

# ESL CubeSat Design Specifications

## Mechanical Specifications

- **Board Dimensions:** 96mm x 90mm
- Board corners will be rounded off with a radius of 3mm.
- There will be 4 mounting holes with the following measurements:
  - **Hole Diameter:** 3.2mm
  - **Pad Diameter:** 6.3mm
- There will be a total of 104 pin holes in a grid of 4x26.
  - **Pitch:** 2.54mm
  - The **SAMTEC ESQ-126-39-[P]-D** connectors will be used

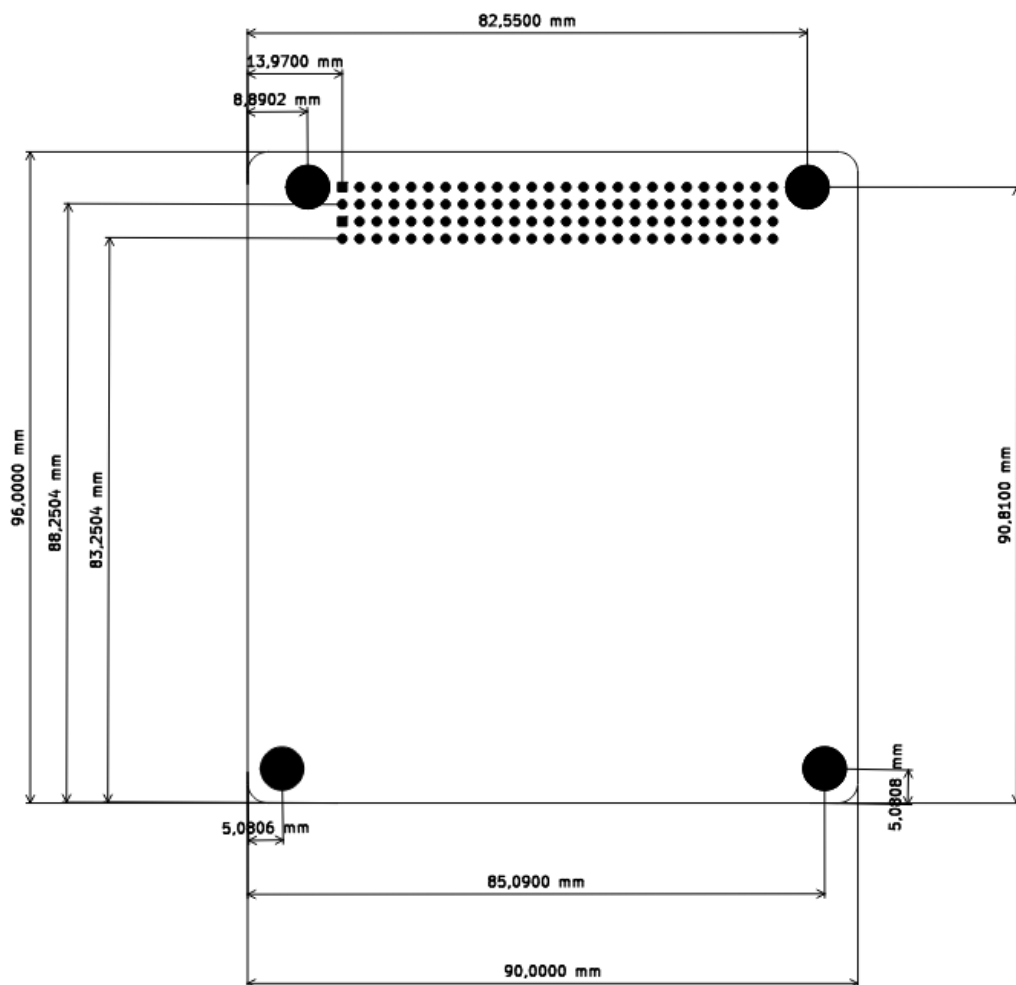
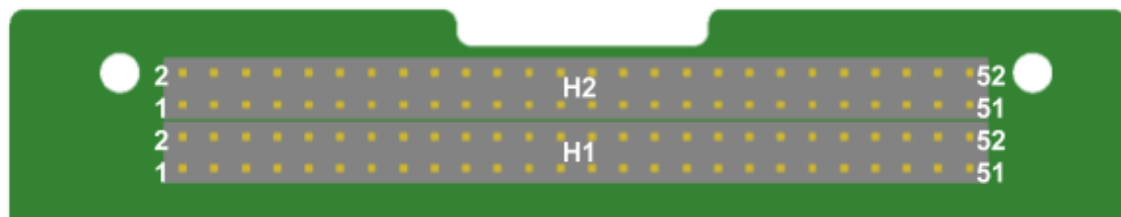


Figure 1: Board Dimensions

# Electrical Specifications



H1			
CAN bus 1, L	01	02	
CAN bus 1, H	03	04	
	05	06	
	07	08	
	09	10	
	11	12	
RS485 bus 1, A	13	14	RS485 bus 2, A
RS485 bus 1, B	15	16	RS485 bus 2, B
	17	18	
Payload UART TX	19	20	Payload UART RX
I2C bus 1, SCL	21	22	
I2C bus 1, SDA	23	24	
Sync clock line	25	26	Sync clock line
	27	28	
	29	30	
	31	32	
	33	34	Ground
Kill-switch 1	35	36	
Kill-switch 2	37	38	
System UART TX	39	40	System UART RX
I2C bus 2, SDA	41	42	
I2C bus 2, SCL	43	44	
	45	46	
	47	48	
5V0_Sw2	49	50	3V3_Sw2
5V0_Sw1	51	52	3V3_Sw1

H2			
CAN bus 2, L	01	02	
CAN bus 2, H	03	04	
	05	06	
	07	08	
System SPI MISO	09	10	System SPI MOSI
System SPI SCK	11	12	System SPI CS1
	13	14	
	15	16	
	17	18	
	19	20	
	21	22	
VBus_Sw1	23	24	VBus_Sw1
5V0 power rail	25	26	5V0 power rail
3.3V power rail	27	28	3.3V power rail
Ground	29	30	Ground
Ground	31	32	Ground
	33	34	
	35	36	
	37	38	
	39	40	
	41	42	
	43	44	
Battery power rail	45	46	Battery power rail
Payload SPI MISO	47	48	Payload SPI MOSI
Payload SPI SCK	49	50	Payload SPI CS1
	51	52	