

產 品 規 格 承 認 書

Specification For Approval

日 期 : 2005 / 12 / 16

Date

編 號 : STA - 0980

File No.

承 認 廠 商 : 突 破 科 技 股 份 有 限 公 司

Customer

製 造 廠 商 : 英 碩 企 業 股 份 有 限 公 司

Manufacturer

型 號 品 名 : 2.4 / 5.0GHz External Antenna

Part Number

Description

INVAX P/N : AN2450-6401RS

廠 商 審 核 :

Approved By

Invax

英 碩 企 業 股 份 有 限 公 司
台 北 市 忠 孝 東 路 五 段 815 號 4 樓
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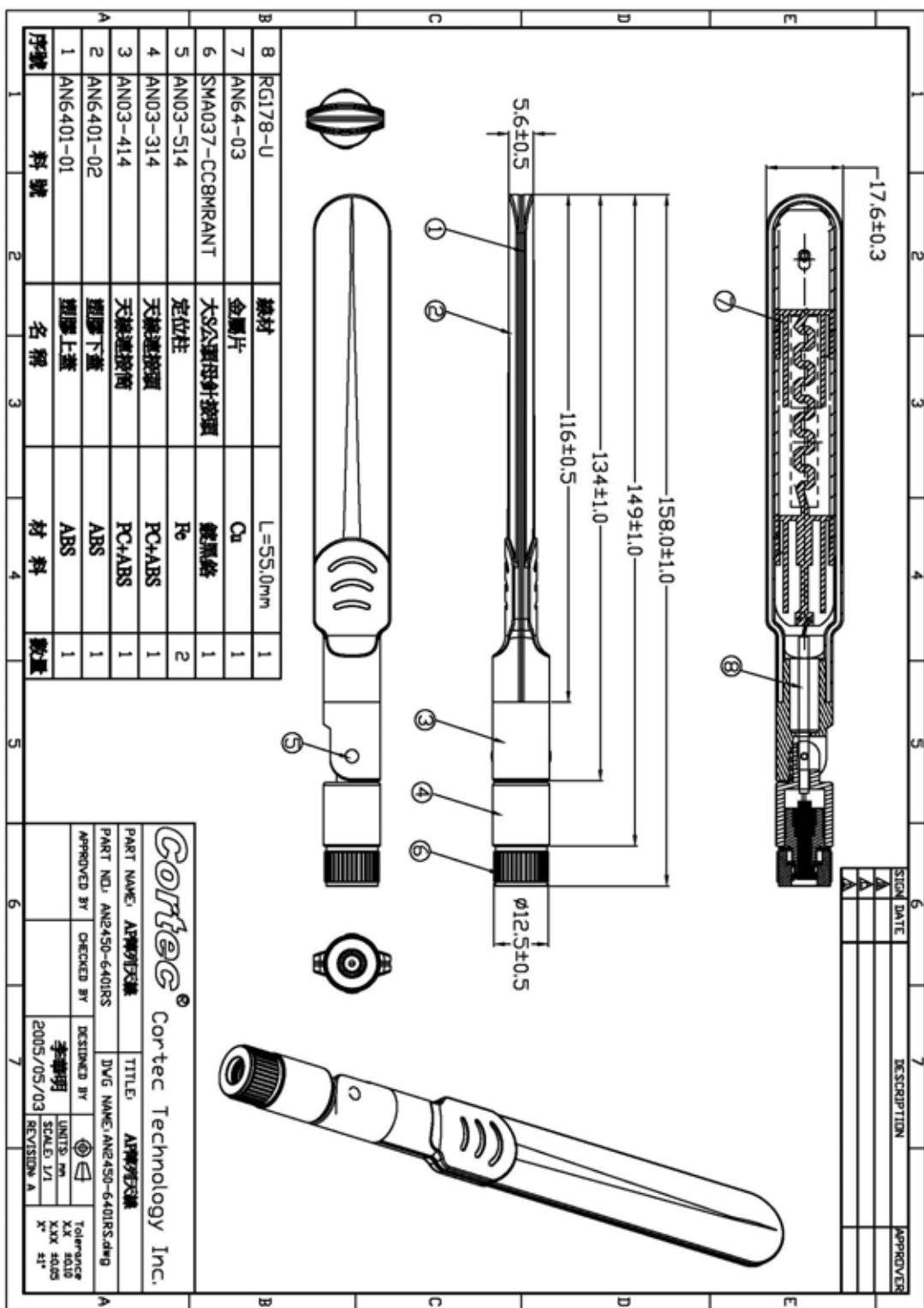
Cortec

東 莞 康 捷 電 子 有 限 公 司
廣 東 省 東 莞 市 長 安 鎮 振 安 路
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1. Mechanical Dimension Drawing



2. Feature and Application

- . dual band dipole antenna design
- . small size / high gain / omni-directional radiation pattern
- . IEEE 802.11 a / b / g WLAN AP (Access Point) application
- . Bluetooth / HomeRF / ISM Band and other 2.4~2.5 or 4.9~ 5.9 GHz wireless communication application

