

NWE-T4202 DATASHEET

Mechanical and Material Specifications (MIL-STD Compliant)

Component	Material	Finish/Plating	Notes
Body, Hex Nut & Bushing	Beryllium Copper	Nickel	Superior corrosion resistance and mechanical strength for harsh environments.
Contact	Beryllium Copper (BeCu)	Silver	Maximized conductivity and minimal intermodulation distortion (PIM).
Insulators	PTFE (Polytetrafluoroethylene)	N/A	High-grade dielectric with excellent thermal stability.
Gasket	Silicone Rubber	N/A	High-temperature resilience and IP68 environmental sealing.
Sealing	Hermetic Sealing Available	N/A	Optional for pressurized/vacuum applications.
Mating Cycles	500 minimum	N/A	Designed for frequent connection/disconnection cycles in field use.

Electrical Specifications (Optimized for PIM and Bandwidth)

Parameter	Value	Unit	Specification
Impedance	50	Ohm	Standard impedance for RF communication.
Frequency Range	DC to 6.0	GHz	Extended bandwidth supporting current and future UHF/VHF bands.
Voltage Standing Wave Ratio (VSWR)	1.15:1 max (DC to 3 GHz)	Ratio	Excellent impedance match for low signal loss.
PIM (Passive Intermodulation)	-160	dBc max (2 x 20W tones)	Ultra-low PIM is critical for sensitive Software Defined Radio (SDR) systems.
Dielectric Withstanding Voltage	2500	VRMS	High voltage rating to ensure reliability.
Insertion Loss	0.05	dB max (at 3 GHz)	Minimal signal attenuation.

Environmental and Reliability Specifications

Parameter	Value	Unit	Notes
Temperature Range	-65°C to +165°C	Celsius	Operation across extreme tactical environments.
Ingress Protection	IP68	N/A	Dust-tight and protected against continuous immersion in water.
Vibration	MIL-STD-202, Method 204	N/A	Withstands severe vibration conditions (e.g., mounted on vehicles/aircraft).
Shock	MIL-STD-202, Method 213	N/A	High-impact resistance.
Salt Fog/Corrosion	MIL-STD-202, Method 101	N/A	Designed for use in maritime and corrosive environments.
RoHS/REACH Compliance	Yes	N/A	Meets international standards for restricted substances.