

## NSI-RF-SG34

### Ka-Band (WR34) Standard Gain Horn

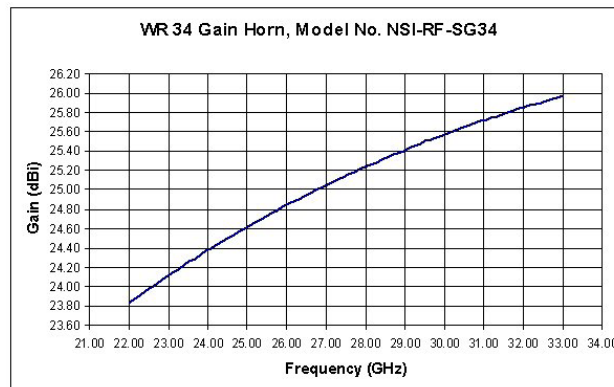


#### DESCRIPTION

NSI offers a complete line of Standard Gain Horn (SGH) antennas for gain calibration by the substitution method. All NSI SGHs are designed and built to meet the requirements of NRL Report 4433 and include theoretical gain versus frequency curves. Frequency coverage is based on standard "WR" waveguide bands.

#### CAPABILITIES

See graph below



#### THEORY

Gain reference measurements are made by measuring the power of levels of both the antennas under test and a SGH. The Gain, in decibels, of the AUT can be calculated by using the expression:

$$GAUT = GSGH \text{ Theoretical} + (PAUT \text{ measured} - PSGH \text{ Measured})$$

Where:

GAUT = Calculated gain of the AUT (in dBi)

GSGHTheoretical = Theoretical gain of the SGH (in dBi)

PAUTMeasured = Measured power of the AUT (in dB)

