

## KURABE INDUSTRIAL CO., LTD

SP3831K	FEP INSULATED HIGH-FREQUENCY COAXIAL CABLE (FWS 5030) UL 1979	PAGE ISSUED REVISED	4/4 17-10-2003
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**10. APPLICATION NOTES**

10-1. For use other than the use mutually agreed, compatibility should be carefully confirmed in each practical use by user.

10-2. It is recommended to make a trial run for each practical application.

10-3. In case a design for use of cable is changed, please contact our sales department, if necessary. Do not use under extreme mechanical stress such as hard bending, tightening, and twisting. The use under extreme mechanical stress may cause not only shortening the life span of cable but also troubles such as decline of dielectric strength.

**10-4. Handling precautions**

① Do not hurt the insulation and sheath of the cable by making holes and scratches. And avoid any sharp edge when wiring so as not to injure cables.

② Avoid unnecessary excessive force to cable, such as pulling, twisting, bending or tightening.

**10-5. Storage precautions**

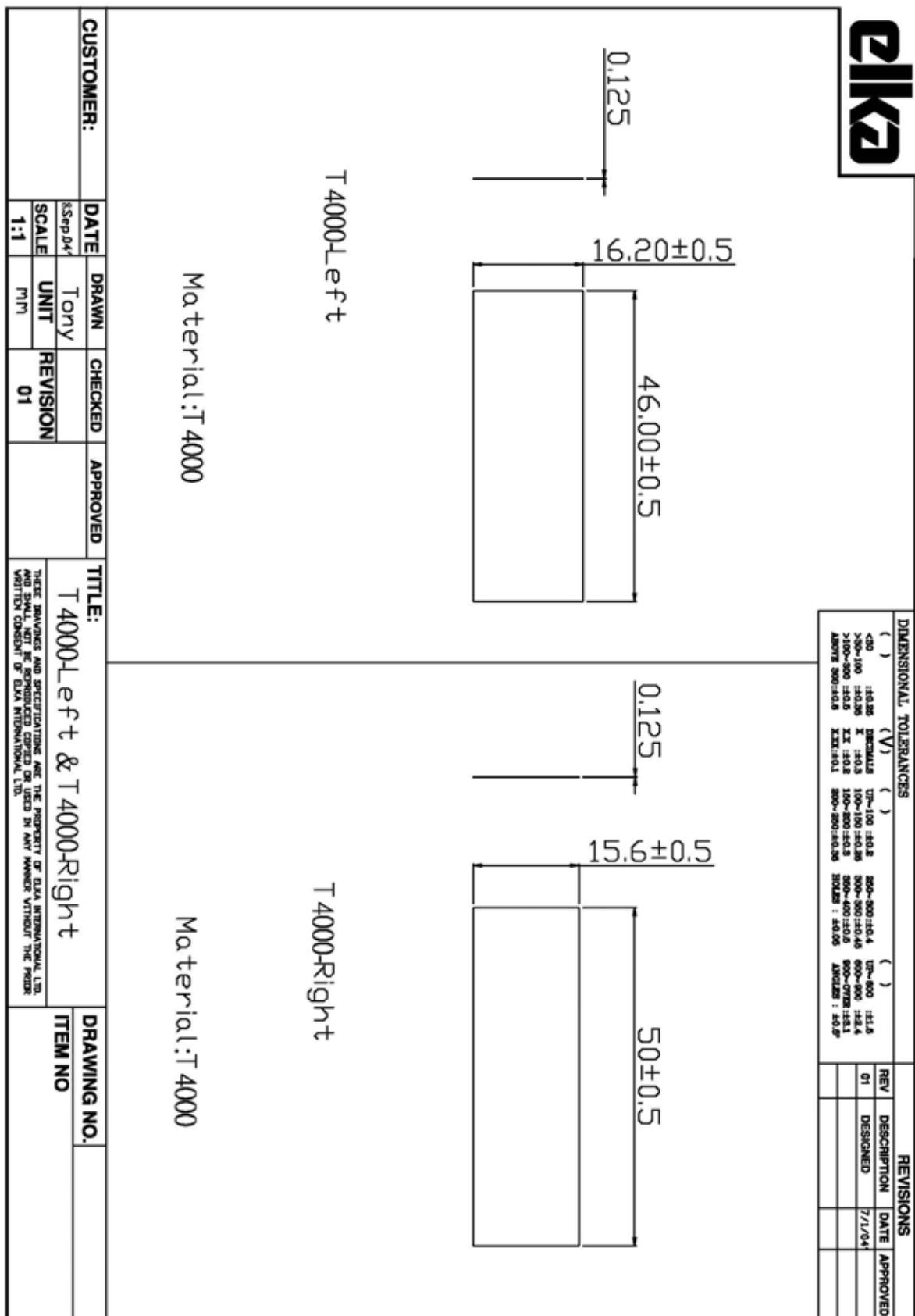
Avoid continuous exposure to sunlight.

