FLEXIBLE RF CABLE / PHASE STABLE CABLE

Cable Name: W22

Part No: VXW220



40 GHz
MAX FREQUENCY

Ultra-Low
ATTENUATION

-155 dBc
LOW PIM PERFORMANCE

< 750 PPM
PHASE STABILITY

General Description: The Vinstronics VXW220 is a premium, ultra-low loss, phase-stable RF coaxial cable engineered for demanding microwave environments. Featuring silver-plated copper conductors and LD PTFE dielectric, it delivers exceptional signal integrity up to 40GHz. With strict phase stability (<750PPM) and robust power handling, it is the ideal interconnect solution for advanced aerospace and communication systems.

Core Features

- **Phase Stability:** <750PPM @ -55℃ ~ +85℃ for high signal fidelity.
- **Ultra-Low Loss:** Optimized for precision, long-distance signal transmission.
- **Low PIM:** Outstanding -155dBc performance for minimal interference.
- **High Power:** Robust architecture for high-intensity requirements.
- **Compact Design:** 2.20mm outer diameter facilitating space-constrained routing.

Target Applications

- **Avionics:** Meets stringent weight and environmental stability standards.
- **Phased Array Radar:** Ensures the precise phase consistency crucial for tracking.
- **ECM Systems:** Reliable performance in harsh electromagnetic environments.
- **High-Frequency Interconnects:** Ideal for any strict loss and phase applications.

CONSTRUCTION SPECIFICATION

Item	Material & Process	Diameter mm [in]
1. Inner Conductor	Silver-plated copper	**0.50** [0.020]
2. Dielectric	Low Density PTFE (LD PTFE)	**1.38** [0.054]
3. Inner Shield	Silver-plated copper strip	**1.54** [0.061]
4. Outer Shield	Silver-plated copper wire braiding	**1.95** [0.077]
5. Jacket	PFA / Gray (Customizable)	**2.20** [0.087]

ELECTRICAL CHARACTERISTICS

Operating Frequency	**40 GHz**
Cut-off Frequency	**83 GHz**
Impedance	**50 ± 1 Ω**
Velocity of Propagation	**81 %**
Shielding Effectiveness	**>90 dB**
Dielectric Withstanding Voltage	**400 V.DC**

ATTENUATION AND TRANSMISSION POWER

Frequency (MHz)	**1000**	**2000**	**3000**	**6000**	**8000**	**10000**	**12400**	**18000**	**26500**	**40000**
Attenuation (dB/100m)	**63.7**	**90.8**	**111.9**	**160.4**	**186.5**	**209.8**	**235.2**	**287.1**	**354.0**	**444.0**
Average Power (kW)	**0.097**	**0.068**	**0.055**	**0.039**	**0.033**	**0.029**	**0.026**	**0.022**	**0.017**	**0.014**

K1 = 1.975832 **K2** = 0.001221 **Formula:** Attenuation = K1 × √F(MHz) + K2 × F(MHz)

MECHANICAL AND ENVIRONMENTAL CHARACTERISTICS

Static Bending Radius	**8.8 mm** [0.346 in]
Dynamic Bending Radius	**22 mm** [0.866 in]
Weight	**0.016 kg/m** [0.0108 lbs/ft]
Temperature Range	**-55 ~ +125 ℃** [-67 ~ +257 ℉]