Component: IO Connector			
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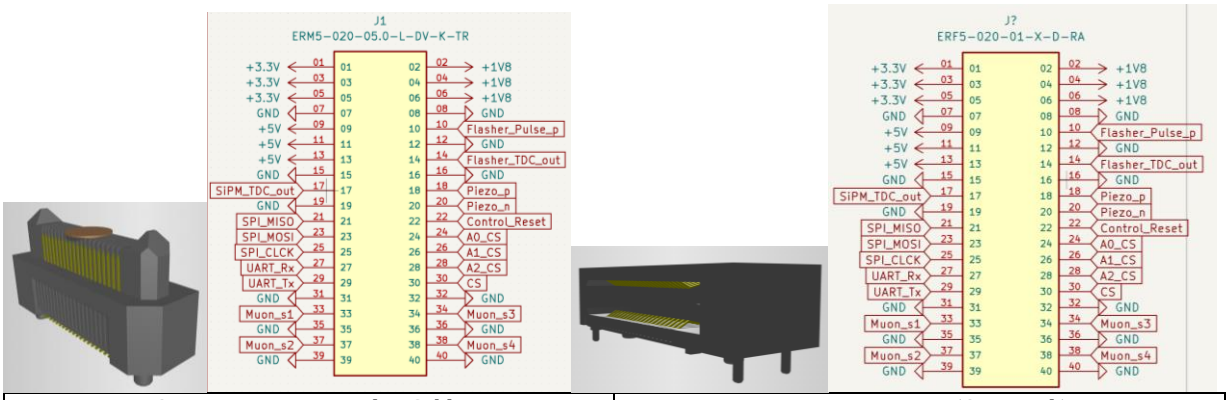
Date: April 13, 2023	Completion Date:		
Revision #: 1	Status: (In-Progress)		

Schematic:



Output on Interposer Flex Cable	Input to interposer (On Board)

Layout:

Description:	**In:** DC power/Voltage - 3.3V (est. current - <250mA), 1.8V (est. current - <500mA) and 5V (est. current - <500mA (peak for flasher pulse, then low)). **In/OUT:** UART_Tx (wire to UART Rx on main board)/UART_Rx(wire to UART Tx on main board) - to be routed to 8 PMTs. **In/OUT:** MISO, MOSI, CLCK, CS. CS will need to be switched to 6-8 different components. **OUT:** Muon-s1-4 digital logic signals from four comparators with SiPM events for processing of time over threshold and coincidences on main board. Pulses will be ~10-100 ns **IN:** Flasher_Pulse_p is the input pulse generated from timer board. This can be a long pulse (60ns<length), the voltage must be over 2V for pulse delay chip. On the timer board the start of this pulse will be input to TDC chip. **OUT:** Flasher_TDC_out is the stop signal for TDC (based on observer channel on flashers) **OUT:** SiPM_TDC_out is the stop signal for TDC recording SiPM charge out **OUT:** Piezo_p, Piezo_n: Acoustic differential output signal from to ADC on mainboard **IN:** A0_CS, A2_CS, A3_CS: These signal control the select of chips by routing of SPI select (CS-) signals. All control are planned to be performed with GPIO-expanders and SPI control of chips. **IN:** Control_Reset – performs hardware reset of main control GPIO expander
Functional Requirements:	
Files Link	
Open-questions	Unclear of changes required to SPI controller set-up required for programming DS1023, it may be easier to use parallel programming, so will include ability to switch between two on prototype board, this does not change the required IOs For all chips on interposer the alternative to switch to I2C control is available Flasher TDC and SiPM TDC out may have small widths, while TDC chips has minimum required width of 10ns Unknown power required for PMTs. Use of single-ended (LVCMOS?) or differential (LVDS?) output for Muon (SMUT) detector is not defined yet. Here shown with single-ended output 3.3V LVCMOS. Method for including/recording calibration time for pulse delay when transmitted to different flashers used is TBD
Review Issues	