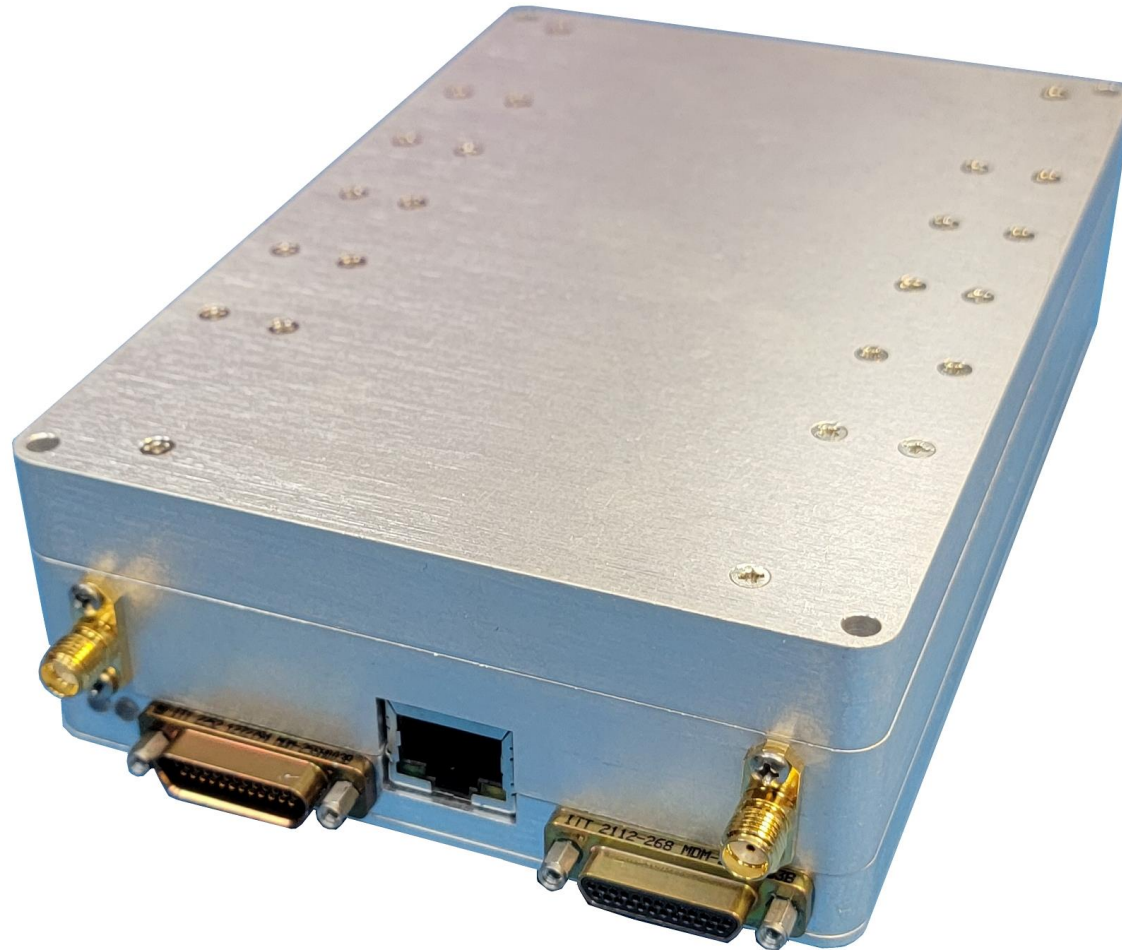


Isometric View

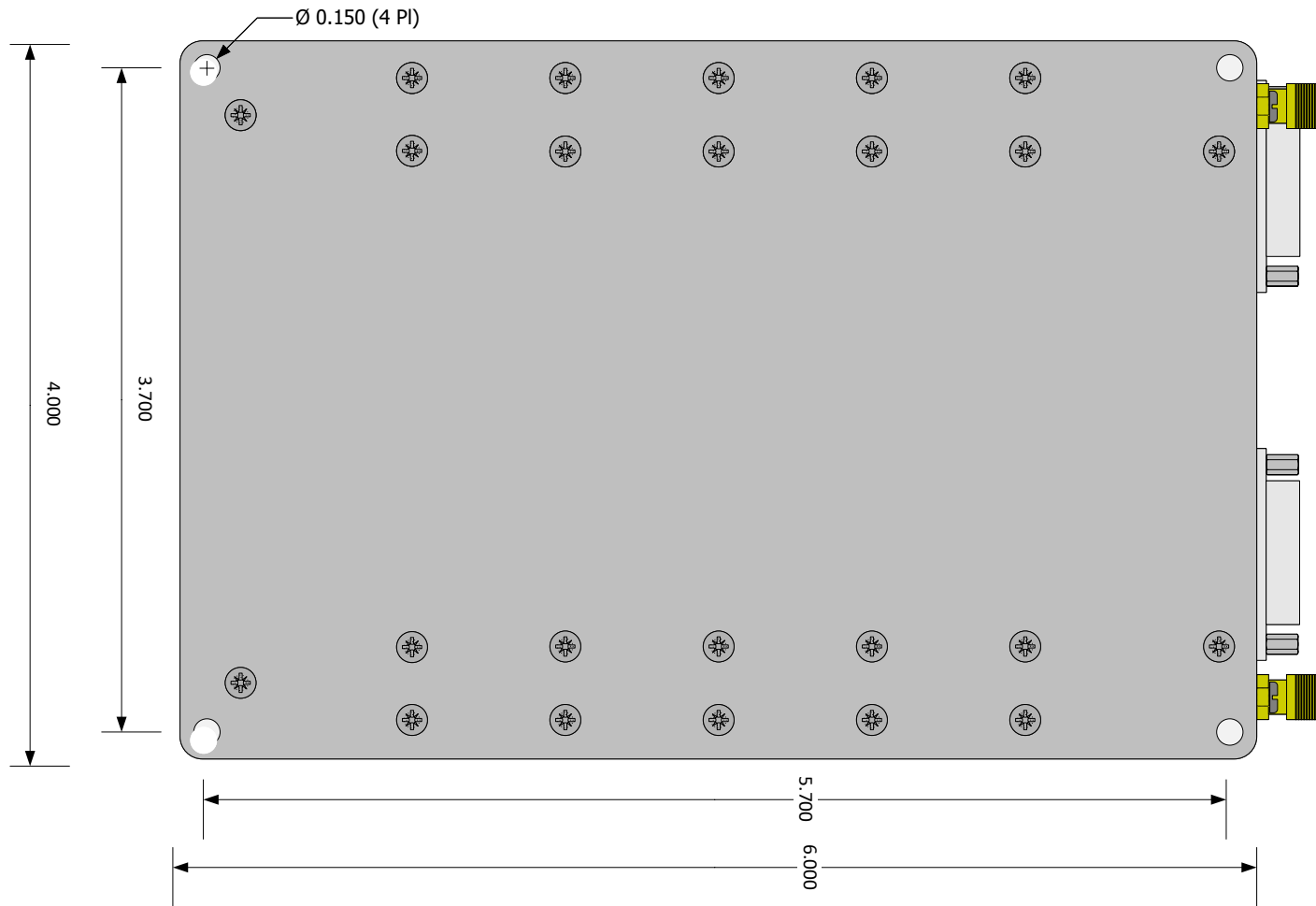


Notes:

- 1.) All dimensions shown are in inches.
- 2.) Tolerances are +/- 0.005 inches.

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Top View

