



东莞市一佳电子通讯科技有限公司

Dongguan YiJia Electronics Communication Technology Co.,Ltd.

规格承认书

SPECIFICATION FOR APPROVAL

日期 2021/04/09
Date

编号 21040908
File No

版本 1.0
Revision

客 户

CUSTOMER: _____

客户料号

WHD1121

CUSTOMER NO: _____

品 名

5G WIFI ANT

PART NAME: _____

供方料号

YJW01.137.054.101A

SUPPLIER NO: _____

送样日期Date:

送样数量Q “TY: _____

客户确认CUSTOMER APPROVED BY

| APPROVAL | CHIEF | SUPERVISOR |
|----------|-------|------------|
| | | |

供方确认 SUPPLIER SIGNATURE

| APPROVAL | CHECK | DESIGN |
|---|--------|------------|
|  ChenGuoqiang | WenXue | ChenXingyi |

YJ-RD-F04-A



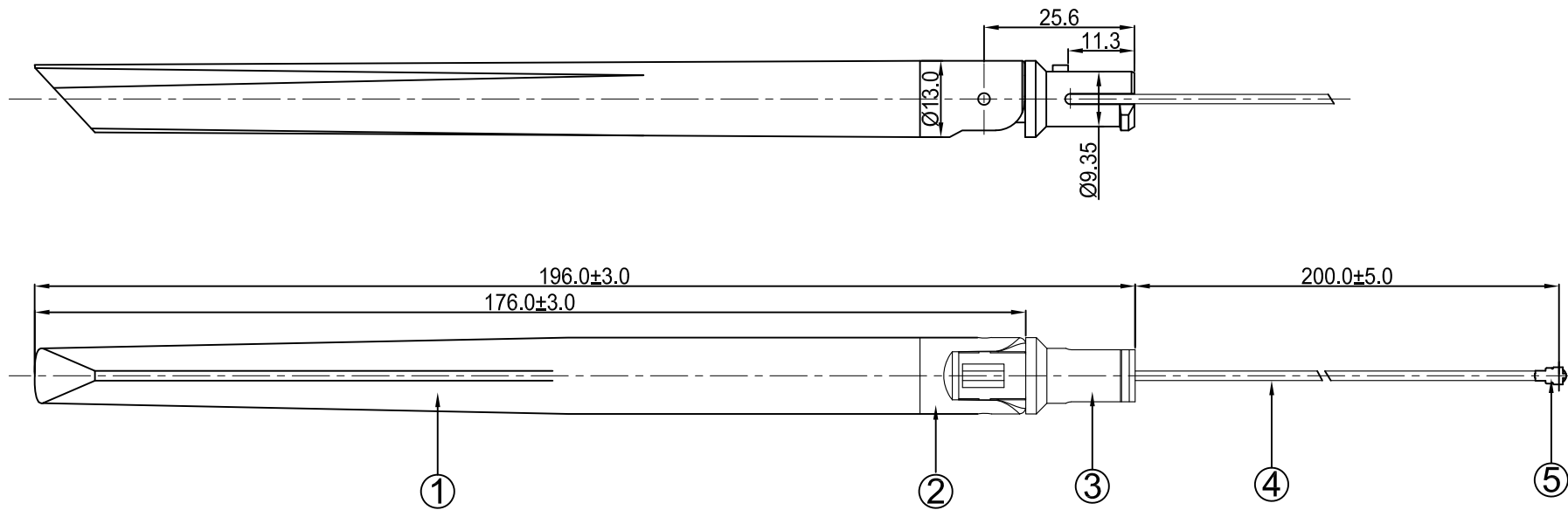
承认书项目表

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| 11 | N/A | N/A | N/A |
| 12 | - | - | - |
| 13 | - | - | - |

RoHS
Compatible


CUSTOMER
PART NO

| | | |
|------|-------------|------------|
| REV. | DESCRIPTION | DATE |
| △ | 首次发行 | 2021-03-31 |



| | | | |
|----|----------------|--------------------|------|
| 5 | Mini Connector | Cu Au Plated 1代 | 1 |
| 4 | Coaxial Cable | O.D. 1.13 mm Black | 1 |
| 3 | Bottom Base | PC,Color:Black | 1 |
| 2 | Upper Base | PC,Color:Black | 1 |
| 1 | Antenna Cap | TPE,Color:Black | 1 |
| NO | PART NAME | DESCRIPTION | Q.TY |


东莞市一佳电子通讯科技有限公司
 Dongguan YiJia Electronics Communication Technology Co.,Ltd. Tel.:0769-82586086 Fax:0769-82586086

| | | | |
|--|------------|------------------|--|
| PART NAME: 5.8G Antenna | | | |
| PART NO.: YJW01.137.054.101A | | DATE: 2021-03-31 | |
| APPROVED BY | CHECKED BY | DESIGNED BY |  Tolerance X.X ±0.50 X.XX±0.15 X° ±3° |
| 陈国强 | 林斌 | 黄望春 | |
| UNITS: mm SCALE: 1/1 REVISION: A | | | |



天线规格

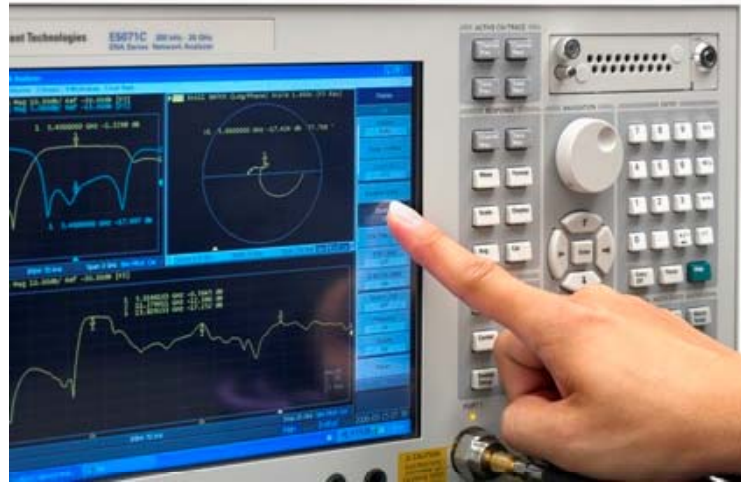
Antenna Specification

| Electrical Properties | |
|------------------------------|------------------|
| Frequency | 5.15-5.85GH |
| Impedance | 50 Ohm Nominal |
| V.S.W.R | 2.0 Max |
| Gain | 4.7dBi |
| Radiation | Omni-directional |
| Polarization | Linear |
| Physical Properties | |
| Connector | 1代IPEX |
| Cable Type | O.D.1.13mm |
| Cable Length | 200mm |
| Cable Color | Black |
| Operating Temp. | -40 ~ +85 °C |
| Storage Temp / Humidity | 25±5°C / <70% |

