

Ultra Low Loss, Triple Shielded, DC~18 GHz Pre-Connectorized Cable Sets, HF18G Series

- Ultra Low Loss 0.25 dB/feet @18GHz
- Phase Stable with temperature
- Triple-Shielded, better than -90dB shielding

APPLICATIONS

- Radars, EW Systems for lowest loss and phase stability.
- Conform to airborne needs of temp. cycling, vibration etc.
- Applications needing ultra phase stable cables
- Test cables for Hi-Vacuum chambers

FEATURES

- Ultra Low Loss in DC~18 GHz range (much lower loss than solid PTFE dielectric cable)
- Loss, VSWR & Phase are stable with bending
- High temperature dielectric & jacketing for harsh environment application (up to + 150°C)
- Superior Shielding Effectiveness over -90 dB



EQUIVALENT TO: Microcoax UFB311A
H&S Sucoflex 106 • Radiall SHF8M • Semflex LA290

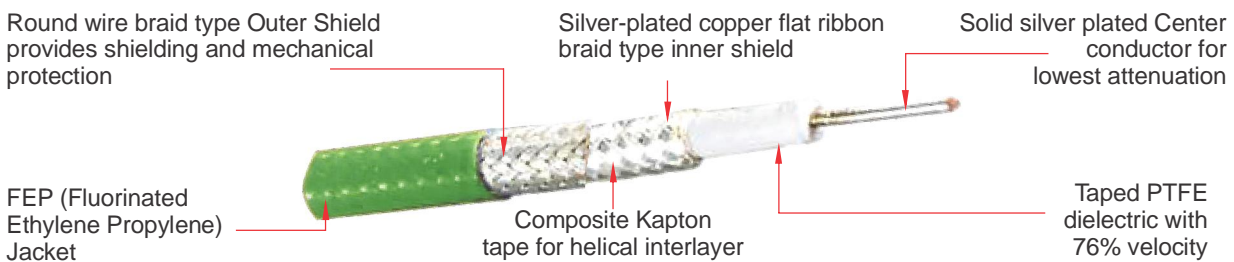
Physical and Mechanical Specifications

| Dimensions | inches | mm |
|---------------------------|-------------------|-----|
| Jacket | 0.335 | 8.5 |
| Min. Bending Radius | 1.7 | 45 |
| Weight | 0.184 Kg/m | |
| Temperature Range | -55° ~ + 150°C | |
| Electrical Specifications | | |
| Impedance | 50 ohms | |
| Velocity of Propagation | > 80 % | |
| Shielding Effectiveness | better than -90dB | |
| Capacitance | 24.5 pF/foot | |
| Cut-off Frequency | 18 GHz | |

Attenuation and Power Handling Data

| Frequency | Insertion Loss | | Av Power Watts |
|-----------|----------------|---------|----------------|
| | dB/100ft | dB/100m | |
| 500 MHz | 3.7 | 12.1 | 2400 |
| 1 GHz | 5.2 | 17.0 | 1700 |
| 2 GHz | 7.5 | 24.5 | 1200 |
| 4 GHz | 10.7 | 35.1 | 820 |
| 6 GHz | 13.3 | 43.8 | 660 |
| 10 GHz | 18.1 | 59.3 | 500 |
| 12 GHz | 19.3 | 63.4 | 450 |
| 16 GHz | 22.7 | 74.3 | 380 |
| 18 GHz | 24.2 | 79.2 | 360 |

Imported Ultra Low Loss, Triple Shielded Hi-Power Cable details



Ordering Codes Description

HF18G - (Length) (Connector 1) (Connector 2)
 □ □ - □ (□ / □) - □ (□ / □) - □
L L **1 2 3** **1 2 3 U**

