



# 承認書

## APPROVAL SHEET

客戶名稱  
CUSTOMER : 泰鉅科技股份有限公司

品名  
DESCRIPTION : 2.4G ANTENNA SMA PLUG REVERSE L=10CM 黑色(ROHS)

型號  
PART NO. : 100SPR-A

客戶料號  
PART NO. :

變更項目 :

名晨(電子)股份有限公司		APPROVALED NO:
DOCU. NO:		客戶承認簽章 APPROVED SIGNATURES
工程出圖	楊浩	
業務	吳建成	
核准 Approved By	JOHNNY	
日期 DATE:	2005/9/20	日期 DATE:

名晨(電子)股份有限公司

MY-CHANCE ELECTRONIC CO., LTD.

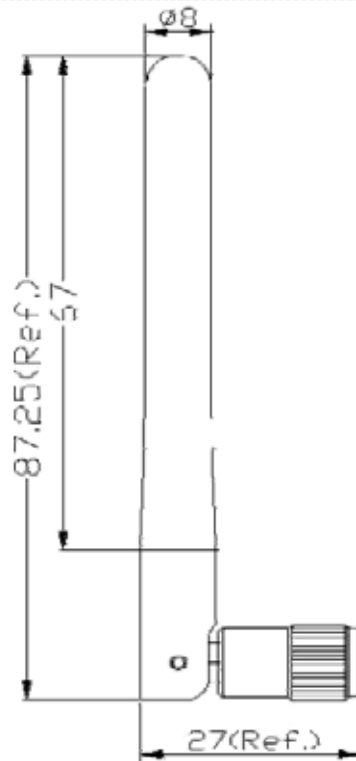
桃園縣蘆竹鄉龍安街二段 185 號

TEL:886-3-3699978

FAX:886-3-3608382

# SPECIFICATION

Part Name ..... 2.4GHz Antenna  
 Part Number ..... 100SPR-A



## *Electrical Properties*

Frequency Range	2.4~2.5GHz
Impedance	50 Ohms nominal
V.S.W.R	2.0 (Max.)
Gain	1.6dbi
Polarization	Vertical
Radiation	Omni
Electrical Wave	1/4 $\lambda$ Dipole

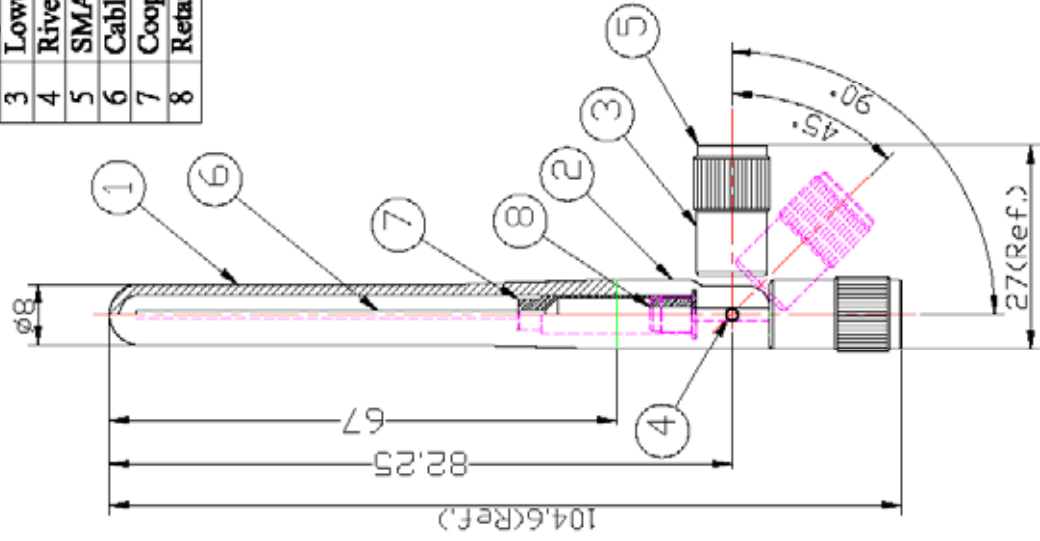
## *Mechanical Properties:*

Cable	RG-178
Antenna Cover	Polyurethane (TPE)
Antenna Base	Polyurethane (ABS)
Color	Black
Operation Temperature	-20°C~+65°C
Storage Temperature	-30°C~+75°C

