# Phase-stable Test Cable

## Product Description

The microwave test cable is a durable and cost-effective testing solution, widely used in various testing scenarios and system interconnections due to its excellent performance. It features an ultra-stable cable design and wear-resistant stainless steel connectors, allowing for prolonged and stable connection cycles.This makes it especially suitable for use in production lines, laboratories, and field environments.Moreover, this test cable is also highly competitive when applied in system interconnection applications.

- ## Product features

Ultra durability、 High cost-performance ratio、 Suitable for direct outdoor use、 Excellent shielding performance、 Amplitude and phase stability、 Various armor protection options available、 Frequency DC-26.5GHz、 More mating cycles with wear-resistant stainless steel

- ## Part Number

MP-IP-GLXXXX-XXXX-XX

- ## Application area

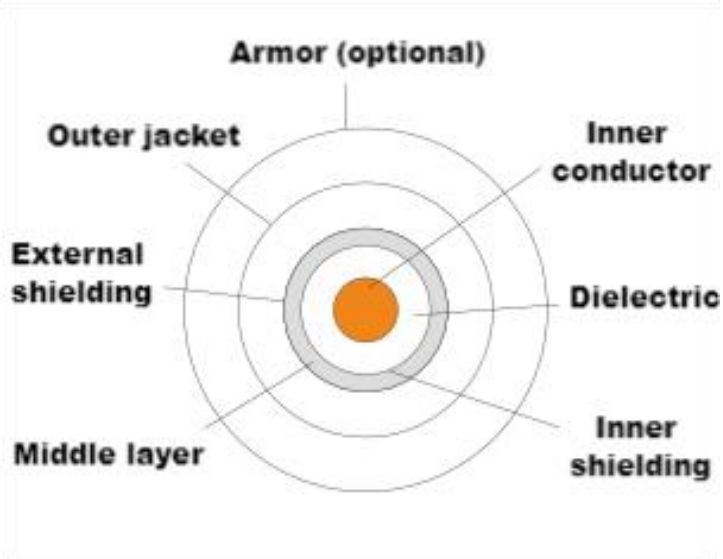
R&D Laboratory / Anechoic Chamber、 Mass Production Testing、 Device Environmental Testing、 Large-scale OEM Manufacturing、 On-site Fault Detection、Wireless Communication Metrology Testing、Interconnection of Various Frequency Instruments、 Cabinet-to-Cabinet Interconnection

