

## PW1516-100

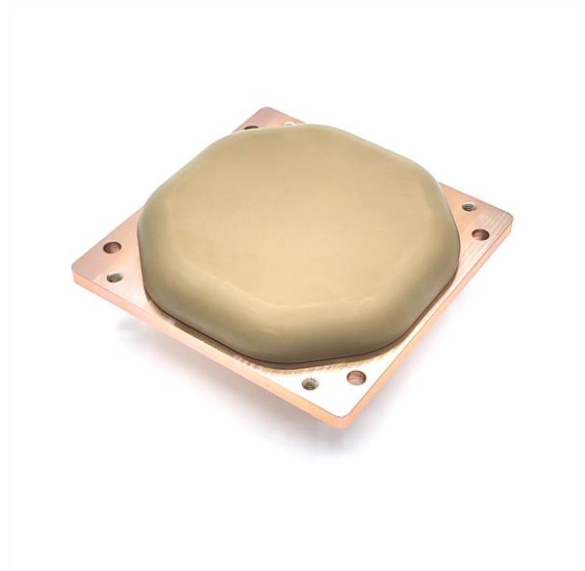
## L-Band RHCP Wideband Omni Antenna

### Features

- ✓ Size < 1U
- ✓ Omni-directional pattern
- ✓ Wide operating temperature range
- ✓ Designed to NASA GEVS (GSFC-STD-7000)
- ✓ TRL 9

### Benefits

- ✓ Commercial off-the-shelf (COTS)
- ✓ Acceptance Tests available
- ✓ Compatible Test Hat available
- ✓ Qualified for space applications
- ✓ True circular polarization with extremely low Axial Ratio over the entire frequency band
- ✓ Consultation services available (link budget, architecture and system design)



### Product Overview

PW1516-100 is a high-performance wideband antenna designed for L-band communications in harsh space environments. It features excellent axial ratio over the entire frequency band, making it ideal for demanding and reliable space communication links.

This antenna is a perfect choice for a variety of space applications, including LEO, MEO, and GEO. Specifically, it is designed to overcome challenges present in the LEO environment over long mission lives, such as Corona, Multipaction, Atomic Oxygen, MMOD, etc. The L-band antenna is lightweight and easy to integrate. It is also available with Test Hats to facilitate testing and integration.

### Related Products

Part Number	Description
PW1516-300	L-Band RHCP Wideband Omni Test Hat
PW2022-111	S-Band Dual-CP Wideband Omni Antenna
PW2022-102	S-Band RHCP Dual-Port (TX+RX) Omni Antenna
PW2022-002	Active S-Band RHCP Dual-Port (TX+RX) Omni Antenna
PW1115-002	Active GNSS L1/E1/L2/L5/E5 Antenna

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## Electrical Specifications

Parameter / Condition	Min	Typ	Max	Unit
Operating Frequency	1510		1675	MHz
Polarization		RHCP		
Axial Ratio (At Boresight)		2	3	dB
Axial Ratio (At 90° Off Boresight)			8	dB
VSWR			2:1	
Gain	4	5	6	dBic
Half Power Beam Width	85	100	110	deg
Pattern Coverage		Omni		
Power Handling (CW)	20			W