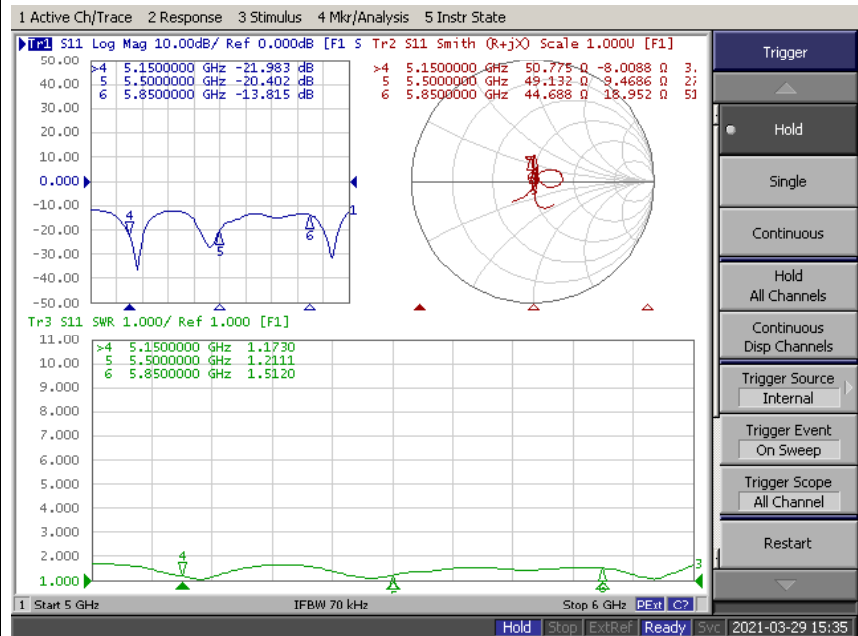


Antenna Performance Test

**Agilent
E5071B**

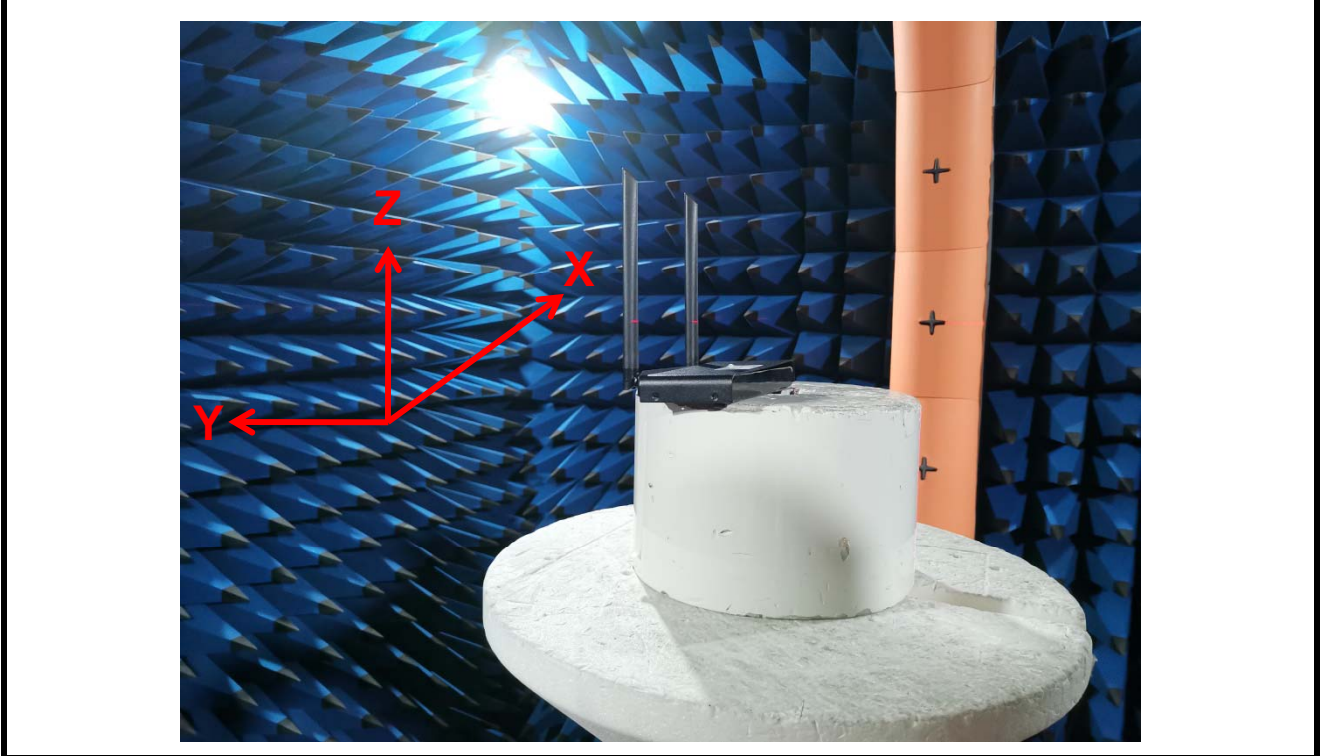
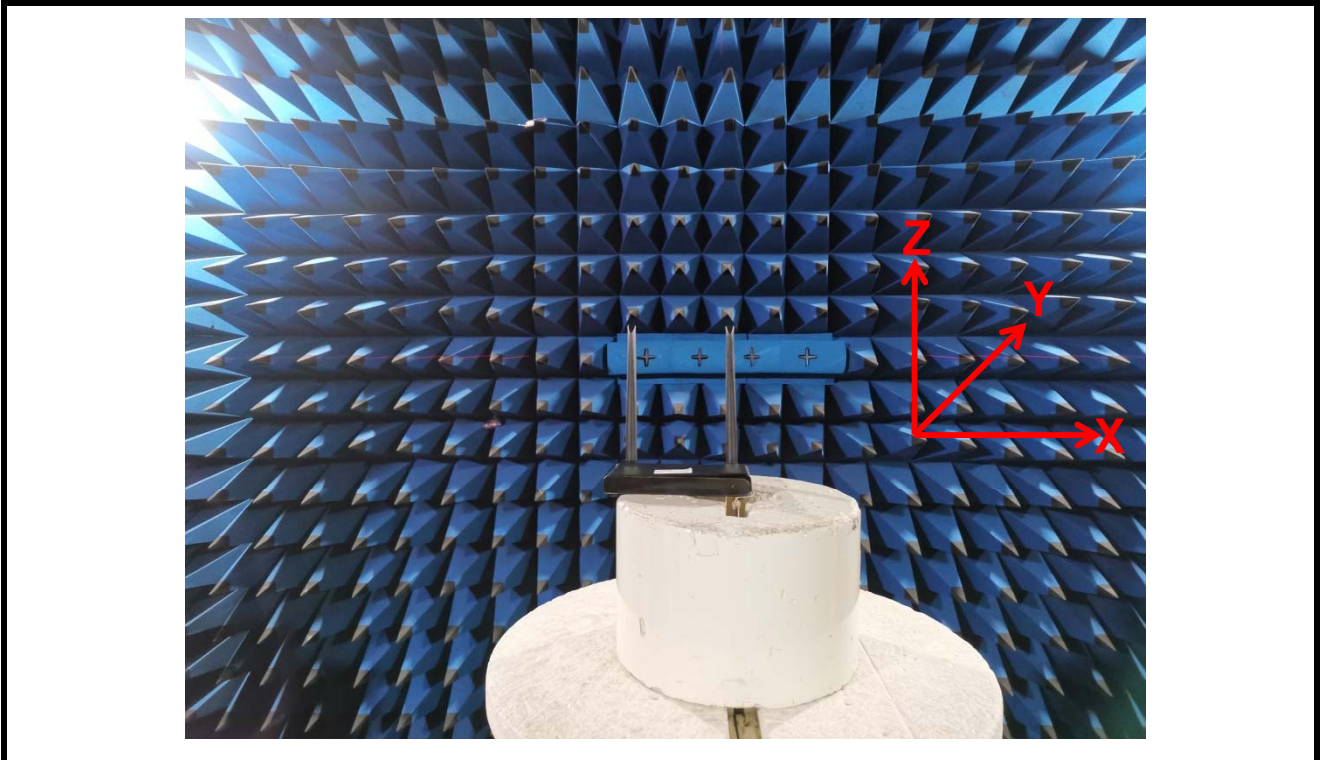


