

# P1DB50-24M24M-24

Precision test cable, 2.4mm male to 2.4mm male, Phase-Flex stable cable, 24 inch.  
Frequency DC to 50 GHz. VSWR 1.25 max. Insertion loss 2.6 dB max DC to 50 GHz. Armored flexible cable with extra durable injection molded boots at each connector.

## Product Features

P1DB50-24M24M-24 is an ultra-stable RF test cable with excellent phase and amplitude stability when the cable is flexed.

Frequency is DC to 50 GHz with a 1.25 max VSWR. The connectors are precision 2.4 mm male, passivated stainless steel.

Phase stability is +/- 5 deg max and amplitude stability is +/- .05 dB max.

Max Insertion Loss for this 24 inch long assembly is 2.62 dB, DC to 50 GHz.

The cable diameter is 6 mm (0.24 Inch) and is armored with durable injection molded boots attaching the connectors.

Video showing phase and amplitude stability performance during cable flex:



## Cable dynamic testing

### Electrical Specification: T<sub>Ambient</sub> = 25° C

| Parameter       | Frequency Range | Units | Min | Typical | Max      | Notes |
|-----------------|-----------------|-------|-----|---------|----------|-------|
| Frequency Range |                 | GHz   | DC  |         | 50.0 GHz |       |

### Mechanical And Environmental Specifications:

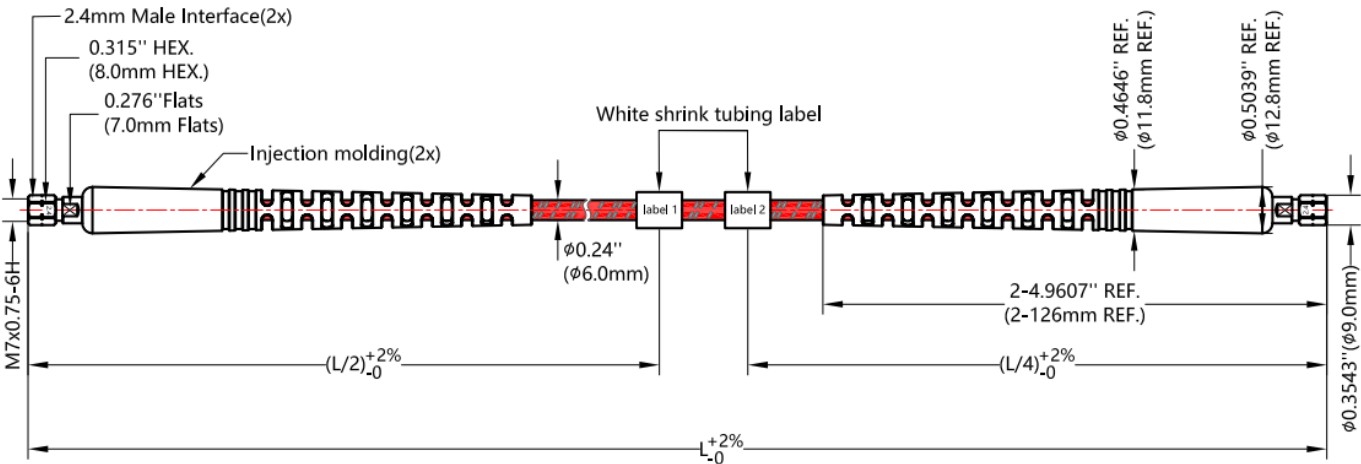
| Parameter   | Description                  | Notes |
|-------------|------------------------------|-------|
| Connector 1 | 2.4mm Male                   |       |
| Connector 2 | 2.4mm Male                   |       |
| Coax Cable  | Phase-Flex stable test cable |       |

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| Parameter       | Description | Notes |
|-----------------|-------------|-------|
| Coax Diameter   | 0.24        |       |
| Length          | 24.0        |       |
| RoHS Compliance | Yes         |       |

