

6. CertusPro-NX I/O Ball Mapping to Connectors

6.1. FMC Connector

Table 6.1. FMC (J1 Row A) Pin Connections

J1 ROW A Pin	Net Name	CertusPro-NX Bank	CertusPro-NX Ball Location
A2	JESD_RXD1_P	SERDES	C12
A3	JESD_RXD1_N	SERDES	B13
A6	JESD_RXD2_P	SERDES	B16
A7	JESD_RXD2_N	SERDES	C16
A10	JESD_RXD3_P	SERDES	B19
A11	JESD_RXD3_N	SERDES	B20
A14	SNN_FMC_A14	NO CONNECT	
A15	SNN_FMC_A15	NO CONNECT	
A18	SNN_FMC_A18	NO CONNECT	
A19	SNN_FMC_A19	NO CONNECT	
A22	JESD_TXD1_P	SERDES	A11
A23	JESD_TXD1_N	SERDES	A12
A26	JESD_TXD2_P	SERDES	A14
A27	JESD_TXD2_N	SERDES	A15
A30	JESD_TXD3_P	SERDES	A17
A31	JESD_TXD3_N	SERDES	A18
A34	SNN_FMC_A34	NO CONNECT	
A35	SNN_FMC_A35	NO CONNECT	
A38	SNN_FMC_A38	NO CONNECT	
A39	SNN_FMC_A39	NO CONNECT	

Table 6.2. FMC (J1 Row B) Pin Connections

J1 ROW B Pin	Net Name	CertusPro-NX Bank	CertusPro-NX Ball Location
B1	CPRO_FMC_CLK_DIR	BANK 2	W1
B4	SNN_FMC_B4	NO CONNECT	
B5	SNN_FMC_B5	NO CONNECT	
B8	SNN_FMC_B8	NO CONNECT	
B9	SNN_FMC_B9	NO CONNECT	
B12	SNN_FMC_B12	NO CONNECT	
B13	SNN_FMC_B13	NO CONNECT	
B16	SNN_FMC_B16	NO CONNECT	
B17	SNN_FMC_B17	NO CONNECT	
B20	CPRO_FMC_GBTCLK1_P	SERDES	E10
B21	CPRO_FMC_GBTCLK1_N	SERDES	D9
B24	SNN_FMC_B24	NO CONNECT	
B25	SNN_FMC_B25	NO CONNECT	
B28	SNN_FMC_B28	NO CONNECT	
B29	SNN_FMC_B29	NO CONNECT	

J1 ROW B Pin	Net Name	CertusPro-NX Bank	CertusPro-NX Ball Location
B32	SNN_FMC_B32	NO CONNECT	
B33	SNN_FMC_B33	NO CONNECT	
B36	SNN_FMC_B36	NO CONNECT	
B37	SNN_FMC_B37	NO CONNECT	
B40	SNN_FMC_RES0	NO CONNECT	

Table 6.3. FMC (J1 Row C) Pin Connections

J1 ROW C Pin	Net Name	CertusPro-NX Bank	CertusPro-NX Ball Location
C2	JESD_TXD0_P	SERDES	A8
C3	JESD_TXD0_N	SERDES	A9
C6	JESD_RXD0_P	SERDES	C10
C7	JESD_RXD0_N	SERDES	B10
C10	CPRO_FMC_LA06_P	BANK 3	W11
C11	CPRO_FMC_LA06_N	BANK 3	W10
C14	CPRO_FMC_LA10_P	BANK 3	AD9
C15	CPRO_FMC_LA10_N	BANK 3	AE9
C18	CPRO_FMC_LA14_P	BANK 3	AF6
C19	CPRO_FMC_LA14_N	BANK 3	AF5
C22	CPRO_FMC_LA18_P	BANK 3	Y6
C23	CPRO_FMC_LA18_N	BANK 3	AA6
C26	CPRO_FMC_LA27_P	BANK 4	AA17
C27	CPRO_FMC_LA27_N	BANK 4	Y17
C30	CPRO_FMC_I2C_SCL	BANK 2	Y4
C31	CPRO_FMC_I2C_SDA	BANK 2	AA4
C34	CPRO_FMC_GA0	BANK 2	W2

