



### Key Features

- GSM, 3G, GPS & WiFi combined
- Low profile design
- Through hole mount

### General Description

The Tango 22 combines 3 separate antennas into one, compact and low profile antenna, capable of **GPS, 3G GSM & WiFi**. Designed for users who want an 'all-in-one' antenna rather than having to install three separate antennas, creating a hassle-free solution where the 3 main RF bands are need.

The GSM antenna is Quad band, so frequencies from 850 to 900MHz, 1700 to 1990MHz and 2100MHz are covered, allowing this antenna to be used worldwide on all operators on cellular GSM and 3G networks. The GSM antenna has a respectful 2 dBi gain and a low V.S.W.R of <2.0:1. The Tango 22 is a more than capable GSM antenna whilst also packing in 3G, WiFi and GPS capability.

The Tango 22 is commonly used with applications such as automotive tracking, vending machines, energy metering and many more. More so, its low profile design and screw mount base makes the Tango 22 suited to public environments where its presence is needed to be unnoticed. If mounted to the roof of a vehicle, it will be virtually invisible to passers-by.

### Moisture Proof

The device should satisfy the electrical characteristics specified overpage after exposed to the temperature  $40 \pm 2^{\circ}\text{C}$  and the relative humidity 90 ~ 95% RH for 96 hours and 1 ~ 2 hours and 24 hours recovery time under normal condition.

### Vibration Resist

The device should satisfy the electrical characteristics specified overpage after applied to the vibration of 10 ~ 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 overpage 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

overpage after exposed to temperature  $80 \pm 5^{\circ}\text{C}$  for  $24 \pm 2$  hours and 1 ~ 2 hours recovery time under normal temperature.

### Low Temperature Endurance

The device should also satisfy the electrical characteristics overpage after exposed to the temperature  $-40 \pm 5^{\circ}\text{C}$  for  $24 \pm 2$  hours and 1 ~ 2 hours recovery time under normal temperature.

### Temperature Cycle Test

The device should also satisfy the electrical characteristics specified overpage after exposed to the low temperature  $-25^{\circ}\text{C}$  and high temperature  $+85^{\circ}\text{C}$  for  $30 \pm 2$  minutes each by 5 cycles and 1 ~ 2 cycles recovery time under normal pressure.

### Weatherproof

Put the antennas in 1m deep water for 12 hours and find 100% waterproof.

Rev 1.1

### Dielectric Antenna Specifications

Center frequency:	1575.42MHz $\pm$ 3MHz
Bandwidth:	$\pm$ 5MHz $\pm$ 1MHz
V.S.W.R:	1.5:1
Gain:	3dB $\pm$ 0.5dB
Polarization:	RHCP
Impedance:	50 ohm

### LNA Antenna Specifications

Gain:	28dB $\pm$ 2dB
Noise figure:	1.5dB
Filter out band attenuation:	12dB min f0+50MHz $\pm$ 1dB 16dB min f0-50MHz $\pm$ 1dB
DC voltage:	2.2 ~ 5V
DC current:	5 ~ 15mA

### GSM Antenna Specifications

Frequency:	824 ~ 894MHz/1710 ~ 1990/2100MHz 880 ~ 960MHz/1710 ~ 1990/2100MHz
V.S.W.R:	$\leq$ 2.0:1
Gain:	2dBi
Impedance:	50 ohm

### WiFi Antenna Specifications

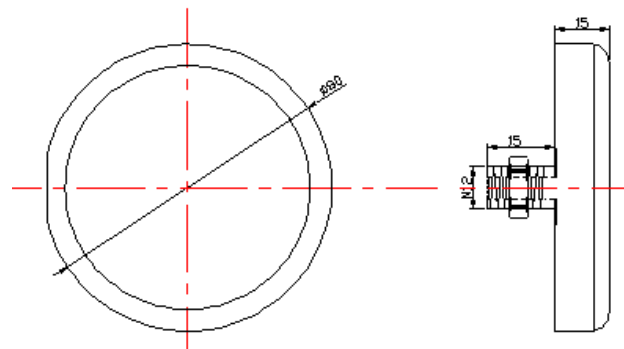
Frequency:	2400 ~ 2500MHz
VSWR:	$\leq$ 2.0:1
Gain:	0dBi
Impedance:	50 ohm

