Dismounted Soldier Hub - Concept 3644

Dismounted Soldier Hub

The DSS hub enables the creation of a Personal Area Network (PAN) on the dismounted soldier, connecting End User Devices (EUDs), batteries, radios and other peripherals, digitalizing the soldier for the 21st century battlefield.

The DSS hub is a plug and play, NATO-compatible device for seamless integration of IT equipment.

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Connector Interfaces

BATT (left side)	• 1x Data / Power
EUD (left side)	• 1x Data / Power
PAN 1 (left side)	• 1x Data / Power
PAN 2/3 (right side)	2 connectors which each has: • 1x Data / Power
RADIO (right side)	• 1x Data / Power

Technical Specification

Electronics ground to chassis	Isolated
Polarity protection	Protected against incorrect polarity connection on the power input within the normal operating voltage range
Power consumption	1 W
Power input	10-20 VDC
Power to chassis	Isolated
Power to electronics ground	Isolated
Chassis material	Aluminum
Coating and color	TBD
Cooling	Passively cooled
Mounting	Molle interface
Surface treatment chassis	Chromit-Al
Weight	TBD kg (TBD lbs)
MTBF	> 25,000 h
CE	Compliant

Environmental Specification

Functional shock - Operating	MIL-STD-810H, Method 516.8, Procedure I - Functional shock. Table 516.8-IV, Terminal peak sawtooth pulse, Ground materiel 40 g 11 ms
High temperature - Operating	MIL-STD-810H, Method 501.7, Procedure II - Operation 60 °C (140 °F)
High temperature - Storage	MIL-STD-810H, Method 501.7, Procedure I - Storage 71 °C (160 °F)
Humidity	MIL-STD-810H, Method 507.6, Procedure II - Aggravated 95 ± 4% RH Ten 24-hour cycles
IP Class (Solid Particle Protection)	IP Class 6X
IP Class (Water)	IP Class X7
Logistic transit drop	MIL-STD-810H, Method 516.8, Procedure IV - Transit Drop. Table 516.6-IX, Logistic transit drop test, < 45.4 kg (100 lbs), < 91 cm (36 inch), Manpacked or man-portable
Low air pressure - Rapid decompression	MIL-STD-810H, Method 500.6, Procedure III - Rapid decompression 2,438 m (8,000 ft) 12,192 m (40,000 ft)
Low air pressure - Operating	MIL-STD-810H, Method 500.6, Procedure II - Operation/air carriage 9,754 m (32,000 ft)
Low temperature - Operating	MIL-STD-810H, Method 502.7, Procedure II - Operation -40 °C (-40 °F)
Low temperature - Storage	MIL-STD-810H, Method 502.7, Procedure I - Storage -40 °C (-40 °F)
Noise level	Maximum noise level of 40 dB SPL A-weighting at 1 m (3.3 ft) distance
Salt fog	MIL-STD-810H, Method 509.7 5 ± 1% (by weight) Two cycles, 24 h wet + 24 h dry / cycle
Temperature shock - Operating	MIL-STD 810H, Method 503.7, Procedure I-C, - Multi-cycle shocks from constant extreme temperature 55 °C (131 °F) -40 °C (-40 °F)

EMC Specification

EMI conducted CE101	MIL-STD-461G, Method CE101 BASIC CURVE 30 Hz to 10 kHz
EMI conducted CE102	MIL-STD-461G, Method CE102, Conducted emissions, power leads BASIC CURVE 10 kHz to 10 MHz
EMI radiated RE101	MIL-STD-461G, method RE101, Radiated Emissions, Magnetic Field Navy 30 Hz to 100 kHz
EMI radiated RE102	MIL-STD-461G Navy Mobile & Army 10 kHz - 18 GHz
EMS conducted CS101	MIL-STD-461G, Method CS101, Conducted suceptibility, power leads CURVE #1 30 Hz to 150 kHz

EMS conducted CS114	MIL-STD-461G, Method CS114, conducted bulk susceptibility Army, Ground 10 kHz - 200 MHz
EMS conducted CS115	MIL-STD-461G, Method CS115, Conducted susceptibility, bulk cable injection, impulse excitation
EMS conducted CS116	MIL-STD-461G, Method CS116, Conducted susceptibility, damped sinusoidal transients, cables and power leads 10 kHz - 100 MHz
EMS radiated RS103	MIL-STD-461G, Method RS103, Radiated susceptibility, electric field Army 2 MHz - 1 GHz
ESD CS118	MIL-STD-461G