



## GCRFA

Mobile phone / Wireless data / WiFi and L1 GPS

Page 1 of 5



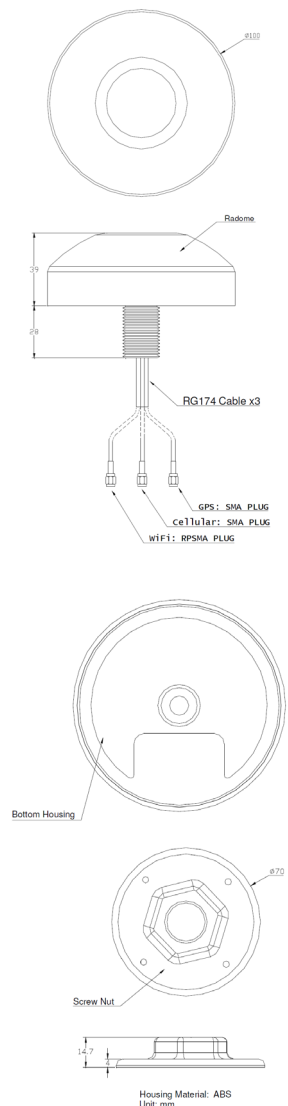
The GCRFA low profile all-in-one antenna will improve mobile phone/ wireless data, L1 GPS and WiFi/WLAN reception, including 4G LTE and dualband 4G/3G.

The GCRFA is suitable for mobile or fixed position installations for all environments, with the internal enclosed inside a robust ABS enclosure.

Mounting hardware, adaptors and other installation accessories are all available separately.



Construction	White ABS polycarbonate enclosure, rubber gasket and securing nut, 3 x external coaxial cables and connectors		
Mobile phone coverage	698-800 MHz, 824-960 MHz & 1710-2170 MHz - 4G LTE, 4G/3G		
GPS frequency	1575.42 MHz - L1 GPS		
WiFi ability	2.4-2.5 GHz & 4.7-5.9 GHz - WiFi/WLAN		
Tuning	Factory		
VSWR	Cellular: 3.0:1	L1 GPS: 1.5:1	WiFi 2.4: 2.0:1 WiFi 5.8: 3.0:1
Impedance	50 Ohms		
H Plane	360° omnidirectional		
Weight	280grams		
Dimensions	Diameter: 100mm, Height: 39mm, Thread length: 28mm		
Cable	3 x 5 metre RG174/U		
Connector - fitted	Cellular & GPS - SMA male, or specify requirements WiFi/WLAN - reverse polarity/gender SMA male, or specify requirements		
Mounting requirements	Any bracket or flat surface with 20mm hole using cream ABS nut and attached rubber gasket supplied		
Mounting position recommended	As high on your vehicle/structure as possible using a minimum 20mm hole or bracket with 20mm hole.		
Alternate models	GCRFA-10 - GCRFA with 10m cable lengths , specify terminations GCRFA-GP - GCRFA with 102mm diameter ground plane for non metallic mounting such as fibreglass or plastic.		
Installation tools required	20mm spanner for nut securing		
RoHS compliant	Yes		
Waterproof rating	IP56		



[Detailed specifications on next page...](#)



## GCRFA

### Mobile phone / Wireless data / WiFi and L1 GPS

Page 2 of 5



#### GPS active patch antenna

Frequency coverage	L1 GPS 1575.42 MHz $\pm$ 3 MHz				
VSWR	1.5:1 - maximum				
Bandwidth	20 MHz min. at -10dB				
Gain coverage	-4dBic at -90°C 90°(over 75% volume)				
Polarisation	Right-hand circular polarised - RHCP				
Amplifier module	Amplifier gain without cable	Noise Figure	Output VSWR	DC voltage	DC current
	27dB - typical	1.8dB - typical	2.0:1 - maximum	DC 2.7V to 6.0V	8.5 $\pm$ 4.5mA

#### LTE, 4G/3G Cellular module

Frequency	696-800 MHz	824-960 MHz	1710-1990 MHz	1990-2170 MHz	
VSWR - maximum	3.0:1	3.0:1	3.0:1	3.0:1	
Average gain	With GP*	-1.5 dBi	-2.33 dBi	-1.86 dBi	-1.52 dBi
	Without GP	-2.15 dBi	-3.33 dBi	-2.75 dBi	-2.07 dBi
Average Efficiency	With GP*	71.07%	61.60%	65.36%	70.87%
	Without GP	61.36%	48.47%	53.23%	62.58%
Peak gain	With GP*	3.79 dBi	4.11 dBi	4.94 dBi	5.91 dBi
	Without GP	3.74 dBi	3.61 dBi	2.34 dBi	4.21 dBi

