

# ***INDEX***

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# RF Antenna Cable Assembly

## Specification

### 1. Electrical Properties :

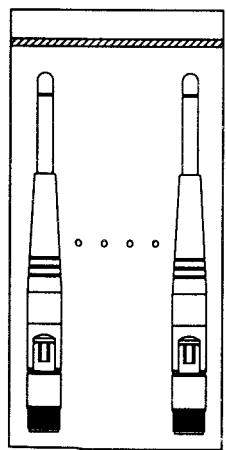
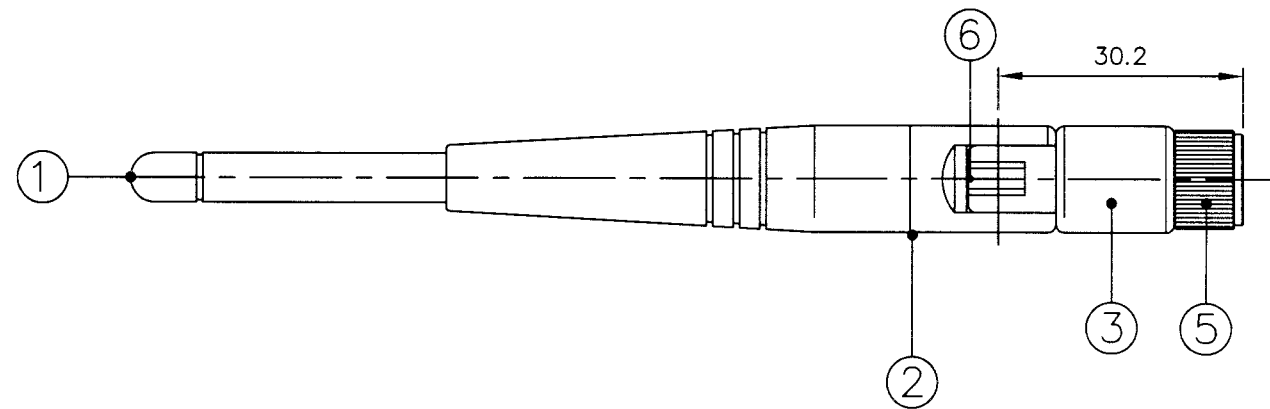
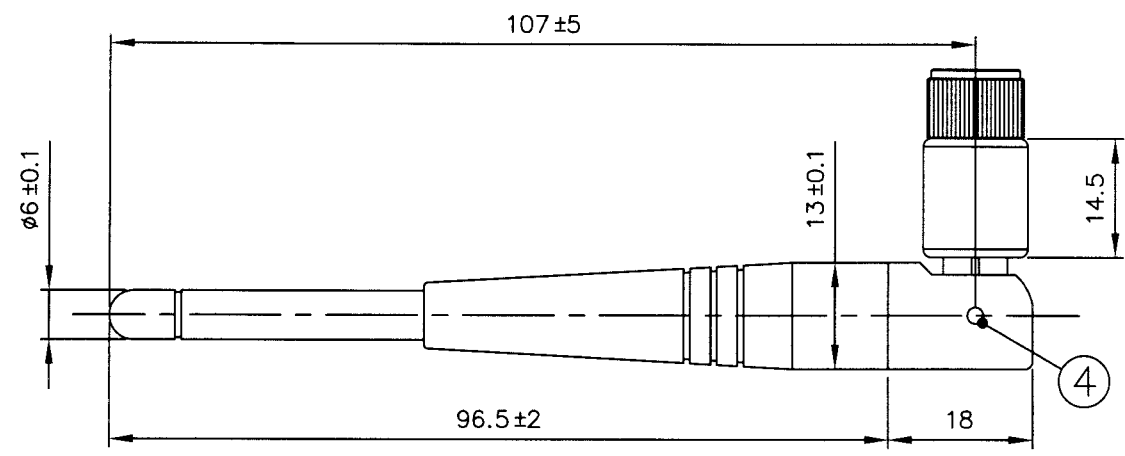
- 1.1 Frequency Range..... 4.9GHz ~ 5.825GHz
- 1.2 Impedance ..... 50 $\Omega$  Nominal
- 1.3 VSWR ..... 1.92 Max.
- 1.4 Return Loss..... -10 dB Maximum
- 1.5 Electrical Wave..... 1/2  $\lambda$  Dipole
- 1.6 Gain(peak)..... 4 dBi
- 1.7 Admitted Power..... 1W

