



PCIe Generation III Low Profile Probe

PN: APC3-MID-01

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1 Introduction

The Astek APC3-MID-01 probe provides a low-profile probing solution for PCIe Gen 3 applications. The APC3-MID-01 is ideal for applications with limited vertical height requirements. A single APC3-MID-01 can support a x8 bi-directional (upstream and down stream) or a x16 uni-directional bus.

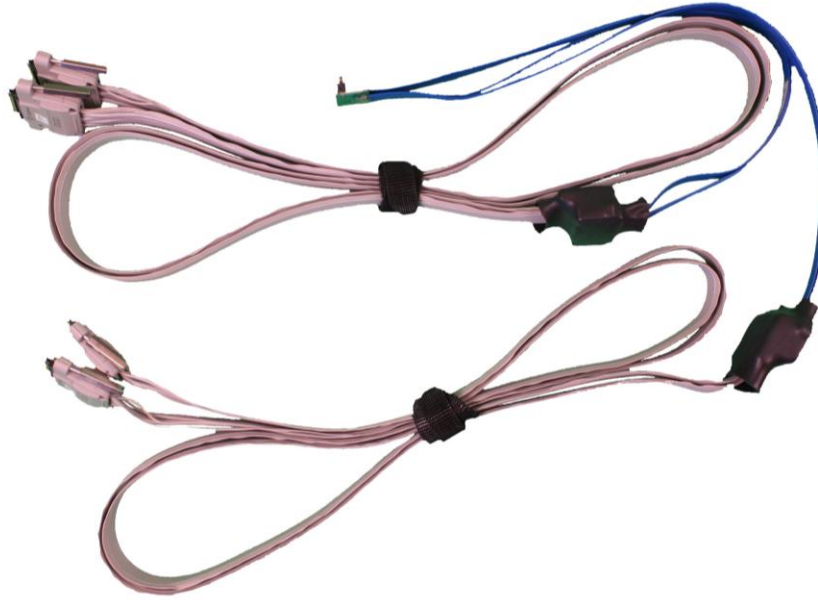


Figure 1 – APC3-MID-01 Cable

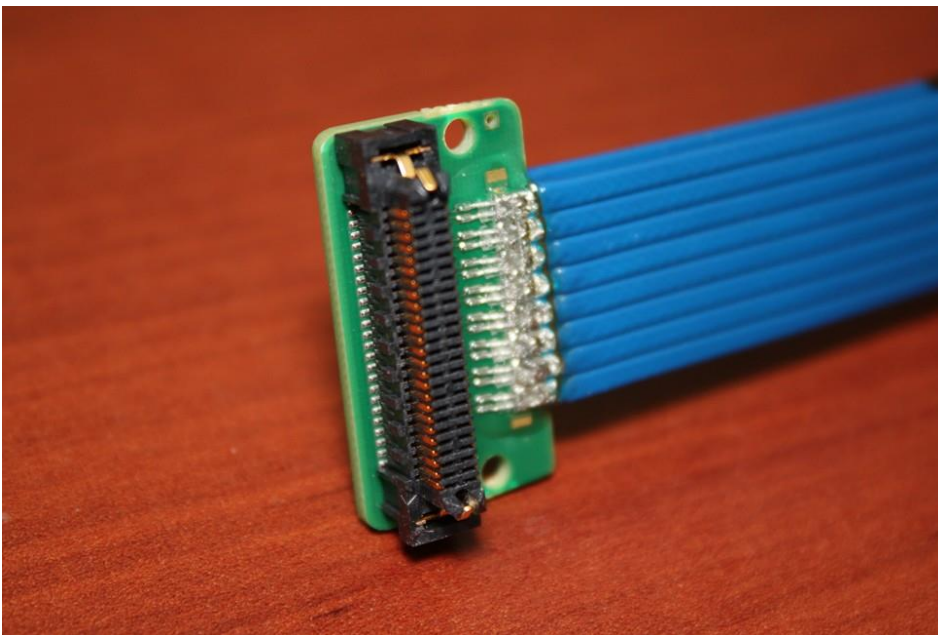


Figure 2 - Low profile probe connection.