3. Technical Specification

| A. Electrical Characteristics | |
|--------------------------------------|--|
| Working Frequency Range | 2400 ~ 2500 MHz 4900 ~ 5900 MHz |
| S.W.R. | 2400 ~ 2500 MHz: < 2.0 4900 ~ 5900 MHz: < 3.0 |
| Antenna Gain | 4 dBi |
| Antenna Radiation Pattern | Omni-directional |
| Impedance | 50 Ohm |
| Connector | 50 Ohm AN2450-6401RS: SMA Male Reverse |
| B. Mechanical Dimension | |
| Total Length | AN2450-6401RS: 158 mm |
| C. Material | |
| Color | AN2450-6401RS: Black |
| Material of Hinged Cover | PC+ABS (Color: Black) |
| Material of Hinged Casing | PC+ABS (Color: Black) |
| Material of Plastic Base | ABS(Color: Black) |
| Material of Plastic Cap | ABS (Color: Black) |
| Material of Connector | Copper (CT3604), Cr plated |
| Material of Sheet Metal | Copper |
| D. Environmental | |

Product Number: AN2450-6401RS

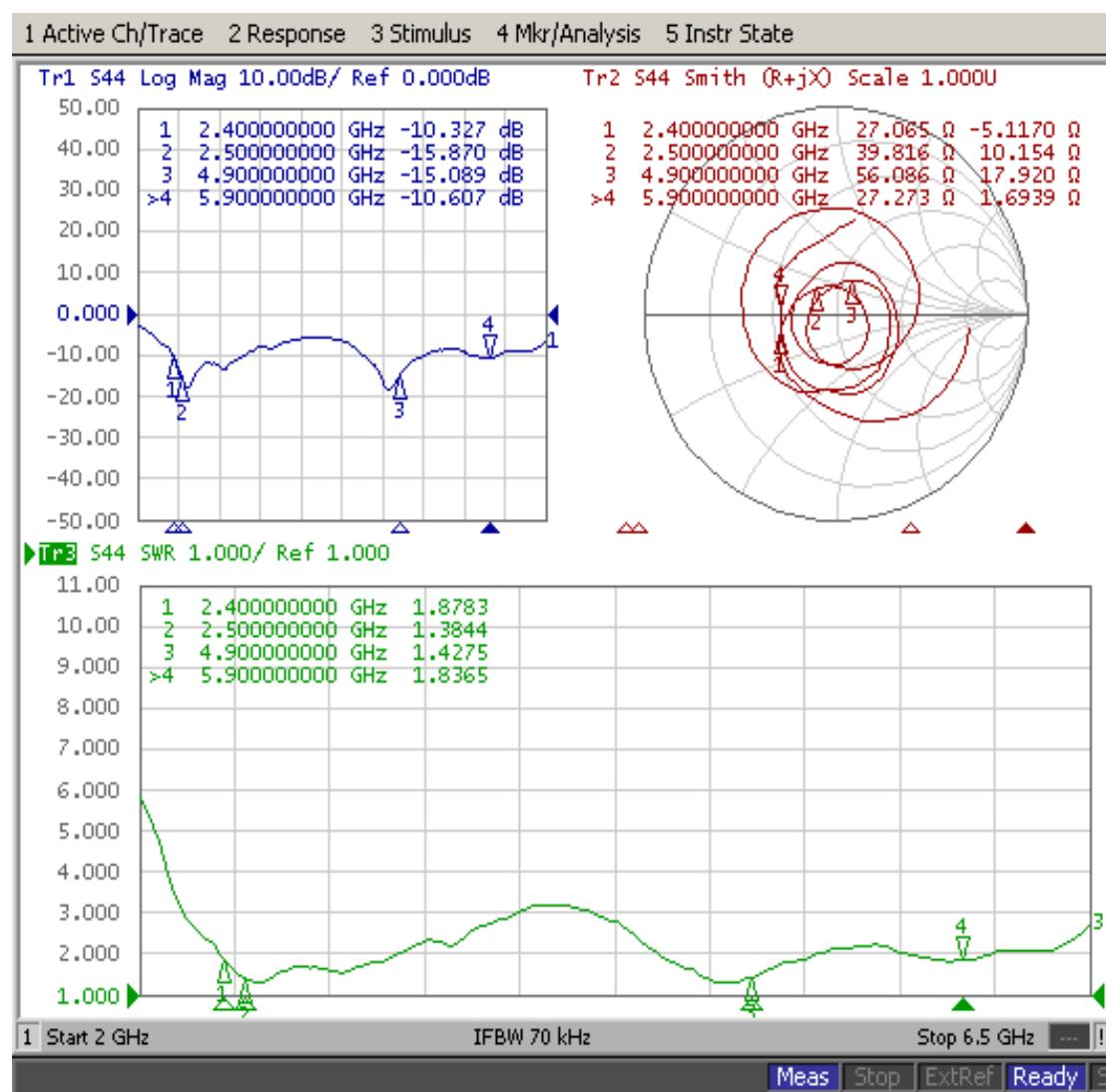
Product Name: 2.4 / 5.0 GHz External Antenna



