FLEXIBLE RF CABLE / PHASE STABLE CABLE

Cable Name: W81

Part No: VXW810



18 GHz	2500 V.DC
MAX FREQUENCY	WITHSTANDING VOLTS
8.10 mm	**< 750 PPM**
HEAVY-DUTY PFA	PHASE STABILITY

General Description: The Vinstronics VXW810 is a heavy-duty, ultra-low loss RF cable engineered for 18GHz microwave systems. Featuring a rugged 8.10mm PFA jacket and a 2500 V.DC rating, it delivers maximum crush resistance alongside stringent phase stability (<750PPM), perfectly suited for harsh environmental interconnects.

Core Features

- **Phase Stability:** <750PPM @ -55℃ to +85℃.
- **Ultra-Low Loss:** Optimized for precision transmission.
- **High Voltage:** 2500 V.DC rating for intensity requirements.
- **Low PIM:** Outstanding -155dBc performance.
- **Heavy-Duty PFA:** 8.10mm jacket for elite crush resistance.

Target Applications

- **Avionics:** Meets stringent stability standards.
- **Phased Array Radar:** Ensures precise phase consistency.
- **ECM Systems:** Reliable in harsh environments.
- **High-Power Interconnects:** Ideal for strict loss applications.

CONSTRUCTION SPECIFICATION

Component	Material & Process	Diameter mm [in]
1. Inner Conductor	Silver-plated copper	**2.40** [0.094]
2. Dielectric	Low Density PTFE (LD PTFE)	**6.36** [0.250]
3. Inner Shield	Silver-plated copper strip	**6.60** [0.260]
4. Outer Shield	Silver-plated copper wire braiding	**7.10** [0.280]
5. Jacket	PFA / Gray (Customizable)	**8.10** [0.319]

ELECTRICAL CHARACTERISTICS

Operating Frequency	**18 GHz**
Cut-off Frequency	**18 GHz**
Impedance	**50 ± 1 Ω**
Velocity of Propagation	**83 %**
Shielding Effectiveness	**>90 dB**
Dielectric Withstanding Voltage	**2500 V.DC**

ATTENUATION AND TRANSMISSION POWER

Frequency (MHz)	**1000**	**2000**	**3000**	**6000**	**8000**	**10000**	**12400**	**16000**	**18000**
Attenuation (dB/100m)	**13.7**	**19.5**	**24.1**	**34.8**	**40.6**	**45.8**	**51.5**	**59.3**	**63.3**
Average Power (kW)	**1.894**	**1.324**	**1.071**	**0.743**	**0.636**	**0.564**	**0.502**	**0.436**	**0.409**

K1 = 0.419490 **K2** = 0.000389 **Formula:** Attenuation = K1 × √F(MHz) + K2 × F(MHz)

MECHANICAL AND ENVIRONMENTAL CHARACTERISTICS

Static Bending Radius	**40 mm** [1.575 in]
Dynamic Bending Radius	**81 mm** [3.189 in]
Weight	**0.14 kg/m** [0.0941 lbs/ft]
Temperature Range	**-55 ~ +165 ℃** [-67 ~ +329 ℉]