2 Analyzer Configuration

2.1 Hardware Setup

The illustration below shows how an APC3-MID-01 probe is connected between the Unit Under Test (UUT) and the Agilent U4301A PCIe Analyzer.

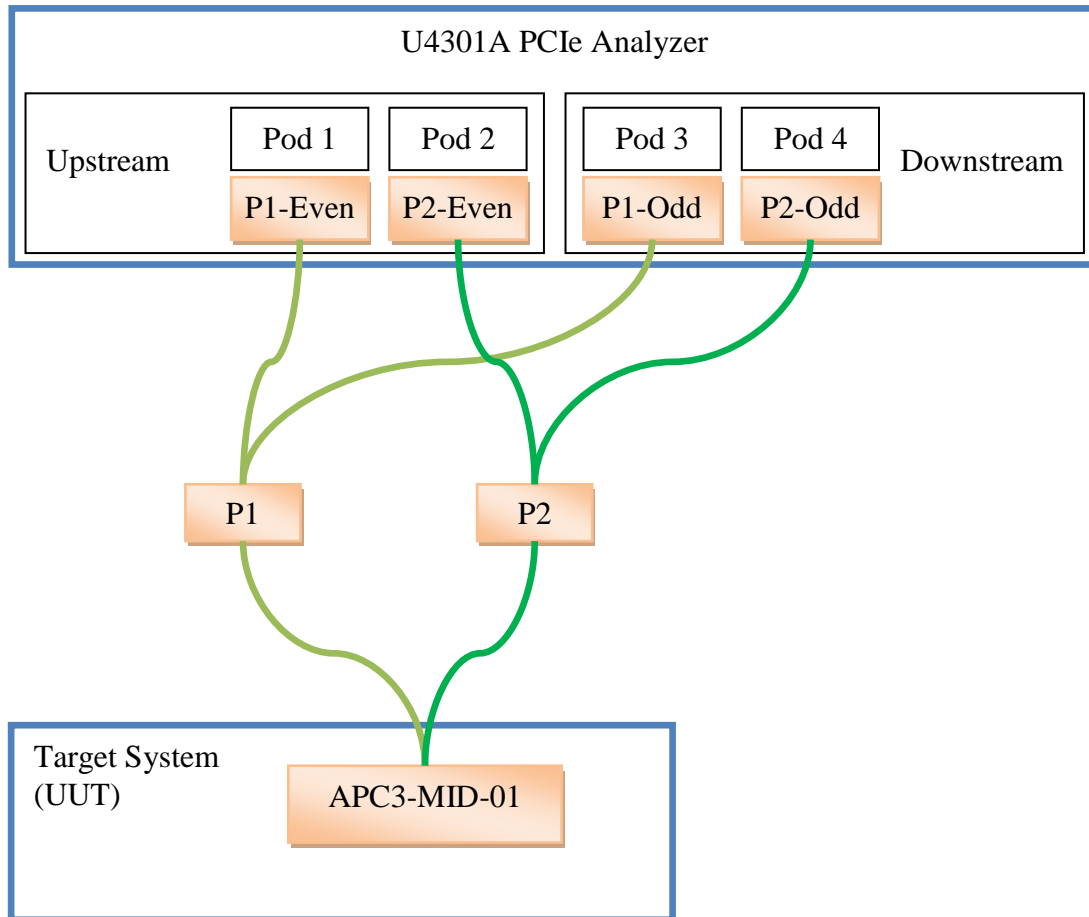


Figure 3 – Connections for APC3-MID-01 to the U4301A PCIe Analyzer

2.2 Software Setup

Start the PCIe protocol analyzer software.

Click on the Module footprint selection box and select **U4324A Flying Lead Probe**.

Click on the Link Width and select x8.

Note: Astek's APC3-MID-01 probe is not listed in the selection box.

