

KURABE INDUSTRIAL CO., LTD

SP3831K	<p align="center">FEP INSULATED HIGH-FREQUENCY COAXIAL CABLE (FWS 5030) UL 1979</p>	PAGE	4/4
PRODUCT STANDARD		ISSUED	17-10-2003
		REVISED	
<p>10. APPLICATION NOTES</p> <p>10-1. For use other than the use mutually agreed, compatibility should be carefully confirmed in each practical use by user.</p> <p>10-2. It is recommended to make a trial run for each practical application.</p> <p>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.</p> <p>10-4. Handling precautions</p> <p>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.</p> <p>② Avoid unnecessary excessive force to cable, such as pulling, twisting, bending or tightening.</p> <p>10-5. Storage precautions</p> <p>Avoid continuous exposure to sunlight.</p>			
NOTE :	MADE BY		
	APPROVALS		

5. Material Certification
5.1 Antenna Plate

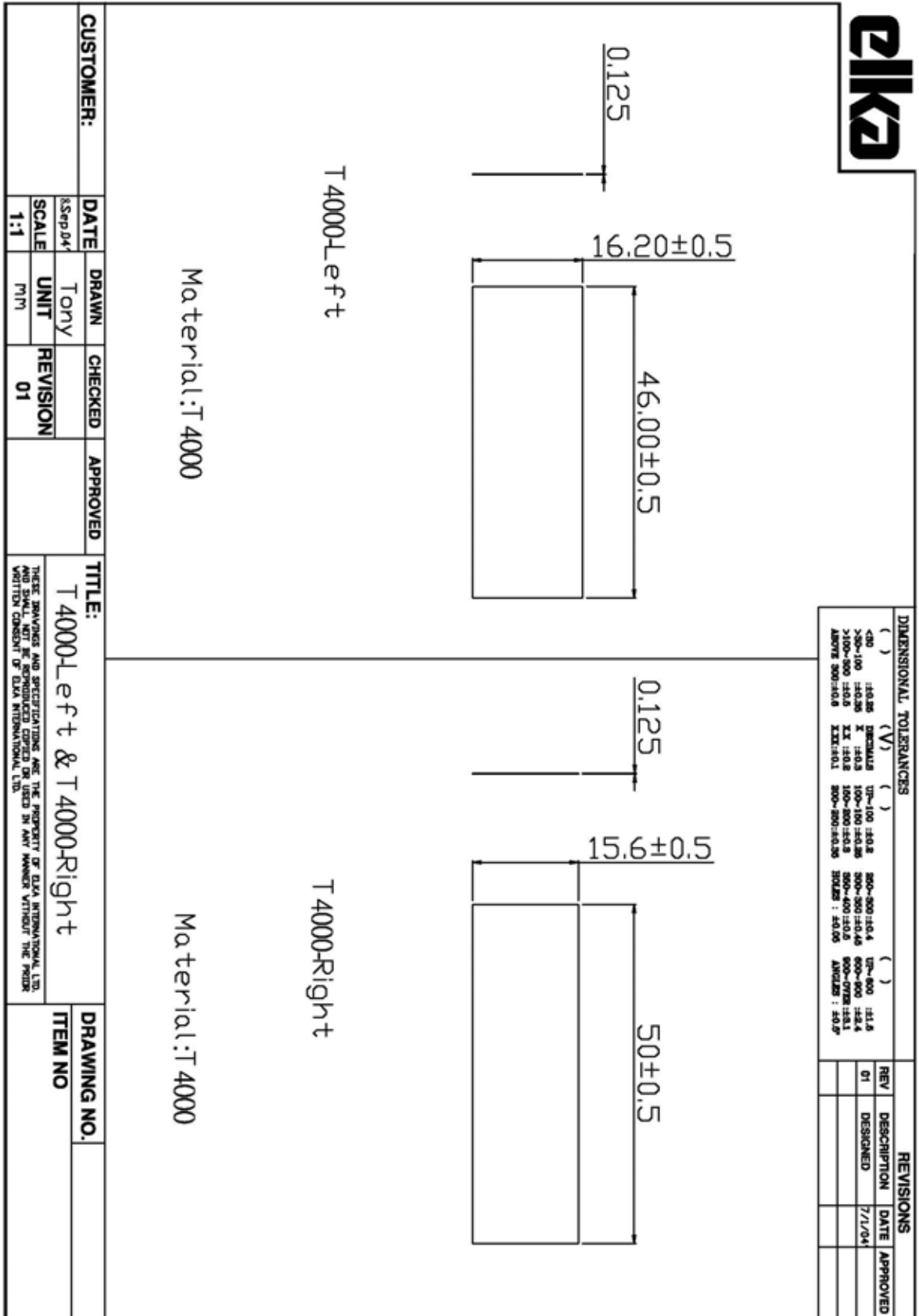
PP03031338
 SHIPPING MARK
 REFERENCE NO.
 合格編號
 CONTRACT NO.
 品名
 COMMODITY : ELECTROLYTIC TIRPLATE
 規格
 SPECIFICATION : JIS G 3303 SPTB VR T2.5-R2 2.8/2.8 0.300±0.45.0*1.0
 註記
 NOTE :

