SHF3 UF

Ultra Flexible Ka/Ku Cable

As a leader in civil aircraft interconnection and RF cables, Radiall introduces a new cable in response to ARINC 791 and ARINC 792 requirements. This new ultra flexible cable is perfectly suited for Ku/Ka Satcom systems requiring long-lasting solutions and excellent reliability.

With superior radio frequency performance at 32 GHz, the SHF3 UF RF cable assemblies are optimized for Ka band Satcom antenna applications. These cable assemblies have been qualified for aerospace applications to ensure consistently reliable performance for the duration of the life of the installation. They are ultra flexible providing long-term durability as well as low energy consumption when bending.

SHF3 UF features new, innovative Self-Lock connectors which insure a secure connection without requiring the installation of lock-wire. The robust connectors of the SHF3 UF series withstand the vibrations experienced in aerospace applications without compromising signal performance.

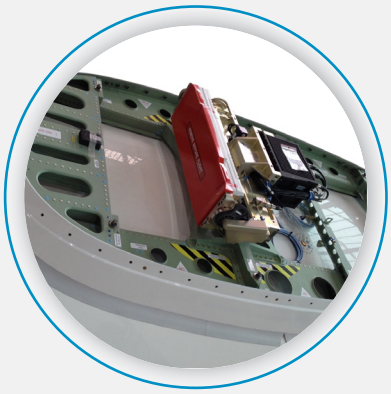
PRODUCT CHARACTERISTICS

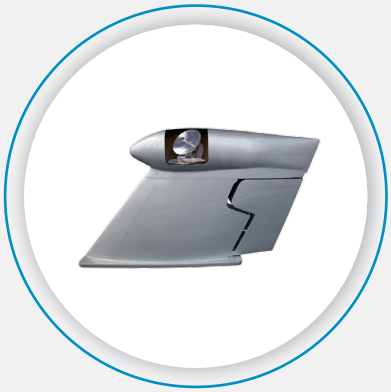
- Impedance: 50 ±1 ohms
- Self-Lock connector available
- Frequency range: DC–40 GHz
- Optimized frequencies:
  - 17.5 GHz – 22 GHz
  - 27 GHz – 32 GHz

BENEFITS

- Reliable signal integrity with excellent insertion loss and return loss
- Outstanding shielding effectiveness from durable cable construction
- Low bending moment force (energy saving)
- Long-lasting (flex life)
- Low weight
- Small diameter
- Hermetically sealed for pressurized and non-pressurized environment

SHF3 UF Cable Assemblies are designed and proven to withstand the constant pressurization cycles and the harsh SWAMP (Severe Weather and Moisture Prone) environment of the aircraft.





The high flexibility of SHF3 UF and long life cycle make it suitable for fuselage mount antennas (air transport) and tail mount antennas (business aviation).

PRODUCT CHARACTERISTICS

- Impedance: 50 ohms ±1 ohm
- Operating frequency range: DC-40 GHz
- Velocity of propagation: 73%
- Screening effectiveness: 18 GHz > 90 dB
- Phase stability with bending: < 0.4°/360°/GHz
- Attenuation stability with bending: < 0.1 dB at 18 GHz; < 0.2 dB at 40 GHz
- Maximum weight: 38 g/m (11.6 g/ft)
- Outer diameter: 4.30 mm (0.169 in)
- Recommended min static bend radius: 12.5 mm (0.492 in)
- Recommended min dynamic bend radius: 17.5 mm (0.689 in)
- Crush resistance: > 400 N/100 mm
- Operating temperature range: -55/+85°C (-67/+185°F)
- Flammability: IEC332-1
- Insertion loss (Typ):
  - 2.35 dB/m (0.72 dB/ft) @ 18 GHz
  - 3.25 dB/m (0.99 dB/ft) @ 32 GHz

FEATURES & BENEFITS

- *High flexibility for dynamic applications*
- *High screening effectiveness*
- *High chemical resistance (oil, lubricant, humidity, etc.)*
- *No locking-wire when used with Self-Lock connectors*

APPLICATIONS

- *ARINC 791 Satcom system*
- *ARINC 792 Satcom system*
- *Fuselage mount antenna*
- *Tail mount antenna*
- *Seeker*