1 2 3 4

# B.O.M

Item	Name	Dwg. No	Spec.	Material.	QTY	Surface	Note.
1	Main Sleeve	PT-B00-003	φ 9.3x φ 6x78L	TPE	1	Black	
2	Upper Base	PT-B01-001	φ 9.3x20L	ABS	1	Black	
3	Lower Base	PT-B02-001	φ 9.3x16L	ABS	1	Black	
4	Rivet	MA-B00-001	φ 1.8x3.5L	C3604	2	Zinc Black	
5	SMA Connector				1		
6	Cable	RG-178			1		
7	Cooper Tube	MA-A01-001	φ 5.2x23L	cooper	1	Nickel	
8	Retainer	PA-A00-001	φ 4.6x6L	p.o.m	1	white	



尺寸公差	B	C	D	E	角度公差
1.01	±0.025	±0.05	±0.1	±0.25	Angular ±3°
1.0-2.0	±0.03	±0.05	±0.13	±0.3	Tolerance
2.0-4.0	±0.04	±0.08	±0.16	±0.4	
4.0-8.0	±0.05	±0.1	±0.2	±0.5	100 ↓ ±0.8
8.0-16	±0.06	±0.13	±0.25	±0.6	50-100 ±0.5
16-31.5	±0.08	±0.16	±0.3	±0.8	
31.5-50	±0.1	±0.2	±0.4	±1.0	5-50 ±0.3
50-125	±0.13	±0.25	±0.5	±1.25	
125-250	±0.16	±0.3	±0.6	±1.6	5 ↓ ±0.2
250-500	±0.2	±0.4	±0.8	±2.0	
500.1	±0.25	±0.5	±1.0	±2.5	

**ACS** 名晨(電子)股份有限公司  
 MY-CHANCE ELECTRONIC CO.:LTD

機種 100SPR-A  
 圖號 WBC-05BK-C001  
 名稱 2.4Ghz Antenna

繪圖	Yang	校	正	說	明	更新	審核
檢圖				日期	日期	日期	日期
核准	River	2004/2/19	2004/2/19	2004/2/19	2004/2/19	2004/2/19	2004/2/19