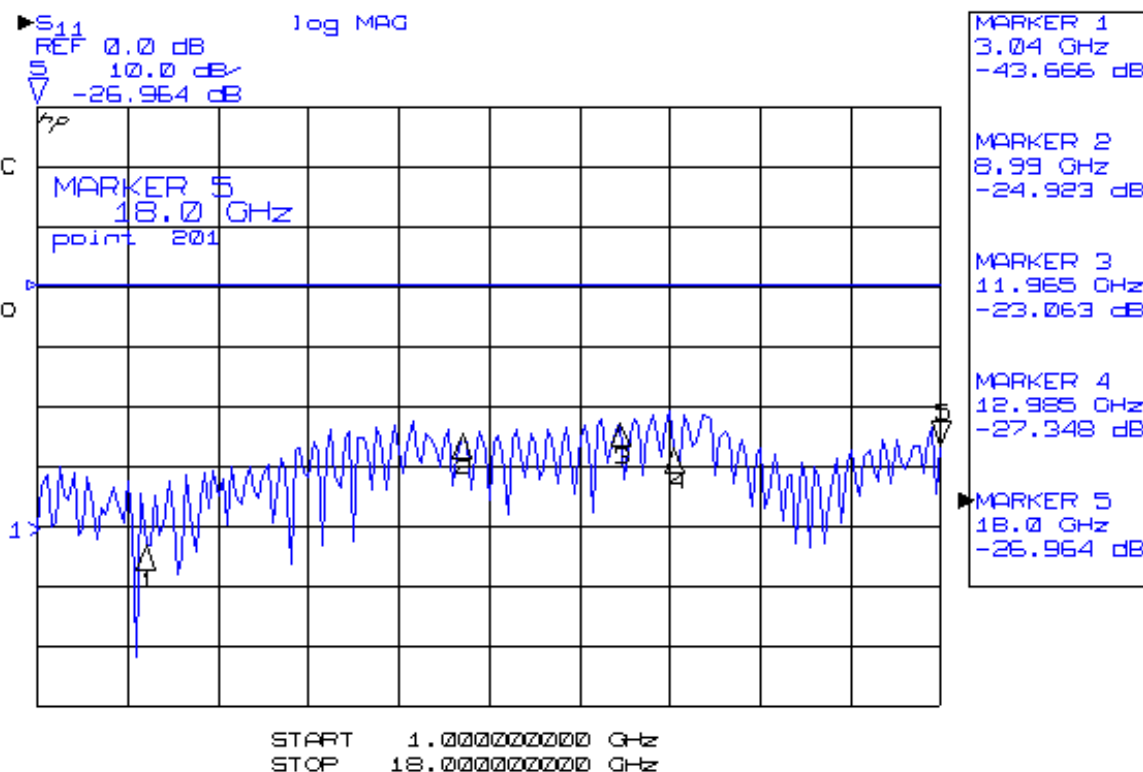
| | | |
|------------|--------------------------|---------------------------------|
| L L | Length | 0.5 = 0.5 ; 1 = 1.0 ; 2 = 2.0 |
| 1 | Connector Series | SMA = SMA |
| 2 | Male/Female Designator | M = Male |
| 3 | Orientation of Connector | ST = Straight |
| U | Unit of Length | M = Meter ; F = Feet ; I = Inch |

1 meter cable set with SMA (Male) on both sides = HF18G-1.0-SMA(M/ST)-SMA(M/ST)-M