**S
Parameter
Test //
WIFI
Antenna
1#**





Antenna Passive Test



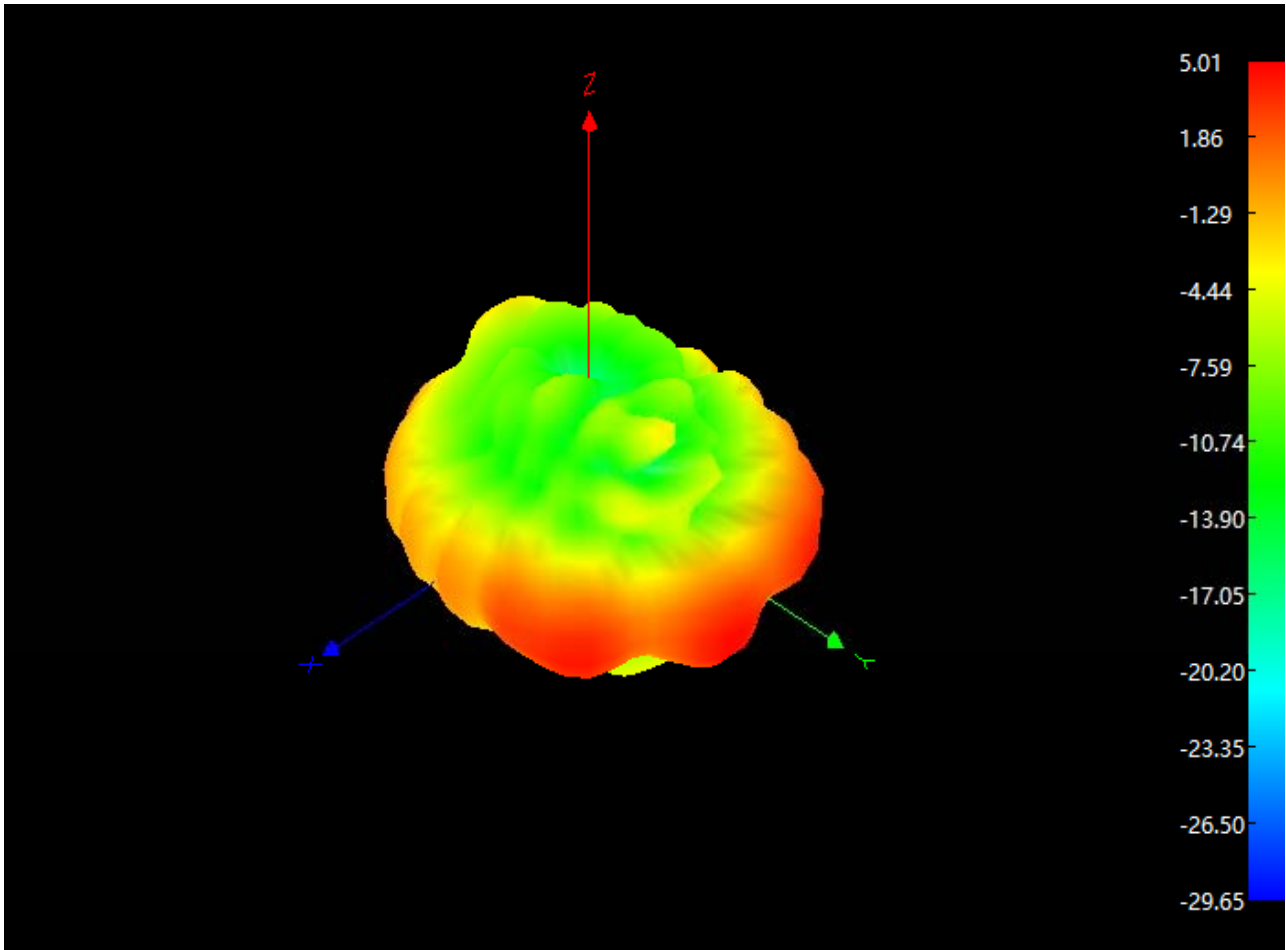


Passive Test For WiFi Antenna(5.8G)

