

# ALLISCOM

## GC Series

### GPS/Cellular/Wi-Fi Antenna

### Data Sheet



**Model No. GC Series**

**Features** Delivers high performance for  
GPS /GSM / DCS / PCS / WCDMA /Wi-Fi  
1575.42MHz/ 824~960/ 1710~2170MHz/ 2.4G  
RoHS Compliant

**Benefits** Resistant to harsh outdoor environment  
High Performance  
Concealable, Flat structure  
Omni directional for cellular system

**Description** The GC Series is a high performance and quality antenna for GPS / Cellular/ Wi-Fi applications. The antenna features high efficiency. The RF connector and cable length can be customized as required.

## 1. Electrical Specifications

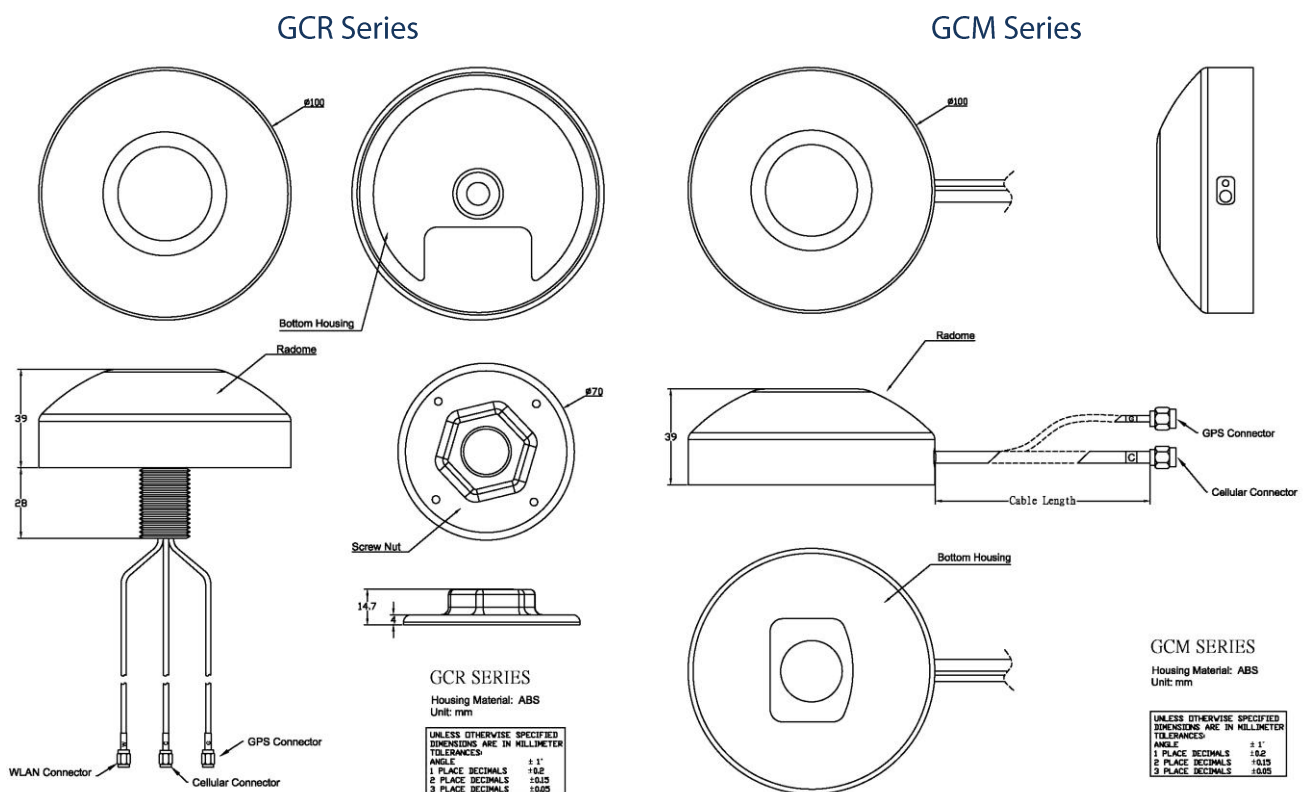
GPS Active Antenna:					
Patch Antenna					
Frequency	1575.42 ± 3 MHz				
VSWR	1.5 Max				
Bandwidth	20 MHz Min. at -10 dB				
Axial Ratio	3 dB Typical				
Impedance	50 Ω				
Peak Gain	4 dBic Min. ( 7 cm×7 cm ground plane )				
Gain Coverage	≥ -4dB at -90° ≤ θ ≤ 90°(over 75% volume)				
Polarization	RHCP				
Amplifier Module					
Type	Amplifier Gain without cable	Noise Figure	Output VSWR	DC Voltage	DC Current
A	27dB Typical	1.4dB Typical	2.0 Max.	DC 3.0V to 5.5V	22±5mA
B		1.8dB Typical		DC 2.7V to 6.0V	8.5±4.5mA
Cellular Antenna:					
Frequency	AMPS 804~896MHz	GSM 880~960MHz	Cellular 824~960MHz 1710~1880MHz 1850~1990MHz 1920~2170MHz		
VSWR	2.0 : 1				
Impedance	50Ω				
Pattern Type	Omni-direction				
Power Handling	25 watt				
Wi-Fi Antenna:					
Frequency	2.4~2.4835GHz				
VSWR	2.0 : 1				
Peak Gain	2.5dBic				
Impedance	50Ω				
Pattern Type	Omni-direction				
Power Handling	25 watt				

