

DATE :11.03.2004

CUSTOMER: CLEVO CO.

APPROVAL SHEET

MODEL	D700T ANTENNA
DESCRIPTION	PIFA Antenna For Wireless Antenna. WLAN/2.4~2.5GHz&4.9~5.85GHz
SUPPLIER P/N	D05007001401
CUSTOMER P/N	23-742R4-C91
FILE P/N	

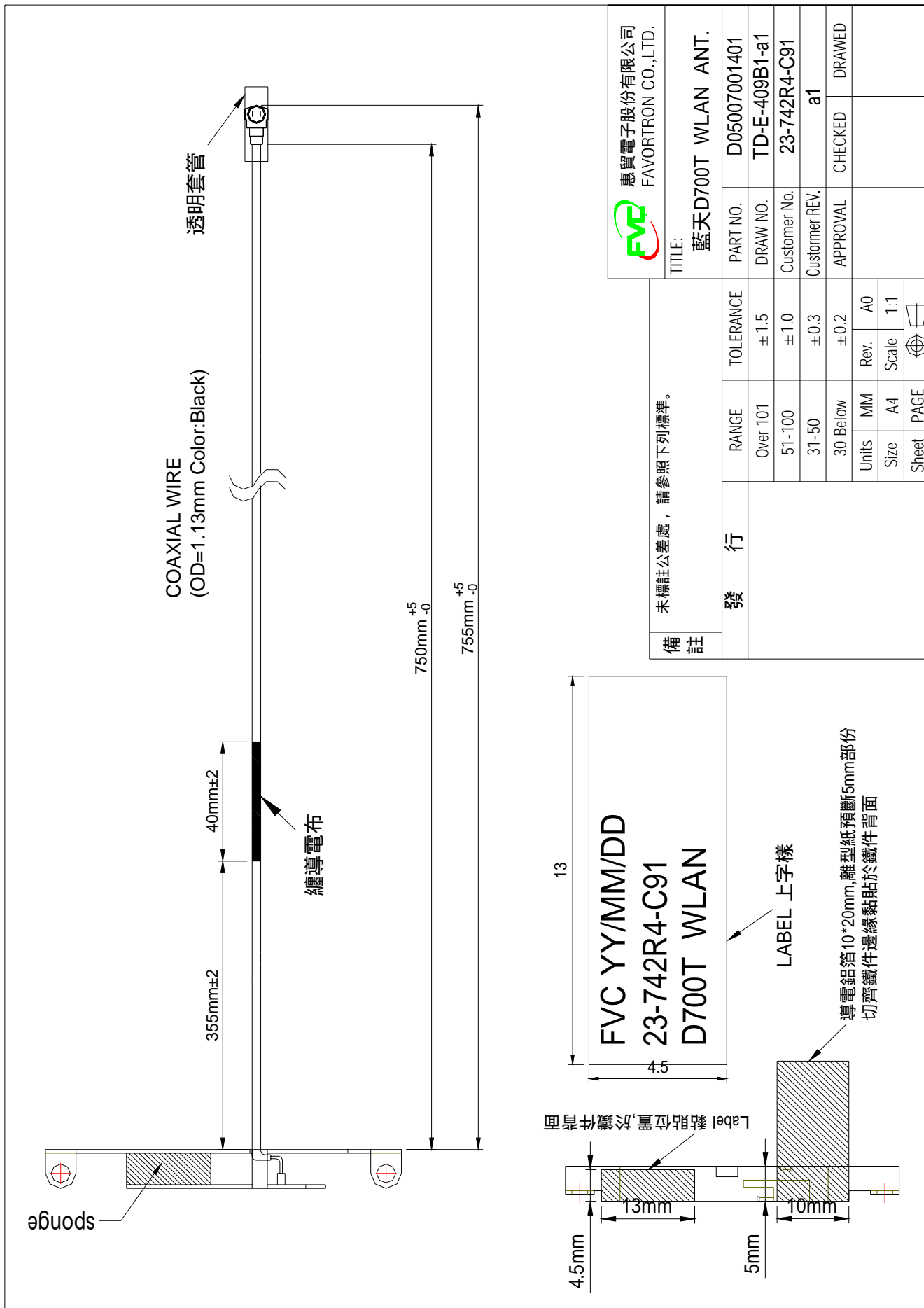
FAVORTRON			Customer	
Manager	Supervisor	Engineer		
	李憲宗	陳宣良		



惠貿電子股份有限公司
FAVORTRON CO., LTD

台北縣新店市 231 民權路 108-1 號 4F TEL: (02) 2218-2189

1. DRAWING ASSEMBLY



備註		未標註公差處，請參照下列標準。		 惠賢電子股份有限公司 FAVORTRON CO.,LTD.	
發		行		TITLE: 藍天D700T WLAN ANT.	
RANGE		TOLERANCE		PART NO.	
Over 101		± 1.5		D05007001401	
51-100		± 1.0		DRAW NO.	
31-50		± 0.3		TD-E-409B1-a1	
30 Below		± 0.2		Customer No.	
Units		Rev.		Customer REV.	
MM		A0		23-742R4-C91	
Size		Scale		a1	
A4		1:1		APPROVAL	
Sheet		PAGE		CHECKED	
				DRAWED	

BOM

BOM					
ITEM	COMPONENT	Q'TY	DESCRIPTION	FAVORTRON P/N	REMARK
1	1.13 Cable+I-PEX	1	770mm(含conn長度), 黑色	G04007269001	
2	SPONGE	1	長11mm,寬3.25mm,高4.2mm	G01009045002	
3	M120C-WLAN PIFA	1	長46.5mm,寬5mm,高5.2mm	G02007092001	
4	LABEL	1	4.5x13mm 白色	G01013007001	
5	透明套管	1	2.5x0.2x20mm	B02018002094	
6	導電貼布	1	40mm*10mm	G01001408002	
7	導電鉛箔	1	20mm*10mm(離型紙預斷5mm)	G01005011002	
8					
9					
10					
11					
12					
13					
14					
15					

SUB BOM

ITEM	COMPONENT	Q'TY	FVC P/N	VENDER	ASSEMBLY
1	Connector	1	接頭 MHF PLUG(I-PEX) OD ? 1.13	E07001064001	
2					
3					
4					



惠質電子股份有限公司
FAVORTRON CO.,LTD

Title:

藍天D700T WLAN ANT.

Part No.	D05007001401	備註
Draw No.	TD-E-409B1-a1	
CUS.Part No.	23-742R4-C91	
CUS.Rev.	a1	
Approval	Check	
	Designed	

發行

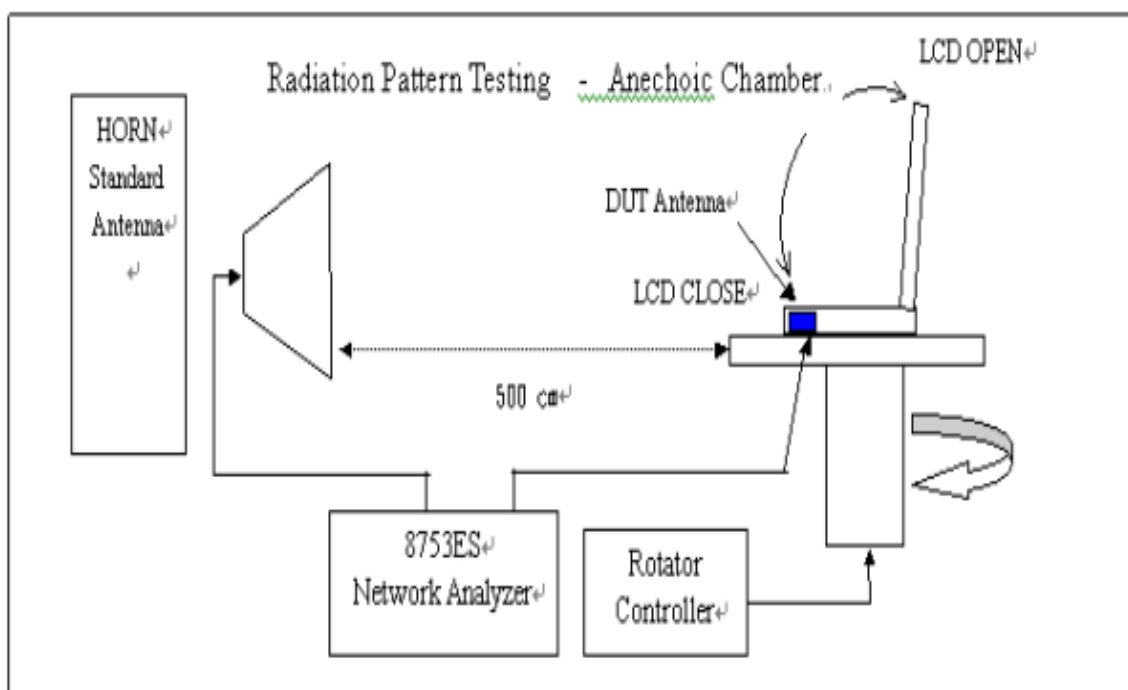
備註

機密

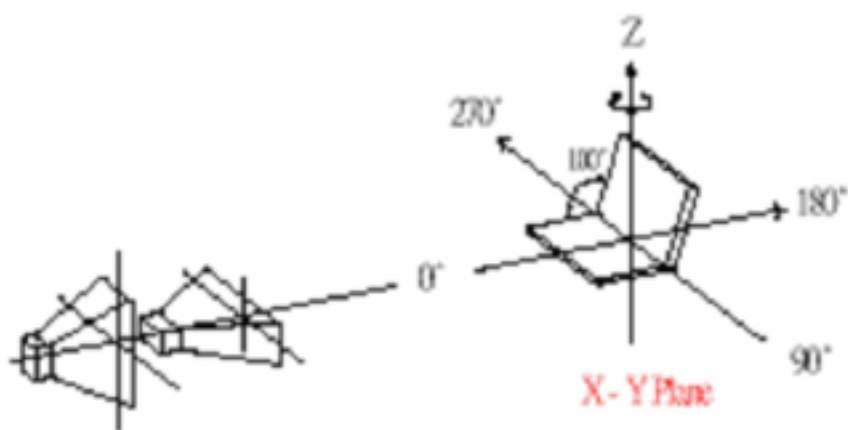
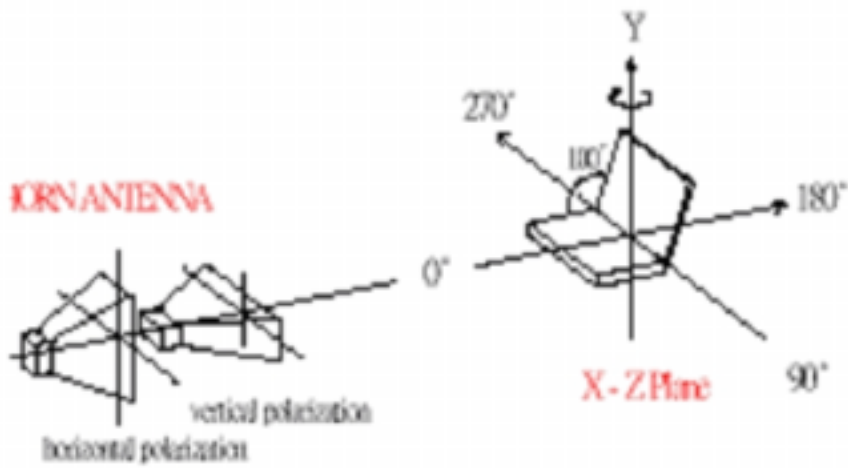
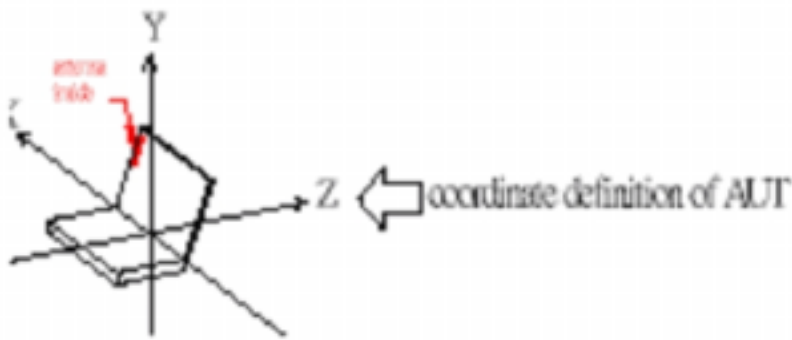
廠內專用

