MICROWAVE FARM's Test Cable assemblies are complete line of high performance flexible microwave cable assemblies.
The W2/W1 seies have Low density PTFE(W201, W213 and W1 series) and porus PFA (W202, W203) structure to achieve velocity propagation of over 77%.

W-Test Series cable assemblies are claimed to have excellent insertion loss, high phase/amplitude stability in relation to temperature.

Operation Frequency Range

W2 : 26.5, 40, 50 and 67 GHz
W1 : 18, 26.5 and 40 GHz
W-Test : 50 and 67 GHz

Typical Applications

-Telecommunication systems
-Board-to-board Systems
-Environmental test chambers
-Antenna Arrays
-Test bench systems
-Wafer probing

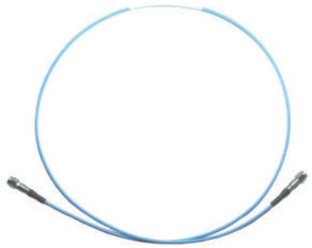
MICROWAVE FARM®

Test Cable Assemblies

W2 Series - Low Loss & Phase Stability cable
W1 Series - Ultra Low Loss cable
W-Test Series - for Precition Test

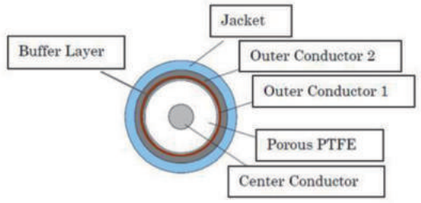
info@takitek.com
www.takitek.co.jp

W2 Series are complete line of high performance flexible microwave cable assemblies. Specially, **W201** series have low density PTFE structure to achieve velocity propagation of **78%**.
W201 series have excellent RF performance up to **50, 67 GHz** with 2.4mm & 1.85 mm connectors, respectively.



■ *Features*

- Center Conductor : Silver Plated copper
- Insulator : Low Density PTFE
- Outer Conductor 1 : Silver Plated Copper Tape
- Buffer Layer : Resinous Tape
- Outer Conductor 2 : Silver Plated Copper Tape
- Jacket : FEP (Sky-Blue)



■ *Specification*

Scope	Specification		W201 (50, 67 GHz)
Physical	Center Conductor (mm)		0.51
	Insulator (mm)		1.53
	Outer Conductor 1 (mm)		1.64
	Buffer layer		Resinous tape
	Outer Conductor 2 (mm)		2.16
	Jacket		2.70 ± 0.05
Electrical	Impedance		50 ± 1 Ohm
	Velocity of Propagation (%)		Typical 78
	Capacitance		85 pF/m
	VSWR		< 1.3 to 50 GHz
	(based on connector selection)		< 1.4 to 65 GHz
	Attenuation at 20℃ (Typical)	at 26.5 GHz	3.5 dB/m
		at 40 GHz	4.4 dB/m
		at 50 GHz	5.0 dB/m
		at 65 GHz	5.9 dB/m
Mechanical & Environmental	Weight (g/M)		20
	Min. bending radius		15
	Temperature (storage)		-65 ～ +125 ℃

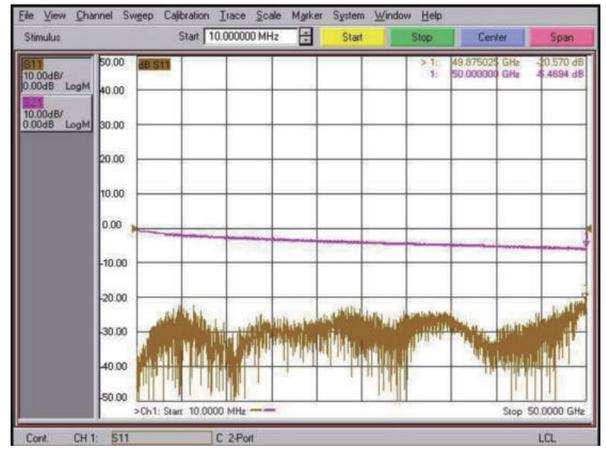
W2 Series
High Performance Cable Assembly (W201) (50 & 60 GHz)

■ *Test result*

W201 cable aseembly

Part No.: W201-2M12M1-1M

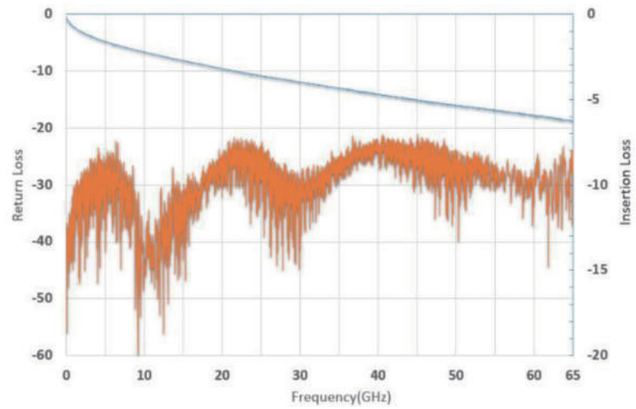
- Frequency : 10 MHz to 50 GHz
- Connector : 2.4 mm (Male)
- Cable Length : 1 meter



W201 cable aseembly

Part No.: W201-VM1VM1-1M

- Frequency : 10 MHz to 65 GHz
- Connector : 1.85 mm (Male)
- Cable Length : 1 meter



■ Selection Guide

W201 - 2M1 2M1 - 1M

Cable Type	Connector type	Cable Length
W201	2M1: 2.4 mm Male VM1: 1.85mm Male	Unit : Meter

W201(50 GHz) : 2.4 mm Connector

W201(67 GHz) : 1.85 mm Connector

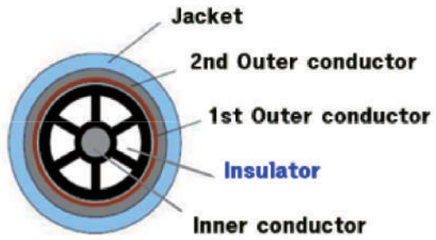
info@takitek.com
www.takitek.co.jp

W2 Series are complete line of high performance flexible microwave cable assemblies. The W2 series have low density PFA (W202, 203) & LD-PTFE (W205) structure to achieve velocity propagation of **77%**.