品質證明書
 CERTIFICATE OF QUALITY AND MASS
 客戶編號
 CUSTOMER CONTROL NO: 00394
 客戶編號
 CUSTOMER CONTROL NO: 00394

製造商
 MANUFACTURER : TON YI INDUSTRIAL CORP.
 證明書編號
 CERTIFICATE NO 03030114
 證明書日期
 DATE OF ISSUE 2003.03.03
 第一實業股份有限公司
 TON YI INDUSTRIAL CORP.
 頁
 PAGE: 2

包裝編號 PACKAGE NO.	檢查號碼 INSPECTION NO.	圈繞號碼 COIL NO.	數量 LENGTH / SHEET	淨重 NET MASS	毛重 GROSS MASS	HR 30T	COATING WEIGHT		CHEMICAL COMPOSITION(%)						
							TOP	BOT	C	SI	Mn	P	S		
1	1311921027 TOTAL	B12227R301 I	46560 4858	9265 9265	9385	53	2.74	2.80	0	0	26	14	13		
註明本材料試驗結果均按本公司存檔資料記錄正確無誤。 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.															
備註 REMARKS	COIL LENGTH UNIT : Meter/Feet NET MASS UNIT : KG/LB GROSS MASS UNIT : KG/LB HR-30T : Rockwell Superficial Hardness Test COATING WEIGHT UNIT : TTN : (g/m ²)/(LB/33) TFS : mg/m ²										MANAGER INSPECTION 				

5.2 Bond Film T4000



SONY

Sony 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 amount (g/m ²)	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.

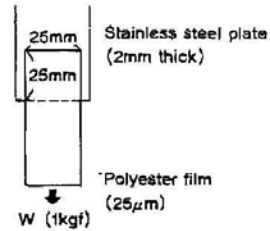
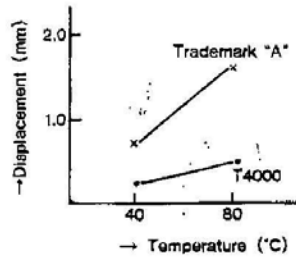
Sony Chemicals Corporation

**Sony
Bond Film
T4000**

CHARACTERISTICS

1. Holding strength at elevated temperatures

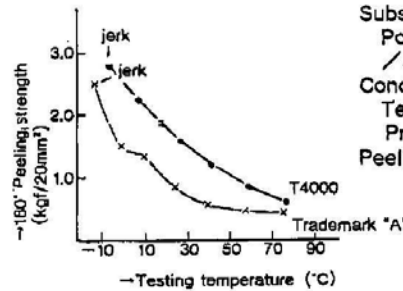
T4000 demonstrates an excellent holding strength even under severe conditions.



Conditions for preparing test pieces
 Temperature : 20°C
 Pressure : 2kgf/cm² (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/cm² (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.

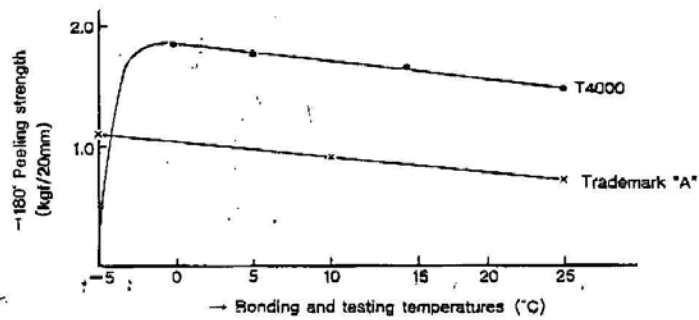
Substrate : Polyester film (25µm)/stainless steel plate (2mm thick)
 Conditions for preparing test pieces :
 Temperature : 20°C
 Pressure : 2kgf/cm² (one stroke)
 Test peeling speed : 300m/min.

