OT065

WR-6.5 orthomode transducer

MicroHarmonics
Superior mm-Wave Components

Specifications	
Flange (rectangular ports)	WR-6.5
Flange (square port) (1)	WR-6.5
Frequency (GHz)	110-170
Insertion Loss (dB, avg) (2)	0.4
Insertion Loss (dB, max) (2)	0.5
Cross-polarization Coupling (dB, typ min) (3)	-40
Isolation (dB, typ min) (4)	40
Return Loss (dB, typ min)	
VSWR (typ max)	

(4) Isolation is between the two rectangular waveguide ports.

WR-6.5 Orthomode Transducer (OMT)

The OMT is a three-port device. It has a square waveguide common mode port supporting two orthogonal modes and a pair of rectangular waveguide ports that each support a single mode. Every OMT is tested on a vector network analyzer to ensure conformity. The test data is provided to the customer.

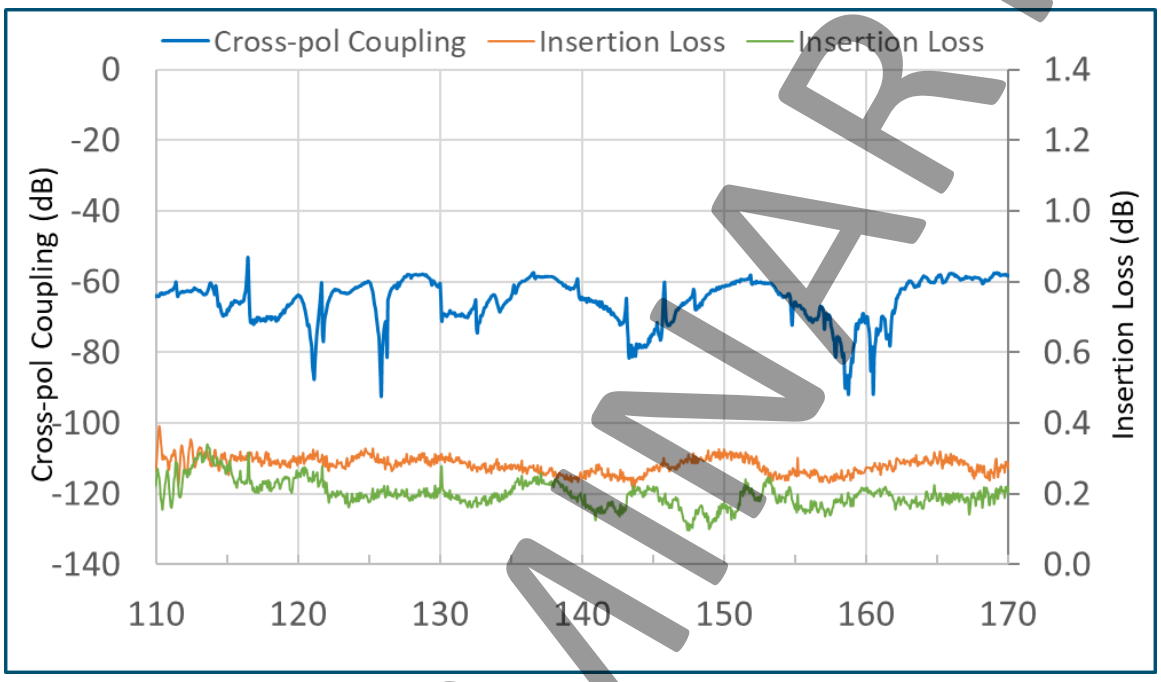
(1) Flange mates to a standard WR-6.5 flange but has a square waveguide.

(2) Insertion loss between a single mode rectangular port and the corresponding polarization on the common port.

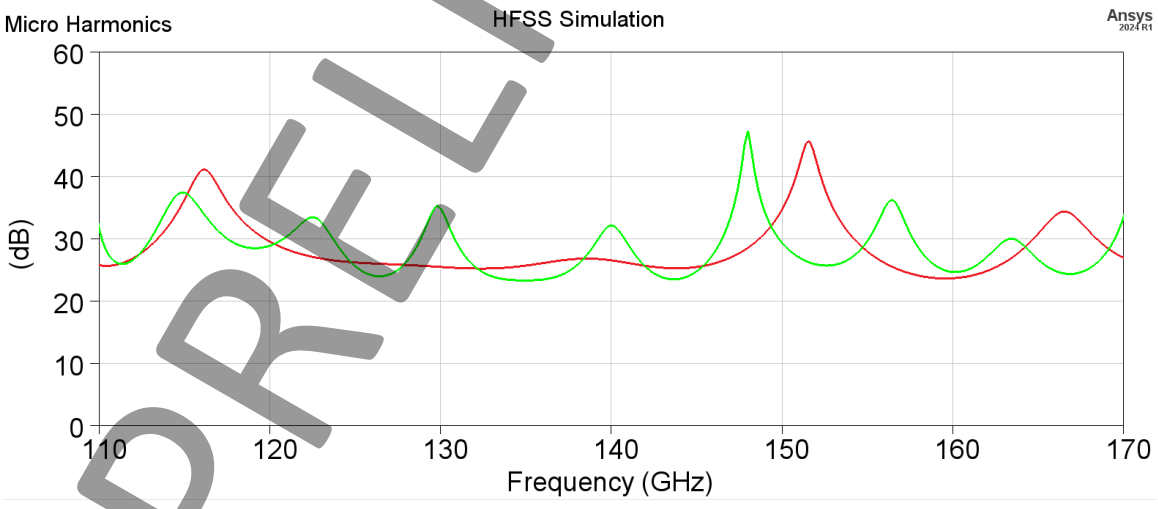
(3) Cross-polarization coupling between a rectangular waveguide port and the opposite mode on the common port.

