

PW8282-103

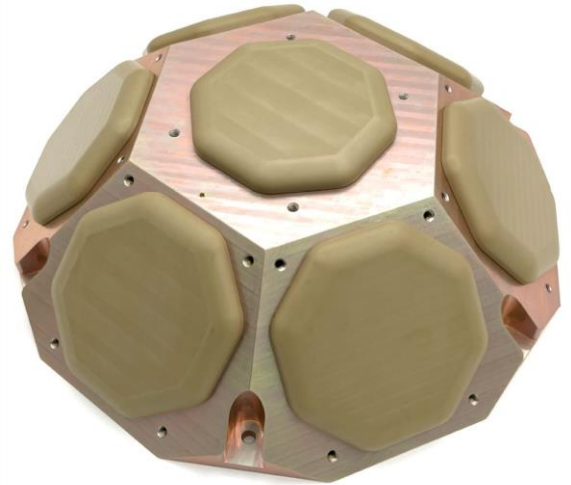
X-Band RHCP TX Switched-Beam Hemispherical Antenna Module

Features

- ✓ Directional (switched beam) pattern and high gain
- ✓ 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

PW8282-103 is a high-gain switched beam hemispherical antenna module designed for high throughput downlink applications 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 X-Band Antenna is also available with Test Hats to facilitate testing and integration.

Related Products

Part Number	Description
PW8282-302	X-Band RHCP TX 2X2 Test Hat
PW2222-101	S-Band RHCP TX 2x2 Antenna
PW8282-102	X-Band RHCP TX 2x2 Antenna
PW8282-104	X-Band RHCP TX 4X4 Antenna
PW2020-110	S-Band Dual-CP RX Omni Antenna
PW1515-001	Active GPS L1 Antenna

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Electrical Specifications

Parameter / Condition	Min	Typ	Max	Unit
Operating Frequency	8025		8500	MHz
Polarization		RHCP		
Axial Ratio		2	3	dB
VSWR			2:1	
Gain	8	9	10	dBic
Pattern Coverage	Directional, Switched Beam			
Power Handling	20			W

