

Measurement of MPE

1. Foreword

In adopt with the Human Exposure IEEE C95.1, and according to the FCC 1.1310. The *Maximum Permissible Exposure (MPE)* is obligated to measure in order to prove the safety of radiation harmfulness to the human body.

The *Gain* of the antenna used is measured in an *Anechoic chamber*. The *maximum total power to the antenna* is to be recorded. By adopting the ***Friis Transmission Formula*** and the *power gain of the antenna*, we can find the distance right away from the product, where the limit of the MPE is.

2. Description of EUT

EUT	:	TeLLUS Wireless LAN Access Point
Model No.	:	TWL-A13
Granted FCC ID	:	PB6-02081
Frequency Range	:	2.412 GHz ~ 2.462GHz
Antenna Kit	:	2 R-SMA connectors for external antennas
Supported Channel:	:	11 Channel
Modulation Skill	:	DBPSK, DQPSK, CCK
Power Cable	:	Non-shielded, 190cm long, No bead
Data Cable	:	RJ45: Non-shielded, 10-meter, No ferrite bead
Power Type	:	AC to DC Switching Adapter Input: 100 ~ 240VAC, 47/63Hz, 0.3A Output: +5VDC, 2A
Applicant	:	TeLLUS Group Corporation 5/F, No.24-2 Industry E Rd. IV, Science-Based Industrial Park, Hsinchu, Taiwan, R.O.C.

3. Limits for Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	100	6
3.0-30	1842/f	4.89/f	900/f ²	6
30-300	61.4	0.163	1.0	6
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	100	30
1.34-30	824/f	2.19/f	180/f ²	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30

[The EUT is tested in transmit and receive modes and in the first, middle and the last channel separately. The following shows only our observation have the greatest emissions.]

According to **OET BULLETIN 56 Fourth Edition/August 1999**, equation for predicting RF fields, by the *Friis Transmission Formula*:

$$\text{Power density at the specific separation (portable): } S = \frac{PG}{4\pi R^2} = \frac{42.66 \times 1.585}{4\pi (20)^2} = 1.345 \times 10^{-2} \text{ mW / cm}^2$$

$$\text{Estimated safe separation: } R = \sqrt{\frac{PG}{4\pi}} = \sqrt{\frac{42.66 \times 1.585}{4\pi}} = 2.320 \text{ cm}$$

Remarks: "The safe estimated separation that the user must maintain from the antenna is at least 2.320 cm."

Where: S = power density (in appropriate units, e.g. mW/cm²)

P = power input to the antenna (in appropriate units, e.g., mW)

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

The Numeric gain G of antenna with a gain specified in dB is determined by:

$$G = \text{Log}^{-1} (\text{dB antenna gain}/10)$$

$$G = \text{Log}^{-1} (2 / 10) = 1.585$$

興瑞通信股份有限公司

料號申請單

91 年 9 月 17 日

興瑞料號：	<u>A.n.t.e.n.n.a., 2..4.G.H.z. .D.i.p.o.l.e. .u.t.</u>		
料品名稱	<u>t.h.R.S.M.A. .P.l.u.g., .M.C.S.-.φ.φ.3.-.134-φ2</u>		
興瑞料號：	<u>521650275</u>	廠庫代號：	<u>03</u> (本欄由承辦人填寫)
	製造廠 #1	製造廠 #2	料品說明
廠商名稱	欣格科技股份有限公司		1. 2.4GHz Dipole Antenna RSMA plug
電話	02-26685793		2. 相關資料請參考附件
地址	台北縣樹林市柑園街二段122巷6號5F		
廠商代號	<u>D5003</u> (本欄由採購填寫)	(本欄由採購填寫)	
料品編號	MCS-003-134-02		
料品名稱	2.4GHz Dipole Antenna SMA plug		
	代理商 #1	代理商 #1	申請事由
廠商名稱			1. 新增料件
電話			2. FOR TWL-A13使用
地址			3. Second Source後補
廠商代號	(本欄由採購填寫)	(本欄由採購填寫)	
料品編號			
料品名稱			
	代理商 #2	代理商 #2	附件
廠商名稱			☐ 廠商資料
電話			☒ 規格文件
地址			☐ 其它
廠商代號	(本欄由採購填寫)	(本欄由採購填寫)	<u>Sample</u>
料品編號			
料品名稱			
備註	1. 本單適用於料品及成品。一種料一張申請單，請勿併單。申請時須附上承認書。 2. 除非該項料品為獨家生產，無可替代，否則都須提供兩家製造廠。並填上其代理商（至少一家）。若代理商即製造廠，則該欄位只填“同上”。獨家產品須說明理由。 3. 原則上須有製造廠。若只知代理商，則須特別說明原因。		

