



PCIe Generation II Low Profile Probe

PN: A91602-CBL-01

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Astek Corporation
5055 Corporate Plaza Drive
Colorado Springs, CO 80919
Phone: 719-260-1625
Fax: 719-260-1668
Email: support@astekcorp.com

1 Introduction

The Astek PCIe Generation II Low Profile Probe (A91602-CBL-01) is based on the Agilent N4241F PCIe Gen 2 Flying Leads Probe. The A91602-CBL-01 is ideal for applications requiring a small form factor high speed connection with limited vertical height requirements. A single A91602-CBL-01 can support x8 bi-directional (upstream and down stream) or a x16 uni-directional.

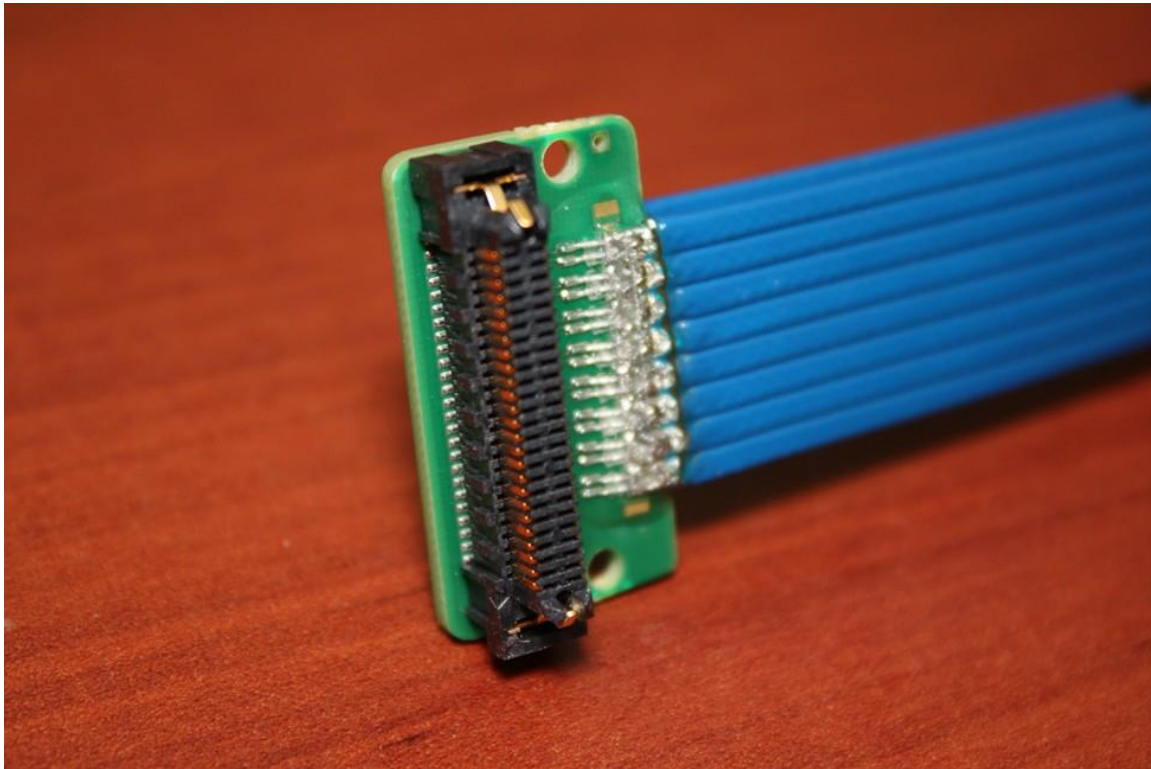


Figure 1 - Low profile probe connection.

1.1 Technical Specification

The A91602-CBL-01 meets all the requirements of the Agilent N4241F PCIe Gen 2 Flying Leads Probe from the mid-bus-probe to the protocol analyzer connection. The following specifications are unique to the A91602-CBL-01.

Parameter	Description
350mm	Distance from probe end to mid-bus-probe.
17.5mm	Maximum height of probe end

1.2 Test Criteria

After manufacture each channel of the A91602-CBL-01 it is tested to ensure it has less than 40ps jitter and greater then 90mV peak-to-peak amplitude at 2.5Gb/s bit rate at the protocol analyzer end of the cable.

1.3 Signal Description

The A91602-CBL-01 uses a Samtec ERM8-025-01-S-D-EM2-L-TR connector, the unit under test shall use the Samtec ERM8-025-05.0-S-DV-L-TR.

1.3.1 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

1.3.2 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

1.3.3 Unit Under Test Configuration

All resistors should be 150 ohm 0402 or 0603 size tip resistors placed on UUT.