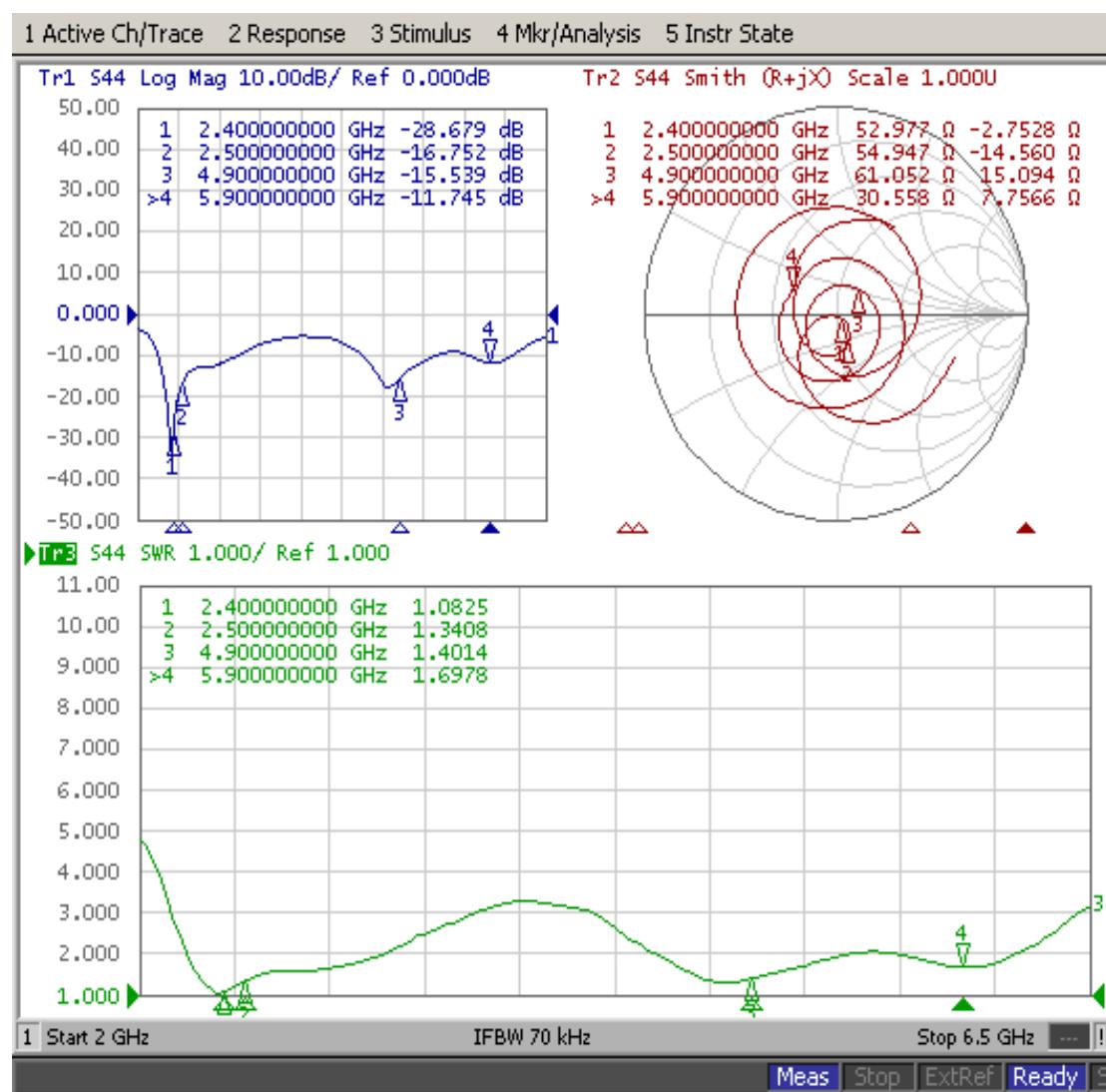
| | |
|------------------------------|------------------|
| Operation Temperature | - 30°C ~ + 85 °C |
| Storage Temperature | - 30°C ~ + 85°C |

4. S11 Return Loss / S.W.R. / Impedance Testing Result

Antenna @ 180 degree



Antenna @ 90 degree



5. Antenna Radiation Pattern

Testing Equipment Specification:

