承　　認　　書

SPECIFICATION FOR APPROVAL

客　　戶 CUSTOMER	Sigmacom Co., Ltd
日　　期 DATE	2005/11/24
品　　名 DESCRIPTION	WPS008 5G Swivel Type Antenna RP-SMA (M) (Black)
客 戶 料 號 CUSTOMER P/N	CIWPS008SC
成 品 編 號 Part No.	T1W1424A1

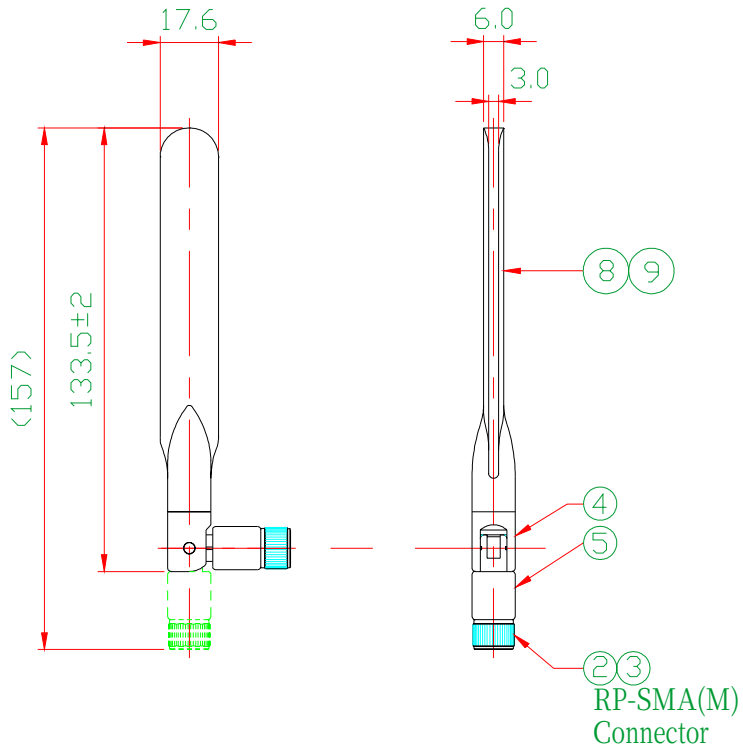
Table of Contents

SPECIFICATION

1.	Description	：5GHz Swivel Type Antenna With RP-SMA (M)
2.	Customer	：Sigmacom Co., Ltd
3.	Model No.	：WPS008
4.	Part No.	：T1W1424A1
5.	Standard	：IEEE 802.11a/g Wireless LAN
6.	Antenna Profile	：133.5 (157) mm length (see Drawing)
7.	Color	：Black
8.	Electrical Characteristics	
	Operating Frequency	：5.15~5.35/5.725~5.85 GHz
	Antenna Type	：PCB
	Polarization Type	：Linear
	Type of Radiation	：Toroidal
	Antenna Gain	：3.0 dBi Typical
	Impedance	：50 Ohm nominal
	V.S.W.R.	：2.0:1 Max.
9.	Mechanical Characteristics	
	Swivel	：90 degrees
	Connector	：RP-SMA (M)
	Core	：N/A
10.	Raw Material	
	Coaxial Cable	：MIL-C-17 RG-178 B/U
	Housing	：ABS+PC(FR-2000)
	Hinge	：PC+ALLOY