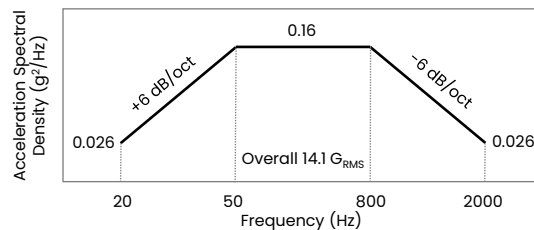
Mechanical Specifications

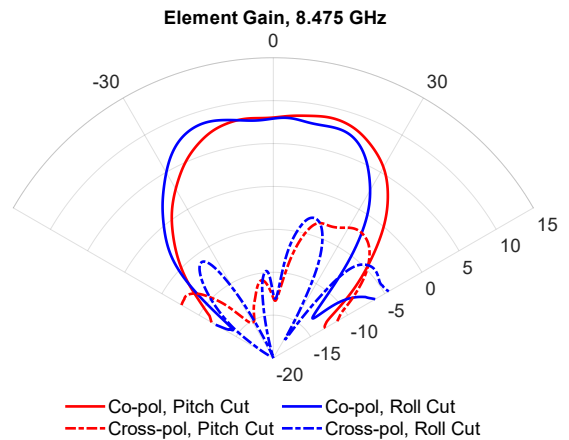
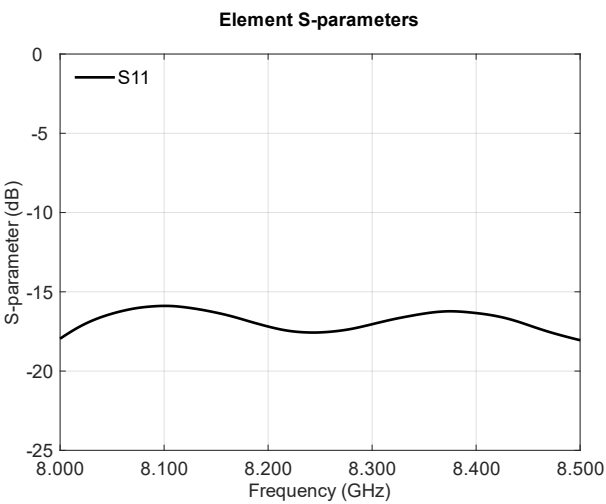
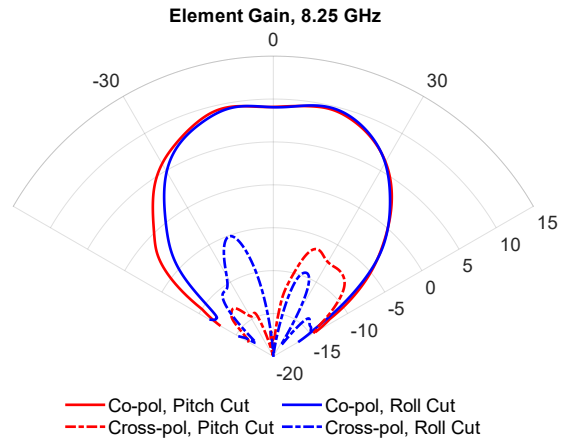
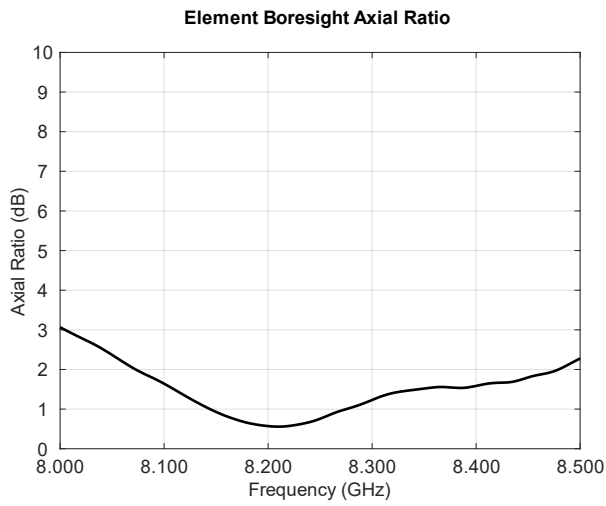
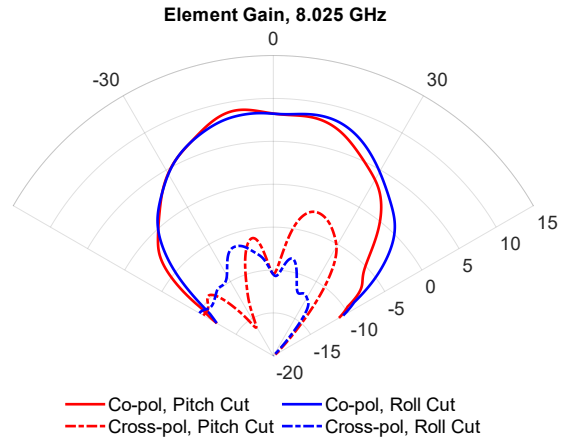
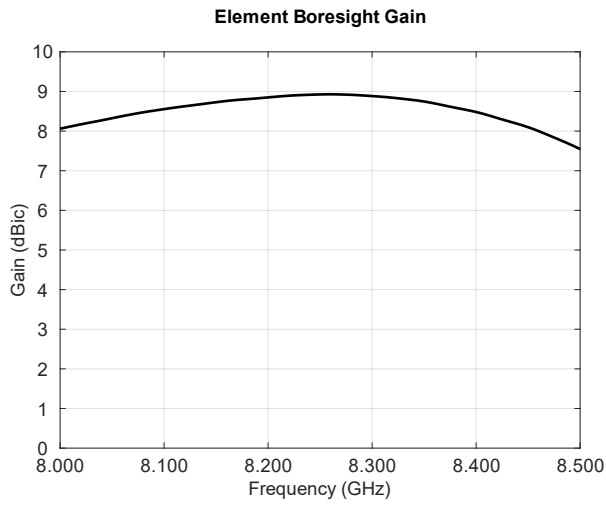
Parameter / Condition	Value	Unit	Limits
Connector	SMA Female		
Mass	950	g	Max
Compatible Test Hat	PW8282-302		