- **High isolation**
- **Low insertion loss**
- **Low cross-polarization coupling**
- **Anti-cocking waveguide flanges**
- **Resists stray magnetic fields**
- **Comprehensive test data**
- **Compact size**

Insertion Loss and Cross-Polarization Coupling



Return Loss on the Rectangular Ports

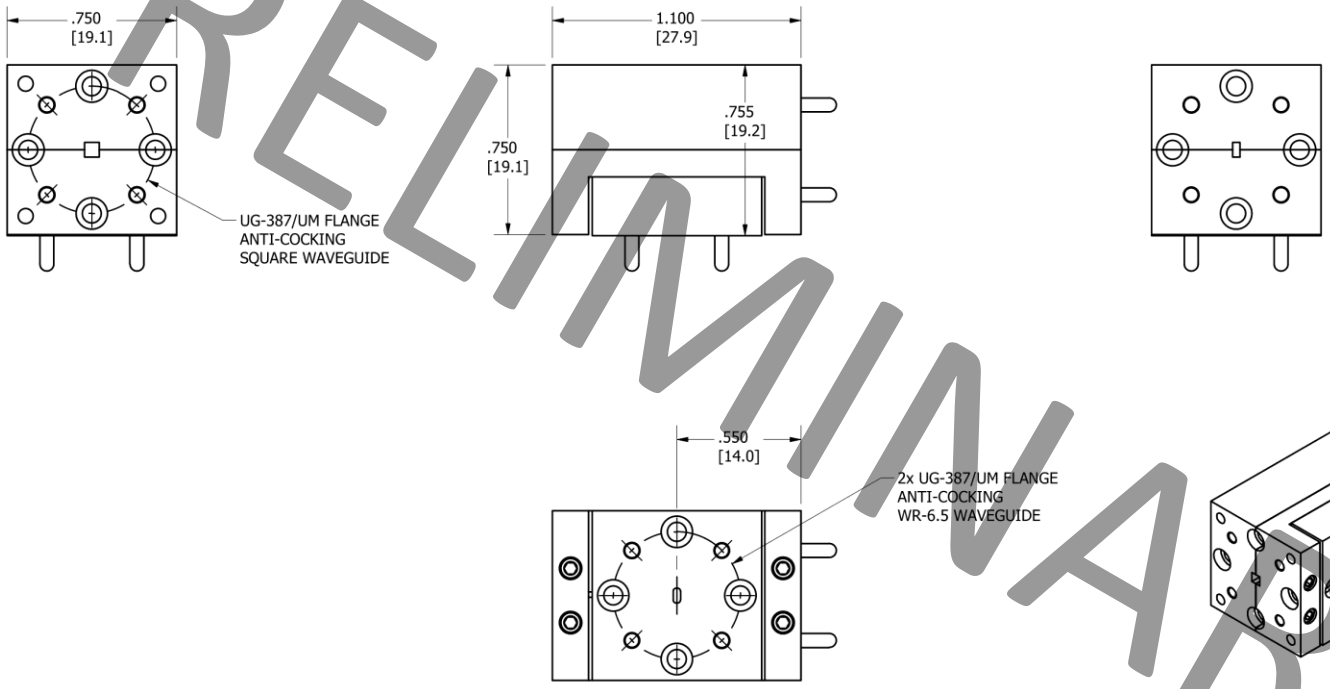


Note: The return loss on the rectangular ports has not yet been measured. The above graph shows results from an HFSS model of the OMT. The HFSS model has proven reliable, but the actual return loss may be lower. Measured data will be added when available.

Micro Harmonics	Proprietary - Micro Harmonics Corporation
	Date 5/24/2024

REVISION HISTORY

ZONE	REV	DESCRIPTION	DATE	APPROVED
	-	RELEASE FOR CUSTOMER	5/24/2024	SCS



PART NUMBER - DESCRIPTION			
OT065 Dimension Drawing			
DWG. UNITS: INCHES	DRAWN BY: SCS	SIZE: B	PAGE NUMBER: 1 of 1
APPROVAL: JTK - 5/30/2024			

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