Junkosha
Enabling Technology Innovators

Junkosha Microwave/mmWave Coaxial Cable Assembly

1 Series - Wide Temperature Range, Slim and Durable

Slim Phase Stable Cable 161

Up to 67 GHz

- Cable assemblies with a small diameter at the neck, making it the most suitable for a Multiport VNA.
- Torque Driver is available to mount on narrow pitch connector arrangement board.
- Cable assemblies with excellent phase stability against bending and temperature.
- Cable assemblies with excellent mechanical characteristics using SUS flexible tubing for protection.
- Wide range of connectors: 3.5 mm, 2.92 mm, 2.4 mm and 1.85 mm

Cable Properties

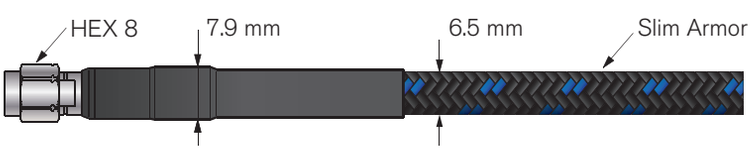
Electrical Propertie

Maximum Operating Frequency	67.0 GHz
Characteristic Impedance	50 Ω
Capacitance (Typical)	90 pF/m
Propagation (Typical)	4.35 nsec/m
Velocity of Propagation (Typical)	77 %
Higher Mode Frequency (Typical)	70.0 GHz
VSWR (Typical)	1.30
Maximum Frequency Insertion Loss (67.0 GHz)	7.3 dB/m

Mechanical Properties

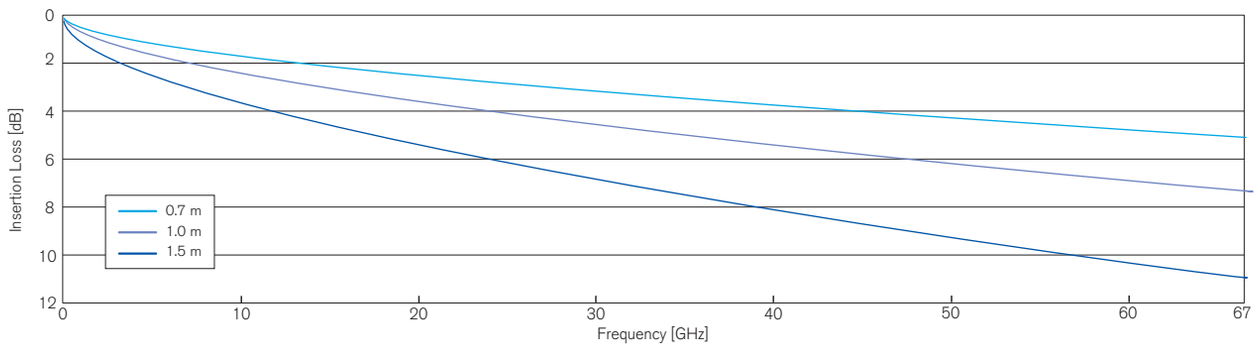
Maximum outer diameter	7.9 mm (0.311")
Cable outer diameter	6.5 mm (0.256")
Minimum bending radius (inner side)	30 mm
Cable Mass (Typical)	79 g/m
Continuous Operating Temperature	-65~+125°C
Armored side pressure	196 N/cm
Assembly Length	600~1,500 mm (24~60")

Image courtesy of Keysight Technologies Inc.



