With the Wideband Global SATCOM (WGS) becoming operational, L-3 Narda Satellite Networks has expanded its Satellite Simulator product line beyond Tri-band, now including both Quad-band and Ka-band capabilities.

Designed for use as a training test-bed, L-3 Narda Satellite Networks satellite simulators can be used by operations personnel to setup and operate satellite earth terminals in the field under realistic operating conditions without the need for an actual satellite.

Use of the L-3 Narda Satellite Networks simulators in lieu of a satellite permits signal acquisition by the earth terminal, antenna pointing, uplink power adjustment, signal reception, link closure and communications systems adjustment to establish acceptable bit error rates with very low satellite terminal transmit power.

**Key Features**

- Simulates C-, X-, Ku-, Ka-Bands simultaneously
- Permits earth station set-up without actual satellite available
- Ruggedized/ weatherproof enclosures for outdoor deployment
- Typical operation range is 50-1000 ft (actual range is determined by antenna size and power
- Low-phase noise for digital data
- Wireless remote control (available with Quad-Band Simulator)
- Lightweight
- Easy to operate
# SATELLITE SIMULATORS

## TRI-BAND, QUAD-BAND AND KA-BAND

### KA-BAND

#### INPUT AND POWER

- **Power Requirements**: 12 VDC or Battery Pack Option
- **RF INPUT SIGNALS**
  - **Ka-Band**: 30.0 to 31.00 GHz @ nominal; -25 to +0 dBm

#### TRANSFER CHARACTERISTICS – ALL BANDS

- **Phase Noise**: 10 dB (typical) better than IESS 308/309
- **Midband Gain**: -20 dB loss + attenuation setting including antenna gain
- **Gain Ripple Full Band**: ±1.5 dB max
- **Gain Ripple per 80 MHz**: ±0.75 dB max
- **Phase Linearity per 5 MHz**: ±10 deg max
- **Frequency Translation Accuracy**: ±1 ppm
- **In-band Signal Related Spurious**: -45 dBc
- **Gain Adjustment**: 35 dB continuously variable
- **Gain Ripple Full Band**: ±1.5 dB max
- **Gain Ripple per 80 MHz**: ±0.75 dB max
- **Phase Linearity per 5 MHz**: ±10 deg max
- **Frequency Translation Accuracy**: ±5 kHz nominal, ±10 kHz for Ka-Band
- **In-band Signal Related Spurious**: -50 dBc nominal

#### PHYSICAL SPECIFICATIONS

- **Mechanical Dimensions**: Approx. size 6” x 3.5” x 1.5” w/o battery option, or C-, X-, and Ku-Bands, call factory for Ka-Band
- **Weight**: < 5 lbs

### QUAD-BAND

#### INPUT AND POWER

- **AC Power**: 115 to 230 VAC @ 5 watts nominal
- **DC Power**: 12 to 24 Volts DC

#### RF INPUT SIGNALS

- **C-Band**: 5.85 to 6.425 GHz @ nominal; -15 dBm
- **X-Band**: 7.9 to 8.4 GHz @ nominal; -15 dBm
- **Ku-Band**: 14.0 to 14.5 GHz @ nominal; -15 dBm
- **Ka-Band**: 30.0 to 31.0 GHz @ nominal; -15 dBm

#### TRANSFER CHARACTERISTICS – ALL BANDS

- **Gain adjacency**: 35 dB continuously variable
- **Gain Ripple Full Band**: ±1.5 dB max
- **Gain Ripple per 80 MHz**: ±0.75 dB max
- **Phase Linearity per 5 MHz**: ±10 deg max
- **Spurious and Harmonic**: -50 dBc min in-hand
- **Input/Output Antennas**: With nominal gains of 6 dB

#### PHYSICAL SPECIFICATIONS

- **Mechanical Dimensions**: 6” H x 14” D x 12” W
- **Weight**: < 35 lbs

### TRI-BAND

#### RF SIGNALS

- **C-BAND**: 5.850 to 6.425 GHz
- **X-BAND**: 7.250 to 7.750 GHz
- **KU-BAND**: 10.950 to 11.200 GHz, 11.700 to 11.725 GHz

#### TRANSFER CHARACTERISTICS – ALL BANDS

- **Type**: Non-Inverting
- **Gain**: -10 dB
- **Attenuation Control**: 30 dB (60 dB optional)
- **Gain Ripple**: ±0.25 dB/40 MHz, ±1.0 dB/600 MHz
- **1 dB Compression Point**: -10 dBm (+0 dB attenuation)
- **Gain Stability**: ±0.25 dB/day (25°C)
- **Impedance**: 50 ohms
- **VSWR In/Out**: 2.0:1 max
- **Spurious and Harmonic Radiation**: 50 dB min in-hand
- **Phase Noise**: 10 dB (typical) better than IESS 308/309
- **Frequency Stability**: ±5 x 10^-8/day (+6 x 10^-9/day optional)
- **Group Delay**: ±0.5 ns/40 MHz

#### PHYSICAL SPECIFICATIONS

- **Dimensions**: 19” H x 32” D x 27” W
- **Weight**: 78 lb