadmium (Cd)	ppm	With reference to BS EN 1122:2001, Method B for Cadmium Content. Analysis was performed by ICP-AES.	2	N.D.	N.D.	N.D.	N.D.	N.D.
Mercury (Hg)	ppm	With reference to US EPA Method 3052 for Mercury Content. Analysis was performed by ICP-AES.	2	N.D.	N.D.	N.D.	N.D.	N.D.
Lead (Pb)	ppm	With reference to US EPA Method 3050B for Lead Content. Analysis was performed by ICP-AES.	2	N.D.	N.D.	37.0	N.D.	17.6

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Test Item(s):	Unit	Method	MDL	Result				
				NO.26	NO.27	NO.28	NO.29	NO.30
Monobromobiphenyl	ppm	With reference to USEPA3540C, Analysis was performed by GC/MS and screening via USEPA 3550C with HPLC/DAD/MS	5	N.D.	N.D.	---	N.D.	N.D.
Dibromobiphenyl	ppm		5	N.D.	N.D.	---	N.D.	N.D.
Tribromobiphenyl	ppm		5	N.D.	N.D.	---	N.D.	N.D.
Tetrabromobiphenyl	ppm		5	N.D.	N.D.	---	N.D.	N.D.
Pentabromobiphenyl	ppm		5	N.D.	N.D.	---	N.D.	N.D.
Hexabromobiphenyl	ppm		5	N.D.	N.D.	---	N.D.	N.D.
Heptabromobiphenyl	ppm		5	N.D.	N.D.	---	N.D.	N.D.
Octabromobiphenyl	ppm		5	N.D.	N.D.	---	N.D.	N.D.
Nonabromobiphenyl	ppm		5	N.D.	N.D.	---	N.D.	N.D.
Decabromobiphenyl	ppm		5	N.D.	N.D.	---	N.D.	N.D.
Total PBBs	ppm		-	N.D.	N.D.	---	N.D.	N.D.
Monobromobiphenyl ether	ppm	With reference to USEPA3540C, Analysis was performed by GC/MS and screening via USEPA 3550C with HPLC/DAD/MS	5	N.D.	N.D.	---	N.D.	N.D.
Dibromobiphenyl ether	ppm		5	N.D.	N.D.	---	N.D.	N.D.
Tribromobiphenyl ether	ppm		5	N.D.	N.D.	---	N.D.	N.D.
Tetrabromobiphenyl ether	ppm		5	N.D.	N.D.	---	N.D.	N.D.
Pentabromobiphenyl ether	ppm		5	N.D.	N.D.	---	N.D.	N.D.
Hexabromobiphenyl ether	ppm		5	N.D.	N.D.	---	N.D.	N.D.
Heptabromobiphenyl ether	ppm		5	N.D.	N.D.	---	N.D.	N.D.
Octabromobiphenyl ether	ppm		5	N.D.	N.D.	---	N.D.	N.D.
Nonabromobiphenyl ether	ppm		5	N.D.	N.D.	---	N.D.	N.D.
Decabromobiphenyl ether	ppm		5	N.D.	N.D.	---	N.D.	N.D.
Total PBBEs(PBDEs)	ppm		-	N.D.	N.D.	---	N.D.	N.D.
Total of Mono to Nona(Note 4)	ppm		-	N.D.	N.D.	---	N.D.	N.D.

Test Item(s):	Unit	Method	MDL	Result				
				NO.26	NO.27	NO.28	NO.29	NO.30
Hexavalent Chromium (CrVI)	ppm	With reference to US EPA Method 3060A & 7196A for Hexavalent Chromium. Analysis was performed by UV/Vis Spectrometry.	2	N.D.	N.D.	N.D.	---	N.D.
Cadmium (Cd)	ppm	With reference to BS EN 1122:2001, Method B for Cadmium Content. Analysis was performed by ICP-AES.	2	N.D.	N.D.	49.0	N.D.	N.D.
Mercury (Hg)	ppm	With reference to US EPA Method 3052 for Mercury Content. Analysis was performed by ICP-AES.	2	N.D.	N.D.	N.D.	N.D.	N.D.
Lead (Pb)	ppm	With reference to US EPA Method 3050B for Lead Content. Analysis was performed by ICP-AES.	2	N.D.	N.D.	---	N.D.	N.D.



