

ALLISCOM

L Series

Magnetic GPS Antenna

Data Sheet



Model No. L Series

Feature **Low Noise Figure < 1.5dB**
Waterproof Housing
Magnetic Mounting
Low Cost

Benefit **Resistant to harsh outdoor environment**
High Performance
Concealable

Description **Allis Communications L Series GPS Active External Antenna is a waterproof Magnetic Mount Antenna. The L Series Antenna is a low cost solution for cost conscience customers.**

1. Electrical Specifications

1.1 Patch Antenna

Frequency	1575.42 ± 3 MHz
VSWR	1.5 max.
Bandwidth	10MHz/20MHz min. at -10dB
Axial Ratio	3dB typical
Impedance	50Ω
Peak Gain	2dBic/4dBic min. at 0° (7cm x 7cm ground plane)
Gain Coverage	≥ -4dBic at -90° ≤ θ ≤ 90° (over 75% volume)
Power Handling	1 watt
Polarization	RHCP

1.2 Amplifier Module

Type	Model No.	Amplifier Gain without cable	Noise Figure	Output VSWR	DC Voltage	DC Current
Active antenna	L312B	12dB typical	1.5dB typical	2.0 max.	DC 2.7V to 3.6V	6±2mA
	L320B	20dB typical				9±3mA
	L327B	27dB typical				
	L512B	12dB typical			DC 4.5V to 6.0V	5±2mA
	L520B	20dB typical				9±3mA
	L527B	27dB typical				
	L827A				DC 3.0V to 5.5V	22±3mA
	L827D					
	L827F					
	L827E					
L828T	28 dB typical		DC 2.7V to 6.0V	8.5±4.5mA		

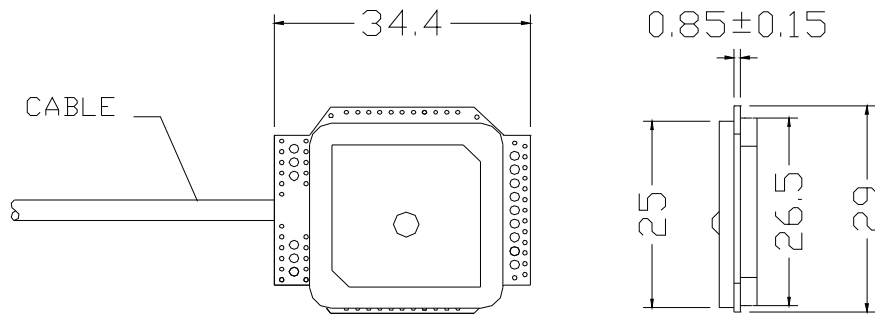
1.3 Gain Pattern

Test Equipment : NSI Spherical near-field measurement system

Model No.	Peak Gain (at 0°)	Axial Ratio (at 0°)	Test Voltage and Cable Length
L312B	8.41dB	3dB	Voltage: 3V Cable: 5m RG174 / Loss ≐ 6dB
L320B	15.64dB	3dB	
L327B	21.65dB	2.5dB	
L512B	8.34dB	3dB	Voltage: 5V Cable: 5m RG174 / Loss ≐ 6dB
L520B	16.29dB	3dB	
L527B	22.98dB	3dB	
L827A	21.51dB	2.5dB	
L827D	23.49dB	2dB	
L827E	23.41dB	3dB	
L827F	23.68dB	2.5dB	
L828T	24.52dB	3dB	

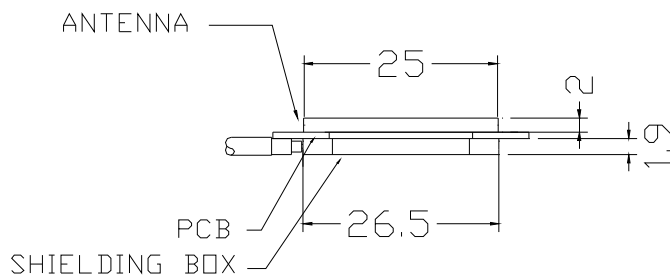
* Patch antenna simulation and Polar plot see appendix 3.

