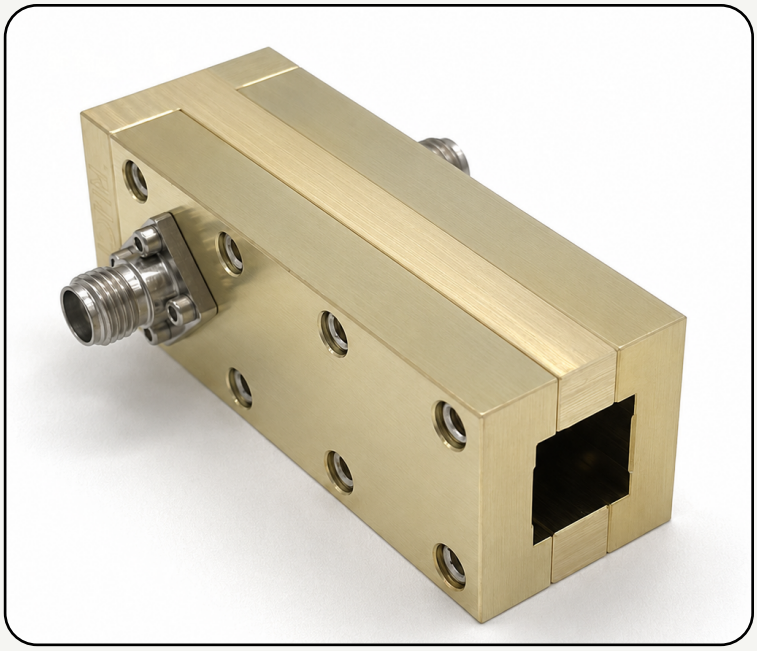
K-Ka-Band Dual-Port (RHCP+LHCP) Waveguide Probe



Applications
- TT&C communications links
- Spacecraft data link systems
- K/Ka Band SATCOM applications
- Space and ground RF link setups
- Antenna range testing
- RF laboratory and characterization setups

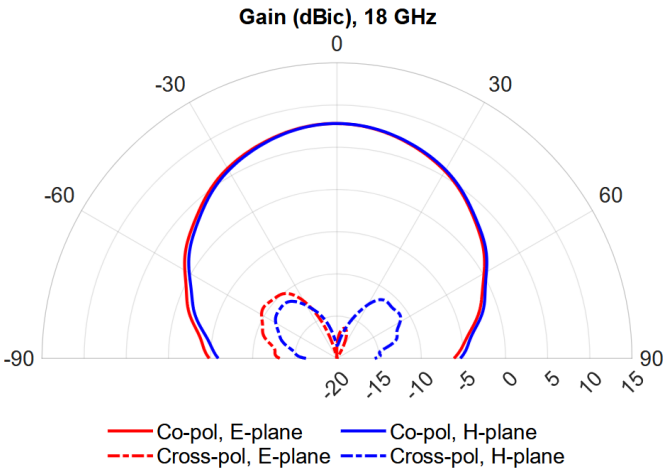
Key Features
- Broadband K/Ka Band operation
- Shared aperture with separate RHCP and LHCP ports
- Directional antenna pattern
- Excellent port to port isolation
- Compact open ended waveguide probe design
- Commercial off the shelf configuration
- Customization available
- Suitable for space and ground SATCOM links

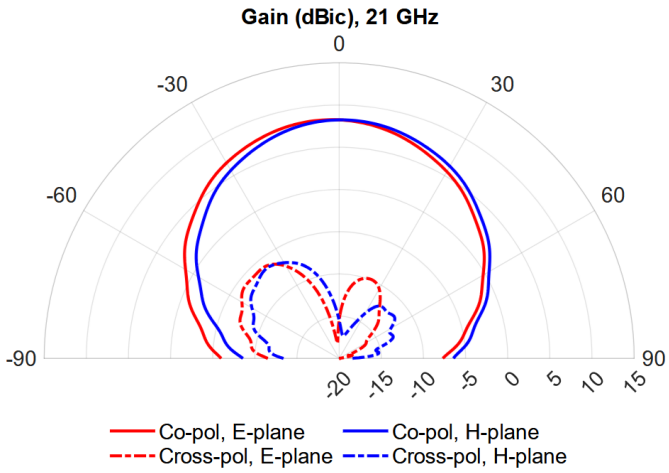
Electrical Specifications

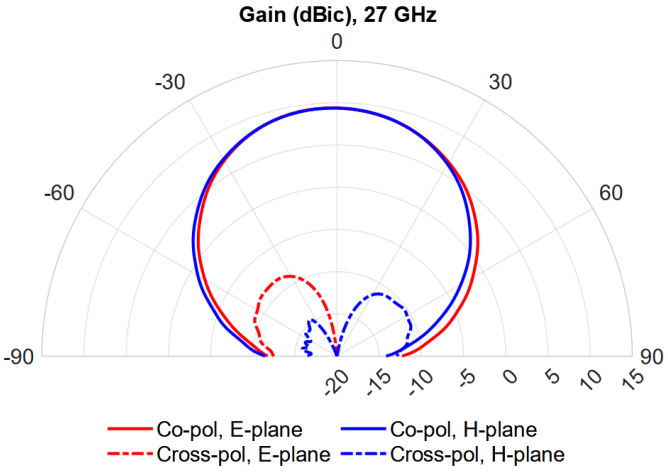
Parameter / Condition	Min	Typical	Max	Unit
Operating Frequency	17		30	GHz
Polarization		RHCP/LHCP		
VSWR			2:1	
Gain	6		10	dBic
Half Power Beam Width	60	65	70	deg
Power Handling (CW)			20	W
Operating Temperature	-40		85	°C