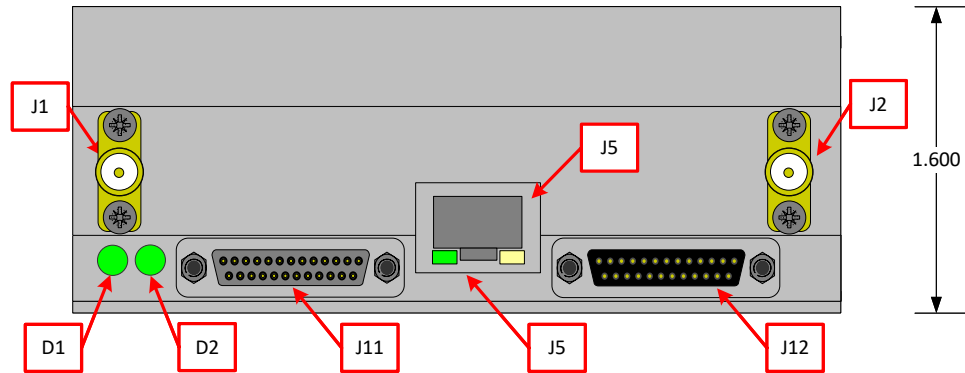


Notes:

- 1.) All dimensions shown are in inches.
- 2.) Tolerances are +/- 0.005 inches.
- 3.) Bottom corners fitted for 6-32 UNC Helicoil insertion; 5/16" Helicoil Length limit