Ver	Date	ECR NO.	Drawing	Engineering Change Description

TOLERANCES:
X ± 0.5
X.X ± 0.3
X.XX ± 0.1
ANGULAR ± 5.0°

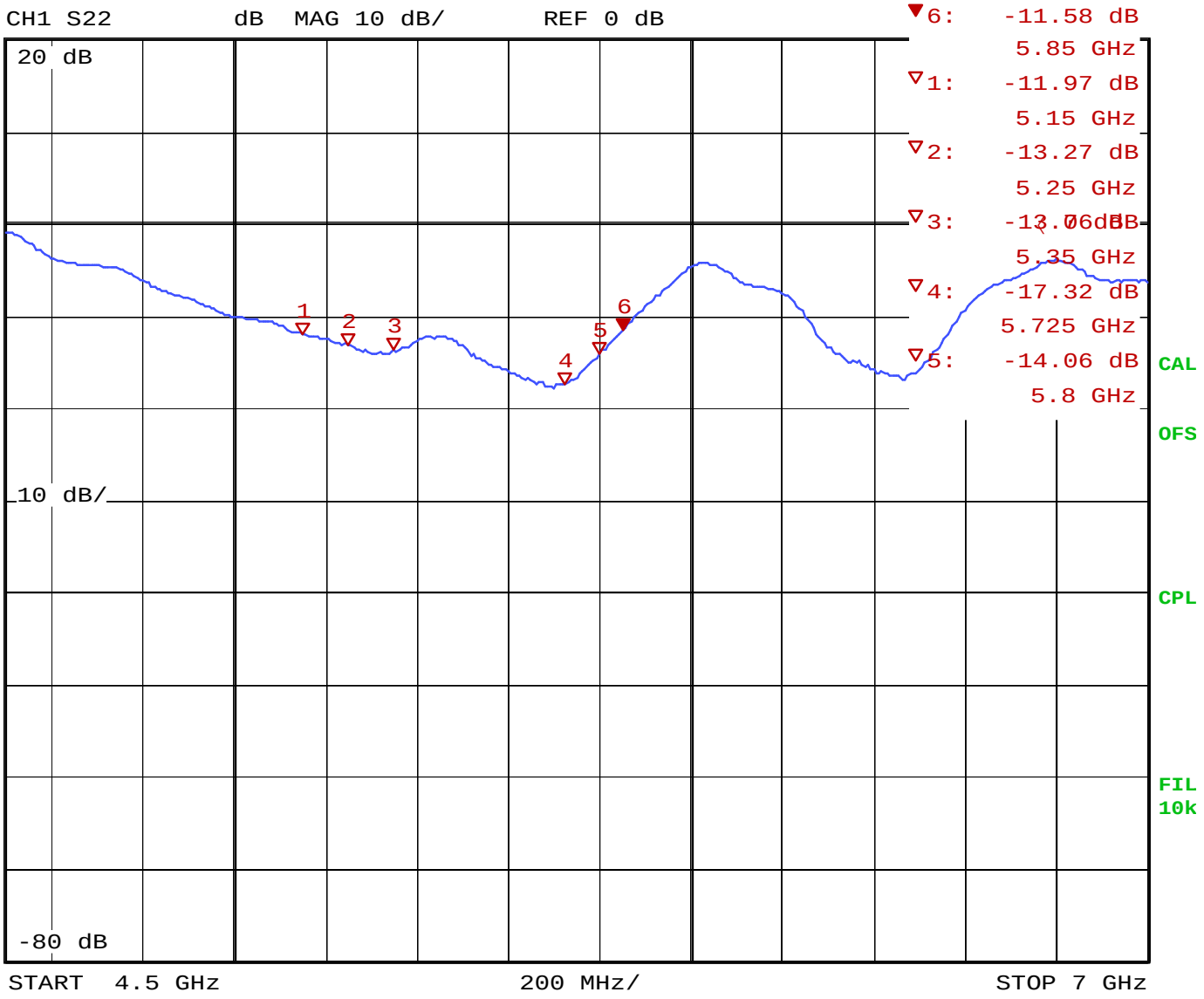


NO	Material	GM	Description	Color	Dim	Qt'y	Remark
9	Male Cover		WPS008 115.5L*17.6W	Black		1	or Equivalent
8	Female Cover	v	WPS008 115.5L*17.6W	Black		1	or Equivalent
7	PCB		WPB002-3 Tri-Band 0.4t PCB	Black		1	or Equivalent
6	Rivet		23-15-8 1.95*2.1*4.8	Black		2	or Equivalent
5	Hinge-Base		13 φ Hinge-Base *25.5L	Black		1	or Equivalent
4	Hinge-Holder		13 φHinge-Holder *28L	Black		1	or Equivalent
3	RP-SMA φ12.5 Shaft		0249A-B Connector RP-SMA(M) φ12.5	silver		1	or Equivalent
2	RP-SMA φ12.5 Body		0249A-A Body RP-SMA(M) φ12.5 Connector	Black		1	or Equivalent
1	RG-178 Coaxial Cable		RG-178 CABLE 105SV	Orange	116	1	or Equivalent

Revised：		Data: 94/11/24		Customer Part No.	CIWPS008SC		
Page： 1/1	Approval	Checked	Drawed				
	J. L. Lin	Sandy	Mandy	Part Name	WPS008 5G Swivel Type Antenna with RP-SMA(M)(Black)		
UNIT： mm				Part No.	T1W1424	REV A	VERSION 1
Scale： FREE							