W202, W203 have excellent RF performance up to **40, 26.5 GHz** respectively, specially **excellent phase stability** according to temperature change due to special insulator structure.

■ Features

- Center Conductor : Silver Plated copper
- Insulator : LD PFA
- Outer Conductor 1 : Silver Plated Copper Tape
- Buffer Layer : Resinous Tape
- Outer Conductor 2 : Silver Plated Copper Tape
- Jacket : FEP (Sky-Blue)

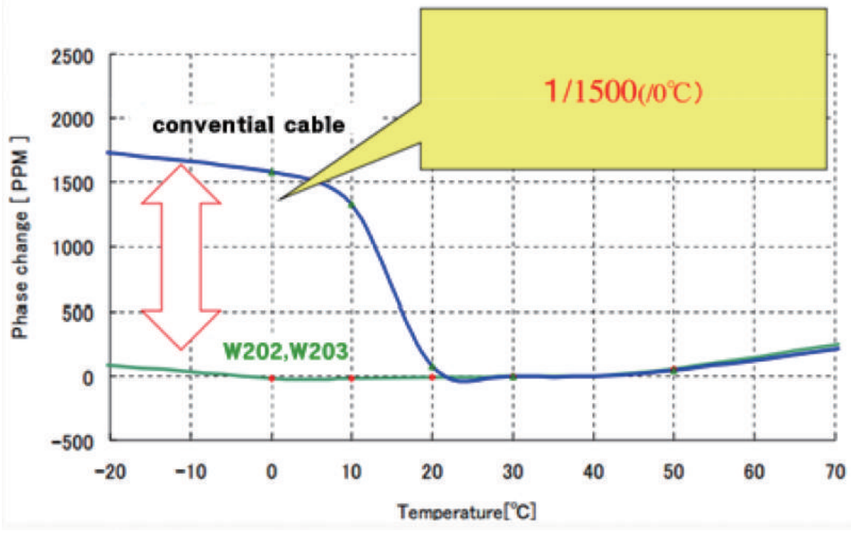


■ Specification

Scope	Specification		W202 (40 GHz)	W203 (26.5 GHz)
Physical	Center Conductor (mm)		0.57	0.93
	Insulator (mm)		1.64	2.65
	Outer Conductor (mm)		2.2	3.3
	Jacket		2.75	3.8
Electrical	Impedance		50 ± 1 Ohm	50 ± 1 Ohm
	Opeeration Freq. (GHz)		40	26.5
	Velocity of Propagation (%)		77	77
	Capacitance (Typical)		86 pF/m	86 pF/m
	Attenuation at 20℃ (Typical)	at 5 GHz	1.5 dB/m	0.9 dB/m
		at 10 GHz	2.2 dB/m	1.3 dB/m
		at 18 GHz	3.0 dB/m	2.0 dB/m
		at 20 GHz	3.2 dB/m	2.1 dB/m
		at 30 GHz	4.2 dB/m	20 dB/m (@26.5 GHz)
Mechanical & Environmental	Weight (g/M)		20	30
	Min. bending radius		15	22
	Temperature (storage)		-40 ～ +125 ℃	-40 ～ +125 ℃

info@takitek.com
www.takitek.co.jp

■ *Phase Change vs Temperature*



■ *Comparison table (W202, 203 vs RG 402, 405)*

	W202 &203	RG402 & 405 Equivalent
Attenuation	O	O
VSWR(S11)	O	O
Vibration resistance	O	X Instability and deterioration of attenuation
Phase(bending)	O Phase change 1 deg or over	△ Phase change 1 deg or over
Phase stability vs Temperature	O	X Greater fluctuation

info@takitek.com
www.takitek.co.jp

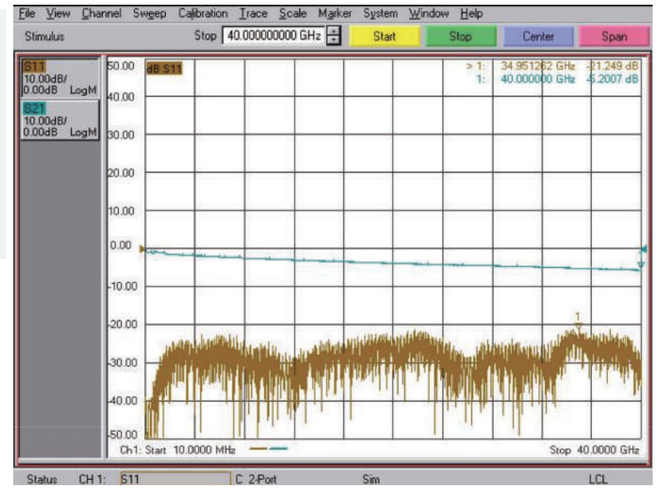
W2 Series
Phase stability Cable Assembly (vs temperature)

■ *Test result*

W202 cable aseembly

Part No.: W202-KM1KM1-1M

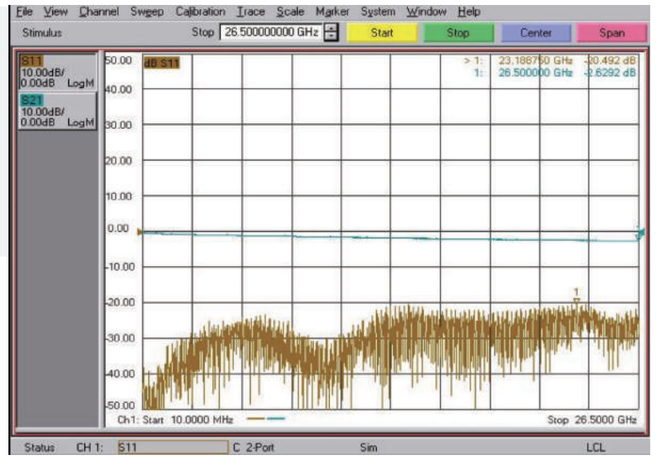
- Frequency : 10 MHz to 40 GHz
- Connector : 2.92 mm (Male)
- Cable Length : 1 meter



