CrossLink-NX to Certus-NX Pin Migration

Technical Note

FPGA-TN-02218-1.0

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1. Introduction

This document describes partial pin-migration capability from CrossLink™-NX-40 to Certus™-NX-40 in 256caBGA package. This enables Certus-NX customers to start their design using CrossLink-NX, and later migrate to Certus-NX once the silicon is available.

2. Summary

CrossLink-NX-40 and Certus-NX-40 in 256caBGA package have good migration capability. 227 of the 256 balls have functional overlap, and therefore are migratable.

Table 2.1. Migration Capability

	CrossLink-NX	Certus-NX	Migration Capable
WRIO	82	111	82
HPIO	74	74	74
Hard DPHY	20	—	0
Power/GND	65	56	56
Other*	6 ADC, 1 JTAGEN, 8 SERDES	6 ADC, 1 JTAGEN, 8 SERDES	6 ADC, 1 JTAGEN, 8 SERDES
Total pins	256	256	227

***Note**: SERDES refers to the dedicated PCIe Gen2 x1 channel balls.

3. Details

There are 29 balls that cannot be migrated. These should be left unconnected:

Table 3.1. Balls that Cannot Be Migrated

Ball	LIFCL-40 Function	LFD2NX-40 Function	Action
D2	DPHY0_CKN	PL8B	Do not connect
D1	DPHY0_CKP	PL13A	Do not connect
E2	DPHY0_DN0	PL15B	Do not connect
C2	DPHY0_DN1	PL8A	Do not connect
F2	DPHY0_DN2	PL15A	Do not connect
B2	DPHY0_DN3	PR26B	Do not connect
E1	DPHY0_DP0	PL13B	Do not connect
C1	DPHY0_DP1	PL11A	Do not connect
F1	DPHY0_DP2	PL44A	Do not connect
B1	DPHY0_DP3	PL11B	Do not connect
B5	DPHY1_CKN	PR46A	Do not connect
A5	DPHY1_CKP	PR46B	Do not connect
B4	DPHY1_DN0	PR47B	Do not connect
B6	DPHY1_DN1	PR44B	Do not connect
B3	DPHY1_DN2	PR24A	Do not connect
B7	DPHY1_DN3	PR42A	Do not connect
A4	DPHY1_DP0	PR47A	Do not connect
A6	DPHY1_DP1	PR44A	Do not connect
A3	DPHY1_DP2	PR20B	Do not connect
A7	DPHY1_DP3	PR42B	Do not connect
E3	VCCADPHY0	PL10A	Do not connect
C8	VCCADPHY1	PR40A	Do not connect
C4	VCCDPHY0	PR49A	Do not connect

Ball	LIFCL-40 Function	LFD2NX-40 Function	Action
C7	VCCDPHY1	PR40B	Do not connect
A2	VCCPLLDPHY0	PR24B	Do not connect
C5	VCCPLLDPHY1	PR49B	Do not connect
G2	VSS	PL20B	Do not connect
D3	VSSADPHY	PL10B	Do not connect
G1	VSSADPHY	PL44B	Do not connect

There are six DPHY Vss balls that should remain connected to VSS (Ground).

Table 3.2. DPHY Vss Balls Connected to Vss

Ball	LIFCL-40 Function	LFD2NX-40 Function	Action
A1	VSSADPHY	VSS	Connect to Ground
A8	VSSADPHY	VSS	Connect to Ground
B8	VSSADPHY	VSS	Connect to Ground
C3	VSSADPHY	VSS	Connect to Ground
C6	VSSADPHY	VSS	Connect to Ground
F3	VSSADPHY	VSS	Connect to Ground

Technical Support Assistance

Submit a technical support case through www.latticesemi.com/techsupport.

Revision History

Revision 1.0, August 2020

Section	Change Summary
All	Initial release.

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