Environmental Specifications

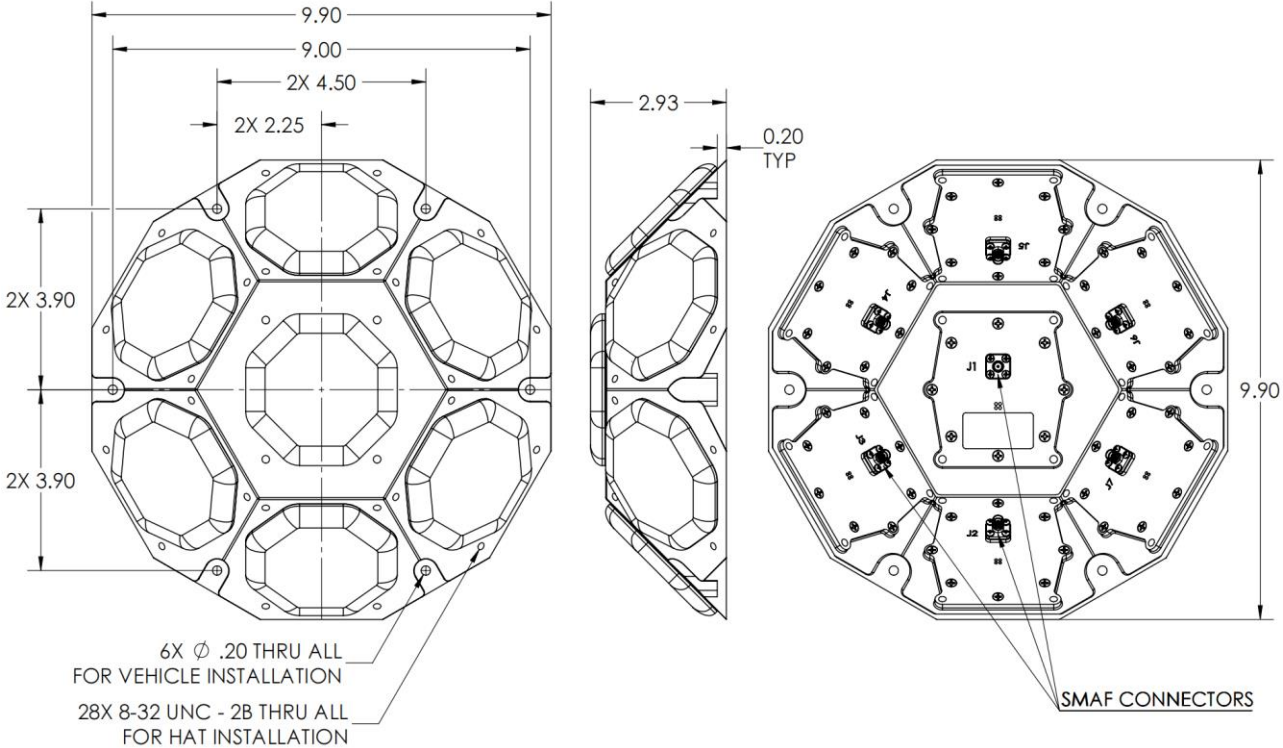
Parameter / Condition	Min	Typ	Max	Unit
Operating Temperature	-70		100	°C
Humidity (MIL-STD-810 Method 507.6)	65%			
Storage Temperature	-70		100	°C
Vibration	14.1			G _{RMS}

Random Vibration Test Levels
(GSFC-STD-7000)





Mechanical Outline



Dimensions shown in inches.

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

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