W203 cable aseembly

Part No.: W203-SM1SM1-1M

- Frequency : 10 MHz to 26.5 GHz
- Connector : SMA (Male)
- Cable Length : 1 meter

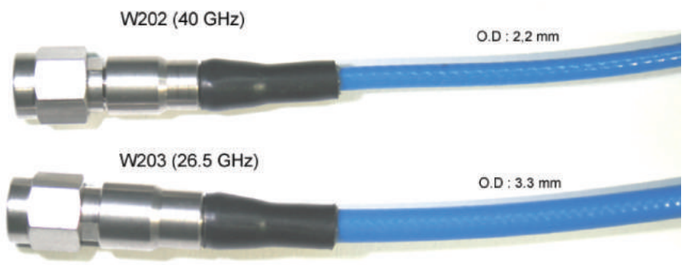


info@takitek.com
www.takitek.co.jp

Selection Guide

W203 - SM1 SM1 - 1M

Cable Type	Connector type	Cable Length
W202 W203	SM1: SMA Male KM1: 2.92mm Male	Unit : Meter



W2 Series are complete line of high performance flexible microwave cable assemblies. Especially, W233 series have low loss **super flexible** cable characteristics and low density PTFE structure to achieve velocity propagation of **76%**.

W233 series have excellent RF performance up to **18, 26.5 GHz** with SMA & N-type connectors, respectively.

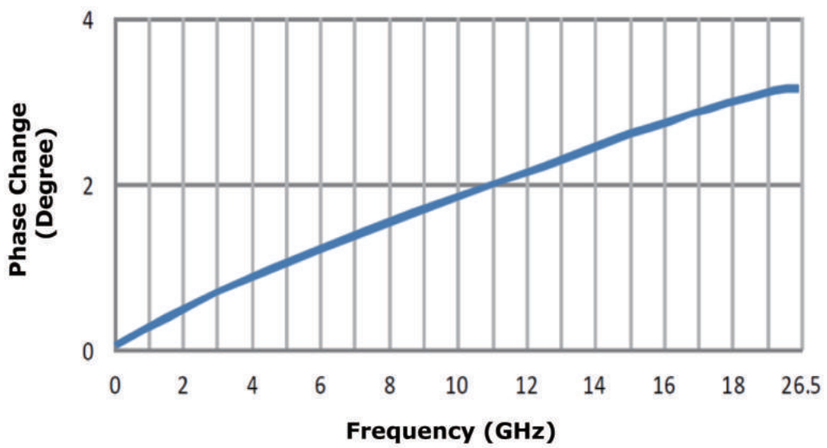
Features

- Center Conductor : Silver Plated copper
- Insulator : Low Density PTFE
- Outer Conductor : Silver Plated Copper Ribbon
- Outer Shields : Silver Plated Copper
- Jacket : Blue PUR

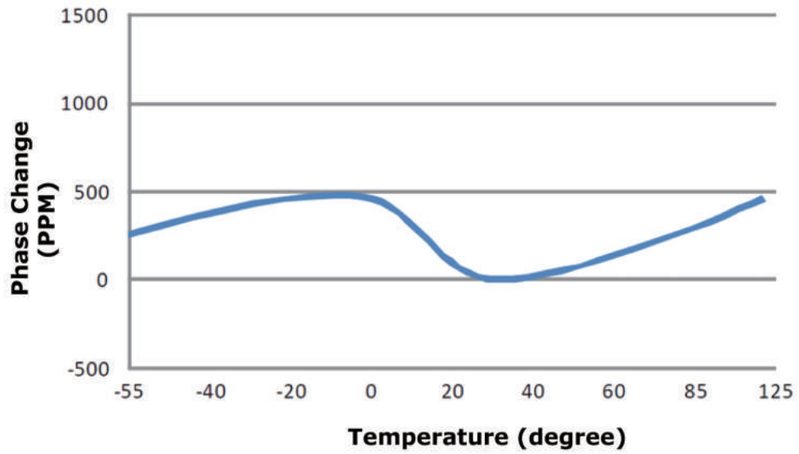
Specification

Scope	Specification		W233 (18, 26.5 GHz)
Physical	Center Conductor (mm)		1.02
	Insulator (mm)		3.07
	Outer Conductor (mm)		3.27
	Outer Shield (mm)		3.78
	Jacket		5
Electrical	Impedance		50 ± 1 Ohm
	Velocity of Propagation (%)		Typical 76
	Capacitance		85 pF/m
	VSWR (based on connector selection)		< 1.2 to 26.5 GHz
	Attenuation at 20℃ (Typical)	at 6.0 GHz	1.0 dB/m
		at 10 GHz	1.4 dB/m
		at 18 GHz	2.0 dB/m
		at 26.5 GHz	2.5 dB/m
Mechanical & Environmental	Weight (g/M)		50
	Min. bending radius		20
	Temperature (storage)		-55 ~ +85 ℃

