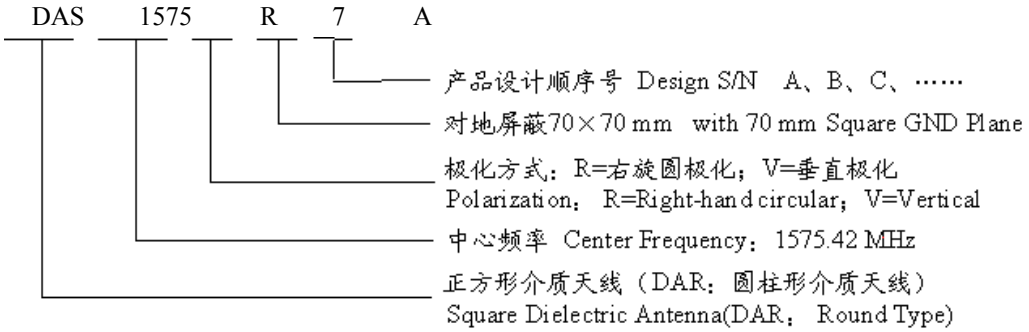
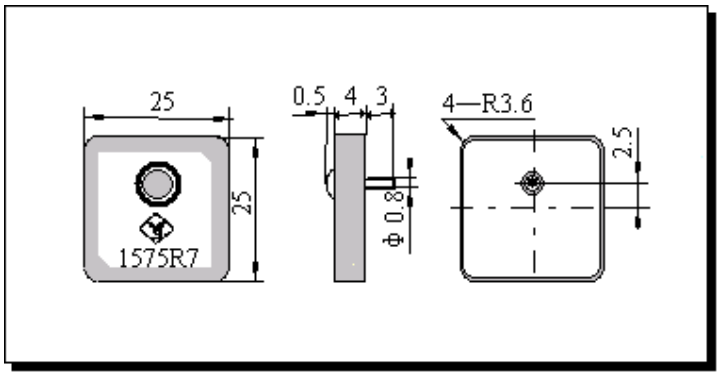
INTRODUCTION

"SHOULDER" microwave dielectric antenna elements and its series are designed to use for GPS and WLAN. The patch antenna with compact size incorporates a rectangular micro-strip design for GPS C/A right-hand circular polarization wave reception, featuring low RL, low Axial Ratio but high gain, etc.

Part Number



Dimension(Unit mm)



Structure and Material

表 1

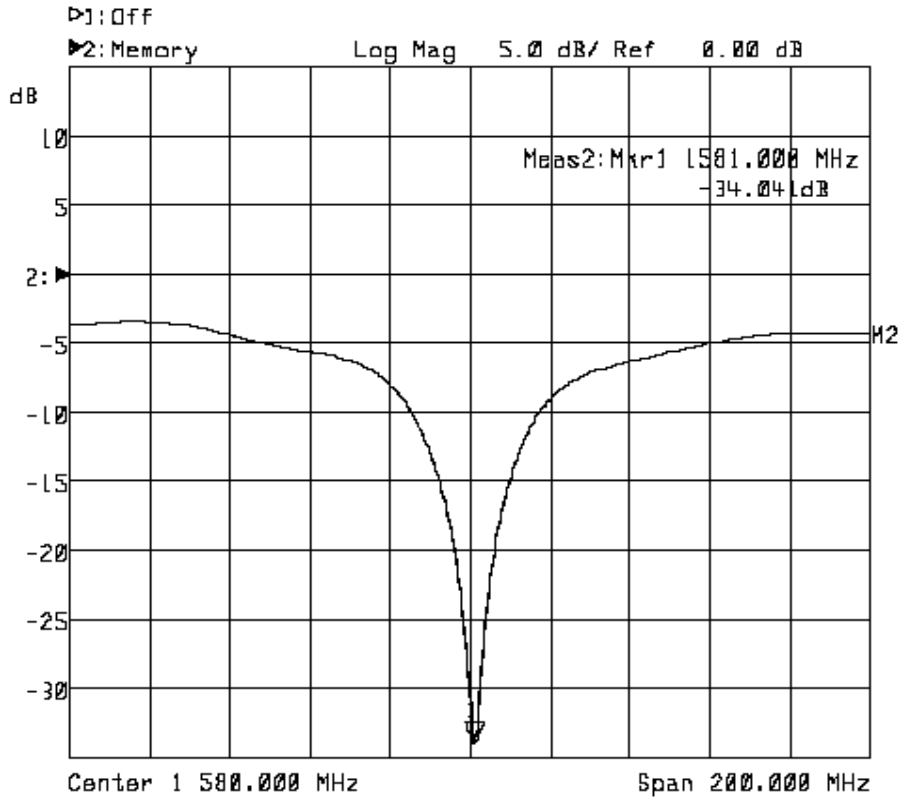
No.	Description 名称	Structure and material 结构及材料
4.1	Antenna Substrate 天线基片	Dielectric Ceramics 介质陶瓷
4.2	Pin 引脚	Copper, lead and tin plated 铜镀铅锡合金
4.3	Electrode 电极	Ag Plated 镀银
4.4	Ground Base 接地面	Ag Plated 镀银