Date 92/09/09 Sheet 1/1

天線測試方法

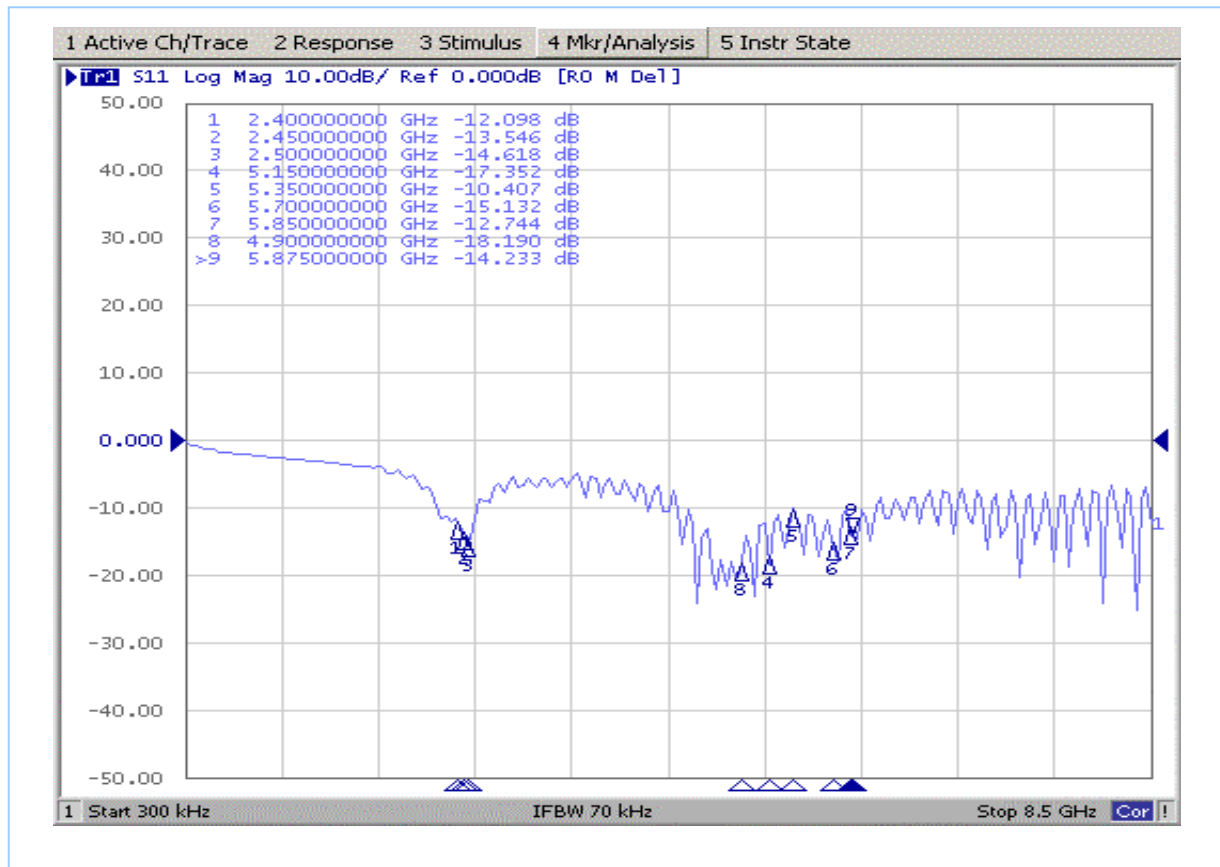


Coordinate Definition

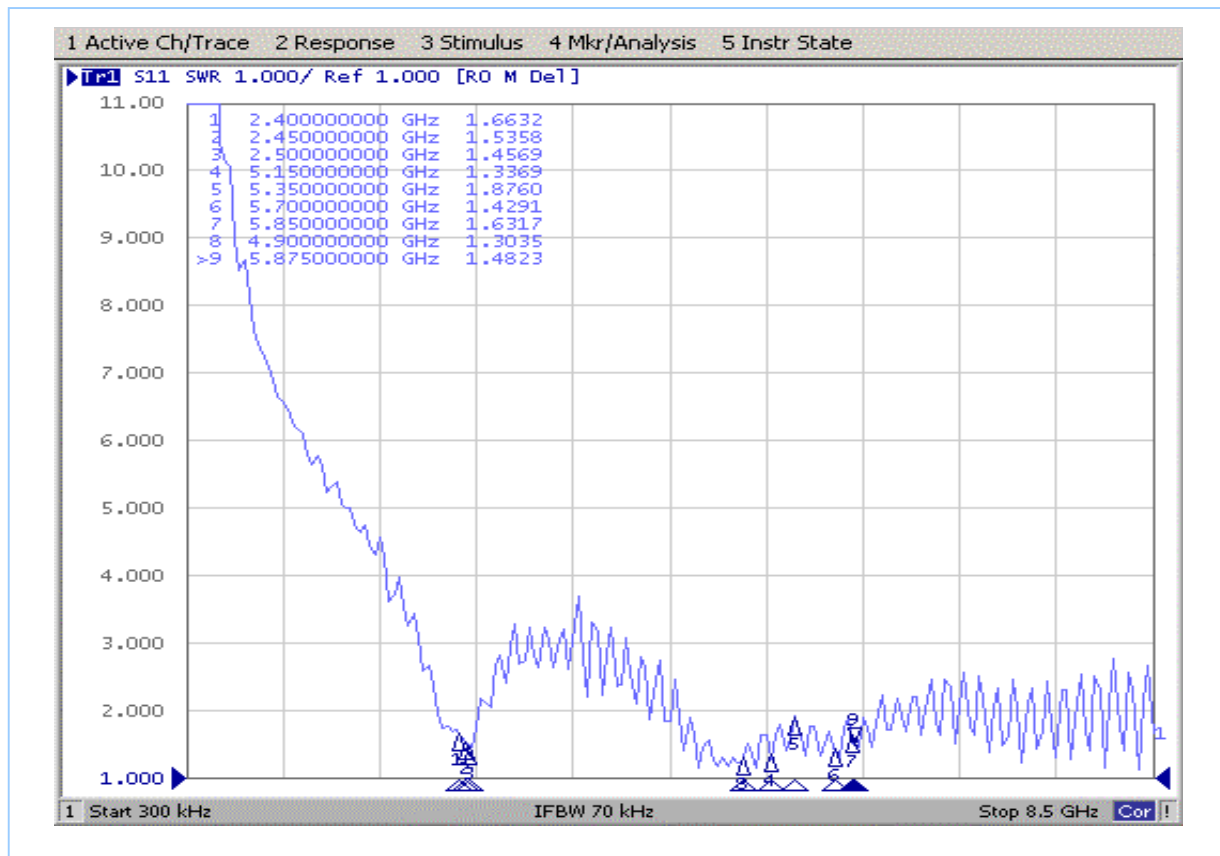


2. WLAN Ant./In Notebook

2.4~2.5GHz & 4.9~5.85GHz / Return Loss



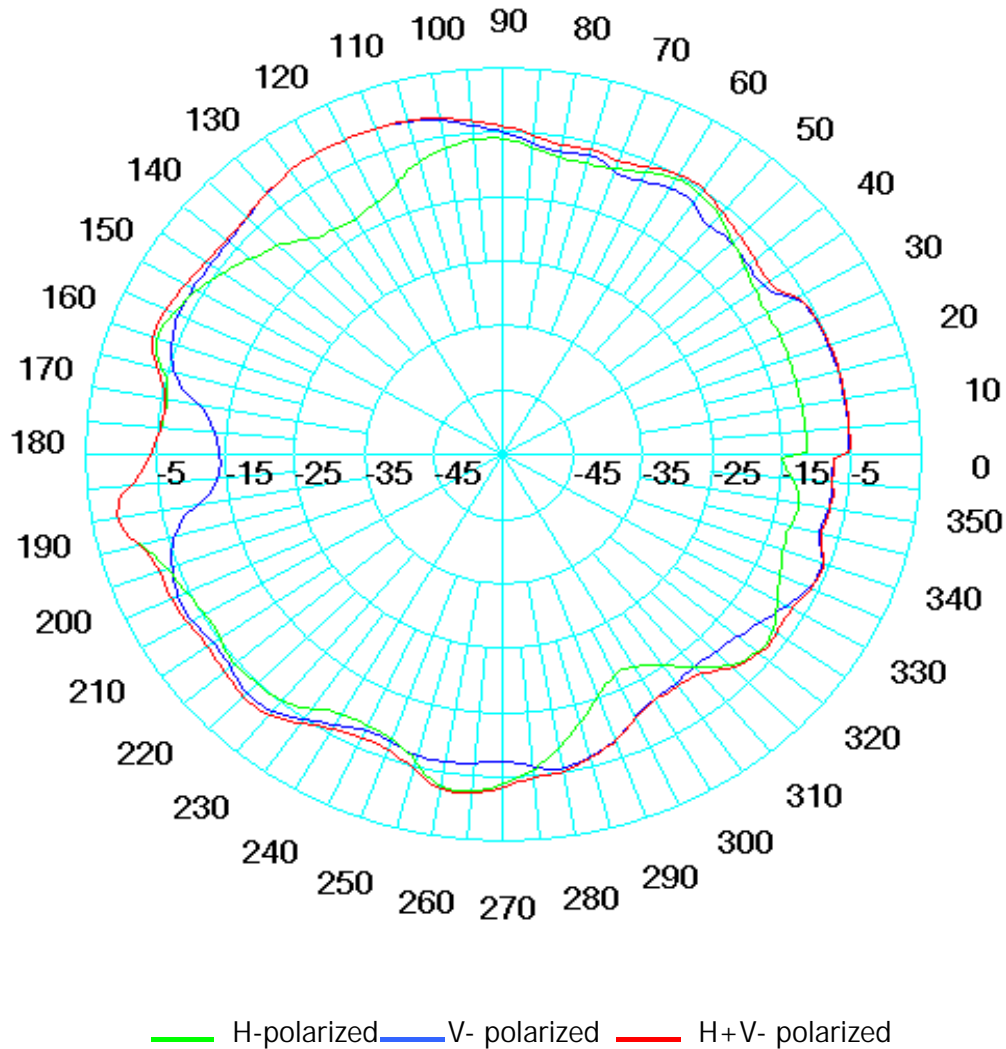
2.4~2.5 GHz & 4.9~5.85GHz / Vswr



3. Gain&PATTERN-WLAN ANT./In Notebook

LETF-MAIN ANT.