Antenna Anechoic Chamber Dimension: 8 x 4 x 4 m

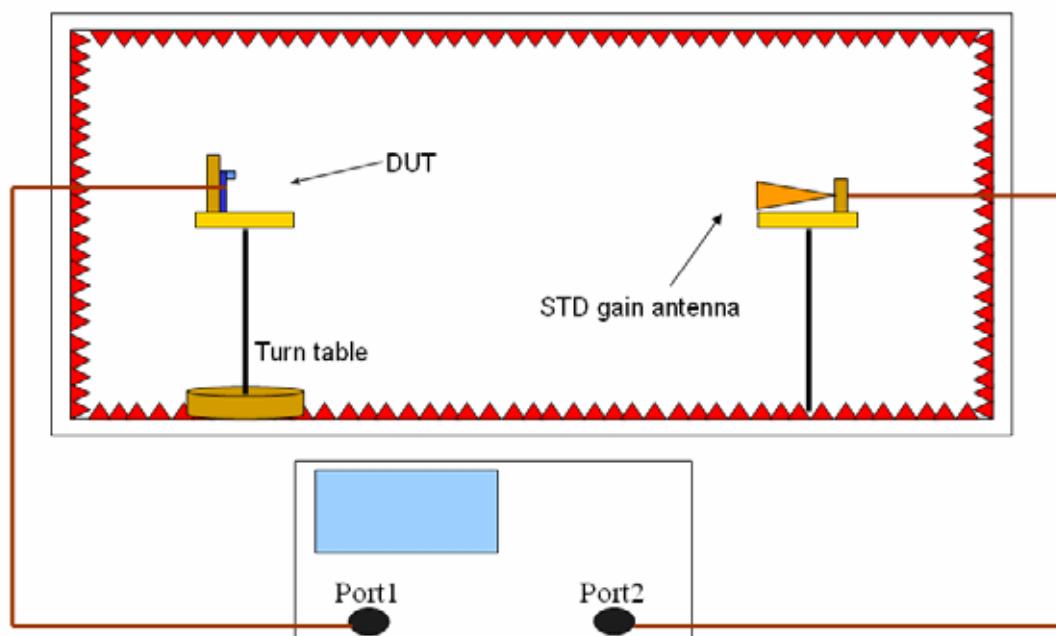
Quite Zone: 600mm @1 GHz

Isolation: >100dB @ 1 MHz ~ 10 GHz

Testing Equipment: Agilent 8720D

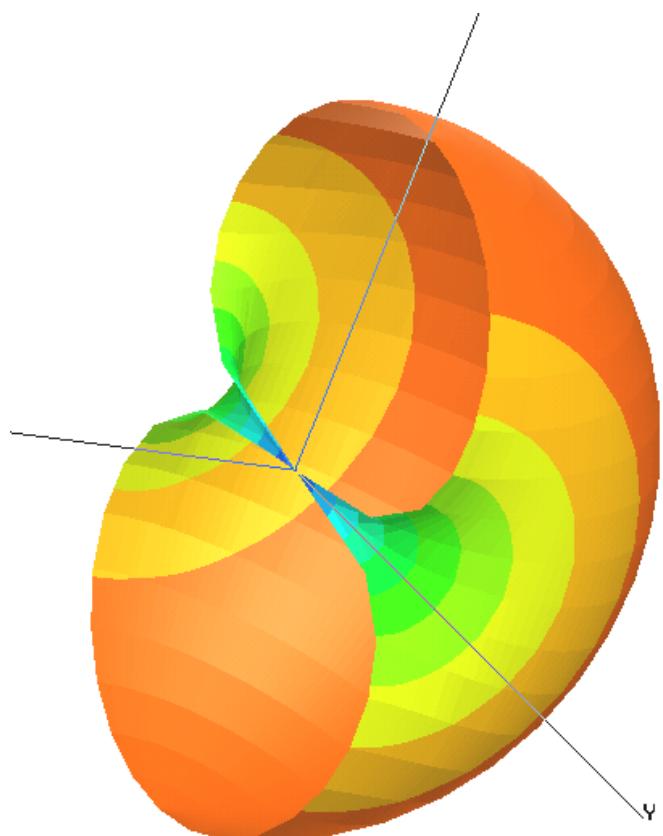
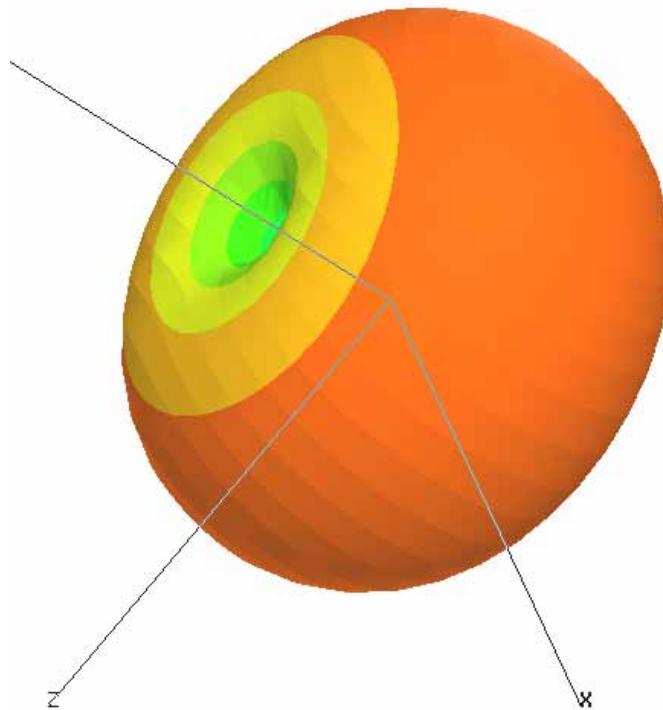
Received Antenna: 0.7~6.0 GHz for Gain Calibration

Double Ridged Horn Antenna



Product Number: AN2450-6401RS
Product Name: 2.4 / 5.0 GHz External Antenna

Cortec®



Product Number: AN2450-6401RS
Product Name: 2.4 / 5.0 GHz External Antenna



6. Plastic Parts Material 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

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 |
| | | 抗張強度-降伏點 (Tensile Strength at Yield) 抗張強度-斷裂點 (Tensile Strength at Break) | D638 | 400 340 | 410 360 | 380 310 | 400 340 | 430 340 | 460 360 | 480 380 |
| | | 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 |