**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.

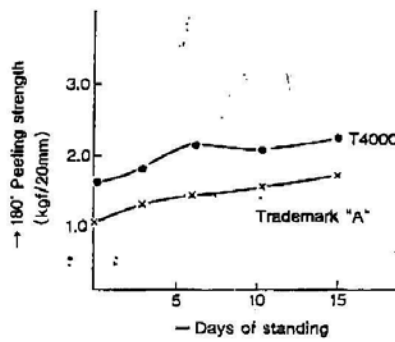
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Sony Chemicals Corporation

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

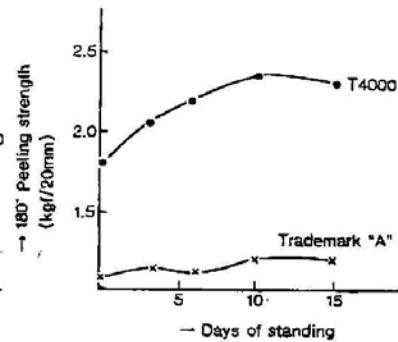
● **THERMAL AGING**

Standing test in the atmosphere



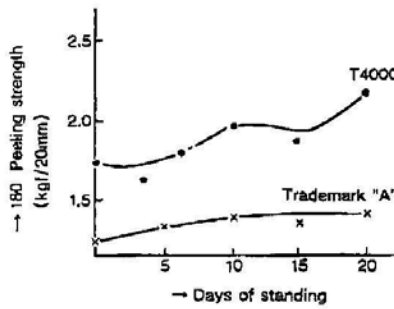
● **MOISTURE RESISTANCE**

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



