

# Converters

SHF Band Up & Down Converter Assembly, 7.9-8.4 GHz  
Model: MFC119



## Features:

- Combines: Oscillator, Synthesizer, Multipliers, BIT Detectors and AGC Loop
- Integrated Half-Duplex Subsystem (Agile)
- Rugged Construction
- Low Phase Noise: - 97 dBc/Hz @ 50 kHz offset
- Low DC Consumption: 10 watts



### Electrical Specifications

#### UPCONVERTER

##### IF Input:

Frequency	70 ± 20 MHz
Power Level	- 25 dBm ± 2 dB
VSWR	1.5:1, maximum

##### SHF Output:

Frequency	7.9 - 8.4 GHz
Power Level	+ 17.5 dBm ± 2 dB (AGC internal)
VSWR	1.5:1, typical
3rd Order Int.	+ 25 dBm, minimum
Spurious	- 55 dBc, maximum
SSB Phase Noise (dBc/Hz, typical):	

##### Offset

100 Hz	- 55
1 kHz	- 67
10 kHz	- 83
10 MHz	- 127

#### DOWNCONVERTER

##### SHF Input:

Frequency	7.25 - 7.75 GHz
Power Level	- 100 dBm ± 20 dB, dynamic range
VSWR	1.5:1, maximum
Phase Noise	- 132 dBm/Hz nominal

##### IF Output:

Frequency	70 ± 20 MHz
Power Level	- 60 dBm ± 15 dB, adjustable
Spurious	- 110 dBm, in-band - 90 dBm, out-of-band

Noise Figure:	10 dB, maximum
Gain:	40 ± 10 dB, minimum, adjustable

### Reference Oscillator

Frequency Output:	10 MHz
Power Level:	+ 2 dBm, nominal

### General Specifications

SHF Resolution:	1 MHz
Tuning Speed:	60 ms to within 1 Hz and 15° of final value
Converter Control:	CMOS plus strobe
Operational Modes:	TX, RX, Stand-by, Idle or Off
DC Power: (typical)	+ 12 V @ 760 mA + 5 V @ 170 mA - 5 V @ 15 mA

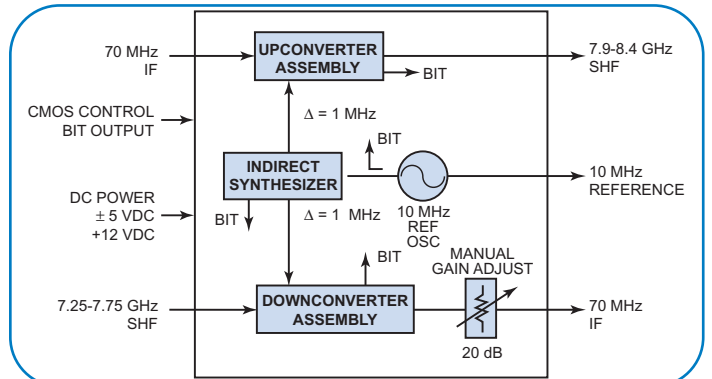
Power Consumption: 10 watts , typical

### Environmental Specifications

Operating Temperature:	+ 20 to + 100 °F
Environment:	Ship and Ground

### Mechanical Specifications

Size (nominal)	7.34 x 5 x 1.8 inches 186 x 127 x 46 mm
Weight:	10.2 lbs (4.6 kg), nominal
DC Connector:	MIL-C-83513, MMC D, 51 Pin
RF Connectors:	OSSP and SMA



Specifications subject to change without notice.