| Freq (MHz) | Effi (%) | Effi (dB) | Gain (dBi) |
|------------|----------|-----------|------------|
| 5150 | 44.3 | -3.5 | 3.8 |
| 5200 | 46.0 | -3.4 | 4.7 |
| 5250 | 44.9 | -3.5 | 4.7 |
| 5300 | 43.1 | -3.7 | 4.5 |
| 5350 | 39.6 | -4.0 | 4.5 |
| 5400 | 42.4 | -3.7 | 4.3 |
| 5450 | 46.2 | -3.4 | 5.0 |
| 5500 | 44.9 | -3.5 | 5.0 |
| 5550 | 44.3 | -3.5 | 4.6 |
| 5600 | 44.3 | -3.5 | 5.4 |
| 5650 | 45.7 | -3.4 | 5.0 |
| 5700 | 40.7 | -3.9 | 5.2 |
| 5750 | 41.6 | -3.8 | 5.4 |
| 5800 | 41.8 | -3.8 | 4.9 |
| 5850 | 39.6 | -4.0 | 4.5 |



Radiation Pattern For WIFI Antenna(5500MHz)





Device



*WIFI
Antenna*





General PC WONDERLITE® Characteristics PC-110

| 特性 PROPERTIES | 測試方法 ASTM TEST METHOD | 測試條件 TEST CONDITION | 單位 UNIT | 通用級 GENERAL |
|---------------------------------------|-----------------------------|---|------------------------------------|-------------|
| | | | | PC-110 |
| 熔融指數 Melt Flow Index | D1238 | 300 °C, 1.2 Kg | g/10 min | 10.0 |
| 比重 Mass Density | D792 | 23 °C | - | 1.2 |
| 硬度 Hardness | D785 | - | M Scale | 77 |
| 拉伸強度 (屈服) Tensile Strength (Yield) | D638 | 6 mm/min | Kg/cm ² | 630 |
| | | | lb/in ² | 8935 |
| 延伸率 Tensile Elongation | D638 | 6 mm/min | % | 110 |
| 彎曲強度 Flexural Strength | D790 | 1.3 mm/min | Kg/cm ² | 920 |
| | | | lb/in ² | 13030 |
| 彎曲彈性模數 Flexural Modulus | D790 | 1.3 mm/min | 10 ⁴ Kg/cm ² | 2.4 |
| | | | 10 ⁵ lb/in ² | 3.4 |
| IZOD 衝擊強度 Izod Impact Strength | D256 (Notched) | 3.2 mm, 23°C | Kg-cm/cm | 87 |
| | | | ft-lb/in | 15.9 |
| 維氏軟化溫度 Vicat Softening Temp. | D1525 | 1 Kg, 50 °C/hr | °C | 150 |
| 熱變形溫度 Heat Distortion Temp. | D648 (annealed) | 132°C × 8 hours Loading 4.6 kg/cm ² | °C | 146 |
| UL 燃燒等級 UL Flammability | UL 94 | - | - | 1.5 mm V-2 |

January 23, 2014

Notes : These are typical properties only and are not to be construed as specifications. Users should confirm results by their own tests.

The above statement is based on our current level of knowledge and covers the above products directly manufactured and supplied by CHI MEI CORPORATION at the date of issue. CHI MEI CORPORATION makes no warranties, whether express or implied, and assumes no liability in connection with any use of above information. Notwithstanding the foregoing, CHI MEI CORPORATION shall in no event be held obligated or liable for any claims due to or arising from (i) any customer provided, consigned, materials and/or parts, which are incorporated or adopted in the products; (ii) any combination of the products with material not provided or authorized by our company; (iii) any modifications to the products which are made or directed by customer; (iv) our compliance with the specifications, instructions, and/or designs provided by customer; (v) any anti-trust, unfair competition and/or other unlawful actions effected by customer; or (vi) any defects, infringement, breach and/or violation which are arising out of customer's faults or otherwise not solely and directly attributable to CHI MEI CORPORATION. In no event will CHI MEI CORPORATION be liable for any indirect, special, exemplary, punitive, or consequential damages (including lost profits) of any nature whatsoever whether arising out of the purchase, shipment, unloading, handling, or use of any product or otherwise.

SHINITE® TPEE

S201NA

Base polymer Grade / Nature
TPEE 一般級 / 本色

| | Unit | Test Method | 4000DH | 5525DH | 7200DH | | |
|---------------------------------|---------------|-------------|---------------------------|--------------------|----------------|---------------|---------------|
| Mechanical properties | | 機械性質 | | | | | |
| Izod Impact(Notched) | 23°C -40°C | 衝擊強度 | Kg-cm/cm | ASTM D256 | NOT BREAK | NOT BREAK | 22 |
| Tensile modulus | | 拉伸模數 | Kg/cm ² | ASTM D638, Type I | 660 | 1630 | 5840 |
| Nominal Tensile Strain at Break | | 拉伸率 | % | ASTM D638, Type IV | 700 | 545 | 405 |
| Tensile Stress at Yield | | 降伏強度 | Kg/cm ² | ASTM D638, Type IV | - | 155 | 305 |
| Tensile Strength | | 拉伸強度 | Kg/cm ² | ASTM D638, Type IV | 305 | 380 | 540 |
| Flexural Strength | | 彎曲強度 | Kg/cm ² | ASTM D790 | 65 | 130 | 320 |
| Flexural Modulus | | 彎曲模數 | Kg/cm ² | ASTM D790 | 900 | 2050 | 7410 |
| Hardness (Shore D), 15sec | | 蕭氏硬度 | - | ASTM D2240 | 43 | 53 | 74 |
| Thermal properties | | 熱性質 | | | | | |
| Heat Deflection Temperature | 66psi | 熱變形溫度 | °C | ASTM D648 | 60 | 100 | 135 |
| Flammability | | 防火性 | - | UL94 | HB | HB | HB |
| Melting Point | | 熔點 | °C | DSC | 185 | 204 | 218 |
| Melt Index | 2.16Kg | 熔融指數 | g/10min | ASTM D1238 | 6.6 (200°C) | 17 (220°C) | 20 (240°C) |
| Other properties | | 其它性質 | | | | | |
| Specific Gravity | | 比重 | - | ASTM D792 | 1.15 | 1.20 | 1.27 |
| Water Absorption | | 吸水率 | % | ASTM D570 | 0.67 | 0.50 | 0.19 |
| Mold Shrinkage | | 成形收縮率 | % | ASTM D955 | 0.8-1.8 | 1.2-2.2 | 1.3-2.3 |
| Volume Resistivity | | 體積電阻 | Ω-CM | ASTM D257 | | | |
| CS-17 Taber abrasion | Load 500g | 摩擦損耗 | mg/10 ³ cycles | ASTM D1044 | | | |

