

**ANTENNA PRODUCTS**

# DATA SHEET

## GPS Active Antenna (19\*19\*5 mm)

2008, June Rev.3

GPS active antenna (19*19*5 mm)				CAN 431343795158 1B				—	1	Oct, 06	
								▶	2	March, 07	
								—	3	June, 08	
BY / 製定者	Sunwiun Hu	SUPER / 原圖編號	C.T.Lee	TLL. SH/ 共頁	10	PAGE/ 頁	1	SH nr.	—	4	
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**GPS ACTIVE ANTENNA  
FOR GLOBAL POSITIONING SYSTEMS (1.575G Hz)**

**Product Specification**

**Ceramic Patch Antenna**

Outline Dimension:	18*18*2 mm (Ceramic Patch)
Ground Plane	18*18*0.15 mm
Central Frequency	1575 +/- 3MHz
Impedance	50 Ohm
Gain	+1 dBi (Elevation 90 degree)
VSWR	2.0 max
Polarization	Right Hand Circular Polarization
Axis Ratio	3dB max. (Elevation 90 degree)

**LNA**

Central Frequency	1575 +/- 3 MHz
Gain	30 +/- 1 dB (at f <sub>c</sub> , without SAW filter)
Noise Figure	1.5 dB typ. (at f <sub>c</sub> , 1.8dB Max)
Output VSWR	2.0 (at f <sub>c</sub> )
Supply Voltage	3.3 +/- 5% V
Current Consumption	6 mA
Output Impedance	50 Ohm
Operating Temperature/Humidity	-30 - +85 °C ; < 95%
Storage Temperature	-40 - +125 °C

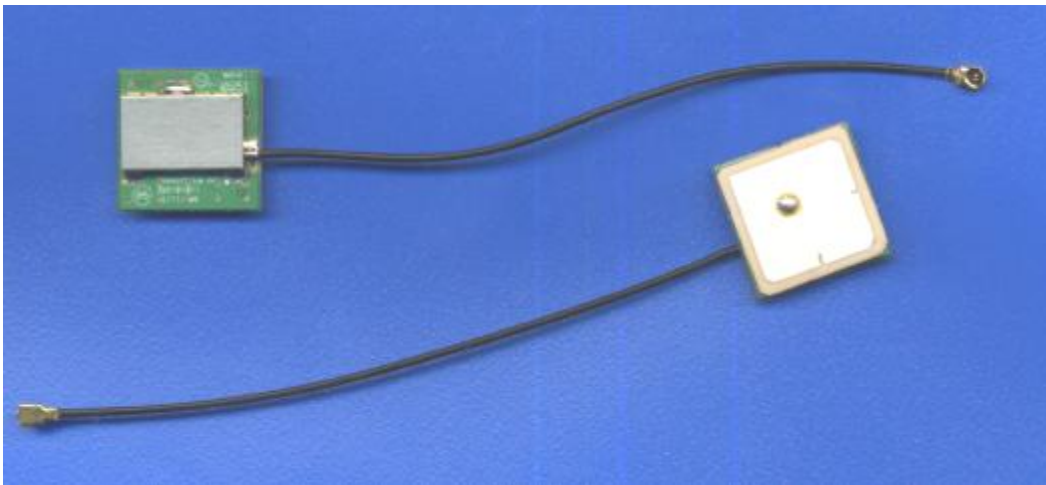
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**Description:**

Yageo provides an ideal active GPS antenna for your embedded system applications. With 19 x 19 x 5.5 mm in size, it best fit into your GPS system with maximum performance.

**Key Features:**

- Small form factor: 19 x 19 x 5.5 mm
- Lead-Free – RoHS/WEEE compliant
- High gain up to 30dB
- Low power consumption
- I-Pex, Horise, MMCX connector are available.