7. Metal Parts Material Datasheet

Copper Datasheet

| 合金編號 Copper Alloy CN & JIS No. | 化學成分 Composition (%) | | | | | | | | | |
|---|----------------------|----------------------------------|---|---------------------------|-----------|---------|---------|---------|--------|-------------------------------------|
| | 銅 Cu | 鉛 Pb | 鐵 Fe | 錫 Sn | 鋅 Zn | 鋁 Al | 錳 Mn | 鎳 Ni | 磷 P | 銅+鋁+鐵 +錳+鎳 Cu+Al+Fe +Mn+Ni |
| C3501 | 60.0~64.0 | 0.7~1.7 | 0.2 以下 0.2max | Fe+Sn 0.4 以下 0.4max | 殘余 Rem | | | | | |
| C3601 | 59.0~63.0 | 1.8~3.7 | 0.3 以下 0.3max | Fe+Sn 0.5 以下 0.5max | 殘余 Rem | | | | | |
| C3602 | 59.0~63.0 | 1.8~3.7 | 0.5 以下 0.5max | Fe+Sn 1.2 以下 1.2max | 殘余 Rem | | | | | |
| C3603 | 57.0~61.0 | 1.8~3.7 | 0.35 以下 0.35max | Fe+Sn 0.6 以下 0.6max | 殘余 Rem | | | | | |
| C3604 | 57.0~61.0 | 1.8~3.7 | 0.5 以下 0.5max | Fe+Sn 1.2 以下 1.2max | 殘余 Rem | | | | | |
| C3605 | 57.0~60.0 | 3.5~4.5 | 0.5 以下 0.5max | Fe+Sn 1.2 以下 1.2max | 殘余 Rem | | | | | |
| C3712 | 58.0~62.0 | 0.26~1.2 | Fe+Sn 0.8 以下 0.8max | | 殘余 Rem | | | | | |
| C3771 | 57.0~61.0 | 1.0~2.5 | Fe+Sn 1.0 以下 1.0max | | 殘余 Rem | | | | | |
| 合金種類 Alloy CN & JIS No. | 符號 Symbol | 別類 Name | 特性用途 Specialty and Utilities | | | | | | | |
| C3501 | 線(B) | Nipple 用黃銅 Nipple Using Brass | 切削性、冷間鍛造性良好 機車、腳踏車、腳踏車用接頭螺帽 Excellent Cold Forging and Good Machine-ability Use Motorcycle and Bicycle Join Nut... | | | | | | | |
| C3601 | (B) | 快削黃銅 Free Cutting Brass | 切削性良好，C3601,C3602 延展性也良好，電腦、電子、釣具、筆、 燈飾、螺絲、小螺帽、齒輪、凡而、照相機各種五金零件 Excellent Machine-ability and C3601, C3602 Good Excellent to Use Computer, Electronic, Clock, Pen, Light and Fishing, Nut, Gear, Valve Camera Parts, Hardware Parts... | | | | | | | |
| C3602 | (A) | | | | | | | | | |
| C3603 | (B) | | | | | | | | | |
| C3604 | (A) | | | | | | | | | |
| C3605 | (B) | | | | | | | | | |
| C3712 | (A) | | 熱間性良好，精密鍛造亦適合機械零組件。 熱間鍛造性和切削性均佳，凡而，表殼，機械零件等 Excellent Hot Forging Uses Precision Forging, Machine Parts, Excellent Hot Forging and Good Machine-ability . Using Value, Watch, Machine Parts... | | | | | | | |
| C3771 | (B) | | | | | | | | | |

8. Coaxial Cable Datasheet

| RG-178 Coaxial Cable Specification | | |
|---|--------------------------|----------------------|
| 1. Cable Type | MIL – C – 17 / RG-178 | |
| 2. Impedance | 50 ± 3 ohm | |
| 3. Inner Conductor | Material | silver-coated cooper |
| | Conductor Numbers | 7 |
| | Conductor Size | 0.102 mm |
| | Outer Diameter | 0.3 mm |
| 4. Dielectric Layer | Material | FEP |
| | Color | Clear |
| | Average Thickness | 0.28 mm |
| | Diameter | 0.86 mm |
| 5. Braid (Shielding) | Material | silver-coated cooper |
| | Construction | 16-3-0.1 mm |
| | Coverage | 95 % |
| 6. Outer Cover | Material | FEP |
| | Color | Brown |
| | Average Thickness | 0.25 mm |
| | Diameter | 1.80 ± 0.05 mm |
| 7. V.S.W.R Testing (DC ~ 6GHz) | < 1.3 | |
| 8. Attenuation (dB / 100 meter) | 100 MHz | 46 |
| | 900 MHz | 155 |
| | 1800 MHz | 295 |
| | 2400 MHz | 340 |
| | 5200 MHz | 505 |
| | 6000 MHz | 550 |
| 9. Capacitance | 97 ± 3 (pF / meter) | |
| 10. Maximum Power | 30 dBm | |
| 11. Spark Test | 2.0 KV | |
| 12. Rating Temp. and Voltage | 200°C / 30V | |
| 13. Conductor Resistance | 335 ohm / KM / 20°C max. | |
| 14. Dielectric Resistance | 3 G ohm / KM / 20°C min. | |

9. 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); 120 cycles | After 2 hours recovery: 1. no visible damage 2. bandwidth tolerance < ±5% |
| 3. Damp Heat | 500 hours at 60°C; 90 ~ 95% RH | After 2 hours recovery: 1. no visible damage 2. bandwidth tolerance < ±5% |
| 4. Endurance | 500 hours at 90°C | After 2 hours recovery: 1. no visible damage 2. bandwidth tolerance < ±5% |

Product Number: AN2450-6401RS
Product Name: 2.4 / 5.0 GHz External Antenna



10. SGS Testing Report



INVAX SYSTEM & TRADING CORP.
CORTEC TECHNOLOGY INC.
4F. No.815, CHUNG HSAIO EAST RD. SEC.5,
TAIPEI, TAIWAN, R.O.C.