### 2. Physical Properties :

- 2.1 Cable..... RG-178 Coaxial Cable
- 2.2 Antenna Cover..... TPE
- 2.3 Antenna Base..... PC
- 2.4 Operating Temp. .... -20 $^{\circ}$ C ~ +65 $^{\circ}$ C
- 2.5 Storage Temp. .... -30 $^{\circ}$ C ~ +75 $^{\circ}$ C
- 2.6 Color ..... Gray
- 2.7 Connector ..... SMA Straight Plug/Reverse

CG-

REV	DATE	DESCRIPTION
X1	3/2-2005	New Issue



PE Bag  
Shrink Line

Packing : 10 pcs/bag

NO	DESCRIPTION	QTY	REMARK
6	Cable	1	RG-178 Coaxial Cable
5	Connector	1	Big SMA Straight Plug/Reverse(Black)
4	Rivet	2	Brass , Plated (Black)
3	Bottom Fixed Base	1	PBT ; Color : Gray
2	Upper Fixed Base	1	PC ; Color : Gray
1	Antenna Cap	1	TPE ; Color : Gray

CUSTOMER'S SINGATURE

XX	±3.0	APPROVED
X	±2.0	<i>[Signature]</i>
X	±1.0	CHECKED
XX	±0.5	<i>[Signature]</i>
XXX	±0.1	DRAWING
		<i>[Signature]</i>

CUSTOMER: 明泰科技股份有限公司		
PART NO :		
PARTNAME: RF Antenna Assembly		
W.Y P/NO : C037-510585-A		
REV	UNIT	FILE :
X1	m/m	SHEET : 1/1


**Wha Yu INDUSTRIAL CO.,LTD.**  
**譚裕實業股份有限公司**  
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RF Antenna Assembly

P/NO :C037-510585-A SPEC : 5 GHz

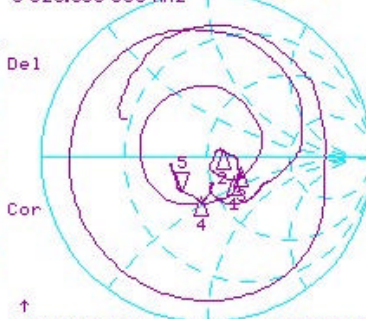
2 Mar 2005 12:16:10

CH1 SWR 1 / REF 1  
S22 5: 1.7168 5.82500000 MHz

CH3 S22 1 U FS  
5: 33.262  $\Omega$  -14.754  $\Omega$  1.8519 pF  
5.82500000 MHz



CH1 Markers  
1: 1.4910  
4.90000 GHz  
2: 1.1993  
5.15000 GHz  
3: 1.5198  
5.35000 GHz  
4: 1.6946  
5.72500 GHz

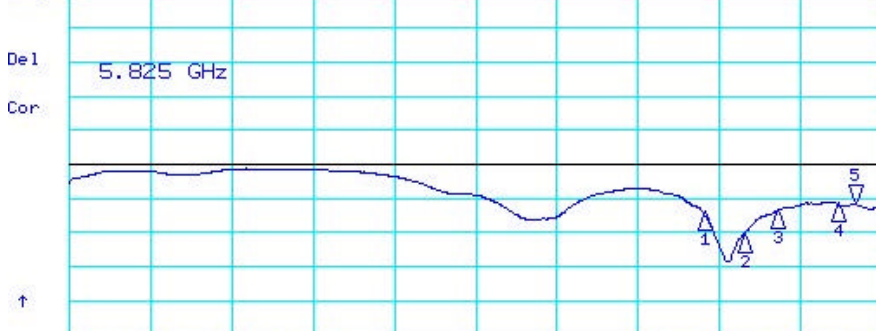


CH3 Markers  
1: 65.187  $\Omega$   
-17.215  $\Omega$   
4.90000 GHz  
2: 58.963  $\Omega$   
4.1602  $\Omega$   
5.15000 GHz  
3: 73.477  $\Omega$   
-18.109  $\Omega$   
5.35000 GHz  
4: 48.168  $\Omega$   
-21.801  $\Omega$   
5.72500 GHz

