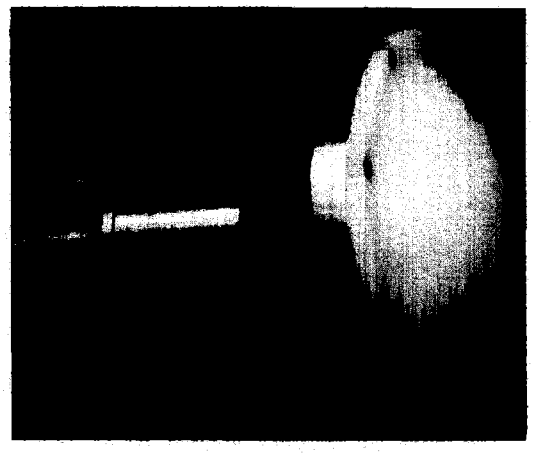
Series 888 Dual Frequency Feed

Features

- MILSTAR Compatible
- Dual Frequency Operation (Transmit: B-Band / Receive: K-Band)
- High Performance
- Rugged Construction
- Axial Ratio < 1.5
- Approximately Equal E-Plane and H-Plane Patterns
- Approximately Coincident Phase Centers



Description

The dual-frequency feed consists of a single corrugated horn designed for use at two separate frequency bands with two concentric circular waveguide openings at the horn throat. The outer coaxial circular waveguide is used for receiving while the inner circular waveguide is used to transmit. With the addition of an orthomode transducer and two polarizers, a dual-frequency, circularly-polarized scalar feed assembly can be achieved.

This design offers good impedance matching and a good axial ratio together with excellent radiation patterns and approximately coincident phase centers.

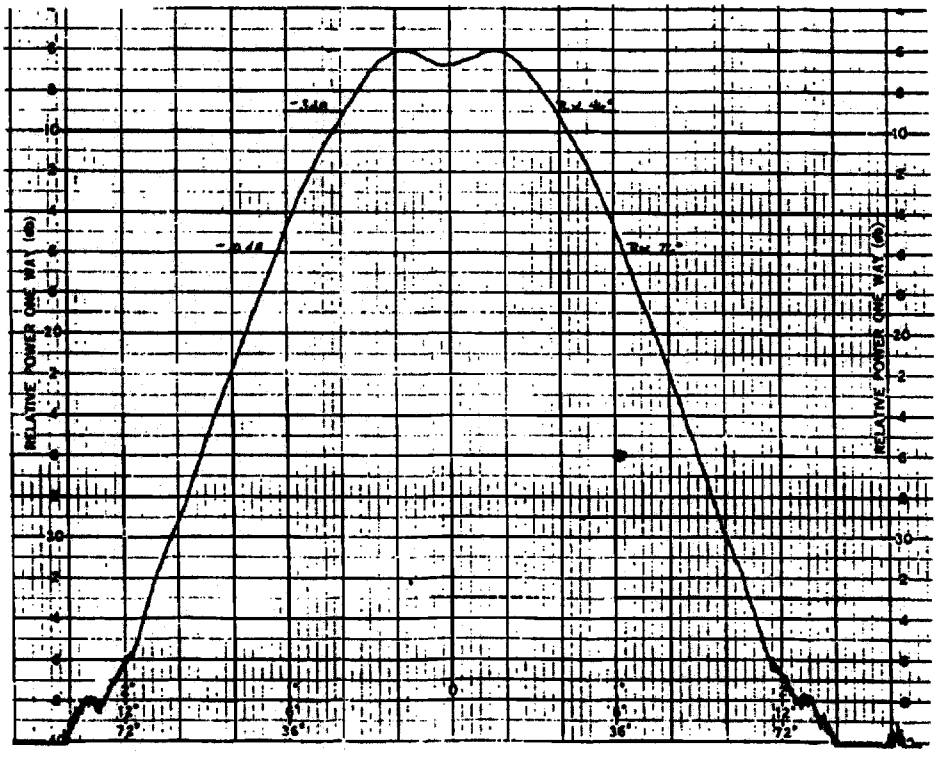
Ordering Information

To order a Series 888 dual frequency feed, please specify the following parameters for both receive and transmit modes: frequency, sidelobes, nominal beamwidths (at -3 and -10 dB). As with all special antennas, it is best to consult with Alpha in ordering a dual frequency feed.