#### WiFi module

Frequency	2.4-2.5 GHz	4.7-5.0 GHz	5.0-5.4 GHz	5.4-5.9 GHz	
VSWR	2.4-2.5 GHz - 2.0:1		4.7-5.9 GHz - 3.0:1		
Impedance	50 Ohms				
Polarisation	Omnidirectional - Linear				
Power handling	25 Watts				
Average gain	With GP*	-2.15 dBi	-4.63 dBi	-3.76 dBi	-3.34 dBi
	Without GP	-2.70 dBi	-5.16 dBi	-4.31 dBi	-3.71 dBi
Average Efficiency	With GP*	61.07%	35.27%	42.87%	47.69%
	Without GP	53.88%	31.13%	37.53%	43.67%
Peak gain	With GP*	2.49 dBi	6.31 dBi	6.28 dBi	6.38 dBi
	Without GP	1.19 dBi	5.63 dBi	5.79 dBi	6.22 dBi

GP = Ground Plane  
\* ground plane dimensions 400mm x 400mm

Improved Product

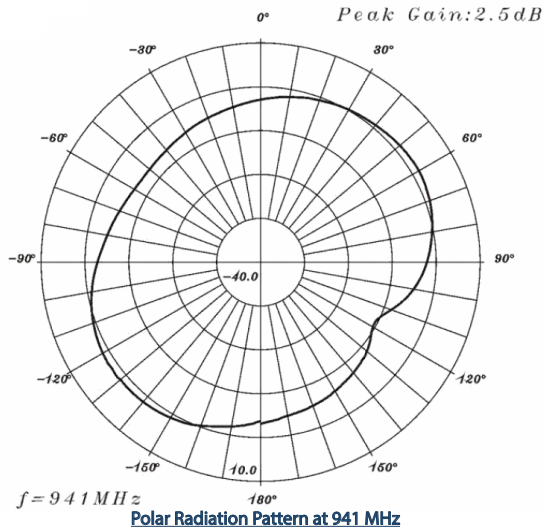
# GCRFA

Mobile phone / Wireless data / WiFi and L1 GPS

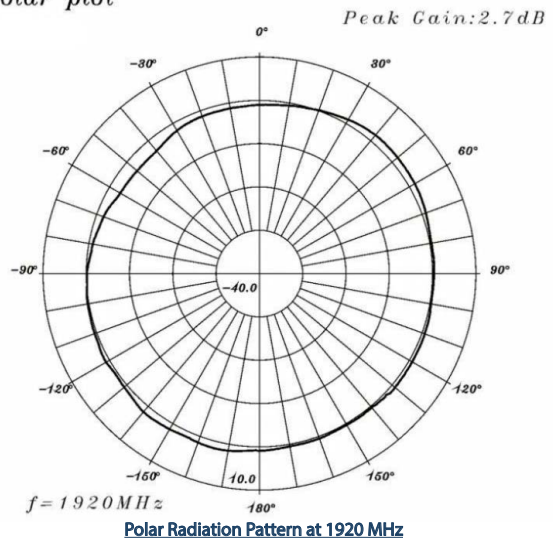
Page 3 of 5

  
In-stock  