客戶

1

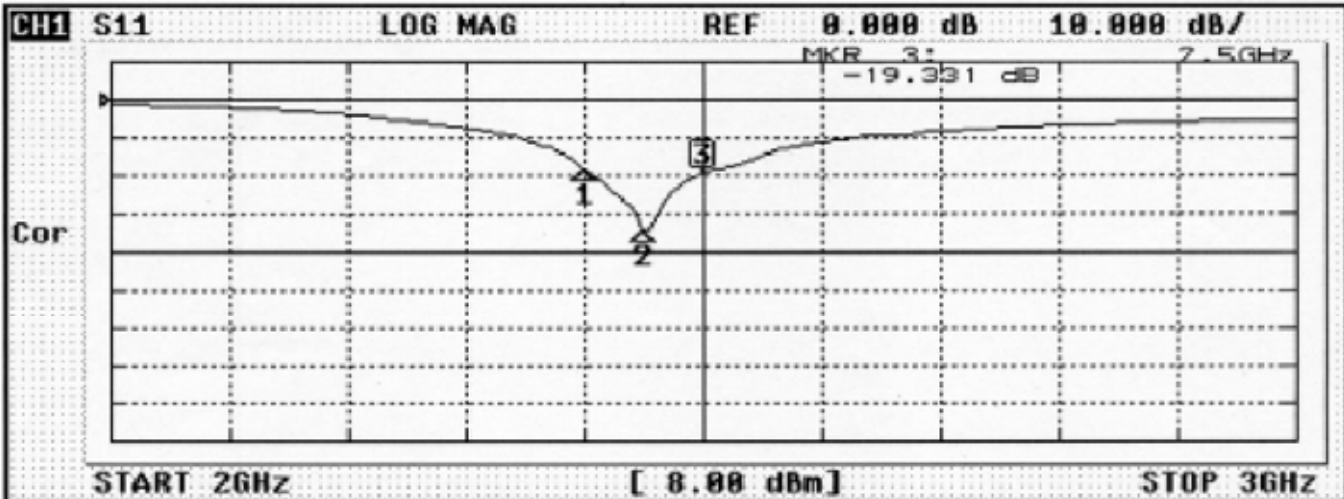
2

3

4

# RETURN LOSS Test Chart

2004/11/01 Mon 8:53:09

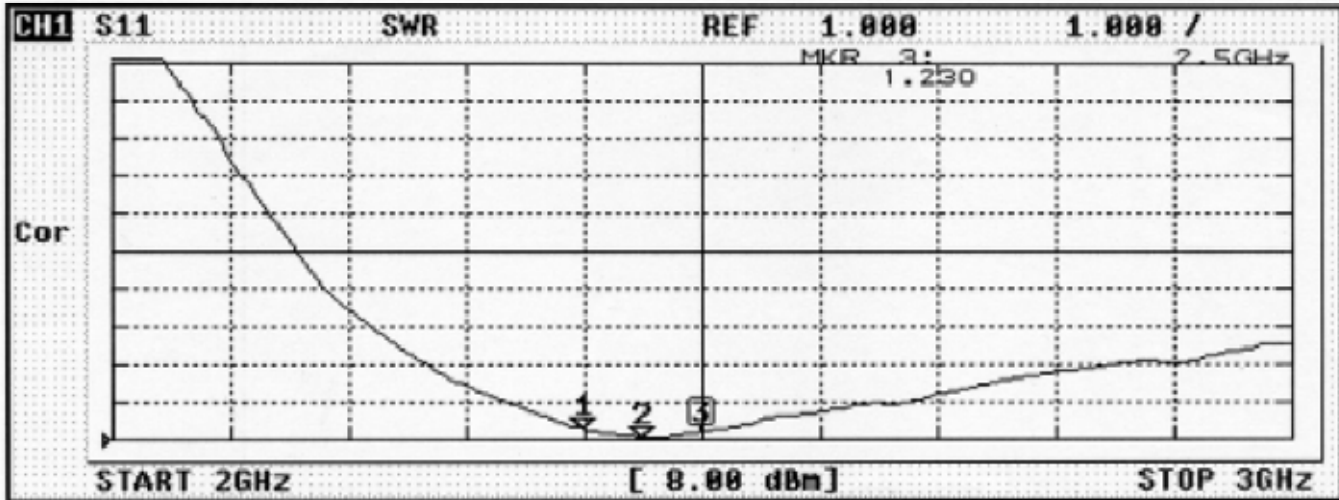


## CH1 MARKER LIST

1:	2.400 000GHz	-18.310 dB
2:	2.450 000GHz	-33.873 dB
3:	2.500 000GHz	-19.333 dB
4:		
5:		
6:		
7:		
8:		
9:		
10:		

# V.S.W.R Test Results

2004/11/01 Mon 8:53:43



## CH1 MARKER LIST

1:	2.400 000GHz	1.295
2:	2.450 000GHz	1.047
3:	2.500 000GHz	1.231
4:		
5:		
6:		
7:		
8:		
9:		
10:		



Advance Data Technology Corporation

誠信科技股份有限公司

Hwa Ya Lab : No.19, Hwa Ya 2nd RD, Kueishan, Taoyuan, Taiwan, R.O.C.  
Tayuan Lab : 13-1 Lane 19, Wen Shan 3rd St., Kueishan, Taoyuan, Taiwan, R.O.C.  
Hsinchu Lab : 81-1 Lulackeng, 9th Ln, Wulung Tsuen, Chunglin, Hsinchu, Taiwan, R.O.C.

http://www.adt.com.tw/ E-mail: service@adt.com.tw  
Tel (03) 318-3232 Fax (03) 318-5050  
Tel (03) 327-0910 Fax (03) 327-0892  
Tel (03) 593-5343 Fax (03) 593-5342

Brand / Model : WBC-05BK-C001  
Remark : ANT E1  
Tested by : LAWRENCE  
EUT description :

