

K/KA BAND 4-PORT OMT

OVERVIEW

The K/Ka band orthogonal mode transducer (OMT) is developed for broadband telecom market. It operates in dual frequency bands and in dual polarization modes simultaneously. The design is compact, low in mass and manufacture-friendly. Higher isolation is achievable by the addition of waveguide cavity filters.

This OMT is often used in conjunction with K/Ka polarizer (TAC_1933_K/Ka Band Polarizer) to offer dual circular polarizations operation in telecom system.

KEY FEATURES

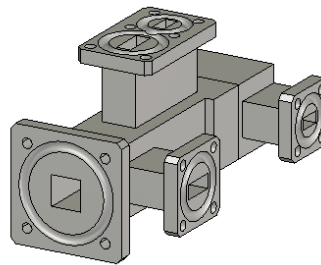
Features

- 4-port K/Ka band OMT—2 for downlink and 2 for uplink bands
- Compact design
- Orthogonal polarization ports in each band
- Low return loss
- Low insertion loss
- Low PIM design
- Low risk multipaction design
- High isolations between ports

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DESIGN AND PROTOTYPE UNIT



SPECIFICATIONS

Parameter	Specification	Note
Frequency (GHz)	19.2 - 20.2	Downlink
	29.0 - 30.0	Uplink
Return loss (dB)	-20	At all ports
Insertion loss (dB)	0.15	
In-band isolation [1] (dB)	> 50	In downlink band
	> 50	In uplink band
Cross-band isolation [1] (dB)	> 90	Co-pol, in downlink band
	> 120	X-pol, in downlink band
Polarization	Dual linear	Orthogonal to each other
RF ports	5	2 for downlink, 2 for uplink and 1 for common port
RF interface [2]	WG20 & WG22	For downlink and uplink ports
PIM	Low	Low PIM design
Multipaction	Low	Low risk multipaction design
Dimension (mm)	45x48x90	Including WG flanges
Mass (g)	<200	

[1] [1] High isolation is offered by the addition of filters

[2] Other types of interfaces are available on request

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