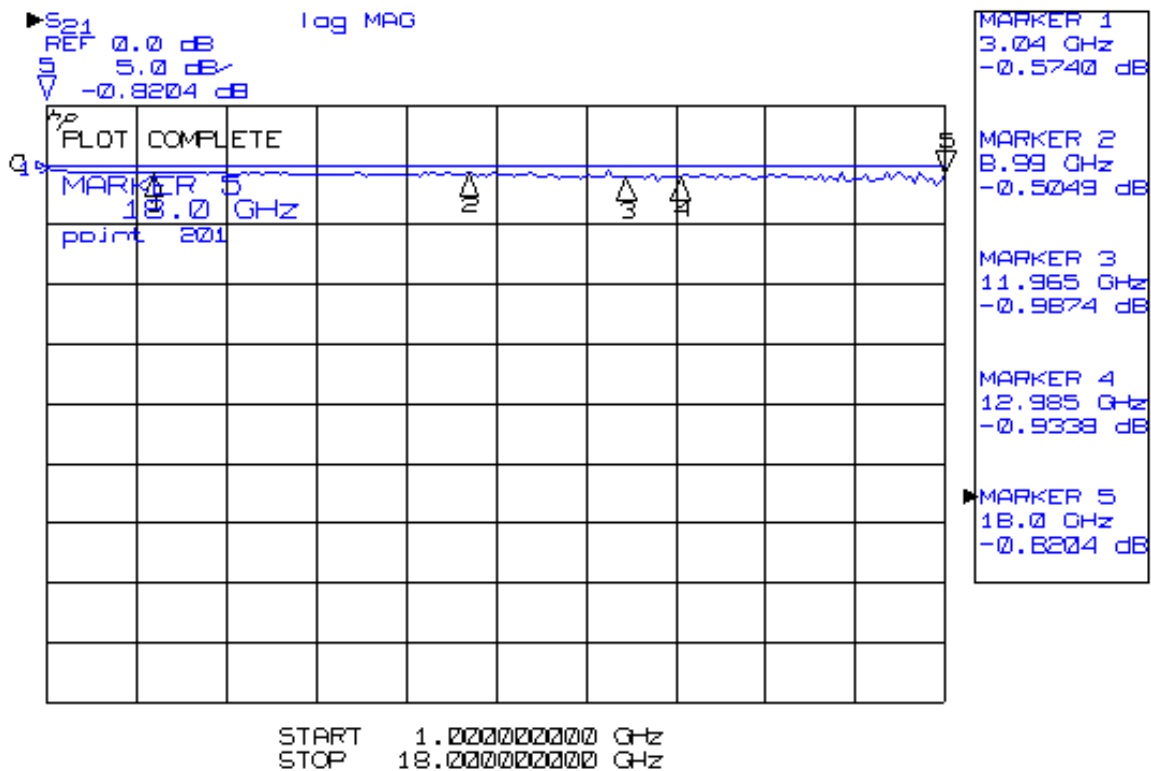
Shown trademarks are property of their respective owners.

While the information contained herein in this catalog, has been carefully compiled to the best of our knowledge, nothing is intended as representation and warranty on our part; and no statement shall be construed as recommendation to infringe any of existing patents. We accept no liability of whatsoever for any faults and errors in the information contained herein. Contents of this catalogue and specifications of the products, are subject to change without notice due to continuous improvements.

S11 Plot of 1m HF18G Pre-connectorized cable set with SMA(M) on both sides



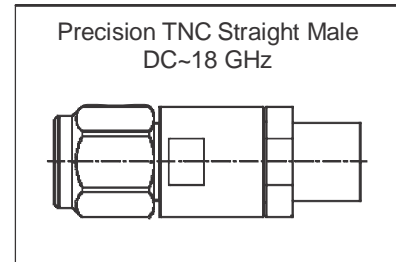
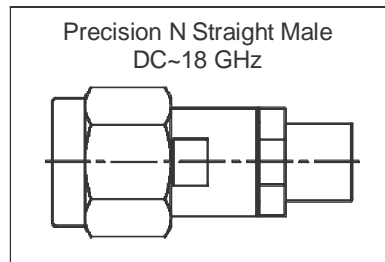
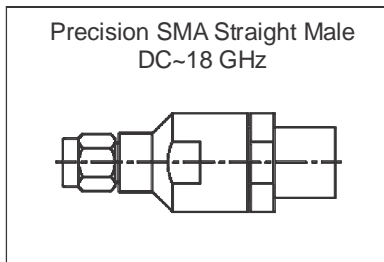
S21 Plot of 1m HF18G Pre-connectorized cable set with SMA(M) on both sides



Shown trademarks are property of their respective owners.

While the information contained herein in this catalog, has been carefully compiled to the best of our knowledge, nothing is intended as representation and warranty on our part; and no statement shall be construed as recommendation to infringe any of existing patents. We accept no liability of whatsoever for any faults and errors in the information contained herein. Contents of this catalogue and specifications of the products, are subject to change without notice due to continuous improvements.