NOTE :	MADE BY	
	APPROVALS	

## 5. Material Certification

### 5.1 Antenna Plate

CERTIFICATE OF QUALITY AND MASS													
SHIPPING MARK		A803030357-1		MANUFACTURER		TONY INDUSTRIAL CORP.		製造商					
參考編號				證明書號		CERIFICATE NO		T-2000有限公司					
REFERENCE NO				CONTRACT NO		DATE OF ISSUE		簽發日期					
合規證號				CUSTOMER		2003.03.01		2003.03.01					
CONTRACT NO				CUSTOMER		PAGE		2					
COMMODITY		ELECTROLYTIC TINPLATE		CUSTOMER CONTROL NO		00391							
規格		JIS G 3303 SPTE VR T2.5-R1 2.8/2.8		SPECIFICATION		JIS G 3303 SPTE VR T2.5-R1 2.8/2.8		0.300±0.045.0±1.0					
NOTE													
包裝編號 PACKAGE NO:	抽樣號碼 INSPECTION NO:	卷筒號碼 COIL NO:	數量 ASHHEET	重量 NET MASS	重量 GROSS MASS	HR NOT TOP	COATING WEIGHT	CHEMICAL COMPOSITION(%)					
								C	Si	Mn	P	S	
1	1311921027	1122277301	1	46560	3285	0.365	5.9	2.74	2.80	0	0	16	11.13
NET MASS UNIT	KG/LB	WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN TESTED AND INSPECTED WITH SATISFACTORY RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE ABOVE SPECIFICATION.											
GROSS MASS UNIT	KG/LB	<i>C. H. Hsieh</i> MANAGER INSPECTION.											
RR-30T	Rockwell Superficial Hardness Test												
COATING WEIGHT UNIT	TIN : (g/m <sup>2</sup> )/LB(BB)												
TS : (kg/m <sup>2</sup> )													
備註 REMARKS													

**5.2 Bond Film T4000**




## Sony Bond Film

### T4000

Double-Faced Adhesive Tape

T4000 is a double-faced adhesive tape developed for the requirement of strong and permanent bonding. It is a highly selected double-faced adhesive tape with outstanding reliability, having high low-temperature adhesion.

#### ■ SPECIFICATIONS ■

Coating amounts (g/m <sup>2</sup> )	140-170
Coating thickness (mm)	approx. 0.15
Thickness of release paper (mm)	approx. 0.14

#### ■ FEATURES ■

- Excellent in thermal holding strength
- Excellent in low-temperature adhesion
- High bonding strength in the widest temperature range
- No smell
- Outstanding reliability and durability

#### ■ APPLICATION ■

T4000 is most suitable for the adhesion to surface decorative sheet, rating plate and escutcheon, etc. made of metal and plastic material for the automobiles and household electric appliances.

T4000 is also recommendable for use as a double-faced permanent adhesive tape for various substrates.

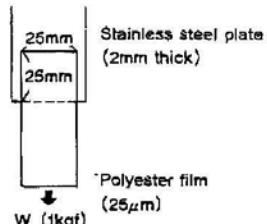
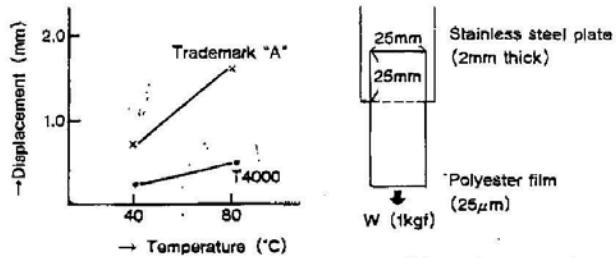
**Sony Chemicals Corporation**

**Sony  
Bond Film  
T4000**

**CHARACTERISTICS**

**1. Holding strength at elevated temperatures**

T4000 demonstrates an excellent holding strength even under severe conditions.