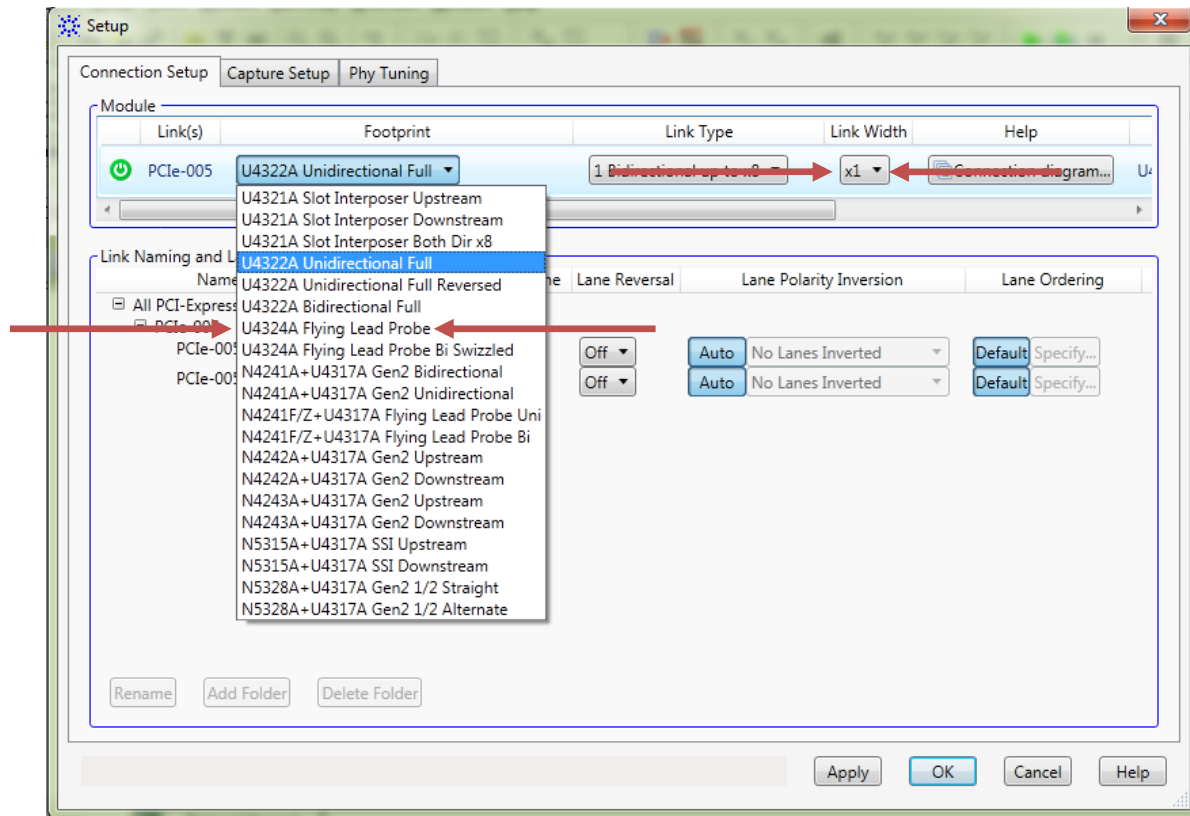


Figure 4 – Probe selection

3 Electrical Specifications

3.1 Connector Information

Location	Connector P/N
On Astek APC3-MID-01	Samtec ERM8-025-01-S-D-EM2-L-TR
On PCIe Target System	Samtec ERF8-025-05.0-A-DV-L-TR

3.2 X8 Bi-directional Signal Description

Pin #	Signal Name	Pin #	Signal Name
1	B7n	2	GND
3	B7p	4	A7n
5	GND	6	A7p
7	B6n	8	GND
9	B6p	10	A6n
11	GND	12	A6p
13	B5n	14	GND
15	B5p	16	A5n
17	GND	18	A5p
19	B4n	20	GND
21	B4p	22	A4n
23	GND	24	A4p
25	B3n	26	GND
27	B3p	28	A3n
29	GND	30	A3p
31	B2n	32	GND
33	B2p	34	A2n
35	GND	36	A2p
37	B1n	38	GND
39	B1p	40	A1n
41	GND	42	A1p
43	B0n	44	GND
45	B0p	46	A0n
47	GND	48	A0p
49	GND	50	GND