以上數據僅供參考，實際數據以產品出廠檢驗報告為準

Data listed above is for reference. The actual quality of certain batch is varied within a specific range, as indicated in each

此塑料規格獲得UL防火認證，並經第三公正檢測單位檢驗通過RoHS和SVHC法規，歡迎至新光網站或來信查詢

This grade is UL V-0 approved, and comply with RoHS & SVHC regulation.

Feel free to inquire the testing report on www.shinkong.com.tw or mail to service@shinkong.com.tw

MATERIAL SAFETY DATA SHEET (MSDS)

Issued: Dec 20, 2007

Revised: Dec 20, 2007

File No. 2302

1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

CHEMICAL PRODUCT NAME : DURANEX XFR4840
NAME OF COMPANY : WinTech Polymer Ltd.
SECTION IN CHARGE : Quality Assurance Dept.
ADDRESS : 2-18-1 Konan, Minato-ku, Tokyo, 108-8280 Japan
TELEPHONE NUMBER : 03-6711-8605
FACSIMILE NUMBER : 03-6711-8616

2. COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCE/PREPARATION : Preparation RATION
COMMON CHEMICAL NAME : Polybutyleneterephthalate
SYNONYMS : Polybutyleneterephthalate(PBT)
INGREDIENTS AND COMPOSITION : PBT \geq 80%, Phosphorus Flame retardant and others \leq 20%
CHEMICAL FORMULA : $\{ \text{C}_6\text{H}_4\text{C}_6\text{H}_4\text{O}_2 \text{ (C}_2\text{H}_4\text{O)}_n$
SERIAL No IN OFFICIAL GAZETTE : 7-1039 (base resin)
(Law Concerning Examination and Regulation of Manufacture, etc., of Chemical Substances)
CAS No : 2 4 9 6 8 - 1 2 - 5 (base resin)

3. HAZARDS IDENTIFICATION

PHYSICAL AND CHEMICAL HAZARDS : Not applicable
HUMAN HEALTH EFFECTS : Not applicable
ENVIRONMENTAL EFFECTS : Not applicable
PHYSICAL AND CHEMICAL HAZARDS : It is inflammable substance and combustible if an igniting source is existent. Neither dangerous reaction, fire nor explosion can be caused under normal conditions.
THE CLASSIFICATION : Not applicable

4. FIRST-AID MEASURES

INGESTION : Help to vomit as much as possible. If sick feeling continues, ask a physician for advice.
INHALATION : When a gas generated from the molten polymer, especially fume generated during combustion or heat, has been inhaled, remove fresh air without delay and wait until the victim is recovered. If sick feeling continues, ask a physician for advice.
SKIN CONTACT : Cool the contacted skin with clean water without delay, if a contact with the polymer in a molten form. Do not force to remove the solid resin on the skin. If any burns are observed on the skin, ask a physician for advice.

EYE CONTACT : Cool and rinse the eye with clean water for at least 15 minutes when the eyes had contact with molten polymer. In case of wearing contact lenses,remove the lenses as soon as possible,and ask a physician for advice. When the eye had contact with the polymer in an ordinary solid form,rinse the eye with clean water without delay. If the discomfort persists,ask a physician for advice.

5. FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA : Water,form fire-extinguishing agent,powder fire-extinguishing agent,and carbon dioxide gas.

SPECIFIC METHODS : Extinguish the fire with water. A method of extinguishing an ordinary fire may be applied. Do not apply water directly to processing machines.

SPECIFIC HAZARDS : Incomplete combustion leads to generation of toxic gases such as carbon monoxide or tetrahydrofuran,in addition to carbonic acid gas and water.

SPECIAL EQUIPMENT FOR THE PROTECTION OF FIREFIGHTERS : In case the fire gained force,use a gas mask or other protective equipment.

6. ACCIDENTAL LEAKAGE MEASURES

PERSONAL PRECAUTIONS : When pellets were spilled on the road or floor,wipe them off with a besom or cleaner not to cause slipping.

ENVIRONMENTAL PRECAUTION : Handle the spillage in accordance with provisions given in the "Resin pellet spillage preventive manual",in order to prevent intakes by marine animals and birds.

7. HANDLING AND STORAGE

HANDLING : This resin in a pellet form will neither ignite nor explode at room temperatures.

HANDLING 2 : For molding work,effective means for local exhaust are required to discharge gases generated by melt processing.

HANDLING 3 : Avoid inhaling of gases generated in moulding work. Do not directly touch resin of high temperature.

HANDLING 4 : Avoid retaining hot resin in the processing machines for many hours.

HANDLING 5 : This pellets spilled on the floor are likely to cause slipping. Remove such spillage at any times.

STORAGE : Keep the substance away from any fire or heat sources for the sake of safe storage.