2.4GHz

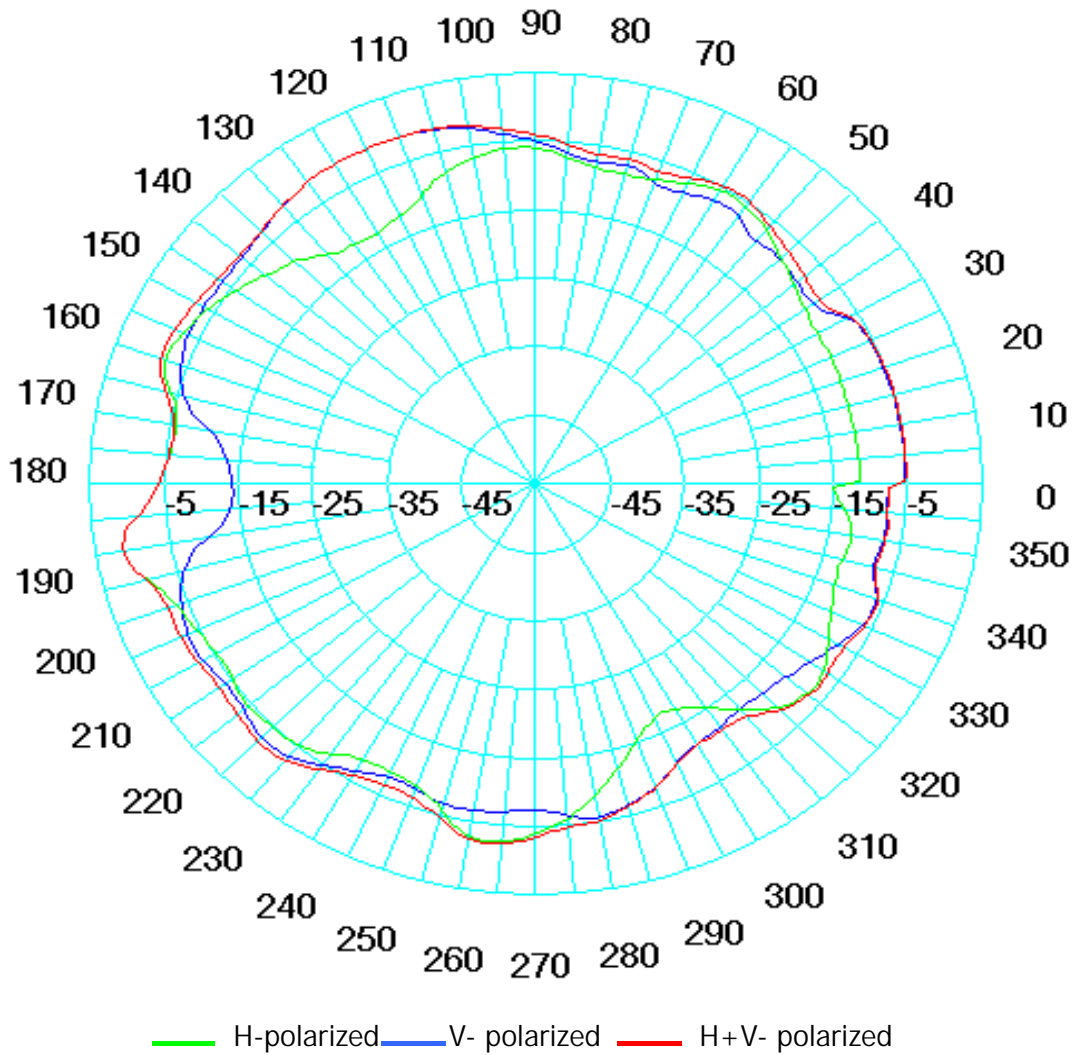


Gain data

Antenna	Gain of XY Plane(Azimuth)		
	Frequency	2.4GHz	
PIFA	H	Peak	1.20
		Avg.	-8.15
	V	Peak	-1.02
		Avg.	-6.58
	H + V	Peak	1.30
		Avg.	-4.72
		%> -5dBi	49.92%

LETF-MAIN ANT.

2.45GHz

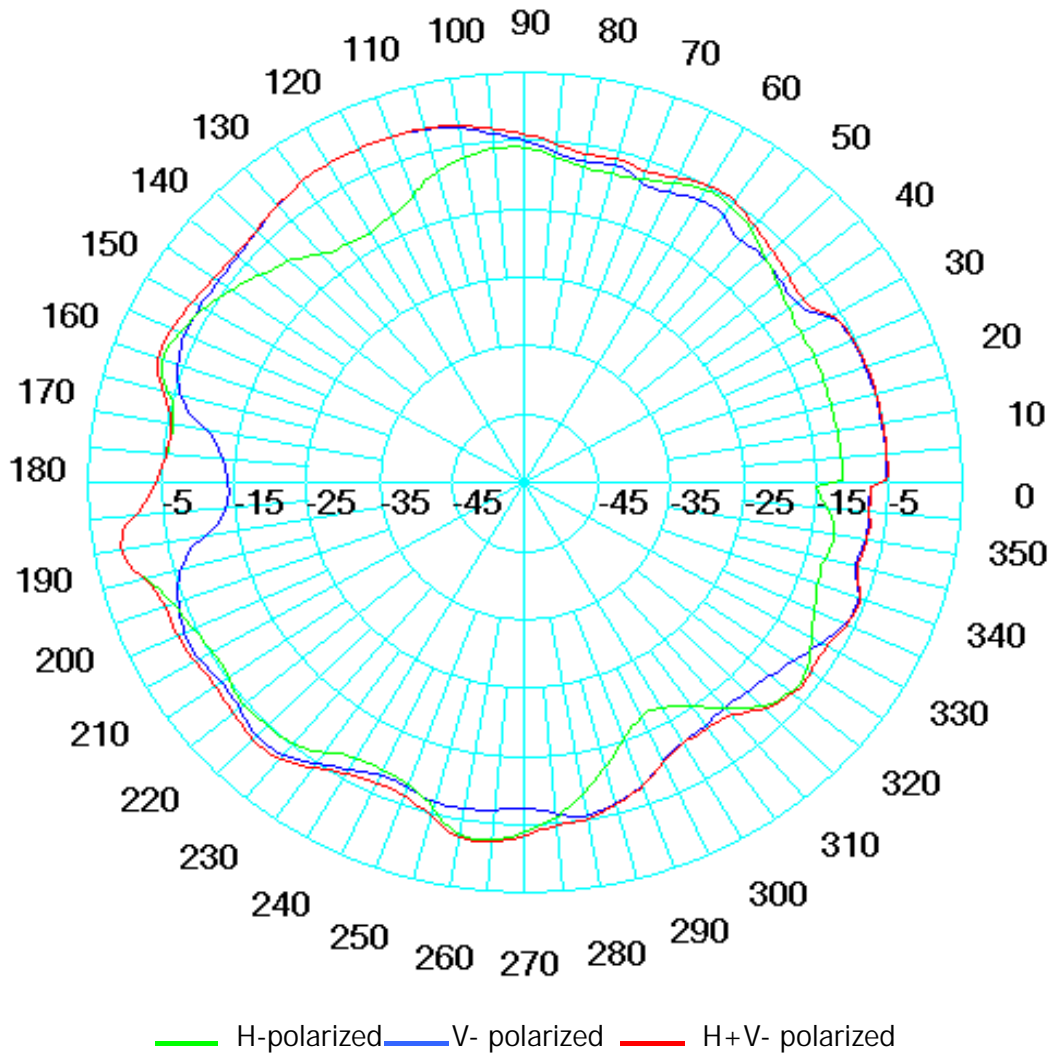


Gain data

Antenna	Gain of XY Plane(Azimuth)		
	Frequency	2.45GHz	
PIFA	H	Peak	1.32
		Avg.	-7.91
	V	Peak	-0.81
		Avg.	-6.32
	H + V	Peak	1.30
		Avg.	-4.60
		%> -5dBi	50.19%

LETF-MAIN ANT.

2.5GHz

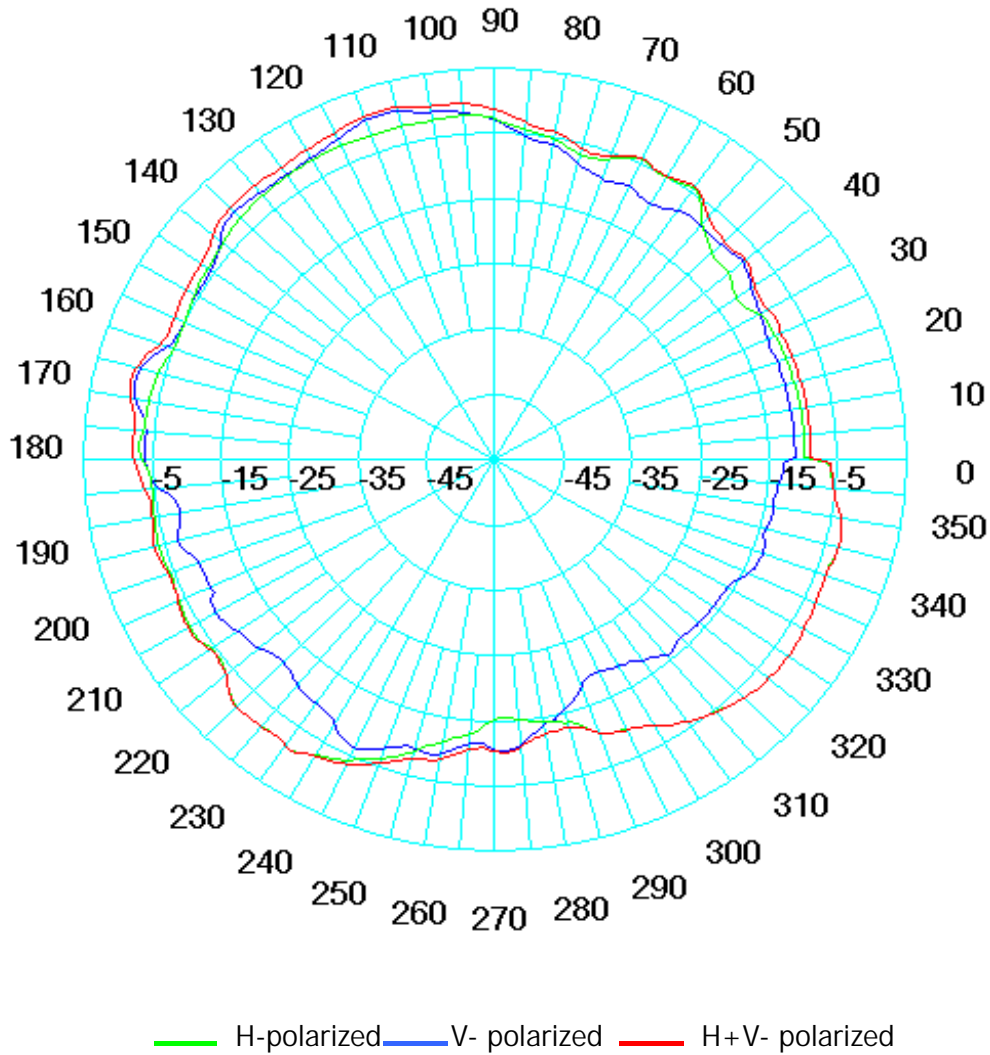


Gain data

Antenna	Gain of XY Plane(Azimuth)		
	Frequency	2.5GHz	
PIFA	H	Peak	1.18
		Avg.	-8.10
	V	Peak	-1.00
		Avg.	-6.46
	H + V	Peak	1.37
		Avg.	-4.70
		%> -5dBi	50.07%

LETF-MAIN ANT.