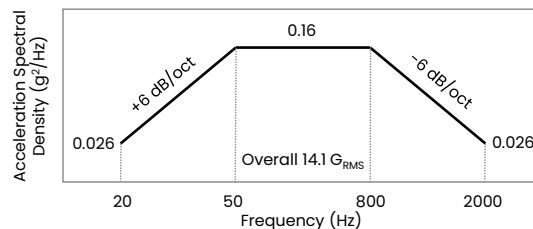
## Mechanical Specifications

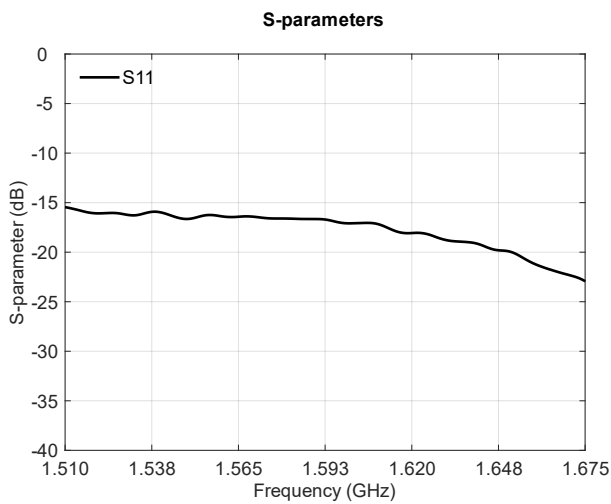
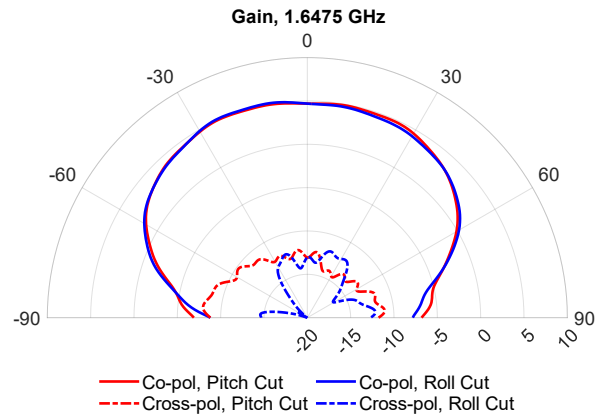
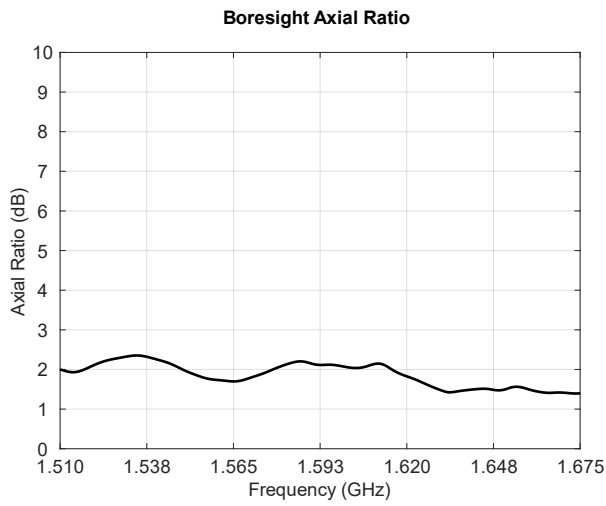
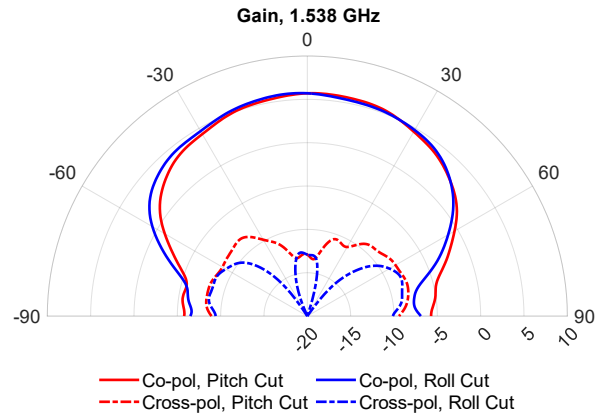
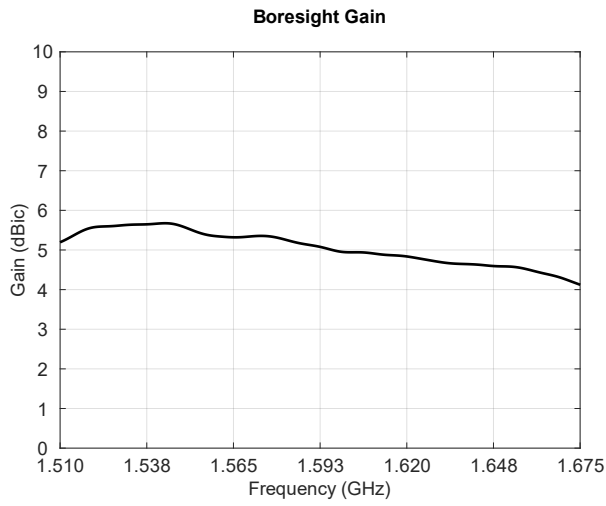
Parameter / Condition	Value	Unit	Limits
Connector	SMA Female		
Mass	190	g	Max
Compatible Test Hat	PW1516-300		