申請人：Chary 申請主管：Shan 採購：Yunne 承辦人：Susie 審核：Shan
9/25/02

第一聯(白)：文件室留存 第二聯(紅)：採購留存 第三聯(黃)：承辦人留存 第四聯(藍)：

承

認

書

APPROVAL SHEET

CUSTOMER: 興瑞通訊股份有限公司

FILE NO.:

DESCRIPTION: Antenna

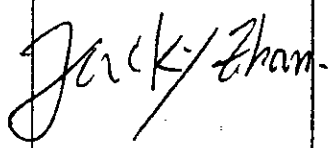
經理 Manager	品保 Q.C.	工程師 Engineer
蔡慕洲 8/27	林育慶 8/27	鍾明憲 8/27

ANTENNIQUES P/N: MCS-003-134-02

CUSTOMER P/N:

DATE: 中華民國 91 年 8 月 27 日

Customer Approval

 9/8	
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 欣格科技股份有限公司 Antenniques Co., Ltd

台北縣樹林市柑園街二段 122 巷 6 號 5 樓

TEL: 02-2668-5793

FAX: 02-2668-5795

5F, No. 6, Lane 122, Sec 2, Ganyun St, Shulin Chulin City.

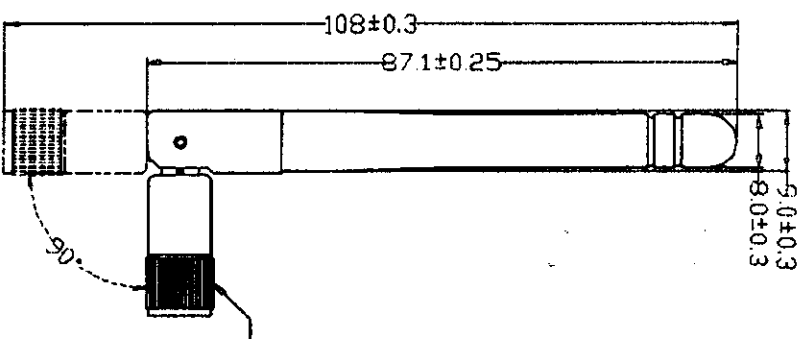
Taipei Hsien, 238 Taiwan R.O.C.

E-mail: mailto:antenniques@msa.hinet.net

網 站: www.antenniques.com.tw

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REV	DATE	DESCRIPTION	DATE
1			

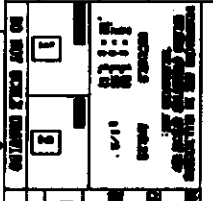


ITEM NO.	QTY	UNIT	DESCRIPTION
1	1	EA	2.4GHz Dipole Antenna RSMA plug

METRIC	UNIT	DESCRIPTION
1	mm	108±0.3
2	mm	87.1±0.25
3	mm	9.0±0.3

DO NOT SCALE DRAWING	1 OF 1	SIZE 1/1
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PART NO.	MCS-003-134-02
DRAWING NO.	WR-R-AD0008-A1