Note: A Group is Upstream
B Group is Downstream

3.3 X16 Unidirectional Signal Description

Pin #	Signal Name	Pin #	Signal Name
1	C15n	2	GND
3	C15p	4	C14n
5	GND	6	C14p
7	C13n	8	GND
9	C13p	10	C12n
11	GND	12	C12p
13	C11n	14	GND
15	C11p	16	C10n
17	GND	18	C10p
19	C9n	20	GND
21	C9p	22	C8n
23	GND	24	C8p
25	C7n	26	GND
27	C7p	28	C6n
29	GND	30	C6p
31	C5n	32	GND
33	C5p	34	C4n
35	GND	36	C4p
37	C3n	38	GND
39	C3p	40	C2n
41	GND	42	C2p
43	C1n	44	GND
45	C1p	46	C0n
47	GND	48	C0p
49	GND	50	GND

3.4 Reference Schematic

The following reference schematic shall be used on the PCIe target system where the APC3-MID-01 will be connected.

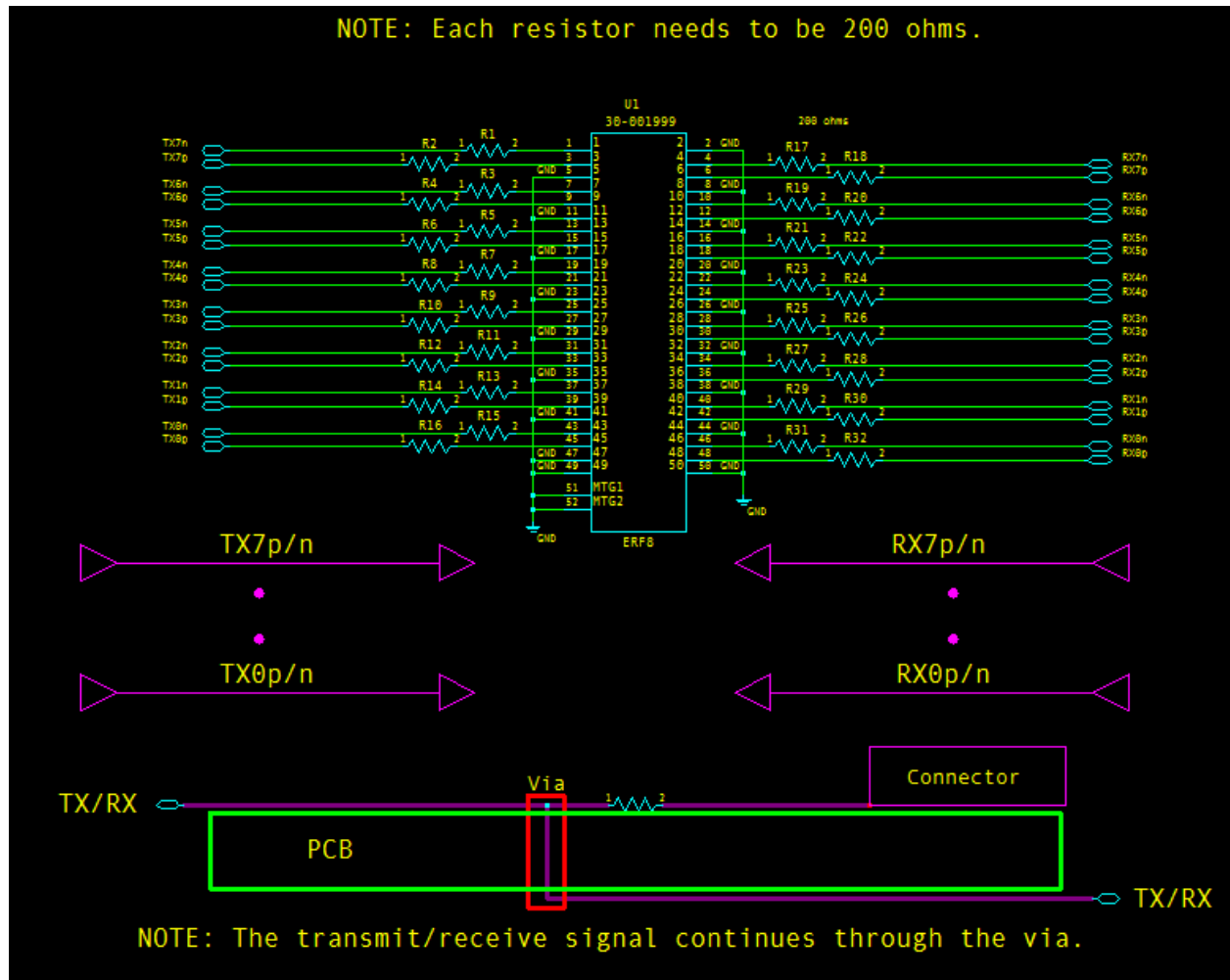


Figure 5 – Reference schematic of UUT test signals.

All resistors should be 200 ohm 0201 or 0402 size tip resistors placed on UUT.

