

High Performance Test Cable Assemblies

FPT-50

Phase & Loss Stable, Long Flex Life

Features:

- Low insertion loss
- High Phase Stability
- High Power
- High Durability

Applications:

- Laboratory Test
- Avionics
- Phased-array Radar
- Satellite Communication

Electrical

Frequency	DC-50GHz
Impedance	50Ω
Velocity of Propagation	76%
Shielding Effectiveness	90dB Min.
Voltage Withstand	500V DC
Phase Stability ^[1]	±7°
Amplitude Stability ^[1]	±0.05dB

[1] 50mm radius, 360° bending

Mechanical

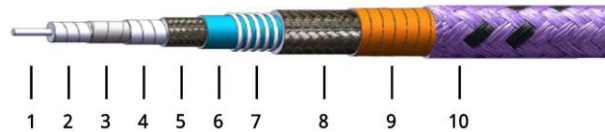
Bend Radius (installation/repeated)	18mm/36mm Min.
Armored Bend Radius (installation/repeated)	30mm/60mm Min.
Bending Life Cycle	100,000
Mating Life Cycle ^[2]	5,000

[2] For connectors 2.4mm, 2.92mm, 3.5mm, SMA, N only.

Environmental

Temperature -55 ~ +165°C

Construction



No	Name	Size (mm)	Material
1	Inner Conductor	0.72	Silver-plated copper
2	Dielectric	2.1	Low density PTFE
3	Inner Shield	2.25	Silver-plated copper tape
4	Interlayer	2.55	Low density PTFE
5	Outer Shield	3.01	Silver-plated copper braid
6	Jacket	3.60	FEP
7-9	Armor (optional)	5.50	Composite
10		6.00	PTFE

Tolerance: ±0.02mm [±0.008in]

Attenuation & Power Handling

Frequency (GHz)	1	2	3	6	8	10	12.4	18	26.5	40	50
Attenuation ^[3] (dB/100m)	48.1	68.3	83.9	119.4	138.4	155.2	173.4	210.2	257.1	319.2	359.2
Average Power ^[4] (W)	506	356	290	204	176	157	140	116	95	76	68

[3] VSWR: 1.0; Ambient: +25°C (77°F); Raw cable

[4] VSWR: 1.0; Ambient: +40°C (104°F); Sea cable

Calculate Cable Attenuation: Attenuation (dB/100m) = 1507808 * √F (MHz) + 0.000440 * F (MHz)

Calculate Connector Attenuation: Attenuation (dB/100m) = 0.03 * √F (MHz)

Connector Types:

- 2.4mm (50GHz, VSWR 1.4)
- 2.92mm (40GHz, VSWR 1.25)
- 3.5mm (33GHz, VSWR 1.35)
- SMA (26.5GHz, VSWR 1.25)
- N (18GHz, VSWR 1.25)

Note: VSWR increase 0.1 (Right Angle)