- ## Core parameters

| Frequency Band | Shielding efficiency |
|---|---|
| Up to 26.5GHz | >100dB |

- **General Parameters**

## Cable Construction:




**Cable Construction:**

**Inner Conductor: Silver-plated copper-clad steel**

**Dielectric: PTFE**

**Inner Shielding: Silver-plated copper tape**

**Middle Layer: High-temperature aluminum foil**

**Outer Shielding: Silver-plated copper wire**

**Outer Jacket: FEP**

**Optional Reinforced Armor Protection:**

**Transparent, Stainless Steel, Black Spring Net**

**Connector Advantages:**

**304 stainless steel housing**

**Beryllium copper center pin with robust structural design**

**Excellent wear resistance**

**Over 5,000 mating cyclest**

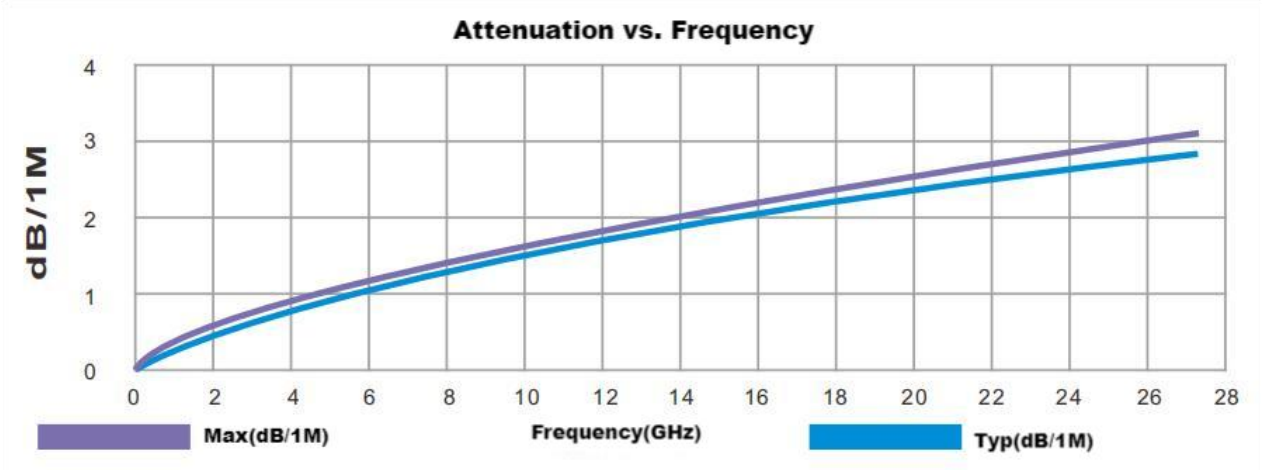
| Physical and mechanical parameters | |
|---|---|
| Dimensions | mm |
| Inner conductor | 0.94 |
| Dielectric | 2.97 |
| Inner shield | 3.17 |
| Middle layer | 3.31 |
| Outer shield | 3.82 |
| Outer jacket | 4.95 |
| Armor (optional) | A Transparent 10mm/S Stainless Steel 8.7/B Black 10mm (3 types) |
| Weight | 0.064Kg/m(cable) |
| Armor compression resistance | 100kg(A)/ 60Kg(S) /80Kg(B) |
| Minimum bending radius | 20(mm) |
| Number of plugging and unplugging times | >5000 |
| Length tolerance | +/-5mm |
| Temperature range | -55℃/+125℃ |

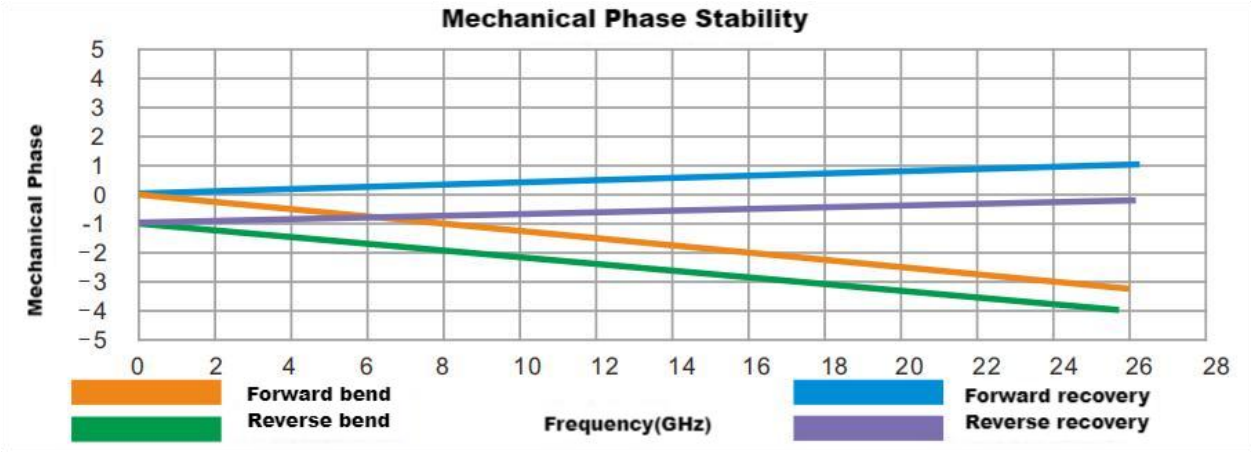
| Electrical properties | | | | | |
|---|---|---|---|---|---|
| VSWR(Max) | | 3Ghz | 6Ghz | 18Ghz | 26.5Ghz |
| | SMA 3.5mm | 1.07 | 1.10 | 1.20 | 1.25 |
| | N 3.5NMD | 1.10 | 1.15 | 1.25 | |
| | BNC | 1.15 | | | |
| Impedance | | 50Ω | | | |
| Propagation rate | | 70% | | | |
| Shielding efficiency | | >100dB | | | |
| Capacitance | | 96.41pf/Meter | | | |
| Mechanical phase stability | | DC-10Ghz 1° 10-18Ghz 2° | | | |
| Amplitude stability | | DC-26Ghz 0.05dB | | | |
| Phase matching | | Can be customized according to customers | | | |

| Mating connector type | | |
|---|---|---|
| Connector type | abbreviation | Operating frequency |
| SMA Male | SM | DC-26.5GHz |
| 3.5mm Male | 3M | DC-27GHz |
| SMA Female | SF | DC-26GHz |
| 3.5mm Female | 3F | DC-27GHz |
| N Male | NM | DC-18GHz |
| N Female | NF | DC-18GHz |
| 3.5NMD | 35NMD | DC-27GHz |

| | |
|---|---|
|  | **Connector structure**<br>**Center conductor: Beryllium copper with gold plating**<br>**Dielectric body: PT FE**<br>**Welding cup: Split optimized welding cup**<br>**Outer conductor: Stainless steel passivation**<br>**Nut: Stainless steel passivation** |