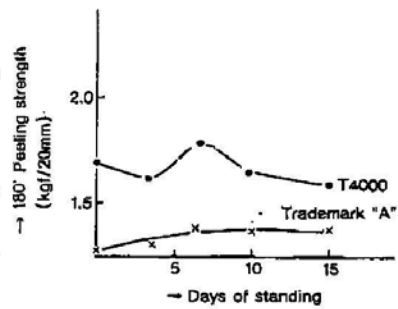
● **WATER RESISTANCE**

standing test in water at 40°C

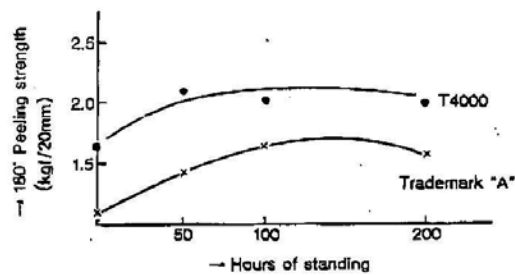


● **OIL RESISTANCE**

Standing test in machine oil at 40°C



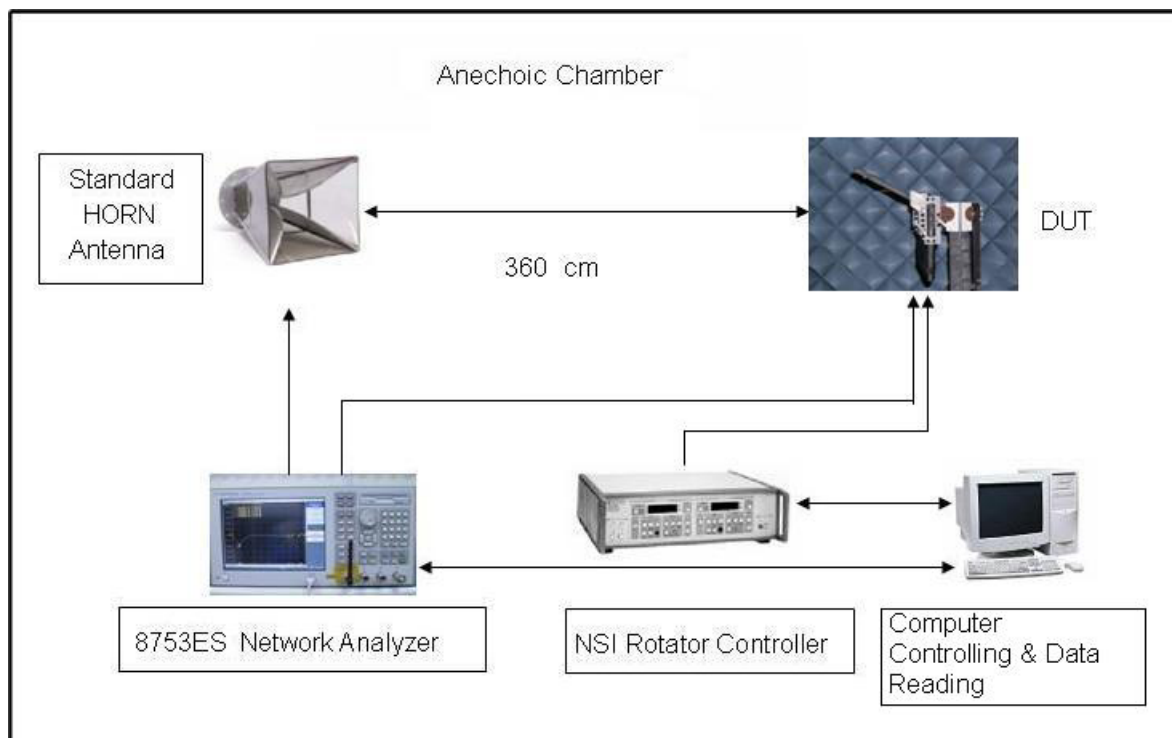
● **WEATHERING**



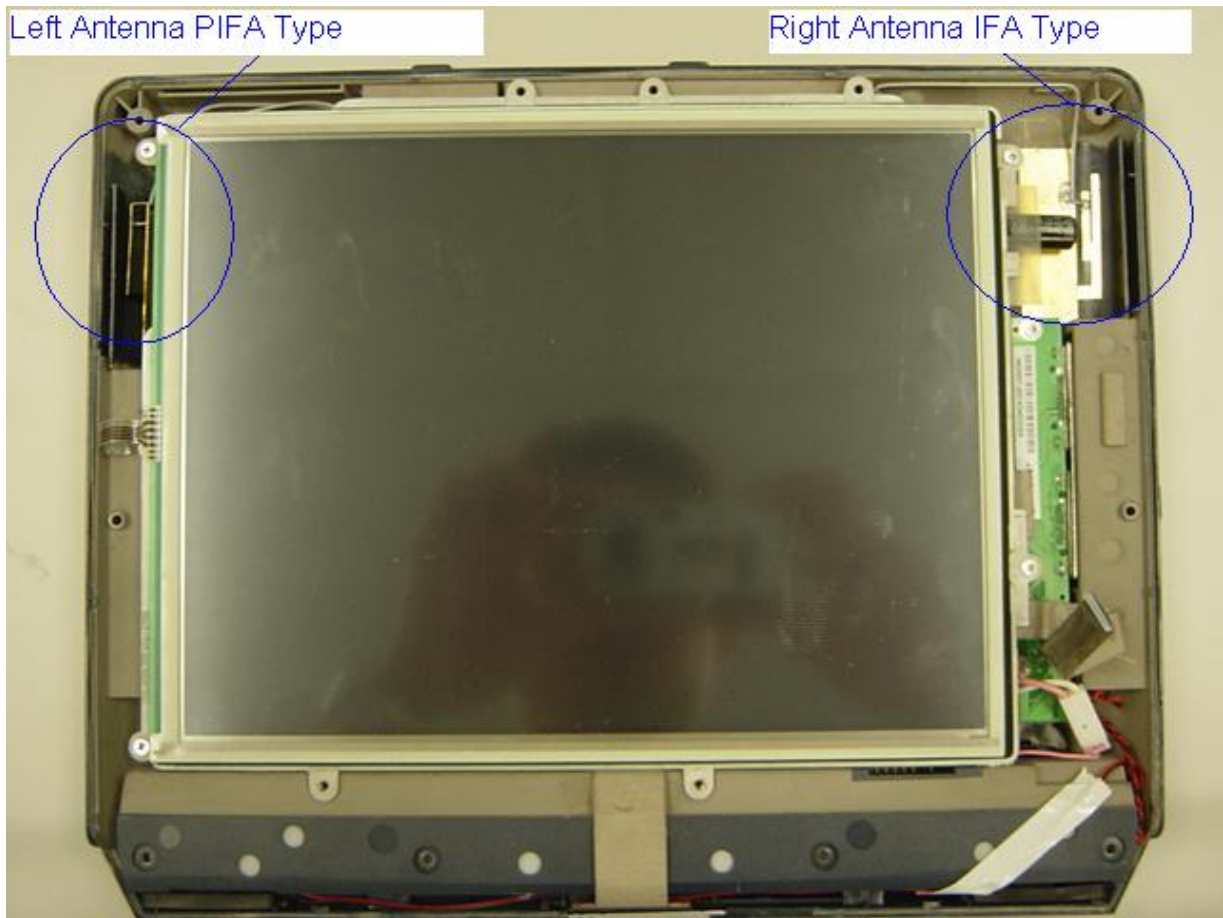
6. ANTENNA TEST INSTRUMENTS

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

Test setup :



Web Pad Setup



DUT Attitude :

