

NSI-RF-SG187

C-Band (WR187) 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

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:

$$G_{\text{AUT}} = G_{\text{SGH Theoretical}} + (P_{\text{AUT Measured}} - P_{\text{SGH Measured}})$$

Where:

G_{AUT} = Calculated gain of the AUT (in dBi)

$G_{\text{SGH Theoretical}}$ = Theoretical gain of the SGH (in dBi)

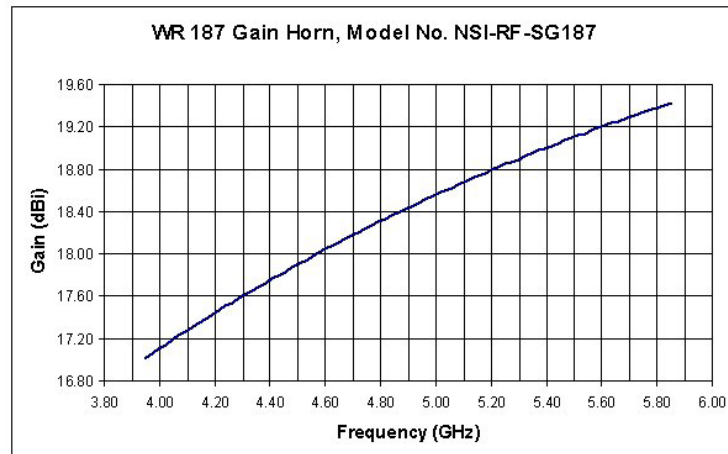
$P_{\text{AUT Measured}}$ = Measured power of the AUT (in dB)

$P_{\text{SGH Measured}}$ = 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.

THEORY

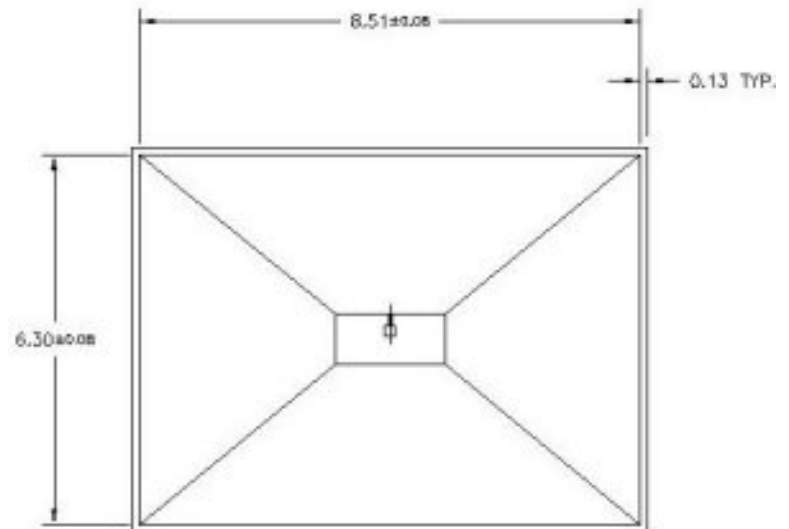
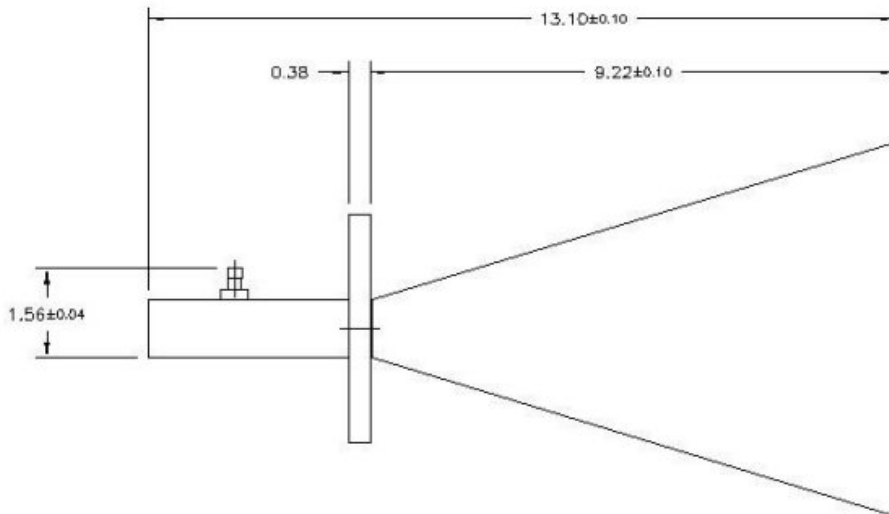
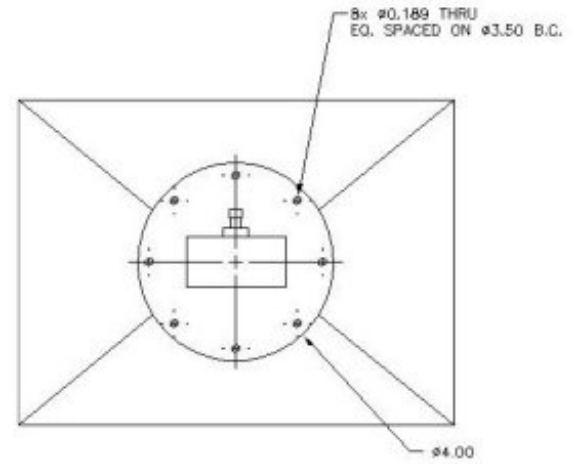
See Graph Below



FEATURES

- Frequency coverage from 3.95 - 5.85 GHz
- Includes waveguide to coaxial transition with SMA(f) connector
- Includes outline and mounting drawing
- Typical gain accuracy ± 0.5 dB
- Calibration at specific frequencies can be quoted as an option
- Includes theoretical gain curve

SPECIFICATIONS	
NSI Model	NSI-RF-SG187
Frequency (GHz)	3.95 - 5.85
Waveguide Band	WR187
Nominal Gain (dBi)	18
Weight	3.2 lb (1.5 kg)
Connector	SMA (f)



DIMENSIONS

- ◆ Width - 7.14" (18.1cm)
- ◆ Length - 11.60" (29.5cm)
- ◆ Height - 5.29" (16.0cm)

ORDERING INFORMATION

Please contact the NSI Sales department to order this product.

Nearfield Systems, Incorporated

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