

WR28 UG-599/U to 2.92mm Female Wideband Waveguide to Coax Adapter with Extended Ka-Band frequency ranges from 22GHz - 40GHz

Waveguide to Coax Adapters Technical Data Sheet

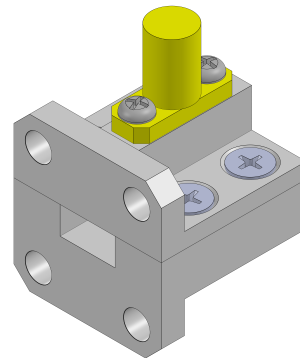
RHMA28-599-28.5-13

Features

- 22 to 40 GHz Frequency Range
- WR28 Interface to Right-Angle 2.92mm-F Coax Connector
- Wideband covering half of K-Band and Full Ka band
- Low insertion loss: < 0.38 dB (typ.)
- VSWR $\leq$ 1.3:1 across the band
- Compatible with 2.92mm 50 Ω systems with Impedance Matching
- RoHS compliant

Applications

- Satellite Communications
- Waveguide Systems
- 5G mm Wave
- Military and Space
- Radio Astronomy



Overview

IAEM's **RHMA28-599-28.5-13** is a high-precision coaxial-to-waveguide adapter designed for extended Ka-band applications, offering an extended wideband frequency range of 22 to 40 GHz. It provides a low-insertion-loss, high-return-loss transition between a standard 50 Ω 2.92 mm coaxial connector and a WR-28 rectangular waveguide equipped with a UG-599/U square cover flange.

Configuration

Waveguide Size	WR-28
Flange	UG-599/U Square Cover Flange
RF Connector	2.92mm Female
Impedance	50 Ohms
Body Geometry	Right Angle Connector

Electrical Specifications

Notes: Values at +25 °C

Description	Minimum	Typical	Maximum	Units
Frequency Range	22		40	GHz
VSWR	1.11:1	1.24:1	1.30:1	
Insertion Loss	-0.19	0.55	0.38	dB
Return Loss	17.63	19.44	25.34	dB

Absolute Maximum Ratings

Operating Case Temperature	-40 °C to +85 °C
Storage Temperature	-55 °C to +100 °C