START 1000.000 MHz STOP 6000.000 MHz

START 1000.000 MHz STOP 6000.000 MHz

CH2 S22 LOG 10 dB/REF 0 dB 5:-11.573 dB 5.82500000 MHz



CH2 Markers  
1:-14.106 dB  
4.90000 GHz  
2:-20.855 dB  
5.15000 GHz  
3:-13.709 dB  
5.35000 GHz  
4:-11.775 dB  
5.72500 GHz

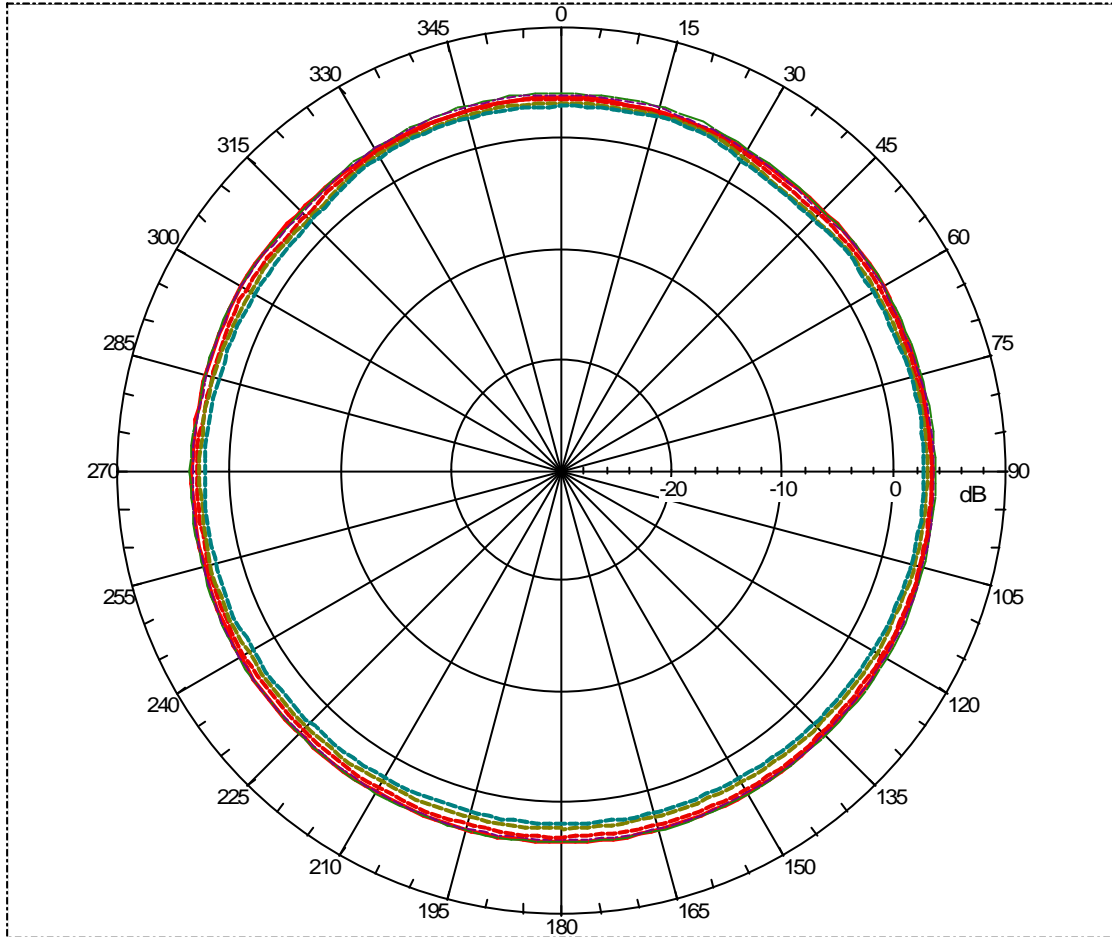
START 1 000.000 000 MHz

STOP 6 000.000 000 MHz



### Far-field amplitude of C037-510585-A-V.nsi

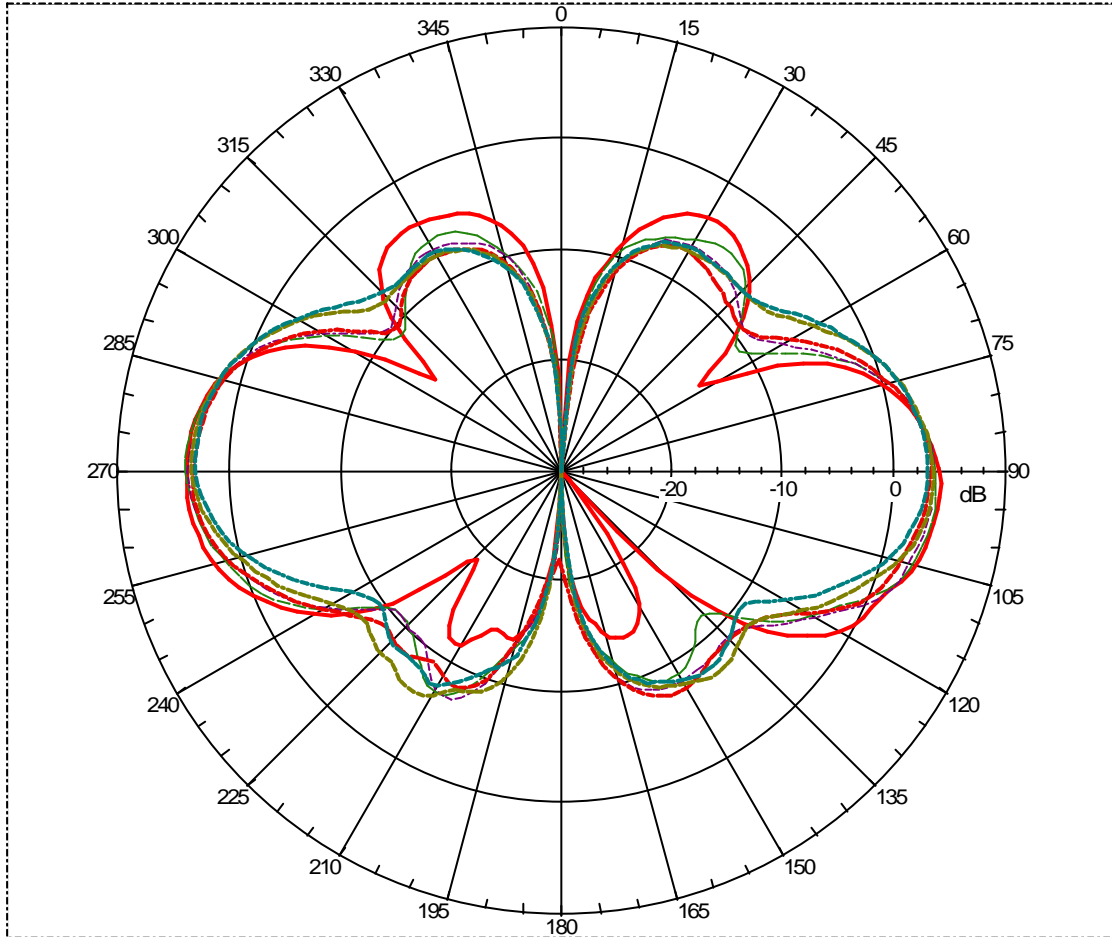
4.900000 GHz      5.150000 GHz      5.250000 GHz  
5.350000 GHz      5.725000 GHz      5.825000 GHz