## 2. Mechanical Specification

### 2.1 Mechanical

Item	Specification
Weight (Without Cable)	280 grams Max.
Housing Material	ABS
Size	100mm Dia.x 39mm
Mounting	Permanent mount or Magnetic base
Housing Color	White
Waterproof	IP56

### 2.2 Dimension



### 3. Gain Patterns and VSWR

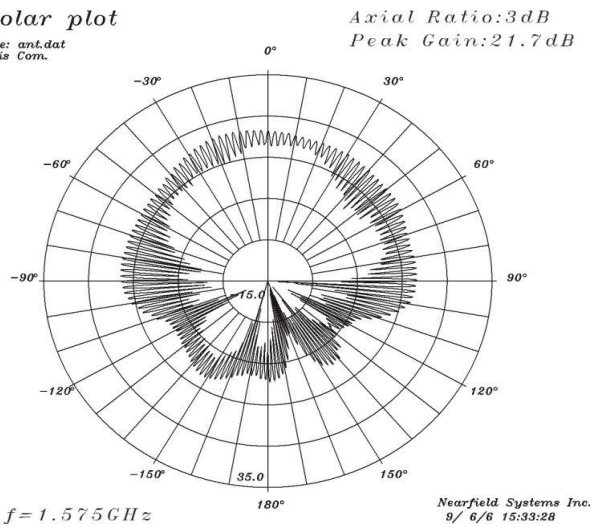
Test Equipment : NSI Spherical near-field measurement system  
HP8722D Network analyze

#### ● GPS Type A

Test Voltage : 5V  
Cable length: 5m  
Cable loss  $\approx$  6dB

Polar plot

File: ant.dat  
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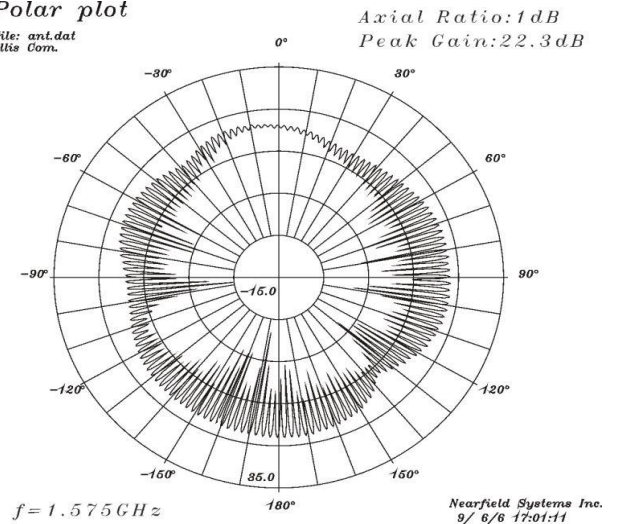