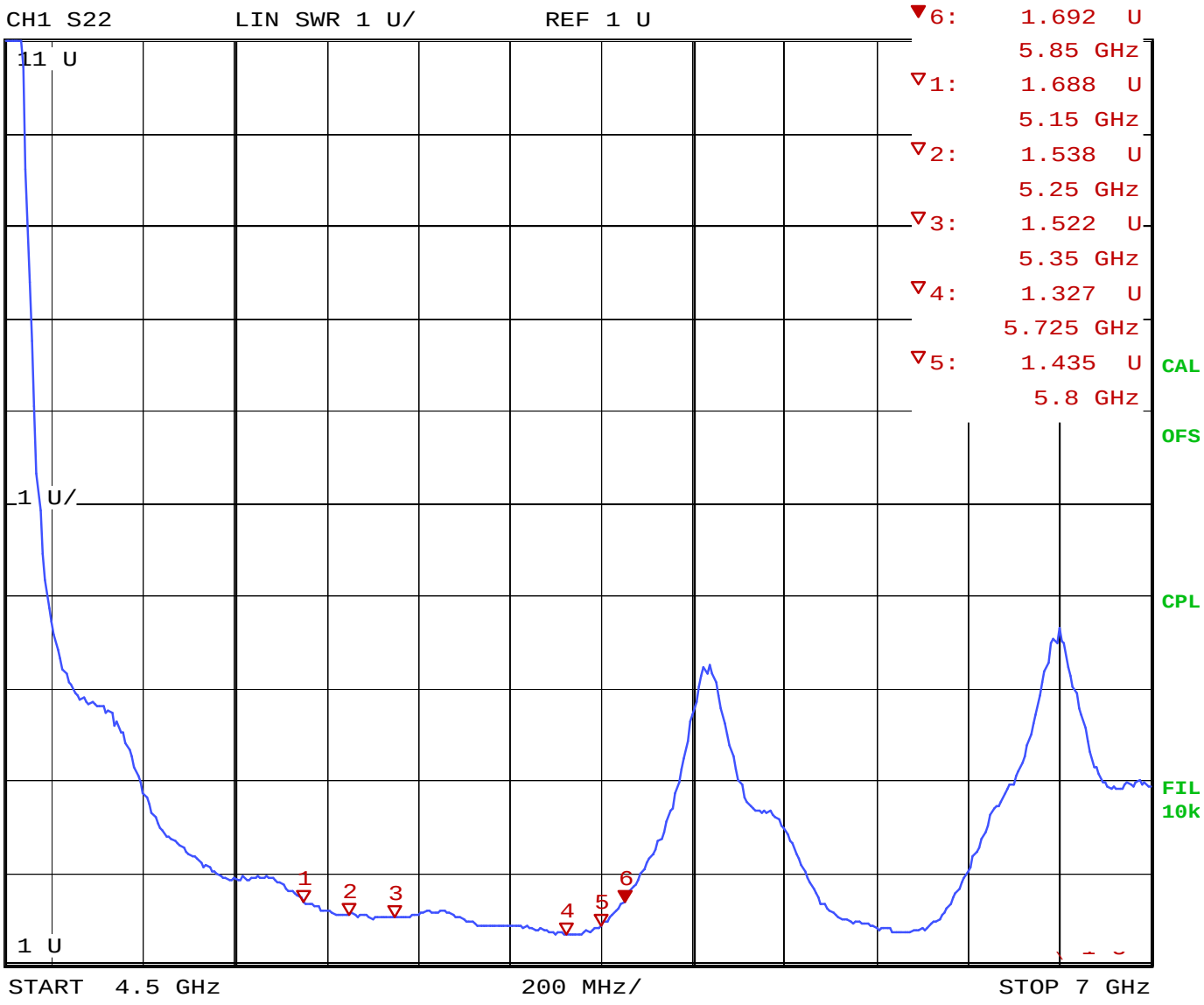
Electrical Properties

Return Loss



Electrical Properties

V.S.W.R



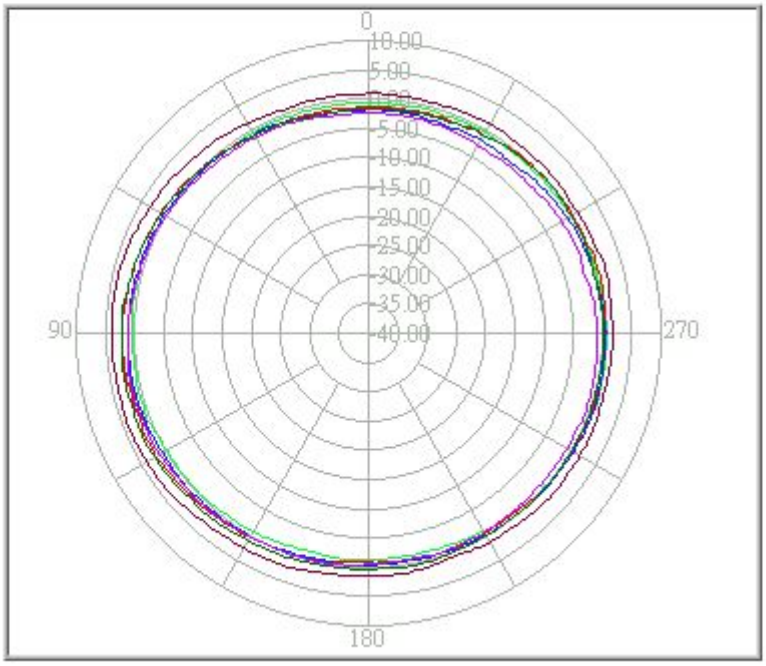
Electrical Properties

Radiation Pattern – H Plane

萬旭電業股份有限公司

Model No: 5G-1221 **Antenna Position**: Vertical

Test Mode: H- PLANE



	Freq(MHz)	peak(dBi)	Angle(o)	Avg(dBi)
	5150.00	0.78	104.44	-0.17
	Freq(MHz)	peak(dBi)	Angle(o)	Avg(dBi)
	5250.00	2.23	266.62	0.34
	Freq(MHz)	peak(dBi)	Angle(o)	Avg(dBi)
	5350.00	1.24	258.02	-0.12
	Freq(MHz)	peak(dBi)	Angle(o)	Avg(dBi)
	5725.00	1.54	258.02	-0.54
	Freq(MHz)	peak(dBi)	Angle(o)	Avg(dBi)
	5800.00	4.08	249.42	2.18
	Freq(MHz)	peak(dBi)	Angle(o)	Avg(dBi)
	5850.00	2.54	259.25	0.46

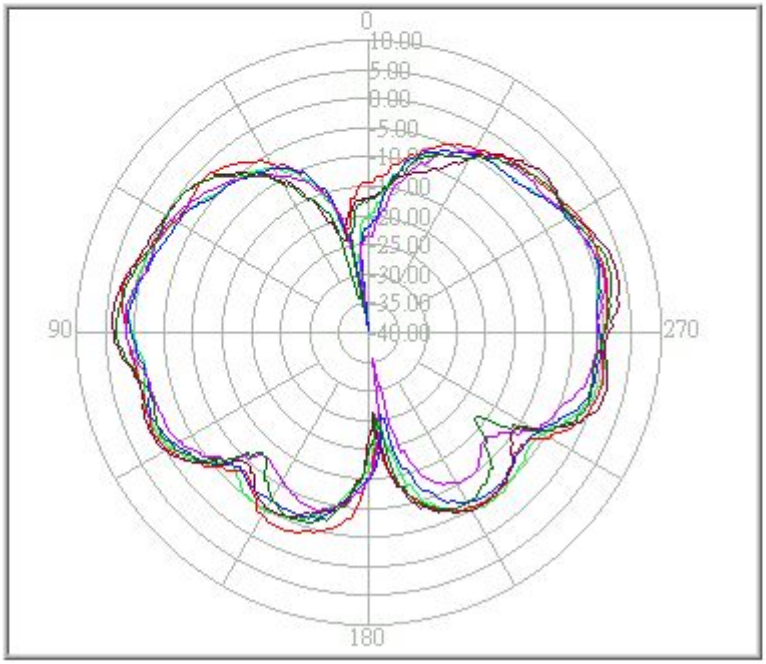
