

承 认 书

SPECIFICATION FOR APPROVAL

客 户 名 称

CUSTOMER NAME: 磊 科

产 品 名 称

PRODUCT NAME: 2.4GHz 5dBi White Antenna L=70mm

客 户 料 号

CUSTOMER P/N: WLAN05202

仁 丰 料 号

Ren Feng P/N: RF21C00364A REV: A

	MANUFACTURER SIGNATURE	CUSTOMER SIGNATURE
CHECKED BY:	李小菊	
AUDITOR BY:	黄超	
APPROVED BY:	工程专用章 谢雨文	
DATE:	2014-2-12	

供应商: 东莞市仁丰电子科技有限公司
地址: 东莞市塘厦镇科苑城沙苑一路3号BC栋3楼
电话: 0769-38940168 传真: 0769-38940199

Contents

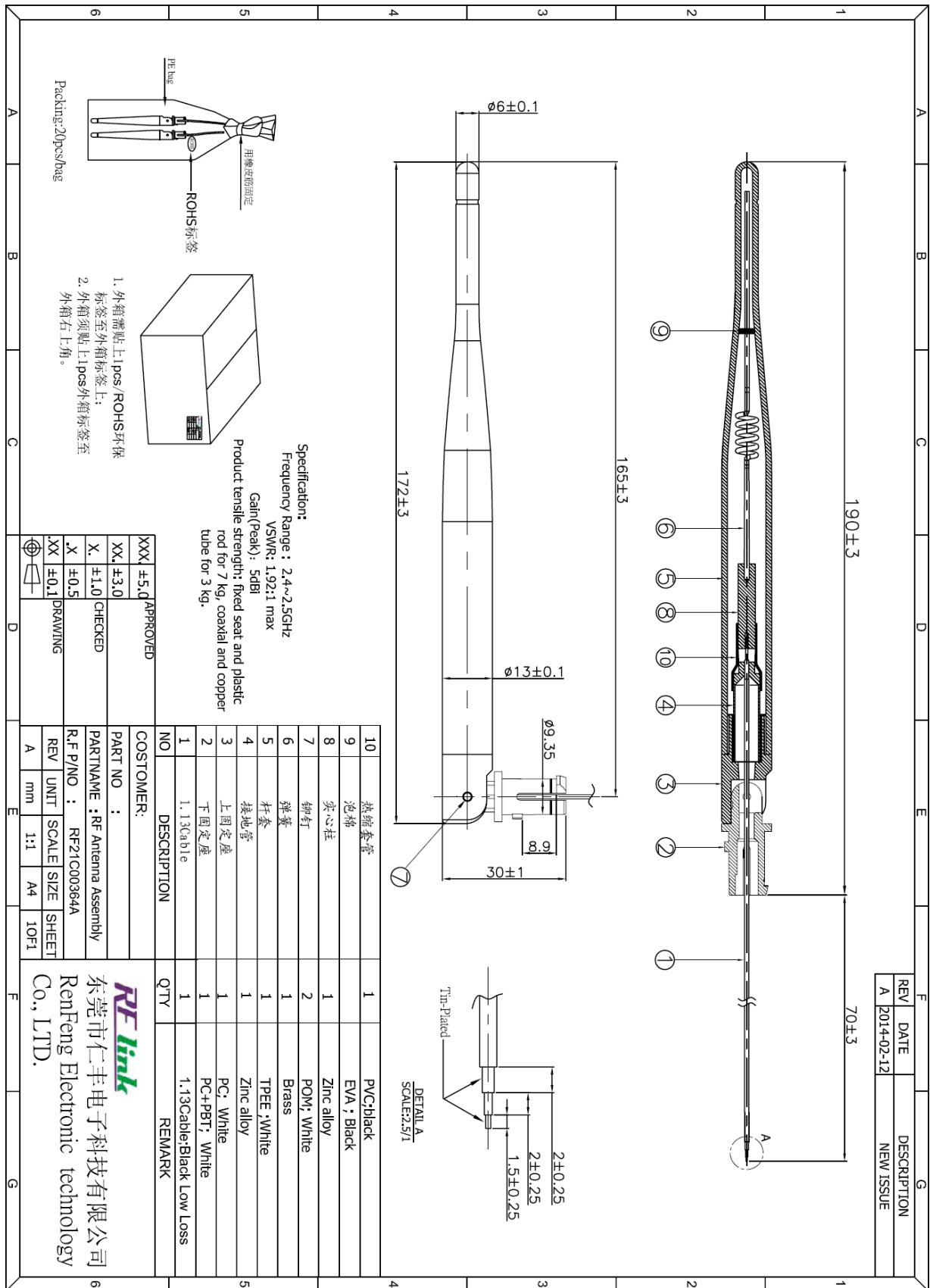
<i>Item</i>	<i>Description</i>
一、-----	规格表
二、-----	成品图
三、-----	测试报告
四、-----	材质证明
五、-----	SGS 报告