Drawing

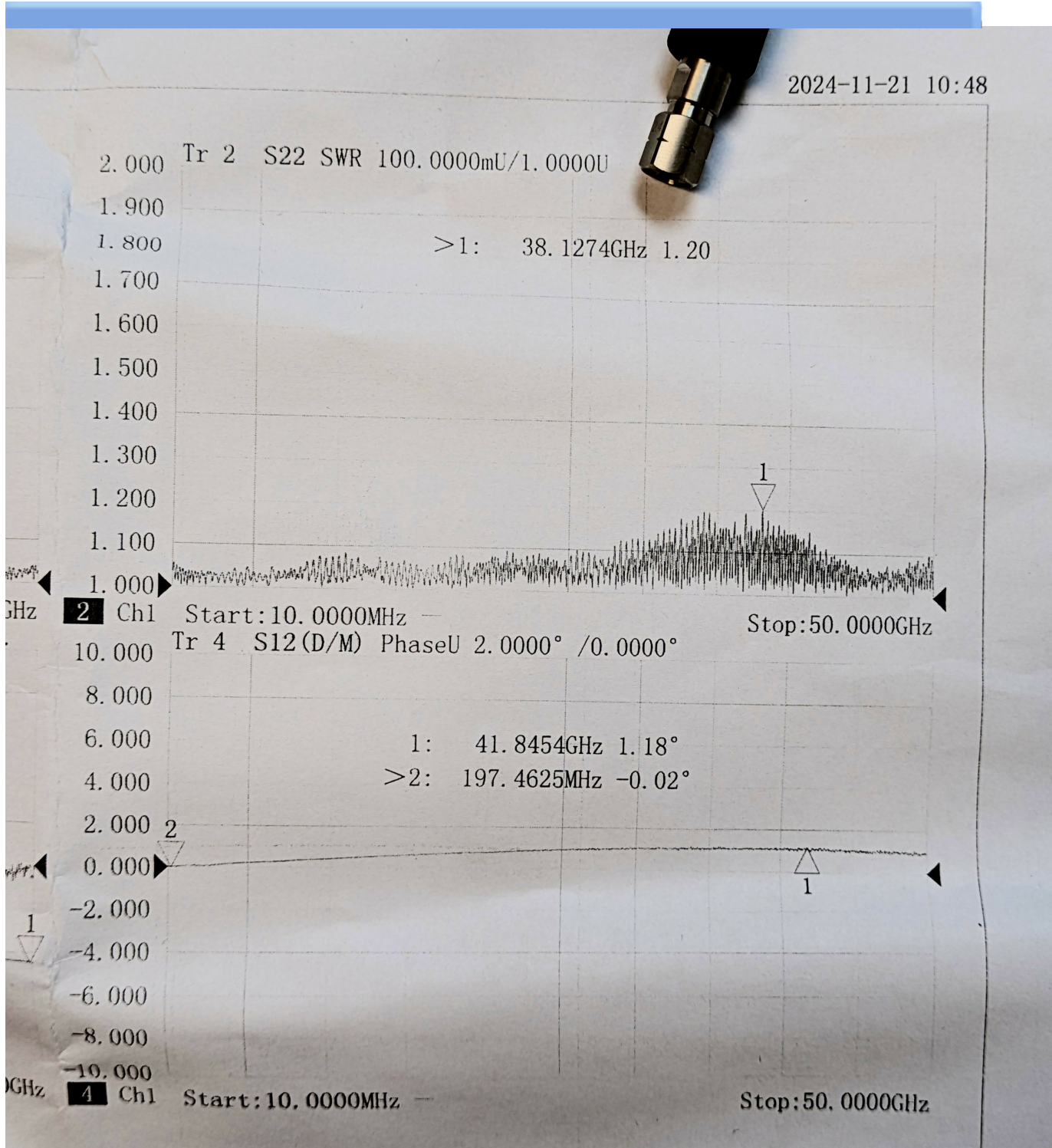


Graph

| Piece Parts  | Materials                                             | Plating     | Impedance                       | 50±2 Ω                                              |
|--------------|-------------------------------------------------------|-------------|---------------------------------|-----------------------------------------------------|
| Coupling nut | Stainless steel                                       | Passivation | Frequency range                 | DC ~ 50GHz                                          |
| Body         | Stainless steel                                       | Passivation | Voltage rating                  | 335V(rms)                                           |
| Contact Pin  | Be-Cu                                                 | Gold        | Dielectric withstanding voltage | 750V(DC)                                            |
| Insulator    | PEEK                                                  | Natural     | Insulation resistance           | 3000MΩ                                              |
| Cable        | P1dB50,Armored low loss phase stable cable (Red+Gray) |             | Insertion Loss                  | (0.0834*L(IN)+(0.06*√F (GHz)))*1.08 dB Max.         |
|              |                                                       |             | VSWR                            | 1.25 Max.                                           |
|              |                                                       |             | Phase stability*                | ±5° Max.<br>(Based on manufacturer test method)     |
|              |                                                       |             | Amplitude stability*            | ±0.05dB Max.<br>(Based on manufacturer test method) |

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## Product Notes

P1dB, Inc.

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Crush resistance >200 lB (100kg)

Flexure life cycles > 20,000

Mating cycles>5,000

Min bend radius 1.18 inch (30 mm)

Operating temp -40 to +125 C.

Compare to Gore Phase-Flex & Maury StabilityPlus test cables.