

NC346

10 MHz to 60 GHz



Broadband Calibrated Noise Sources for Noise Figure Measurements

The Noisecom NC346 Series is designed for precision noise figure measurement applications. The vswr has been improved, reducing multiple reflections of the test signals and significantly increasing the measurement accuracy of most noise figure set-ups.

The NC346 Series noise sources have broadband coverage and extremely good temperature and voltage stability, for the finest noise figure meter-compatible laboratory standards. Outputs of 6, 15.5 and 22 dB ENR are available, allowing the units to accurately measure noise figures up to 20, 30 and 36 dB respectively.

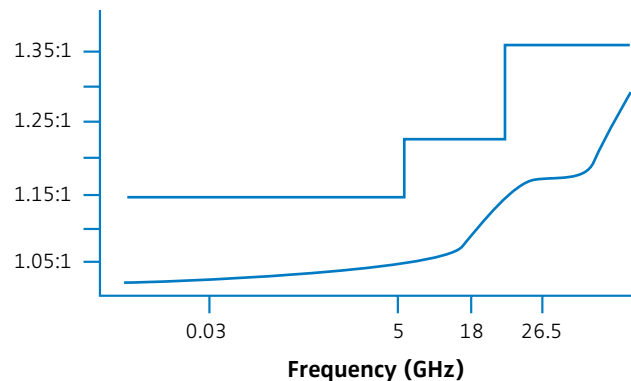
The return loss of the noise sources is measured in both the on and off states and is included in the calibration report provided with each noise source up to 40 GHz. Each noise source is also supplied with calibration data traceable to NIST.

Specifications

| | |
|-------------------------|---|
| Calibration | 1 GHz steps |
| Temperature coefficient | Less than 0.009 dB/°C |
| Operating temperature | 0°C to +55°C |
| Input power | +28 VDC \pm 2 VDC at 15 mA typical for NC346 A, B & D |
| VSWR | Less than 1.15:1 from 10 MHz – 5 GHz for units with 5 – 7 dB or 14 –16 dB ENR |
| Regulator | Built-in |
| Voltage coefficient | < 0.002 dB/% Δ V |

VSWR

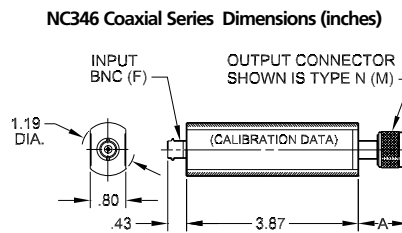
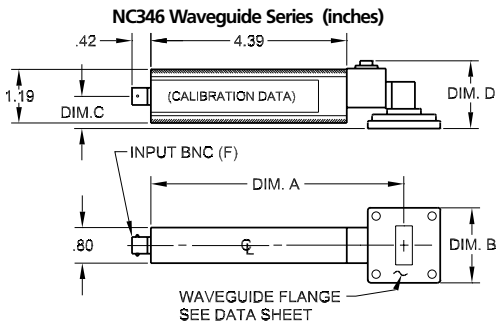
Typical VSWR for NC346C



