

Innovation for the next generation

# RF Cables

High Bandwidth RF Coax Cables for High-Speed IO test instrumentation

- | 26.5, 40, 50, 67 GHz bandwidth |
- | 3.5, 2.92, 2.4, 1.85 mm connectors |
- | Single cables and phase matched cable pairs |
- | Phase matched cable sets of 4, 8, 16, and 32 |



## Summary

In high-speed testing, the quality and performance of the RF cable are crucial to accurate, repeatable results. The cable needs to offer minimal attenuation and signal distortion, and it must operate efficiently across the frequency band of interest.

MultiLane offers a wide variety of cables to provide connectivity to its test instrumentation and interconnect portfolio. In addition to single cables and phase matched cable pairs, MultiLane offers phase matched sets of cables for improved signal integrity and to match your exact testing needs.



# RF Cables

## High Bandwidth Coax Cables

### Introduction

MultiLane offers a selection of high bandwidth RF cables to complement its portfolio of test instrumentation and interconnects. The RF cables are equipped with standard connectors, such as 1.85 mm and 2.92 mm, and come in different lengths.

### Key Features

#### General

Available connectors and bandwidths are: 1.85 mm - 67 GHz, 2.4 mm – 50 GHz (V-connector), 2.92 mm – 40 GHz (K-connector) and 3.5 mm – 26.5 GHz (SMA). All cables are equipped with male to male connectors.

Single phase stable cables, and pairs of phase matched cables are offered. The maximum intra-pair skew of the phase matched cable pairs is 1 ps. In addition phase matched cable sets of 4, 8, 16, and 32 are offered for optimum signal integrity when using high port count instruments of test fixtures.

### Materials

- Center conductor – silver-plated copper
- Dielectric – PTFE
- Shields – silver-plated copper strip/braid
- Jacket - FEP

### Target Applications

- Test instrumentation connection to DUT eval boards
- Connecting interconnects, such as MCB and HCB to test instruments

### Diagram

DSO to MCB, and BERT to eval board example

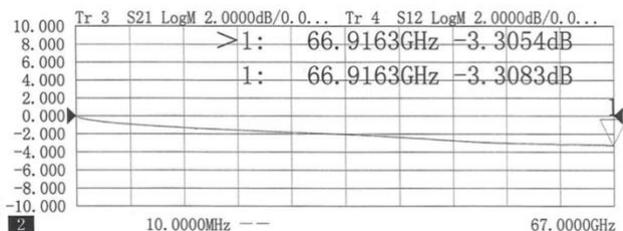
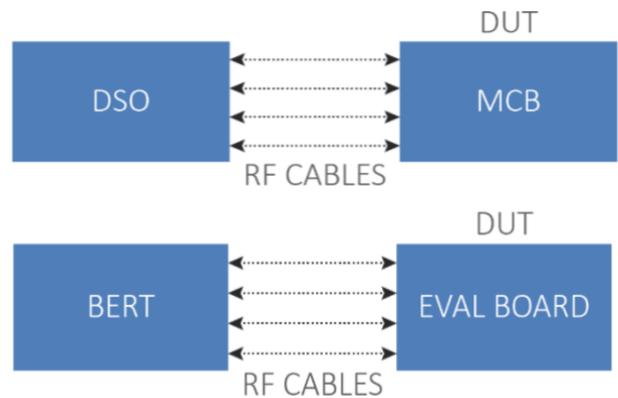


Figure 1: Typical S21 curve for MLCBPx-1.85-60

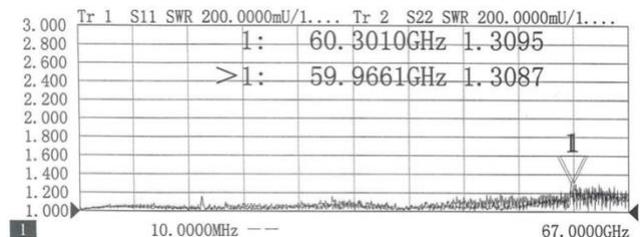


Figure 2: VSWR curve for MLCBPx-1.85-60

## Specifications

RF Cable	Description	Typical loss
MLCBPS/M-1.85-30	1.85 mm, 30 cm / 12 inch	1.9 dB at 65 GHz
MLCBPS/M-1.85-60	1.85 mm, 60 cm / 24 inch	3.5 dB at 65 GHz
MLCBPS/M-2.4-30	2.4 mm, 30 cm / 12 inch	2.1 dB at 50 GHz
MLCBPS/M-2.4-60	2.4 mm, 60 cm / 24 inch	3.4 dB at 50 GHz
MLCBPS/M-2.4-100	2.4 mm, 100 cm / 40 inch	5.2 dB at 50 GHz
MLCBPS/M-2.92-30	2.92 mm, 30 cm / 12 inch	1.2 dB at 40 GHz
MLCBPS/M-2.92-60	2.92 mm, 60 cm / 24 inch	1.9 dB at 40 GHz
MLCBPS/M-2.92-80	2.92 mm, 80 cm / 32 inch	2.4 dB at 40 GHz
MLCBPS/M-2.92-100	2.92 mm, 100 cm / 40 inch	3.0 dB at 40 GHz
MLCBPS/M-SMA-30	3.5 mm, 30 cm / 12 inch	0.6 dB at 26.5 GHz
MLCBPS/M-SMA-60	3.5 mm, 60 cm / 24 inch	1.2 dB at 26.5 GHz
MLCBPS/M-SMA-80	3.5 mm, 80 cm / 32 inch	1.5 dB at 26.5 GHz