RECOMMENDED PACKAGING MATERIALS : No information.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

CONTROL CONCENTRATION : None at present

PERMISSIBLE CONCENTRATION : OSHA PEL/1985
Max. permissible concentration of inactive powder 15mg/m³
- ditto - (Aspiration) 5 mg/m³
ACGIH TLV/1992 1993
Exposure limit of the powder TWA 10 mg/m³

ENGINEERING MEASURE : When handling dust: Use totally enclosed containers resisting dust explosion.
When heat melted in molding: Effective local ventilation must be provided.

| | | |
|-------------------------------|---|---|
| PERSONAL PROTECTIVE EQUIPMENT | : | |
| RESPIRATORY PROTECTION | : | Wear a dust-proof mask. |
| EYE PROTECTION | : | Wear protective glasses or goggles. |
| HAND PROTECTION | : | Wear heat-resisting gloves against burns, when handling molten polymer. |
| SKIN & BODY PROTECTION | : | Wear long sleeve clothes against burns, when handling molten polymer. |

9. PHYSICAL AND CHEMICAL PROPERTIES

| | | |
|-----------------------|---|---|
| APPEARANCE etc. | : | Pellet |
| BOILING POINT | : | Not applicable |
| VAPOUR PRESSURE | : | Not applicable |
| VOLATILITY | : | Not applicable |
| SUBLIMATION | : | None |
| MELTING POINT | : | 228°C |
| DENSITY | : | 1.32g/cm ³ |
| SOLUBILITY | : | Insoluble in water |
| FLASH POINT | : | 300°C or higher |
| IGNITION POINT | : | 300°C or higher |
| EXPLOSION PROPERTY | : | Not applicable |
| INFLAMMABILITY | : | None |
| REACTIVITY WITH WATER | : | None |
| OXIDIZABILITY | : | None |
| SELF-REACTIVITY | : | None |
| DUST EXPLOSIVENESS | : | Upper explosion limit : Not applicable. Lower explosion limit : 35g/m ³ |

10. STABILITY AND REACTIVITY

| | | |
|--------------------------|---|--|
| STABILITY AND REACTIVITY | : | Stable for normal storage or handling. |
|--------------------------|---|--|

11. TOXICOLOGICAL INFORMATION

| | | |
|---------------------------------|---|--|
| SKIN CORROSIVE PROPERTIES | : | No finding. |
| SENSITIZING & IRRITANT EFFECTS | : | Gas generated in drying or melting is irritating eyes and skins. |
| ACUTE TOXICITY (INCLUDING LD50) | : | No finding. |
| SUBACUTE TOXICITY | : | No finding. |
| CHRONIC TOXICITY | : | No finding. |

CARCINOGENECITY : No finding.

MUTAGENECITY(Mi : No finding.
cro
organisms,chromoso
mal aberration)

REPRODUCTIVE : No finding.
TOXICITY

TERATOGENICITY : No finding.

OTHERS(Including : No finding in this report means that there will be no hazard in
generation of general,but no proving data available at the time of reporting.
hazardous gases by
reaction with
water,for ezample)

OTHER CAUTIONS : With regard to dust,the maximum permissible concentration and limits
are fixed by OSHA and ACGIH.

12. ECOLOGICAL INFORMATION

BIODEGRADABILITY : No finding.

BIOACCUMULATION : No finding.

FISH TOXICITY : No finding.

13. DISPOSAL CONSIDERATION

WASTE FROM : This is designated as waste plastics among industrial wastes by the
RESIDUES Wastes Disposal Law. Disposal waste pellets through licensed wastes
handlers or local autonomous bodies if they are handling wastes
disposal.

WASTE FROM : When disposed by incineration,use the well controlled incinerators in
RESIDUES 2 accordance with the Wastes Disposal Law,Air Pollution Control Law and
Water Pollution Prevention Law.

14. TRANSPORT CONSIDERATION

UN : Not applicable
CLASSIFICATION
NUMBER

OTHER CAUSIONS : Handle with care so as not to give damages to containers or not to be
subjected to wetting.

OTHER CAUSIONS : Secure the containers firmly so as not to cause collapsing.
2

15. REGULATORY INFORMATION

WASTE DISPOSAL : Waste plastics among industrial wastes.
LAW

16. OTHER INFORMATION

HANDLING OF THE : This MSDS is the English version translated from the Japanese MSDS
DETAILS GIVEN which is prepared for domestic use.
ABOVE Details given above are based on references, information and data
available at this moment, but no warranty can be made on exactness of
these details. They are also prepared on the assumption that the
product will be handled in a normal way. For special handling, adequate
safety and environmental measures should be taken in respect to its
applications. Our products are not specifically intended for implants for
medical and dental applications, and therefore they are not
recommended for such applications.
"No finding" in this report means that there will be no hazard in general,
but no proving data is available at the time of reporting.

MATERIAL SAFETY DATA SHEET

MSDS FILE No. (KURAMI WORKS) : 05-1225

(based on Form OSHA-174)

IDENTITY (AS Used on Label and List)

Product Class : Phosphor Bronze Strip
 Trade Name : JIS H3130 C5210R (Equivalent to ASTM B103 C52100)
 CAS No. : Copper: 7440-50-8, Tin: 7440-31-5, Phosphor: 7723-14-0
 Chemical Composition

| | Content(wt-%) | CAS No. |
|-------------|---------------|-----------|
| Tin(Sn) | 7.0~9.0 | 7440-31-5 |
| Phosphor(P) | 0.03~0.35 | 7723-14-0 |
| Copper(Cu) | Balance | 7440-50-8 |
| Sn+P+Cu | 99.7 \leq | - |

Section I

| | |
|---|---|
| Manufacturer's Name NIKKO METAL MANUFACTURING CO., LTD. KURAMI WORKS | Date Prepared May 24th, 2005 |
| Address 3 Kurami Samukawa-cho Kouza-gun Kanagawa prefecture 253-0101 JAPAN | Signature of Person in Charge <i>Chihiro Izumi</i> IZUMI, Chihiro Senior Technical Supervisor, Quality Assurance |
| Telephone Number for Information (Quality Assurance) +81-467-75-7285 | Signature of Person Responsible <i>Hiroaki Watanabe</i> |
| Facsimile Number for Information (Quality Assurance) +81-467-74-6971 | WATANABE, Hiroaki Manager, Quality Assurance Section |

Section II Hazardous Ingredients / Identity Information

Hazardous Components (Specific Chemical Identity : Names OSHA PeI ACGIH TLV)

