

Galatea SMA IO Interconnect Module User Guide

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Introduction

Galatea SMA IO Interconnect Module is a SMA breakout solution for Galatea Spartan 6 PCI Express FPGA Board. This product allows Galatea's IOs and GTP to be broken out in to SMA connectors that would facilitate easy attachment of other high speed peripherals. The board features 18 SMA connectors, which include one set of GTP transceiver and 12 IOs. (CLK, RX & TX pairs for GTP is available only when the module is placed on header P4 in Galatea Spartan 6 PCIe Board)

Board features

- 18 SMA connectors
- 6 SMA connectors for GTP transceivers
- Can be attached to either side of Galatea FPGA board
- Dimension: 83.820mm X 56.591mm

How to use the module

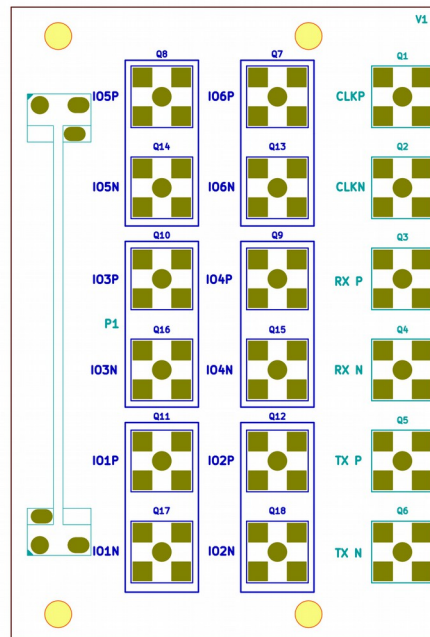
The following section describes how to use this module.

Components/Tools required

Along with the module, you may need the items in the list below for easy and fast installation.

1. Galatea FPGA Development Board.

Connection Diagram



This diagram should be used as a reference only. For detailed information, see the schematics at the end of this document. Details of individual connectors are as below.

Connection Details

When the SMA Module is placed on the Header P4 on Galatea.

SMA connector	Pin Description	Spartan-6 (FGG484) Pin No.	FPGA Pin Description
CLKP	MGTKLKP	C11	MGTREFCLK1P_101
CLKN	MGTKLKN	D11	MGTREFCLK1N_101
RXP	MGTRXP	D9	IMGTRXP1_101
RXN	MGTRXN	C9	MGTRXN1_101
TXP	MGTTXP	B8	MGTTXP1_101
TXN	MGTTXN	A8	MGTTXN1_101
Q8	GPIO_3P	C19	IO_L64P_SCP5_0
Q14	GPIO_3N	A19	IO_L64N_SCP4_0
Q7	GPIO_4P	B18	IO_L63P_SCP7_0
Q13	GPIO_4N	A18	IO_L63N_SCP6_0
Q9	CLKP2	H12	IO_L35P_GCLK17_0
Q15	CLKN2	G11	IO_L35N_GCLK16_0
Q10	CLKP1	E16	IO_L37P_GCLK13_0
Q16	CLKN1	F16	IO_L37N_GCLK12_0
Q11	GPIO_2P	G8	IO_L32P_0
Q17	GPIO_2N	F9	IO_L32N_0
Q12	GPIO_1P	H10	IO_L33P_0
Q18	GPIO_1N	H11	IO_L33N_0

When the SMA Module is placed on the Header P5 on Galatea.

SMA connector	Pin Description	Spartan-6 (FGG484) Pin No.	FPGA Pin Description
CLKP	MGTKLKP	-	NC
CLKN	MGTKLKN	-	NC
RXP	MGTRXP	-	NC