Report No. : CE/2004/C1640A
Date : 2004/12/16
Page : 1 of 8

The following merchandise was (were) submitted and identified by the client as :

| | |
|------------------------|---|
| <u>Type of Product</u> | : ANTENNA |
| <u>Style/Item No.</u> | : EM SERIES; IM SERIES; NB SERIES; AN SERIES |
| <u>Sample Received</u> | : 2004/01/05 & 2004/04/23 & 2004/06/11 & 2004/06/24 & 2004/12/09 & 2005/01/26 & 2005/02/17 |
| <u>Testing Date</u> | : 2004/01/05 TO 2004/01/06 & 2004/04/23 TO 2004/04/28 & 2004/06/11 TO 2004/06/21 & 2004/06/24 TO 2004/07/01 & 2004/12/09 TO 2004/12/16 & 2005/01/26 TO 2005/01/28 & 2005/02/17 TO 2005/03/03 |

=====

Test Result : - Please see the next page -

*This report is combined with reports of SZTYR050102512/LP & CE/2004/62767 &
GZSCR040100230/LP & CE/2004/61520 & GZSCR040413274/LP & GZSCR050207531/LP*

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

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SGS TAIWAN LIMITED

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Test Result

| | | |
|----------------|---|--|
| PART NAME NO.1 | : | BRASSY COLOR METAL BAR(SZTYR050102512/LP) |
| PART NAME NO.2 | : | BLACK PLASTIC SHEET(GZSCR040100230/LP) |
| PART NAME NO.3 | : | TAN TRANSPARENT LIQUID(GZSCR040413274/LP) |
| PART NAME NO.4 | : | BLACK PLASTIC JACKET(KHGX 32AWG-SB-TA)(CE/2004/61520) |
| PART NAME NO.5 | : | TRANSPARENT FEP JACKET(CE/2004/C1640) |
| PART NAME NO.6 | : | WHITE PALSTIC(CE/2004/62767) |
| PART NAME NO.7 | : | SILVER COLORED METAL WIRE(GZSCR050207531/LP NO. 1) |
| PART NAME NO.8 | : | TRANSPARENT LT. BROWN PLASTIC(GZSCR050207531/LP NO. 2) |

| Test Item (s): | Unit | Method | MDL | Result | | | | |
|--|-------------|---|------------|---------------|-------------|-------------|-------------|-------------|
| | | | | No.1 | No.2 | No.3 | No.4 | No.5 |
| PBBS(Polybrominated biphenyls)(CAS NO:059536-65-1) | % | With reference to USEPA3540C or USEPA3550C. Analysis was performed by HPLC/DAD, LC/MS or GC/MS. (prohibited by 2002/95/EC (RoHS), 83/264/EEC, and 76/769/EEC) | 0.0005 | --- | --- | --- | N.D. | N.D. |
| PBBEs(PBDEs)(Polybrominated biphenyl ethers) | % | With reference to USEPA3540C or USEPA3550C. Analysis was performed by HPLC/DAD, LC/MS or GC/MS. (prohibited by 2002/95/EC (RoHS), 83/264/EEC, and 76/769/EEC) | 0.0005 | --- | --- | --- | N.D. | N.D. |

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NO. 136-1, Wu Liung Road, Wukou Industrial Zone, Taipei county, Taiwan.

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Test Report

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Report No. : CE/2004/C1640A
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| Test Item(s): | Unit | Method | MDL | Result | | | | |
|--------------------|------|--|-----|---------|------|------|------|------|
| | | | | No.1 | No.2 | No.3 | No.4 | No.5 |
| Chromium VI (Cr+6) | ppm | As per US EPA 7196A and US EPA 3060A. | 2 | N.D. | --- | N.D. | N.D. | N.D. |
| Cadmium (Cd) | ppm | ICP-AES after as per EN 1122, method B:2001 or other acid digestion. | 2 | 22.0 | N.D. | N.D. | N.D. | N.D. |
| Mercury (Hg) | ppm | ICP-AES after as per US EPA 3052 or other acid digestion. | 2 | N.D. | --- | N.D. | N.D. | N.D. |
| Lead (Pb) | ppm | ICP-AES after as per US EPA 3050B or other acid digestion. | 2 | 24600.0 | 6.0 | N.D. | N.D. | N.D. |

| Test Item(s): | Unit | Method | MDL | Result | | |
|--|------|---|--------|--------|------|------|
| | | | | No.6 | No.7 | No.8 |
| PBBs(Polybrominated biphenyls)(CAS NO:059536-65-1) | % | With reference to USEPA3540C or USEPA3550C. Analysis was performed by HPLC/DAD, LC/MS or GC/MS. (prohibited by 2002/95/EC (RoHS), 83/264/EEC, and 76/769/EEC) | 0.0005 | N.D. | --- | N.D. |
| PBBEs(PBDEs)(Polybrominated biphenyl ethers) | % | With reference to USEPA3540C or USEPA3550C. Analysis was performed by HPLC/DAD, LC/MS or GC/MS. (prohibited by 2002/95/EC (RoHS), 83/264/EEC, and 76/769/EEC) | 0.0005 | N.D. | --- | N.D. |