5.15GHz

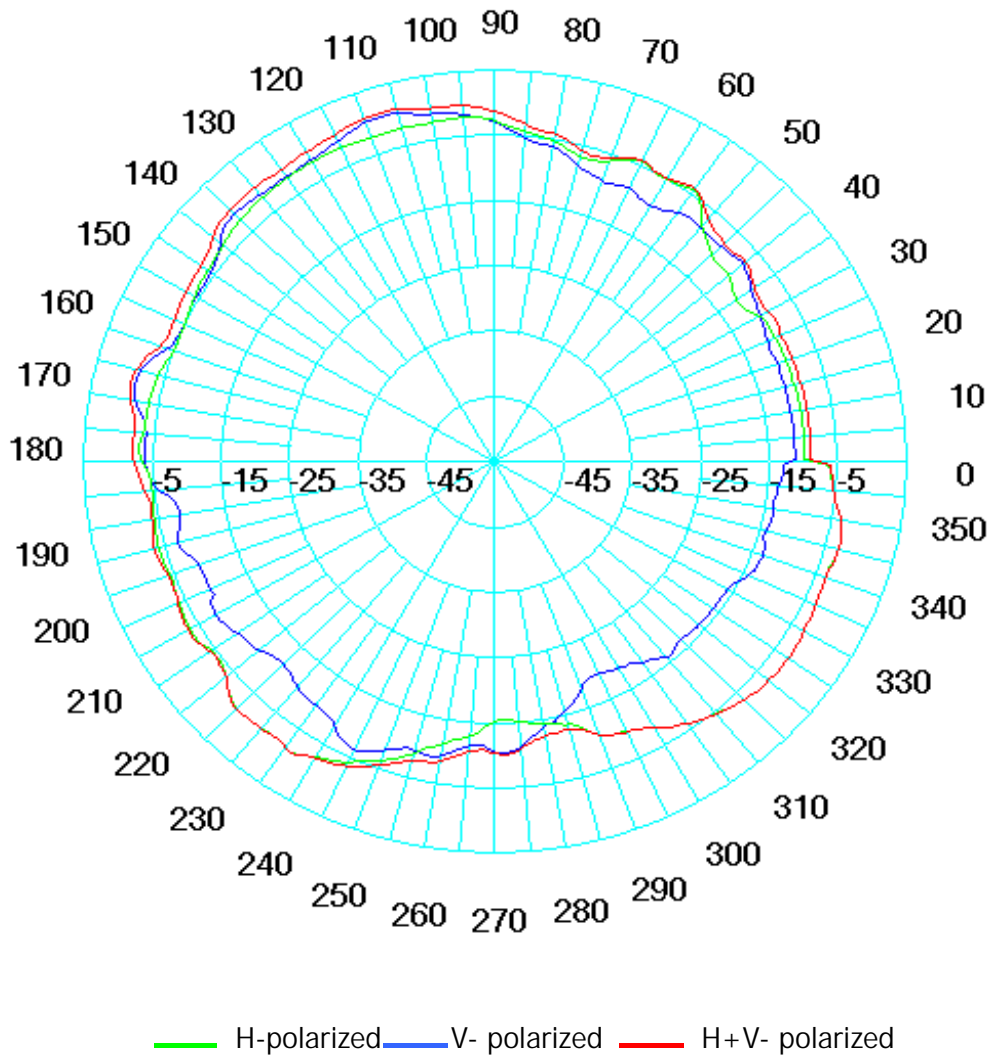


Gain data

Antenna	Gain of XY Plane(Azimuth)		
	Frequency	5.15GHz	
PIFA	H	Peak	-1.30
		Avg.	-5.54
	V	Peak	0.55
		Avg.	-8.74
	H + V	Peak	1.13
		Avg.	-4.46
		%> -5dBi	66.32%

LETF-MAIN ANT.

5.25GHz

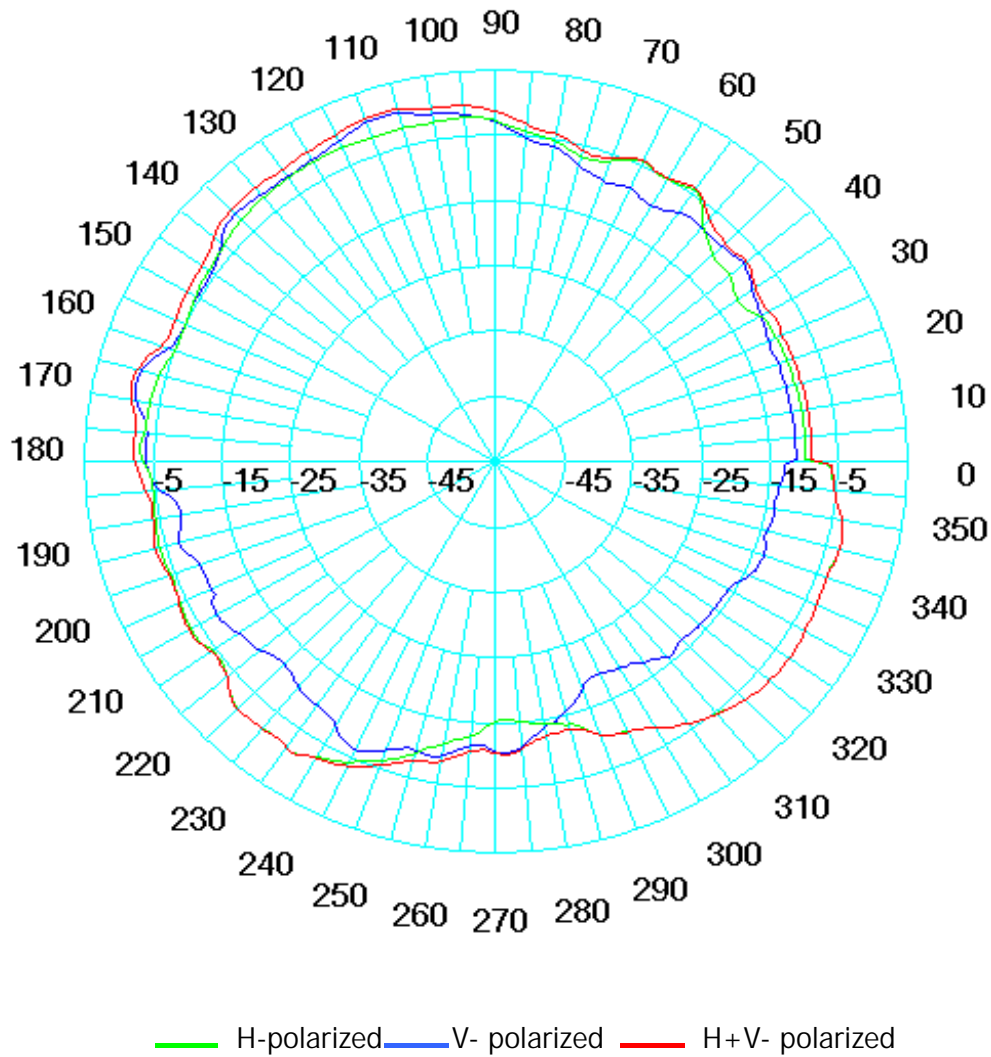


Gain data

Antenna	Gain of XY Plane(Azimuth)		
	Frequency	5.25GHz	
PIFA	H	Peak	-1.32
		Avg.	-5.54
	V	Peak	0.58
		Avg.	-8.64
	H + V	Peak	1.06
		Avg.	-4.42
		%> -5dBi	66.41%

LETF-MAIN ANT.

5.35GHz

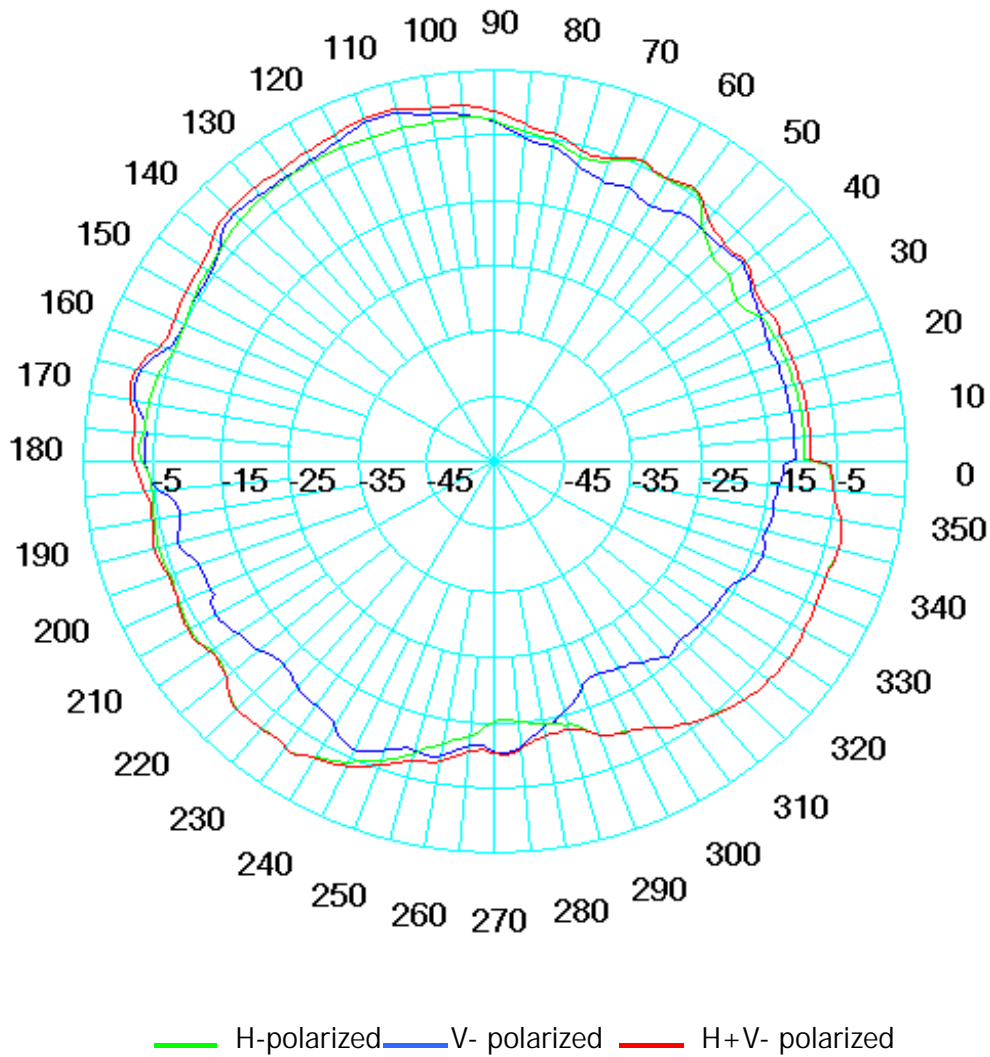


Gain data

Antenna	Gain of XY Plane(Azimuth)		
	Frequency	5.35GHz	
PIFA	H	Peak	-1.37
		Avg.	-5.68
	V	Peak	0.69
		Avg.	-8.72
	H + V	Peak	1.20
		Avg.	-4.45
		%> -5dBi	66.62%

LETF-MAIN ANT.