Typical Specifications

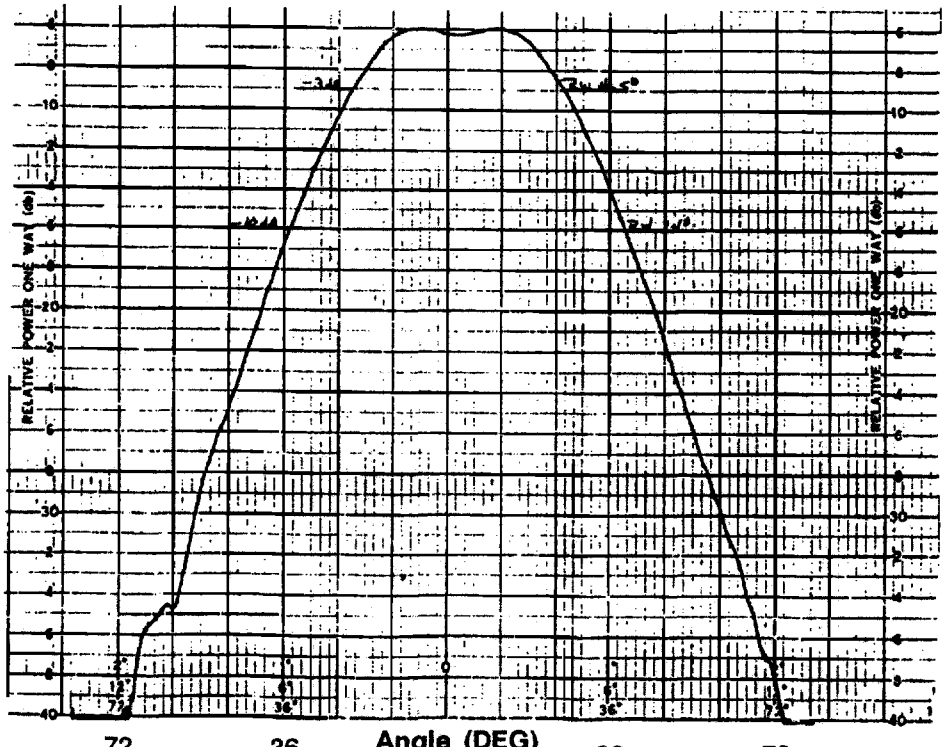
	Receive	Transmit
Frequency (GHz):	20.2–21.2	43.5–45.5
Sidelobes, Max:	–20 dB	–20 dB
Feed Loss, Max:	0.4 dB	0.75 dB
Axial Ratio, Max:	1.5 B	1.5 dB
VSWR, Max:	1.5:1	1.5:1
Nominal Beamwidths: –3 dB –10 dB	 46° 75°	 53° 75°
Polarization:	Left–Hand Circular	Left–Hand Circular
Power Handling, Min:	30 Watts	30 Watts

Typical Radiation Patterns for 20.2 GHz



Angle (DEG)