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Test Item(s):	Unit	Method	MDL	Result				
				NO.26	NO.27	NO.28	NO.29	NO.30
Lead (Pb)	ppm	With reference to US EPA Method 3052 for Lead Content. Analysis was performed by ICP-AES.	2	---	---	36780.0	---	---
Hexavalent Chromium (CrVI)	ppm	With reference to IEC 62321, Ed.1 111/54/CDV. Analysis was performed by UV-VIS	2	---	---	---	N.D.	---

Note : 1. mg/kg = ppm

2. n.d. = Not Detected

3. MDL = Method Detection Limit

4. Sum of Mono to NonaBDE & according to 2005/717/EC DecaBDE is exempt.

5. Spot-test:

Negative = Absence of CrVI coating, Positive = Presence of CrVI coating;

(The tested sample should be further verified by boiling-water-extraction method if the spot test result cannot be confirmed.)

Boiling-water-extraction:

Negative = Absence of CrVI coating

Positive = Presence of CrVI coating; the detected concentration in boiling-water-extraction solution is equal or greater than 0.02 mg/kg with 50 cm² sample surface area.

6. "—" = Not Conducted

7. "- " = Not Regulated

8. ** = Qualitative analysis (No Unit)

** End of Report **



測試報告

號碼：CE/2006/65858B

日期：2007/04/19

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康捷電子有限公司 / CORTEC TECHNOLOGY INC.

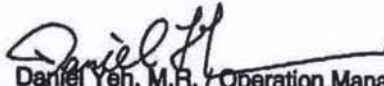
4F. NO. 815, CHUNG HSAIO EAST RD., SEC. 5, TAIPEI, TAIWAN,
R. O. C.

XIANXI INDUSTRIAL, SHATOU ADMINISTRATION ZONE, CHANGAN
TOWN, DONGGUAN GUANGDONG PROVINCE, CHINA

以下測試樣品係由客戶送樣，且由客戶聲稱並經客戶確認如下(The following sample(s) was/were submitted and identified by/on behalf of the client as):

樣品名稱(Sample Description) : ANTENNA
樣品型號(Style/Item No.) : EM SERIES ; IM SERIES ; NB SERIES ; AN SERIES
收件日期(Sample Receiving Date) : 2006/06/19
測試期間(Testing Period) : 2006/06/19 TO 2006/06/23

=====
測試需求 / Test Requested : 參照 RoHS 2002/95/EC 及其修定指令要求。 / In accordance with the
RoHS Directive 2002/95/EC, and its amendment directives.
測試方法 / Test Method : (1) 參考BS EN 1122方法B:2001, 用感應耦合電漿原子發射光譜儀檢測鎘含
量。 / With reference to BS EN 1122:2001, Method B for Cadmium
Content. Analysis was performed by ICP-AES.
(2) 參考US EPA 3050B方法, 用感應耦合電漿原子發射光譜儀檢測鉛含量。
/ With reference to US EPA Method 3050B for Lead Content.
Analysis was performed by ICP-AES.
(3) 參考US EPA 3052方法, 用感應耦合電漿原子發射光譜儀檢測汞含量。 /
With reference to US EPA Method 3052 for Mercury Content.
Analysis was performed by ICP-AES.
(4) 針對非金屬材質之樣品, 參考US EPA 3060A方法, 用UV-VIS (US EPA
7196A)檢測六價鉻含量。 / With reference to US EPA Method 3060A &
7196A for Hexavalent Chromium for non-metallic samples.
Analysis was performed by UV/Vis Spectrometry.
(5) 參考US EPA 3060A方法, 用UV-VIS (US EPA 7196A)檢測六價鉻含量。 /
With reference to US EPA Method 3060A & 7196A for Hexavalent
Chromium. Analysis was performed by UV/Vis Spectrometry.
(6) 參考US EPA 3540C方法, 以氣相層析儀/質譜儀檢測多溴聯苯和多溴聯苯
醚含量。 / With reference to US EPA 3540C for PBBs/PBDEs
Content. Analysis was performed by GC/MS.
測試結果 / Test Result(s) : 請見下一頁。


Daniel Yeh, M.R. / Operation Manager
Signed for and on behalf of
SGS TAIWAN LTD.

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