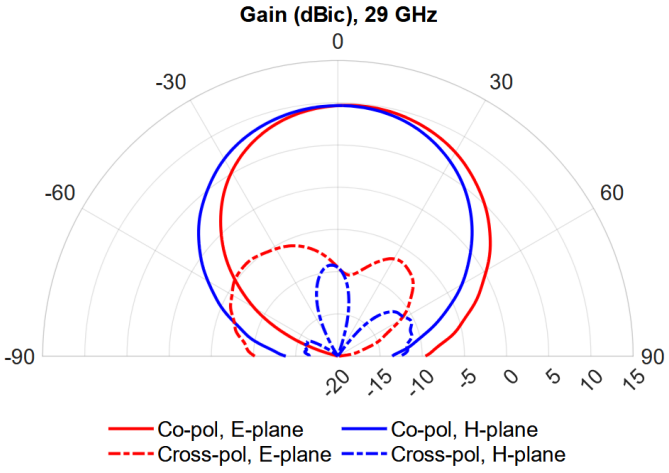
Mechanical Specifications

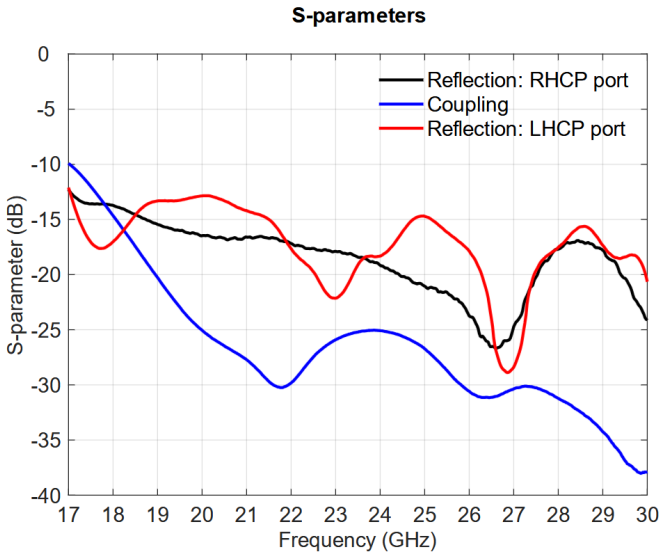
Parameter / Condition	Value	Unit	Limits
Connector	2.92 mm Female		
Mass	60	g	Max

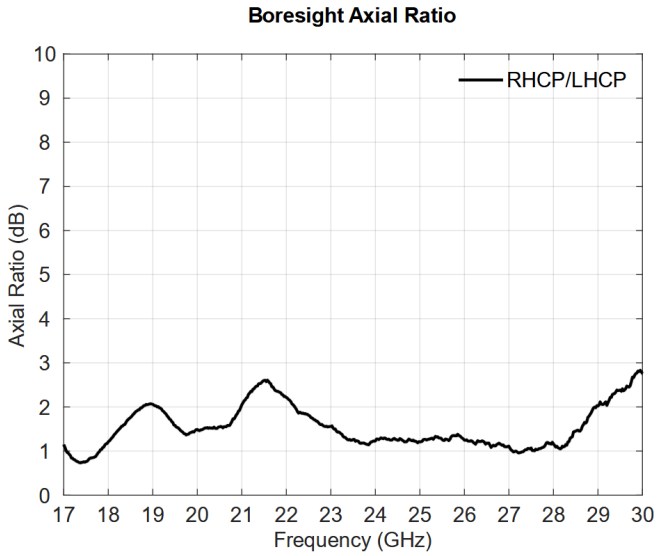

Gain (dBic), 18 GHz
0
-30
30
-60
60
-90
90
-20
-15
-10
-5
0
5
10
15
Co-pol, E-plane
Co-pol, H-plane
Cross-pol, E-plane
Cross-pol, H-plane

