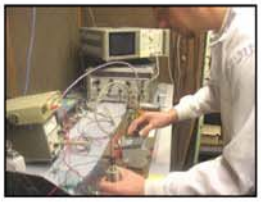
NS 346 Calibrated Noise Source Series
For Noise Figure Measurement
10 MHz to 40.0 GHz

Broadband Calibrated Output Characteristics For Use With Noise Figure Meters

MODEL	FREQUENCY GHZ	OUTPUT ENR	VSWR 0.01-5GHz	VSWR 5-18GHz	VSWR 18-26.5GHz	VSWR 26.5-40.0GHz
NS346A	0.01-18.0	5-7 dB		1.15:1	1.25:1	
NS346B	0.01-18.0	14-16 dB	1.15:1	1.25:1		
NS346C	0.01-26.5	13-17 dB	1.15:1	1.25:1	1.50:1	
NS346D	0.01-18.0	19-25 dB	1.50:1	1.50:1		
NS346E	0.01-26.5	19-25 dB	1.50:1	1.50:1	1.50:1	
NS346AK	0.01-26.5	5-8 dB	1.15:1	1.25:1	1.30:1	
NS346Ka	0.10-40.0	10-17 dB	1.25:1	1.30:1	1:40.1	1.50:1

Gold Standard Calibration and Quality Assurance:

Accuracy: Each noise source is accurately calibrated at Micronetics' state of the art metrology lab using a reference noise that has been directly calibrated by the National Physical Laboratory in England (NPL)*. This reference noise source is known as a gold standard. Other noise source calibration labs typically use as a reference a noise source that is once (or twice) times removed from a gold standard which is known as a silver or transfer standard.



Calibration Data: Calibration data consists of Excess Noise Ratio (ENR) at cardinal frequency points across the spectrum of the device according to Table 1. The calibration data and date are printed on a label on the noise source itself. A printout of the calibration data and uncertainty report are also supplied with each unit along with a certificate of calibration. Upon request, the data table is also supplied in text file format on CD-ROM or floppy disk.
Special calibration data can also be supplied upon request (consult factory).

Standard choices consist of:

- **More calibration points across the spectrum**
- **Special discrete calibration frequencies**

Free Annual Calibration: Micronetics' NS 346 series noise sources have a calibration period of 1 year. Enclosed in the SCD box that holds the noise source is a calibration voucher good for one free calibration. Micronetics will recalibrate the noise source with the same procedure as the initial calibration

** National Institute of Standards and Technology or NIST has a reciprocal agreement with NPL as a certified calibrated standard laboratory for noise source calibration.*

Description

The NS 346 series noise sources are specifically crafted to be used with noise figure meters. They are factory calibrated to a high degree of absolute accuracy. These noise sources also have extremely good match in both on and off states which increases the accuracy of noise figure measurement.

Rugged/Stable Design:

The heart of the NS 346 noise sources is a small chip and wire hermetic module. This is embedded in the housing with a precision launch to the coaxial connector. This design gives is much more stable and rugged than traditional coaxial noise sources which rely on pill packaged diodes and beryllium copper bellow assemblies which not only are less reliable, but use hazardous materials. Secondly the noise source bias is driven by a built-in regulated driver which provides extremely stable output regardless of how stable the supply from the noise figure meter or external power supply is. Lastly, the NS 346 series noise sources are manufactured only with the highest quality coaxial connectors for a sound connection every time and ensuring low VSWR, even with heavy usage.

Specifications

Operating Temp: -55 to +95ºC
Storage Temp: -65 to +125ºC
Supply Voltage: +28 VDC * +
Temperature Stability: 0.01 dB/ºC
Ouput Impedance: 50 ohm
Peak Factor: 5:1

** +15 VDC available upon request*

+ Internally regulated for 0 dB / 90 Vdc stability

MICRONETICS
NOISE SOLUTIONS

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Calibration data consists of Excess Noise Ratio (ENR) at cardinal frequency points across the spectrum of the device according to *Table 1*

TABLE 1

Frequency (GHz)
0.01
0.10
1.00
2.00
3.00
4.00
5.00
6.00
7.00
8.00
9.00
10.00
11.00
12.00
13.00
14.00
15.00
16.00
17.00
18.00
19.00
20.00
21.00
22.00
23.00
24.00
25.00
26.00
26.50

NS346A, B, D are only calibrated to 18 GHz

How to Order

N S 3 4 6 X - X

Model (see chart)

Connector Type
- 1: Type N (m) connector
- 2: APC 3.5 mm connector

NOISE SOURCE
NS346