#### ● GPS Type B

Test Voltage : 5V  
Cable length: 5m  
Cable loss  $\approx$  6dB

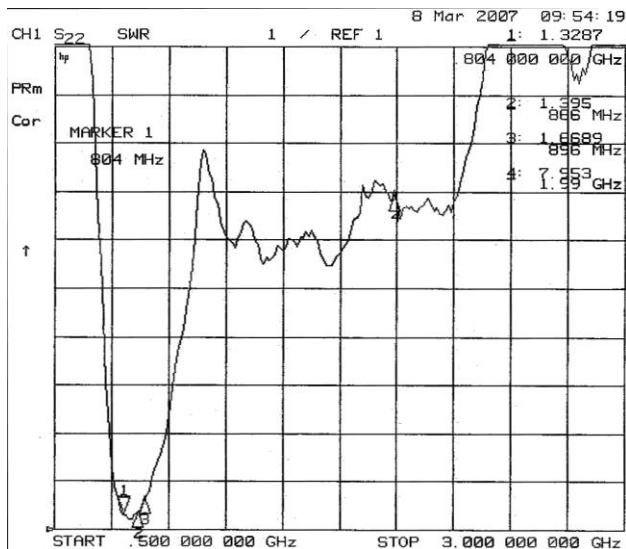
Polar plot

File: ant.dat  
Allis Com.



#### ● AMPS(804~896MHz)

VSWR:

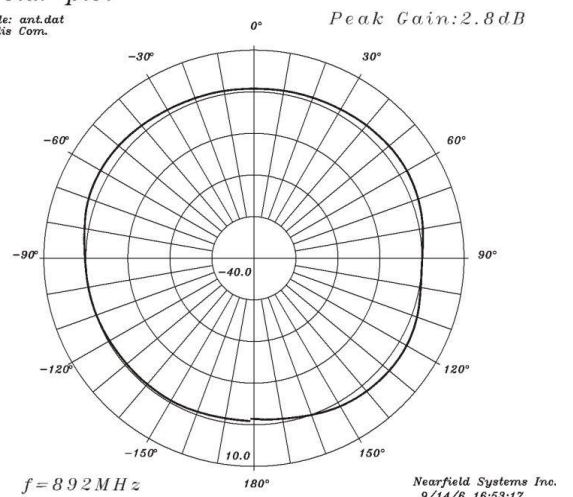


Gain Pattern:

Cable length: 24cm Cable loss  $\approx$  1dB

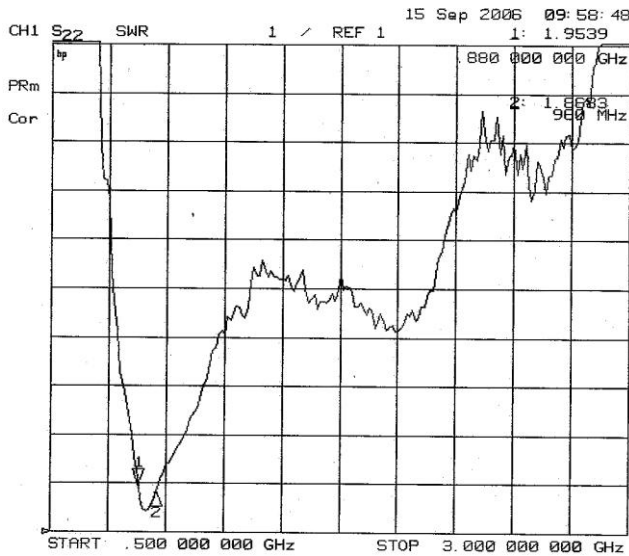
Polar plot

File: ant.dat  
Allis Com.