5.45GHz

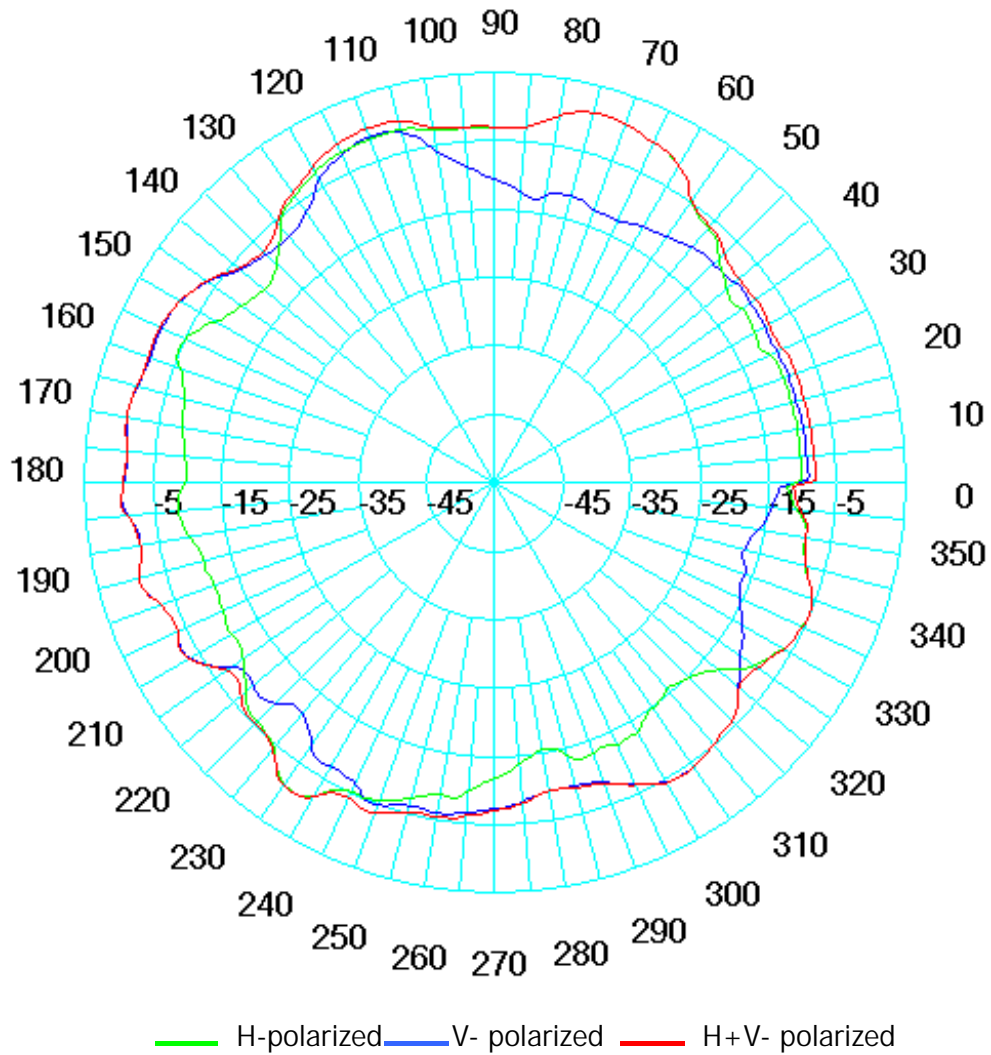


Gain data

Antenna	Gain of XY Plane(Azimuth)		
	Frequency	5.45GHz	
PIFA	H	Peak	-1.28
		Avg.	-5.62
	V	Peak	0.62
		Avg.	-8.70
	H + V	Peak	1.15
		Avg.	-4.53
		%> -5dBi	66.54%

LETF-MAIN ANT.

5.725GHz

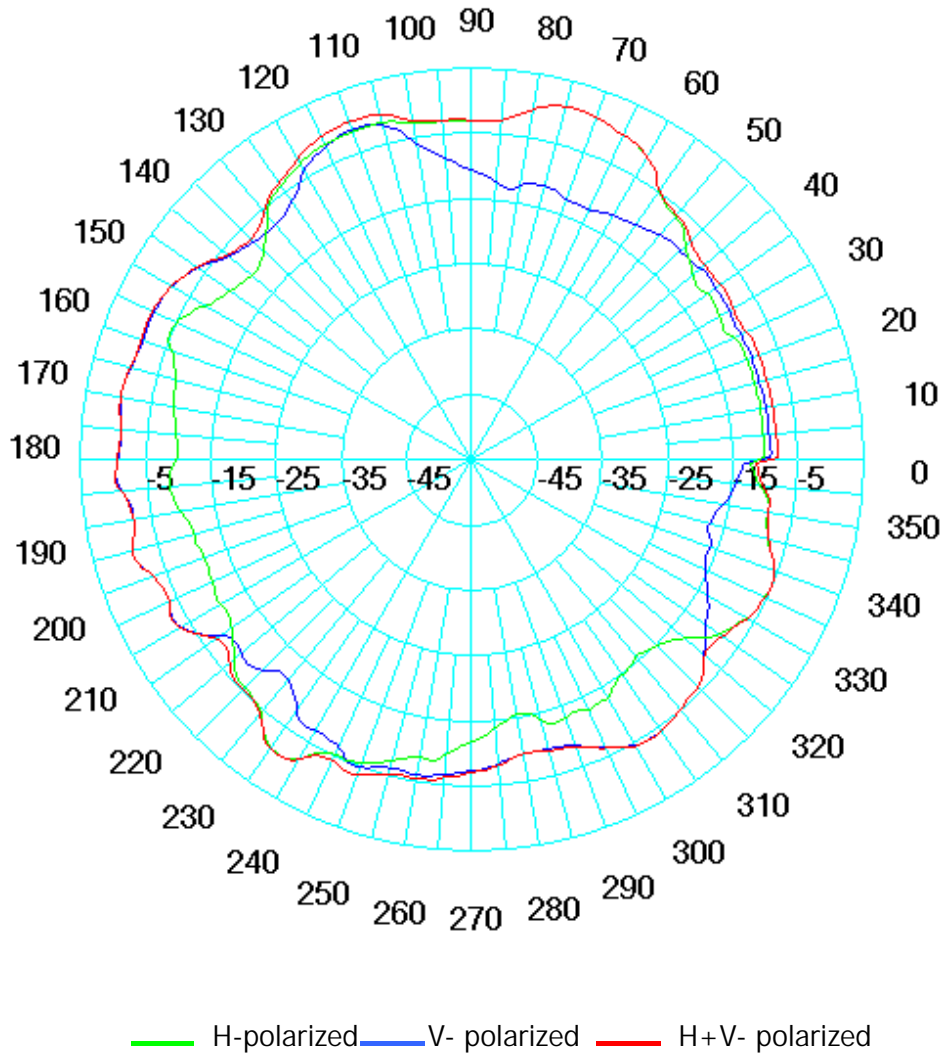


Gain data

Antenna	Gain of XY Plane(Azimuth)		
	Frequency	5.725GHz	
PIFA	H	Peak	1.17
		Avg.	-7.81
	V	Peak	-0.33
		Avg.	-7.53
	H + V	Peak	1.18
		Avg.	-4.61
%> -5dBi		56.58%	

LETF-MAIN ANT.

5.85GHz



Gain data

Antenna	Gain of XY Plane(Azimuth)		
	Frequency	5.85GHz	
PIFA	H	Peak	1.05
		Avg.	-7.73
	V	Peak	-0.37
		Avg.	-7.56
	H + V	Peak	1.24
		Avg.	-4.54
		%> -5dBi	56.24%

4. SPECIFICATIONS:

Electrical Properties

Frequency Range : 2.4~2.5GHz & 4.9~5.85GHz

Impedance : 50 ohm

VSWR(2.4~2.5GHZ) : 2.0

VSWR(5.15~5.85GHz) : < 2.5

Peak Gain : 3dBi

Average Gain : >-5dB

5. Coaxial Cable Specification :

FROM : FADDY

PHONE NO. : 866 2 25427237

DEC. 18 2002 10:49AM P1

70-高頻電線
FWS-保固高頻

KURABE INDUSTRIAL CO., LTD

SP3830M-X	FEP INSULATED HIGH-FREQUENCY COAXIAL CABLE (FWS 5022) UL 1979	PAGE	
PRODUCT STANDARD		ISSUED	11-12-2001
		REVISED	18-9-2002

1. SCOPE

This standard covers "FEP insulated High-Frequency coaxial cable".

These cable are approved by UL as Style 1979 AWM (File E-46702)

[UL1979:105°C, 30V]

Use: Internal wiring of Class 2 Circuits of Electronic Equipment.

2. CONSTRUCTION

Construction and dimensions of the cable are shown in Figure.1 and Table 1.

3. PERFORMANCE

Performance of the finished cable is shown in Table 2. The test methods are in accordance with applicable test methods described in JIS C 3005.

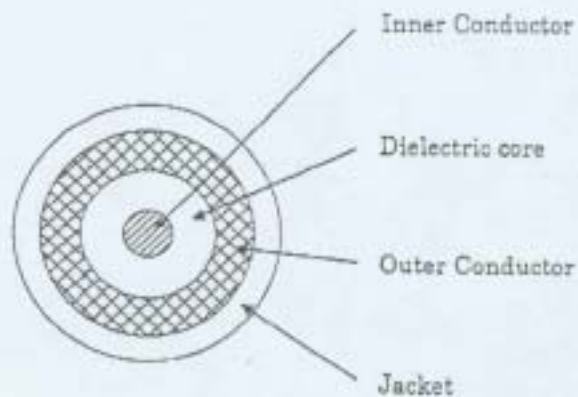


Figure 1.