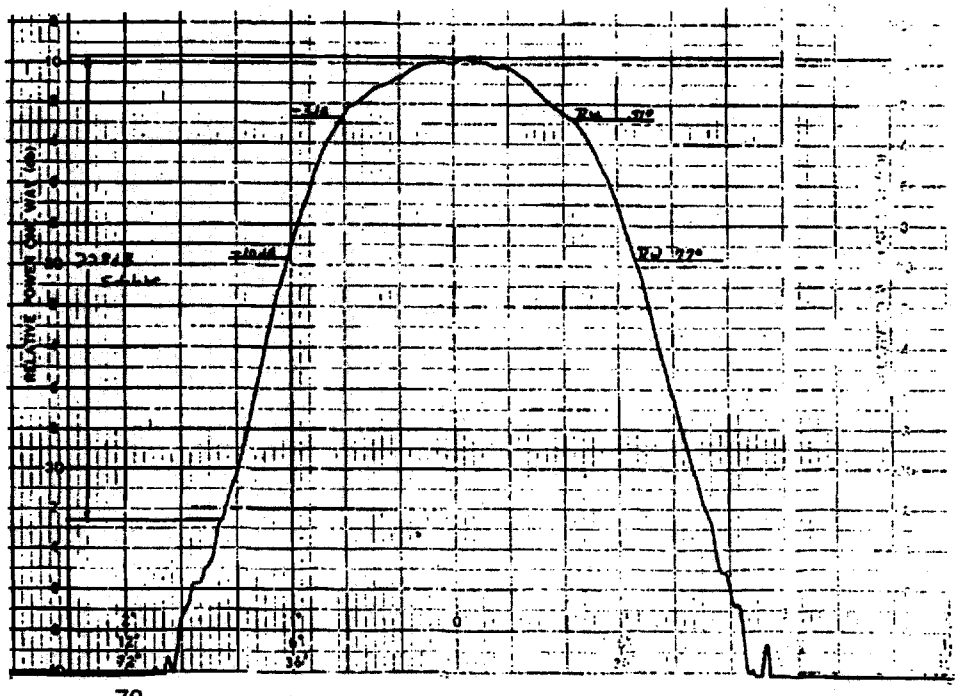
H-Plane



Angle (DEG)

E-Plane

Typical Radiation Patterns for 45.0 GHz



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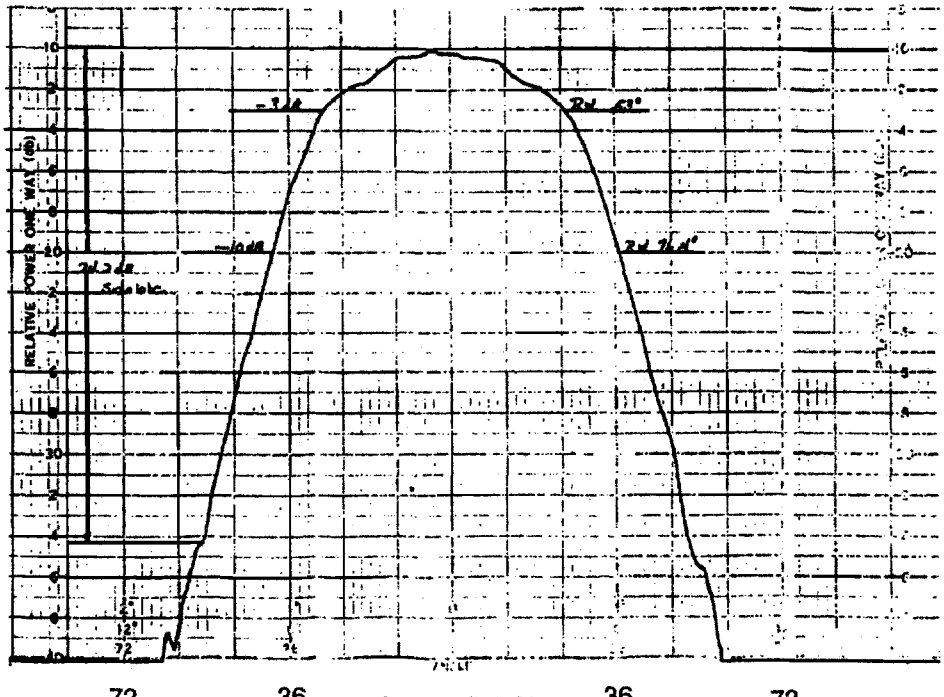
Angle (DEG)
H-Plane



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Angle (DEG)
E-Plane