## Cable assembly including connector loss at both ends






| | |
|---|---|
|  | **Option: 2.92mm/2.4mm/1.85mm NMD network dedicated protection head** |

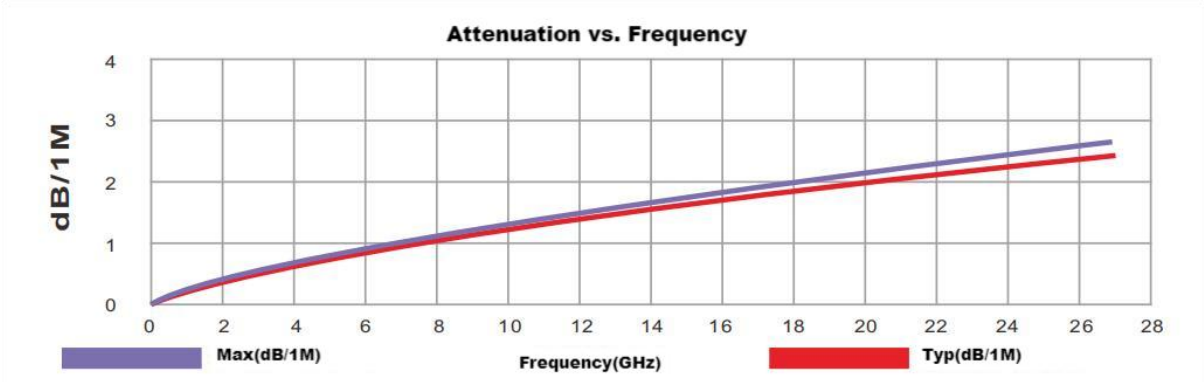
## Low loss series

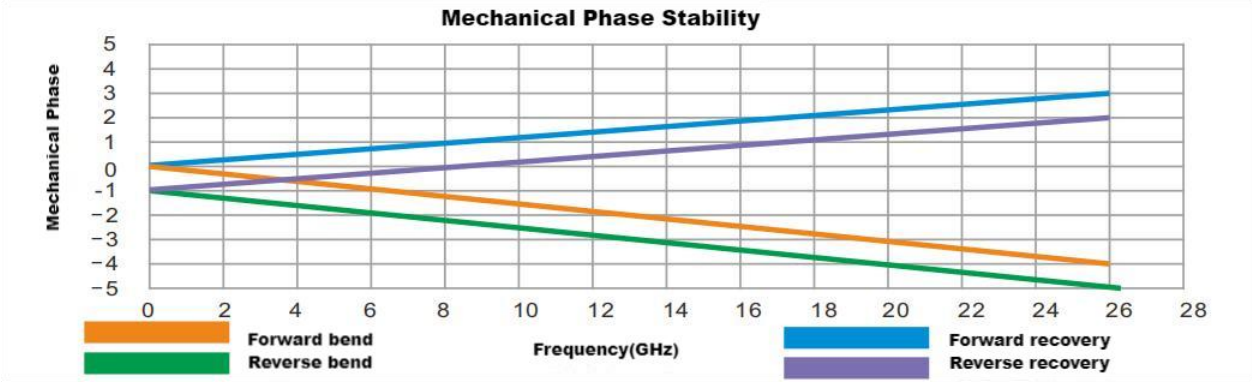
| | |
|---|---|
|  | **Connector structure**<br>**Center conductor: beryllium copper with gold plating**<br>**Dielectric body: PTFE**<br>**Welding cup: split optimized welding cup**<br>**Outer conductor: stainless steel passivation**<br>**Nut: stainless steel passivation** |

| Physical and mechanical parameters | |
|---|---|
| Dimensions | mm |
| Inner conductor | 1 .02 |
| Dielectric | 3.05 |
| Inner shield | 3.32 |
| Middle layer | 3.45 |
| Outer shield | 4 .02 |
| Outer sheath | 4 .65 |
| Armor (optional) | Transparent/Stainless steel/Black (3 types) |
| Weight (kg/m) | 0.050 |
| Armor compression resistance | 100kg( P) 60Kg(S) 120 Kg( B) |
| Minimum bending radius | 18(mm) |
| Number of plugging and unplugging | >5000 |
| Length tolerance | +/-5mm |
| Temperature range | -55 ℃/+125 ℃ |