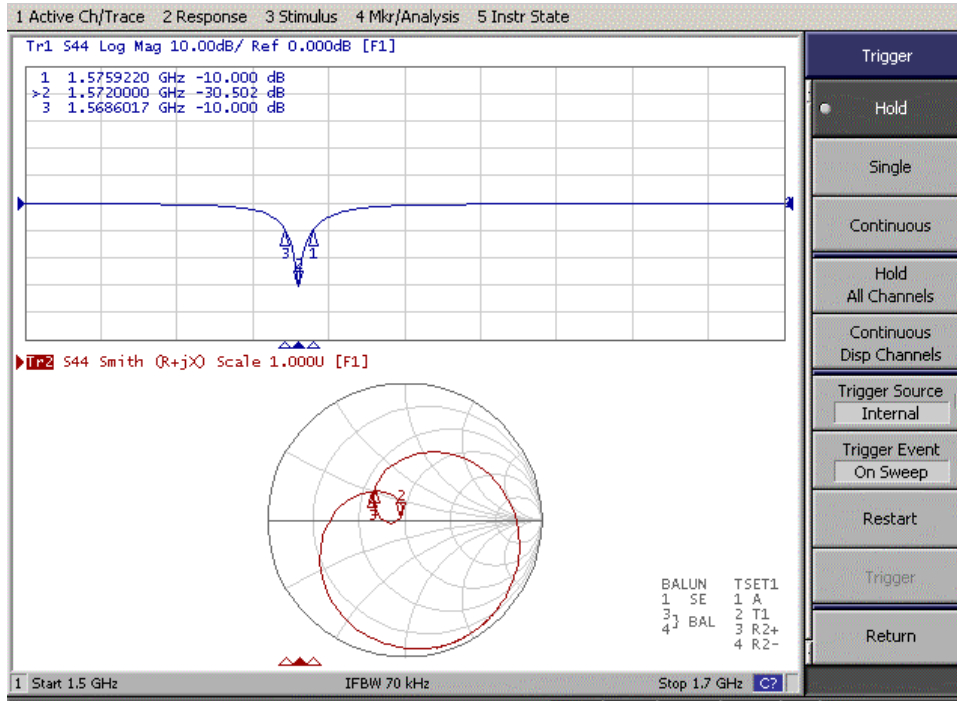


**Applications:**

- Handheld devices
- Automotive and Marine Navigation
- Automotive Navigator Tracking
- Emergency Locator
- Geographic Surveying
- Personal Positioning
- Sporting and Recreation
- Embedded applications: PDA, DSC, Smart phone, UMPC, PND, MP4

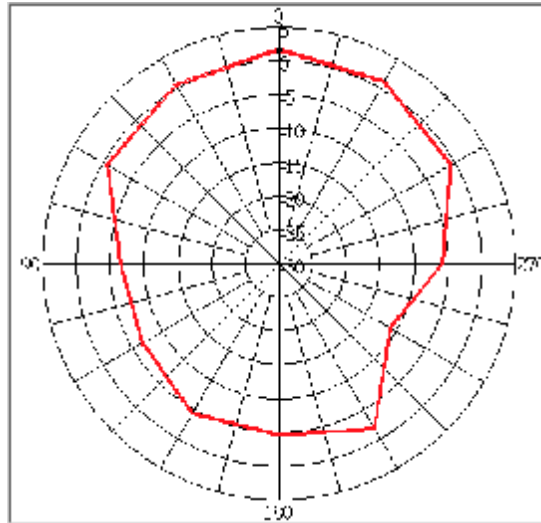
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## Antenna Return Loss and Impedence (with 50 \* 50 mm square Ground Plane)

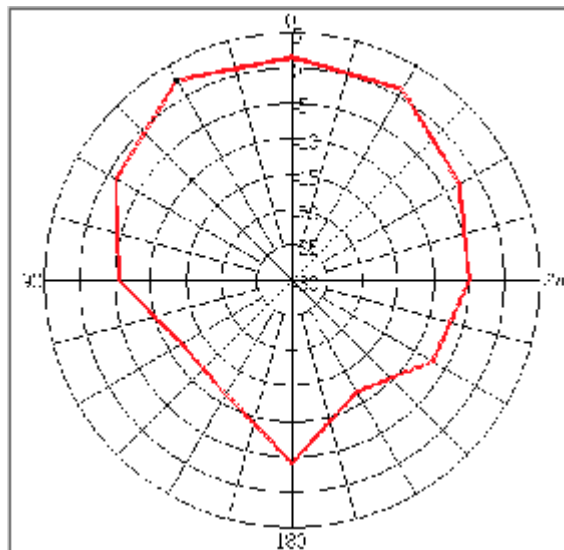


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**Radiation Pattern ( based on 50x50 mm ground plane)**



