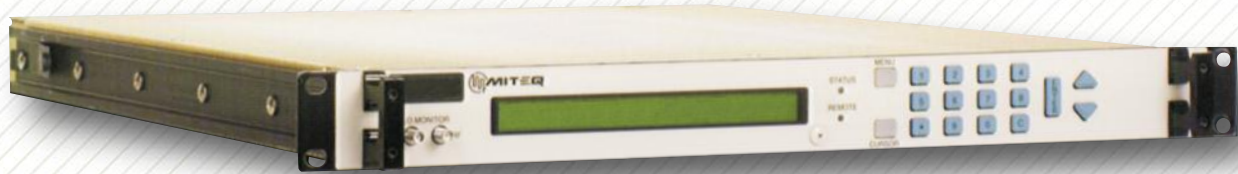


## Test Translators



Input Frequency (GHz)	Output Frequency (GHz)	LO Frequency (GHz)	Model Number
<b>RF Transmit-Band to RF Receive-Band</b>			
2.025–2.125	2.2–2.3	0.179	DNS-2.07/2.25
5.85–6.425	3.625–4.2	2.225	DNS-6.1/3.9
5.85–6.65	3.4–4.2	2.45	DNS-6.25/3.8
6.725–7.025	4.5–4.8	2.225	DNS-6.8/4.6
7.9–8.4	7.25–7.75	0.65	DNS-8.15/7.5
7.9–8.4	7.175–7.675	0.725	DNS-8.15/7.4
12.75–13.25	10.7–11.2	2.05	DNS-13/11.2
13.75–14.5	10.7–11.45	3.05	DNS-14/11
13.75–14.5	11.45–12.2	2.3	DNS-14/11.8
13.75–14.5	12–12.75	1.75	DNS-14/12.3
13.75–14.5	10.95–11.7	2.8	DNS-14/11.3
13.75–14.5	11.7–12.45	2.05	DNS-14/12
17.3–18.1	11.7–12.5	5.6	DNS-17.7/12.1
<b>Synthesized RF Transmit-Band to RF Receive Band</b>			
2.025–2.125	2.2–2.3	0.179(±5 MHz)	DNS-2.07/2.25-1K
2.025–2.125	2.2–2.3	0.179(±5 MHz)	DNS-2.07/2.25DC-1K*
<b>Ka-Band</b>			
29.5–30	19.2–19.7	10.3	DNS-29.75/19.45
29.5–30	19.7–20.2	9.8	DNS-29.75/19.95
29–30	19.2–20.2	9.8	DNS-29.5/19.7
30–31	20.2–21.2	9.8	DNS-30.5/20.7
<b>Synthesized Ka-Band</b>			
29.5–30	19.2–19.7	10.3(±1 MHz)	DNS-29.75/19.45-1K
29.5–30	19.7–20.2	9.8(±1 MHz)	DNS-29.75/19.95-1K
29–30	19.2–20.2	9.8(±1 MHz)	DNS-29.5/19.7-1K
30–31	20.2–21.2	9.8(±1 MHz)	DNS-30.5/20.7-1K
<b>RF Transmit-Band to L-Band</b>			
5.85–6.65	0.95–1.75	4.9	DN1-6.25
5.925–6.425	0.95–1.45	7.375	DN1-6.175-INV
7.9–8.4	0.95–1.45	6.95	DN1-8.15
12.75–13.25	0.95–1.45	11.8	DN1-13
14–14.5	0.95–1.45	13.05	DN1-14.25
13.75–14.5	0.95–1.7	12.80	DN1-14.125
14.5–14.8	0.95–1.25	13.55	DN1-14.65
17.3–18.1	0.95–1.75	16.35	DN1-17.7
<b>Ka-Band</b>			
28.35–28.6	0.95–1.2	27.4	DN1-28.475
29.25–29.5	0.95–1.2	28.3	DN1-29.375
29.25–30	0.95–1.7	28.3	DN1-29.75
30–31	0.95–1.95	29.05	DN1-30.5
30–31	1–2	29	DN1-30.5-1

\* Dual Conversion.

This series of test translators is designed to translate the C-, X-, Ku- and Ka-band satellite communication frequency transmit bands to their respective receive frequency bands.

### Features

- Minimum amplitude and delay distortion
- High frequency stability
- Low intermodulation distortion
- Low phase noise contribution
- 10/100Base-T Ethernet and RS485/422
- 64 programmable memory locations
- 30 dB level control in 0.2 dB steps
- Automatic 5/10 MHz internal/external reference selection
- Summary Alarm
- CE Mark
- Mute