■ *Mechanical Phase Stability*



■ *Phase Change vs Temperature*

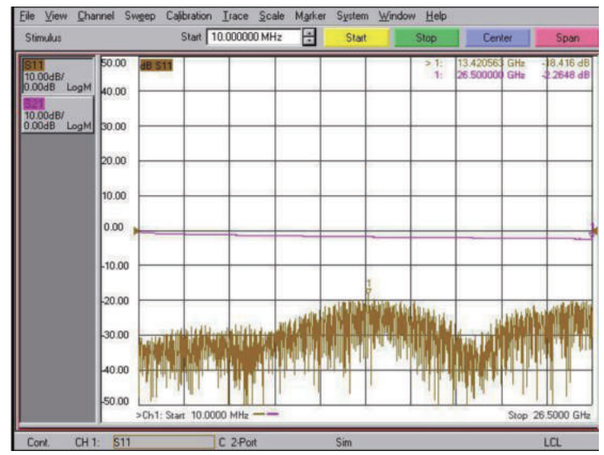


■ *Test result*

W233 cable aseembly

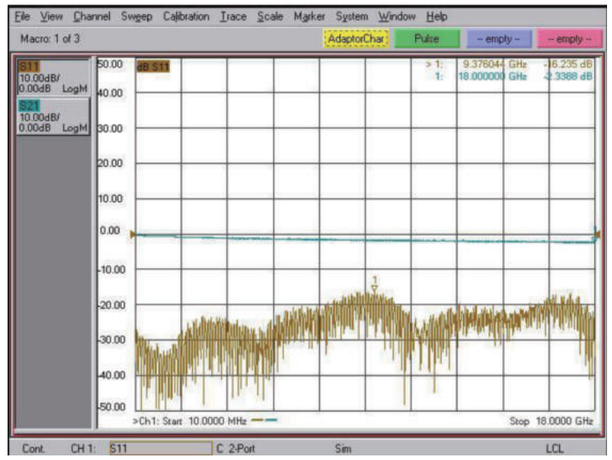
Part No.: W233-SM1SM1-1M

- Frequency : 10 MHz to 26.5 GHz
- Connector : SMA (Male)
- Cable Length : 1 meter



Part No.: W233-NM1NM1-1M

- Frequency : 10 MHz to 18 GHz
- Connector : N-type (Male)
- Cable Length : 1 meter



■ Selection Guide

W233 - SM1 SM1 - 1M

Cable Type	Connector type	Cable Length
W233	SM1: SMA Male NM1: N-type Male	Unit : Meter

W2 Series are complete line of high performance flexible microwave cable assemblies. W213 have low loss **flexible** cable characteristics with amplitude stability and low density PTFE structure to achieve velocity propagation of **76%**.

W213 series have excellent RF performance up to **26.5 GHz** with SMA & N-type connectors, respectively.

■ Features

- Center Conductor : Silver Plated copper
- Insulator : Low Density PTFE
- Outer Conductor : Silver Plated Copper Ribbon
- Inner layer : Low Dnsity PTFE
- Outer Shields : Silver Plated Copper
- Jacket : FEP

■ Specification

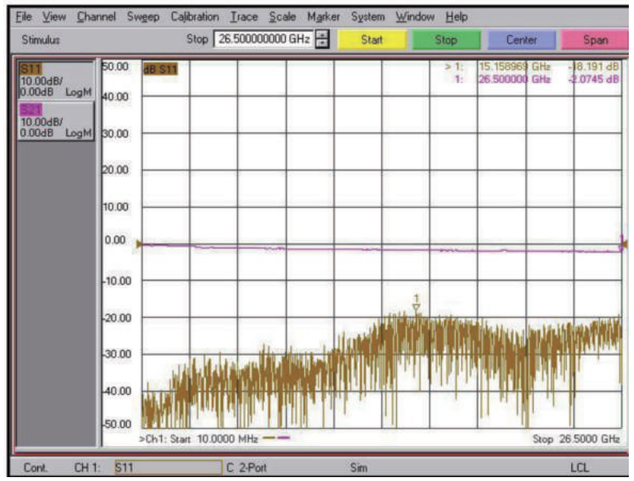
Scope	Specification		W213 (26.5 GHz)
Physical	Center Conductor (mm)		1.29
	Dielectric (mm)		3.91
	Outer Conductor (mm)		4.15
	Inner layer (mm)		4.28
	Outer Shields		4.73
	Jacket		5.2
Electrical	Impedance		50 Ohm
	Velocity of Propagation (%)		Typical 76
	Shielding effectiveness (dB)		<-100
	VSWR (based on connector selection)		< 1.3 to 26.5 GHz
	Attenuation at 20℃ (Typical)	at 6.0 GHz	0.7 dB/m
		at 10 GHz	1.0 dB/m
		at 18 GHz	1.3 dB/m
		at 26.5 GHz	1.6 dB/m
Mechanical & Environmental	Weight (g/M)		60
	Min. bending radius		20.8
	Temperature (storage)		-55 ～ +200 ℃

■ *Test result*

W213 cable aseembly

Part No.: W213-SM1SM1-1M

- Frequency : 10 MHz to 26.5 GHz
- Connector : SMA (Male)
- Cable Length : 1 meter



■ *Selection Guide*

W213 - SM1 SM1 - 1M

Cable Type	Connector type	Cable Length
W213	SM1: SMA Male NM1: N-type Male	Unit : Meter

W1 Series are complete line of high performance flexible microwave cable assemblies.
The W1 have extruded **Low density PTFE dielectric** structure to allow low dielectric constant as close as air up to 1.3 and achieve fast velocity propagation of **83 %**.

W1 Series have the lowest insertion loss available to **18, 26.5, 40 GHz**.
These low loss cable assemblies are extremely versatile, moderately priced and fit a variety of applications.