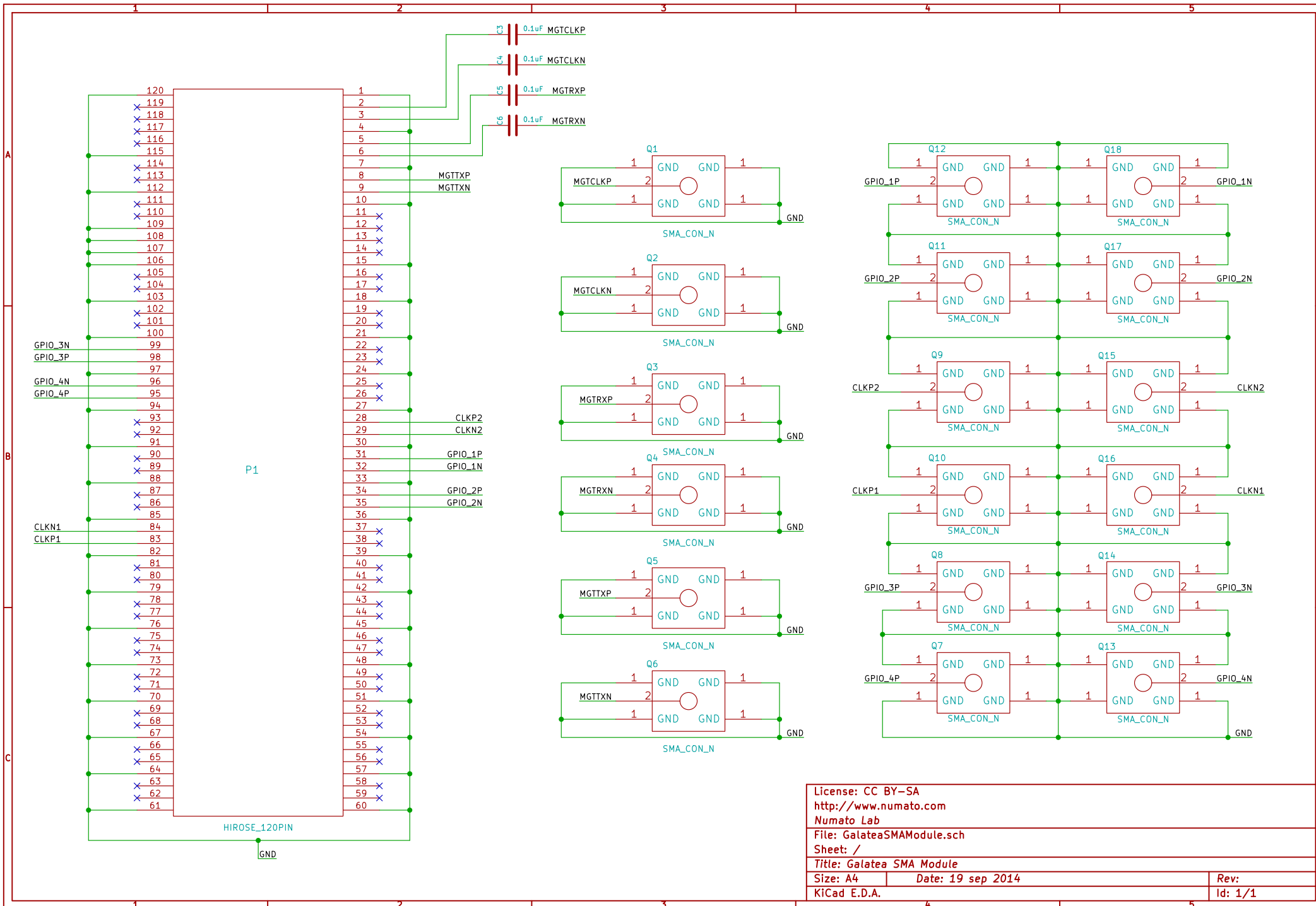
RXN	MGTRXN	-	NC
TXP	MGTTXP	-	NC
TXN	MGTTXN	-	NC
Q8	GPIO_3P	V7	IO_L58P_2
Q14	GPIO_3N	W8	IO_L58N_2
Q7	GPIO_4P	Y7	IO_L47P_2
Q13	GPIO_4N	AB7	IO_L47N_2
Q9	CLKP2	AA12	IO_L31P_GCLK31_D14_2
Q15	CLKN2	AB12	IO_L31N_GCLK30_D15_2
Q10	CLKP1	Y11	IO_L32P_GCLK29_2
Q16	CLKN1	AB11	IO_L32N_GCLK28_2
Q11	GPIO_2P	AA10	IO_L41P_2
Q17	GPIO_2N	AB10	IO_L41N_VREF_2
Q12	GPIO_1P	W10	IO_L44P_2
Q18	GPIO_1N	Y10	IO_L44N_2

For more information, refer the schematics at the end of this document.

Technical Specifications

Parameter *	Value	Unit
Basic Specifications		
MGTAVCC	1.2	V
Maximum IO voltage	3.3	V

*All parameters considered nominal. Numato Systems Pvt Ltd reserve the right to modify products without notice.



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