一、规格表:

产品主要技术参数

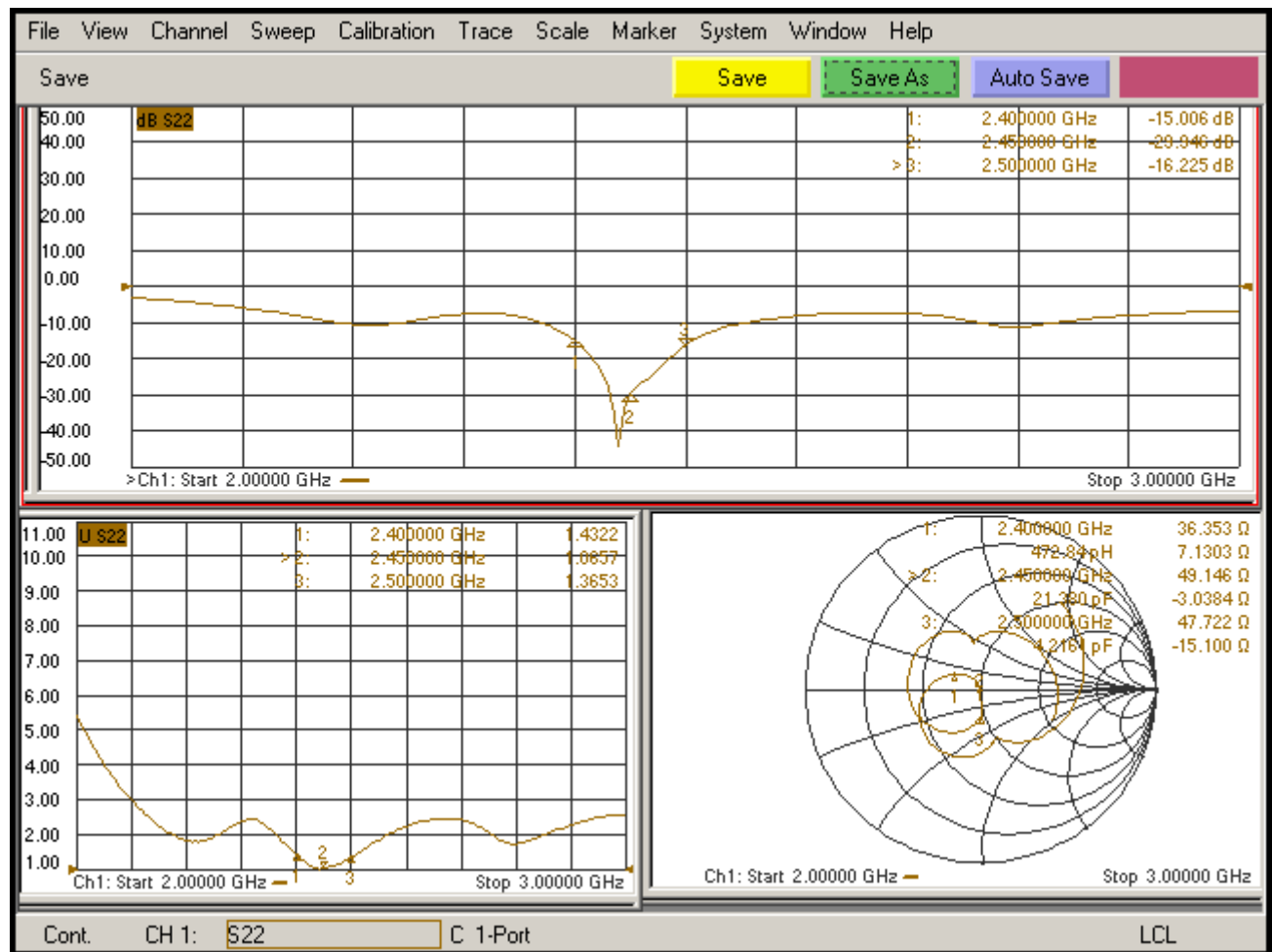
主要技术指标		Main technical specifications	
频率范围 (MHZ)	2400-2500	Frequency Range (MHZ)	2400-2500
特性阻抗(Ω)	50	Impedance(Ω)	50
增益(dBi)	5 $\pm$ 0.5	Peak Gain(dBi)	5 $\pm$ 0.5
输出电压 驻波比	≤ 1.92	VSWR	≤ 1.92
最大功率	10W	Admitted Power	10W
极化方式	垂直极化	Polarization	Linear, Vertical
方向性	全向性	Radiation	Omni-directional
连接方式	Cable	Connector Type	Cable
物理性能		Physical Properties	
天线外套材料	TPEE	Antenna cover	TPEE
工作温度	-20 $^{\circ}$ C ~ +70 $^{\circ}$ C	Operating Temp	-20 $^{\circ}$ C ~ +70 $^{\circ}$ C
保存温度	-20 $^{\circ}$ C ~ +70 $^{\circ}$ C	Storage Temp	-20 $^{\circ}$ C ~ +70 $^{\circ}$ C