■ *Features*

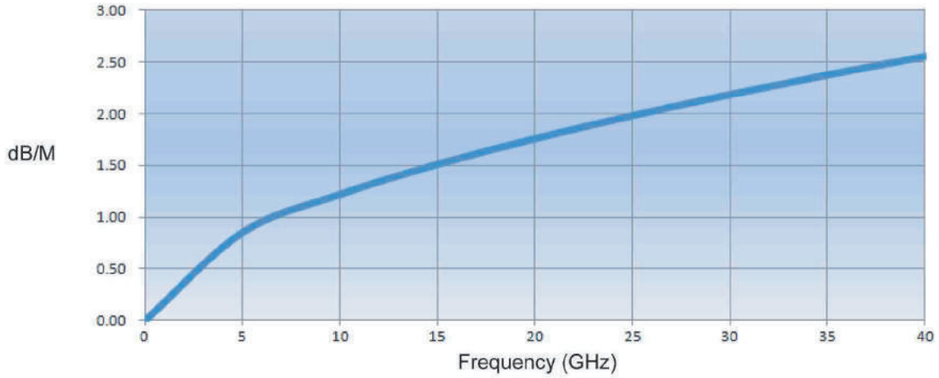
- Center Conductor : Silver Plated Copper
- Dielectric core : ; LD PTFE
- Outer Conductor : Silver Plated Copper Ribbon
- Outer Shield : Silver Plated Copper

■ *Specification*

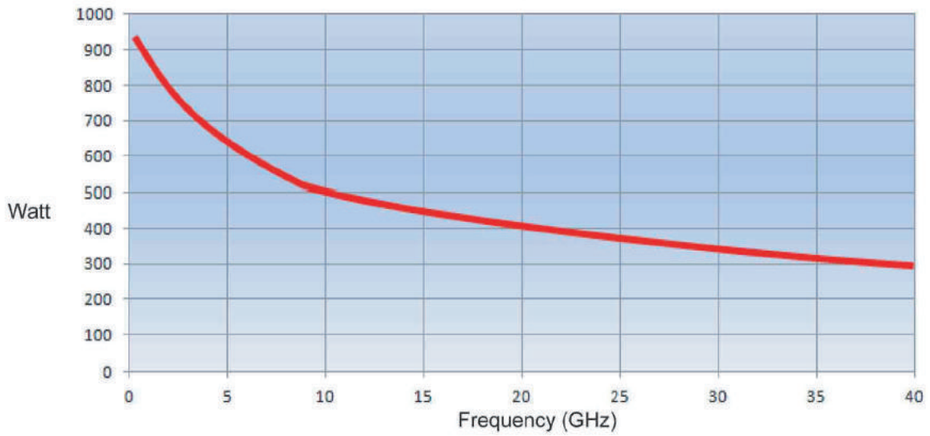
Scope	Specification	W100	W101	W102
Physical	Center Conductor	0.91	1.45	2.30
	Dielectric	2.50	4.00	6.20
	Outer Conductor	2.66	4.20	6.55
	Outer Shield	3.15	4.70	7.10
	Jacket	3.60	5.10	7.80
Electrical	Impedance(Ohm)		50	
	Operation Freq.(GHz)	40	26.5	18
	Velocity of Propagation(%)		83	
	Shielding Effectiveness(dB)		90	
	Voltage Withstand(V,DC)	1,000	1,500	2,000
Mechanical & Environmental	Weight (g/M)	33	50	130
	Bending Radius : Installation (mm)	18	20	35
	Repeated (mm)	36	50	80
	Mechanical Phase		± 5°	
	Temperature (Operating)		-55 ~+165℃	
	Temperature (Storage)		-65 ~+165℃	

W100 (40 GHz)

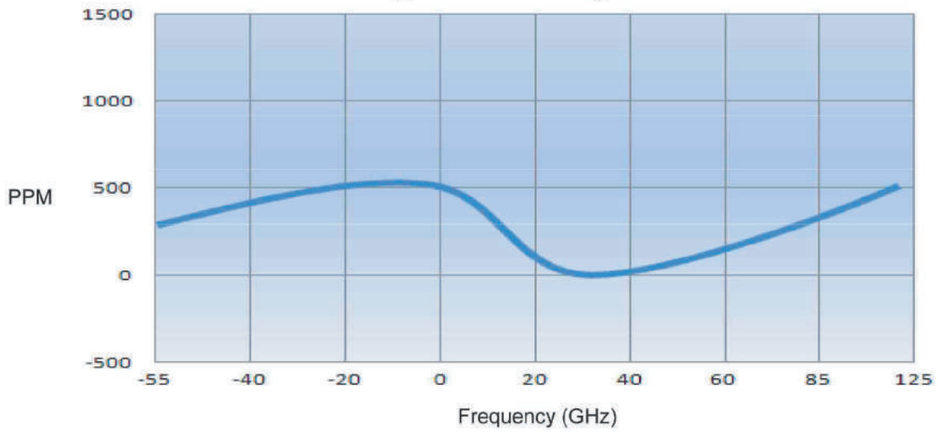
Cable Attenuation (Nominal Values @ +25 ℃ Ambient temperature)



Power Handling (Maximum Values @ +40 ℃ Ambient temperature & Sea level)

