

# TC-048 40GHz compatible

Series Number	
TC-048	
High Frequency Test Cables	Precision Type



For measurement at 40GHz, high-end product  
 Triple-shielded, non-magnetic  
 Precision grade cable with low loss and high phase stability  
 Phase-stable against bending and temperature  
 (Highest-end product in phase stability vs. bending)  
 Suitable for net-analysis and other measurement applications

## Mechanical Characteristics

Outer Diameter/Coating	4.06mm	FEP Gray
Center Conductor	0.92mm	Silver plated copper, Single
insulator	2.67mm	Microporous PTFE
Outer Conductor1	3.68mm	Silver-plated copper, Plain Band Braid
Outer Conductor2	3.27mm	Aluminum foil
Outer Conductor3	3.04mm	Silver plated copper, Braided
Operating temperature	-40°C ~ +125°C (Typ. -65°C ~ +205°C)	
Bending radius (min.)	Inner R23mm	
Mass	60g/m	

## Electrical Characteristics

Impedance	50 Ω
Breakdown Voltage	7000V
Shield Characteristics	> 90dB
Wavelength shortening rate	75%
Frequency(Max.)	40GHz
Insertion Loss (typ)	0.35dB/m(@1GHz) / 0.83dB/m(@5GHz)
VSWR (typ)	1.10(SMA), 1.20(2.92mm)
Phase vs Bending (typ)	0.3° @6GHz, 0.4° @10GHz (Inner 20mm, 90-degree bend)
Phase vs Temperature (typ)	1500PPM (Max.) (-35°C ~ +125°C)

## Applicable Connectors and Models

①	TC	-	②	-	③	-	④	-	□□□□	-	△△	⑥
			Cable Type		Connector1		Connector2		Length		Option	
							⑤ L (mm)					
					③						④	
①	TC	RoHS compliant *Non-RoHS requests are negotiable.										
②	048	Cable Type										
③ ④	2.92P	2.92mm(P)	~40GHz									
	2.92PNM	2.92mm(P) Non-magnetic type	~40GHz									
	2.92J	2.92mm(J)	~40GHz									
	SP	SMA(P)	~18GHz (~26.5G ※)									
	SJ	SMA(J)	~18GHz (~26.5G ※)									
	3.5P	3.5mm(P)	~30GHz									
	3.5J	3.5mm(J)	~30GHz									
	⑤	□□□□	Cable length (mm)									
⑥	No entry	Standard Specification										
	26.5G	Frequency ~26.5GHz ※	Only SMA(P) and SMA(J)									

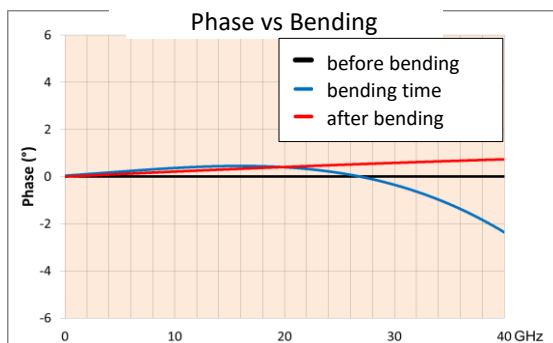
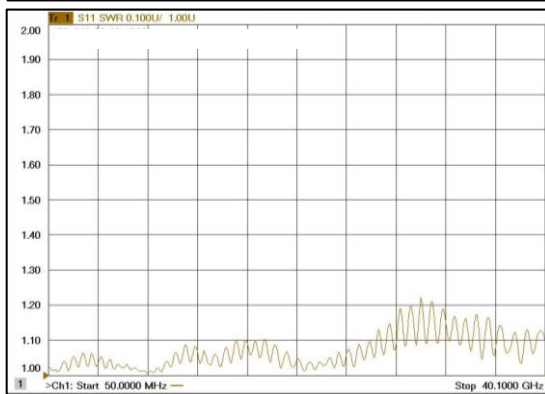
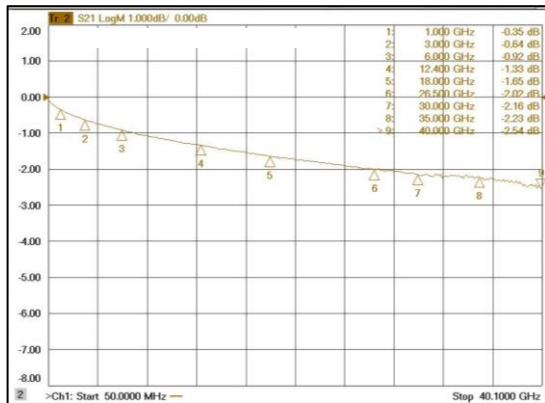
In the case of standard specifications, ⑥ is not required to be filled in.

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## Measured data

Model : TC-048-2.92P-2.92P-1000

(2.92P-2.92P L=1m ~40GHz)



These are reference values for phase change with a bending radius of 20 mm and a 90-degree bend.

Minimal phase change in counterbending (top-of-the-line product)

### Actual Applications

- Wireless communication measurements for cellular carriers. (~40GHz)
- 5G communication measurement.
- Antenna wiring.
- Measurement cables for Netana, Spearana, etc.

### Custom Cases

- We can also customize the performance, connectors, cable length, etc.
- We can also provide various custom-made products.
- Phase and electrical length control.
- Non-magnetic support.

GHz	I.L.(dB) (Typ)	VSWR(U) (Typ)
1	-0.35	1.02
2	-0.51	1.05
3	-0.64	1.04
4	-0.74	1.03
5	-0.83	1.05
6	-0.92	1.02
7	-0.99	1.02
8	-1.07	1.01
9	-1.14	1.01
10	-1.20	1.04
11	-1.28	1.08
12	-1.31	1.07
13	-1.38	1.03
14	-1.43	1.04
15	-1.51	1.09
16	-1.53	1.09
17	-1.59	1.05
18	-1.65	1.05
19	-1.68	1.04
20	-1.73	1.03
21	-1.76	1.03
22	-1.82	1.04
23	-1.86	1.03
24	-1.90	1.03
25	-1.94	1.08
26	-1.97	1.10
28	-2.04	1.07
29	-2.07	1.07
29	-2.13	1.13
30	-2.16	1.20
31	-2.16	1.21
32	-2.20	1.18
33	-2.19	1.13
34	-2.17	1.08
35	-2.23	1.04
36	-2.23	1.06
37	-2.31	1.06
38	-2.36	1.05
39	-2.43	1.07
40	-2.54	1.11

The data, etc. shown in the catalog are representative values and are not guaranteed.