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Front View



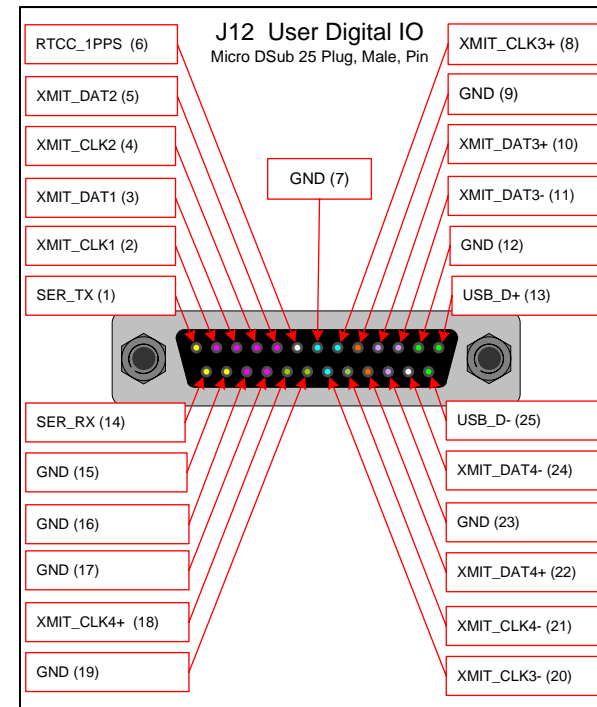
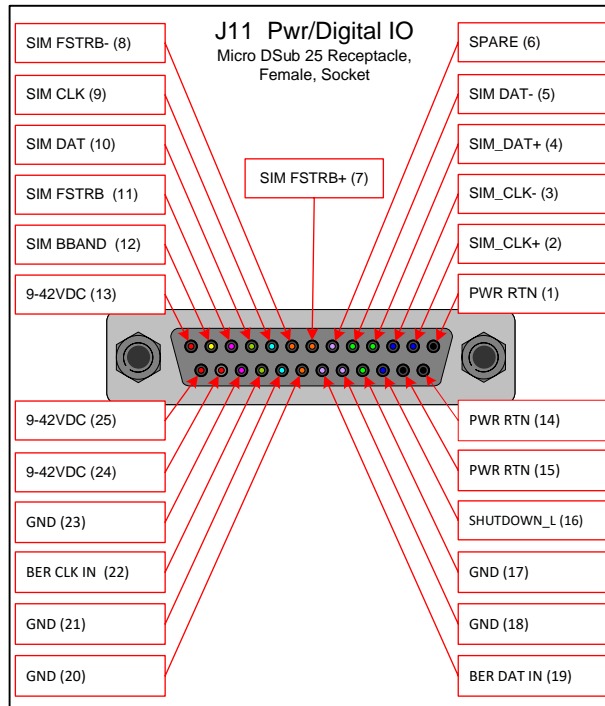
Designator	Style	Signal Description
J1	SMA-F	RF Output 1
J2	SMA-F	RF Output 2
J11	uDSUB25	DC Power / Digital IO
J12	uDSUB25	Serial Comm / Digital I/O
J5	RJ45	Ethernet Control/Status/Data Interface
D1	Multi Color LED	Status LED1
D2	Multi Color LED	Status LED2

Notes:

- 1.) All dimensions shown are in inches.
- 2.) Tolerances are +/- 0.005 inches.

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Micro-DSub Connectors



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Specifications

General/Mechanical/Power Specifications:

- | | |
|-------------------------------|---|
| 1.) DC Input Power (est.): | 9-42VDC; 26W (<i>typ.</i>) / 32W (<i>max.</i>); mode and data rate dependent |
| 2.) Mechanical Dimensions: | 6.00 in.(L) x 4.00 in. (W) x 1.60 in. (H); 152 mm. (L) x 101.6 mm. (W) x 40.6 mm. (H) |
| 3.) Weight: | 1.85 lbs.; 0.84 kgs. |
| 4.) Firmware: | Field upgradeable |
| 5.) Licensing: | Field upgradeable; limited |
| 6.) Internally Stored Setups: | Up to 8 |

Control/Status Interface Specifications:

- 1.) RS232, USB 2.0 and 10/100Mbps Ethernet
- 2.) All interfaces can operate simultaneously.
- 3.) Serial interface can be switched to 4-Wire RS422; consult factory

Modulator Specifications:

- | | |
|---|--|
| 1.) Frequency Coverage (MHz): | 1435-1535, 1710-1850, 2200-2395, 2185-2485, 4400-4950, 5091-5150, 5091-5250, Custom (50MHz to 6800MHz) |
| 2.) Symbol Rate: | 1ksps to 50Msps |
| 3.) Group 1 Modulation Formats: | Carrier Only, MS-PCMFm (Tier 0), SOQPSK (Tier 1), Multi-H CPM (Tier 2) |
| 4.) Group 2 Modulation Formats (<i>future</i>): | Linear PM,BPSK, QPSK, OQPSK, SQPSK, AUQPSK/AQPSK, PM w BPSK/QPSK subcarriers |
| 5.) Group 3 Modulation Formats (<i>future</i>): | AUQPSK, AQPSK |
| 6.) RF Outputs: | One or Two; 50 Ohms |
| 7.) RF Output Power: | +20dBm to -90dBm (software selectable); 0.25 to 1dBm step size; |
| 8.) RF Output Power SW Controls: | Static and dynamic controls; groups of up to 4096 values; groups can be chained |
| 9.) Doppler Sweep (<i>future</i>): | Three section profile; programmable sweep rate and mode |
| 10.) Noise Injection (<i>future</i>): | Programmable C/No |
| 11.) Single-Ended Input Source Group 1 & 2 Formats: | Two Input Sets: XMIT_CLK1 / XMIT_DAT1, and XMIT_CLK2 / XMIT_DAT2; Software selectable |
| 12.) Single-Ended Input Source Group 3 Formats: | One Input Set: XMIT_CLK1 / XMIT_DAT1 for I data, and XMIT_CLK2 / XMIT_DAT2 for Q data |
| 13.) Differential Input Source Group 1 & 2 Formats: | Two Input Sets: XMIT_CLK3+/- / XMIT_DAT3+/-, and XMIT_CLK4+/- / XMIT_DAT4+/-; Software selectable |
| 14.) Differential Input Source Group 3 Formats: | One Input Set: XMIT_CLK3+/- / XMIT_DAT3+/- for I data, and XMIT_CLK4+/- / XMIT_DAT4+/- for Q data |
| 15.) Internal Modulation Sources: | PCM Simulator and TX BERT; Second TX BERT for Group3 Modulation formats; Software configurable |

PCM Simulator Specifications:

- | | |
|----------------------------------|--|
| 1.) PCM Data Rate: | 1kbps to 50Mbps |
| 2.) Simulator Outputs: | Single-Ended Clock, Data, Frame Strobe (TTL/LVTTL software selectable); Differential Clock, Data, Frame Strobe (RS422/485); Baseband |
| 3.) Baseband Output: | 0.2-8Vp-p (variable output via SW control) |
| 3.) Baseband Output Filtering: | 0.125, 0.25, 0.5, 1, 1.5, 2, 2.5, 3, 4,6,8,10,15, 35MHz 3dB Bandwidth |
| 4.) Baseband Output Impedance: | 50 Ohm, 75 Ohm (SW selectable) |
| 5.) PCM Output Codes: | NRZ-L/M/S, BIO-L/M/S, RZ, DM-M/S, MDM-M/S, DBIO-M/S, |
| 6.) PCM Output Randomizer Codes: | 2 ¹¹ -1, 2 ¹⁵ -1, 2 ¹⁷ -1, 2 ²³ -1 |
| 7.) Data Format Support: | IRIG-106 Class I and II; virtually any custom data format |
| 8.) Dynamic Words: | Six; User Programmable |
| 9.) Dynamic Word Formats: | Sine, Cosine, Square, Triangle, Ramp Up, Ramp Down, Random, User Defined (Up to 4096 values) |
| 10.) Frame Setup: | Up to 65536 frames |

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Specifications (cont.)

BER Test Specifications:

- | | |
|--------------------------------------|---|
| 1.) Number of BER Transmit Channels: | One or two |
| 2.) Number of BER Receive Channels: | One; Single-ended Clock and Data Input Only |
| 3.) BER Formats: | All 0's, All 1's, Alternating 0 and 1, PN3, PN4, PN5, PN6, PN7, PN9, PN10, PN11, PN15, PN17, PN18, PN20, PN21, PN23, User Pattern (31-bits) |
| 4.) Bit Rate: | 1kbps to 50Mbps |
| 5.) Transmit Invert Controls: | Clock, Data |
| 6.) FEC Coding: | Convolutional (K7 NRZ-L/M and K4 NRZ-L/M), Convolutional Invert G0, Invert G1, G1 Leads G0; LDPC Rates 1/2, 2/3, 4/5, Block size 1024, 4096 (<i>Optional</i>) |
| 7.) Receiver AGC range: | +5V to -5V, unipolar and bipolar user selectable, positive and negative slope user selectable; 12 user selectable ranges |
| 8.) Error Injection: | 1 error per pattern (continuous), burst of errors (1-64 bits) |
| 9.) Receive Sampling Mode: | Continuous, Time Period Sampling |

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