Switchable Frequency Band Test Translators

For Satellite Communications

Input Frequency (GHz)	Output Frequency (GHz)	LO Frequency (GHz)	Band	Model Number
Specifications				
13.75–14.5	10.95–11.7	2.8	1	DN-891
13.75–14.5	10.7–11.45	3.05	2	
13.75–14.5	11.45–12.2	2.3	3	
13.75–14.5	11.455–12.205	2.295	4	
13.75–14.5	11.2–11.95	2.55	5	
13.75–14.5	12–12.75	1.75	6	
13.75–14.25	12.255–12.755	1.495	7	
13.75–14.25	12.25–12.75	1.5	8	
14–14.5	10.7–11.2	3.3	9	
13.75–14.5	10.95–11.7	2.8	1	DN-892
13.75–14.5	10.7–11.45	3.05	2	
13.75–14.5	11.45–12.2	2.3	3	
13.75–14.5	11.455–12.205	2.295	4	
13.75–14.5	11.2–11.95	2.55	5	
13.75–14.5	12–12.75	1.75	6	
13.75–14.25	12.255–12.755	1.495	7	
13.75–14.25	12.25–12.75	1.5	8	
14–14.5	10.7–11.2	3.3	9	
12.75–13.25	10.7–11.2	2.05	10	
5.85–6.425	3.625–4.2	2.225	1	DN-893
5.95–6.525	3.625–4.2	2.325	2	
6.425–6.725	3.4–3.7	3.025	3	
7.975–8.4	7.25–7.675	0.725	1	DN-894
7.9–7.95	7.7–7.75	0.2	2	
7.9–8.4	7.25–7.75	0.65	3	

This series of test translators is designed to translate the C-, X- and Ku-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**

Options

- **Higher frequency stability**
- **RS232 remote control**

Specifications	Test Translators
Functional	
Conversion loss	18 dB maximum, 15 dB typical
Amplitude response	±0.4 dB over any 40 MHz, ±1 dB over each output frequency band
Input/output return loss	20 dB minimum
Frequency stability	±2 x 10^{-8}, 0 to 50°C (higher stability options available), ±5 x 10^{-9}/day typical (fixed temperature after 24 hour on time)
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.
Level control	30 dB in 0.2 dB steps
Intermodulation distortion (third order)	With two inband signals at -13 dBm input, third order intermodulation products are less than 50 dBc minimum
Input/output isolation	60 dB minimum
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

General Specifications

PRIMARY POWER REQUIREMENTS

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

PHYSICAL

Weight ..... 20 pounds nominal
Connectors
- RF (rear panel) ..... SMA 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

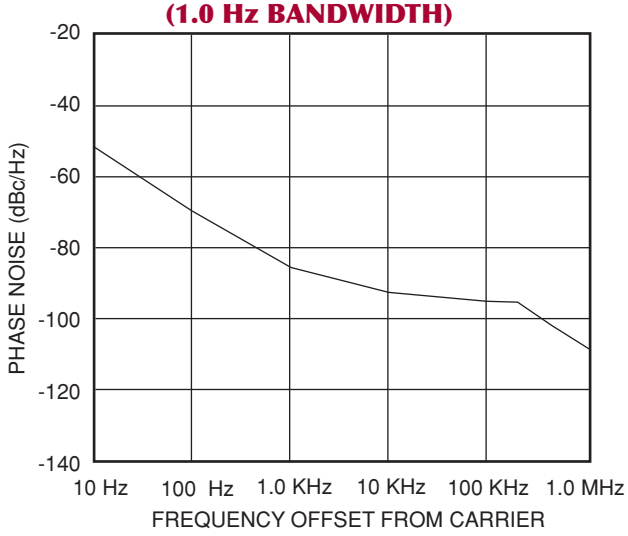
ENVIRONMENTAL

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

Phase Noise Specifications

MAXIMUM PHASE NOISE CHARACTERISTICS (1.0 Hz BANDWIDTH)



Options

1. 30 dB additional level control. Independent control of input and output attenuators.

2. Input filter.

4. External local oscillator input.
Addition of SPDT switch for internal/external local oscillator selection.
Rear panel SMA connector and selection switch. Local oscillator input at 13 ±1 dBm.

10. Higher frequency stability reference.

B. $\pm 5 \times 10^{-9}$, 0 to 50°C,
1×10^{-9}/day typical (fixed temperature after 24 hour on time).

C. $\pm 2 \times 10^{-9}$, 0 to 50°C,
1×10^{-9}/day typical (fixed temperature after 24 hour on time).

17. Remote control.

C. RS232 remote interface.

Note: For literature describing local control (front panel) and remote control (bus control), refer to MITEQ's Technical Note 25T063. Missing option numbers are not applicable for this product.

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