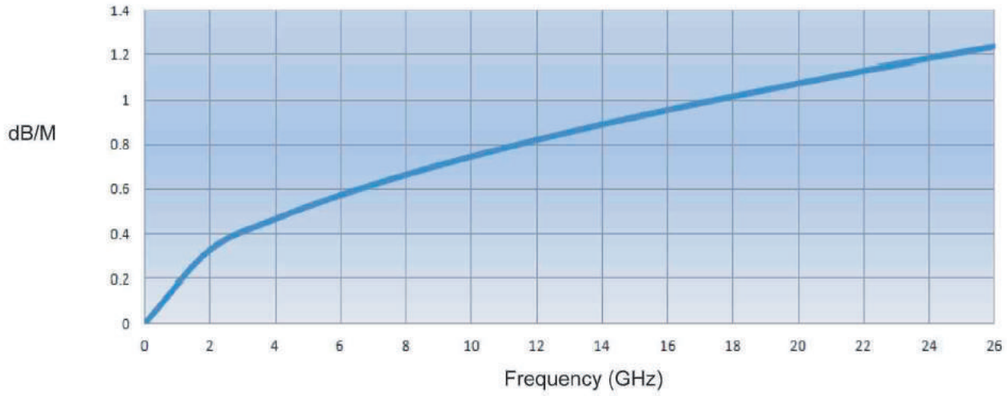


Typical Phase change

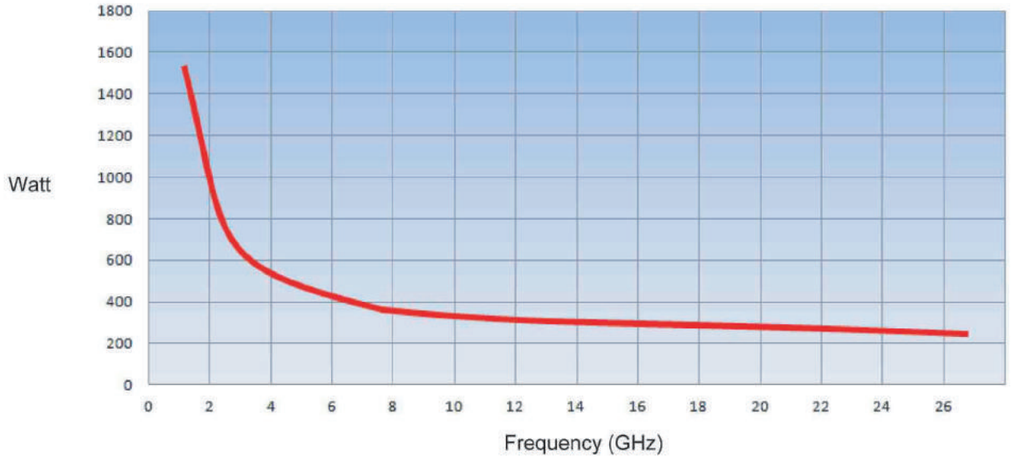


W101 (26.5 GHz)

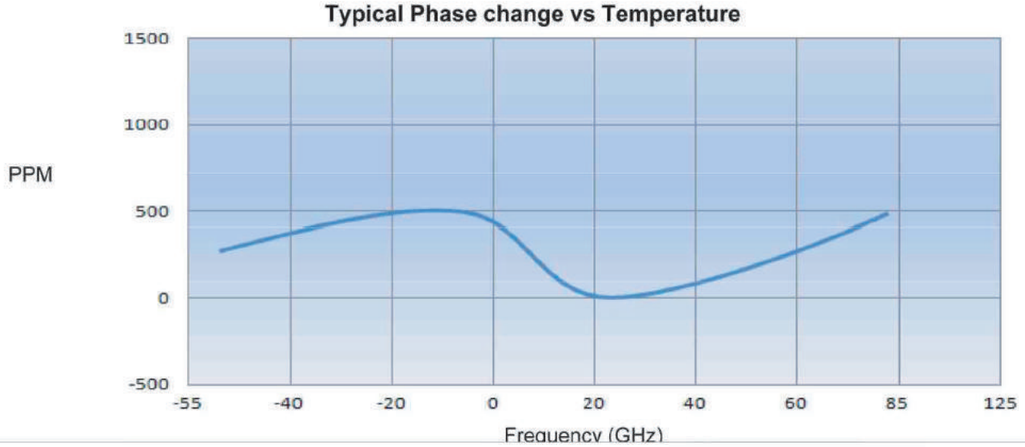
Cable Attenuation (Nominal Values @ +25 ℃ Ambient temperature)



Power Handling (Maximum Values @ +40 ℃ Ambient temperature & Sea level)

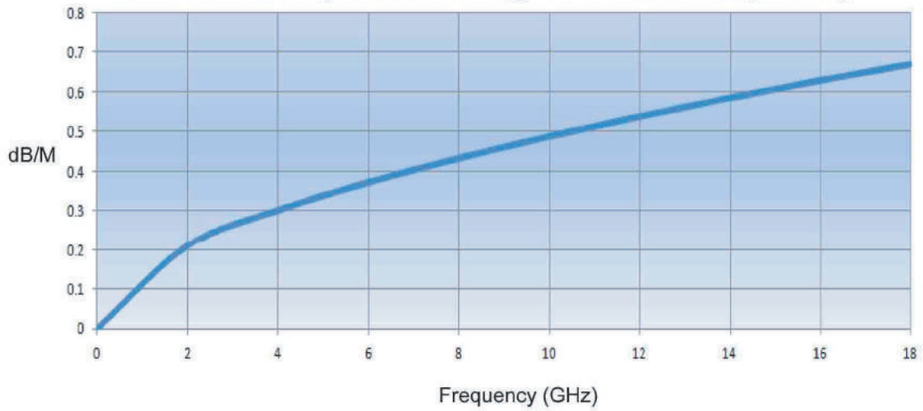


Typical Phase change vs Temperature

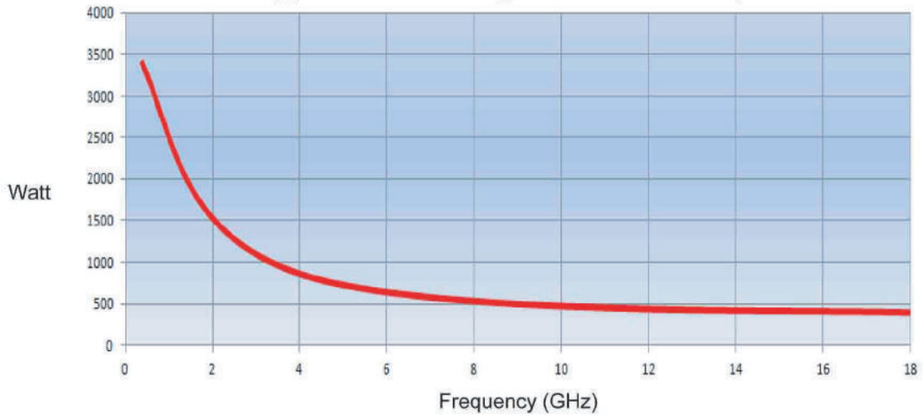


W102 (18 GHz)