二、成品图:

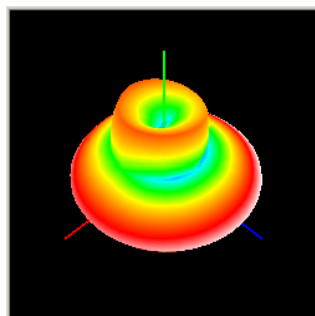


三、测试报告

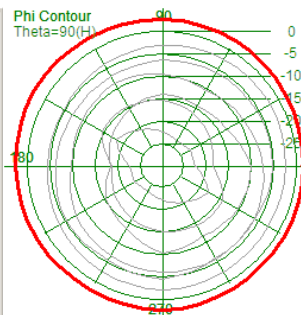
3.1: 网络分析仪测试报告



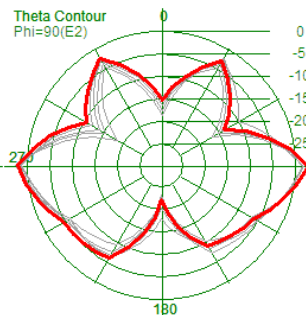
3.2: 暗室 2D、3DRaditation Pattern



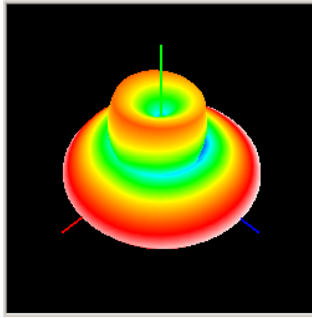
2.4GHz



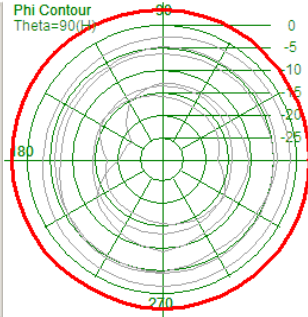
Gain(Peak):5.18dBi



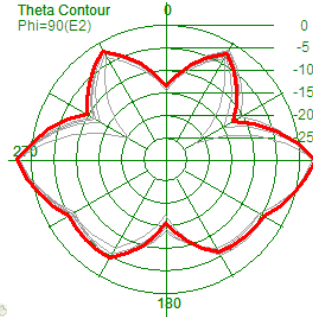
Efficiency:70.2%



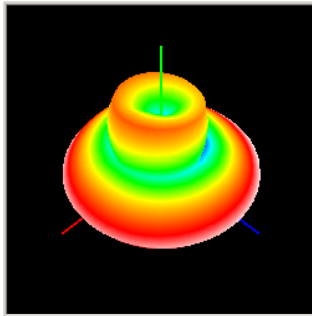
2.45GHz



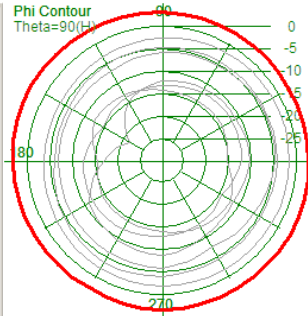
Gain(Peak): 5.21dBi



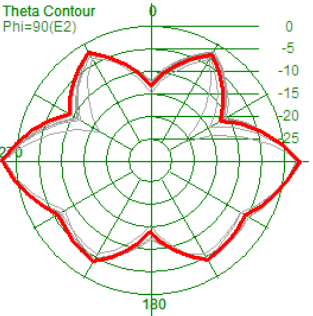
Efficiency: 71.3%



2.5GHz



Gain(Peak): 5.26dBi



Efficiency: 69.2%

四、材质证明:

材质证明书

鹏升 (厂商名称) 承制东莞市仁丰电子科技有限公司之

产品品名: 热缩套管

材质符合仁丰电子 ROHS 相关条件之要求, 需检测项目如下, 达各项检测标准。特此证明。

含有物质 Content Substance	含量标准 Critria
镉 (Cd) Cadmium	均质材料中重量浓度 <0.01%(100ppm)
铅 (Pb) Lead	均质材料中重量浓度 <0.1%(1000ppm)
