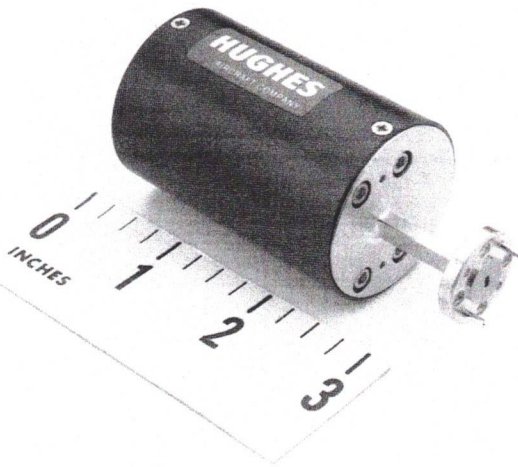


Noise Sources



The Hughes 4711xH series of Solid-State Millimeter-Wave Noise Sources provide a unique capability not previously available for noise figure testing at millimeter-waves. These small, lightweight sources employ silicon diodes operating in a specially designed cavity/waveguide assembly. Low DC power requirements eliminate the need for special power supplies. Ka- through U-bands, gated primary power is provided directly from the noise drive output available on most commercial noise figure meters, such as the Hughes 4782xH series of Noise/G Test Sets (typically +28 V pulsed). Excess Noise Ratio (ENR)

FEATURES:

SPECIFICATIONS

	FREQUENCY BAND (GHz) [Ⓢ]				
	Ka (26.5-40)	Q (33-50)	U (40-60)	V (50-75)	W (90-100)
Output Waveguide	WR-28	WR-22	WR-19	WR-15	WR-10
Bandwidth	Full Band				10 GHz
ENR (dB nom) [Ⓢ]	5 and 15				
Flatness (± dB max)					
ENR = 15 dB	1.0	1.5	1.5	2.5	2.0
ENR = 5 dB	0.75	1.0	1.0	1.5	1.5
VSWR (typ)	1.2:1	1.25:1	1.25:1	1.3:1	1.4:1
Stability/°C (dB typ)	0.01	0.01	0.01	0.01	0.01
Stability/Day (dB typ)	0.05	0.05	0.05	0.05	0.05
Input Power (V)	28 ± 1	28 ± 1	28 ± 1	28 ± 1	28 ± 1
Input Connector	All Bands: BNC (Female)				
Size	See Outline Drawing				
Weight (Ounces)	All Bands: 6				

[Ⓢ] Narrower frequency ranges available

[Ⓢ] Other ENR values available

HOW TO ORDER

Model Number4711xH-x0xx

Frequency Band **1:** Ka
 2: Q
 3: U
 4: V
 6: W (Specify center frequency)

Flange Type **1:** Round
 2: Square (Ka-band only)

ENR **05:** 5 dB
 15: 15 dB

Example: To order a V-band noise source with a round flange and an ENR of 15 dB, specify a 47114H-1015.

values of greater than 30 dB are obtainable.

The Millimeter-Wave Solid-State Noise Sources offer low VSWR and flat output response over standard waveguide bands from 26.5 to 100 GHz. Full waveguide bandwidth is available in Ka- through V-bands and 10 GHz bandwidth in W-band. Figure 1 shows an example response for a V-band source with a nominal ENR of 15 dB. Units include integral current regulator and offer high operational stability as a function of time and temperature. Other ENRs are available, please consult your local representative or the factory.

- 26.5 to 100 GHz
- ENR 5 to 15 dB
- Solid State
- No Special Power Supply Required
- Internal Regulator Output Matching
- Lower Power Consumption
- Rugged Construction

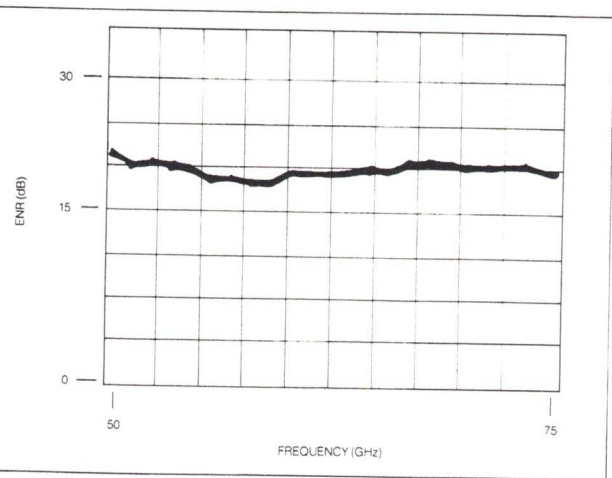


Fig. 1. Typical ENR Response for V-Band

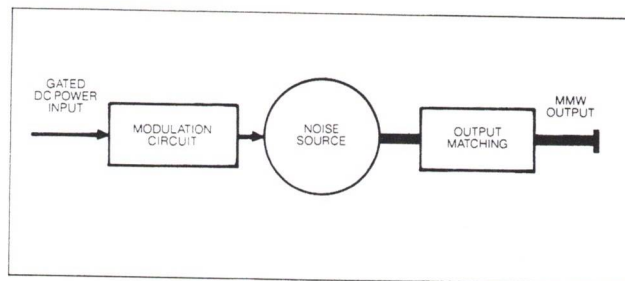


Fig. 2. Solid State Millimeter-Wave Noise Source