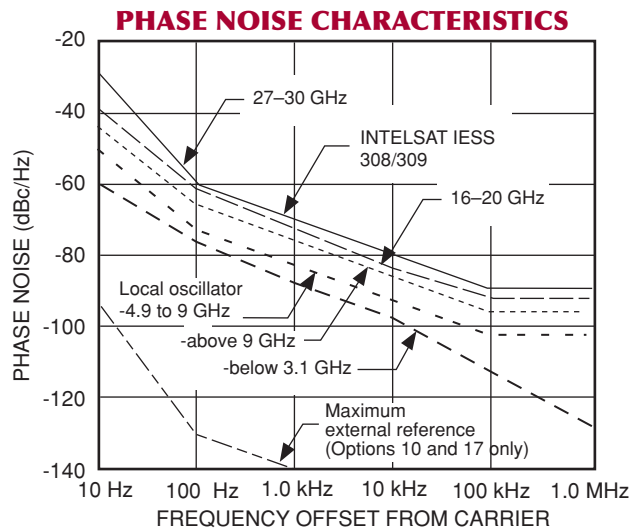
### Options

- Higher frequency stability
- RS232 remote control

Specifications	RF to RF	RF to L-Band
Input characteristics		
Frequency	Refer to model number table	
Impedance	50 ohms	
Return loss	18 dB minimum	
Non damage level	+10 dBm maximum	
Output characteristics		
Frequency	Refer to model number table	
Impedance	50 ohms	
Return loss	18 dB minimum	
Output signal monitor	N/A	-20 dBc nominal
Transfer characteristics		
Conversion loss	25 dB maximum	15 dB maximum (20 dB gain optional)
Level control	30 dB/0.2 dB step (attenuator in output band)	
Conversion loss stability	±0.25 dB/day at 23°C	
Amplitude response	±0.25 dB/40 MHz, ±1 dB/output frequency band	
Intermodulation	-50 dBc minimum at -5 dBm input	
Spurious (inband)		
Dependent	-30 dBc up to 0 dBm input	-60 dBc up to 0 dBm input
Independent (including LO harmonics)	-25 dBm maximum	-60 dBm maximum
Frequency stability	±3 x 10 <sup>-6</sup> /day (0 to 50°C)	
Input/Output isolation	60 dB minimum	
Mute function	60 dB minimum	
Automatic reference configuration	External 5 or 10 MHz at +4 ±3 dBm. If external reference is below +1 dBm nominal, the translator will automatically lock to the internal reference.	
Remote control	10/100Base-T Ethernet interface providing: HTTP-based web server SNMP 1.0 configuration Alarm reporting via SNMP trap Telnet access Password protection and selectable RS485/422	

Note: All specifications guaranteed at maximum gain unless otherwise noted.

### Phase Noise Specifications



**General Specifications**

**PRIMARY POWER REQUIREMENTS**

Voltage ..... 100–240 VAC (-10%, +6%)  
 Frequency ..... 47–63 Hz  
 Consumption ..... 25 W typical

**PHYSICAL**

Weight ..... 15 pounds (6.8 kg) nominal

Connectors

- RF (rear panel) ..... SMA female
- L-Band ..... N female
- LO monitors (front panel) ..... SMA female
- Alarm ..... DE-9P
- External reference input ..... BNC female
- Remote interface ..... DE-9S for RS485, RS422 and RS232,  
RJ-45 female for Ethernet

Primary power input ..... IEC-320

**ENVIRONMENTAL**

Operating

- Ambient temperature ..... 0 to 60°C
- Relative humidity ..... Up to 95% at 30°C
- Atmospheric pressure ..... Up to 10,000 feet

Nonoperating

- Temperature ..... -50 to +70°C
- Relative humidity ..... Up to 95% at 40°C
- Atmospheric pressure ..... Up to 40,000 feet
- Shock and vibration ..... Normal handling by commercial carriers

### Options

1. Gain on transmit to L-band units.  
Gain ..... 20  $\pm$ 3 dB  
Power output (1 dB compression) ..... +18 dBm minimum  
Gain slope..... 0.03 dB/MHz maximum  
Gain stability .....  $\pm$ 0.25 dB/day maximum at constant temperature  
Intermodulation distortion (third order)... With two inband signals at 0 dBm output,  
third order intermodulation products are less than 60 dBc minimum  
and 50 dBc minimum (Ka-band units).  
Noise figure..... 15 dB maximum (18 dB for Ka-band)
  
7. 30 dB additional level control.
  
8. LO level alarm.
  
9. Input filter.
  
10. Higher frequency stability reference.  
**B.**  $\pm 5 \times 10^{-9}$ , 0 to 50°C, 1 x 10<sup>-9</sup>/day typical (fixed temperature after 24 hour on time).  
**C.**  $\pm 2 \times 10^{-9}$ , 0 to 50°C, 1 x 10<sup>-9</sup>/day typical (fixed temperature after 24 hour on time).  
**E.**  $\pm 5 \times 10^{-9}$ , 0 to 50°C, 1 x 10<sup>-9</sup>/day typical (fixed temperature after 24 hour on time). See Note 1 below.  
**F.**  $\pm 2 \times 10^{-9}$ , 0 to 50°C, 1 x 10<sup>-9</sup>/day typical (fixed temperature after 24 hour on time). See Note 1 below.

NOTE 1: Analog reference Phase Lock: External 5 or 10 MHz at +4  $\pm$ 3 dBm. If external reference is below +1 dBm nominal, the converter will automatically lock to the internal reference. Reference oscillator acts as an analog phase lock with a 0.1 Hz nominal loop bandwidth. Typical loop suppression of the external reference is as follows: 28 dB at 1 Hz offset; 65 dB at 10 Hz offset and 100 dB at 100 Hz offset.

Note: Translator may require 7-10 days to reach stability after long storage periods.

**NRF.** Type N female input/output connectors.

Note: For literature describing local control (front panel) and remote control (bus control), refer to MITEQ's Technical Note 25T055. Missing option numbers are not applicable for this product.