汞 (Hg) Mercury	均质材料中重量浓度 <0.1%(1000ppm)
六价铬 (Cr6+) Hexavalent Chromium	均质材料中重量浓度 <0.1%(1000ppm)
多溴联苯(PBB)poly brominated Biphenyls	均质材料中重量浓度 <0.1%(1000ppm)
多溴二苯醚(PBDE)polybrominated Diphenyl Ethers	均质材料中重量浓度 <0.1%(1000ppm)

检测项目:

项次	材质 (检测品)	第三公证单位检验报告编号	检测报告生效日期	检测报告有效日期
1.	热缩套管	CANEC1217909302	2013.01.05	1 年

若提报之第三公证单位检验报告内容内未申请检测上述要求之基本六大有害物质中之任何一项者, 请另行提出相关证明或保证宣告, 以兹证明!

(请加盖公司章)



材质证明书

鹏升（厂商名称）承制东莞市仁丰电子科技有限公司之
产品品名：EVA 泡棉

材质符合仁丰电子 ROHS 相关条件之要求，需检测项目如下，达各项检测标准。特此证明。

含有物质 Content Substance	含量标准 Criteria
镉 (Cd) Cadmium	均质材料中重量浓度<0.01%(100ppm)
铅 (Pb) Lead	均质材料中重量浓度<0.1%(1000ppm)
汞 (Hg) Mercury	均质材料中重量浓度<0.1%(1000ppm)
六价铬 (Cr6+) Hexavalent Chromium	均质材料中重量浓度<0.1%(1000ppm)
多溴联苯(PBB)poly brominated Biphenyls	均质材料中重量浓度<0.1%(1000ppm)
多溴二苯醚(PBDE)polybrominated Diphenyl Ethers)	均质材料中重量浓度<0.1%(1000ppm)

