

Engineering Proposal AQ26001

PCB Design Service, ESP32 i2c Carrier Board



aqua
engineering



Revision Log

1/10/26 – v1.0.0, Initial Draft

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Client Information

The client's contact information follows:

Foo, LLC.
123 Foo Corporate Way, Cleveland, OH 44xxx
Phone: (216) 555-6666
Attn: Harsheek "Harsh" Chandran

Background

Aqua Engineering will work alongside Harsh's team to develop a prototype Rev A circuit board. This device will have a main ESP32 processor and a USB-C programming port built in. There will be an i2c JST connector for off-board sensor connections. This proposal covers the electronics design. There is no mechanical form factor specified for this scope of work.

Scope

The engineering effort for this project will have a carefully defined scope as follows:

- Electronics engineering and firmware to realize a basic Rev-A prototype
- Documentation of the finished PCB
- Sourcing / procurement of components
- Physical build, test, and debug

Note 1: Changes to scope of work may increase project cost.

Product Definition

This proposal is based on the following rough specifications from initial conversations and emails.

- ESP32 microcontroller board
- 4x 5V i2c 4-wire connectors in JST XH size
- USB-C programmable
- PCB has four mounting holes that must fit a 2" x 4.5" rectangular hole pattern
- Powered by a 24V center positive barrel jack, requires a buck regulator to step down to 5V 1.5A and 3.3V 1,250mA rails
- Small status LCD, size and function TBD

Note 2: Changes to product definition may increase project cost.

Billing Milestones

The following table outlines the engineering milestones and billing points for the proposed design phase.

Category	Task Description	Deliverables	Hours	Rate	Subtotal
Electronics Design	Background review, component selection, schematic capture.	Product requirements definition (PRD)	8	150	\$1,200.00
	PRD Design Review	Approval	-	-	
PCB Layout	Design the PCB		12	150	\$1,800.00
	PCB Design Review	Approval	-	-	
PCB Build	PCB order, PCB bringup and smoke test with hello world firmware	PCB design zip file: Gerbers, BOM, source files, STEP 3D output and PDF schematic	22	150	\$3,300.00
Firmware	Application firmware for i2c sensor application from Harsh's specification	Firmware source code, related documentation	12	150	\$1,800.00
	Firmware Design Review		-	-	



Test & Ship	Final test, ship PCBs	2pcs Rev A sample	4	150	\$600.00
		Total Hours:	58	Engineering Total:	\$8,700.00
Category	Description		Quantity	Price	
Materials	Materials budget for component evaluation and final PCBA deliverables		1	\$750.00	\$750.00
				Total:	\$9,450.00

Terms

Payment terms – Net Prox 90 Days

Billing schedule – Milestones billed upon completion

Project Down Payment – Not Required

Materials – Materials billed as used

Project Kickoff:

A PO must be received against this scope of work for the project to kick off.

Timeline:

6 Weeks



Signature Page

By signing this quotation, the client agrees to the terms herein and indicates their approval to proceed with the scope of work. Project will officially start upon receipt of this signature page OR project PO and project down payment, if applicable.

Note 1, Scope changes (Initial)_____

Note 2, Product definition changes (Initial)_____

Client Signature:

Client Name and Date (Printed)

[End of Proposal]