L827E(Without housing)



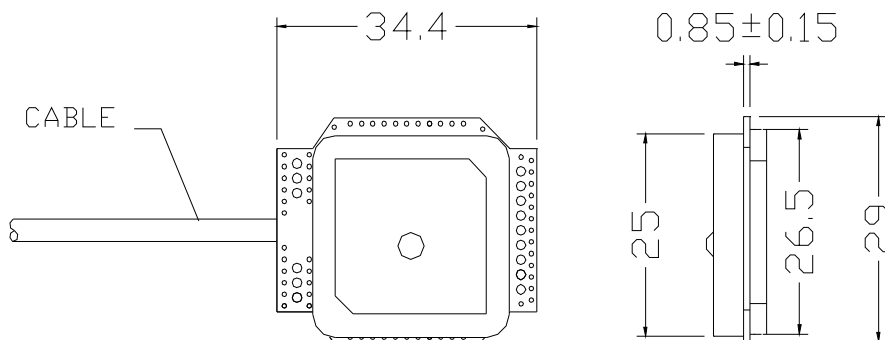
L827E(Without housing)

Low shielding + Patch 2mm
Unit: mm



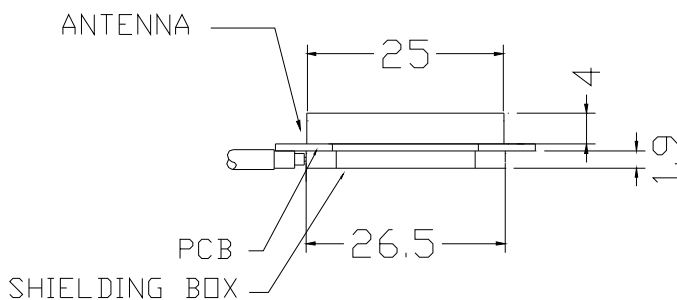
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETER TOLERANCES:	
ANGLE	± 1°
1 PLACE DECIMALS	±0.2
2 PLACE DECIMALS	±0.15
3 PLACE DECIMALS	±0.05

L827F(Without housing)



L827F (Without housing)

Low shielding+Patch 4mm
Unit: mm



UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETER TOLERANCES:	
ANGLE	± 1°
1 PLACE DECIMALS	±0.2
2 PLACE DECIMALS	±0.15
3 PLACE DECIMALS	±0.05

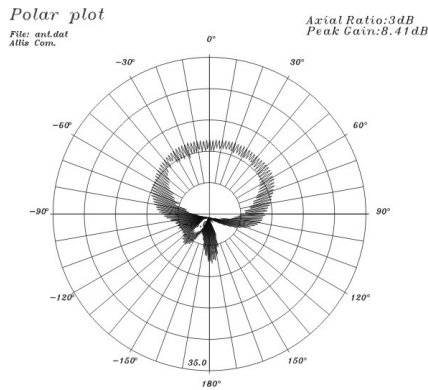
3. Appendix: Gain Patterns

Test Equipment: NSI Spherical near-field measurement system

● L312B

Test Voltage : 3V

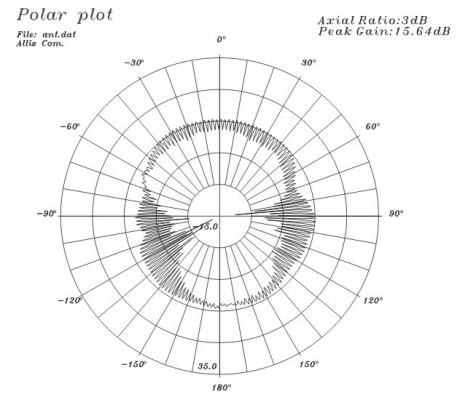
Cable length: 5m Cable loss $\approx$ 6dB



● L320B

Test Voltage : 3V

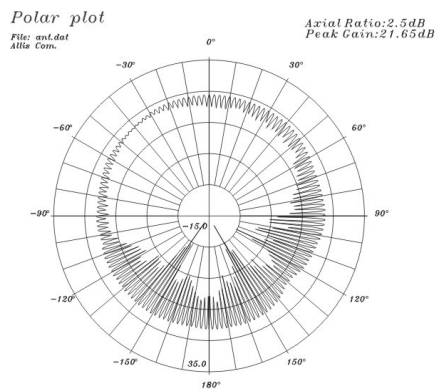
Cable length: 5m Cable loss $\approx$ 6dB



● L327B

Test Voltage : 3V

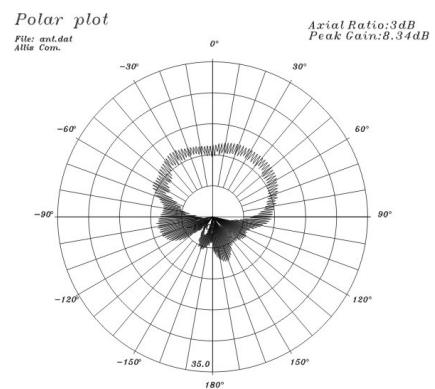
Cable length: 5m Cable loss $\approx$ 6dB