NOTE:

MADE BY

S. Aki

APPROVALS

T. Hasegawa

KURABE INDUSTRIAL CO., LTD

SP3830M-X	FEP INSULATED HIGH-FREQUENCY COAXIAL CABLE (FWS 5022) UL 1979	PAGE	
PRODUCT STANDARD		ISSUED	11-12-2001
		REVISED	18-3-2002

Table 1. Construction

Item	Unit	Specified Value
Inner Conductor	Material	Silver coated annealed copper wire
	Stranding	No./mm
	Dia.(approx.)	7/0.08
Dielectric Core	Material	FEP
	Thick.(nom.)	mm
	Dia.	mm
	Color	Natural
Outer Conductor	Material	Silver coated annealed copper wire
	Type	Braid (16/4/0.05)
	Dia.(approx.)	mm
Jacket	Material	FEP
	Thick.(nom.)	mm
	Dia.	mm
	Color	Standard colors are white,black,blue,brown, and gray.

Table 2. Performance

Item	Unit	Specified Value	Note
Appearance	—	Faultless in visible	—
Inner conductor resistance	Ω/km	Max.597	at 20°C
Insulation resistance	$M\Omega \cdot \text{km}$	Min.1500	at 20°C
Dielectric strength	—	Dielectric core: No breakdown at AC1.5kV for 0.15sec.	Spark test
		Jacket: No breakdown at AC1.5kV for 0.15sec.	Spark test
		No breakdown at AC500V for 1min.	Outer conductor to inner conductor
Heat resistance for solder	—	Shrink or expansion of dielectric core are not more than 0.5mm	※
Capacitance	pF/m	nom. 98	at 1kHz
Characteristic impedance	Ω	50 ± 2	TDR method
Attenuation (nom.)	dB/m	2.0	1.0GHz
		2.9	2.0GHz
		3.6	3.0GHz
		4.2	4.0GHz
		4.7	5.0GHz
		5.2	6.0GHz

※ After immersion of dielectric core, 10mm into soldering pot which is $255^\circ\text{C} \pm 5^\circ\text{C}$ for 5 seconds, shrinkage or expansion of the dielectric core must not exceed 0.5mm.

NOTE:

MADE BY

APPROVALS

T. Sakai

T. Hosono

AVLV2

December 18, 1993

Appliance Wiring Material - Component

KURABE INDUSTRIAL CO LTD

E46702

**4830 TAKATSUKA-CHO HAMAMATSU-SHI, SHIZUOKA 432-
8521 JAPAN**

LOOK FOR THE RECOGNITION MARK

See General Information Preceding These Recognitions

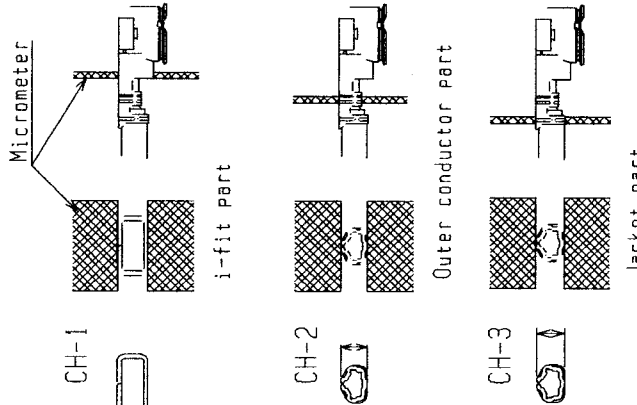
**For use only in equipment where the acceptability of the combination is determined by
Underwriters Laboratories Inc.**

10/28/1999

Underwriters Laboratories Inc.

Card 1 of 1

Part No.	20278-101R-08 20278-111R-08	20278-101R-13 20278-111R-13	20278-101R-32 20278-111R-32	20278-101R-18 20278-111R-18
Applicable cable nominal dimension				
Jacket	Single / 1重編組	Single / 1重編組	Double / 2重編組	Single / 1重編組
Dielectric core	<Under developing>	<Under developing>	<Under developing>	<Under developing>
Inner conductor				
Outer conductor				
Silver or tin plating				
Braided shield of Outer conductor 外層導体の編組				
P/N of hand Tool		90187-013		
P/N of semi auto termination machine		90213-013		
Sect. M-M				
Sect. L-L				
Crimp Height	CH-1	CH-1	CH-2	CH-3
	Under developing	Under developing	Under developing	Under developing
	Under developing	Under developing	Under developing	Under developing
	Under developing	Under developing	Under developing	Under developing



Crimp Height

DESIGN'D BY	DATE		TITLE			
CHK'D BY	DATE		I-PEX Interconnect and Packaging Electronics TOKYO, JAPAN			
APP'D BY	DATE			MHF series micro coaxial connector plug vertical		
CUSTOMER COPY	PROJECTION	SCALE	UNIT	DWG. No.	SHEET	REV.
	6/1	m/m	20278	2/3	6B	

GENERAL TOLERANCE	
6 MAX. ±0.2	
6 OVER MAX.30 ±0.3	
30 OVER MAX.120 ±0.5	
ANGLE ±2°	

FORM REV. 4
WAS T

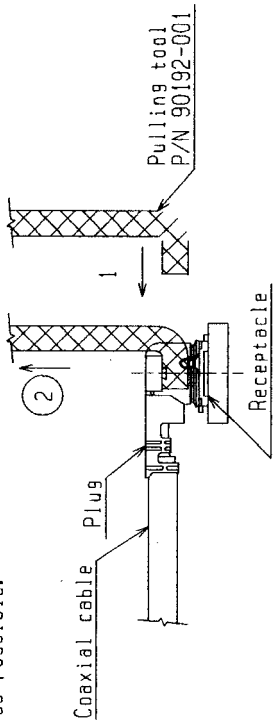
Notes

1. Material
 (1) Housing : PBT , UL94V-0 , black
 (2) Contact
 phosphor bronze
 gold plating
 (3) Ground contact
 phosphor bronze , gold plating
 2. Packing : reel
 3. Mating partner part No.
 : 20279-001E-01

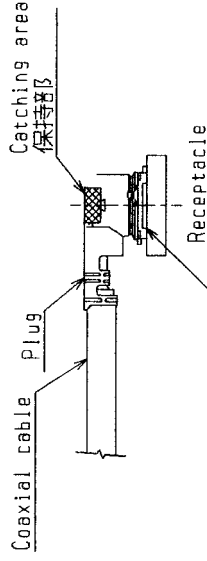
1. 材料
 (1) ハウジング:PBT, UL94V-0, 黒色
 (2) コンタクト
 : りん精銅
 : 金メッキ
 (3) グランドコンタクト
 : りん青銅, 金メッキ
 2. 梱包 : リール
 3. かん合相手 Part No.
 : 20279-001E-01

5-2 Unmating.

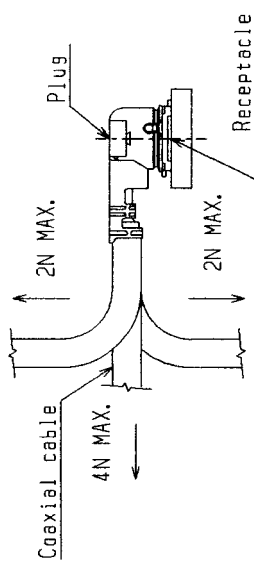
- (1) In case of unmating by pulling tool.
 Please use the pulling tool as the following drawing, and please pull plug to vertical direction as directly as possible.



- (2) In case of unmating directly by hand
 Please catch the catching area of plug , and please pull plug to vertical direction as directly as possible.



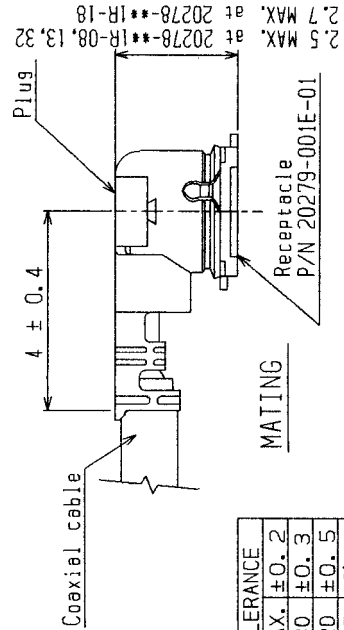
4. Permissible load of cable at mating



5. Suggestions for mating & unmating operation.

- 5-1 Mating.
 Please mate the connector straightly to vertical direction as much as possible, adjusting the mating axis of plug and receptacle.
 As excessive sient angle mating may break the connector , please don't do it.

- 5-1 コネクタ挿入時
 PlugとReceptacleのかん合軸を合わせ、できるだけ垂直に挿入して下さい。
 極端な斜め挿入は行わないで下さい。
 コネクタ破損の原因となりますので、過度なこじり挿入は行わないで下さい。



GENERAL TOLERANCE	
6 MAX.	±0.2
6 OVER MAX. 30	±0.3
30 OVER MAX. 120	±0.5
ANGLE	±2°

DESIGN'D BY	DATE	I-PEX Interconnect and Packaging Electronics TOKYO, JAPAN				
CHK'D BY	DATE					
APP'D BY	DATE					
CUSTOMER COPY	PROJECTION	SCALE	UNIT	DWG. No.	SHEET	REV.
	1	1:1	mm	20278	3/3	6B
TITLE			MHF series micro coaxial connector plug vertical			

WAS T

FORM REV. 4

材料証明書
MATERIAL CERTIFICATE

当社製品には下記の材料が使われている事を証明致します。

WE HEREBY CERTIFY THAT THE FOLLOWING MATERIALS ARE USED IN OUR PRODUCT.

PRODUCT NAME : MHF series micro coaxial connector PLUG

P/N 20278-**1R-**, 20308-**1R-**, P/N 20351-**1R-37

	部品 COMPONENT	材料/MATERIAL			UL94難燃性 UL94 FLAME CLASS	ULファイルNo. UL FILE No.
		材質名 MATERIAL	型名 CAT No.	材料メーカ MANUFACTURER		
1	HOUSING	PBT	3116	WINTECH POLYMER LTD.	V-0	E 213445

PRODUCT NAME : MHF series micro coaxial connector RECEP.

P/N 20279-001E-01, P/N20314-001E-01

	部品 COMPONENT	材料/MATERIAL			UL94難燃性 UL94 FLAME CLASS	ULファイルNo. UL FILE No.
		材質名 MATERIAL	型名 CAT No.	材料メーカ MANUFACTURER		
1	HOUSING	LCP	E130i	POLYPLASTICS CO.,LTD.	V-0	E 106764

PRODUCT NAME : MHF II connector

P/N 20311-**1R-**, P/N 20312-**1R-**

	部品 COMPONENT	材料/MATERIAL			UL94難燃性 UL94 FLAME CLASS	ULファイルNo. UL FILE No.
		材質名 MATERIAL	型名 CAT No.	材料メーカ MANUFACTURER		
1	HOUSING	LCP	A430	POLYPLASTICS CO.,LTD.	V-0	E 106764

株式会社アイベックス
I-PEX Co.,Ltd.