Table 6.4. FMC (J1 Row D) Pin Connections

J1 ROW D Pin	Net Name	CertusPro-NX Bank	CertusPro-NX Ball Location
D1	FMC_PG_C2M	N/A	
D4	CPRO_FMC_GBTCLK0_P	SERDES	D11
D5	CPRO_FMC_GBTCLK0_N	SERDES	E11
D8	CPRO_FMC_LA01_CC_P	BANK 3	AC4
D9	CPRO_FMC_LA01_CC_N	BANK 3	AB4
D11	CPRO_FMC_LA05_P	BANK 3	Y11
D12	CPRO_FMC_LA05_N	BANK 3	AA11
D14	CPRO_FMC_LA09_P	BANK 3	AD10
D15	CPRO_FMC_LA09_N	BANK 3	AE10
D17	CPRO_FMC_LA13_P	BANK 3	AA7
D18	CPRO_FMC_LA13_N	BANK 3	Y7
D20	CPRO_FMC_LA17_P	BANK 3	AD5
D21	CPRO_FMC_LA17_N	BANK 3	AE5
D23	CPRO_FMC_LA23_P	BANK 5	W22
D24	CPRO_FMC_LA23_N	BANK 5	W21
D26	CPRO_FMC_LA26_P	BANK 4	AF19

J1 ROW D Pin	Net Name	CertusPro-NX Bank	CertusPro-NX Ball Location
D27	CPRO_FMC_LA26_N	BANK 4	AE19
D29	SNN_FMC_D29	NO CONNECT	
D30	SNN_FMC_D30	NO CONNECT	
D31	SNN_FMC_D31	NO CONNECT	
D33	SNN_FMC_D33	NO CONNECT	
D34	SNN_FMC_D34	NO CONNECT	
D35	CPRO_FMC_GA1	BANK 2	W5

Table 6.5. FMC (J1 Row E) Pin Connections

J1 ROW E Pin	Net Name	CertusPro-NX Bank	CertusPro-NX Ball Location
E2	SNN_FMC_E2	NO CONNECT	
E3	SNN_FMC_E3	NO CONNECT	
E6	SNN_FMC_E6	NO CONNECT	
E7	SNN_FMC_E7	NO CONNECT	
E9	SNN_FMC_E9	NO CONNECT	
E10	SNN_FMC_E10	NO CONNECT	
E12	SNN_FMC_E12	NO CONNECT	
E13	SNN_FMC_E13	NO CONNECT	
E15	SNN_FMC_E15	NO CONNECT	
E16	SNN_FMC_E16	NO CONNECT	
E18	SNN_FMC_E18	NO CONNECT	
E19	SNN_FMC_E19	NO CONNECT	
E21	SNN_FMC_E20	NO CONNECT	
E22	SNN_FMC_E22	NO CONNECT	
E24	SNN_FMC_E24	NO CONNECT	
E25	SNN_FMC_E25	NO CONNECT	
E27	SNN_FMC_E27	NO CONNECT	
E28	SNN_FMC_E28	NO CONNECT	
E30	SNN_FMC_E30	NO CONNECT	
E31	SNN_FMC_E31	NO CONNECT	
E33	SNN_FMC_E33	NO CONNECT	
E34	SNN_FMC_E34	NO CONNECT	
E36	SNN_FMC_E36	NO CONNECT	
E37	SNN_FMC_E37	NO CONNECT	