### Far-field amplitude of C037-510585-A-H.nsi

4.900000 GHz      5.150000 GHz      5.250000 GHz  
5.350000 GHz      5.725000 GHz      5.825000 GHz



# Arnitel

polyether esters  
polyetherester  
esters de polyether

# 天線桿套材質特性表



Units Einheiten Unites	EM400	EM460	EL550	EL630	EL740	PL380
	1.12	1.16	1.20	1.23	1.27	1.18
	195	185	202	212	221	197
μ m/m.k	220	160	180	140	110	150
	\	\	110	115	120	\
	130	150	180	200	200	145
	\	50	85	115	150	\
%	0.30	0.30	0.20	0.20	0.15	0.40
%	0.75	0.70	0.55	0.60	0.90	7.0
*	HB	HB	HB	HB	HB	HB
Mpa	55	110	220	375	900	60
Mpa	4.0	7.1	13.2	20.2	26.9	3.5
Mpa	5.4	9.0	15.7	23	22.6	5.2
Mpa	8.4	11.4	16.6	22.0	26.3	8.5
Mpa	17	21	32	40	45	16
%	700	800	600	600	360	450
kj/m <sup>2</sup>	NB	NB	NB	NB	NB	NB
kj/m <sup>2</sup>	NB	NB	NB	NB	200	NB
kj/m <sup>2</sup>	NB	NB	NB	NB	9	NB
kj/m <sup>2</sup>	NB	NB	20	4	4	NB
	38	45	55	63	74	38
MV/m	\	\	\	\	\	\
.cm	5*10 <sup>14</sup>	10 <sup>14</sup>	10 <sup>14</sup>	10 <sup>14</sup>	10 <sup>12</sup>	10 <sup>12</sup>
	>10 <sup>13</sup>	>10 <sup>14</sup>	>10 <sup>14</sup>	>10 <sup>14</sup>	>10 <sup>10</sup>	>10 <sup>13</sup>
	4.1	\	\	3.8	\	4.7
	4.0	4.4	4.0	3.4	3.3	4.4
x10 <sup>14</sup>	10	\	\	3.8	\	310
x10 <sup>14</sup>	170	350	400	350	300	350
	800	800	600	600	600	800
	600	600	600	800	800	600

**Arnitel**

**2.2 Product coding**

The structure of the Arnitel productcodes is illustrated with the following example:

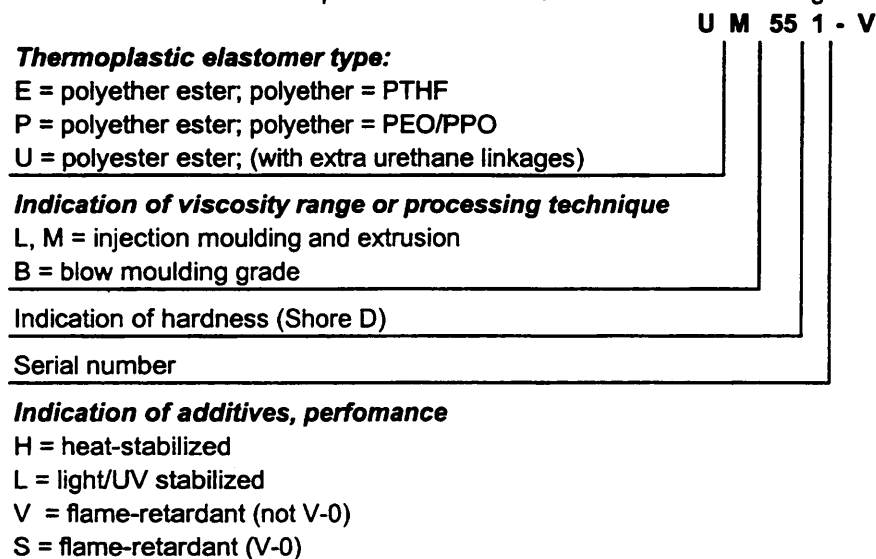


Figure 2.2: Arnitel product coding

**2.3 Product portfolio**

The Arnitel productrange is available with a hardness from 38 to 74 Shore D. The general Arnitel grades are shown in table 2.2. In order to enhance the flexibility of the portfolio a set of masterbatches (a.o. for heat, UV, etc) are on offer (refer to § 2.4).

Because of the development of these masterbatches heat stabilised Arnitel P is suggested for application areas where thermo-oxidative stability is an issue. For applications where colour and UV stability is required, the Arnitel E range is advised.

	Shore D					
	38	40	46	55	63	74
<b>Arnitel E</b>		EM400	EM460	EL550 EM550	EL630 EM630	EL740 EM740
<b>Arnitel P</b>	PL380		PL460	PL580 PM581		
<b>Arnitel U</b>				UM551 UM551-V UM552 UM552-V	UM622	

Table 2.2: Arnitel productrange for general purpose

Besides these multi-purpose grades, specialty grades can be offered for specific purposes and/or application areas. These grades are not intended for regular sales and are therefore restricted. Permission from marketing is needed before sampling is initiated.

