Introduction:

This application note shows a simple way to check whether PCIE function works or not. The note is for PI3PCIE3413, PI2EQX59xx, PI3EQX58xx, PI2EQX88xx debug purpose.

Figure 1 top view of PI3PCIE3413 EVB
Check if PCIE function works: RX.detect

Please check the PCIE function as below block diagram
Step1. Remove red one block as below
Step2. Measure the place at TP1
TP1 Test result

TP1: Detect Pulse

Detect Pulse

Detect Pulse Zoom In

~160us

~505mV
Check if PCIE function works: Differences with AC cap / without AC cap

Please check the PCIE function as below block diagram after power on

Step1. Test TP2
Step2. Test TP3

Block Diagram

![Block Diagram Image]

TP2

TP3

single end probe

PCIE Gen2 device
TP2 Test result

TP2: Before AC

DC BIAS

PCIe Gen2-High Speed: 5Gbps
TP3 Test result

TP3: After AC

Vcm = 0V

PCle Gen2-High Speed: 5Gbps
Check if PCIE function works: From Rx.detect → polling → L0

Please check the PCIE function as below block diagram after power on
Step1. Test TP2 when power on
TP2 Test result

TP2: Before AC

Power on

Polling

L0: Gen2 High Speed
5.0Gbps

RX.detect

Gen1 Speed:
2.5Gbps
Check PCIE re-driver link status: Throw h/w or s/w register

Please check the PCIE function as below block diagram after power on

Byte0 SIG = 1 means signal pass throw re-driver
SIG = 0 means no signal pass throw re-driver

Byte 1
RX50 = 1 means find host or device