Electrical Characteristics

表 2

No.	Item（项目）	Specifications（特性）	Post Environmental Tolerance（环境试验后允许附加误差）
5.1	接收频率范围 (MHz) Range of Receiving Frequency	1575.42 ± 1.1	± 2.5MHz
5.2	中心频率（70×70 mm² 屏蔽时） Center Frequency (MHz) (with 70 mm Square GND Plane)	1580.5	± 3.0MHz
5.3	带宽 Band Width (MHz)	± 5.0 min	± 0.5 MHz
5.4	驻波比 V.S.W.R (in BW)	2.0 max	± 0.5
5.5	增益(峰值) Gain (Zenith) (dBi typ)	5.0 min	± 0.5
5.6	轴比 Axial Ratio（0～90° ）	2.0 dB max	± 0.2
5.7	偏振方式 Polarization	右旋圆极化 Right-Handed Circular	——
5.8	特性阻抗 Impedance (Ω)	50	——
5.9	频率温度系数 (ppm/deg.℃) Frequency Temperature Coefficient	20 max	——

Characteristic curve



- Environmental specifications

Post Environmental Tolerance (Refer to the table 2)

Temperature range 25–/+3 ℃

Relative Humidity range 55~75%RH

Operating Temperature range -10 ℃ ~+70 ℃

Storage Temperature range -25 ℃ ~+85 ℃

- Moisture Proof

The device should satisfy the electrical characteristics specified in paragraph 5.1~5.6 after exposed to the temperature 40–/+2 ℃ and the relative humidity 90~95% RH for 96 hours and 1~2 hours recovery time under normal condition.

- Vibration Resist

The device should satisfy the electrical characteristics specified in paragraph 5.1~5.6 after applied to the vibration of 10 to 55Hz with amplitude of 1.5mm for 2 hours each in X , Y and Z directions.

- Drop Shock

The device should satisfy the electrical characteristics specified in paragraph 5.1~5.6 after dropping onto the hard wooden board from the height of 30cm for 3 times each facet of the 3 dimensions of the device.

- High Temperature Endurance

The device should satisfy the electrical characteristics specified in paragraph 5.1~5.6 after exposed to temperature 80–/+5 ℃ for 24–/+2 hours and 1~2 hours recovery time under normal temperature.

- Low Temperature Endurance

The device should also satisfy the electrical characteristics specified in paragraph 5.1~5.6 after exposed to the temperature -25 ℃–/+3 ℃ for 24–/+2 hours and to 2 hours recovery time under normal temperature.

- Temperature Cycle Test

The device should also satisfy the electrical characteristics specified in paragraph 5.1~5.6 after exposed to the low temperature -25℃ and high temperature +85℃ for 30–/+2 min each by 5 cycles and 1 to 2 hours recovery time under normal temperature.