Ready to  
Ship

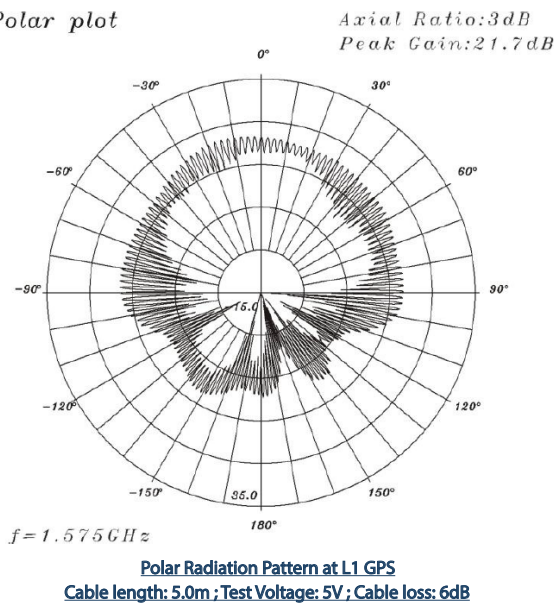
Polar plot



Polar plot



Polar plot



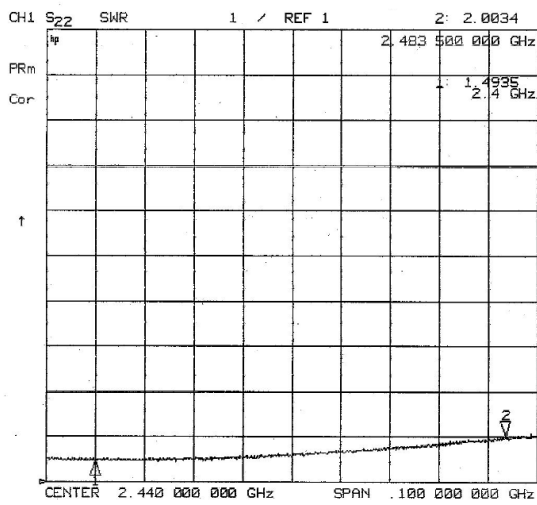
Improved Product

# GCRFA

Mobile phone / Wireless data / WiFi and L1 GPS

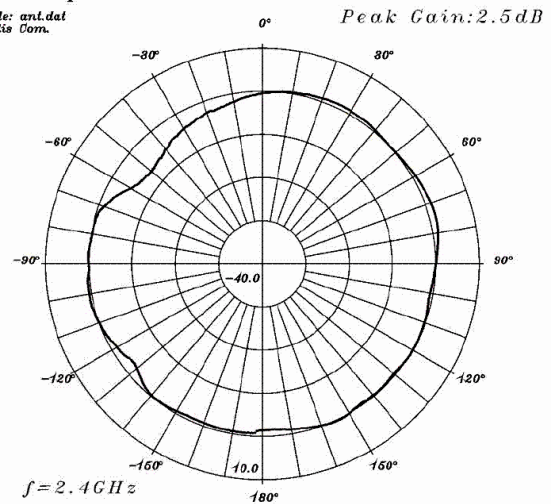
Page 4 of 5

  
In-stock  
Ready to  
Ship

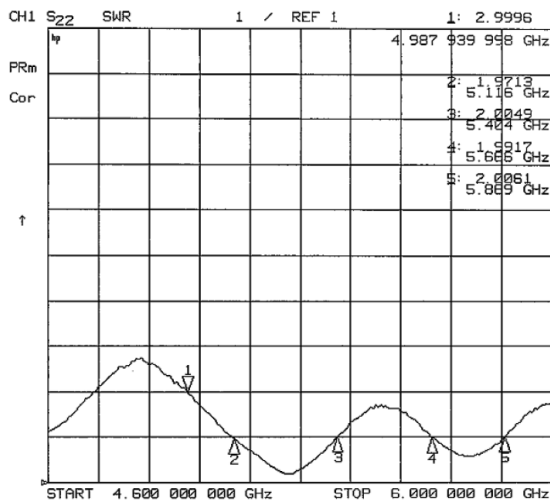


Polar plot

File: ant.dat  
Atlas Com.

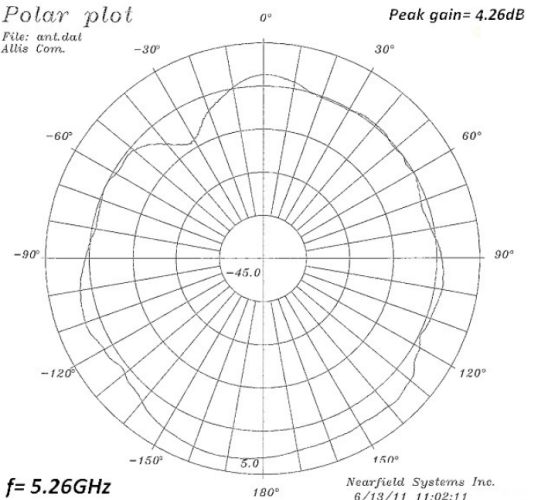


VSWR plot and Polar Radiation Pattern at 2.4 - 2.4835 GHz



Polar plot

File: ant.dat  
Atlas Com.



VSWR plot and Polar Radiation Pattern at 5.0 - 5.9 GHz

Improved Product

# GCRFA

Mobile phone / Wireless data / WiFi and L1 GPS

Page 5 of 5

In-stock  
Ready to Ship

**1** indicates an ideal location for best omnidirectional performance