Table 6.6. FMC (J1 Row F) Pin Connections

J1 ROW F Pin	Net Name	CertusPro-NX Bank	CertusPro-NX Ball Location
F1	FMC_PG_M2C	BANK 2	Y1
F4	SNN_FMC_F4	NO CONNECT	
F5	SNN_FMC_F5	NO CONNECT	
F7	SNN_FMC_F7	NO CONNECT	
F8	SNN_FMC_F8	NO CONNECT	
F10	SNN_FMC_F10	NO CONNECT	
F11	SNN_FMC_F11	NO CONNECT	
F13	SNN_FMC_F13	NO CONNECT	
F14	SNN_FMC_F14	NO CONNECT	
F16	SNN_FMC_F16	NO CONNECT	
F17	SNN_FMC_F17	NO CONNECT	
F19	SNN_FMC_F19	NO CONNECT	
F20	SNN_FMC_F20	NO CONNECT	
F22	SNN_FMC_F22	NO CONNECT	
F23	SNN_FMC_F23	NO CONNECT	
F25	SNN_FMC_F25	NO CONNECT	
F26	SNN_FMC_F26	NO CONNECT	
F28	SNN_FMC_F28	NO CONNECT	
F29	SNN_FMC_F29	NO CONNECT	
F31	SNN_FMC_F31	NO CONNECT	
F32	SNN_FMC_F32	NO CONNECT	
F34	SNN_FMC_F34	NO CONNECT	
F35	SNN_FMC_F35	NO CONNECT	
F37	SNN_FMC_F37	NO CONNECT	
F38	SNN_FMC_F38	NO CONNECT	

Table 6.7. FMC (J1 Row G) Pin Connections

J1 ROW G Pin	Net Name	CertusPro-NX Bank	CertusPro-NX Ball Location
G2	CPRO_FMC_CLK1_M2C_P	BANK 3	AB11
G3	CPRO_FMC_CLK1_M2C_N	BANK 3	AC11
G6	CPRO_FMC_LA00_CC_P	BANK 3	AA5
G7	CPRO_FMC_LA00_CC_N	BANK 3	Y5
G9	CPRO_FMC_LA03_P	BANK 3	AF12
G10	CPRO_FMC_LA03_N	BANK 3	AF11
G12	CPRO_FMC_LA08_P	BANK 3	AF10
G13	CPRO_FMC_LA08_N	BANK 3	AF9
G15	CPRO_FMC_LA12_P	BANK 3	AC7
G16	CPRO_FMC_LA12_N	BANK 3	AB7
G18	CPRO_FMC_LA16_P	BANK 3	AB6
G19	CPRO_FMC_LA16_N	BANK 3	AC6
G21	CPRO_FMC_LA20_P	BANK 3	AD4
G22	CPRO_FMC_LA20_N	BANK 3	AE4

J1 ROW G Pin	Net Name	CertusPro-NX Bank	CertusPro-NX Ball Location
G24	CPRO_FMC_LA22_P	BANK 4	AF21
G25	CPRO_FMC_LA22_N	BANK 4	AF20
G27	CPRO_FMC_LA25_P	BANK 4	W17
G28	CPRO_FMC_LA25_N	BANK 4	W18
G30	CPRO_FMC_LA29_P	BANK 4	AF15
G31	CPRO_FMC_LA29_N	BANK 4	AF16
G33	CPRO_FMC_LA31_P	BANK 4	Y14
G34	CPRO_FMC_LA31_N	BANK 4	AA14
G36	CPRO_FMC_LA33_P	BANK 4	Y12
G37	CPRO_FMC_LA33_N	BANK 4	W12

Table 6.8. FMC (J1 Row H) Pin Connections

J1 ROW H Pin	Net Name	CertusPro-NX Bank	CertusPro-NX Ball Location
H1	VREF_B_M2C_H1	NO CONNECT	
H2	CPRO_FMC_PRSNT_N	BANK 2	W3
H4	CPRO_FMC_CLK0_M2C_P	BANK 3	AC12
H5	CPRO_FMC_CLK0_M2C_N	BANK 3	AD12
H7	CPRO_FMC_LA02_P	BANK 3	AA12
H8	CPRO_FMC_LA02_N	BANK 3	AB12
H10	CPRO_FMC_LA04_P	BANK 3	AD11
H11	CPRO_FMC_LA04_N	BANK 3	AE11
H13	CPRO_FMC_LA07_P	BANK 3	Y10
H14	CPRO_FMC_LA07_N	BANK 3	AA10
H16	CPRO_FMC_LA11_P	BANK 3	AB9
H17	CPRO_FMC_LA11_N	BANK 3	AC9
H19	CPRO_FMC_LA15_P	BANK 3	AD6
H20	CPRO_FMC_LA15_N	BANK 3	AE6
H22	CPRO_FMC_LA19_P	BANK 3	AF4
H23	CPRO_FMC_LA19_N	BANK 3	AF3
H25	CPRO_FMC_LA21_P	BANK 3	AD3
H26	CPRO_FMC_LA21_N	BANK 3	AE3
H28	CPRO_FMC_LA24_P	BANK 4	Y16
H29	CPRO_FMC_LA24_N	BANK 4	W16
H31	CPRO_FMC_LA28_P	BANK 4	W15
H32	CPRO_FMC_LA28_N	BANK 4	W14
H34	CPRO_FMC_LA30_P	BANK 4	W13
H35	CPRO_FMC_LA30_N	BANK 4	Y13
H37	CPRO_FMC_LA32_P	BANK 5	V23
H38	CPRO_FMC_LA32_N	BANK 5	V22