3.5 Sample Layout

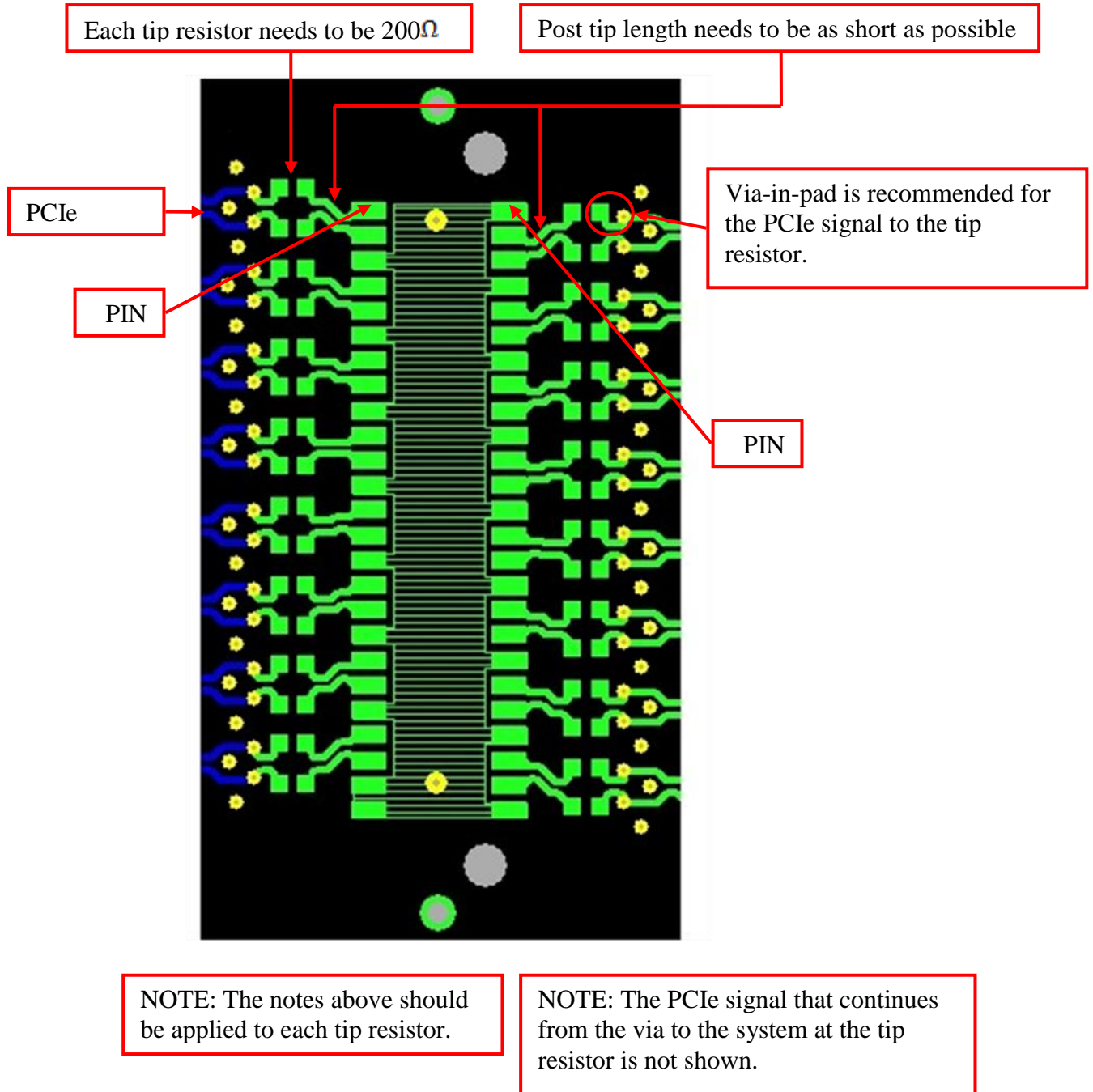


Figure 6 – Reference Layout

4 Mechanical Specifications

4.1 Cable specifications