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Report No. : CE/2004/C1640A
 Date : 2004/12/16
 Page : 4 of 8

| Test Item (s): | Unit | Method | MDL | Result | | |
|--------------------|------|--|-----|--------|------|------|
| | | | | No.6 | No.7 | No.8 |
| Chromium VI (Cr+6) | ppm | As per US EPA 7196A and US EPA 3060A. | 2 | --- | N.D. | N.D. |
| Cadmium (Cd) | ppm | ICP-AES after as per EN 1122, method B:2001 or other acid digestion. | 2 | N.D. | N.D. | --- |
| Mercury (Hg) | ppm | ICP-AES after as per US EPA 3052 or other acid digestion. | 2 | --- | N.D. | --- |
| Lead (Pb) | ppm | ICP-AES after as per US EPA 3050B or other acid digestion. | 2 | N.D. | N.D. | --- |
| Cadmium (Cd) | ppm | ICP-AES after as per EN 1122, method B:2001 or other acid digestion. | 15 | --- | --- | N.D. |
| Mercury (Hg) | ppm | ICP-AES after as per US EPA 3052 or other acid digestion. | 50 | --- | --- | N.D. |
| Lead (Pb) | ppm | ICP-AES after as per US EPA 3050B or other acid digestion. | 15 | --- | --- | N.D. |

| Test Item (s): | Unit | Method | MDL | Result | | |
|---------------------------------------|------|----------------------------------|-----|--------|------|------|
| | | | | No.6 | No.7 | No.8 |
| AZO | | As per LMBG 8202-2 | | | | |
| 4-AMINODIPHENYL (CAS NO.92-67-1) | ppm | Analysis was performed by GC/MS. | 3 | N.D. | --- | N.D. |
| BENZIDINE (CAS NO.92-87-5) | ppm | Analysis was performed by GC/MS. | 3 | N.D. | --- | N.D. |
| 4-CHLORO-O-TOLUIDINE (CAS NO.95-69-2) | ppm | Analysis was performed by GC/MS. | 3 | N.D. | --- | N.D. |
| 2-NAPHTHYLAMINE (CAS NO.91-59-8) | ppm | Analysis was performed by GC/MS. | 3 | N.D. | --- | N.D. |
| O-AMINOAZOTOLUENE (CAS NO.97-56-3) | ppm | Analysis was performed by GC/MS. | 3 | N.D. | --- | N.D. |

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Report No. : CE/2004/C1640A
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| Test Item(s): | Unit | Method | MDL | Result | | |
|--|------|----------------------------------|-----|--------|------|------|
| | | | | No.6 | No.7 | No.8 |
| 2-AMINO-4-NITROTOLUENE (CAS NO.106-47-8) | ppm | Analysis was performed by GC/MS. | 3 | N.D. | --- | N.D. |
| 2,4-DIAMINOANISOLE (CAS NO.615-05-4) | ppm | Analysis was performed by GC/MS. | 3 | N.D. | --- | N.D. |
| 4,4-DIAMINODIPHENYL METHANE (CAS NO.101-77-9) | ppm | Analysis was performed by GC/MS. | 3 | N.D. | --- | N.D. |
| 3,3-DICHLOROBENZIDINE (CAS NO.91-94-1) | ppm | Analysis was performed by GC/MS. | 3 | N.D. | --- | N.D. |
| 3,3-DIMETHOXYBENZIDINE (CAS NO.119-90-4) | ppm | Analysis was performed by GC/MS. | 3 | N.D. | --- | N.D. |
| 3,3-DIMETHYLBENZIDINE (CAS NO.119-93-7) | ppm | Analysis was performed by GC/MS. | 3 | N.D. | --- | N.D. |
| 3,3-DIMETHYL-4,4-DIAMINODIPHENYL METHANE (CAS NO.838-88-0) | ppm | Analysis was performed by GC/MS. | 3 | N.D. | --- | N.D. |
| P-CRESIDINE(2-METHOXY-5-METHYLANILINE) (CAS NO.120-71-8) | ppm | Analysis was performed by GC/MS. | 3 | N.D. | --- | N.D. |
| 4,4-METHYLENE BIS(2-CHLORANILINE) (CAS NO.101-14-4) | ppm | Analysis was performed by GC/MS. | 3 | N.D. | --- | N.D. |
| 4,4-OXYDIANILINE (CAS NO.101-80-4) | ppm | Analysis was performed by GC/MS. | 3 | N.D. | --- | N.D. |
| 4,4-THIODIANILINE (CAS NO.139-65-1) | ppm | Analysis was performed by GC/MS. | 3 | N.D. | --- | N.D. |
| O-TOLUIDINE (CAS NO.95-53-4) | ppm | Analysis was performed by GC/MS. | 3 | N.D. | --- | N.D. |

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SGS
Test Report

INVAX SYSTEM & TRADING CORP.
 CORTEC TECHNOLOGY INC.
 4F. NO.815, CHUNG HSAIO EAST RD. SEC.5,
 TAIPEI, TAIWAN, R.O.C.