检测项目：

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1.	EVA	GZSL1302016S03FW	2013.3.11	1 年

若提报之第三公证单位检验报告内容内未申请检测上述要求之基本六大有害物质中之任何一项者，请另行提出相关证明或保证宣告，以兹证明！

（请加盖公司章）



DongGuang Humen Shining Hardware factory**Tel: 86- 0769-81015727 Fax : 0769-81156163****Zinc alloy Component testing Report****Products Name : 3# Zinc alloy (Eco-friendly material)****According to USA ASTM B240——95 Standard**

Element Test				
Element Name	International standard	Test results %		
		N=1	N=2	AVE
Int	%	0.62050	0.63301	0.62675
铝 (AL)	3.9~4.3	3.900200	3.900000	3.900100
镁 (MG)	0.025~0.05	0.030000	0.032000	0.031000
铜 (CU)	≤0.10	0.062000	0.052400	0.052200
铅 (PB)	≤0.006	0.002040	0.002100	0.002070
镉 (CD)	≤0.003	0.001460	0.001720	0.001590
铁 (FE)	≤0.03	0.001400	0.001610	0.001500
锡 (SN)	≤0.002	0.001200	0.001400	0.001300
锂 (LI)	≤0.006	0.005800	0.005790	0.005970
锰 (MN)	≤0.002	0.001240	0.001360	0.001200
锌 (ZN)	余量	余量	余量	余量



TQC-P1-02:02, 5.0 版

O.N.: 07K05X

POLYPLASTICS TAIWAN CO., LTD.

9F., No. 26,
Sec. 2, Min-Chuan E. Road
Taipei, Taiwan 104

To whom it may concern :

CERTIFICATE OF ANALYSIS

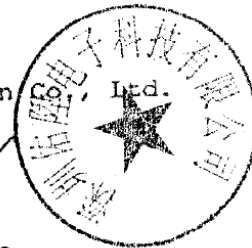
We hereby certify that the undermentioned goods have been duly inspected by us and the results of the routine inspection are as follows (inspected by ISO methods);

POM

GRADE & COLOR :	DURACON M90-44 & CF2001
LOT NO. :	962111 (8 tons)
M.F.R. (g/10min.) :	8.5
T. Strength (MPa) :	62.8
T. Elongation (%) :	38.5
VICAT (°C) :	159.3

Polyplastics Taiwan

, Ltd.



175066700

东莞市华雨金属材料有限公司 Dongguan City YuYu Metals Material Co., Ltd.

化学成份测试及物理性能测试报告 Chemical composition test and the physical performance test report

客户名称 Customer Name				订单号 Order Number	/			出货日期 Shipping date	2012-10-24				
国标标准 GB standards	JIS H3250:2006			试样品名 Test material name	C3604			试样规格 Test materials specifications					
仪器名称 Instrument name	瑞士ARLMA 直读光谱仪 The Swiss ARLMA direct reading light Pu-yl			化学试验 Chemical tests				生产日期 Production date	2012-9-16		炉号 Furnace number	201298C3604	
化学成分(%)测试SGS编号: CANEC1213021201 Chemical Composition (%) test SGS Code: CANEC1213021201													
元素名称 Element names	铜 (Cu)	锌 (Zn)	铅 (Pb)	铝 (Al)	锰 (Mn)	锡 (Sn)	铁 (Fe)	硅 (Si)	铈 (Sb)	镉 (Cd)	铋 (Bi)	磷 (P)	镍 (Ni)
标准含量% Standard content%	57-61	余量 Margin	1.8-3.7	≤0.1	≤0.01	≤0.5	≤0.5	≤0.10	≤0.10	≤0.0050	/	≤0.19	/
试样含量% Specimen content%	58.95	余量 Margin	2.9602	0.09	0.0017	0.191	0.278	0.0045	0.031	0.0011	0.0328	0.0084	0.092
物理性能测试 Physical performance test													
机械试验 Mechanical tests	Mechanical Testing												
仪器名称 Instrument name	WD-500B电子式万能试验WD-50B electronic universal testing												
物理性质 Physical properties	抗拉强度 (Tensile Strength)						延伸率 (Elongation)						
实际数值 The actual value	445		>335 [N/mm²]		12		≥8.10 [%]		140		IV		
单位主管 Unit heads	分析员 Analyst 陈佳梅												



長春人造樹脂廠股份有限公司

台北市 10477 松江路三零一號七樓

CHANG CHUN PLASTICS CO.,LTD.