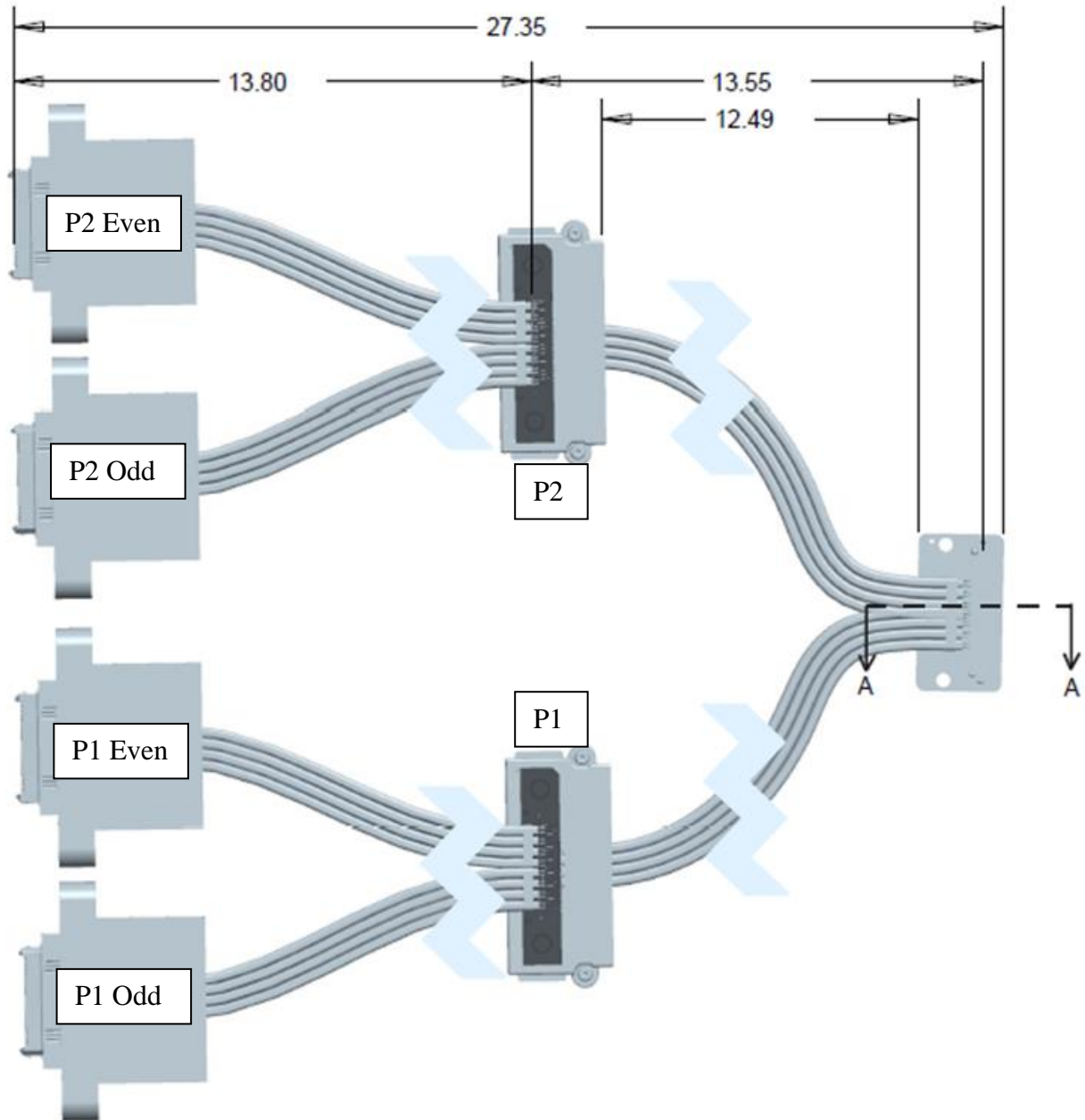


Figure 7 – Probe Cable Lengths

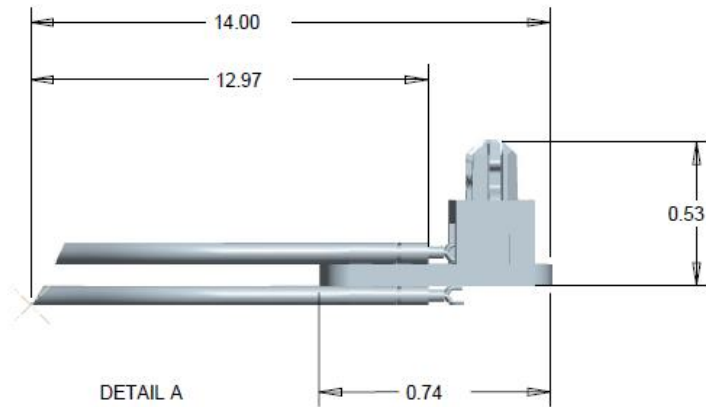


Figure 8 – Low-Profile Connector

4.2 Keep-out requirements