Nothing for ordinary service condition

Section III Physical / Chemical Characteristics

| | |
|--|--|
| Boiling Point 2630 °C for Copper 2275 °C for Tin | Specific Gravity (H2O = 1) 8.80 |
| Vapor Pressure (mmHg) N/A | Melting Point 1025 deg. centi. for C5210 Phosphor Bronze |
| Vapor Density (Air = 1) N/A | Evaporation Rate (Butyl Acetate = 1) N/A |
| Solubility in Water N/A | |
| Appearance and Odor Brown - Red (solid) : Odor - None | |

Section IV Fire and Explosion Hazard Data

| | | | |
|---|-------------------------|------------|------------|
| Flash Point (Method Used) N/A | Flammable Limits N/A | LEL N/A | UEL N/A |
| Extinguishing Media N/A (stable , nonflammable substance) | | | |
| Special Fire Fighting Procedures Not specified | | | |
| Unusual Fire and Explosion Hazards Metal products do not present fire or explosion hazards under normal conditions. | | | |

Section V Reactivity Data

| | | | |
|-----------|----------|---|---------------------|
| Stability | Unstable | | Conditions to Avoid |
| | Stable | X | |

Incompatibility (Materials to Avoid)

Nothing

Hazardous Decomposition or Byproducts

Nothing

| | | | |
|--------------------------|----------------|---|---------------------|
| Hazardous Polymerization | May Occur | | Conditions to Avoid |
| | Will Not Occur | X | |

Section VI Health Hazard Data

| | | | |
|---------------------|--------------|--------|-------------|
| Route(s) of Entry : | Inhalation ? | Skin ? | Ingestion ? |
| | N/A | N/A | N/A |

Health Hazardous (Acute and Chronic)

N/A

| | | | |
|-------------------|-------|-------------------|------------------|
| Carcinogenicity : | NTP ? | IARC Monographs ? | OSHA Regulated ? |
| | N/A | N/A | N/A |

Signs and Symptoms of Exposure

N/A

Medical Conditions

Generally Aggravated by Exposure N/A

Emergency and First Aid Procedures

N/A

Section VII Precautions for State Handling and Use

Steps to Be Taken in Case Material Is Released or Spilled

N/A

Waste Disposal Method

Collect scrap for remelting.

Precautions to Be Taken in Handling and storing

For Handling

- Put safety gloves on to protect your hands from edges of coils which might cut your hands.
- Wear safety glasses when metal powders or chips are expected to be generated in the work.
- Put safety shoes on when handling heavy coils.

For Storing

- The environment of stocking area should be free from acid, alkali, chloride, sulfide and other corrosive chemicals to prevent from rusting or corrosion.

Other Precautions

No special requirements

Section VIII Control Measures

Respiratory Protection (Specify Type)

Wearing a mask be recommended in the work such as abrasion and buffing which generates metal powders or chips.

| | | |
|-------------|-----------------------|---------|
| Ventilation | Local Exhaust | Special |
| | None | None |
| | Mechanical (General) | Other |
| | None | None |

Protective Gloves

Put safety gloves on to protect your hands from edges of coils which might cut your hands.

Eye Protection

Wear safety glasses when metal powder is expected to be generated in the work.

Other Protective Clothing or Equipment

Put safety shoes on when handling heavy coils.

Work / Hygienic Practices

None

Influence to environments

Fish on toxicity : TLm 48 hr. on CuSO4

Salmogairdeneri : 0.038 ~ 0.8 ppm

Oryzias Latipes : 2.1 ~ 24ppm

Material Safety Data Sheet

1. Manufacturer

- Company HARADA Metal Industry Co., Ltd.
- Address 10-18 Sasamekitamati, Toda, Saitama 335-0033, Japan
TEL 048-422-1588
FAX 048-449-6303
- Counter The domestic business department business primary and second section
TEL 048-441-5115
FAX 048-444-9104
The domestic business department OSAKA service office
TEL 06-531-8094
FAX 06-531-8096
The domestic business department NAGOYA service office
TEL 052-821-9778
FAX 052-822-7500
The overseas business department export section
TEL 048-441-5115
FAX 048-444-9104
- Urgent place to contact
The quality assurance department
TEL 048-422-1588
FAX 048-449-6303

2. Products

- Phosphor bronze plates and strips for springs
- Phosphor bronze plates and strips

3. Specification of the material

- The division of mixture or single product : Single product
- The chemical name : Copper alloy
- Chemical composition and content rate(wt.%)

| Element | Percent | | | | | CAS No. |
|------------|-----------|-----------|-----------|-----------|-----------|-----------|
| | C5210 | C5212 | C5191 | C5102 | C5111 | |
| Copper | rem. | rem. | rem. | rem. | rem. | 7440-50-8 |
| Tin | 7.0~9.0 | 7.0~9.0 | 5.5~7.0 | 4.5~5.5 | 3.5~4.5 | 7440-31-5 |
| Phosphorus | 0.03~0.35 | 0.03~0.35 | 0.03~0.35 | 0.03~0.35 | 0.03~0.35 | 7723-14-0 |
| Lead | 0.05 max | 0.05 max | 0.05 max | 0.05 max | 0.05 max | 7439-92-1 |
| Iron | 0.1 max | 0.1 max | 0.1 max | 0.1 max | 0.1 max | 7439-89-6 |
| Zinc | 0.2 max | 0.2 max | 0.2 max | 0.2 max | 0.2 max | 7440-66-6 |

4. Classification of harmfulness

- The name of classification : Not classified into the dangerous harmfulness material.
- The danger : No knowledge
- The harmfulness : No knowledge
- The effect for the environment : No knowledge

5. First aid

- Eyes : Flush the water. Consult the doctor, when the simulation of the eye continues.
- Skin : Flush the water.
- Inhalation : Consult the doctor, when it was large inhaled.

6. The treatment in the fire

- Nonflammable.

7. Leakage

- Not applied (because of solid)

8. Attention in handling and storage

- Stored at the ordinary—temperature and usual humidity.
- Prohibition of the rapid temperature and humidity change.

9. Treatment on the exposure prevention

- Standard control concentration : Not regulated.
- Allowable temperature : Not regulated.
- Facility countermeasure : The whole ventilation is desirable.
- Protector : For lung ,the wear of protection mask is desirable for the power handling.
For hand ,the wear of protective glove is desirable.
For eyes ,the wear of safety goggles is desirable for the power handling.
For body , the wear of protective clothing is desirable.