NC346 Coaxial Series

| Model | RF Connector | Frequency (GHz) | Output ENR (dB) | VSWR (maximum @ on/off) | | | | | I (max) (mA) |
|--------------------|--------------|-----------------|-----------------|-------------------------|------------|---------------|---------------|-------------|--------------|
| | | | | 0.01 - 5 GHz | 5 - 18 GHz | 18 - 26.5 GHz | 26.5 - 40 GHz | 40 - 60 GHz | |
| NC346A | SMA Male | 0.01 - 18.0 | 5 - 7 | 1.15:1 | 1.25:1 | | | | 30 |
| NC346A Precision | APC3.5 Male | 0.01 - 18.0 | 5 - 7 | 1.15:1 | 1.25:1 | | | | 30 |
| NC346A Option 1 | N Male | 0.01 - 18.0 | 5 - 7 | 1.15:1 | 1.25:1 | | | | 30 |
| NC346A Option 2 | APC7 | 0.01 - 18.0 | 5 - 7 | 1.15:1 | 1.25:1 | | | | 30 |
| NC346A Option 4 | N Female | 0.01 - 18.0 | 5 - 7 | 1.15:1 | 1.25:1 | | | | 30 |
| NC346B | SMA Male | 0.01 - 18.0 | 14 - 16 | 1.15:1 | 1.25:1 | | | | 30 |
| NC346B Precision | APC3.5 Male | 0.01 - 18.0 | 14 - 16 | 1.15:1 | 1.25:1 | | | | 30 |
| NC346B Option 1 | N Male | 0.01 - 18.0 | 14 - 16 | 1.15:1 | 1.35:1 | | | | 30 |
| NC346B Option 2 | APC7 | 0.01 - 18.0 | 14 - 16 | 1.15:1 | 1.25:1 | | | | 30 |
| NC346B Option 4 | N Female | 0.01 - 18.0 | 14 - 16 | 1.15:1 | 1.35:1 | | | | 30 |
| NC346C | APC3.5 Male | 0.01 - 26.5 | 13 - 17 | 1.15:1 | 1.25:1 | 1.35:1 | | | 30 |
| NC346D | SMA Male | 0.01 - 18.0 | 19 - 25* | 1.50:1 | 1.50:1 | | | | 30 |
| NC346D Precision | APC3.5 Male | 0.01 - 18.0 | 19 - 25* | 1.50:1 | 1.50:1 | | | | 30 |
| NC346D Option 1 | N Male | 0.01 - 18.0 | 19 - 25* | 1.50:1 | 1.75:1 | | | | 30 |
| NC346D Option 2 | APC7 | 0.01 - 18.0 | 19 - 25* | 1.50:1 | 1.50:1 | | | | 30 |
| NC346D Option 3 | N Female | 0.01 - 18.0 | 19 - 25* | 1.50:1 | 1.75:1 | | | | 30 |
| NC346E APC3.5 Male | 0.01 - 26.5 | 19 - 25* | 1.50:1 | 1.50:1 | 1.50:1 | | | | 30 |
| NC346Ka | K Male** | 0.10 - 40.0 | 10 - 17 | v1.25:1 | 1.30:1 | 1.40:1 | 1.50:1 | | 30 |
| NC346V | V Male*** | 0.10 - 55.0 | 7 - 21 | 1.50:1 | 1.50:1 | 1.75:1 | 2.00:1 | 2.50:1 | 30 |

* Flatness better than ±2 dB ** Compatible with SMA and APC3.5 *** Compatible with APC2.4, data provided to 60 GHz



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Waveguide Flange Chart

| Waveguide Type | DIM A (in.) | DIM B (in.) | DIM C (in.) | DIM D (in.) |
|----------------|-------------|-------------|-------------|-------------|
| WR75 | 5.25 | 1.50 SQ | .98 | 1.60 |
| WR90 | 5.68 | 1.68 SQ | .72 | 1.50 |
| WR229 | 6.02 | 3.87 | 1.10 | 2.09 |

| CONNECTOR | DIM A (in.) |
|--------------|-------------|
| SMA Male | 0.50 |
| APC 3.5 Male | 0.50 |
| N Male | 1.14 |
| APC 7 | 1.30 |
| N Female | 0.94 |
| K Male | 0.46 |
| V Male | 0.85 |

NC346 Waveguide Series (Built-In Isolator*)

| Model | Flange | Frequency (GHz) | ENR (dB) | VSWR (on/off) | I (max) (mA) |
|--------------|---------|-----------------|-----------|---------------|--------------|
| NC346B-WR229 | CPR229F | 3.7 - 4.2 | 14 - 16** | 1.20:1 | 30 |
| NC346B-WR90 | UG39/U | 8.5 - 9.6 | 14 - 16** | 1.20:1 | 30 |
| NC346B-WR75 | UBR120 | 10.5 - 13.0 | 14 - 16** | 1.20:1 | 30 |

*Inquire for other flanges or waveguide sizes **Flatness better than ±0.15 dB