NO.301 SONGKIANG ROAD, 7FL., TAIPEI, TAIWAN, R.O.C.

TEL: 886-2-25038131

FAX:886-2-25033378

材質證明

MATERIAL FORMULATION CONFIDENTIAL REPORT

材質名稱 Type of Material : TPEE(Thermoplastic Polyether-ester Elastomer)

熱塑性聚醚酯彈性體

規格 Grade : TPEE 1140, 1155, 1163, 1172

說明 Description :

TPEE 1140, 1155, 1163, 1172 熱塑性聚醚酯彈性體包含 TPEE 純樹脂及添加劑。TPEE 1140, 1155, 1163, 1172 完全符合 RoHS 指令的規定。且所有組成都包含在中國 IECSC 化學資料庫中。The raw material of TPEE 1140, 1155, 1163, 1172 contains TPEE pure resin and a few of additives. We certify that our TPEE1140, 1155, 1163, 1172 can be according with RoHS regulation. Moreover, all the components of this product is list in the China chemical inventory IECSC.

TPEE 1140, 1155, 1163, 1172 成分表

Chemical Composition of TPEE 1140, 1155, 1163, 1172

規格 Grade				
TPEE 1140, 1155, 1163, 1172				
組成 Chemical Composition		Molecular formula	CAS Number	含量(%) Content (%)
1	TPEE樹脂 TPEE resin	(1) Chemical formula $(C_{10}H_{10}O_4 \cdot C_4H_{10}O_2 \cdot (C_4H_8O)_nH_2O)_x$	9078-71-1	>99%
2	添加劑 Additives	NA	NA	0.2-1%

TPEE Grade	Component 單體組成	Ratio 組成比例
1140	DMT/BDO/PTMEG	1 : 1 : 1.3
1155	DMT/BDO/PTMEG	1 : 1 : 1.0
1163	DMT/BDO/PTMEG	1 : 1 : 0.7
1172	DMT/BDO/PTMEG	1 : 1 : 0.4

DMT: Dimethyl Terephthalat 對苯二甲酸二甲酯

BDO: 1,4-Butanediol 1,4-丁二醇

PTMEG: PolyTetramethylene-ether-Glycol 聚四氫呋喃

MATERIAL SUPPLIER

Company: CHANG CHUN PLASTICS CO., LTD KAOHSIUNG FACTORY

Signature: Ching-Neng Tseng / Chief Manager / Technical Section

Address: No.14 KUNG-YEH 1ST ROAD, JEN-WU INDUSTRIES DISTRICT

KAOHSIUNG, TAIWAN, ROC.



Date: June. 07, 2010

**Mitsubishi Engineering-Plastics Corp.**Shiodome Sumitomo-Bldg, 25F, 9-2, Higashi-shinbashi
1-Chome, Minato-ku, Tokyo 105-0021, Japan

To whom it may concern

Date : 20-OCT-12

Mitsubishi Engineering-Plastics Corp.
Quality Assurance Department
THAI POLYCARBONATE CO.,LTD.
QC - RD Department

CERTIFICATE OF ANALYSIS

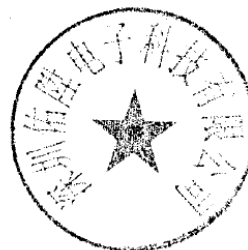
1. Product(Iupilon)