### Environmental Specifications

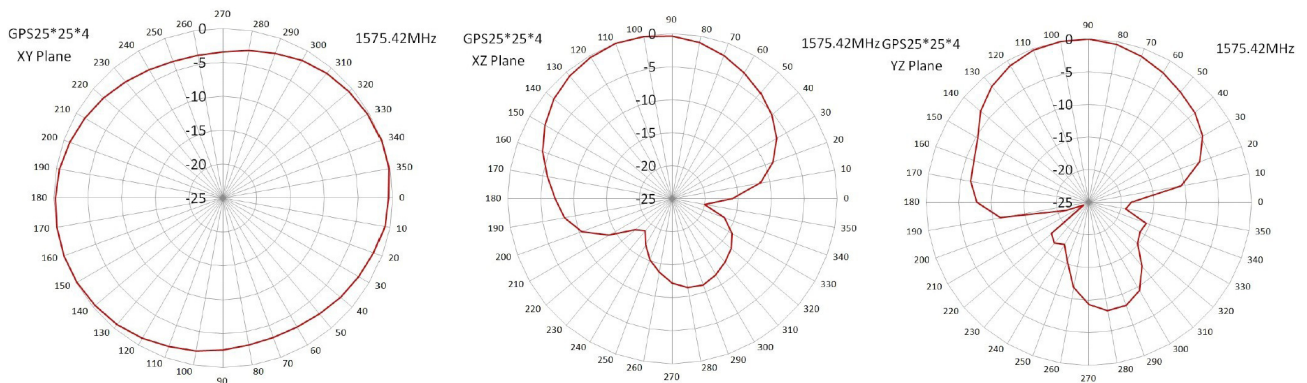
Temperature range:	-25 $\pm$ 3°C
Relative humidity range:	55 ~ 75% RH
Operating temperature range:	-40 to +85°C
Storage temperature range:	-40 to +100°C

### Mechanical Specifications

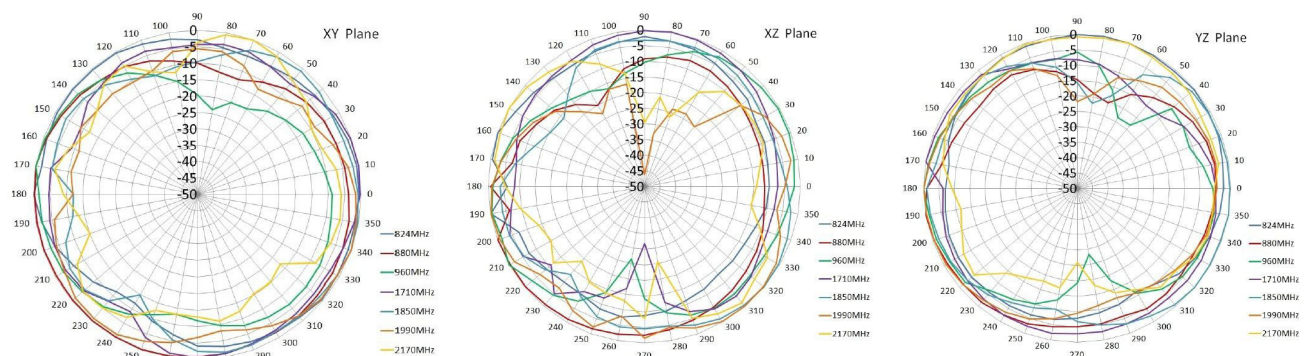
Cable:	RG174 3/5m (others available upon request)
Connector:	SMA/SMB/MCX (others available upon request)
Mounting:	Screw/Adhesive



### GPS Antenna



### GSM Antenna



### WiFi Antenna

