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 Contruction
- 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. Spurious: + 25 dBm, minimum
- 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.

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