欣格科技股份有限公司
Antenniques Corp. Ltd.
2.4GHz Dipole Antenna RSMA plug

TECHNICAL DATA

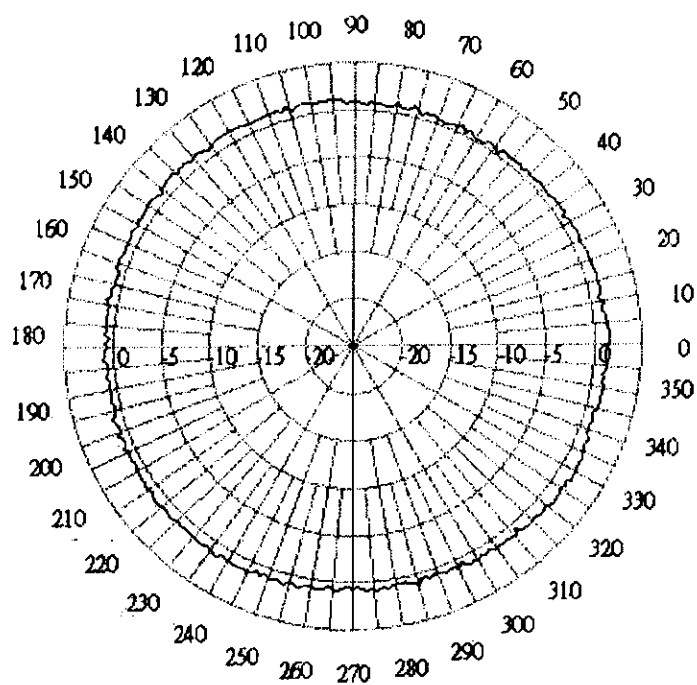
● Electrical Properties

Frequency Range	: 2.4~2.5GHz
Impedance	: 50 Ohm nominal
VSWR	: ≤ 2.0
Gain	: 2dBi
Radiation	: Omni
Polarization	: Vertical
Electrical Wave	: $\lambda/4$ Dipole
Connector	: RSMA Plug

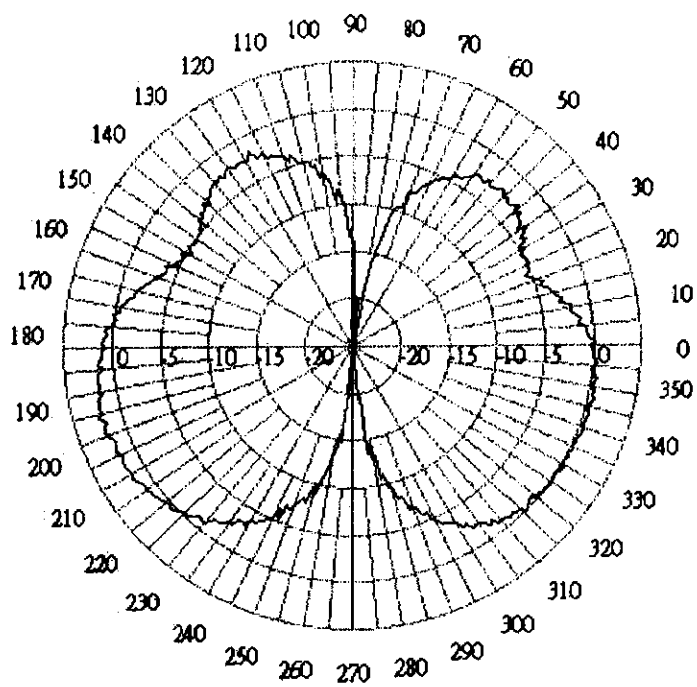
● Mechanical Properties

Antenna Cover	: PU
Color	: Black
Operation Temperature	: $-20^{\circ}\text{C} \sim +60^{\circ}\text{C}$
Storage Temperature	: $-30^{\circ}\text{C} \sim +75^{\circ}\text{C}$

H-Plane



E-Plane



RSMA Specifications

Electrical Properties

1 Impedance.....	50 Ohms
2 Frequency Range.....	0~8 GHz
3 SWR.....	1.1 (Max.)
4 Working Voltage.....	<250 Vrms
5 Dielectric Withstanding Voltage.....	<750 Vrms
6 Insulation Resistance.....	≥2000 Megohms
7 Contact Resistance.....	Center contact: 3.0 Milliohms (Max.) Outer contact: 2.5 Milliohms (Max.)
8 Insertion Loss.....	0.2 dB

Environmental Ratings

1 Operating Temperature.....	-65°C ~ +165°C
2 Thermal Shock.....	MIL-STD-202, Method 107, Condition B
3 Corrosion.....	MIL-STD-202, Method 101, Condition B
4 Shock.....	MIL-STD-202, Method 213, Condition I
5 Vibration.....	MIL-STD-202, Method 204, Condition D
6 Moisture Resistance.....	MIL-STD-202, Method 106

Material Specifications

1 Body.....	Brass Per JIS H3250 C3604 BD, Black chrome Plated
2 Contact.....	Beryllium Copper Per QQ-C-530, Gold Plated Per MIL-G-45204
3 Insulator.....	PTFE Fluorocarbon Per ASTM D 1710



欣格科技股份有限公司 Antenniques Co., Ltd

台北縣樹林市柑園街二段 122 巷 6 號 5 樓 TEL : 02-2668-5793 FAX : 02-2668-5795

5F, No. 6, Lane 122, Sec 2, Ganyun St, Shulin Chulin City, Taipei Hsien, 238 Taiwan R.O.C.

