

# Clarity™ 70

## Test and Measurement



The Clarity™ 70 test cable boasts steel torque crush and overbend protection with abrasion resistance - without compromising flexibility. The cable is ultra-stable through 70 GHz with exceptionally low attenuation. The design includes an ergonomic, stainless steel protective barrel strain relief and a hex coupling nut.

### Features:

- Broad Frequency Response
- Rugged & Durable
- Phase Stable Over Temperature
- Long Flex Life

### Specifications

**Ω** Impedance  
50 Ohms

**Op Temp**  
-67 to 302°F  
-55 to 150°C

Units

Parameter	Units	Value
Diameter	in (mm)	0.20 (5.08)
Weight	lb/ft (kg/m)	(0.02)
Minimum Bend Radius	in (mm)	1.00 (25.4)
Crushing	lb/in (kg/m)	200 (35.75)
Flex Life		> 50000
Maximum Frequency	GHz	70
Velocity of Propagation	%	80
Capacitance	pF/ft (pF/m)	24.6 (80.7)
Delay	ns/ft (ns/m)	1.27 (4.14)
Shielding	dB	-90
VSWR Typical		1.35:1
VSWR Max		1.40:1
Phase Stability	°	+/- 5
Amplitude Stability	dB	+/- 0.10

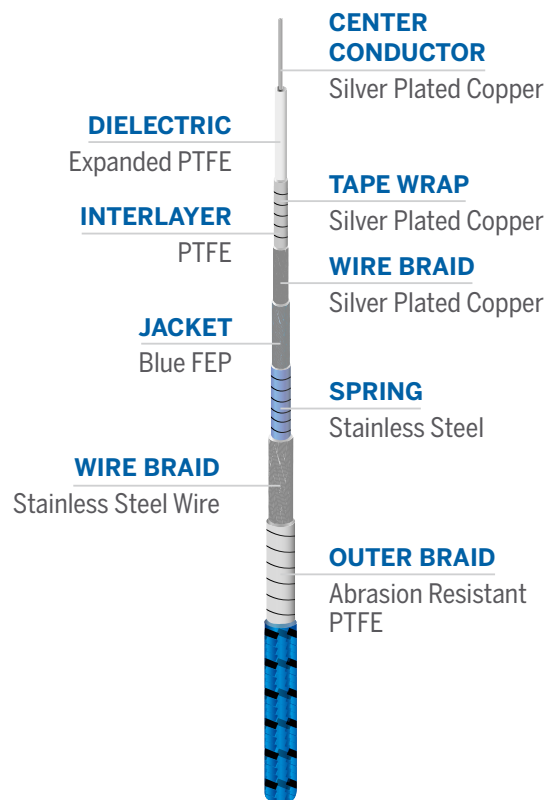
### Calculation

$$IL = (K1 \times v(f) + K2 \times f) \times \text{Cable Length}$$

Cable Insertion Loss  
f = Frequency (MHz)

Use K values with matching length unit

K values	dB/ft	dB/m
K1	0.00611	0.02005
K2	0.000002	0.000004



### Attenuation - (+25°C)

Frequency MHz	dB/ft	dB/m
1000	0.19	0.62
2500	0.31	1.02
5800	0.47	1.54
12400	0.70	2.30
18000	0.84	2.76
26500	1.03	3.38
40000	1.28	4.20
70000	1.71	5.61

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## Ordering Guide

CLS70

-XXX  
- Connector A

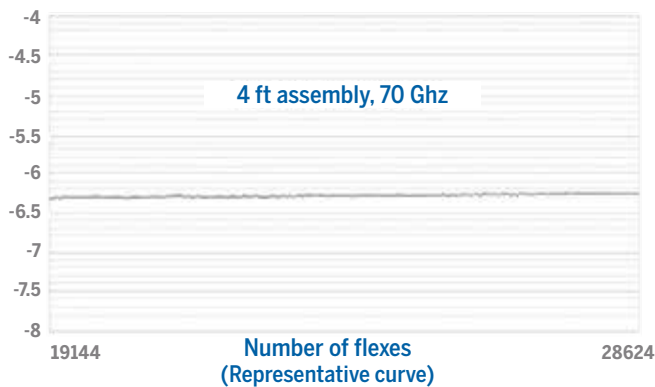
XXX-  
Connector B -

XX.X  
Length / 3 dig

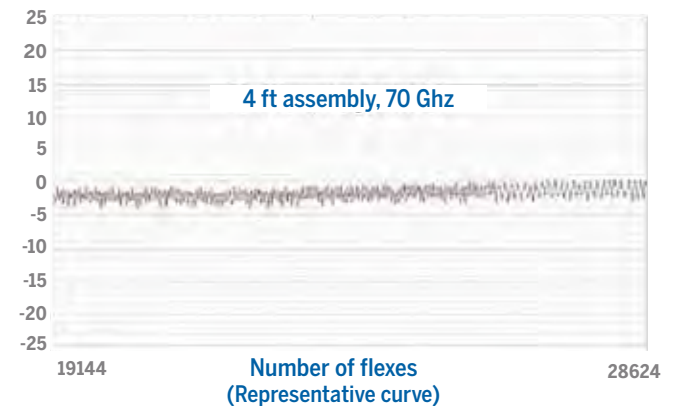
X  
M Meters  
F Feet

Code	Description
18M	1.85mm Male Connector
18F	1.85mm Female Connector
18RF	1.85mm Ruggedized Female

### Amplitude Stability While in Motion



### Phase Stability While in Motion



Our flex test method uses 4ft cables at 70GHz. The testing equipment calibration occurs every 8 hours. Email us at [techquestions@timesmicro.com](mailto:techquestions@timesmicro.com) to obtain a copy of the test procedure specifications and results.



Global manufacturing capability: US, and Asia.



Heritage—in the air and on the ground, thousands of assemblies built over decades.



Assembled and tested assemblies provide assured performance.

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