## Environmental Specifications

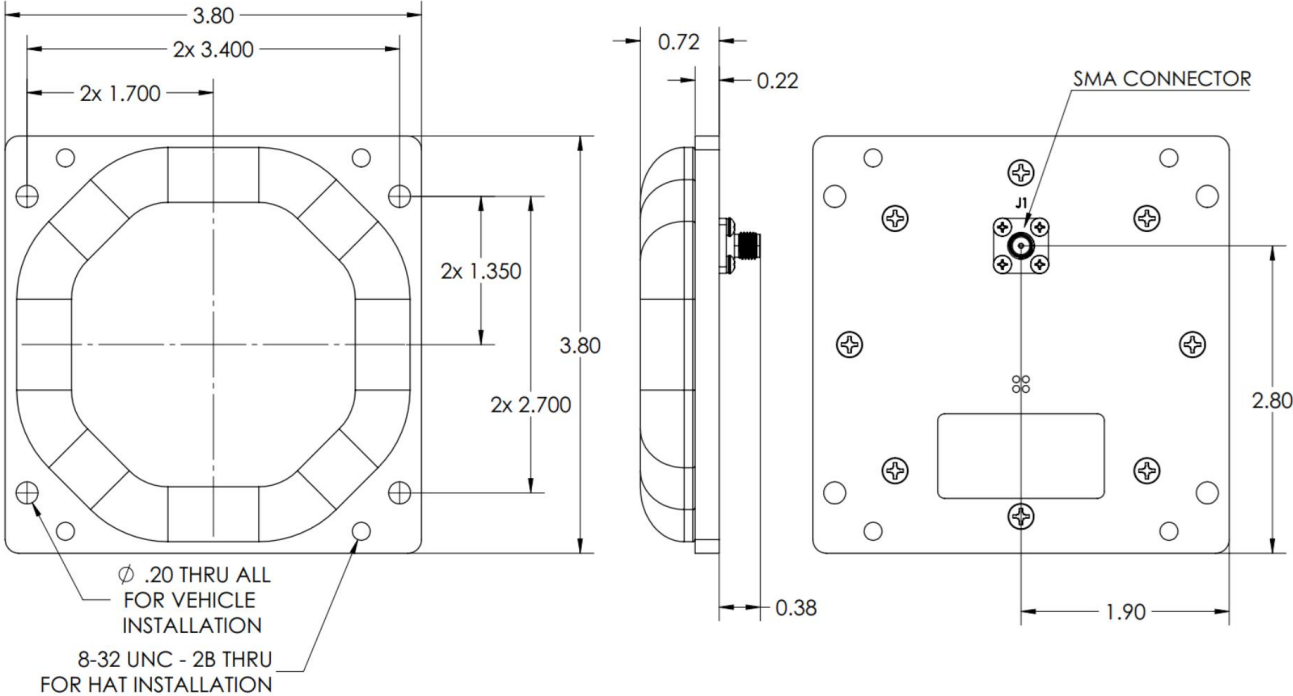
Parameter / Condition	Min	Typ	Max	Unit
LEO Mission Life	5			years
Operating Temperature	-70		100	°C
Humidity (MIL-STD-810 Method 507.6)	65%			
Sealing	Sealed + Venting Mechanism			
Vibration	14.1			G <sub>RMS</sub>

Random Vibration Test Levels  
(GSFC-STD-7000)





**Mechanical Outline**



**Dimensions shown in inches.**

Tolerances - Two Place Decimal: ±0.010, Three Place Decimal: ±0.005

**Contact PlaneWave, Inc.**

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