E-mail : antenniques@msa.hinet.net 網站 : www.antenniques.com.tw

RSMA Test Report

Name: Ping

Date: 2002/4/24

N = 1	Au= 7.09 μ "	Ni = 186.2 μ "
N = 2	Au= 6.95 μ "	Ni = 131.5 μ "
N = 3	Au= 7.01 μ "	Ni = 117.6 μ "
N = 4	Au= 6.92 μ "	Ni = 177.8 μ "
N = 5	Au= 7.50 μ "	Ni = 209.6 μ "

BLOCK RESULT

Product : Au/Ni/Cu

	Au	Ni
Mean Value.....X :	7.10 μ "	164.4 μ "
Meas. Time..... :	10 s	
Standard Dev.....S :	0.241 μ "	38.7 μ "
C. O. V. [G].....V :	3.39 %	23.51 %
No of Readings.....n :	5	5
Range.....R :	0.60 μ "	92.1 μ "
Min. Readings..... :	6.90 μ "	117.4 μ "
Max. Readings..... :	7.51 μ "	209.6 μ "

CHECK:陳建明



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台北縣樹林市柑園街二段 122 巷 6 號 5 樓 TEL : 02-2668-5793 FAX : 02-2668-5795

SE, No. 6, Lane 122, Sec 2, Ganyun St, Shulin Chulin City, Taipei Hsien, 238 Taiwan R.O.C.

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RSMA Test Report

Name: Body

Date: 2002/4/20

N= 1	Au= 7.11 μ "	Ni= 164.4 μ "
N= 2	Au= 7.72 μ "	Ni= 207.9 μ "
N= 3	Au= 7.88 μ "	Ni= 211.3 μ "
N= 4	Au= 7.81 μ "	Ni= 204.2 μ "
N= 5	Au= 7.41 μ "	Ni= 210.9 μ "

BLOCK RESULT

Product : Au/Ni/Cu

	Au	Ni
Mean Value.....X	7.51 μ "	199.8 μ "
Meas. Time.....	10 s	
Standard Dev.....S	0.330 μ "	19.7 μ "
C. O. V. [G].....V	4.33 %	9.96 %
No of Readings.....n	5	5
Range.....R	0.85 μ "	46.5 μ "
Min. Readings.....	7.22 μ "	164.4 μ "
Max. Readings.....	8.11 μ "	210.7 μ "

CLIENT:陳建明



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RSMA Test Report

鹽水噴霧試驗記錄表

試驗項目及內容

- 1 氯化鈉品質..... 工業用一般用鹽
- 2 蒸餾水品質..... 純水
- 3 外觀要求程度..... 10 (小時)
- 4 噴霧採取器:
 - 4.1 噴霧量..... 15.6 (ml/80cm/h)
 - 4.2 收集溶液在室的比重或濃度..... 1.0321
 - 4.3 酸鹼濃度..... 6.7
- 5 試樣:
 - 5.1 種類..... 銅材
 - 5.2 形狀..... N/A
 - 5.3 尺度..... N/A
 - 5.4 數目..... 5 pcs
- 6 壓縮空氣壓力..... 1.00 kg f/cm
- 7 試驗室相對濕度..... 90 %
- 8 試驗室溫度..... 35±1 °C
- 9 壓力桶溫度..... 47±1 °C
- 10 鹽水桶溫度..... 35±1 °C
- 11 其它..... 2~3 μ (Ni) ; 1.2 μ " (Au)

判定

1. 依據標準判定..... 符合 RN 8 級 ↑
2. 依其它方法判定..... N/A

試驗員：吳淑珠



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BRASS

线

线是种类最多的黄铜产品，没有任何产品在上应用上有这样广泛。

圆线之使用包括：

- 长行程螺旋弹簧
- 小型机电插座
- 冷锻钉头紧固件
- 弹簧负载测试探针
- 轻量耐疲劳线圈
- BANDOLIERED 连接器触点
- 编织屏蔽布
- 防腐及防生物膜海上线及筛网结构
- 眼镜框

线拉直切成一定长度称为杆 (ROD)。

线之断面也可以不是圆形，“异形”线在特殊的应用中担任了重要的角色，如扁线用于可收缩天线及电报电缆，扁线也可用于代替窄带，虽然有宽度对厚度的比，如果超过此比就不可行，但在许多情形下可达到节约，扁线可减少剪裁毛边。

方线用于电子触点，特别是线的包封需要尖锐的角时，可以达到可靠的接触，偶尔，方形及长方形的线，需要斜角以定向，这些需求及其他较不普遍的形状的黄铜线均可以达到。

本公司所供应之线直径自12.7mm至1.3mm，其公差如表所示，较细的线可以向本公司定单或从本公司之许多再拉制商获得。

线可以退火态 (A) 或四分之一硬 (1/4H)，半硬 (1/2H) 或全硬 (H) 供应，但在特别情况下也供应预硬化 (亦称“预处理”) 线，本产品适用于各种强度与耐久性的产品，可达到柔软而严格的成型要求。