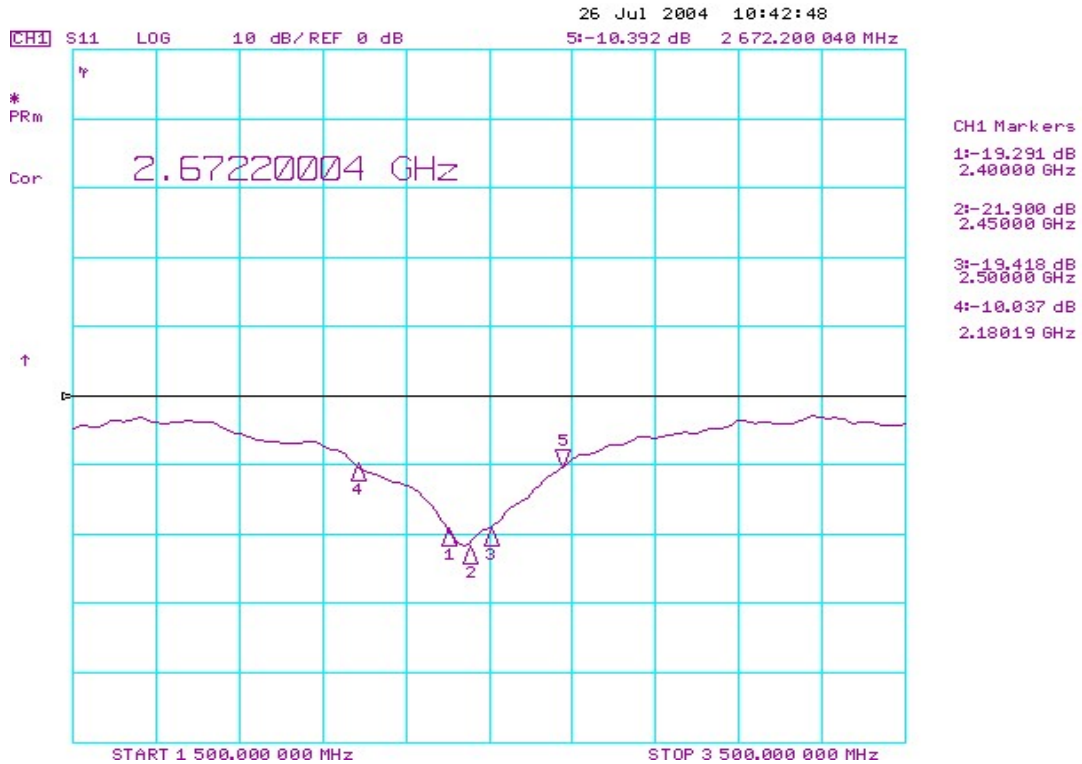
Flat Case

Tilt Case

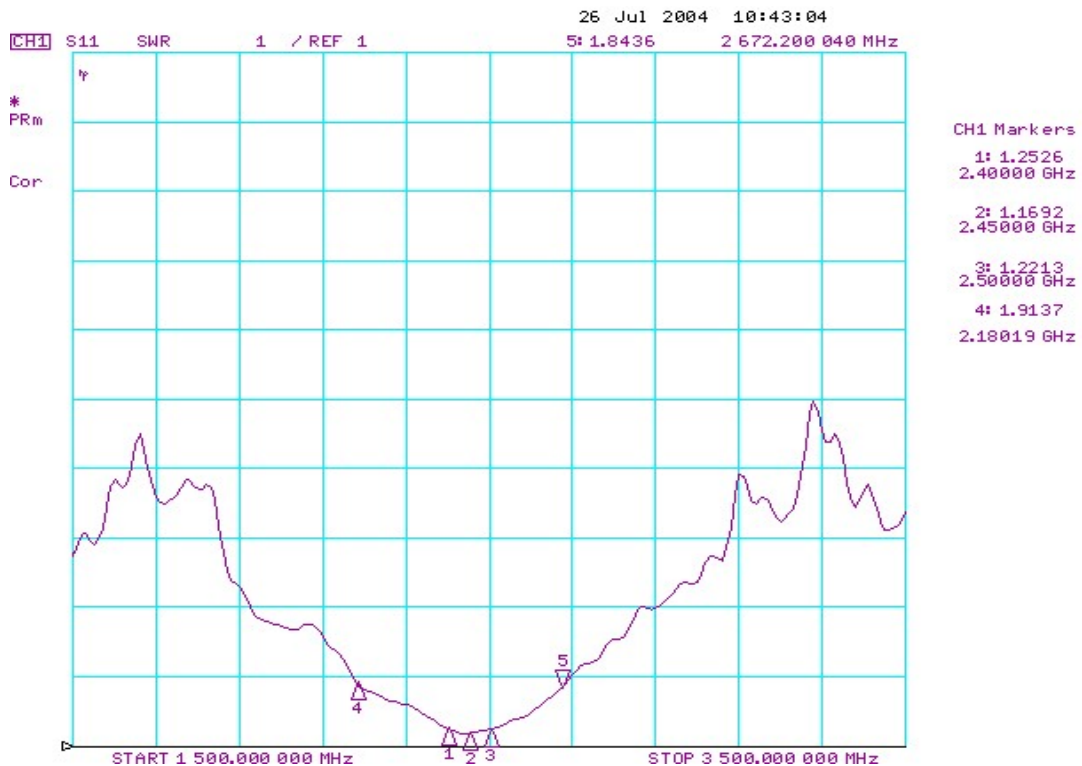


7. Electrical performance Test

7.1 RIGHT ANTENNA - RETURN LOSS



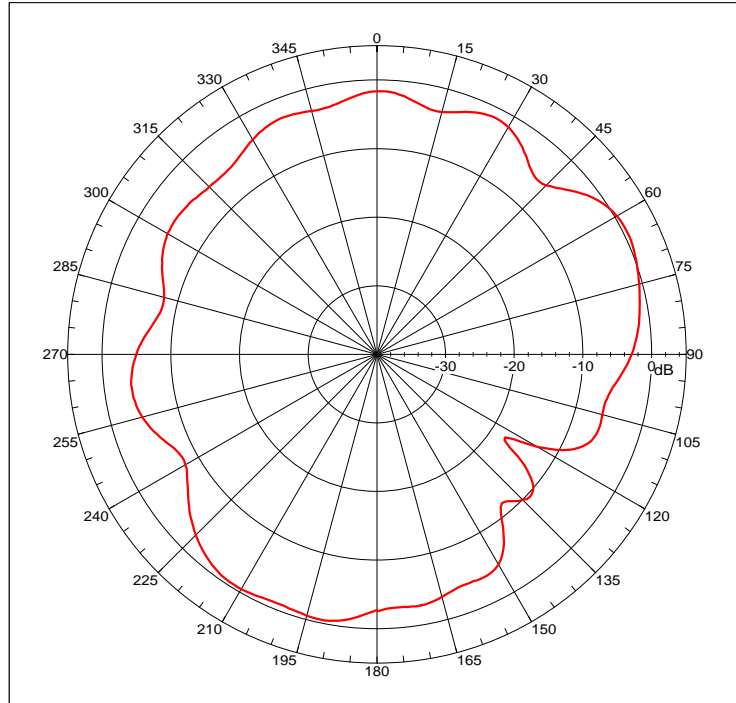