Location: RF Chamber3

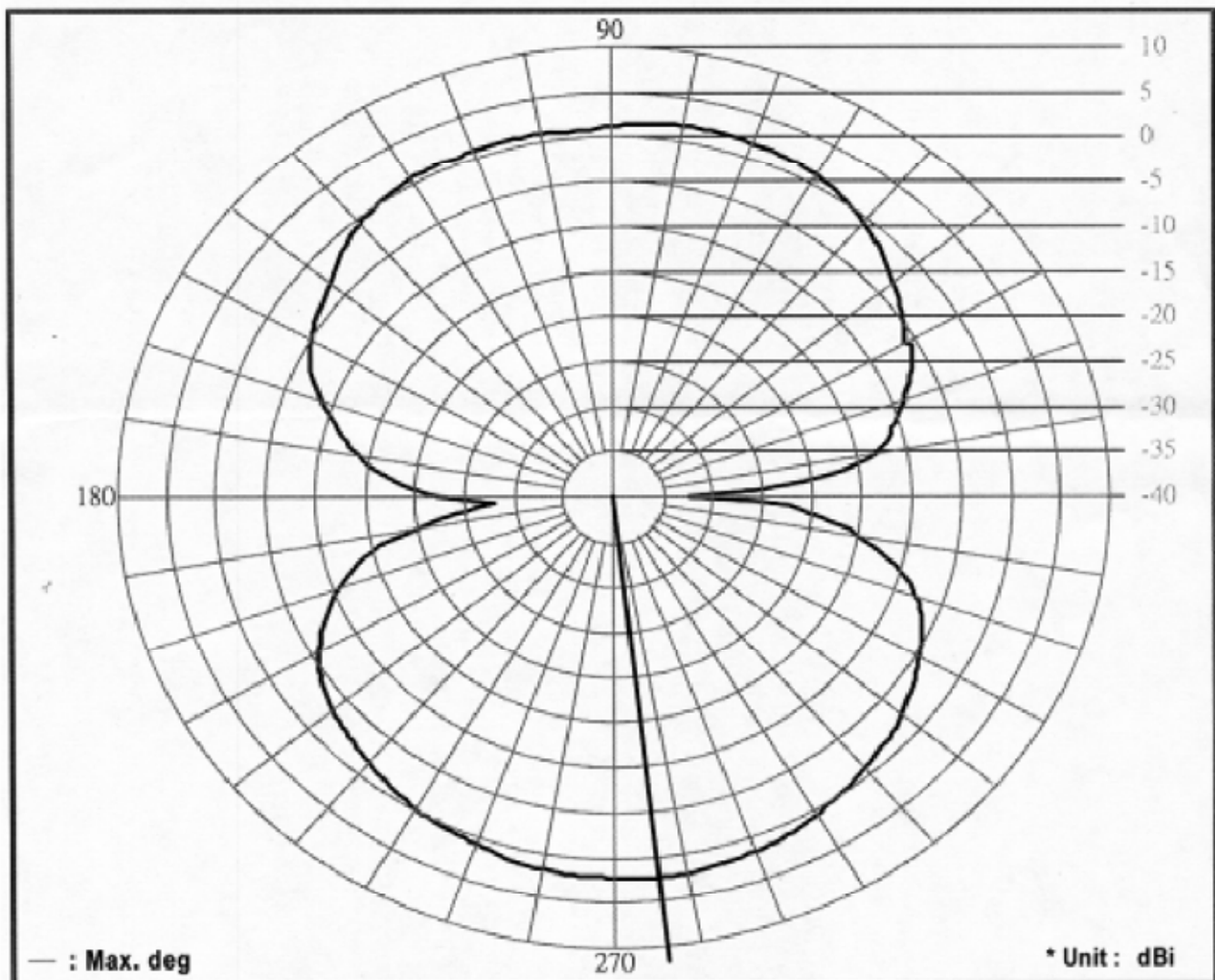
Date: 2004/10/29

Time: 19:47:06

Temperatuer (°C): 25

Humidity (%): 75

Approved by:



Frequency (MHz): 2450.00

Antenna Polarity: Horizontal

Average Gain (dB): -1.25

Maximum Gain (dB): 2.52

Maximum Gain (degree): 276

Minimum Gain (dB): -32.19

Minimum Gain (degree): 360

C:\Antenna Pattern V5.1\Graph\1029\10290002.png



# Advance Data Technology Corporation

誠信科技股份有限公司

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Tel (03) 327-0910 Fax (03) 327-0892