技术规范		
BRUSH 合金	UNS 编号	线材
25	C17200	ASTM B 197 QQ-C-530 AMS 4725 SAE J 461, SAE J 463 JIS H3270
M25	C17300	ASTM B 197 QQ-C-530
3	C17510	*
10	C17500	*
ASTM 美国材料试验学会 QQ 美国标准 SAE 汽车工程委员会 AMS 航空材料规格 (SAE 规格) JIS 日本工业标准 DIN 德国工业标准		
注：除另有规定外，材料均按 ASTM 标准制造。 * 可获得此产品，按本规格制定中。		

公差 (毫米)			
线直径		BRUSH WELLMAN 标准公差 (+或-)	
以上	以下	冷拉	退火
1.27	2	0.008	0.025
2	3	0.01	0.05
3	6	0.015	0.05
6	8	0.02	0.05
8	10	0.025	0.05
10	12	0.025	0.05
注：美国标准公差为国际公差的一半。			



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5F, No. 6, Lane 122, Sec 2, Ganyun St, Shulin Chulin City, Taipei Hsien, 238 Taiwan R.O.C.

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Beryllium Copper

鍍銅線之機械及電學性質							
合金 Alloy	狀態 (*)	熱處理	線直徑 mm	抗拉強度 kg/mm ²	屈服強度 kg/mm ²	伸長百分比	導電百分比 IACS
25 C17200 和 M25 C17300	A (TB00)	—	1.3-12.7	42-55	14-22	30-60	15-18
	1/4H (TD01)	—	1.3-12.7	63-81	52-74	3-25	15-19
	1/2H (TD02)	—	1.3-12.7	77-95	63-88	2-15	15-19
	3/4H (TD03)	—	1.3-2.0	91-109	80-108	2-8	15-19
	H (TD04)	—	1.3-2.0	98-117	91-113	1-6	15-19
	AT (TF00)	3hr 315-330°C	1.3-12.7	112-141	101-127	3 以上	22-28
	1/4HT (TH01)	2hr 315-330°C	1.3-12.7	123-148	116-141	2 以上	22-28
	1/2HT (TH02)	1.5hr 315-330°C	1.3-12.7	130-152	119-148	2 以上	22-28
	3/4HT (TH03)	1hr 315-330°C	1.3-2.0	133-182	123-155	2 以上	22-28
	HT (TH04)	1hr 315-330°C	1.3-2.0	137-182	126-155	1 以上	22-28
3 C17510 和 10 C17500	A (TB00)	—	1.3-12.7	24-39	7-22	20-60	20-30
	H (TD04)	—	1.3-12.7	45-57	38-53	2-20	20-30
	AT (TF00)	3hr 480-495°C	1.3-12.7	70-92	56-78	10 以上	45-60
	HT (TH04)	3hr 480-495°C	1.3-12.7	77-99	66-88	10 以上	48-60

* ASTM之字號及數值表示產品狀態。



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PTFE MATERIAL

APPENDIX

LEO ME PTFE rod is manufactured with virgin PTFE powder by ram extrusion or compression molding and is conformed to meet the requirement of ASTM 1710 (Standard Specification for TFE FLUOROCARBON ROD) described in following table and JIS K 6889 (JAPANESE INDUSTRIAL STANDARD POLYTETRAFLUOROETHYLENE RODS) .

TABLE 1 Detail Specification for PTFE Rod

ITEM	PROPERTY	ASTM TEST METHOD	VALUE
1	Specific gravity	D792	2.15-2.2
2	Tensile strength	D638	280-350 kg/cm ²
3	Elongation	D638	200-400%
4	Dielectric strength	D149	30KV/mm
5	Deformation under load. 6.9Mpa, 50C, %	D621	3.5 - 6
6	Dissipation factor 1 KHz	D150	Less than 0.0005
7	Dielectric constant 1 KHz	D150	2.0 - 2.1
8	Volume resistivity	D257	> 10 ¹⁶
9	Surface resistivity	D257	10 ¹⁷
10	Flexural modulus	D790	430-500Mpa
11	Compressibility	D1147	16-20%
12	Hardness, durometer	D2240	D53 - D60
13	Impact strength	D256	16kg-cm/cm
14	Coefficient of linear thermal expansion, per C. 30C to 80C, 10 ⁻⁵ C	D696	12.3 to 11.6



