

Multi-lead Probe for PCI Express® 3.0

Multi-lead Probe
Allows Direct
Connect to
PCB Traces to
Tap into PCI
Express Bus
Signals!

The Gen3 Teledyne LeCroy Multi-lead Probe allows developers using an embedded PCI Express bus in their PCB designs to tap into the signal traces directly and capture bus traffic for protocol analysis and debugging.

The probe allows for individual connection to each separate transmit-pair and receive-pair of each serial lane, allowing flexibility to connect to any accessible points on the surface of the PCB. Each connection uses a high-impedance electrical probe to minimize perturbation of the PCI Express bus signals, while providing reliable capture of all PCI Express traffic.

The probe will connect to a Teledyne LeCroy Summit™ T3-8 or T3-16 Protocol Analyzer via a Multi-lead Probe Pod. Support is provided for PCI Express data rates including 2.5 GT/s, 5.0 GT/s and 8.0 GT/s, at lane widths from x1 to x16. The probe pods also support SRIS clocking (an added feature in PCIe 3.0 to support an independent spread spectrum clock to reduce cabling costs). Each pod supports up to four lanes (eight pairs); x8 support can be achieved by using two pods; and x16 support can be achieved using four pods with the Summit T3-16 Analyzer. Each individual lane connection is made by using two 294 mm (11.6") extender coax cables connecting into 71 mm (2.8") flextip connectors which each are attached to an individual transmit-pair or receive-pair on the surface of the PCB.

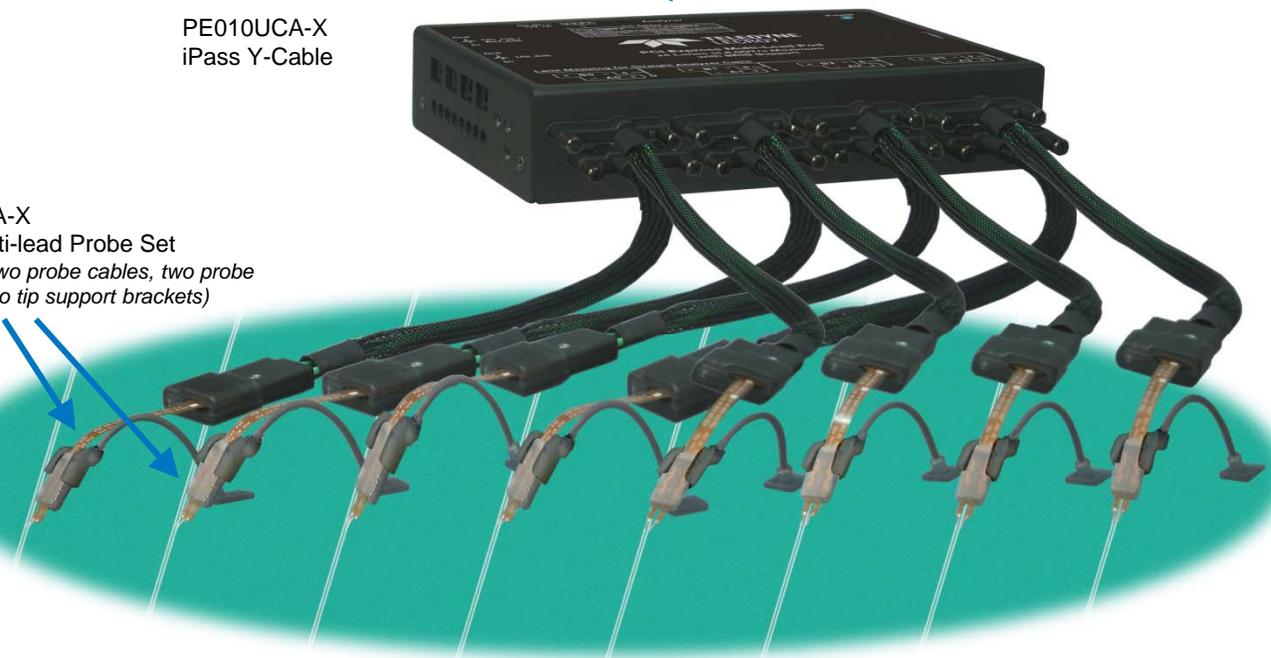


Summit T3-8
Analyzer

PE010UCA-X
iPass Y-Cable

PE092ACA-X
G3 Multi-lead Probe Pod

PE080UIA-X
G3x1 Multi-lead Probe Set
(includes two probe cables, two probe
tips and two tip support brackets)