Conditions for preparing test pieces

Temperature : 20°C

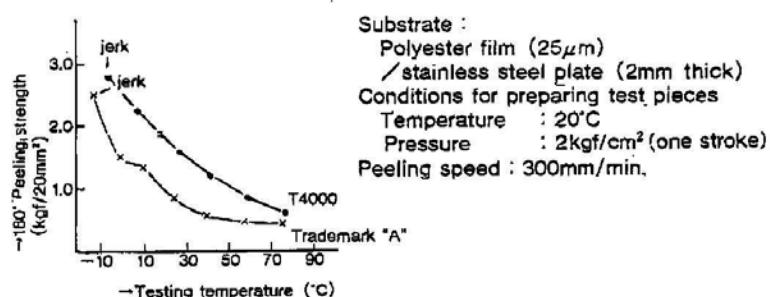
Pressure : 2kgf/cm<sup>2</sup> (one stroke)

Conditions for test peeling

60minutes : 1kgf of loading

**2. Temperature change of 180° peeling strength**

T4000 provides a high bonding strength at various temperatures



Substrate :

Polyester film (25μm)

/stainless steel plate (2mm thick)

Conditions for preparing test pieces

Temperature : 20°C

Pressure : 2kgf/cm<sup>2</sup> (one stroke)

Peeling speed : 300mm/min.

**3. Peeling strength after aging**

T4000 has excellent thermal aging resistance, and high resistances to moisture, water, oil and weather.

Substrate : Polyester film (25μm)/stainless steel plate (2mm thick)

Conditions for preparing test pieces :

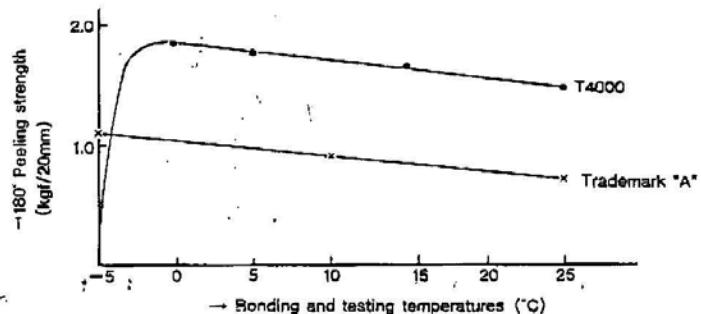
Temperature : 20°C

Pressure : 2kgf/cm<sup>2</sup> (one stroke)

Test peeling speed : 300mm/min.

**Sony  
Bond Film  
T4000****WORKABILITY****Low-temperature adhesion**

T4000 provides high adhesion even in the bonding work at low temperatures.



**CAUTION:** While this report is based on our company's reliable testing, this does not imply that the effects noted herein are guaranteed. The user is requested to use this product at his own risk after thorough study of the purposes for which the product is designed and the conditions under which it is used.

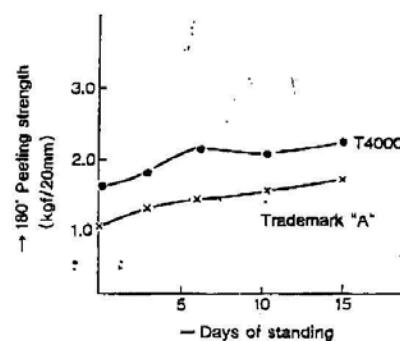
R02002E (0089102)

**Sony Chemicals Corporation**

6-3, Nihombashi-Muromachi 1-chome, Chuo-ku, Tokyo, 103 Japan  
Telephone : (03)279-0441  
Telex No : 222-4397 SONY CH  
Fax : (03)246-1784