Table 6.9. FMC (J1 Row J) Pin Connections

J1 ROW J Pin	Net Name	CertusPro-NX Bank	CertusPro-NX Ball Location
J2	CPRO_FMC_CLK3_BIDIR_P	BANK 5	W24
J3	CPRO_FMC_CLK3_BIDIR_N	BANK 5	W23
J6	SNN_FMC_J6	NO CONNECT	
J7	SNN_FMC_J7	NO CONNECT	
J9	SNN_FMC_J9	NO CONNECT	
J10	SNN_FMC_J10	NO CONNECT	
J12	SNN_FMC_J12	NO CONNECT	
J13	SNN_FMC_J13	NO CONNECT	
J15	SNN_FMC_J15	NO CONNECT	
J16	SNN_FMC_J16	NO CONNECT	
J18	SNN_FMC_J18	NO CONNECT	
J19	SNN_FMC_J19	NO CONNECT	
J21	SNN_FMC_J21	NO CONNECT	
J22	SNN_FMC_J22	NO CONNECT	
J24	SNN_FMC_J24	NO CONNECT	
J25	SNN_FMC_J25	NO CONNECT	
J27	SNN_FMC_J27	NO CONNECT	
J28	SNN_FMC_J28	NO CONNECT	
J30	SNN_FMC_J30	NO CONNECT	
J31	SNN_FMC_J31	NO CONNECT	
J33	SNN_FMC_J33	NO CONNECT	
J34	SNN_FMC_J34	NO CONNECT	
J36	SNN_FMC_J36	NO CONNECT	
J37	SNN_FMC_J37	NO CONNECT	
J39	VIO_B_M2C_J39	NO CONNECT	

Table 6.10. FMC (J1 Row K) Pin Connections

J1 ROW K Pin	Net Name	CertusPro-NX Bank	CertusPro-NX Ball Location
K1	VREF_B_M2C_K1	NO CONNECT	
K4	FMC_CLK2_C2M_P	NO CONNECT	
K5	FMC_CLK2_C2M_N	NO CONNECT	
K7	SNN_FMC_K7	NO CONNECT	
K8	SNN_FMC_K8	NO CONNECT	
K10	SNN_FMC_K10	NO CONNECT	
K11	SNN_FMC_K11	NO CONNECT	
K13	SNN_FMC_K13	NO CONNECT	
K14	SNN_FMC_K14	NO CONNECT	
K16	SNN_FMC_K16	NO CONNECT	
K17	SNN_FMC_K17	NO CONNECT	
K19	SNN_FMC_K19	NO CONNECT	
K20	SNN_FMC_K20	NO CONNECT	
K22	SNN_FMC_K22	NO CONNECT	

J1 ROW K Pin	Net Name	CertusPro-NX Bank	CertusPro-NX Ball Location
K23	SNN_FMC_K23	NO CONNECT	
K25	SNN_FMC_K25	NO CONNECT	
K26	SNN_FMC_K26	NO CONNECT	
K28	SNN_FMC_K28	NO CONNECT	
K29	SNN_FMC_K29	NO CONNECT	
K31	SNN_FMC_K31	NO CONNECT	
K32	SNN_FMC_K32	NO CONNECT	
K34	SNN_FMC_K34	NO CONNECT	
K35	SNN_FMC_K35	NO CONNECT	
K37	SNN_FMC_K37	NO CONNECT	
K38	SNN_FMC_K38	NO CONNECT	
K40	VIO_B_M2C_K40	NO CONNECT	