	<b>Arnitel E</b>	<b>Arnitel P</b>	<b>Arnitel U</b>
<b>Automotive</b>			
• CVJ boots	EB460 EB463 EB464		
• Boyplugs		PL380-M0	
<b>Extrusion</b>			
• Roofing foil	EM402-L		

Table 2.3: Examples of specialty grades



**Arnitel® EL630/EM630**

**2.8.31 General:**

Arnitel is the brand name of a series polyester based thermoplastic elastomers. These polymers combine excellent processability with good elastomeric properties between -40 and 200°C. Arnitel EL630 and EM630 are excellent materials for injection moulding and extrusion applications respectively. The chemical structure of Arnitel EL630/EM630 is shown below.

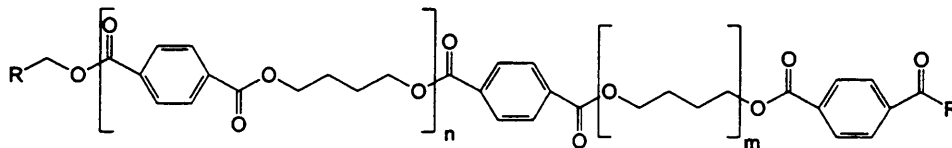


Figure 2.9: Chemical structure of Arnitel EL630/EM630.

Another way of writing the structure of Arnitels is shown below in Figure 2.



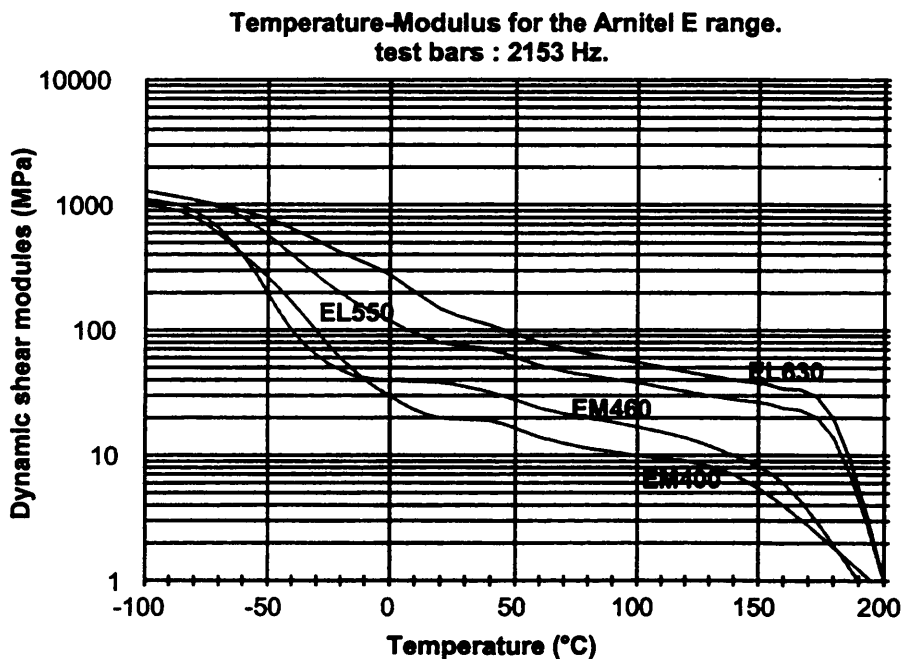
Figure 2.10: Simplified structure of Arnitel EL630/EM630.

Arnitel EL630/EM630 is TOSCA registered (including DSL-Canada) under CAS 37282-12-5

**2.8.32 Thermal properties:**

• **Modulus-temperature behaviour:**

The materials have a glass transition at circa -40°C and a typical melting point at 213°C. The modulus-temperature behaviour is shown in graph 2.76, for comparison, accompanied by other Arnitel E types.



Graph 2.76: Modulus-temperature behaviour of Arnitel EL630/EM630.