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PTFE PROPERTY

Item	UNIT wt%	TEST METHOD (ASTM)	PTFE (NATURE)
Apparent density	g/li	D-1457	260
Specific Gravity	g/cm ³	D-792	2.18
Tensile Strength	kg/cm ²	D-638	315
Elongation	%	D-638	400
Deformation (Total) MD	%	D-621 (23°C 140 kg/cm ²)	—
60min. CD			—
24Hrs. CD			14.3
			16.7
Permanent Deformation MD		150°C 200 kg/cm ²	7.9
CD			8.4
Deformation MD			51.8
60min. CD			—
Flexural Strength (0.2% offset) CD	kg/cm ²	D-790	57
Flexural Modulus CD			3,500 ~ 6,300
Compressive Strength (0.2% offset) MD	kg/cm ²	D-695	77
CD			—
Compressive Modulus MD			4,200
CD			
Hardness	Durometer "D"	D-2240	55
Impact Strength	kg-cm/cm	D-256	15.8
Coefficient of Thermal Conductivity	Kcal/m.hr.°C	Conco Fitch	8.21
Coefficient of Linear Thermal Expansion 25~90°C MD	0.01m/°C	D-696	—
CD			12.2
25~150°C MD			—
CD			12.6
25~200°C MD			—
CD			13.7
25~260°C MD			—
CD			16.4
Water Adsorption	%	D-570	0
Coefficient of Friction(Dynamic)		P=7 kg/cm ² V=0.5 m/sec	—
Coefficient of Friction(Static)		P=35 kg/cm ²	0.05~0.08



欣格科技股份有限公司 Antenniques Co.,Ltd

台北縣樹林市柑園街二段 122 巷 6 號 5 樓 TEL : 02-2668-5793 FAX : 02-2668-5795

5F, No. 6, Lane 122, Sec 2, Ganyun St, Shulin Chulin City, Taipei Hsien, 238 Taiwan R.O.C.

E-mail : antenniques@msa.hinet.net 網 站 : www.antenniques.com.tw

PTFE QUALITY CONTROL REPORT

We hereby state that the following material is in accordance with our specifications.

Date : November 6, 2001
Product : ICI PTFE G201
Lot No : FPIHRI 9001
Contents : 25kg * 35
Ref No :

Inspection Item	Unit	Data	Test Method
Bulk density	g/L	465	ASTM D 4895
Standard specific gravity		2.174	ASTM D 4895
Particle size(Avg.)	µm	500	ASTM D 4895
Melting point	°C	329	ASTM D 4895
Extrusion pressure	MPa	69.7	Asahi method
Water content	mas %	0.001	ASTM D 4895

ASAHI GLASS FLUOROPOLYMERS CO., LTD.

Tatuya Higuchi

Production Engineering Group
Polymer Production Department
Chemical Division



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SE, No. 6, Lane 122, Sec 2, Ganyun St, Shulin Chulin City, Taipei Hsien, 238 Taiwan R.O.C.

E-mail : anten.niques@msa.hinet.net 網 站 : www.antenniques.com.tw

Antenna Cover Polyurethane

Elastogran GmbH
Geschäftsbereich TPU-Elastomere



Elastogran GmbH · Postfach 1140 · 49440 Lemförde · Germany
WGS COMPANY LTD.

P.O. BOX 36 - 431
RC TAOYUAN HSIEN

WAGF Gruppe

Date 18.07.2001
No. 62046

Inspection Certificate EN 10 204-3.1 B (DIN 80048)

Product : ES 95 A 50 000 S No. : 15002939
Batch : 207672
Basic-Batch 207673

Property	Test method	Unit	Value
Dichte	DIN 53479	g/cm ³	1,24
Shore-Haerte D	DIN 53505	-	50
Zugfestigkeit	DIN 53504	MPa	53
Reissdehnung	DIN 53504	%	550
Abrieb	DIN 53516	mm ³	22

Dichte = Density/Densität, Shore Härte = Shore hardness/Shore Durometer, Zugfestigkeit = Tensile strength/Resistance traction,
Reissdehnung = Elongation at break/Elongement rupture, Weissenhofabrieb = Tear strength, Abrieb = Abrasion loss/Érosion

The stated values are measured from a representative batch (basic-batch) of every product campaign.

Test platens are injection moulded from dry granulate with less than 0,05 % water content. Test platens tempered 30 hrs. at 100 °C,
then cooled to 23 °C / 80 % RH before testing. Test specimen cut from test platens.

We hereby certify, that the material described above complies with the terms of the order contract.

Höbner Schulte

Werte Inspector

The above information is derived from our quality checks. It does not release the purchaser from examining the product upon delivery
and gives no assurance of suitability of the product for any particular purpose.