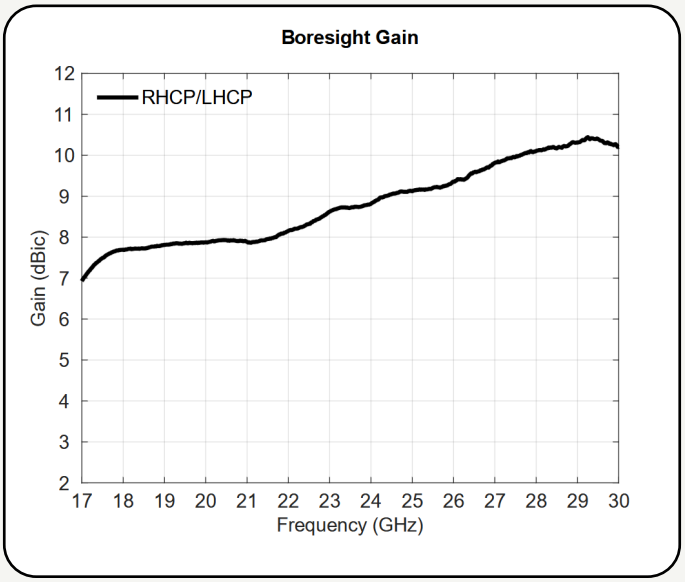

Gain (dBic), 21 GHz
0
-30
30
-60
60
-90
90
-20
-15
-10
-5
0
5
10
15
Co-pol, E-plane
Co-pol, H-plane
Cross-pol, E-plane
Cross-pol, H-plane


Gain (dBic), 27 GHz
0
-30
30
-60
60
-90
90
-20
-15
-10
-5
0
5
10
15
Co-pol, E-plane
Co-pol, H-plane
Cross-pol, E-plane
Cross-pol, H-plane

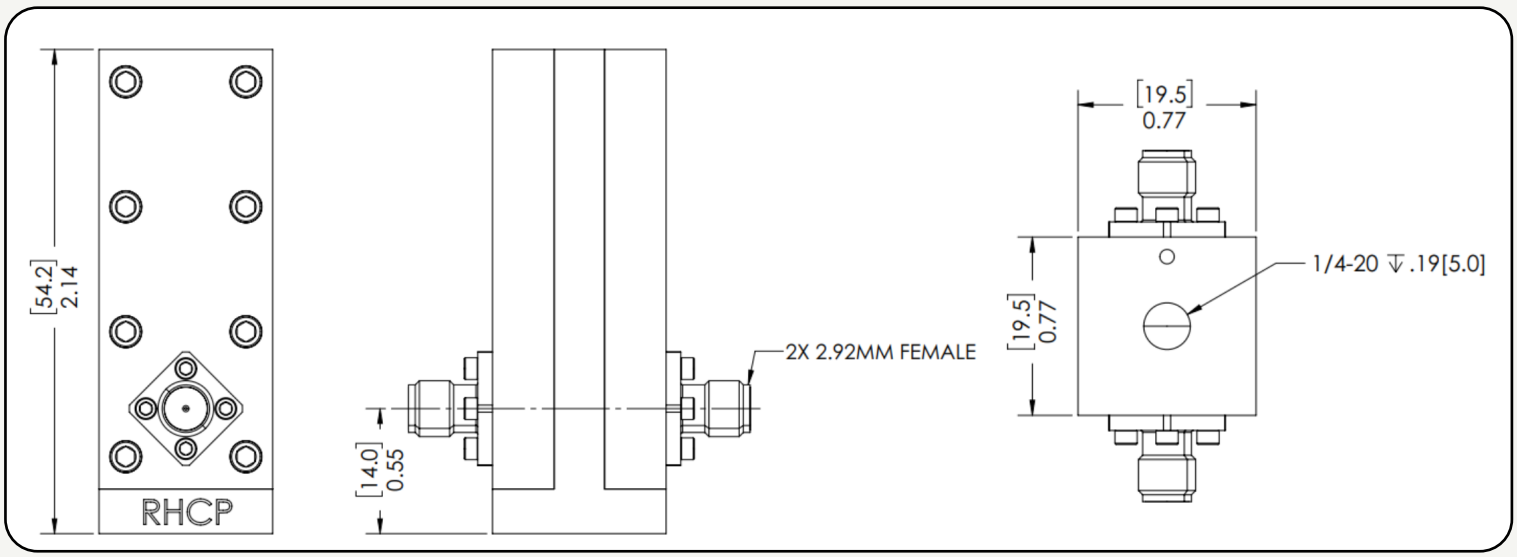

Gain (dBic), 29 GHz
0
-30
30
-60
60
-90
90
-20
-15
-10
-5
0
5
10
15
Co-pol, E-plane
Co-pol, H-plane
Cross-pol, E-plane
Cross-pol, H-plane


S-parameters
Reflection: RHCP port
Coupling
Reflection: LHCP port
S-parameter (dB)
Frequency (GHz)


Boresight Axial Ratio
RHCP/LHCP
Axial Ratio (dB)
Frequency (GHz)


Boresight Gain
RHCP/LHCP
Gain (dBic)
Frequency (GHz)

Mechanical Outline



Dimensions shown in inches [millimeters]
Tolerances in millimeters - Integer: ±3, One Place Decimal: ±0.1, Two Place Decimal: ±0.05