Electrical Properties

Radiation Pattern – E Plane

萬旭電業股份有限公司

Model No: 5G-1221 **Antenna Position**: Horizontal

Test Mode: E- PLANE



Freq(MHz)	peak(dBi)	Angle(o)	Avg(dBi)
5150.00	1.37	68.81	-3.09
5250.00	2.79	280.14	-2.12
5350.00	1.14	273.99	-3.54
5725.00	1.66	273.99	-3.71
5800.00	3.84	272.76	-1.62
5850.00	3.20	271.54	-2.48

Coaxial Cable Data Sheet
RG-178

SPECIFICATION FOR APPROVAL

DOCUMENT: A30178B001

STYLE : 105℃ 30V
RG-178B/U

SIZE: 7/0.102 SCCS

RECOGNIZED: UL 1979

WONDERFUL HI-TECH CO.,LTD

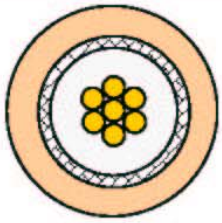
OFFICE : 72WU KONG 6TH ROAD,
WU KU IND. DISTRICT
TAIPEI HSIEN,TAIWAN

TEL : (02)22988033
FAX : (02)22988031-2

FACTORY : 17 PEI YUAN ROAD,
CHUNG-LI IND. PARK
TAIWAN, R.O.C.