Report No. : CE/2004/C1640A
 Date : 2004/12/16
 Page : 6 of 8

| Test Item (s): | Unit | Method | MDL | Result | | |
|--|------|----------------------------------|-----|--------|------|------|
| | | | | No.6 | No.7 | No.8 |
| 2,4-TOLUYLENDIAMINE (CAS NO.95-80-7) | ppm | Analysis was performed by GC/MS. | 3 | N.D. | --- | N.D. |
| 2,4,5-TRIMETHYLANILINE (CAS NO.137-17-7) | ppm | Analysis was performed by GC/MS. | 3 | N.D. | --- | N.D. |
| O-ANISIDINE (CAS NO.90-04-0) | ppm | Analysis was performed by GC/MS. | 3 | N.D. | --- | N.D. |
| P-AMINOAZOBENZENE (CAS NO.60-09-3) | ppm | Analysis was performed by GC/MS. | 3 | N.D. | --- | N.D. |

| Test Item (s): | Unit | Method | MDL | Result | | |
|---------------------------|------|----------------------------------|-----|--------|------|------|
| | | | | No.6 | No.7 | No.8 |
| Mirex(CAS NO:002385-85-5) | ppm | Analysis was performed by GC/MS. | 4 | N.D. | --- | --- |

| Test Item (s): | Unit | Method | MDL | Result | | |
|---|------|---|-----|--------|------|------|
| | | | | No.6 | No.7 | No.8 |
| PCBs(Polychlorinated Biphenyls)(CAS NO:001336-36-3) | ppm | With reference to USEPA 8082A. Analysis was performed by GC/ECD/MS. | 0.5 | N.D. | --- | --- |

| Test Item (s): | Unit | Method | MDL | Result | | |
|--|------|---|------|--------|------|------|
| | | | | No.6 | No.7 | No.8 |
| Organic-tin compounds | | | | | | |
| Triphenyl Tin(TPT)(CAS NO:000668-34-8) | ppm | With reference to 83/677/EEC & DIN 38407. Analysis was performed by GC/FPD. | 0.03 | --- | --- | N.D. |
| Tributyl Tin(TBT) | ppm | With reference to 83/677/EEC & DIN 38407. Analysis was performed by GC/FPD. | 0.03 | --- | --- | N.D. |

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| Test Item (s): | Unit | Method | MDL | Result | | |
|------------------------------------|------|--|-----|--------|------|----------|
| | | | | No.6 | No.7 | No.8 |
| Asbestos | | | | | | |
| Anthrophyllite(CAS NO.017068-78-9) | ** | As per NIOSH 9000 method. Analysis was performed by XRD. | - | --- | --- | Negative |
| Crocodolite(CAS NO.012001-28-4) | ** | As per NIOSH 9000 method. Analysis was performed by XRD. | - | --- | --- | Negative |
| Amosite(CAS NO.012172-73-5) | ** | As per NIOSH 9000 method. Analysis was performed by XRD. | - | --- | --- | Negative |
| Tremolite(CAS NO.014567-73-8) | ** | As per NIOSH 9000 method. Analysis was performed by XRD. | - | --- | --- | Negative |
| Chrysotile(CAS NO.012001-29-5) | ** | As per NIOSH 9000 method. Analysis was performed by XRD. | - | --- | --- | Negative |
| Actinolite(CAS NO.013768-00-8) | ** | As per NIOSH 9000 method. Analysis was performed by XRD. | - | --- | --- | Negative |

| Test Item (s): | Unit | Method | MDL | Result | | |
|---|------|---|-----|--------|------|------|
| | | | | No.6 | No.7 | No.8 |
| PCBs(Polychlorinated Biphenyls)(CAS NO:001336 36-3) | ppm | With reference to USEPA 8082A. Analysis was performed by GC/ECD/MS. | 0.5 | --- | --- | N.D. |

| Test Item (s): | Unit | Method | MDL | Result | | |
|-----------------------------|------|---|-----|--------|------|------|
| | | | | No.6 | No.7 | No.8 |
| Polychlorinated Naphthalene | ppm | With reference to USEPA 8081B. Analysis was performed by GC/MS. | 5 | --- | --- | N.D. |

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| Test Item (s): | Unit | Method | MDL | Result | | |
|------------------------|------|--|-----|--------|------|------|
| | | | | No.6 | No.7 | No.8 |
| PVC (CAS No:9002-86-2) | ** | Analysis was performed by FTIR/ATR and Pyro-GC/MS. | - | --- | --- | N.D. |

| Test Item (s): | Unit | Method | MDL | Result | | |
|---|------|--|------|--------|------|------|
| | | | | No.6 | No.7 | No.8 |
| Chlorinated Paraffin (C10-C13) (CAS NO:010871-26-2) | % | With reference to USEPA3540C or USEPA3550C. Analysis was performed by GC/MS or GC/ECD. | 0.01 | --- | --- | N.D. |

| Test Item (s): | Unit | Method | MDL | Result | | |
|----------------------------------|------|---|-----|--------|------|------|
| | | | | No.6 | No.7 | No.8 |
| Formaldehyde(CAS No:000050-00-0) | ppm | With reference to DIN 53315 & USEPA 8315A method. Analysis was performed by HPLC/DAD/MS | 0.2 | --- | --- | N.D. |

NOTE: (1) N.D. = Not detected (<MDL)
(2) ppm = mg/kg
(3) MDL = Method Detection Limit
(4) " --- " = Not Applicable
(5) " - " = No Regulation
(6) * = Results shown are of the adjusted analytical results
(7) ** = Qualitative analysis (No Unit)
(8) Negative = Undetectable / Positive = Detectable
(9) The MDL is 5ppm for the single compound of CP

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