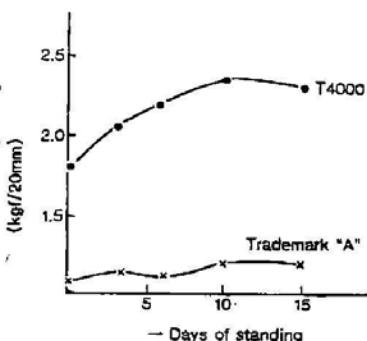
● THERMAL AGING

Standing test in the atmosphere



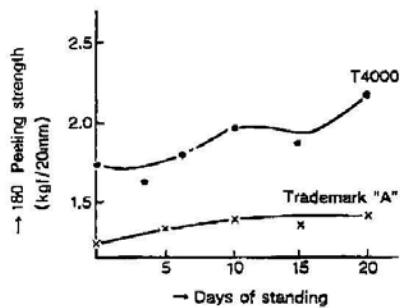
● MOISTURE RESISTANCE

Standing test in the atmosphere of 50°C and relative humidity of 90 %



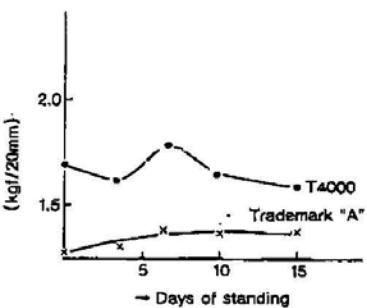
● WATER RESISTANCE

standing test in water at 40°C

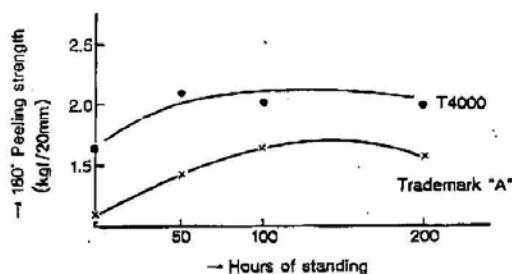


● OIL RESISTANCE

Standing test in machine oil at 40°C



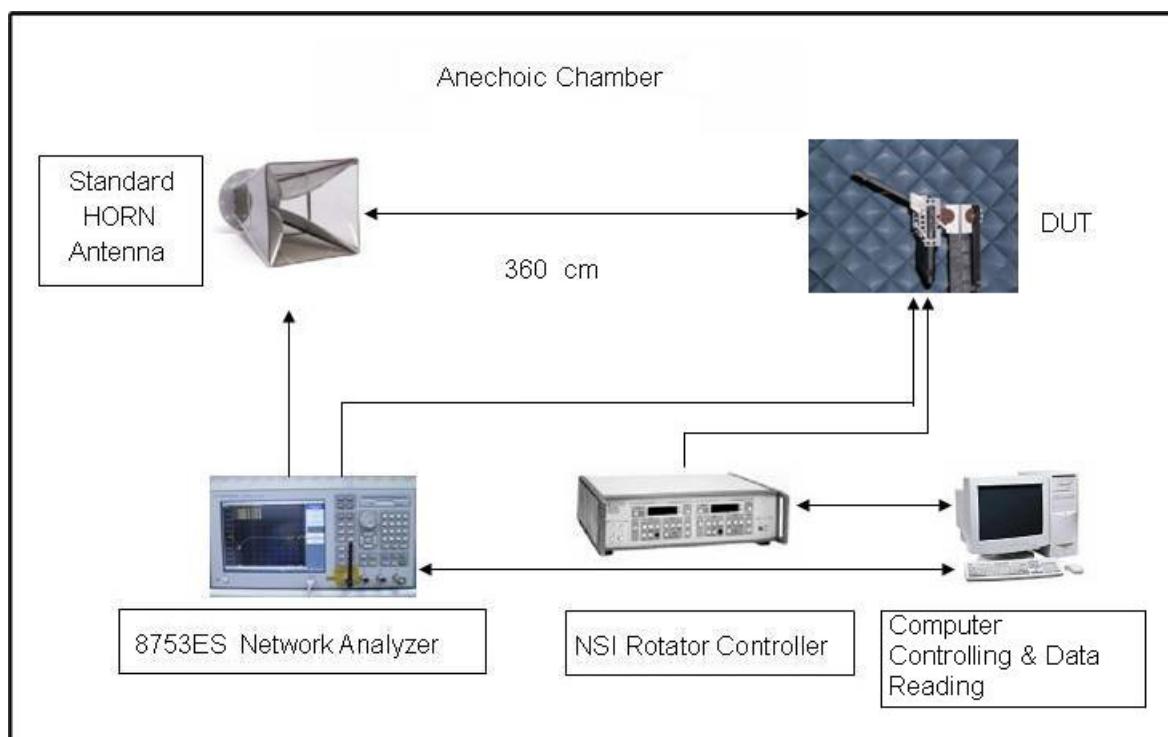
● WEATHERING



## 6. ANTENNA TEST INSTRUMENTS

Far-Field Antenna Measurement system –  
WavePro model no. FFC-600T, Anechoic Chamber