10. Physical and chemical characteristic

- Appearance and smell : The solid with the metallic luster. Odoless.
- Boiling point : The indistinctness.
- Solubility : Dissolves in the inorganic acid.

| | C5210 | C5212 | C5191 | C5102 | C5111 |
|------------------|--------|--------|--------|--------|--------|
| Specific gravity | 8.82 | 8.82 | 8.85 | 8.88 | 8.90 |
| Melting point | 1020°C | 1020°C | 1045°C | 1050°C | 1060°C |

11. Information for danger

- Fire point : The indistinctness.
- Stability : Show the stability at room temperature and in the air.
- The situation to be avoided : —

12. Information for harmfulness

- The powder stimulates eyes , skin and bronchi.
- Produce the ulcer and the hepatic disorder rarely.

13. Information for environment

- No knowledge.

14. Attention for scrapping

- Possible to deal with ,as an industrial waste.

15. Attention for transportation

- No damage transportation is desirable.

16. Applying act

- —

4. MSDS

江阴凯博通信科技有限公司

JIANGYIN KAIBO COMMUNICATION TECHNOLOGY CO., LTD.

Material Safety Data Sheet (物质安全资料表)

一、物品与厂商资料

物品名称：同轴高频线

物品编号：KB113 系列

制造商或供货商名称、地址：江阴市凯博通信科技有限公司/江苏省江阴市澄江镇梅园大街 391 号

紧急联络电话/传真电话：0510-86070001/86070020

二、成分辨识资料

纯物质：

中英文名称：聚全氟乙丙烯 FLUORINATED PROPYLENE ETHYLENE/镀银铜线 Cu-silver plated/镀锡线 TINNED COPPER

同义名称：FEP/SC/TX

危害物质成分(成分百分比)：无

危害物质：

| 危害物质 | 浓度或浓度范围 (单位: ppm) | |
|------------|-------------------|-----------------|
| 铅及其化合物 Pb | ≤90 | |
| 镉及其化合物 Cd | ≤75 | |
| 汞及其化合物 Hg | ≤1000 | |
| 六价铬及化合物 | ≤1000 | |
| 卤素 | 氯 Cl ≤900 | 氯 Cl+溴 Br ≤1500 |
| | 溴 Br ≤900 | |
| SVHC15 种物质 | 禁止使用 | |

三、危害辨识数据

| | |
|---------------------------------|---|
| 最 重 要 危 害 效 应 | 健康危害效应：在 260℃ 以上，可能会有吸入分解气体的危险。一定要安装排气装置。 |
| | 环境影响：要按废弃物处理及清扫法律法规处理，绝对不可燃烧。 |
| | 物理性及化学性危害：物理化学性能及其稳定，不易降解，不得擅自填埋。 |
| | 特殊危害：无 |
| 主要症状：对人的神经系统产生损害 | |
| 物品危害分类：大气和水源 | |

四、急救措施

| |
|----------------|
| 不同暴露途径之急救方法： |
| · 吸入：到空气流通处换气。 |
| · 皮肤接触：无 |
| · 眼睛接触：无 |
| · 食入：不消化，排出。 |

| |
|---------------|
| 最重要症状及危害效应：无 |
| 对急救人员之防护：对流换气 |
| 对医师之提示：吸氧 |

五、灭火措施

| |
|-----------------------|
| 适用灭火剂：通用 |
| 灭火时可能遭遇之特殊危害：避免分解气体吸入 |
| 特殊灭火程序：无 |
| 消防人员之特殊防护设备：防毒面罩 |

六、泄漏处理方法

| |
|-------------------------------|
| 个人应注意事项：粉状树脂 |
| 环境注意事项：不可填埋 |
| 清理方法：要按废弃物处理及清扫法律法规处理，绝对不可燃烧。 |

七、安全处置与储存方法

| |
|----------------|
| 处置：避免与高温和火源接触。 |
| 储存：通风干燥处。 |

八、暴露预防措施

| |
|---|
| 工程控制：无 |
| 控制参数： · 八小时日时量平均容许浓度/短时间时量平均容许浓度/最高容许浓度： · 生物指标： |
| 个人防护设备： · 呼吸防护：安装排气装置 · 手部防护：无 · 眼睛防护：无 · 皮肤及身体防护：无 |
| 卫生措施：应将衣服上附着的灰尘抖落，手脸洗净，不要让其附着于香烟上。 |

九、物理及化学性质

| | |
|-----------|-----------|
| 物质状态：固体 | 形状：透明颗粒 |
| 颜色：透明 | 气味：无 |
| pH 值：7 | 沸点/沸点范围：/ |
| 分解温度：360℃ | 闪火点：/ |
| 自燃温度：/ | 爆炸界限：/ |
| 蒸气压：/ | 蒸气密度：/ |
| 密度：2.2 | 溶解度：/ |

十、安定性及反应性

| |
|-----------------------------------|
| 安定性：很稳定 |
| 特殊状况下可能之危害反应：高温或燃烧分解气体对人体神经系统的损害。 |
| 应避免之状况：绝对不可燃烧。 |

应避免之物质：金属钠及其强酸的混合物。
危害分解物： 气体及粉尘。

十一、毒性资料

急毒性： /
局部效应： /
致敏感性： /
慢毒性或长期毒性： /
特殊效应： /

十二、生态资料

可能之环境影响/环境流布： 不降解, 禁填埋

十三、废弃处置方法

废弃处置方法： 按废弃物处理及清扫法律法规要求送专业资质处理公司处置。

十四、运送资料

国际运送规定： /
联合国编号： /
国内运送规定： 无
特殊运送方法及注意事项： 无

十五、法规资料

适用法规： 遵循欧盟 REACH 法规相关要求。

十六、其它数据

| | |
|------|--|
| 参考文献 | 杜邦产品说明/SONY 限用物资标准 |
| 制窗体位 | 名称： 江阴凯博通信科技有限公司 |
| | 地址/电话： 江阴市澄江街道梅园大街 391 号/0510-86070017 |
| 制表人 | 姓名(签章)： 庄科洁 |
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