6.2. SFP+ Connector

Table 6.11. SFP+ (J2/J3) Pin Connections

Connector	Pin	Net Name	CertusPro-NX Bank	CertusPro-NX Ball Location
J2	1 – 20	GND	N/A	
J3	1, 10, 11, 14, 17, 20	GND	N/A	
J3	2	SFP0_TX_FAULT	BANK 7	H20
J3	3	SFP0_TX_DISABLE	BANK 7	H21
J3	4	SFP0_I2C_SDA	BANK 7	H22
J3	5	SFP0_I2C_SCL	BANK 7	H23
J3	6	SFP0_ABS	BANK 7	H26
J3	7	SFP0_RS0	NO CONNECT	
J3	8	SFP0_LOS	BANK 7	J26
J3	9	SFP0_RS1	NO CONNECT	
J3	12	ETH_RXD0_N	SERDES	B23
J3	13	ETH_RXD0_P	SERDES	C24
J3	15, 16	VDD_3V3	N/A	
J3	18	ETH_TXD0_N	SERDES	A24
J3	19	ETH_TXD0_P	SERDES	A25

Table 6.12. SFP+ (J4/J5) Pin Connections

Connector	Pin	Net Name	CertusPro-NX Bank	CertusPro-NX Ball Location
J4	1 – 20	GND	N/A	
J5	1, 10, 11, 14, 17, 20	GND	N/A	
J5	2	SFP1_TX_FAULT	BANK 7	J25
J5	3	SFP1_TX_DISABLE	BANK 7	J24
J5	4	SFP1_I2C_SDA	BANK 7	J23
J5	5	SFP1_I2C_SCL	BANK 7	J22
J5	6	SFP1_ABS	BANK 7	J21
J5	7	SFP1_RS0	NO CONNECT	
J5	8	SFP1_LOS	BANK 7	J20
J5	9	SFP1_RS1	NO CONNECT	
J5	12	ETH_RXD1_N	SERDES	C22
J5	13	ETH_RXD1_P	SERDES	C21
J5	15, 16	VDD_3V3	N/A	
J5	18	ETH_TXD1_N	SERDES	A22
J5	19	ETH_TXD1_P	SERDES	A21

6.3. Camera Connector

Table 6.13. Camera Connector (J9) Pin Connections

J9 Pin	Net Name	CertusPro-NX Bank	CertusPro-NX Ball Location
1	DPHY0_DATA0_P	MIPI	E1
2	DPHY0_DATA2_P	MIPI	F1
3	DPHY0_DATA0_N	MIPI	E2
4	DPHY0_DATA2_N	MIPI	F2
5, 6, 11, 12, 17, 18, 23, 24, 29, 30, 35, 36, 41, 42, 47, 48, 53, 54, 63, 64, 69, 70, 79, 80, 99, 100, 115, 116, 121, 122, 123, 124, 125, 126, 127, 128	GND	N/A	
7	DPHY0_DCLK_P	MIPI	D1
8	SNN_CAM_8	NO CONNECT	
9	DPHY0_DCLK_N	MIPI	D2
10	SNN_CAM_10	NO CONNECT	
13	DPHY0_DATA1_P	MIPI	C1
14	DPHY0_DATA3_P	MIPI	B1
15	DPHY0_DATA1_N	MIPI	C2
16	DPHY0_DATA3_N	MIPI	B2
19	DPHY1_DATA0_P	MIPI	A4
20	DPHY1_DATA2_P	MIPI	A3
21	DPHY1_DATA0_N	MIPI	B4
22	DPHY1_DATA2_N	MIPI	B3
25	DPHY1_DCLK_P	MIPI	A5
26	SNN_CAM_26	NO CONNECT	