Performance Data

Notes: Simulation data using CST Studio Suite

VSWR Data

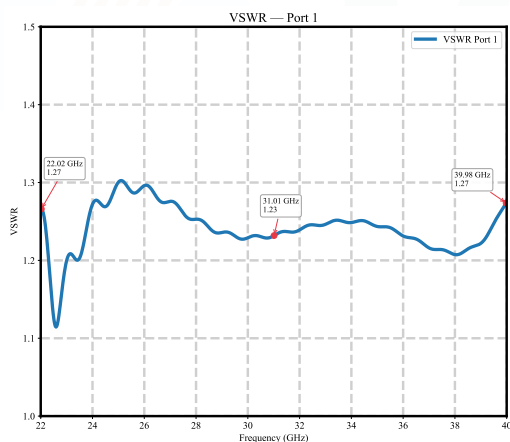


Figure 1: VSWR (Coax Port) vs. Frequency, 22 to 40 GHz

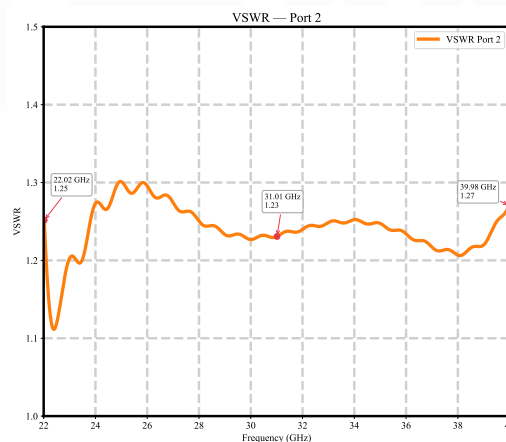


Figure 2: VSWR (Waveguide Port) vs. Frequency, 22 to 40 GHz

S-Parameter Data

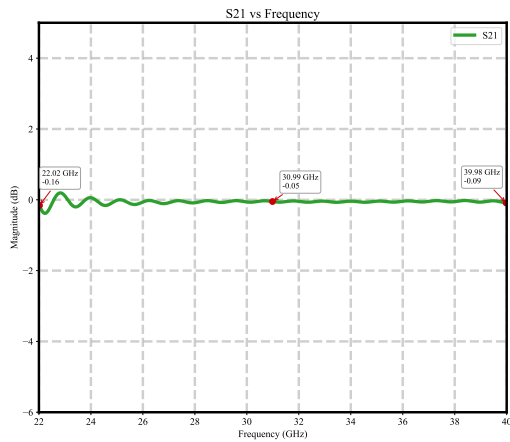


Figure 3: S21 (forward insertion loss) vs. Frequency

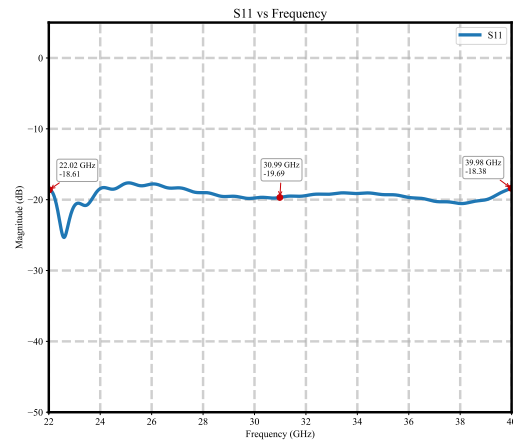


Figure 4: S11 (input return loss) vs. Frequency

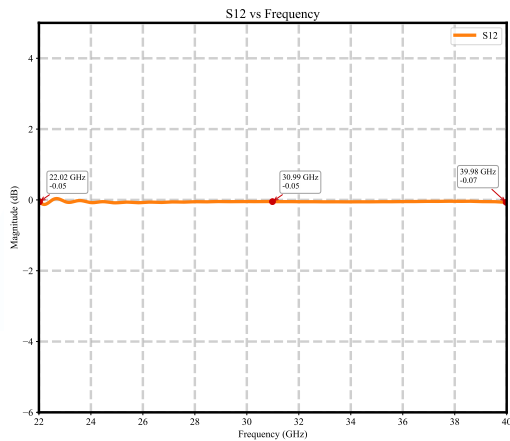


Figure 5: S12 (reverse isolation) vs. Frequency

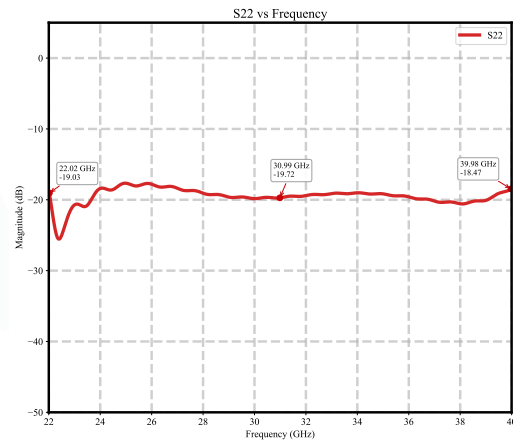


Figure 6: S22 (output return loss) vs. Frequency

RHMA28-599-28.5-13 CAD Drawing

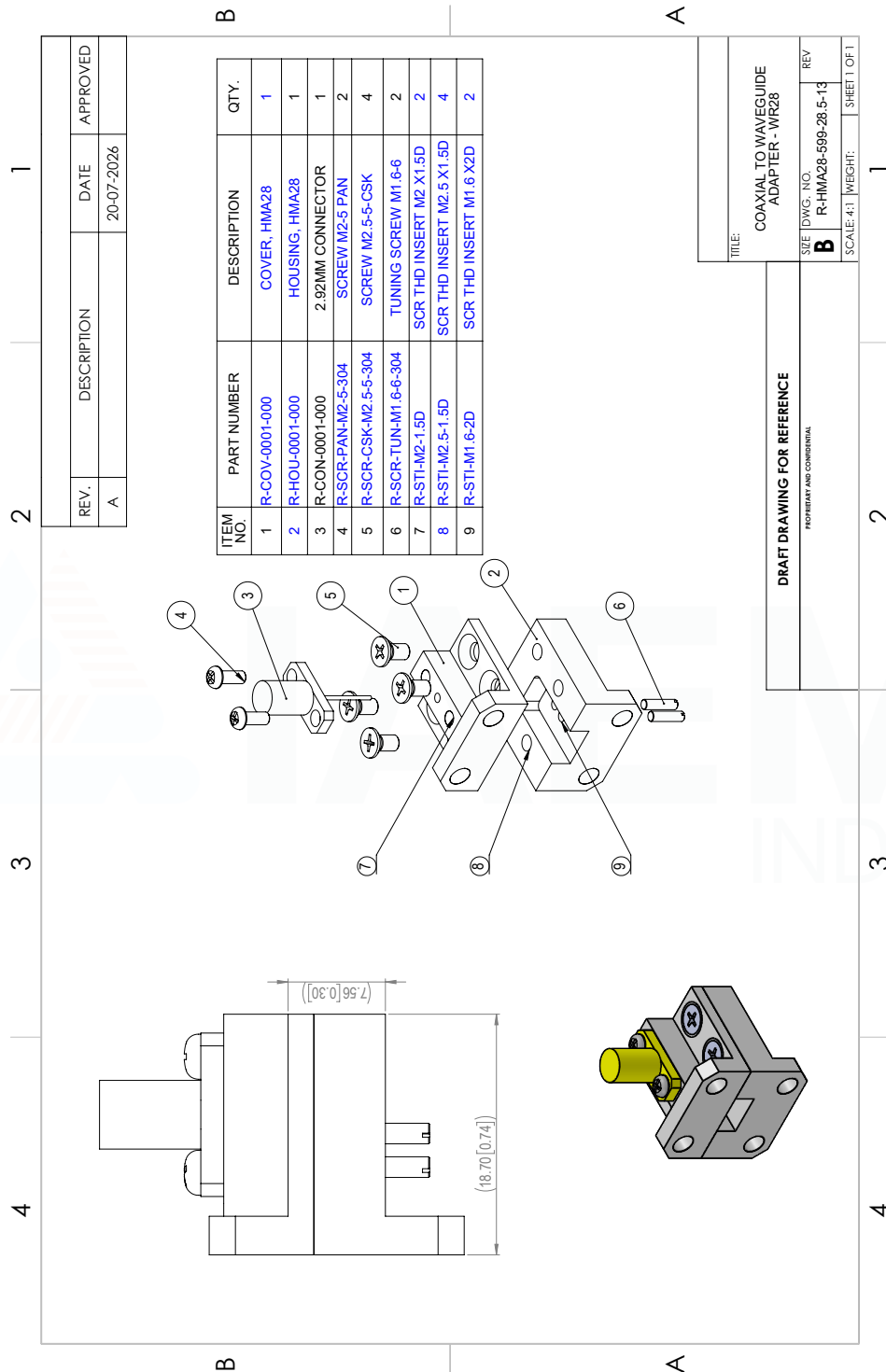


Figure 7: RHMA28-599-28.5-13 mechanical drawing