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Antenna Cover Polyurethane

Elastollan S規格系列

聚酯類Polyester，有良好機械特性，優異的耐腐性，高彈性，抗拉及斷裂強度用於運動鞋底、溜冰鞋及機械零件等，射出及押出成形

物 性	單位	DIN	S80A	S85A	S88A	S90A	S95A	S98A	S60D	S64D	S74D
用於射出 ▲ 押出 ■ 吹出 ●			▲ ■	▲ ■	▲	▲ ■	▲	▲	▲	▲	▲
硬度 蕭氏A Hardness	Shore A	53505	81	85	88	93	96				
硬度 蕭氏D Hardness	Shore D	53505			36	41	48	55	60	64	75
密度Density	g/cm ³	53479	1.22	1.23	1.23	1.24	1.24	1.25	1.25	1.26	1.26
抗拉強度Tensile strength *	N/mm ²	53504-S2	50	55	55	55	50	45	45	45	40
斷裂延伸率Elongation at break *	%	53504-S2	750	650	650	600	550	500	500	450	300
20% 抗拉模數 Tensile modulus *	N/mm ²	53504-S2	2	2	3	6	8	13	15	22	25
100% 抗拉模數 Tensile modulus *	N/mm ²	53504-S2	4	5	6	9	11	16	18	23	30
300% 抗拉模數 Tensile modulus *	N/mm ²	53504-S2	8	8	9	13	20	23	34	38	40
彈性模數—張力測試 (測試樣品3mm) Modulus of elasticity	N/mm ²	53457-1						200	250	410	800
撕裂強度 Tear strength	N/mm	53515	60	70	75	85	120	150	170	200	240
摩擦損耗 Abrasion loss	mm ³	53516	40	35	30	30	30	25	25	25	25
室溫壓縮變形率 Compression set	%	53517	25	25	25	25	25	30	40	45	55
70°C 壓縮變形率 Compression set	%	53517	35	35	35	45	45	45	50	55	60
凹口衝擊強度 +23°C	KJ/m ²	53453	不適用	不適用	不適用	不適用	不適用	不適用	不適用	不適用	不適用
Notched impact strength (Charpy) -30°C			不適用	不適用	不適用	不適用	5	6	6	4	3

* S2試片在100mm/min的應變速度下測試
 • 厚度2或3mm射出試片，在100°C固火20小時後測試
 • 上列數據僅供參考，常因客戶製品設計而變
 • 換算單位：1MPa=10.2kg/cm²=145PSI=1N/mm²
 1kJ/m²=1.02kg.cm/cm²

加工條件
 — 射出成形溫度175~240°C
 — 模溫20~70°C
 — 押出成形溫度175~230°C



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Antenna Base Polycarbonate

TEIJIN CHEMICALS LTD.

TEIJIN CHEMICALS LTD.
2-2, UCHISAIWAICHO 1-CHOME,
CHUYODA-KU, TOKYO, JAPAN

TELEPHONE: TOKYO (3508) 4780
FACSIMILE: TOKYO (3508) 4780

TO WHOM IT MAY CONCERN

CERTIFICATE OF QUALITY

ITEM	UNIT	TEST METHOD	TEIJIN CHEMICALS QUALITY STANDARD	TEST RESULT
IMPACT STRENGTH (IZOD NOTCHED 2.2mm thick)	kgf/cm	ASTM D138	≥ 80	PASS
FLEXURAL MODULUS	kgf/cm ²	ASTM D790	23,600 ± 1,600	PASS
TENSILE STRENGTH (AT BREAK)	kgf/cm ²	ASTM D438	820 ± 140	PASS

NOTE : ALL FIGURES ENTERED IN THIS TABLE ARE FOR THIS SPECIFIC LOT AND, THEREFORE,
NO GUARANTEE.

TEIJIN CHEMICALS LTD.