Grade Name	: S-2000VR
Color Name(Note)	: ICE
Color No.	: 5313
Lot No.	: 29E291T0

2. Results of Testing

Inspection Item	Test Result	Standard
Molecular Weight ($\times 10^4$)	2.3	Viscosity Method
MVR (mL/10 min)	10.2	ISO 1133
Color	PASS	Visual Judgement

We hereby certify that this material passes all TPCC's internal quality control requirements

THAI POLYCARBONATE CO., LTD.
QC -RD Department
Padaeng Industrial Estate 1 Padaeng Road,
Map-Ta-Phut, Rayong 21150
Tel : (038) 684816-7, (038) 685613-23
Fax : (038) 685625Anusak Kaewhom
(QC-RD Dept. Manager)Order No. 1209GZ056
Customer (: To whom it may concern)

PHONE: 03-6274-9000 FAX: 03-6274-9086

(For COA printing only)

EC SAFETY DATA SHEET

COMPANY Shinkong Synthetic Fibers Corporation,
Engineering Plastic Division,
8F, 123, Sec. 2, Nanking East Road,
Taipei, Taiwan

PHONE 02-2507-1251, 03-493-2131

FAX 02-2507-7594, 03-491-5763

COMMERCIAL PRODUCT NAME : SHINITE A724

1.1 Chemical Characterization : Blends of polycarbonate(CAS#25971-63-5) and
Polybutylene Terephthalate (PBT)

CAS# 30965-26-5

1.2 Physical State : Solid

1.3 Odor and Form : Pellet with slight odor

2 Physical Data and Safety Data

2.1 Melting Point (°C) : -(because of PC/PBT alloy is Alloy type)

2.2 Density @ 25°C : 1.10~1.30 g/cm³ ASTM D 1505

2.3 Vapor Pressure : Not applicable

2.4 Viscosity : Not applicable

2.5 Solubility in Water : Insoluble

2.6 PH value : Not applicable

2.7 Flash Point : Not applicable

2.8 Ignition Temperature (°C) : 450°C, estimated

2.9 Explosion : Not sensitive to impact and static discharge.

2.10 Thermal Decomposition : None under 400°C

2.11 Hazardous Decomposition Products : Processing fumes evolved at
recommended processing conditions contain trace levels of carbon monoxide,
carbon dioxide ,aromatic and aliphatic hydrocarbons and may also contain trace
levels of THF (tetrahydrofuran)..

2.12 Stability : Stable under recommended conditions of storage and handling.

2.13 Reactivity : Not reactive under recommended conditions of storage, handling,
processing and use.

2.14 Conditions to Avoid : Do not exceed temperature recommended. Purgings
should be collected in small shapes to allow for rapid cooling.

3 Transport GGVSEE/IMDG Code : UN No. : None
ICAO/IATA-DGR : Not Regulated GGVE/GGVS :
RID/ADR : ADNR :

DOT Hazard Class : Not Regulated

Proper Shipping Name : Not Regulated

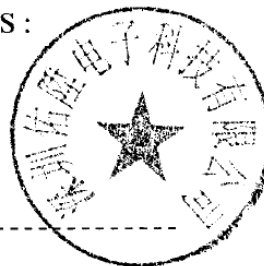
Identification Number : Not Listed

TDGA : Not Listed

4 Regulations

TSCA Status : This product complies with Chemical Substance Inventory
requirements of the US EPA Toxic Substances Control Act (TSCA).

WHMIS Classification : Not a controlled product.



DATE : 2013/6/19

Commercial Product Name : Shinite A724

5 Protective Measures, Storage and Handling

5.1 Storage :

Store in a cool and dry place. Keep containers tightly closed to prevent moisture absorption and contamination.

5.2 Handling :

Follow recommendations in processing guide. Prevent contact with skin and eyes. Provide adequate ventilation.

5.3 Personal Protective Equipment :

Respiratory protection - dust mask

Eye protection - safety glasses

Hand protection - thermal protective gloves should be worn around molten plastic

5.4 Industrial Hygiene :

A continuous supply of fresh air to the workplace together with removal of processing fumes through exhaust systems is recommended.