● **GSM(880~960MHz)**

**VSWR:**



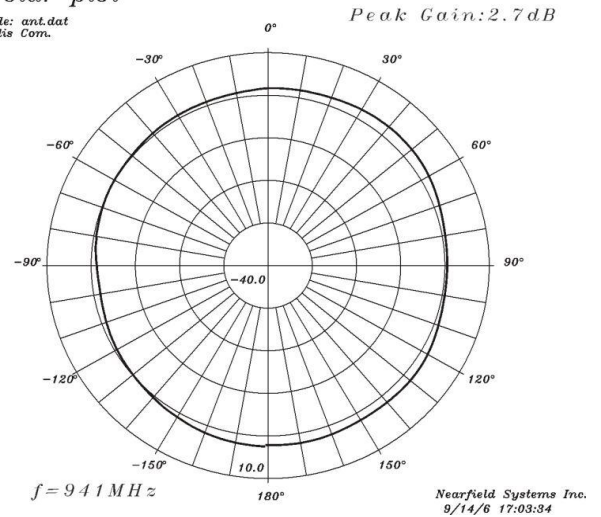
**Gain Pattern:**

Cable length: 24cm

Cable loss  $\approx$  1dB

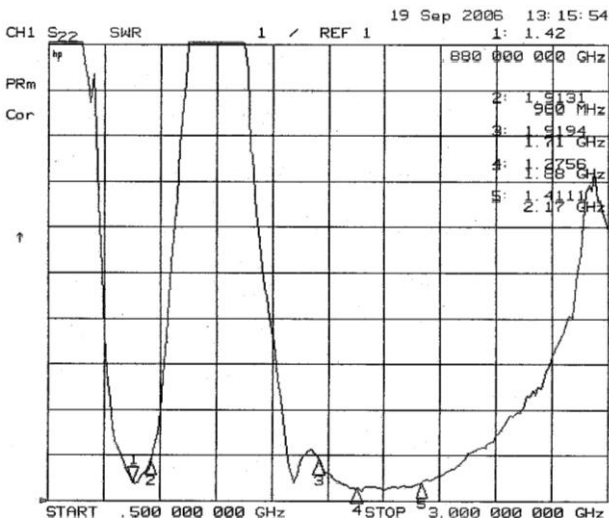
*Polar plot*

File: ant.dat  
Allis Com.



● **Cellular (824~960MHz ,1710~1880MHz ,1880~1990MHz ,1920~2170MHz)**

**VSWR:**



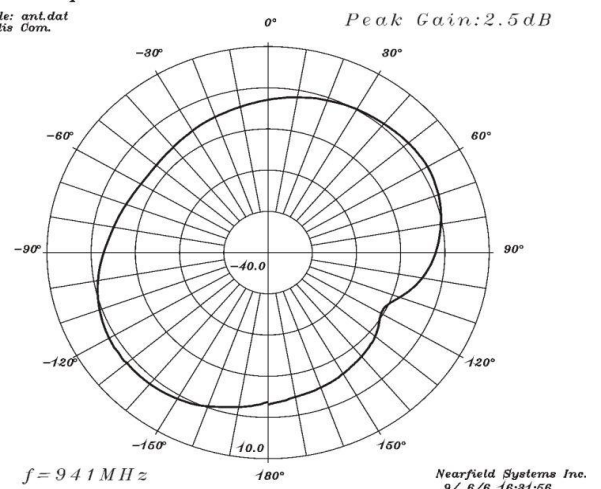
**Gain Pattern:**

Cable length: 24cm

Cable loss  $\approx$  1dB

*Polar plot*

File: ant.dat  
Allis Com.



**Gain Pattern:**

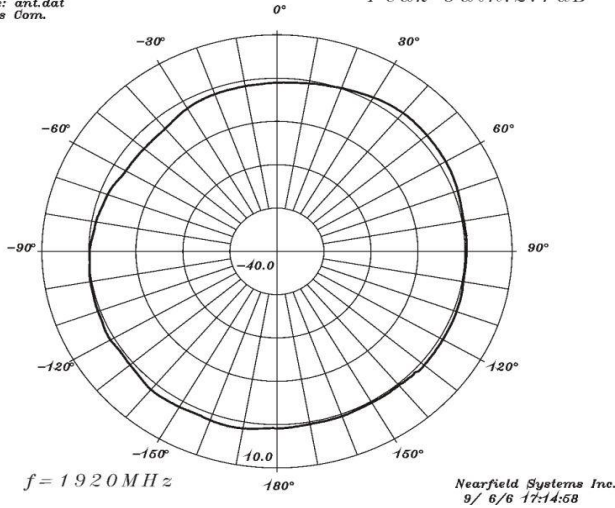
Cable length: 24cm

Cable loss  $\approx$  1dB

*Polar plot*

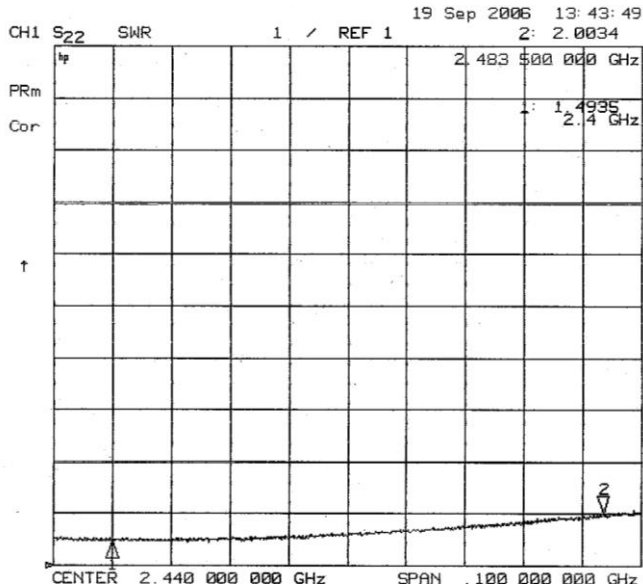
File: ant.dat  
Allis Com.