M. Kikuchi
for L. KIKUCHI
MANAGER
SALES ADMINISTRATION DEPT.



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Antenna Base Polycarbonate

QMFZ2

Component - Plastics

TEIJIN CHEMICALS LTD

										E50075 (M)
										(C - cont. from 8010 card)
L-1225UM(d).	All	0.40	94V-2	80	80	80	4	3	2	—
L-1225ZL(d)		0.75	94V-2	80	80	80	3	1	2	—
		1.5	94V-2	125	115	125	3	1	3	—
		2.1	94HB	125	115	125	3	1	3	—
		3.0	94HB	125	115	125	2	1	3	5
		6.0	94HB	125	115	125	1	1	4	—
L-1225LL(d)	All	0.4	94V-2	80	80	80	4	3	2	—
		0.75	94V-2	80	80	80	3	1	2	—
		1.5	94V-2	125	115	125	3	1	3	—
		3.0	94V-2	125	115	125	3	1	3	5
		3.3	94HB	125	115	125	2	1	3	—
		6.0	94HB	125	115	125	1	1	4	—
L-1250W(f2)(d).	All	0.40	94V-2	80	80	80	4	3	2	—
L-1250UB(d).		0.84	94V-2	80	80	80	4	—	4	—
L-1250VB(d).		1.5	94HB	125	115	125	4	0	3	—
L-1250ZB(d)		3.0	94HB	125	115	125	2	0	3	5
		6.0	94HB	125	115	125	1	0	4	—

Reports: February 10, 1989; February 10, 1989; September 24, 1990.

Replaces E50075C dated November 1, 1994.

699748006

N7847

Underwriters Laboratories Inc.®

(Cont. on C005 card)

011/0032918

QMFZ8

July 28, 1997

Component - Plastics Certified For Canada

TEIJIN CHEMICALS LTD

E50075 (M)
(C - cont. from B card)

(cc) 10 thru 30 incl.
(i) A two digit number (10-15) denoting carbon filler content.
(j) A two digit number (10-40) denoting the total content of carbon fiber and glass fiber.
ww - A two digit number 10 thru 20 denoting content of carbon filler.
Any one or two letters may be suffixed to the grade.
Marking: Company name and material designation, generic polymer identification, color number where appropriate, and batch or lot number or date of manufacture on container, wrapper or molded on finished part.

See General Information Preceding These Recognitions.
Small-scale test data does not pertain to building materials, furnishings and related contents. Small-scale test data is intended solely for determining the flammability of plastic materials used in the components and parts of end-product devices and appliances, where the acceptability of the combination is determined by UL.

699748006

Underwriters Laboratories Inc.®

011/0251459



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台北縣樹林市柑園街二段 122 巷 6 號 5 樓 TEL: 02-2668-5793 FAX: 02-2668-5795

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Grades of Panlite'

Grades	Viscosity	Characteristics	Main molding methods	Principal applications
K-1300	High	Standard	Extruding/blow molding/ injection molding	• Sheet, film, pipe and other extruded products. • Bottles and other direct blow molded products. • Large tanks and other rotational molded products.
K-1300Y	-	Mold release/ice color	Extruding/blow molding/ injection molding	
K-1300Z	-	Weather resistance/ ice color	Extruding/blow molding/ injection molding	
K-1300W	-	Powder	Extruding/rotational molding	
K-1285	-	Standard	Extruding/blow molding/ injection molding	
L-1250	Medium	Standard	Injection molding	• Machine parts, electric and electronics appliance parts, medical apparatuses, protective equipment parts, industrial parts in general. • Lighting fixtures parts requiring transparency and heat resistance. • Table ware and mechanical parts requiring cold and heat resistance.
L-1250R	-	Mold release	Injection molding	
L-1250Y	-	Mold release/ice color	Injection molding	
L-1250Z	-	Weather resistance/ ice color	Injection molding	
L-1250J	-	Boiling water resistance	Injection molding	
L-1250T	-	Boiling water resistance/mold release/ice color	Injection molding	• Large tanks and other rotational molded products. • Thin-wall products requiring high flowability, electric & electronics appliance parts, machine parts, protective equipment parts, medical apparatuses, lighting fixtures, lamp shade, table ware and containers. • Suitable for injection blow molding uses.
L-1250W	-	Powder	Injection molding/ rotational molding	
L-1225	Low	Standard	Injection molding	
L-1225R	-	Mold release	Injection molding/ injection blow molding	
L-1225Y	-	Mold release/ice color	Injection molding/ injection blow molding	
L-1225Z	-	Weather resistance/ ice color	Injection molding	• Ultra-thin wall parts of electric & electronics appliances. • Ultra-thin lamp lenses. • Compact disks, CD-ROM, optical lenses.
L-1225J	-	Boiling water resistance	Injection molding	
L-1225T	-	Boiling water resistance/mold release/ice color	Injection molding/injection blow molding	
L-1225W	-	Powder	Injection molding/ rotational molding	
L-1225L	Ultra low	Mold release/ice color	Injection molding	
L-1225ZL 100	-	Mold release/ weather resistance/ ice color	Injection molding	
AD-5503	-	Optical properties/ low contamination	Injection molding	



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