

X-Band			
Parameter	Value	Unit	Notes
Transmit Frequency Range	7145 - 7235	MHz	
Receive Frequency Range	8400 - 8500	MHz	
Transmitter RF Output Power / EIRP	86	dBW	
Transmitter Off-Boresight Pointing Loss	2	dB	Assumed
Receiver Off-Boresight Pointing Loss	2	dB	Assumed
Transmitter Circuit Loss	1	dB	Implementation loss spec is 3 dB of which 1 dB allocated to transmit system and 2 dB allocated to receive system.
Receiver Circuit Loss	2	dB	Implementation loss spec is 3 dB of which 1 dB allocated to transmit system and 2 dB allocated to receive system.
G/T, minimum	39	dB/K	
Receiver Antenna Gain			G/T specified above should be adequate
Receiver System Temperature			G/T specified above should be adequate
Hot Body Noise Temperature	Do not have		
Transmit Bit Rates Supported			Combination of symbol rates and modulation schemes specified should be adequate
Receive Bit Rates Supported			Combination of symbol rates and modulation schemes specified should be adequate
Transmit Symbol Rates Supported	10	Mbps	
Receive Symbol Rates Supported	20	Mbps	
Transmit Modulation Supported	PCM/PM/NRZ-L, PCM/PM/Bi-Phase L, PCM/PM/PSK, OQPSK, BPSK, Filtered BPSK, Filtered OQPSK, GMSK		
Receive Demodulation Supported	PCM/PM/NRZ-L, PCM/PM/Bi-Phase L, PCM/PM/PSK, BPSK, QPSK, OQPSK, Filtered BPSK, Filtered OQPSK, GMSK		
Receive FEC Supported	1. Uncoded 2. Convolutional code, constraint length 7, rate 1/2 3. LDPC AR4JA code rates 1/2, 2/3, 4/5, block sizes of 1024, 4096, and 16384 bits 4. LDPC code rate 7/8 (8160, 7136), block size 8160 bits 5. Turbo code, rates 1/6, 1/4, 1/3, 1/2 (X-band only) 6. Reed-Solomon (RS) (255,223) (including shortened), interleaving depth l=(1,2,3,4,5,8), concatenated with convolutional code, constraint length 7, rate 1/2 7. Reed-Solomon (255,239) (including shortened), interleaving depth l=(1, 2, 3, 4, 5, 8), concatenated with convolutional code, constraint length 7, rate 1/2 and 5/6.		
Transmit FEC Supported	1. Uncoded 2. LDPC code, rates 1/2, 2/3, 4/5, each with information block lengths of 1024, 4096, and 16384 bits 3. LDPC code, rate 7/8 (8160, 7136), information block length of 7136 bits.		

Ka-Band			
Parameter	Value	Unit	Notes
Transmit Frequency Range	22.55 - 23.15	GHz	
Receive Frequency Range	25.50 - 27.0	GHz	
Transmitter RF Output Power / EIRP	89	dBW	
Transmitter Off-Boresight Pointing Loss	2	dB	Assumed
Receiver Off-Boresight Pointing Loss	2	dB	Assumed
Transmitter Circuit Loss	1	dB	Implementation loss spec is 3 dB of which 1 dB allocated to transmit system and 2 dB allocated to receive system.
Receiver Circuit Loss	2	dB	Implementation loss spec is 3 dB of which 1 dB allocated to transmit system and 2 dB allocated to receive system.
G/T, minimum	47.5	dB/K	
Receiver Antenna Gain			G/T specified above should be adequate
Receiver System Temperature			G/T specified above should be adequate
Hot Body Noise Temperature	Do not have		
Transmit Bit Rates Supported			Combination of symbol rates and modulation schemes specified should be adequate
Receive Bit Rates Supported			Combination of symbol rates and modulation schemes specified should be adequate
Transmit Symbol Rates Supported	50	Msps	
Receive Symbol Rates Supported	200	Msps	
Transmit Modulation Supported	Filtered OQPSK, Filtered BPSK, OQPSK, BPSK, QPSK, GMSK		
Receive Demodulation Supported	BPSK, QPSK, OQPSK, Filtered BPSK, Filtered OQPSK, GMSK, 8PSK		
Receive FEC Supported	1. Uncoded 2. Convolutional code, constraint length 7, rate 1/2 3. LDPC AR4JA code rates 1/2, 2/3, 4/5, block sizes of 1024, 4096, and 16384 bits 4. LDPC code rate 7/8 (8160, 7136), block size 8160 bits 5. Turbo code, rates 1/6, 1/4, 1/3, 1/2 (X-band only) 6. Reed-Solomon (RS) (255,223) (including shortened), interleaving depth l=(1,2,3,4,5,8), concatenated with convolutional code, constraint length 7, rate 1/2 7. Reed-Solomon (255,239) (including shortened), interleaving depth l=(1, 2, 3, 4, 5, 8), concatenated with convolutional code, constraint length 7, rate 1/2 and 5/6.		
Transmit FEC Supported	1. Uncoded 2. LDPC code, rates 1/2, 2/3, 4/5, each with information block lengths of 1024, 4096, and 16384 bits 3. LDPC code, rate 7/8 (8160, 7136), information block length of 7136 bits.		