| Electrical properties | | | | | |
|---|---|---|---|---|---|
| VSWR(max) | | 3Ghz | 6Ghz | 18Ghz | 26.5Ghz |
| | SMA 3.5mm | 1 .07 | 1.1 | 1 .2 | 1 .25 |
| | N 3.5 NMD | 1.1 | 1 . 15 | 1 .25 | |
| | BNC | 1 . 15 | | | |
| Impedance | | 50 Ω | | | |

| | |
|---|---|
| Propagation rate | 76% |
| Shielding efficiency | >110dB |
| Capacitance | 96.41pf/ Meter |
| Mechanical phase stability | DC-10Ghz 1.1° 10-18Ghz 2° |
| Amplitude stability | DC-26Ghz 0.05dB |
| Phase matching | Can be customized according to customers |



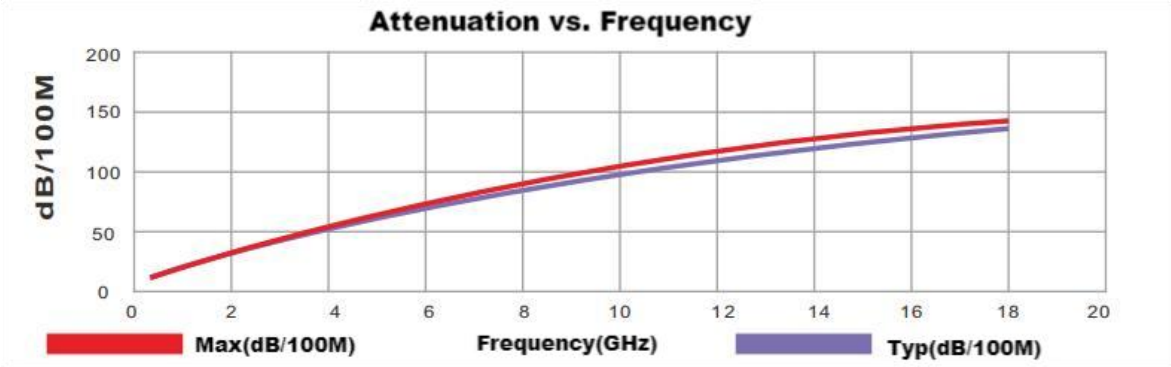




## Super soft series

| Physical and mechanical parameters | |
|---|---|
| Dimensions | mm |
| Inner conductor | 1.45 |

| | |
|---|---|
| Dielectric | 4.23 |
| Inner shield | 4.37 |
| Outer shield | 4.77 |
| Outer sheath | 5.50 |
| Weight (kg/m) | 0.065 |
| Minimum bending radius | 28(mm) |
| Temperature range | -55~+85 ℃ |

| Electrical properties | | | | | |
|---|---|---|---|---|---|
| VSWR(max) | | 3Ghz | 6Ghz | 18Ghz | 26.5GHz |
| | SMA 3.5mm | 1.07 | 1.20 | 1.25 | 1.3 |
| | N 3.5NMD | 1.1 | 1.20 | 1.30 | |
| | BNC | 1.15 | | | |
| Impedance | | 50 Ω | | | |
| Propagation rate | | 77% | | | |
| Shielding efficiency | | >90dB | | | |
| Dielectric withstand voltage | | 1500(V, DC) | | | |



| | |
|---|---|
|  | Connector structure<br>Center conductor: beryllium copper with gold plating<br>Dielectric body: PT FE<br>Welding cup: split optimized welding cup<br>Outer conductor: stainless steel passivation<br>Nut: stainless steel passivation |

| Frequency MHz | 300 | 1000 | 2000 | 4000 | 6000 | 8000 | 10000 | 12000 | 13500 | 14000 | 16000 | 18000 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Attenuation dB/100 m | 15.9 | 29.2 | 41.7 | 59.6 | 73.6 | 85.6 | 96.4 | 106.2 | 113.0 | 115.3 | 123.8 | 131.9 |
| Average power kW | 0.102 | 0.056 | 0.039 | 0.027 | 0.022 | 0.019 | 0.017 | 0.015 | 0.014 | 0.014 | 0.013 | 0.012 |
| K=10.9055116 K2=0.0005800 Calculation formula＝K1*v FMhz+K2*FMHz | | | | | | | | | | | | |

## Ordering Info