Test setup :



**Web Pad Setup**

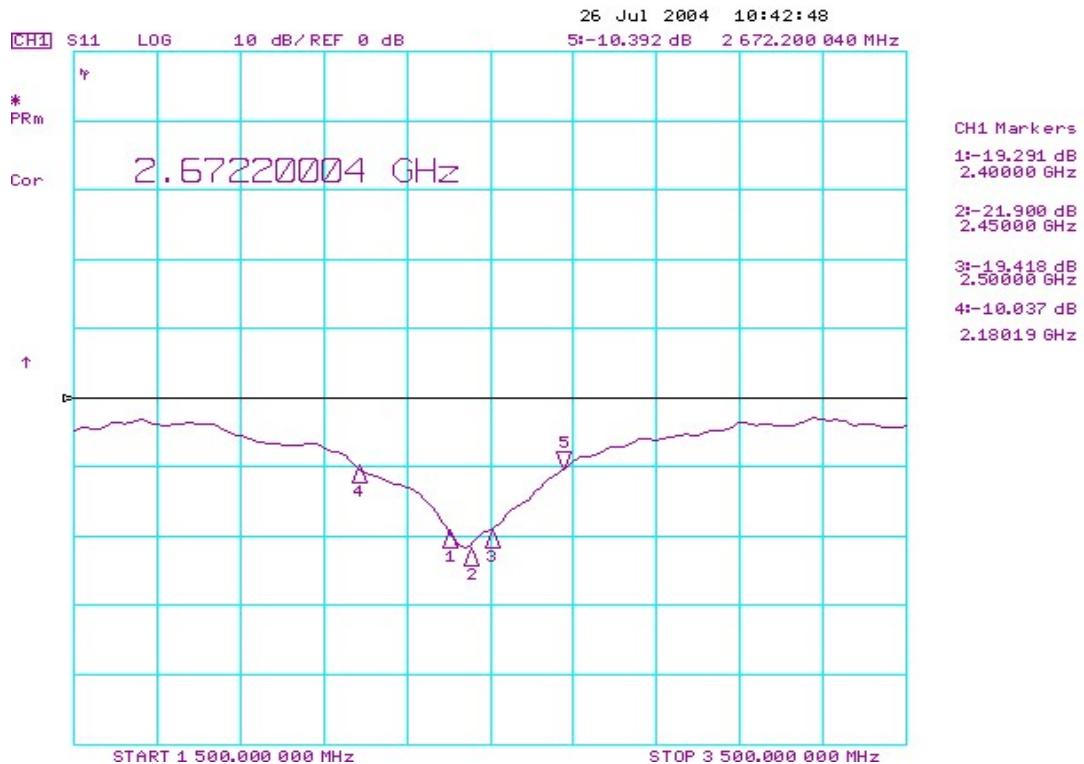
Left Antenna PIFA Type

Right Antenna IFA Type

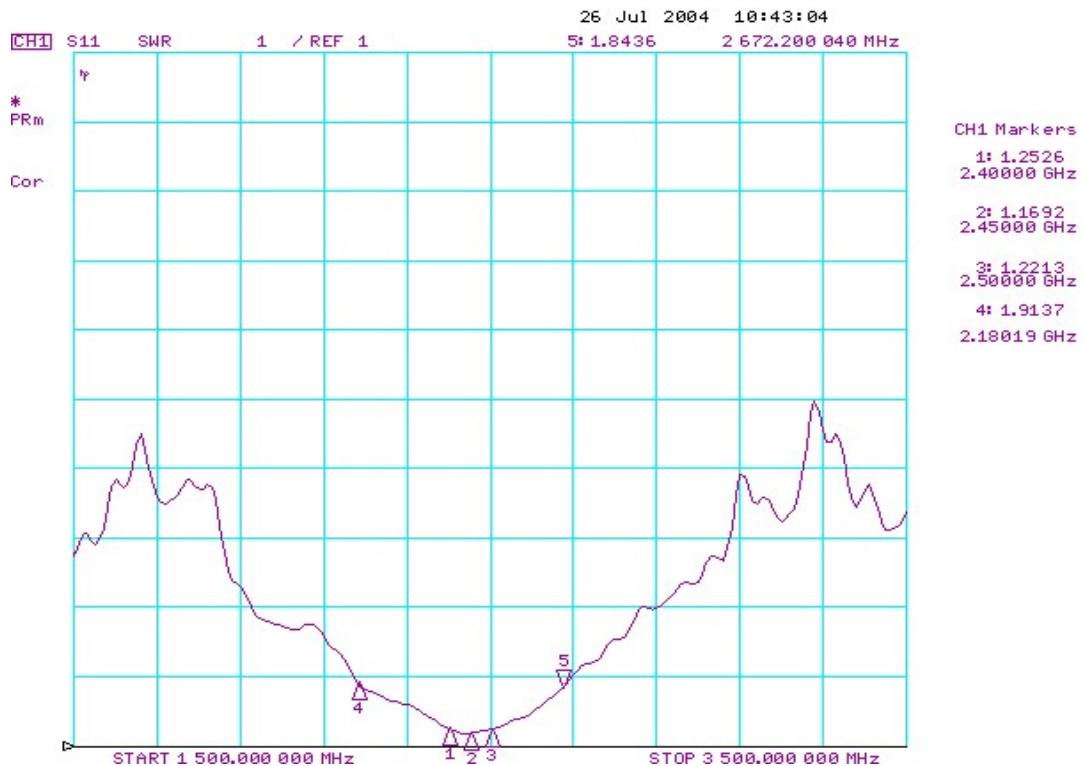
**DUT Attitude :****Flat Case****Tilt Case**