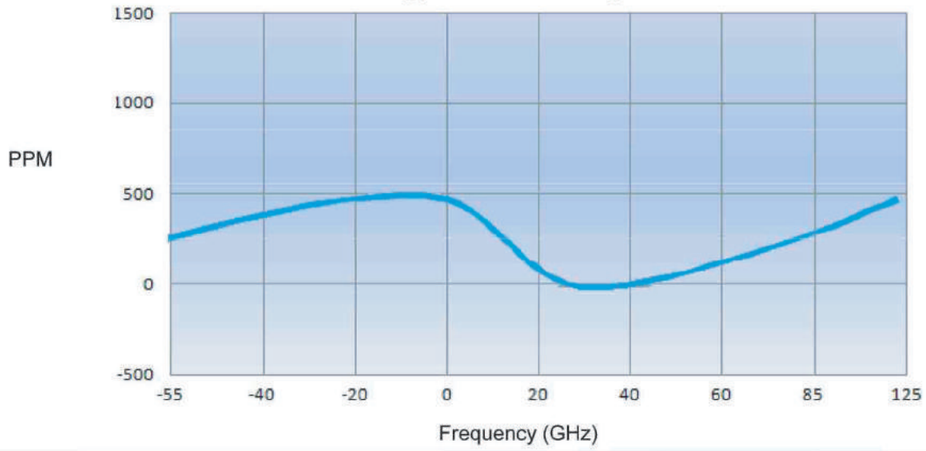
Cable Attenuation (Nominal Values @ +25 ℃ Ambient temperature)



Power Handling (Maximum Values @ +40 ℃ Ambient temperature & Sea level)



Typical Phase change

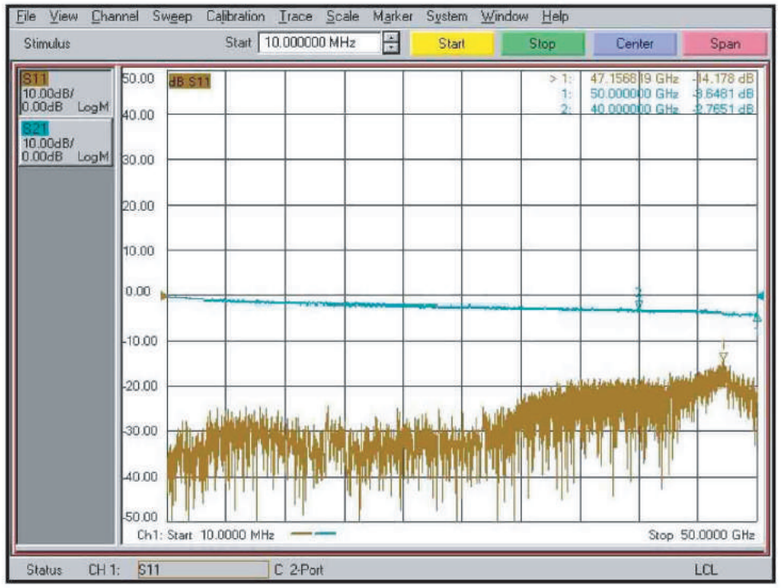


Test Result

W100 cable Assembly

Part No: W100-24M24M-1M

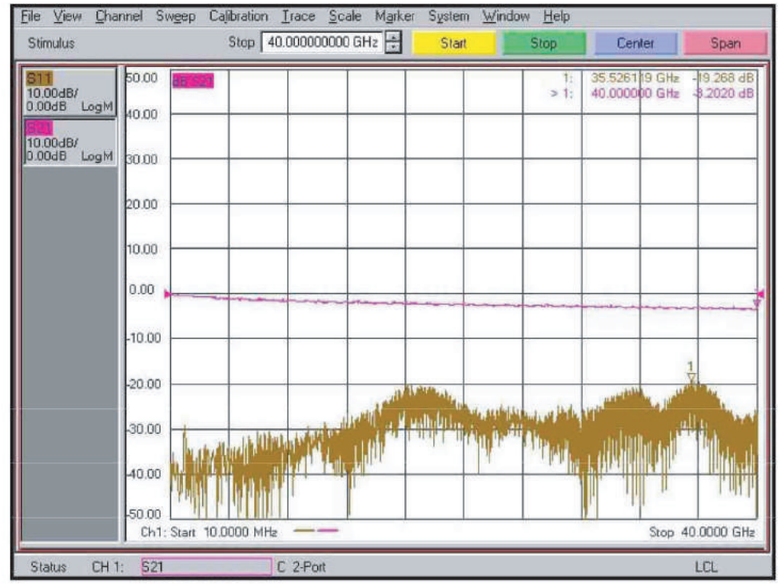
- Frequency : DC to 50 GHz
- Connector : 2.4 mm(Male)
- Cable Length : 1 meter



