



Changes for Chapter 4 include:

4.2.1 Modulator Specifications

Refer to Table 4-2 for modulator specifications.

Table 4-2. Modulator Specifications

Parameter	Specification
Modulation Types	BPSK, QPSK, OQPSK, 8PSK
Data Rate Range	2.4 kbit/s to 1.25 Mbit/s 4.8 kbit/s to 2.5 Mbit/s 7.2 kbit/s to 3.75 Mbit/s 8.4 kbit/s to 4.375 Mbit/s 64 kbit/s to 5.0 Mbit/s
Symbol Rate Range	4.8 ks/s to 2.5 Ms/s
Test Modes	Carrier Null and Quadrature (Dual and Offset)
Frequency Range	50 to 180 MHz
Frequency Select Method	Synthesized
Frequency Step Size	1 Hz
Frequency Stability (RF)	Internal Reference: ± 10 PPM oscillator Optional high stability oscillator (2×10^{-7}), with ability to drive out the EXT REF. Connector External Reference: Will lock to external 1, 5, 10, or 20 MHz reference
Frequency Stability (SCT)	Internal Reference: ± 10 PPM oscillator Optional high stability oscillator (2×10^{-7}) External Reference: Will lock to external 1, 5, 10, or 20 MHz reference
Phase Error	2.5° maximum
Filtering Type	Nyquist, pre-equalized
Spectral Occupancy	Spectral density is -30 dB at ± 0.75 symbol rate
Spurious and Harmonics	-55 dBc, 0 to 500 MHz
Output Power Level Range	-5 to -30 dBm, ± 0.5 dB (+5 to -20 dBm high-power option)
Output Stability	± 0.5 dB
Output Power Adjustment	0.1 dB step size
Output Impedance	50 Ω (75 Ω optional)
Output Return Loss	20 dB minimum
Scrambler Type	V.35
Differential Encoding	2-phase or none
FEC Convolution Encoding/ Viterbi or Sequential Encoding	Rate 1/2, 3/4, 7/8, 2/3 (Viterbi/TCM) Rate 1/2, 3/4, 7/8 (Sequential) FEC 'OFF' Uncoded
Filter Masks	Open Net (Intelsat or Eutelsat), EFD Closed, Comstream Closed, FDC Closed, and SDM-51 Compatible
I/O Connector	TNC 50 Ω (TX IF)
Reported Faults	AGC Level IF Synthesizer I Channel Filter Activity Q Channel Filter Activity Modem Reference Activity Data Clock Syn Module Modem Reference PLL