APPROVAL	CHECK	ORIGINATOR
T.Harada Feb/13/'04		K.Ohbayashi Feb/13/'04

FORM REV0

試験報告書

No. 3G-1672

平成5年11月4日

CR 700

財団法人 化学工業試験協会
大阪事務所



1. 依頼者 富原ゴム工業株式会社
2. 受付日 平成5年10月18日
3. 試料名 CR-250

4. 試験項目及び結果

- 1) 硬さ試験
硬さ H_n (SRIS-C) 23
- 2) 引張試験
引張強さ kgf/cm^2 10.3
伸び % 210
50%引張応力 kgf/cm^2 3.2
- 3) みかけ比重 0.22
- 4) 圧縮試験
25%圧縮応力 kgf/cm^2 0.63
50%圧縮応力 kgf/cm^2 1.54
- 5) 圧縮回復試験(室温 \times 24hrs, 50%圧縮, 解除30分後に測定)
回復率 % 93.7
- 6) 老化試験(ギヤ一式, $100 \pm 1^\circ\text{C} \times 24\text{hrs}$)
硬さ H_n (SRIS-C) 22
引張強さ kgf/cm^2 9.5
伸び % 180
50%引張応力 kgf/cm^2 3.8
- 7) 圧縮永久ひずみ試験($70 \pm 1^\circ\text{C} \times 22\text{hrs}$, 圧縮率25%)
* 圧縮永久ひずみ率 % 1.1
- 8) 耐熱収縮試験
- | 試験条件 | 70 \pm 1 $^\circ$ C \times 2hrs | 100 \pm 1 $^\circ$ C \times 24hrs |
|-------|-------------------------------------|---------------------------------------|
| 収縮率 % | 0.0 | 2.3 |
| | 0.1 | 1.8 |
- 9) 燃焼試験
燃焼時間(秒) 1.8
残じんの有無 なし
燃焼停止位置 燃焼限界線を越えない



〒543 大阪市天王寺区堂ヶ芝1-6-5 ☎(06)771-5157

QMFZ2

Component Plastics

January 20, 1987

E66114 (S)

MIYAHARA RUBBER INDUSTRY CO LTD
1-20 KARUMO-DORI 1-CHOME NAGATO-KU KOBE-
SHI, HYOGO-KEN JAPAN

Mill Deg	Col	Den PCF (g/cc)	In.	Min Thk (mm)	UL94 Flame Class
Chloroprene rubber foam furnished in sheet or block form.					
CR-30	BK	12.7(0.2)-14.4(0.23)	0.073	(1.85)	94HBF
CR-45	BK	15.90(0.28)-16.74(0.26)	0.078	(2.0)	94HF-1
CR-250	BK	12.0(0.19)-13.2(0.21)	0.082	(1.57)	94HF-1

✓ Marking: Company name and material designation on container, wrapper or finished part.

See General Information Preceding These Recognitions.

UL94 small-scale test data does not pertain to building materials, furnishings and related contents.
UL94 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 ULI.

Report: March 1, 1978.

Replaces E66114 dated December 2, 1986.
877379001 100076 Underwriters Laboratories Inc.®

DIV0026547

TECHNICAL REPORT

Industrial Adhesive Tape T4000

Industrial Adhesive Tape 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 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.



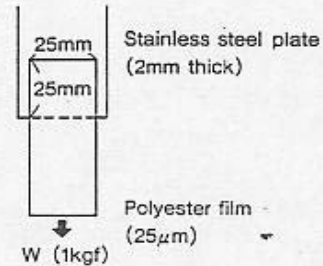
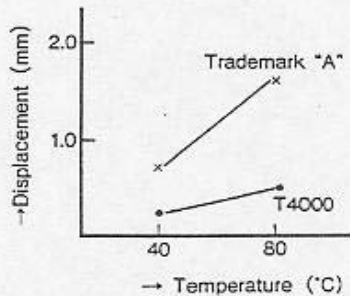
Sony Chemicals Corporation

Industrial Adhesive Tape T4000

SPECIFICATIONS

1. Holding strength at elevated temperatures

T4000 demonstrates an excellent holding strength even under severe conditions.



Conditions for preparing test pieces

Temperature : 20°C

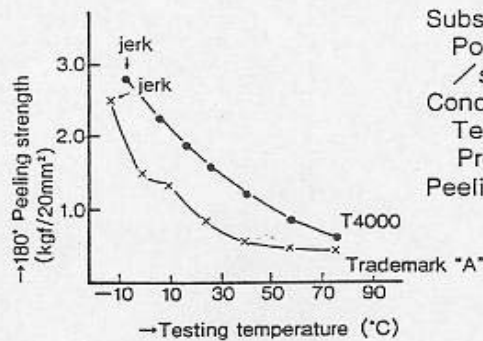
Pressure : 2kgf/cm² (one stroke)

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 :

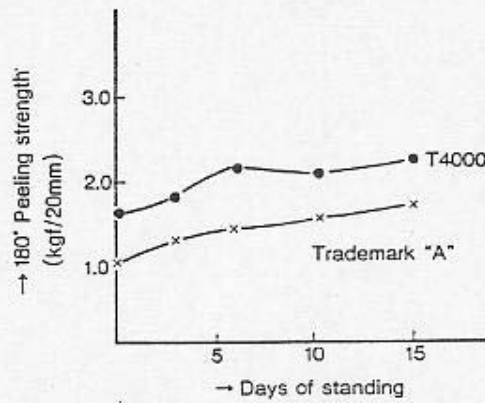
Temperature : 20°C

Pressure : 2kgf/cm² (one stroke)

Test peeling speed : 300m/min.

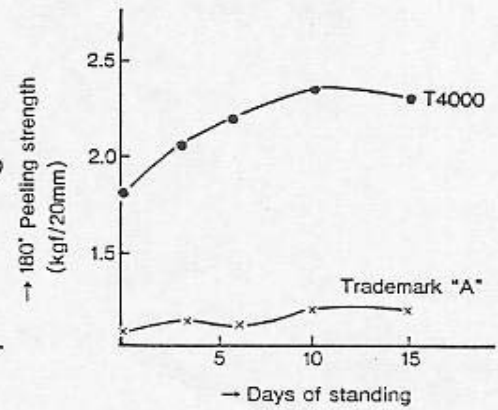
● **THERMAL AGING**

Standing test in the atmosphere



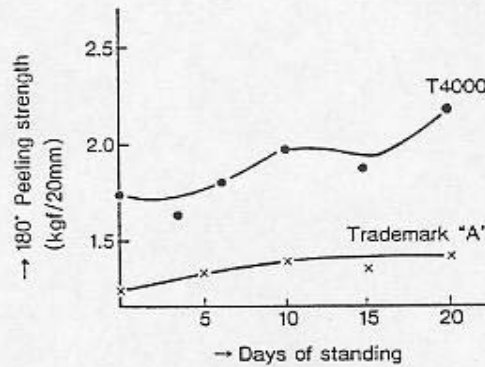
● **MOISTURE RESISTANCE**

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



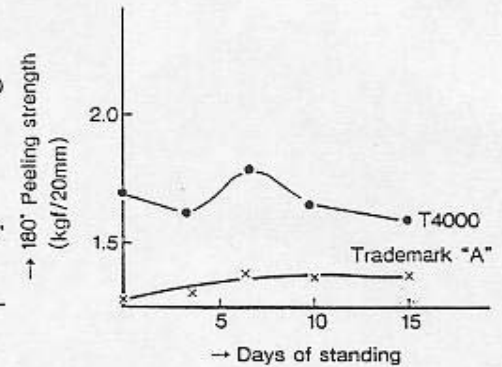
● **WATER RESISTANCE**

standing test in water at 40°C

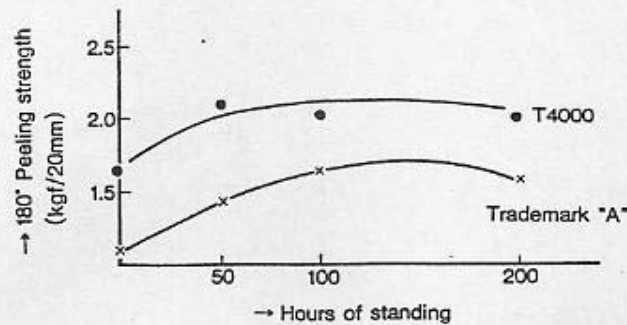


● **OIL RESISTANCE**

Standing test in machine oil at 40°C



● **WEATHERING**

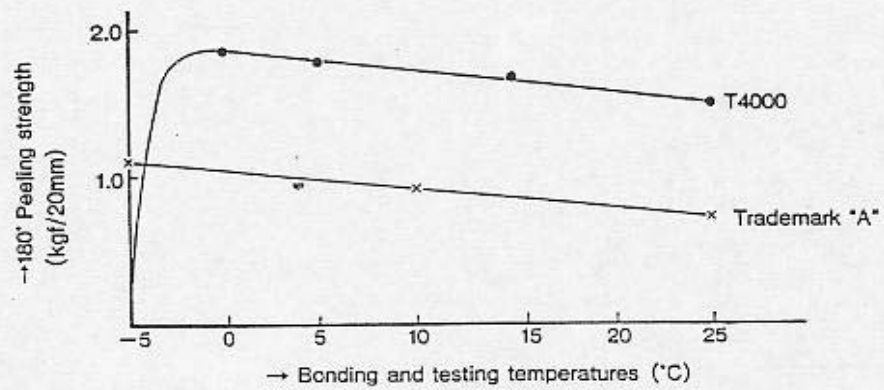


Industrial Adhesive Tape T4000

WORKABILITY

Low-temperature adhesion

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



PGGU2

August 24, 1999

Marking and Labeling System Materials Component

SONY CHEMICALS CORP

MH15431

T4000, T4000W . For bonding aluminum (thickness .007 to 0.020 in), polycarbonate (thickness .019 to .079 in) and acrylic (thickness .019 to .079 in) to acrylonitrile butadiene styrene (ABS) plastic, maximum surface temperature 80 C (176 F), minimum temperature -40 C (-40 F). Suitable where exposed indoors to high humidity and occasional exposure to water.

T4000B, T4000BW . For bonding aluminum (thickness .007 to 0.020 in), polycarbonate (thickness .019 to .079 in) and acrylic (thickness .019 to .079 in) to acrylonitrile butadiene styrene (ABS) plastic, maximum surface temperature 80 C (176 F), minimum temperature -40 C (-40 F). Suitable where exposed indoors to high humidity and occasional exposure to water.

T4500B, T4500BW . For bonding aluminum (thickness .007 to 0.020 in), polycarbonate (thickness .019 to .079 in) and acrylic (thickness .019 to .079 in) to acrylonitrile butadiene styrene (ABS) plastic, maximum surface temperature 80 C (176 F), minimum temperature -40 C (-40 F). Suitable where exposed indoors to high humidity and occasional exposure to water.

T4700M . For bonding aluminum (thickness 0.002 to 0.032 in) to aluminum, and galvanized steel, max temperature 150 C (302 F) min temperature -40 C (-40 F); Acrylonitrile Butadiene Styrene (ABS) and Polypropylene plastics; max temperature 80 C (176 F) min temperature -40 C (-40 F); Polystyrene plastics; max temperature 60 C(140 F) min tem-

9/22/1999

Underwriters Laboratories Inc.