5.5 Protection Against Fire and Explosion :

Large, molten masses of plastic may ignite spontaneously in air.

Water quenching of plastic fires is recommended.

5.6 Disposal :

Product is not a RCRA hazardous waste. Recycling is encouraged. Dispose of using good manufacturing practices under local regulations for your area.

6 Measures in Case of Accidents and Fires

6.1 After Spillage/Leakage/Gas Leakage :

Sweep up and dispose in proper containers to prevent slipping hazards.

6.2 Fire Extinguishing Media :

Suitable - water spray and foam. Water is the best.

Not recommended - carbon dioxide and dry chemicals.

6.3 First Aide :

If molten polymer contacts the skin or eyes, cool rapidly with cold water. DO NOT use solvent for removal.

DO NOT attempt to remove the polymer from the skin!

Obtain IMMEDIATE medical attention.

6.4 Fire Fighting : Approved pressure demand breathing apparatus and protective clothing should be used for all fires.

7 Information on Toxicity

TOXIC : N/A

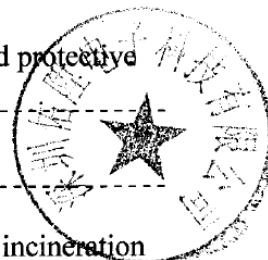
Product not considered primary eye and skin irritant.

8 Information on Ecological Effects

We recommend this material be disposed of by properly scrubbed incineration or recycling. Not expected to present any significant ecological problems.

9 Further Information

SHINITE is a registered trademark of the SHINKONG SYNTHETIC FIBERS CO..



江阴凯博通信科技有限公司

环境有关物质材质证明书

Certification of the Raw Material of Environment Substance

公司名称 Company Name	江阴凯博通信科技有限公司	产品重量 Product Weight	3.017 g/m
产品料号 Part No.	KB113/50-021D	客户料号 P/N	
填写人姓名/部门 Name / Dept.	陈凯/综合办	E-Mail	kaibo@kaibocable.com

兹证明向贵公司销售的成品和半成品中, 使用之原材料, 包装材料以及生产工程中, 不含有贵公司规定的有害禁用物质。
另, 向贵公司报告成品、半成品中使用的原材料、包装材料以及生产工程中的添加剂成分如下所述:

RoHS 及其它环保物质填写																		
项次 Item	零件名称 Material Name	原料厂 Vendor	材质 Substance	重量(g) Weight	组成成份 Substance Composition	含百分比 (%)Substance Amount	化验报告NO. Test Report No.	限用物质含量 (单位: PPM)										其它项目 Other substance
								铅 (Pb)	镉 (Cd)	汞 (Hg)	六价铬 (Cr+6)	PBB	PBDE	SONY	PFOS	PFOA	PVC	
1.	导体	恒丰	镀银 铜线	0.319	铜 银	9.85% 0.73%	SHAEC1307968211	ND	ND	ND	Nega tive	ND	ND	N/A	N/A	N/A	N/A	
2.	绝缘	大金	FEP	0.757	FEP	24.31%	SHAEC1301126805	ND	ND	ND	ND	ND	ND	N/A	ND	N/A	ND	
3.	编织	久通	镀锡 铜线	1.198	铜 锡	36.49% 5.26%	RLSHF001391690001C	ND	ND	ND	Nega tive	N/A	N/A	N/A	N/A	N/A	ND	
4.	护套	大金	FEP	0.676	FEP	21.45%	SHAEC1301126805	ND	ND	ND	ND	ND	ND	N/A	ND	N/A	ND	
		大日 精化	FEP	0.067	FEP	1.91%	HKGEC1201335503	ND	ND	ND	ND	ND	ND	N/A	ND	N/A	ND	
使用材料请贴图示于此栏, 并标项次:																		
1 2 3 4																		

使用材料请贴图示于此栏, 并标项次:



五、SGS 报告: (SGS 报告以电子档形式传给贵司)