**Circular gain 2D x-z plane pattern**



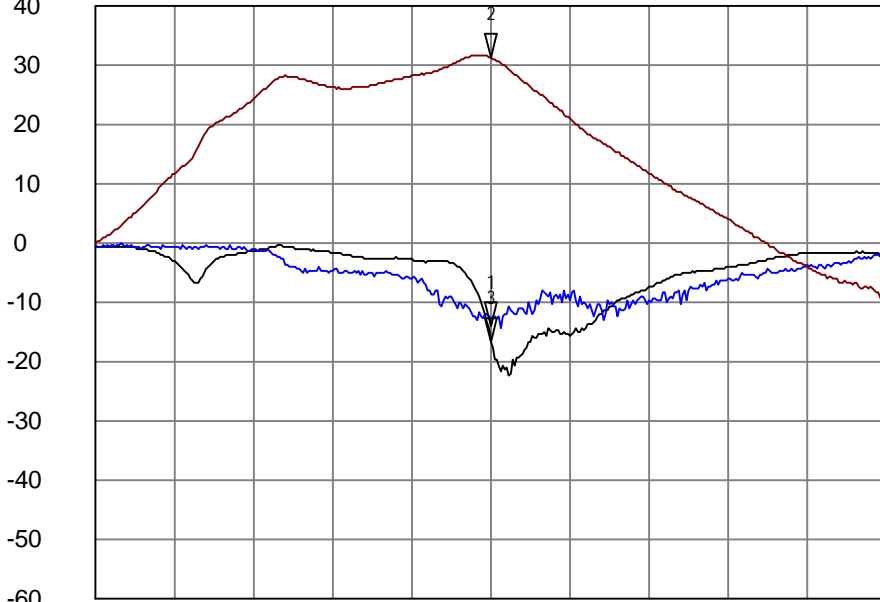
**Circular gain 2D y-z plane pattern**

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**The Characteristics of LNA**

**NF=1.42Db ; P1dB=-0.6dBm**

SoftPlot for Microwave Office  
 S22 S11 S21



- 1 S11  
▽ 1.575420 GHz  
-13.8790 dB
- 2 S21  
▽ 1.575420 GHz  
31.3480 dB
- 3 S22  
▽ 1.575420 GHz  
-16.7240 dB

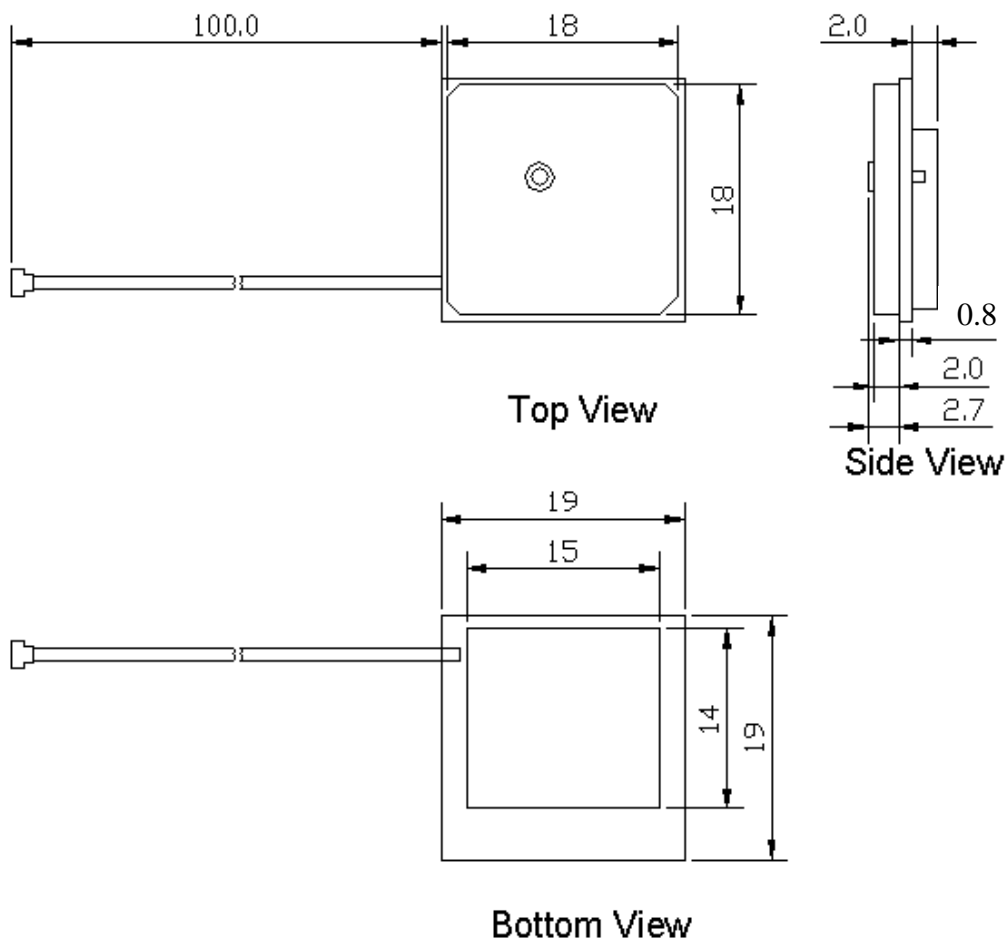
Start: 575.420000 MHz Stop: 2.575420 GHz  
 2006/11/29 PM 02:28:03 active ant\_4\_2g.spt 8757D