Tel (03) 593-5343 Fax (03) 593-5342

Brand / Model : WBC-05BK-C001  
Remark : ANT H  
Tested by : LAWRENCE  
EUT description :

Location: **RF Chamber3**

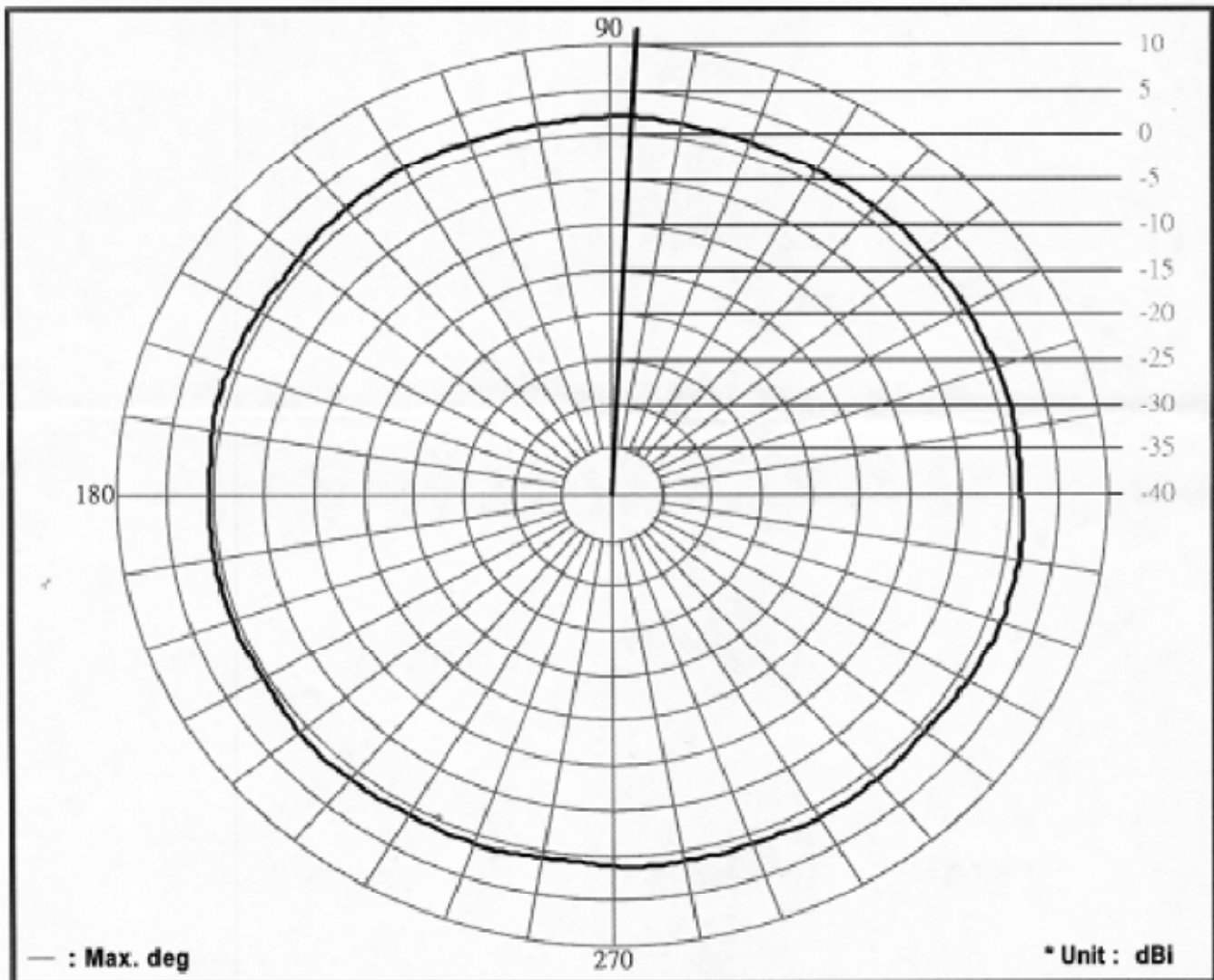
Date: **2004/10/29**

Time: **19:40:38**

Temperatuer (°C): **25**

Humidity (%): **75**

Approved by:



Frequency (MHz): **2450.00**

Antenna Polarity : **Vertical**

Average Gain (dB) : **1.36**

Maximum Gain (dB) : **2.12**

Maximum Gain (degree) : **87**

Minimum Gain (dB) : **0.52**

Minimum Gain (degree) : **177**

C:\Antenna Pattern V5.1\Graph\1029\10290001.png

## Amitel EL630

TPE E

63 Shore D polyether-ester elastomer

<i>properties</i>	<i>Units SI</i>	<i>Typical data Dry</i>	<i>Test methods</i>
<b>Physical properties</b>			
Density	g/cm <sup>3</sup>	1,23	ISO 1183
<b>Flammability</b>			
burring rate	mm/min	-	ISO 1210/A
classification	-	FH-1	
<b>Moisture absorption</b>			
at equilibrium in air (23°C/50%RH)	%	0,2	ISO 62
after saturation in water 23°C	%	0,6	
<b>Mechanical properties</b>			
Hardness Shore D	-	63	ISO 868
Tensile modulus (at 1mm/min)	MPa	330	ISO 527-1
Tensile strength (at 50 mm/min)	MPa	30	
Nominal strain at break	%	350	ISO 527-1
Tensile stress at 5% strain	MPa	11,5	ISO 527-1
Tensile stress at 10% strain	MPa	15,9	ISO 527-1
Tensile stress at 50% strain	MPa	17,3	ISO 527-1
Tear strength Graves	kN/m	145	DIN 53515
Izod notched impact strength 23°C	kJ/m <sup>2</sup>	NB	ISO 180-1A
Izod notched impact strength -30°C	kJ/m <sup>2</sup>	4	ISO 180-1A
Charpy notched impact strength 23°C	kJ/m <sup>2</sup>	NB	ISO 179/1eA
Charpy notched impact strength -30°C	kJ/m <sup>2</sup>	12	ISO 179/1eA
Tensile impact strength	kJ/m <sup>2</sup>	-	ISO 8256
<b>Thermal properties</b>			
Melting temperature	°C	212	ISO 3146
Melt mass-flow rate (240°C/2160g)	-	-	
Vicat softening temperature - 10 N	°C	200	ISO 306
Vicat softening temperature -50 N	°C	125	ISO 306
Deflection temp. under load - HDT-B	°C	115	ISO 75-2
Coeff.of lin. therm. expansion (parallel)	E-4/K	1,4	DIN 33752
<b>Electrical properties</b>			
Electric strength	kV/mm	22	IEC 60243-1
Relative permittivity at 1kHz	.	4,4	IEC 60250
Loss factor at 1 kHz	E-4	160	IEC 60250
Comparative tracking index	V	600	IEC 60112
Volume resistivity	Ohm.cm	1E+14	IEC 60093
Surface resistivity	Ohm	1E+14	IEC 60093

NB No Break (ductile fracture)

1) Specimen according to ISO 14910 (Campus®).

2) Typical values for nature' coloured materials (unless indicated otherwise).





QMFZ2 Component -Plastics

E47960

**DSM ENGINEERING PLASTICS B V**  
**POSTBUS 43 6130 AA SITTARD THE NETHERLANDS**

Material Designation: **EL630,EM630**

Product Description: Thermoplastic Elastome'(TPE), Polyester,designated "Amitel" furnished as perlets

Color	Min. Thick (mm)	Flame Class	HWI	NAI	RTI Elec.	RTI IMP	RTI Str	IEC GWIT	IEC GWFI
NC.BK	1.5	HB	-	-	-	-	-	-	-
	CTI:-		HVTR:-		D495:-		IEC BP:-		

Underwriters Laboratories Inc®

75932:001

UL94 small-scale test data does not pertain to building materials,furnishings and ,elated contents. UL 94 small-scale test data is intended solely for determining the flamm-ability of plastic materials used in components and parts of end-product devices and appliances, where the acceptability of the combination is determined by ULI.