Connectors for Ultra Low Loss & Phase Stable Cable Assemblies



Connectors Specifications

| Specifications | SMA Connectors | N Connectors | TNC Connectors |
|-------------------|--|-----------------------------|-----------------------------|
| Outer Conductor | Stainless Steel, Passivated | Stainless Steel, Passivated | Stainless Steel, Passivated |
| Center Conductor | BeCu, Gold Plated | BeCu, Gold Plated | BeCu, Gold Plated |
| Insulation | PTFE | PTFE | PTFE |
| Gaskets | Silicone Rubber | Silicone Rubber | Silicone Rubber |
| Nominal Impedance | 50Ω | 50Ω | 50Ω |
| Frequency range | DC~18 GHz | DC~18 GHz | DC~18 GHz |
| Mating & Unmating | 500 Operations min | 500 Operations min | 500 Operations min |
| Vibration | As per MIL-STD202, method 204, test condition D | | |
| Mechanical Shock | As per MIL-STD202, method 213, test condition I | | |
| Thermal Shock | As per MIL-STD202, method 107, test condition B | | |
| Corrosion | As per MIL-STD202, method 101, test condition B | | |
| Humidity | As per MIL-STD202, method 106 | | |
| Temperature Cycle | As per MIL-STD202, method 102A, test condition C | | |

Cable Set Ordering Codes (Other lengths and Connectors are available on request)

| Ordering Code | Length | Insertion Loss (dB) Typical | | | | | | |
|---|--------|-----------------------------|-------|-------|-------|--------|----------|--------|
| | | 1.5 GHz | 3 GHz | 6 GHz | 9 GHz | 12 GHz | 13.5 GHz | 18 GHz |
| SMA (Male) Straight - SMA (Male) Straight (DC to 18 GHz) | | | | | | | | |
| HF18G-1.0-SMA(M/ST)-SMA(M/ST)-M | 1m | 0.28 | 0.40 | 0.57 | 0.72 | 0.81 | 0.88 | 1.03 |
| HF18G-2.0-SMA(M/ST)-SMA(M/ST)-M | 2m | 0.46 | 0.67 | 0.97 | 1.21 | 1.39 | 1.50 | 1.76 |
| HF18G-5.0-SMA(M/ST)-SMA(M/ST)-M | 5m | 1.02 | 1.50 | 2.16 | 2.70 | 3.10 | 3.34 | 3.94 |
| N (Male) Straight - N (Male) Straight (DC to 18 GHz) | | | | | | | | |
| HF18G-1.0-N(M/ST)-N(M/ST)-M | 1m | 0.31 | 0.43 | 0.60 | 0.75 | 0.84 | 0.91 | 1.06 |
| HF18G-2.0-N(M/ST)-N(M/ST)-M | 2m | 0.49 | 0.70 | 1.00 | 1.24 | 1.42 | 1.53 | 1.79 |
| HF18G-5.0-N(M/ST)-N(M/ST)-M | 5m | 1.05 | 1.53 | 2.19 | 2.73 | 3.13 | 3.37 | 3.97 |
| TNC (Male) Straight - TNC (Male) Straight (DC to 18 GHz) | | | | | | | | |
| HF18G-1.0-TNC(M/ST)-TNC(M/ST)-M | 1m | 0.33 | 0.48 | 0.62 | 0.77 | 0.86 | 0.93 | 1.08 |
| HF18G-2.0-TNC(M/ST)-TNC(M/ST)-M | 2m | 0.52 | 0.73 | 1.02 | 1.26 | 1.44 | 1.55 | 1.81 |
| HF18G-5.0-TNC(M/ST)-TNC(M/ST)-M | 5m | 1.07 | 1.55 | 2.21 | 2.75 | 3.15 | 3.39 | 4.00 |

Shown trademarks are property of their respective owners.

While the information contained herein in this catalog, has been carefully compiled to the best of our knowledge, nothing is intended as representation and warranty on our part; and no statement shall be construed as recommendation to infringe any of existing patents. We accept no liability of whatsoever for any faults and errors in the information contained herein. Contents of this catalogue and specifications of the products, are subject to change without notice due to continuous improvements.