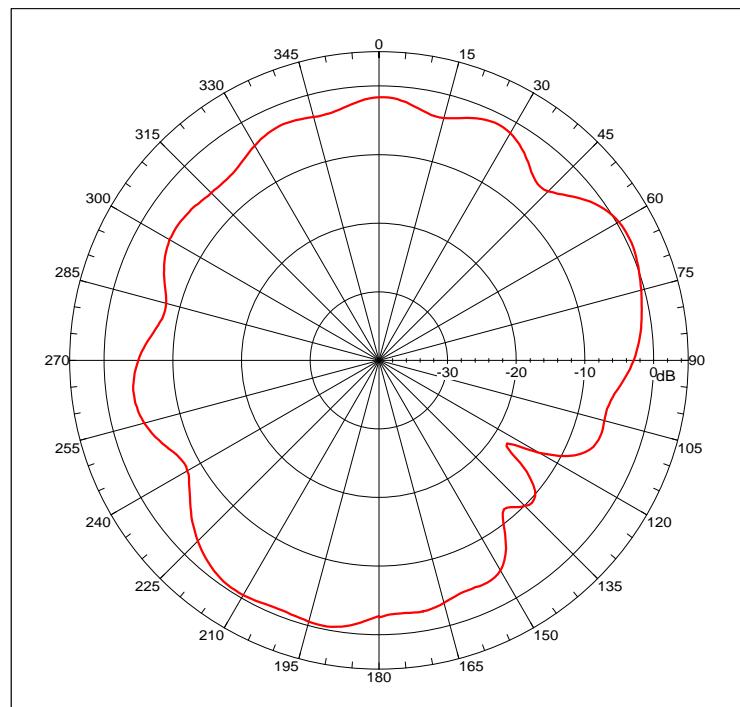
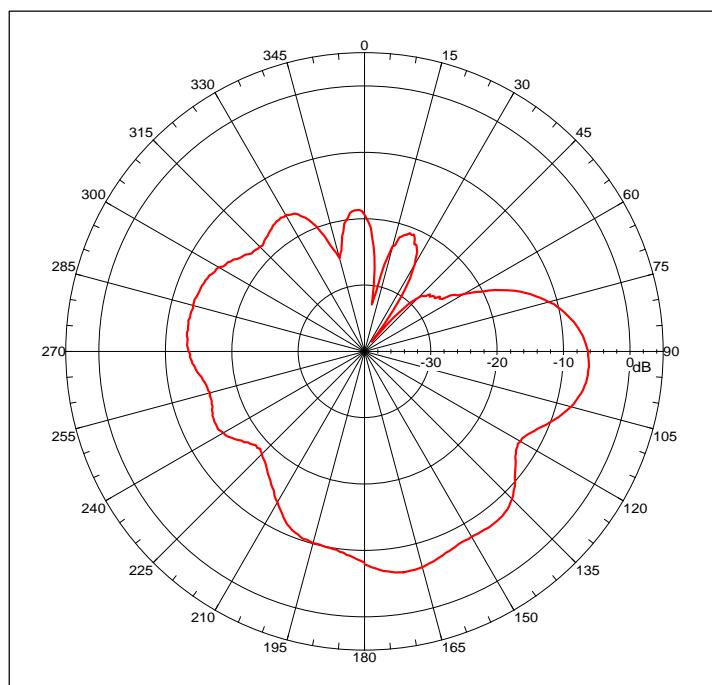
## 7. Electrical performance Test