W100 cable Assembly

Part No: W100-KM1KM1-1M

- Frequency : DC to 40 GHz
- Connector : 2.92 mm(Male)
- Cable Length : 1 meter

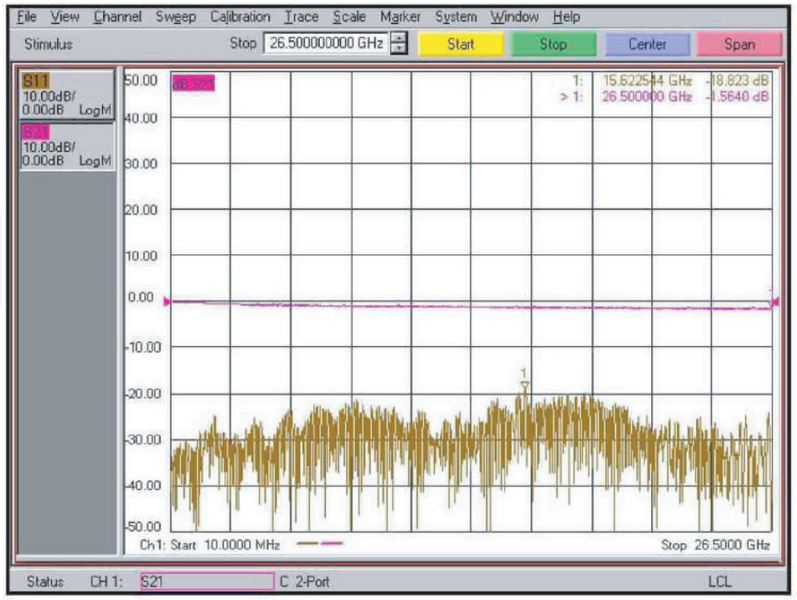


Test Result

W101 cable Assembly

Part No: W101-SM1SM1-1M

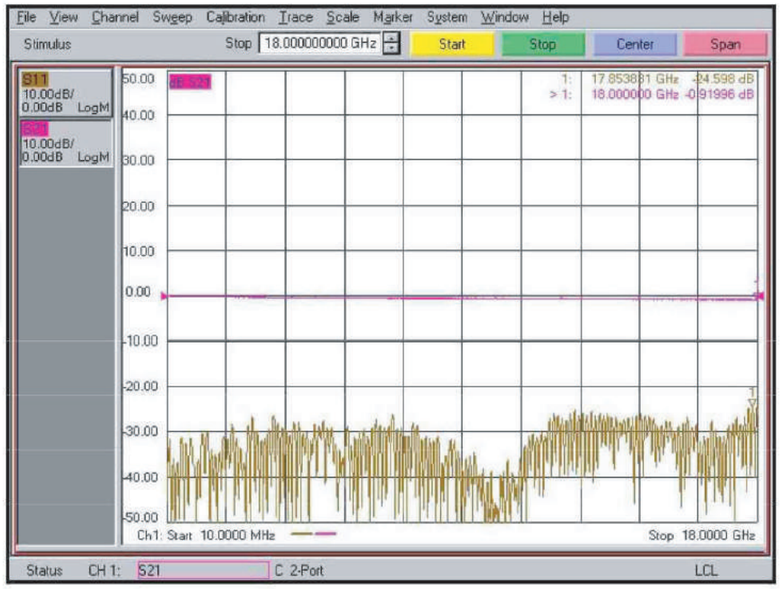
- Frequency : DC to 26.5 GHz
- Connector : SMA (Male)
- Cable Length : 1 meter



W102 cable Assembly

Part No: W102-SM1SM1-1M

- Frequency : DC to 18 GHz
- Connector : SMA (Male)
- Cable Length : 1 meter



Selection Guide

W100 – KM1KM1 - 1M

Cable Type	Connector Type	Cable Length
W100 W101 W102	SM1 : SMA Male KM1 : 2.92 mm Male 35M : 3.5 mm Male NM1 : N-type Male	Unit : Meter

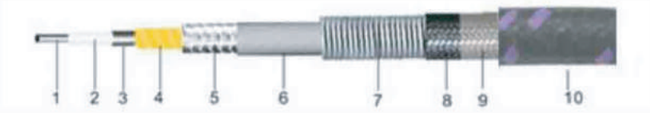
W100 (40G)

W101 (26.5G)

W102 (18G)

W-Test™ cable assemblies are complete line of high precision flexible microwave cable assemblies, specially for stable phase testing. These WT series are designed by excellent microwave interconnection technologies.
The WT500 & 670 cable assemblies are claimed to have excellent insertion loss, high phase/amplitude stability in relation to temperature.

Features



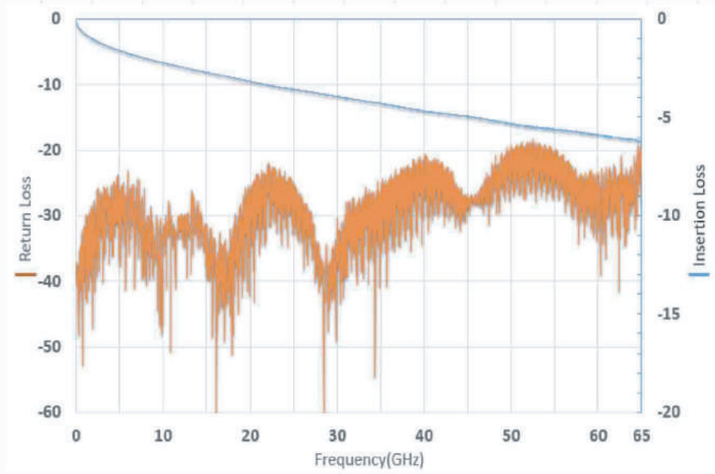
1. **Center Conductor :** Silver Plated Copper
2. **Dielectric core :** LD PTFE
3. **Outer Conductor 1**: Silver Plated Copper Tape
4. **Buffer Layer :** Resinous Tape
5. **Outer Conductor 2 :** Silver Plated Copper Tape
6. **Jacket :** FEP
7. **Crush Protection Layer**
8. **Braiding**
9. **PTFE Stable Gum.**
10. **Braided Outer Jacket :** Black with purple tracer

Specification

Scope	Specification	WT500	WT670
Electrical	Impedance(Ohm)	50	
	Operation Freq.(GHz)	50	67
	VSWR(Max)	1.3	1.35
	Amplitude stability (dB)	Typical : ± 0.1 Max : ± 0.25	
	Phase stability (degree)	Typical : ± 10 Max: ± 15	
	Attenuation (dB/M)	5.0 @ 50 GHz	5.9 @ 67 GHz
	Velocity of propagation(%)	78	
Physical	Bending radius(mm)	40	
	Connector	2.4 mm	1.85 mm
	Cable Diameter(mm)	6.4	

Test Result

Part No. : WT670-VM1VM1-1M
- Frequency : DC to 67 GHz
- Connector : 1.85 mm (Male)
- Cable Length : 1 meter



Selection Guide

WT670 – VM1VM1 - 1M

Cable Type	Connector Type	Cable Length
WT500 (50 GHz) WT670 (67 GHz)	24M : 2.4 mm(Male) VM1 : 1.85 mm(Male)	Unit : Meter