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## Outlines and Dimension

### Dimension

Length	19.0 +/- 0.5 mm
Width	19.0 +/- 0.5 mm
Thickness	5.5 +/- 0.5 mm
Cable	Diameter D = 1.13 mm; Length L = 100 mm
Connector	I-pex
Shielding Case	15*14*2 mm



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**ORDERING INFORMATION:**

The active antennas may be ordered by using the Yageo ordering code. These code numbers can be determined by the following rules:

**CAN43 13 4 37 95 158 1B**  
 F C M S T A P

F. Family Code

**CAN 43** = Antenna

C. Packing Type Code

**13** = bulk packaging

M. Materials Code

**4** = Microwave Ceramic Material

S. Size code

**37** = 19\*19 mm

T. Type

**95** = GPS active antenna, type 95

A. Working Frequency

**158** = 1.575 GHz, GPS application

P. Packing Type Code

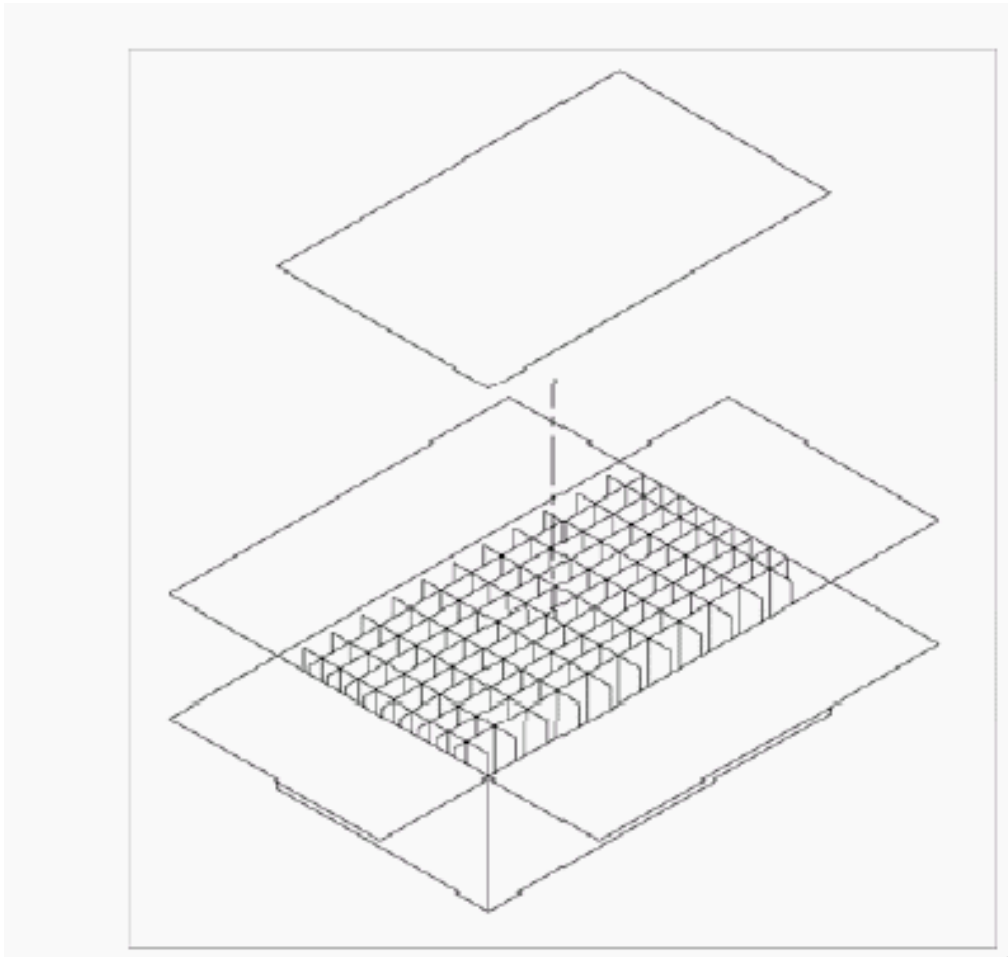
**1B** = bulk packaging

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## Packing information

1. Each unit into individual compartment. Two layers of compartment.
2. 100 units per compartment layer. 200 units into one carton.
3. Carton dimension: 493\*257\*167 mm
4. Cover upper and lower sides of the box with a cardboard.



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**Revision Control:**

Revision	Date	Content	Remark
1	Oct, 2006	New Issued	
2	March, 2007	Add radiation pattern of patch antenna	
3	June, 2008	Modify the drawing of PCB thickness	

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