



## **SATDC-1003**

### **WIDE IF BANDWIDTH DOWNCONVERTER**



**FREQUENCY RANGE:  
18.5, 19.2, 20.0 and 20.7 GHz**

#### **FEATURES**

- Very High Dynamic Range
- Excellent Phase Noise Performance
- Wide Bandwidth Up to 804 MHz for IF output
- Exceptional Phase Linearity
- Parabolic, Cubic and Ripple 5° max
- Ethernet 10/100 BaseT control
- 1U 19" Rack

#### **APPLICATIONS**

- ELINT
- SATCOM
- Radar Warning Receivers (RWR)



## SPECIFICATIONS AT 25° C

### FREQUENCY

Input Frequencies:	18.5, 19.2, 20.0 and 20.7 GHz
Tuning Speed:	<100 millisecond
Frequency Accuracy vs. Temperature (Internal Ref):	< +/- 0.1 PPM

Long Term Aging (Internal Ref):	< 1 PPM per Year
Phase Noise (Typical) at output:	.

Offset 10 Hz:	-50 dBc/Hz
Offset 100 Hz:	-70 dBc/Hz
Offset 1 KHz:	-100 dBc/Hz
Offset 10 KHz:	-110 dBc/Hz
Offset 100 KHz:	-110 dBc/Hz
Offset 1 MHz:	-130 dBc/Hz
Offset 10 MHz:	-135 dBc/Hz

### RF SECTION

Input Return Loss:	17 dB min
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Conversion Sense:	Non Inverting
Input Power Range:	0 to -30 dBm, -25dBm nominal

### DYNAMIC RANGE

Spurious:	In band -60dBc max out of band -40dBc max
Image Rejection:	< -60 dB
LO Leakage:	< -50 dBm max at output port
Output IP3:	+20 dBm min
Output P1 dB:	+10 dBm min



## WIDEBAND IF OUTPUT

Center Frequency:	8000 MHz
Bandwidth ( 2dB):	+/- 402 MHz centered at 8.0 GHz
RF to IF Gain:	+5 dB to +11 dB
Gain Flatness Over IF BW:	1.2 dB Max Over +/- 402 MHz
IF Signal Monitor:	-15 dBc nom
Impedance:	50 ohms
Output Return Loss:	17 dB
Phase Linearity over +/- 402MHz BW	Parabolic 5° max Cubic 5° max Ripple 5° max

## BUILT IN TEST (BIT) CONTROL

Local Manual Control:	Rotary Knob to change Frequency Bands
Remote Programming:	Ethernet 10/100 base T , RS 422/ RS 485 and RS232

## ENVIRONMENTAL

Operating Temp Range:	0° to +50 °C
Non Operating:	-30° to +85°C
Relative Humidity:	Up to 95%, Non-Condensing
Altitude:	6,000 Feet
Federal Communications Commission (FCC):	FCC Class A Compatible
Vibration:	Normal Bench Handling
AC Power:	95 to 265 VAC, 47-63 Hz, 100 Watts

## MECHANICAL

Size:	19", 1U (1.75" H X 22" D X 17" W)
Weight:	20 Pounds

## REAR PANEL CONNECTORS

RF input:	SMA F
IF output:	SMA F
Input Monitor:	SMA F
LO Monitor:	SMA F
IF Monitor:	SMA F
Ethernet:	RJ 45



# *FEI-Elcom Tech*

## ***ABOUT FEI-ELCOM TECH, Inc***

Elcom designs and manufactures instruments and modules in the RF and Microwave frequency spectrum for broadband and narrow band applications in ATE, Aerospace/Defense, SIGINT and commercial communications. Proprietary technologies include low phase noise fast switching direct analog synthesis, low noise indirect PLL designs, and RF DSP up to 40GHz.

### ***FOR ADDITIONAL INFORMATION PLEASE CONTACT***

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