● L512B

Test Voltage : 5V

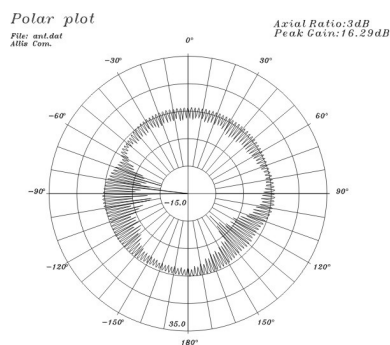
Cable length: 5m Cable loss $\approx$ 6dB



● L520B

Test Voltage : 5V

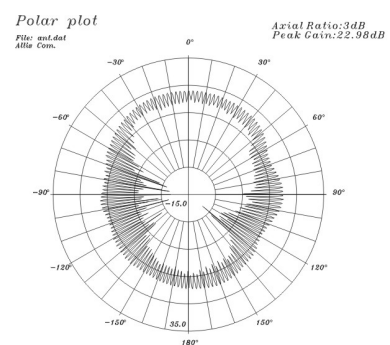
Cable length: 5m Cable loss $\approx$ 6dB



● L527B

Test Voltage : 5V

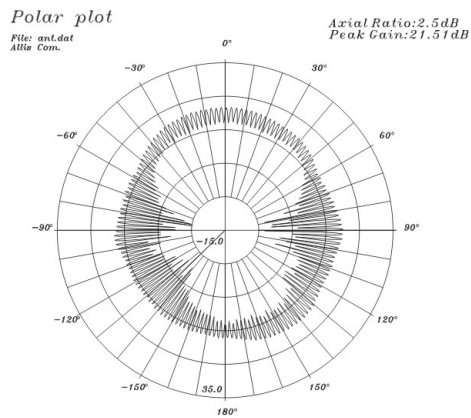
Cable length: 5m Cable loss $\approx$ 6dB



● L827A

Test Voltage : 5V

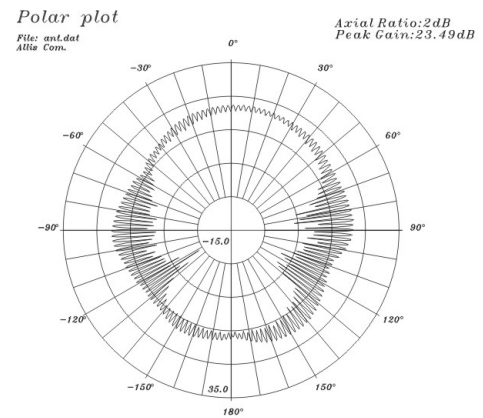
Cable length: 5m Cable loss $\div$ 6dB



● L827D

Test Voltage : 5V

Cable length: 5m Cable loss $\div$ 6dB

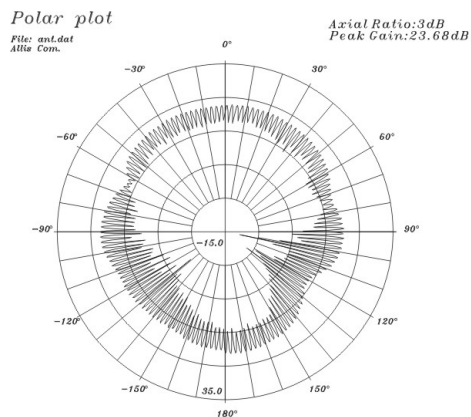


● L827F

Test Voltage : 5V

Cable length: 5m

Cable loss $\div$ 6dB

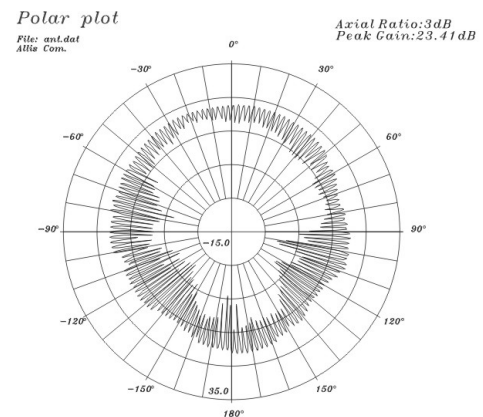


● L827E

Test Voltage : 5V

Cable length: 5m

Cable loss $\div$ 6dB



Patch Antenna simulation