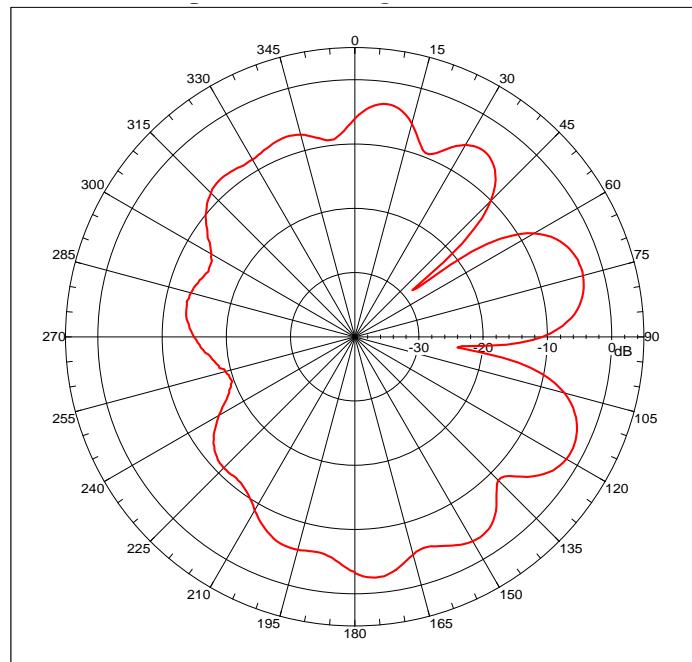
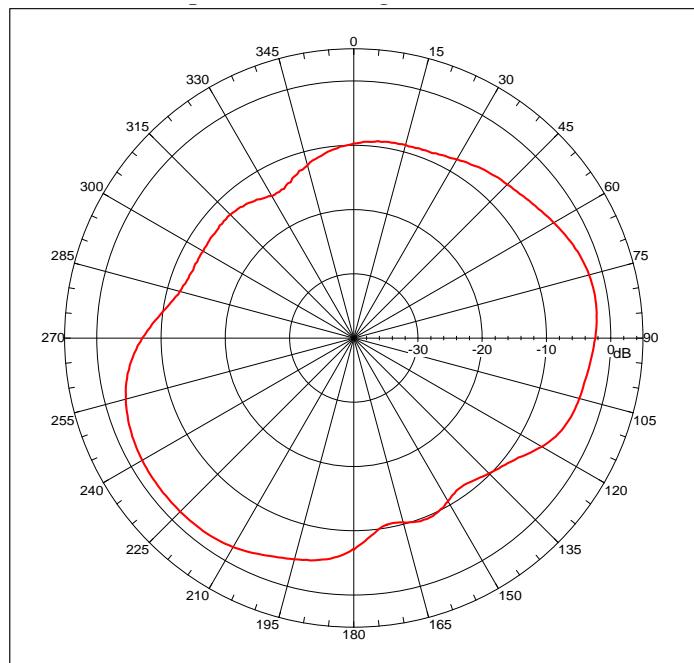
### 7.1 RIGHT ANTENNA - RETURN LOSS



### 7.2 RIGHT ANTENNA – VSWR



**7.3 RIGHT ANTENNA - RADIATION PATTERN FOR XY PLANE : 2.45GHZ****Web Pad Attitude : Flat****H- Polarization****V- Polarization**

**RIGHT ANTENNA - RADIATION PATTERN FOR XY PLANE : 2.45GHZ****Web Pad Attitude : Tilt****H- Polarization****V- Polarization**

**7.4 RIGHT ANTENNA - PEAK GAIN AND AVERAGE GAIN****Web Pad Attitude : Flat**

XY Plane : RIGHT		
Polarization		2.45GHz
H	Peak	0.54
	Average	-3.35
V	Peak	-6.12
	Average	-11.69

**Web Pad Attitude : Tilt**

XY Plane : RIGHT		
Polarization		2.45GHz
H	Peak	-1.88
	Average	-6.77
V	Peak	-1.80
	Average	-5.68