奇美實業股份有限公司

CHI MEI CORPORATION

ORIGINAL

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Tainan County, Taiwan

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No. 9, Ai-Kuo West Road  
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FAX: (02)23618800

033271860

4LA05137

物性測定結果  
Physical Properties

客戶名稱 : P40538

品名	LOI NO	項目	Test Method	ASTM	檢測值
✓ PA-765A	40561021	Tensile Strength (kg/cm <sup>2</sup> )	Break	D 638	300.00
		引張強度			
		Tensile Strength (kg/cm <sup>2</sup> )	Yield	D 638	390.00
		引張強度			
		Tensile Elongation (%)		D 638	36.00
		延伸率			
		Izod Impact Strength (kg.cm/cm)		D 256	16.40
		衝擊強度			
		Melt Index (g/10 min)*		D 1238	5.48
		流動係數			





## Test Report

WGJ COMPANY LTD.  
NO. 5, TING FU 5 TH STREET, KWEI SHAN HSIANG,  
TAOYUAN HSIEN, TAIWAN

Report No. : CE/2005/43135  
Date : 2005/04/22  
Page : 1 of 4

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

Type of Product : DSM ARNITEL TPEE  
Style/Item No : EM400, EM460, EL550, EL630, EM740  
Sample Received : 2005/04/15  
Testing Date : 2005/04/15 TO 2005/04/22

=====  
Conclusion : The test results of Pb, Cd, Hg, Cr+6, PBB and PBDE for the submitted sample which is comply with the requirements of RoHS (2002/95/EC).

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

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# Test Report

WGJ COMPANY LTD.  
 NO. 5, TING FU 5 TH STREET, KWEI SHAN HSIANG,  
 TAOYUAN HSIEN, TAIWAN

Report No. : CE/2005/43135  
 Date : 2005/04/22  
 Page : 2 of 4

## Test Result

PART NAME NO.1 : WHITE PLASTIC PELLETS (PLEASE REFER TO THE PHOTO ATTACHED)

PASS

Test Item (s):	Unit	Method	MDL	Result	Limit of ROHS
				No.1	
Monobromobiphenyl	%	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.	-
Dibromobiphenyl	%		0.0005	N.D.	-
Tribromobiphenyl	%		0.0005	N.D.	-
Tetrabromobiphenyl	%		0.0005	N.D.	-
Pentabromobiphenyl	%		0.0005	N.D.	-
Hexabromobiphenyl	%		0.0005	N.D.	-
Heptabromobiphenyl	%		0.0005	N.D.	-
Octabromobiphenyl	%		0.0005	N.D.	-
Nonabromobiphenyl	%		0.0005	N.D.	-
Decabromobiphenyl	%		0.0005	N.D.	-
<b>Total PBBs(Polybrominated biphenyls)/Sum of above</b>	%				N.D.
Monobromobiphenyl ether	%	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.	-
Dibromobiphenyl ether	%		0.0005	N.D.	-
Tribromobiphenyl ether	%		0.0005	N.D.	-
Tetrabromobiphenyl ether	%		0.0005	N.D.	-
Pentabromobiphenyl ether	%		0.0005	N.D.	-
Hexabromobiphenyl ether	%		0.0005	N.D.	-
Heptabromobiphenyl ether	%		0.0005	N.D.	-
Octabromobiphenyl ether	%		0.0005	N.D.	-
Nonabromobiphenyl ether	%		0.0005	N.D.	-
Decabromobiphenyl ether	%		0.0005	N.D.	-
<b>Total PBBEs(PBDEs)(Polybrominated biphenyl ethers)/Sum of above</b>	%				N.D.

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NO. 5, TING FU 5 TH STREET, KWEI SHAN HSIANG,  
TAOYUAN HSIEN, TAIWAN

Report No. : CE/2005/43135  
Date : 2005/04/22  
Page : 3 of 4

PASS

Test Item (s):	Unit	Method	MDL	Result	Limit of ROHS
				No.1	
Chromium VI (Cr+6)	ppm	UV-VIS after reference to US EPA 3060A.	2	N.D.	1000
Cadmium (Cd)	ppm	ICP-AES after reference to EN 1122, method B:2001 or other acid digestion.	2	N.D.	100
Mercury (Hg)	ppm	ICP-AES after reference to US EPA 3052 or other acid digestion.	2	N.D.	1000
Lead (Pb)	ppm	ICP-AES after reference to US EPA 3050B or other acid digestion.	2	N.D.	1000

- NOTE: (1) N.D. = Not detected (<MDL)  
(2) ppm = mg/kg  
(3) MDL = Method Detection Limit  
(4) " --- " = Not Applicable  
(5) " - " = No Regulation

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