### Other specifications

Cable / connector	Bandwidth	VSWR, max	Bending radius, min
1.85 mm	67 GHz	1.35	11 mm
2.4 mm	50 GHz	1.3	14 mm
2.92 mm	40 GHz	1.3	14 mm
3.5 mm	26.5 GHz	1.25	25.4 mm

Maximum intra-pair skew of the phase matched cable pairs and sets of 4, 8, 16, and 32 cables is 1 ps.



## Ordering Information

Part number	Description
MLCBPS-1.85-30	Single phase stable cable - 1.85 mm, 30 cm / 12 inch
MLCBPS-1.85-60	Single phase stable cable - 1.85 mm, 60 cm / 24 inch
MLCBPM-1.85-30	Pair of phase matched cables - 1.85 mm, 30 cm / 12 inch
MLCBPM-1.85-30-4/8/16/32	Set of 4/8/16/32 phase matched cables - 1.85 mm, 30 cm / 12 inch
MLCBPM-1.85-60	Pair of phase matched cables - 1.85 mm, 60 cm / 24 inch
MLCBPM-1.85-60-4/8/16/32	Set of 4/8/16/32 phase matched cables - 1.85 mm, 60 cm / 24 inch
MLCBPS-2.4-30	Single phase stable cable - 2.4 mm, 30 cm / 12 inch
MLCBPS-2.4-60	Single phase stable cable - 2.4 mm, 60 cm / 24 inch
MLCBPS-2.4-100	Single phase stable cable - 2.4 mm, 100 cm / 40 inch
MLCBPM-2.4-30	Pair of phase matched cables - 2.4 mm, 30 cm / 12 inch
MLCBPM-2.4-30-4/8/16/32	Set of 4/8/16/32 phase matched cables - 2.4 mm, 30 cm / 12 inch
MLCBPM-2.4-60	Pair of phase matched cables - 2.4 mm, 60 cm / 24 inch
MLCBPM-2.4-60-4/8/16/32	Set of 4/8/16/32 phase matched cables - 2.4 mm, 60 cm / 24 inch
MLCBPM-2.4-100	Pair of phase matched cables - 2.4 mm, 100 cm / 40 inch
MLCBPS-2.92-30	Single phase stable cable - 2.92 mm, 30 cm / 12 inch
MLCBPS-2.92-60	Single phase stable cable - 2.92 mm, 60 cm / 24 inch
MLCBPS-2.92-80	Single phase stable cable - 2.92 mm, 80 cm / 32 inch
MLCBPS-2.92-100	Single phase stable cable - 2.92 mm, 100 cm / 40 inch
MLCBPM-2.92-30	Pair of phase matched cables - 2.92 mm, 30 cm / 12 inch
MLCBPM-2.92-30-4/8/16/32	Set of 4/8/16/32 phase matched cables - 2.92 mm, 30 cm / 12 inch
MLCBPM-2.92-60	Pair of phase matched cables - 2.92 mm, 60 cm / 24 inch
MLCBPM-2.92-60-4/8/16/32	Set of 4/8/16/32 phase matched cables - 2.92 mm, 60 cm / 24 inch
MLCBPM-2.92-80	Pair of phase matched cables - 2.92 mm, 80 cm / 32 inch
MLCBPM-2.92-80-4/8/16/32	Set of 4/8/16/32 phase matched cables - 2.92 mm, 80 cm / 32 inch
MLCBPM-2.92-100	Pair of phase matched cables - 2.92 mm, 100 cm / 40 inch
MLCBPS-SMA-30	Single phase stable cable - 3.5 mm, 30 cm / 12 inch
MLCBPS-SMA-60	Single phase stable cable - 3.5 mm, 60 cm / 24 inch
MLCBPS-SMA-80	Single phase stable cable - 3.5 mm, 80 cm / 32 inch
MLCBPM-SMA-30	Pair of phase matched cables - 3.5 mm, 30 cm / 12 inch
MLCBPM-SMA-30-4/8/16/32	Set of 4/8/16/32 phase matched cables - 3.5 mm, 30 cm / 12 inch
MLCBPM-SMA-60	Pair of phase matched cables - 3.5 mm, 60 cm / 24 inch
MLCBPM-SMA-60-4/8/16/32	Set of 4/8/16/32 phase matched cables - 3.5 mm, 60 cm / 24 inch
MLCBPM-SMA-80	Pair of phase matched cables - 3.5 mm, 80 cm / 32 inch
MLCBPM-SMA-80-4/8/16/32	Set of 4/8/16/32 phase matched cables - 3.5 mm, 80 cm / 32 inch

\* Other cable lengths available upon request.

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