



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



Key Features

- 2dBi GSM gain, 28 ± 2 dBi gain
- Quad band GSM, 3G and ISM compatible
- GPS antenna combined
- IP67 rated
- Rugged and durable
- Through hole mount
- O ring seal - prevents water ingress
- RoHS compliant



General Description

The TANGO16 is an IP67 rated and fully weatherproof combination GSM/GPS antenna intended for outdoor equipment such as vending machines and similar. The TANGO16 has a GSM gain of 2dBi, the GPS antenna has an LNA gain of 28dB and a V.S.W.R. of <2.0.

The TANGO16 mounts via an M12 stud and is 50mm diameter at its base and 48mm tall. The circular rubber O ring on the bottom face is to ensure that water does not seep through the bolt hole when secured to the equipment using the antenna.

The TANGO16 is a robust and well-made antenna that has a great performance and will last for years in an outdoor environment.

Moisture Proof

The device should satisfy the electrical characteristics specified in the table 'Key Specifications - Dielectric Antenna' after exposed to the temperature 40±2°C 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 the table 'Key Specifications - Dielectric Antenna' after applied to the vibration of 10 to 55MHz 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 the table 'Key Specifications - Dielectric Antenna' 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 the table 'Key Specifications - Dielectric Antenna' after exposed to the temperature 80±5°C for 24±2 hours and 1~2 hours recovery time under normal temperature.

Low Temperature Endurance

The device should satisfy the electrical characteristics specified in the table 'Key Specifications - Dielectric Antenna' after exposed to the temperature -40±5°C for 24±2 hours and 2 hours recovery time under normal temperature.

Temperature Cycle Test

The device should satisfy the electrical characteristics specified in the table 'Key Specifications - Dielectric Antenna' after exposed to the low temperature -25°C and high temperature +85°C for 30±2 minutes each by 5 cycles and 1~2 hours recovery time under normal temperature.

Rev 1.3

GPS Antenna - Dielectric Antenna

Center frequency:	1575.42 ± 1MHz
Bandwidth:	CF ± 5MHz
Polarization:	RHCP
Gain:	5dBic (Zenith)
V.S.W.R:	<1.5
Impedance:	50ohm
Axial ratio:	3dB (max)

GPS Antenna - LNA

Gain:	28 ± 2dB
Noise figure:	<1.5
Ex-band attenuation:	12dB @ CF + 50MHz 16dB @ CF - 50MHz
V.S.W.R:	<2.0
Supply voltage:	2.2 ~ 5V DC
Current consumption:	5 ~ 15mA

Key Specifications - GSM Antenna

Frequency range:	824 ~ 960MHz 1710 ~ 2170MHz
V.S.W.R:	<2.0
Polarization:	Linear
Impedance:	50ohm

Key Specifications - Environmental

Operating temperature:	-40 to +85°C
Relative humidity:	Up to 95%
Ingress protection:	IP67 (exclude cable outlet)
Vibration:	10 to 55Hz with 1.5mm amplitude 2 hours
Environmentally friendly:	RoHS compliant

Gain

ISM

868MHz:	1.5dBi
915MHz:	2dBi

GSM

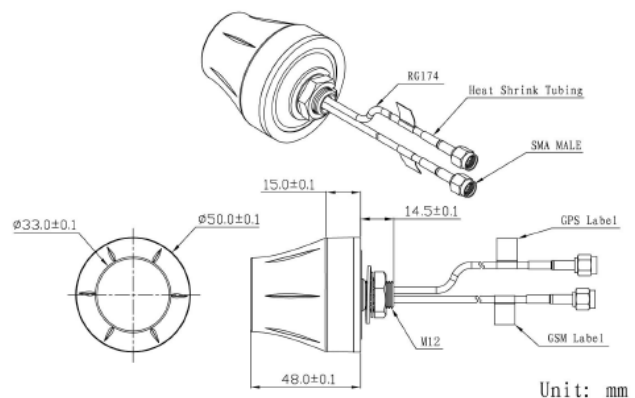
850MHz:	0.93dBi
900MHz:	1.41dBi
1800MHz:	1.95dBi
1900MHz:	1.95dBi

