

## QT50 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 <sup>*1</sup> :	±7°
Amplitude Stability <sup>*1</sup> :	±0.05dB

[1] 50mm radius, 360° bending

### Mechanical

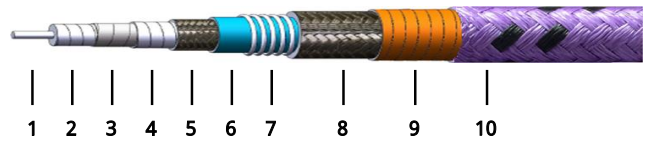
Unarmored Bend Radius (installation/repeated):	18mm/36mm min.
Armored Bend Radius (installation/repeated):	30mm/60mm min.
Bending Life Cycle:	100,000
Mating Life Cycle <sup>*2</sup> :	5,000

[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: ±0.2mm [±0.008in]

### Attenuation & Power Handling

Frequency (GHz)	1	2	3	6	8	10	12.4	18	26.5	40	50
Attenuation <sup>*3</sup> (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 <sup>*4</sup> (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 level

Calculate Cable Attenuation: Attenuation (dB/100m) =  $1.507808 * \sqrt{F} \text{ (MHz)} + 0.000440 * F \text{ (MHz)}$

Calculate Connector Attenuation: Attenuation (dB) =  $0.03 * \sqrt{F} \text{ (GHz)}$

### How To Order

#### QT50W-X-Y-Z

W: Armor (P - armor, blank - no armor)

X: Frequency In GHz

Y: Connector type

Z: Length in meters

#### Examples:

To order a QT50 test cable assembly with armor, DC-50GHz, 2.4mm male to 2.4mm female, 0.5 meter, specify QT50P-50-22F-0.5.

#### Connector naming rules:

- 2 - 2.4mm (50GHz, VSWR 1.4)
- K - 2.92mm (40GHz, VSWR 1.3)
- 3 - 3.5mm (33GHz, VSWR 1.35)
- S - SMA (26.5GHz, VSWR 1.3)
- N - N (18GHz, VSWR 1.25)

Female Connector - Add 'F' after connector name

Right Angle - Add 'R' after connector name(VSWR increase 0.1)

## T50 Mating Connector

### QC2-MRG-T50-1

2.4mm male, Right angle,  
Stainless steel

### QC2-MG-T50-2

2.4mm male, Stainless  
steel

### QC2-FG-T50-1

2.4mm female, Stainless  
steel

### QC2-FRG-T50-1

2.4mm female, Right angle,  
Stainless steel

### QCK-MG-T50-1

2.92mm male, Stainless  
steel

### QCK-MRG-T50-1

2.92mm male, Right angle,  
Stainless steel

### QCK-FG-T50-1

2.92mm female, Stainless  
steel



### QCK-FRG-T50-1

2.92mm female, Right  
angle, Stainless steel

### QC3-MG-T50-1

3.5mm male, Stainless  
steel

### QC3-FG-T50-1

3.5mm female, Stainless  
steel

### QCS-MG-T50-1

SMA male, Stainless steel

### QCS-FG-T50-1

SMA female, Stainless steel

### QCN-MG-T50-4

N male, Stainless steel

### QCN-FG-T50-1

N female, Stainless steel



## T50P Mating Connector

### QC2-MRG-T50P-1

2.4mm male, Right angle,  
Stainless steel

### QC2-MG-T50P-4

2.4mm male, Stainless  
steel

### QC2-FG-T50P-4

2.4mm female, Stainless  
steel



### QCN-MG-T50P-3

N male, Stainless steel

### QC3-MG-T50P-1

3.5mm male, Stainless  
steel

### QC3-FG-T50P-1

3.5mm female, Stainless  
steel



## High Performance Test Cable Assemblies

**QCK-MG-T50P-4**

2.92mm male, Stainless steel

**QCS-MG-T50P-3**

SMA male, Stainless steel

**QCK-MRG-T50P-1**

2.92mm male, Right angle, Stainless steel

**QCS-FG-T50P-1**

SMA female, Stainless steel

**QCK-FG-T50P-3**

2.92mm female, Stainless steel

**QCN-FG-T50P-1**

N female, Stainless steel

**QCK-FRG-T50P-1**

2.92mm female, Right angle, Stainless steel

