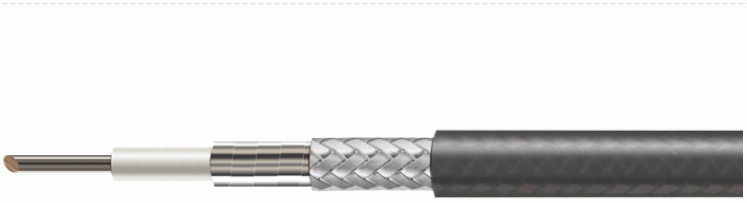
**FLEXIBLE RF CABLE / PHASE STABLE CABLE**

# Cable Name: W30

Part No: VXW300



**50 GHz**
MAX FREQUENCY

**-155 dBc**
LOW PIM PERFORMANCE

**+165 ℃**
EXTREME TEMP RATING

**< 750 PPM**
PHASE STABILITY

**General Description:** The Vinstronics VXW300 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 50GHz. With strict phase stability (<750PPM) and an extended operating temperature range up to +165℃, 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.
- **Extreme Temp:** Operates reliably in harsh environments up to +165℃.

## 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 | **0.70** [0.028] |
| 2. Dielectric | Low Density PTFE (LD PTFE) | **1.93** [0.076] |
| 3. Inner Shield | Silver-plated copper strip | **2.09** [0.082] |
| 4. Outer Shield | Silver-plated copper wire braiding | **2.66** [0.105] |
| 5. Jacket | PFA / Gray (Customizable) | **3.10** [0.122] |

## ELECTRICAL CHARACTERISTICS

| | |
|---|---|
| Operating Frequency | **50 GHz** |
| Cut-off Frequency | **60 GHz** |
| Impedance | **50 ± 1 Ω** |
| Velocity of Propagation | **82 %** |
| Shielding Effectiveness | **>90 dB** |
| Dielectric Withstanding Voltage | **500 V.DC** |

## ATTENUATION AND TRANSMISSION POWER

| Frequency (MHz) | 1000 | 2000 | 3000 | 6000 | 8000 | 10000 | 12400 | 18000 | 26500 | 40000 | 50000 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Attenuation (dB/100m) | **46.8** | **66.6** | **81.9** | **117.1** | **135.9** | **152.6** | **170.8** | **207.9** | **255.4** | **318.9** | **360.1** |
| Average Power (kW) | **0.407** | **0.286** | **0.232** | **0.163** | **0.140** | **0.125** | **0.111** | **0.092** | **0.075** | **0.060** | **0.053** |

**K1 =** 1.458470 **K2 =** 0.000680 **Formula:** Attenuation = K1 × √F(MHz) + K2 × F(MHz)

## MECHANICAL AND ENVIRONMENTAL CHARACTERISTICS

| | |
|---|---|
| Static Bending Radius | **15 mm** [0.591 in] |
| Dynamic Bending Radius | **31 mm** [1.220 in] |
| Weight | **0.027 kg/m** [0.0181 lbs/ft] |
| Temperature Range | **-55 ~ +165 ℃** [-67 ~ +329 ℉] |