7.2 RIGHT ANTENNA – VSWR



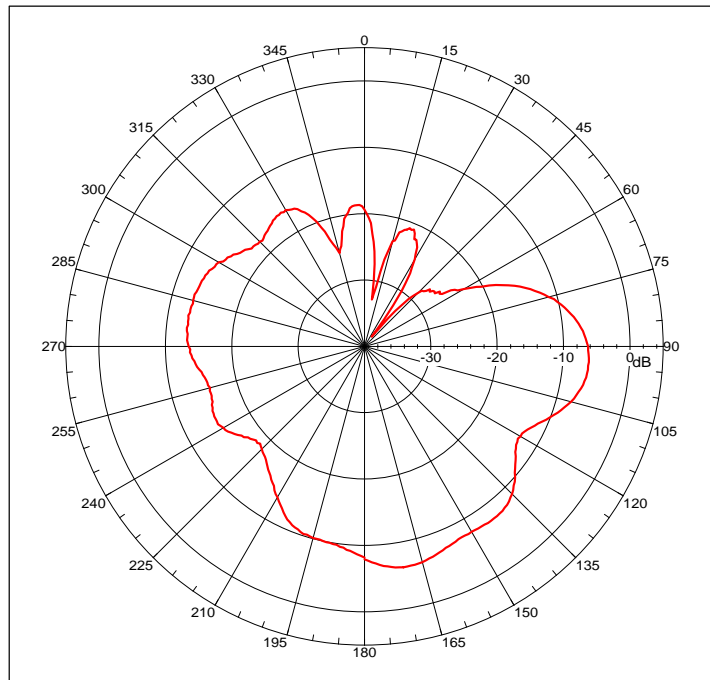
7.3 RIGHT ANTENNA - RADIATION PATTERN FOR XY PLANE : 2.45GHZ

Web Pad Attitude : Flat

H- Polarization