Maximum Frequency: 67.0 GHz
Temperature Range: -65 ~ +125°C

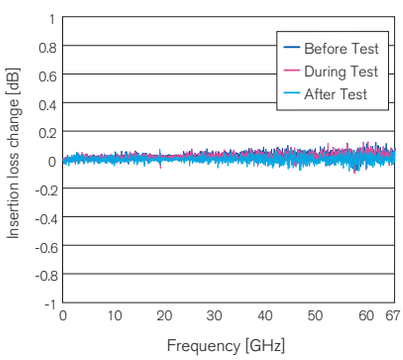
Cable Typical Insertion Loss

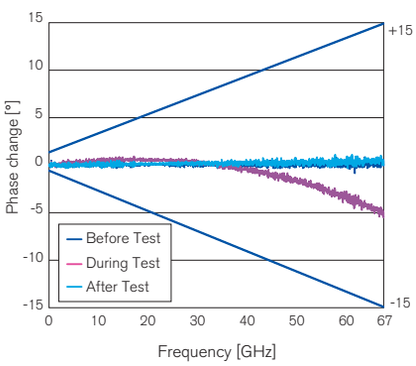


Typical Insertion Loss $(0.0232 \times f\,[GHz] + 0.702 \times \sqrt{f\,[GHz]} + 0.02) \times L\,[m]$ Maximum Insertion Loss $(0.0232 \times f\,[GHz] + 0.702 \times \sqrt{f\,[GHz]} + 0.02) \times 1.12 \times L\,[m]$

Phase Stability Test Data

Static Bending Data (Insertion Loss Change and Phase Change)

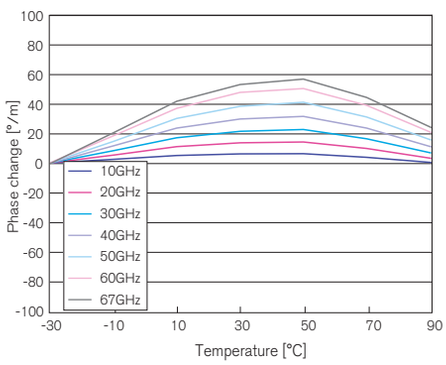




* Guaranteed value within ±15° at 67.0 GHz (In shipping value)

* The cable was wrapped 360° around ø60mm mandrel.

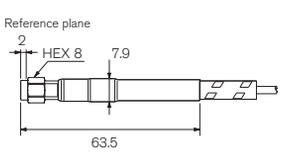
Phase Change vs Temperature



The cable was measured in chamber every 20°C from -30 to 90°C, 1 hour after the temperature changed. Figure shows the excellent phase stability over the temperature changes.

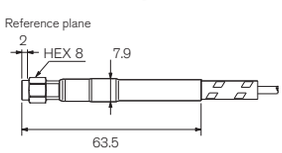
Connector and Placing Order

3.5 mm (m) Straight (Code: DMS)



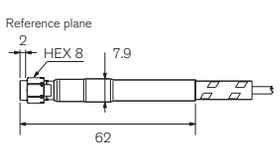
Maximum Operating Frequency: 26.5 GHz
Mass : 8 g

2.92 mm (m) Straight (Code: KMS)



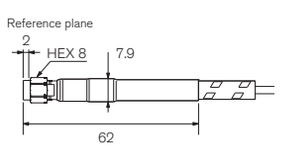
Maximum Operating Frequency: 40.0 GHz
Mass : 8 g

2.4mm (m) Straight (Code: LMS)



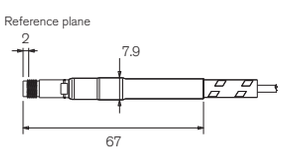
Maximum Operating Frequency: 50.0 GHz
Mass : 8 g

1.85mm (m) Straight (Code: VMS)



Maximum Operating Frequency: 67.0 GHz
Mass : 8 g

1.85 mm (f) Straight (Code: VFS)



Maximum Operating Frequency: 67.0 GHz
Mass : 7 g

Order Form Example

Please provide the following information when placing an order.

a : Cable	b : Assembly Length
c : Connector I	d : Connector II
e : Armor	

Example
Assembly Length: 610mm
Connector I : 2.4 mm (m)
Connector II : 1.85 mm (m)

Catalog No.
MWX161-00610 LMS VMS /B
a b c d e

Junkosha Inc.
Tokyo Business Center
15F Ochanomizu Kyoun Bldg.
2-2 Kanda-Surugadai, Chiyoda-ku
Tokyo 101-0062
Japan
P +81 3 3518 6520

Junkosha USA Inc.
West Coast Office
2415 Campus Drive
Suite 140
Irvine, CA 92612
USA
P +1 949 825 6177

Junkosha USA Inc.
European Office
113 The Promenade
Cheltenham
GL50 1NW
UK
P +44 1242 248 703

Junkosha ATC Inc.
Bldg. 33 Export Processing Zone
Supporting Industrial Park
No. 666 Jianlin Road
Suzhou High-New District, Suzhou
Jiangsu, P. R. China
P +86 512 6920 0218

www.junkosha.com
SH2303_06H_02