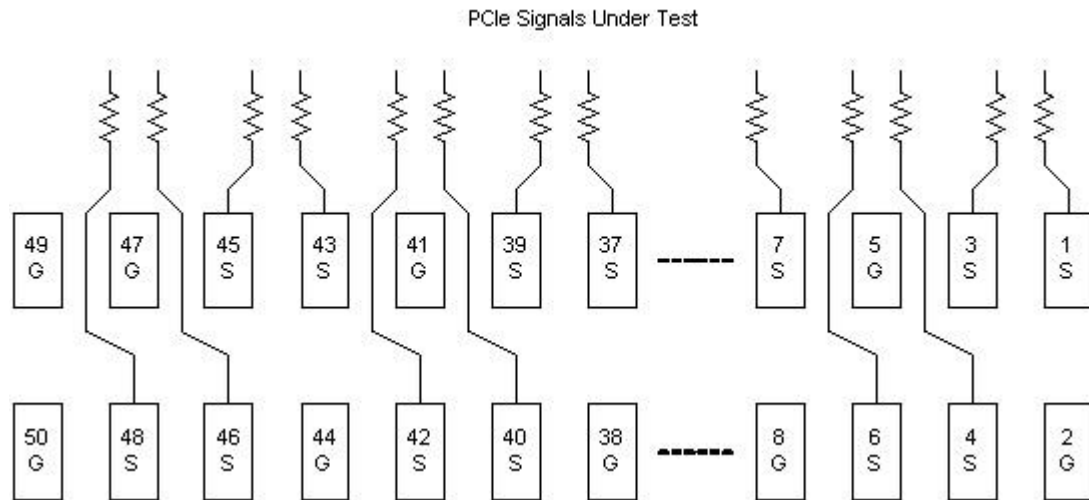


Figure 2 - Top view of target system layout

The following picture shows a sample layout. The distance from the PCIe signal to the tip resistor should be as short as possible. The distance from the tip resistor to the connector should be as short as possible.

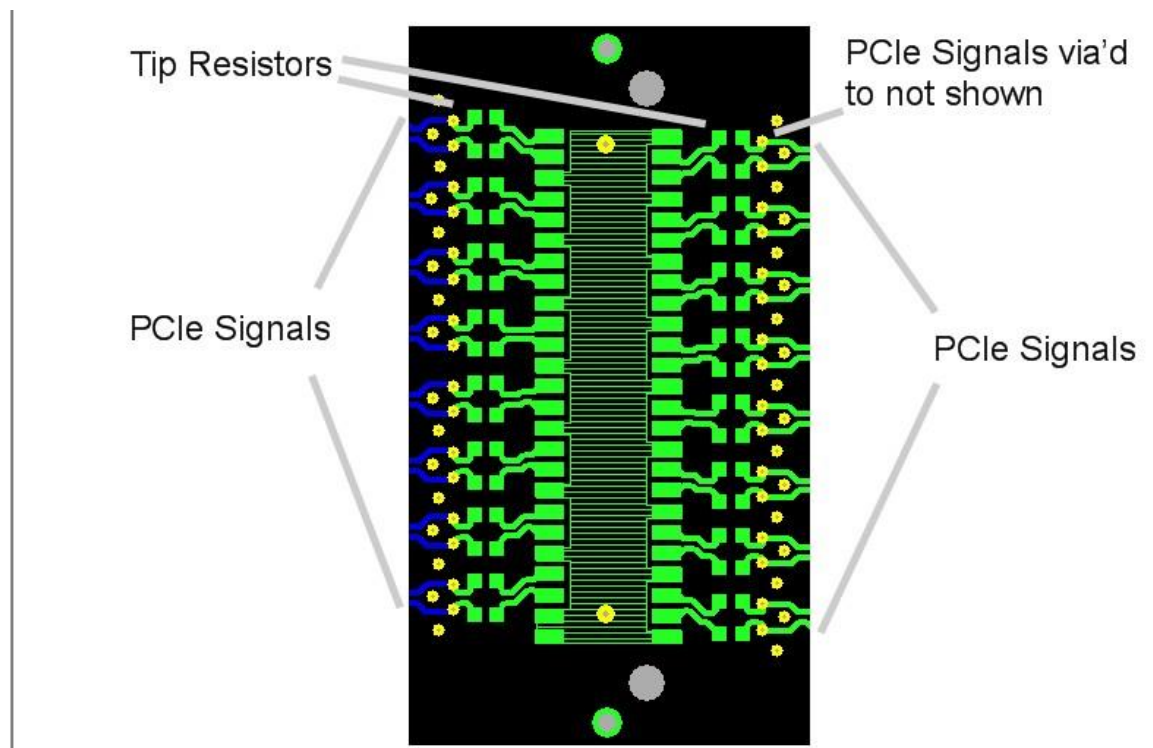


Figure 3 - Example PCB Layout.