Peak Gain: 2.7dB



● **Wi-Fi(2.4~2.4835GHz)**

**VSWR:**



**Gain Pattern:**

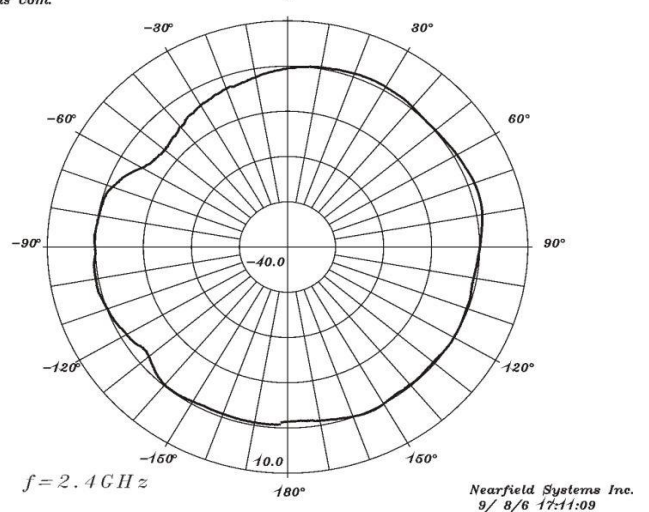
Cable length: 24cm

Cable loss  $\approx$  1dB

*Polar plot*

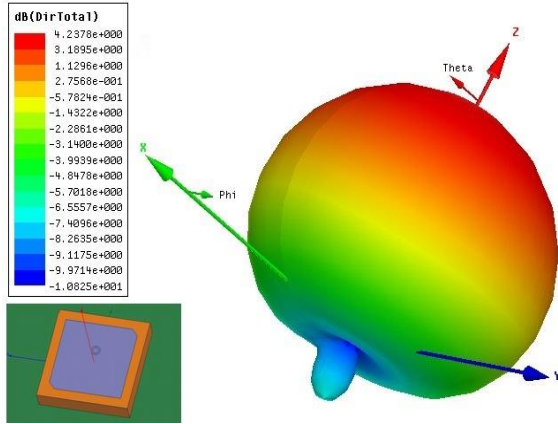
File: ant.dat  
Allis Com.

Peak Gain: 2.5dB



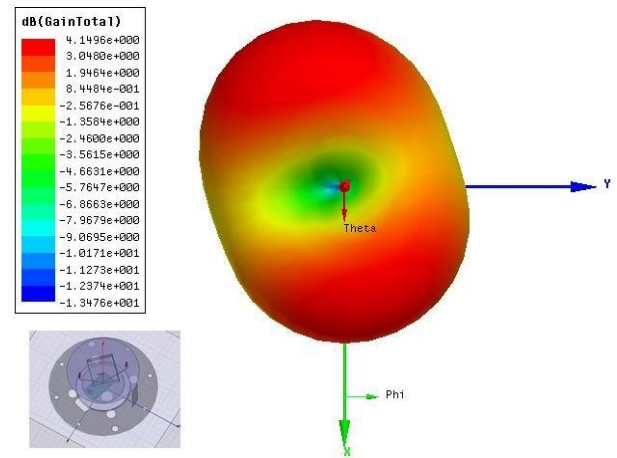
● Patch Antenna simulation

Frequency: 1.575GHz



● GC Series Antenna simulation

Frequency: 941MHz



#### 4. Model NO. Information

Type	Model NO.	GPS Type		AMPS 804~896MHz	GSM 880~960MHz	Cellular 824~960MHz 1710~1880MHz 1850~1990MHz 1920~2170MHz	Wi-Fi 2.4~2.4835GHz
		A	B				
Dual-Band Antenna	GCMDA	√		√			
	GCMDC	√			√		
	GCRDA	√		√			
	GCRDC	√			√		
Tri-Band Antenna	GCMTA	√				√	
	GCMTB		√			√	
	GCRTA	√				√	
	GCRTB		√			√	
Four-Band Antenna	GCRFA	√				√	√
WiFi Only	GCRWF						√

GPS Type	Amplifier Gain without cable	Noise Figure	Output VSWR	DC Voltage	DC Current
A	27dB Typical	1.4dB Typical	2.0 Max.	DC 3.0V to 5.5V	22±5mA
B		1.8dB Typical		DC 2.7V to 6.0V	8.5±4.5mA