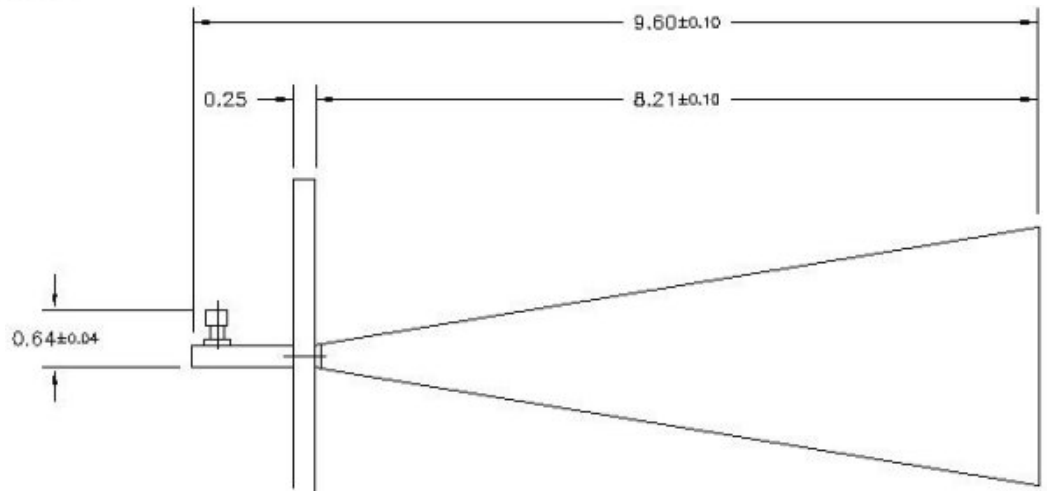
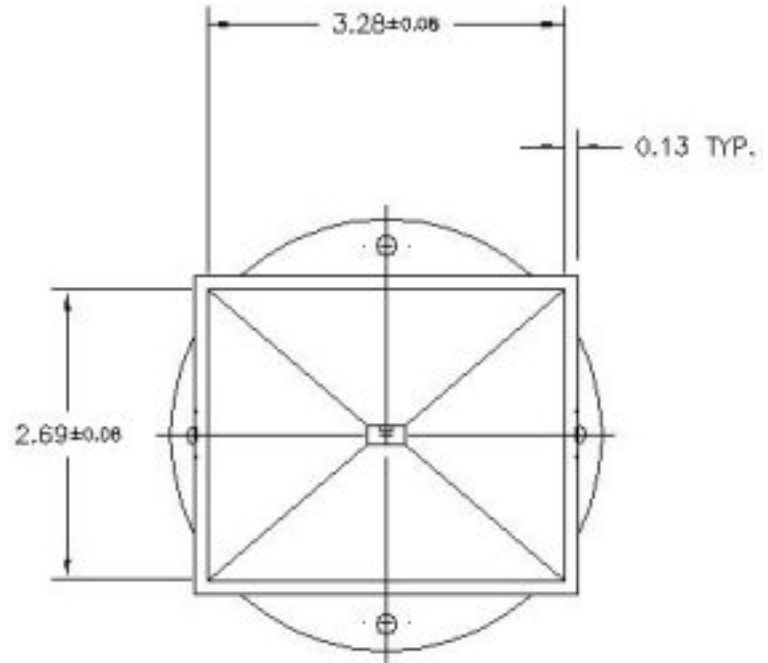
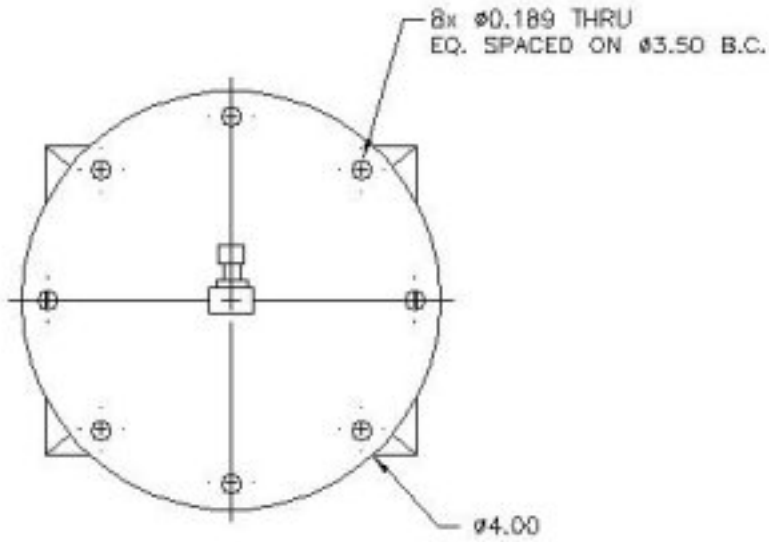
PSGHMeasured = Measured power of the SGH (in dB)

Care must be taken to match the line and inputs of both the AUT and SGH to obtain accurate results.

#### FEATURES

- Frequency coverage from 22 - 33 GHz Includes waveguide to coaxial transition with SMA(f) connector
- Includes outline and mounting drawing
- Typical gain accuracy  $\pm 0.5$  dB Calibration at specific frequencies can be quoted as an option
- Includes theoretical gain curve

| SPECIFICATIONS     |                 |
|--------------------|-----------------|
| NSI Model          | NSI-RF-SG34     |
| Frequency (GHz)    | 22 - 33         |
| Waveguide Band     | WR34            |
| Nominal Gain (dBi) | 25              |
| Weight             | 1.3 lb (0.6 kg) |
| Connector          | 2.9mm (f)       |



## DIMENSIONS

- ◆ Width - 3.28" (8.3cm)
- ◆ Length - 9.60" (24.4cm)
- ◆ Height - 2.69" (6.8cm)

## ORDERING INFORMATION

Please contact the NSI Sales department to order this product.

### Nearfield Systems, Incorporated

19730 Magellan Drive, Torrance, CA 90502, USA, Tel: 310.525.7000, Fax: 310.525.7100  
Email: [sales@nearfield.com](mailto:sales@nearfield.com). Visit our website: [www.nearfield.com](http://www.nearfield.com)