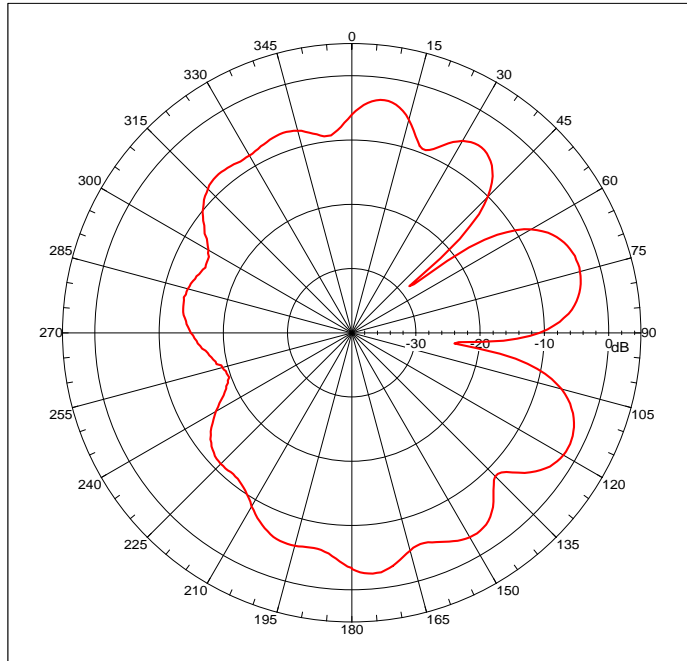
V- Polarization



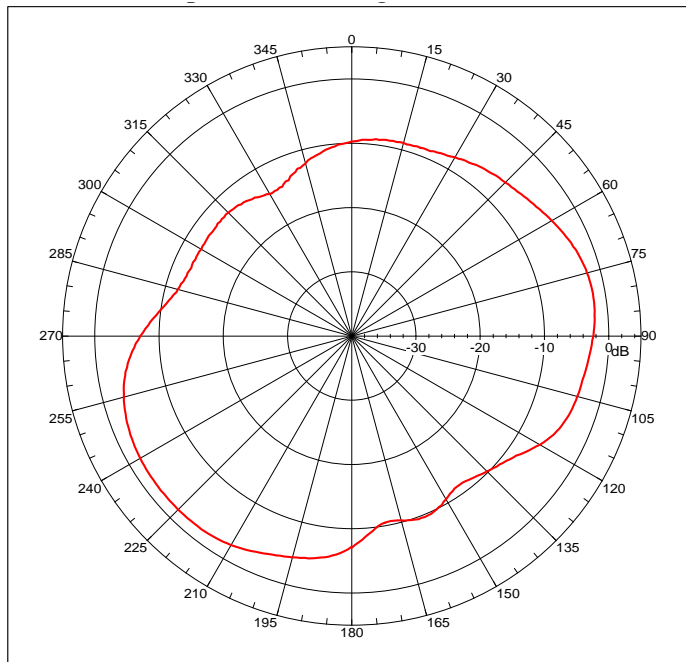
RIGHT ANTENNA - RADIATION PATTERN FOR XY PLANE : 2.45GHZ

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