Card 2 of 3

8. PIFA Antenna (Tin Plate)

포항중합제철주식회사
 POSANG IRON & STEEL CO., LTD.
 (POHANG KOREA)
 1000 ONE WANG WANG CITY SANGHUI KOREA

증명서
TEST CERTIFICATE

중명서 번호
 CERTIFICATE NO : 991223-CEE-010-001
발행 일자
 DATE OF ISSUE : DEC. 23. 1999

고객사
TEST CERTIFICATE

주요 고객사
 CUSTOMER : HANJIN TRADING CO. LTD.
주공분자
 SUPPLIER : SEMMYONG CORPORATION

계약번호
 CONTRACT NO : 99F3C28FA
주문번호
 ORDER NO : 873-990788D
품명
 COMMODITY : TIN PLATE COIL
제품규격
 SPECIFICATION : JISG3303 SPTE-M073

제품번호	수량	중량 (KG)	변경번호	제품번호	인장시험		연장시험		화학성분	마크
					YP	TS	ELONGATION	REDUCTION OF AREA		
0.25X520XC	1	4,100	68809	3TFLO274	0	0	3.24	3.21	22	1312
	1	4,110		3TFLO275						
	1	3,920		3TFLO236						
	1	4,560		3TFLO277						
	1	4,310	68814	3TFLO278	0	0	3.07	3.11	23	1311
	1	4,200		3TFLO279						
*** SUB TOTAL (020) *						25,200 (KG)				
0.30X500XC	1	4,170	70107	3TFLO336	0	0	3.17	3.26	5	156
	1	4,420		3TFLO337						
	1	4,660		3TFLO338						
	1	4,310		3TFLO339						
	1	4,110		3TFLO340						
	1	4,170		3TFLO341						
	1	4,270		3TFLO342						
	1	4,060		3TFLO343						
	1	4,170		3TFLO344	0	0	3.18	3.21	5	154.2
	1	4,270		3TFLO345						
	1	4,230		3TFLO346						
	1	3,850		3TFLO347						
*** SUB TOTAL (030) *						49,690 (KG)				
*** GRAND TOTAL ***						74,890 (KG)				

WE HEREBY CERTIFY THAT THE MARKING HEREIN HAS BEEN MADE BY THE BASIC OXYGEN PROCESS AND TESTED IN ACCORDANCE WITH THE ABOVE SPECIFICATION AND ALSO WITH THE REQUIREMENTS CALLED FOR BY THE ABOVE ORDER.

CALLS METRIC ANALYSIS
 METRIC ANALYSIS
 METRIC ANALYSIS

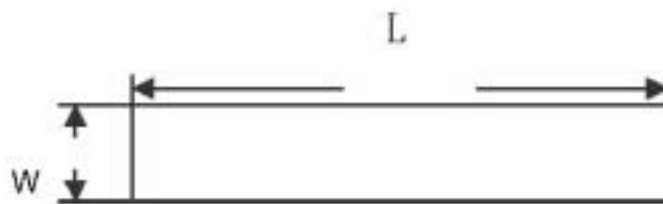
SIGNATURE: *P. Kim*
 CHIEF OF PRODUCTS INSPECTION SECTION

9. EMI TAPE

CATERON

客戶	惠貿	規格	83530-10mm*70mm	業務	王沂
品名	83530	機種		日期	04/07/26

客戶料號: G01001029002



L : 長度 70 mm \pm 0.8 mm

W : 寬度 10 mm \pm 0.5 mm

客戶承認	工程部確認	校對	製圖
	齊躍庭	王沂	秦白云

CATERON

嘉得隆科技股份有限公司
 台北縣三重市溪尾街 94 號 7 樓
 TEL: 02-2267-4187 FAX: 02-2267-4173
 昆山嘉得隆電子有限公司
 昆山市經濟技術開發區青河南路 28 號
 TEL: 86-512-5737-8767 FAX: 86-512-5737-8768

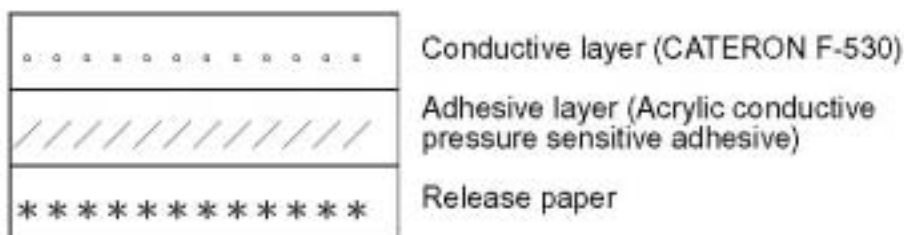
ELECTRICALLY CONDUCTIVE FABRIC TAPE NO.83530 SERIES

1.PREFACE

CATERON 83530 series products are made of our metallized fabric,(POLYESTER Ni/Cu) CATERON F-530, coated with a pressure sensitive adhesive.

These products can be used as EMI/RFI shielding and grounding tape, which would meet market requirements.

2.COMPOSITION OF PRODUCT



3.CHARACTERISTICS OF CATERON 83530

Surface resistivity: $\leq 0.03\text{ohms} / \square$

Far-field shielding effectiveness, (Typical)

AT	100	MHZ	dB	92
AT	1	GHZ	dB	104

Thickness $0.13\text{mm} \pm 0.02\text{mm}$ (without release paper)

Peeling strength $\geq 1.1\text{ kg}/25\text{mm}$

Tensile strength $\geq 15\text{ kg}/25\text{mm}$

Electrical resistance through adhesive $\leq 0.06\text{ ohms}/\text{sq in}$

4.PACKAGE

W: Width dimension by customer spec. (Max: 100cm)

L: Standard length 20M

Approved By	Checked By	Prepared By	Document No	Version
駱旭盈	陳政廷	傅碧珠	F835300404	A

Test Report

嘉得隆科技股份有限公司
*241台北縣三重市溪尾街94號6樓

報告號碼 : CE/2003/80965
日期 : 2003/08/21
頁數 : 1 of 3

以下測試樣品乃供應廠商所提供及確認：

樣品名稱 : EMI 導電布
產品型號 : 773,513,520,530,533,394,510,72H
收件日期 : 2003/08/14.
測試日期 : 2003/08/14 TO 2003/08/21

測試結果 : - 請見下一頁 -



Anren Lee, M.P.E. Supervisor
Signed for and on behalf of
SGS TAIWAN LTD.

This Test Report is issued by the Company subject to its General Conditions of Service printed overleaf. Attention is drawn to the limitations of liability, indemnification, and jurisdictional issues defined therein. The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This Test Report cannot be reproduced, except in full, without prior written permission of the Company. 此報告是遵照本公司訂定之通用服務條款所製作發給。請注意此報告列印於背面。將本公司之義務、免責、管轄權皆明確規範之。此報告結果除另有說明僅對檢驗之樣品負責。本報告未經本公司書面許可，不可部份複製。

TW0222872

Test Report

嘉得隆科技股份有限公司
*241台北縣三重市溪尾街94號6樓

報告號碼 : CE/2003/80965
日期 : 2003/08/21
頁數 : 2 of 3

測試結果

測試部位 NO.1 : 灰色導電布

測試項目:	單位	測試方法	偵測極限值	結果				法規限值
				NO.1				
石棉	---	石棉定性分析	---	---				---
斜方角閃石	---	參考Health Canada, Proudct safety Bureau Reference-Manual, 以紅外線光譜儀(FTIR)檢測	---	Negative				---
青石棉	---	參考Health Canada, Proudct safety Bureau Reference-Manual, 以紅外線光譜儀(FTIR)檢測	---	Negative				---
棕石棉	---	參考Health Canada, Proudct safety Bureau Reference-Manual, 以紅外線光譜儀(FTIR)檢測	---	Negative				---
透閃石	---	參考Health Canada, Proudct safety Bureau Reference-Manual, 以紅外線光譜儀(FTIR)檢測	---	Negative				---
白石棉	---	參考Health Canada, Proudct safety Bureau Reference-Manual, 以紅外線光譜儀(FTIR)檢測	---	Negative				---

This Test Report is issued by the Company subject to its General Conditions of Service printed overleaf. Attention is drawn to the limitations of liability, indemnification, and jurisdictional issues defined therein. The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This Test Report cannot be reproduced, except in full, without prior written permission of the Company. 此報告僅適用於本公司訂定之適用服務條款所製作之樣品。請注意此報告列印於背面。對本公司之義務、免責、管轄權等事項請參閱之。此報告結果除另有說明僅對檢驗之樣品負責。本報告未經本公司書面許可，不可部份複製。

TW 0222871

SGS Taiwan Ltd.
台灣檢驗科技股份有限公司

No. 136-1 Wu Kung Road, Wuku Industrial Zone, Taipei County, Taiwan. / 台北縣五股工業區五工路136-1號
☎ (886-2) 2299-3939 ☎ (886-2) 2299-3237

www.sgs.com.tw

Member of SGS Group (Société Générale de Surveillance)

Test Report

嘉得隆科技股份有限公司
*241台北縣三重市溪尾街94號6樓

報告號碼 : CE/2003/80965
日期 : 2003/08/21
頁數 : 3 of 3

六價鉻	ppm	依照US EPA 7196A及3060A方法	2	N.D.					---
鎘	ppm	依照 EN1122 方法B:2001或其他酸消化方法,用感應耦合電漿原子發射光譜儀(ICP-AES)做分析	2	N.D.					---
汞	ppm	依照 US EPA 3052 方法或其他酸消化方法,用感應耦合電漿原子發射光譜儀(ICP-AES)做分析	2	N.D.					---
鉛	ppm	依照 US EPA 3050B 方法或其他酸消化方法,用感應耦合電漿原子發射光譜儀(ICP-AES)做分析	2	7.8					---

- 備註：(1) N.D. = Not detected. (<MDL) / 未檢出(低於偵測極限值)
 (2) ppm = mg/kg / 百萬分之一
 (3) MDL= Method Detection Limit(偵測極限值)
 (4) " --" = Not Applicable / 未測項目

- END -



This Test Report is issued by the Company subject to its General Conditions of Service printed overleaf. Attention is drawn to the limitations of liability, indemnification, and jurisdictional issues defined therein. The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This Test Report cannot be reproduced, except in full, without prior written permission of the Company. 此報告是根據本公司訂定之通用服務條件所製作發放。請注意此報告刊印於背面。將本公司之責任、免責、管轄權等明確規定之。此報告結果並非另有說明應對檢驗之樣品負責。本報告未經本公司審查許可，不可部份複製。

TW0222870

SGS Taiwan Ltd.
台灣檢驗科技股份有限公司

No. 136-1 Wu Kang Road, Wuku Industrial Zone, Taipei County, Taiwan. / 台北縣五股工業區五工路136-1號
 †(886-2) 2299-3939 †(886-2) 2299-3237

www.sgs.com.tw

Member of SGS Group(Société Générale de Surveillance)