3G

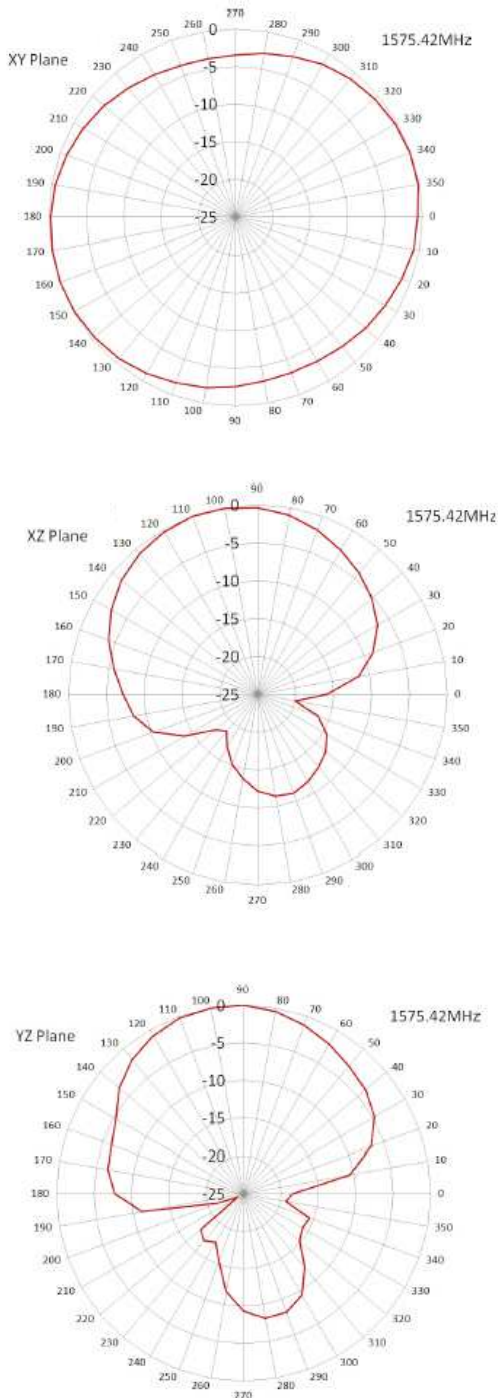
2100MHz:	2.33dBi
----------	---------

Key Specifications - Mechanical

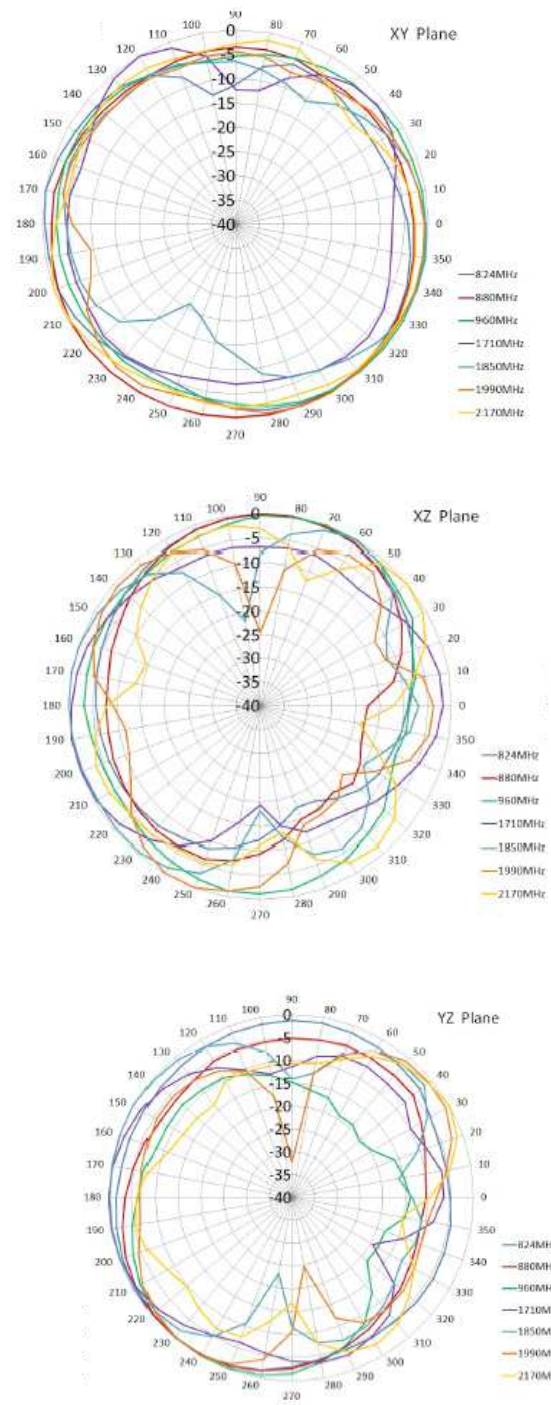
Cable:	RG174
Connector:	SMA/MCX/FAKRA or others
Material:	ABS
Mounting method:	Screw



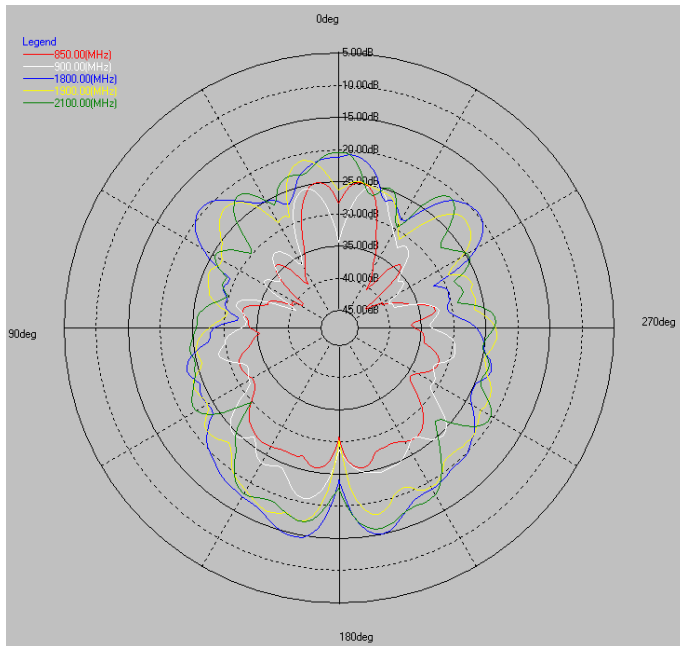
GPS Radiation Patterns



GSM Radiations Patterns



GSM Gain vs. Frequency Graph



UL Tested (Basingstoke, UK)
Part: TANGO16

GPS Gain vs. Frequency Graph