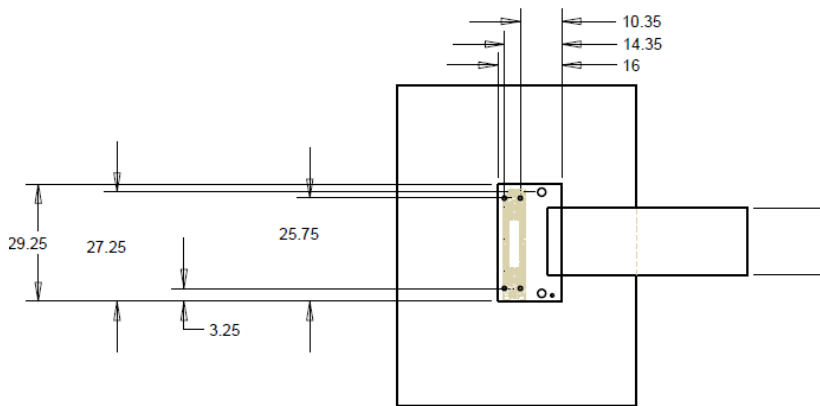


Figure 9 – Horizontal keep-out region

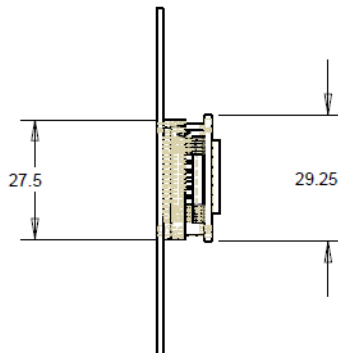


Figure 10 – Vertical keep-out region