MICROWAVE DIELECTRIC ANTENNA

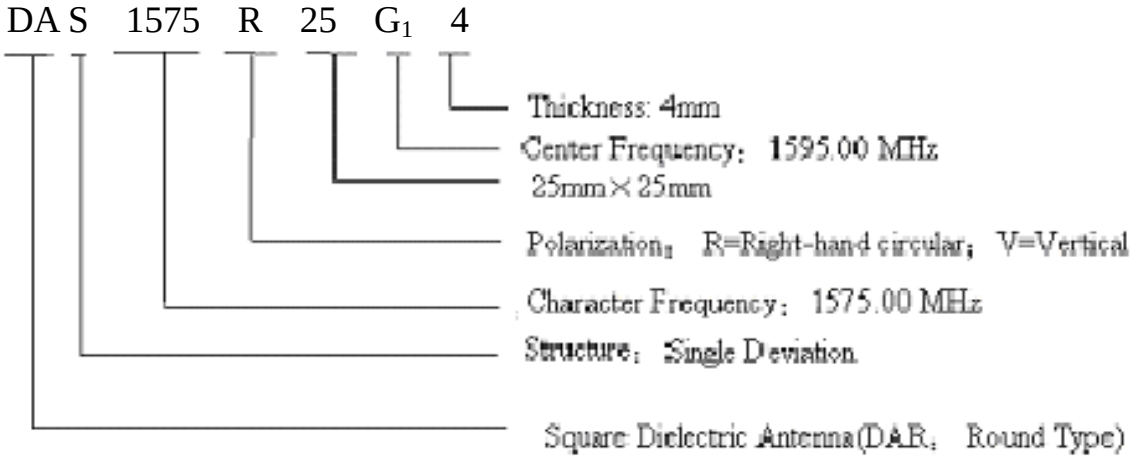
SPECIFICATION

Part Number : DAS1575R25G$_1$4

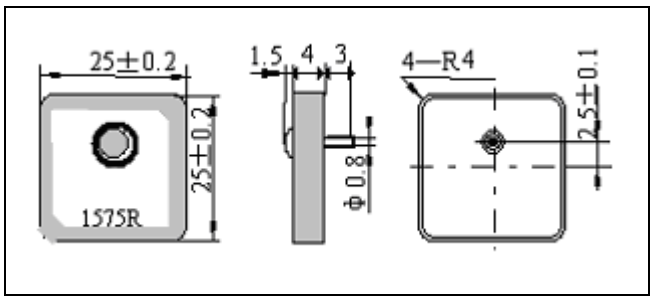
1. INTRODUCTION

"SBtron" microwave dielectric antenna elements and its series are designed to be used 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.

2. Part Number



3. Dimension (Unit：mm)



4. Structure and Material

Tab 1

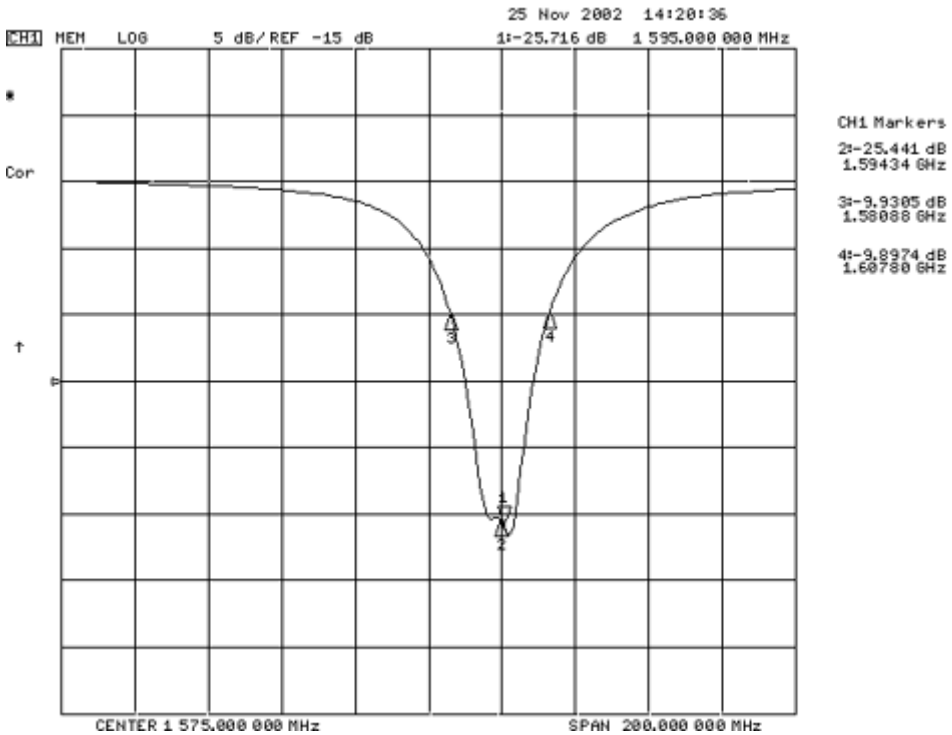
No.	Description	Structure and material
4.1	Antenna Substrate	Dielectric Ceramics
4.2	Pin	Copper, lead and tin plated
4.3	Electrode	Ag Plated
4.4	Ground Base	Ag Plated

5. Electrical Characteristics

Tab 2

No.	Item	Specifications	Post Environmental Tolerance
5.1	Range of Receiving Frequency	1575.42 ± 1.1	± 2.5MHz
5.2	Center Frequency (MHz) (with 70 mm Square GND Plane)	1595	± 3.0
5.3	(Return Loss ≤ -10dB)	≥10	± 0.5 MHz
5.4	V.S.W.R (in Center Frequency)	≤1.5	± 0.5
5.5	Gain (Zenith) (dBi typ) (with 70 mm Square GND Plane)	4.5	± 0.5
5.6	Axial Ratio (with 70 mm Square GND Plane)	3.0 dB	± 0.2
5.7	Polarization	Right-Handed Circular	——
5.8	Impedance (Ω)	50	——
5.9	(ppm/℃) Frequency Temperature Coefficient	0 ± 10	——

6. Characteristic curve



7. Reliability: MTBF=1×10^{-6}/pc.hr

Temperature: 40±5℃

Load: DC=5V±0.5 V

Quantity: 2000pcs

Sustained Time: 480h

8. Environmental specifications

Post Environmental Tolerance (Refer to the table 2)

Temperature range 25±3℃

Relative Humidity range 55~75%RH

Operating Temperature range -40℃~+85℃

Storage Temperature range -40℃~+100℃

8.1 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.

8.2 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.

8.3 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.

8.4 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.

8.5 Low Temperature Endurance

The device should also satisfy the electrical characteristics specified in paragraph 5.1~5.6 after exposed to the temperature -40℃±5℃for 24±2 hours and to 2 hours recovery time under normal temperature.

8.6 Temperature Cycle Test

The device should also satisfy the electrical characteractics 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.