TEL : (03)4527777
FAX : (03)4517214

WONDERFUL HI-TECH CO., LTD
SPECIFICATION

STYLE	105℃ 30V UL1979	DOCUMENT NO : A30178B001	
SIZE	RG-178B/U	ESTABLISHED DATE: 2004/03/22	
STANDARD : MIL-C-17			
Conductor	Size	AWG	30
	Material	----	Silver-Coated Copper Clad Steel
	Conductors No.	----	7
	Conductors Size	mm	0.102
	O.D.	mm	0.30
Insulation	Average Thickness	mm	0.28
	Diameter	mm	0.86 ±0.03
	Material	----	FEP
	Color	----	Clear
Braid	Material	----	Silver-Coated Copper
	Construction	mm	16 / 3 / 0.10
	Coverage	%	95
Jacket	Average Thickness	mm	0.25
	Diameter	mm	1.80 ±0.05
	Material	----	FEP
	Color	----	Brown
Marking			
Drawing			

WONDERFUL HI-TECH CO., LTD.
SPECIFICATION

Electrical & Physical Properties			
Item			RG-178B/U
Rating Temp Voltage			105℃ 30V
Conductor Resistance			838 OHM/KM/20℃ MAX.
Insulation Resistance			3000 MEGA OHM/KM MIN.
Dielectric Strength			AC 500V/Minute
Spark Test			2.5 KV
Insulation	Unaged	Tensile Strength	2500 PSI MIN.(1.76 Kg / mm^2)
		Elongation	200% MIN.
	Aged	Tensile Strength	**UNAGED MIN 75%(168HRS×232℃)**
		Elongation	**UNAGED MIN 75%(168HRS×232℃)**
Jacket	Unaged	Tensile Strength	2500 PSI MIN.(1.76 Kg / mm^2)
		Elongation	200% MIN.
	Aged	Tensile Strength	**UNAGED MIN.75%(168HRS×232℃)**
		Elongation	**UNAGED MIN.75%(168HRS×232℃)**
Nom. Impedance			50 Ohms
Nom. Capacitance			95.8 pF/m
Nom. Vel. of Prop.			69.5%
VSWR (0 – 6 GHZ)			UNDER 1.3

Attenuation (dB/100m)	100MHz	1GHz	1.8GHz	2.4GHz	5.2GHz	6GHz
	46	155	295	340	505	550

- Hinge - PC+ALLOY

SHINBLEND®
ALLOY
ENGINEERING PLASTIC DIVISION

SHINKONG SYNTHETIC FIBERS CORPORATION
新光合成纖維股份有限公司
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Fax : 886-2-2506-8047 886-3-491-5763

Technical Data

SHINBLEND® A724NA
High Impact Grade / 超韌級 : AD4011

		Unit	Test Method	Values
Mechanical properties	**機械性質**			
Izod Impact(Notched) 23°C	衝擊強度	Kg-cm/cm	ASTM D256	85
-20°C	衝擊強度	Kg-cm/cm	ASTM D256	70
-40°C	衝擊強度	Kg-cm/cm	ASTM D256	65
Tensile Strength	拉伸強度	Kg/cm^2	ASTM D638	540
Elongation	拉伸率	%	ASTM D638	100
Flexural Strength	彎曲強度	Kg/cm^2	ASTM D790	800
Flexural Modulus	彎曲模數	Kg/cm^2	ASTM D790	20000
Thermal properties	**熱性質**			
Heat Deflection Temperature	熱變形溫度		ASTM D648	
66psi		°C		-
264psi		°C		100
Flammability	防火性	-	UL94	-
Melting Point	熔點	°C	DSC	223
Electrical properties	**電氣性質**			
Dielectric Strength	介電強度	KV/MM	ASTM D149	-
Dielectric Constant	介電常數	...	ASTM D150	-
Volume Resistivity	體積電阻	Ω-CM	ASTM D257	-
Other properties	**其它性質**			
Specific Gravity	比重	-	ASTM D792	1.19
Water Absorption	吸水率	%	ASTM D570	0.14
Mold Shrinkage	成形收縮率		ASTM D955	
Flow	流動方向	%		0.4~0.6
Cross Flow	垂直方向	%		0.5~0.7