x4 configuration shown here with Summit T3-8 Analyzer.
Expandable to x8 with two pods, or x16 with four pods and
Summit T3-16 Analyzer. See next page for configuration details.

PCIe 3.0 Multi-lead Probe Specifications

Data Rates Supported 2.5 GT/s, 5 GT/s and 8 GT/s

Lane Width x1, x2, x4, x8 or x16 (x8 requires two pods, x16 requires four pods)

Dimensions

iPass Cable(s) 1 m (39")
Probe Pod 163 x 37 x 106 mm (6.4" x 1.5" x 4.2")
Probe Cable 294 mm (11.6")
Probe Tip 71 mm (2.8")

System Compatibility

Summit T3-16	✓
Summit T3-8	✓
Summit T34	✓
Summit T28	
Summit T24	

PCIe 3.0 Multi-lead Probe Overview

Lane Widths				Data Rates			Purchase Kit Components as shown below			Compatible Summit Systems		
x1	x4	x8	x16	2.5 GT/s	5.0 GT/s	8.0 GT/s	Probe Pods ⁽¹⁾ (PE092ACA-X)	G3x1 Probe Sets ⁽²⁾ (PE080UIA-X)	Analyzer Connection Cables	T3-16	T3-8	T34
✓				✓	✓	✓	1	1	iPass Y-Cable ⁽³⁾ (PE010UCA-X)	✓	✓	✓
✓	✓			✓	✓	✓	1	4	iPass Y-Cable ⁽³⁾ (PE010UCA-X)	✓	✓	✓
✓	✓	✓		✓	✓	✓	2	8	2 ea. x4-to-x8 iPass Cables (PE013UCA-X)	✓	✓	✓ ⁽⁴⁾
✓	✓	✓	✓	✓	✓	✓	4	16	4 ea. x4-to-x8 iPass Cables (PE013UCA-X)	✓	✓ ⁽⁴⁾	

- Notes:
- (1) Each probe pod includes two Reference Clock cables (PE014UCA-X) and two Daisy Chain cables (PE009UCA-X). When using multiple pods, one Reference Clock cable is connected to the device under test, and the other pods are connected via Daisy Chain cables between the pods.
 - (2) Each G3x1 Probe Set includes two probe cables (PE063ACA-X) and two probe tips with tip support brackets (PE082ACA-X).
 - (3) If using Summit T34 Analyzer, use a straight x4-to-x8 iPass Cable (PE013UCA-X) to connect probe pod to analyzer.
 - (4) x16 operation using Summit T3-8 or x8 operation using Summit T34 requires two analyzers connected using appropriate expansion kit.

Ordering Information

Product Description

G3 Multi-lead Pod (x4 pod for Multi-lead probing, for use with Summit T3-16, T3-8 and T34)

G3x1 Multi-lead Probe Set (two probe cables, two probe tips and two probe tip support brackets)

Reference Clock Cable (for use with x4 Multi-lead Pod)

Daisy Chain Clock Cable (for use when using multiple x4 Multi-lead Pods)

G3 Multi-lead Probe Cable (no probe tip included)

G3 Multi-lead Probe Tip with Probe Tip Support Bracket

iPass Y-cable (for Summit T3-8 or T3-16), 1 meter

x4-to-x8 Straight iPass Cable (for Summit T34, T3-8 or T3-16), 1 meter

Product Code

PE092ACA-X

PE080UIA-X

PE014UCA-X

PE009UCA-X

PE063ACA-X

PE082ACA-X

PE010UCA-X

PE013UCA-X



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