## Post-design engineering review

This review is done to ensure the quality of our services. It is performed by a third engineer not part of the PCB design, in an effort to reduce the failure probability.

**Disclaimer:**

All the expertise & knowledge of our team will be available at the client's request aimed to create the right device required by the client. Although we will do our best, fail is part of life and of product manufacturing too. Thus in case of any design failure, our responsibility will not cover the design charges, neither include the cost of components, manufacturing nor other damages related to the design.

**Schematics review:**

- Capable microcontroller. Not Apply

- Clock selection. Not Apply

- Microcontroller power supply levels, bypass capacitors. Not Apply

- communication interface. Checked

- Power supply voltage, fuses, protection, ESD and type. Checked

- Diodes polarities, electrolytic caps polarity Checked

- Transistor polarity, voltage/current capability Checked

-*Input devices*, buttons, switches, potentiometers, encoders, card readers, touch sensors, keyboard, pointers, any kind of sensors, etc. Checked

- supply for sensors. Not Apply

-*Output devices*, LEDs, speakers, sounds, actuators, screens (OLED, LCD, GLCD, 7-segments…), motors, heaters, etc. Not Apply

- Supply for output devices *power supply type and capability.*  Not Apply

-Batteries, (alkaline, Li-Po, LIo2Cl, Li-Ion, Lead acid) 1.5V, 6V, 9V, 12V... Not Apply

-DC adapter (voltage and current capacity). Not Apply

-AC (110Vac, 120Vac, 220Vac…) over-voltage protection. Not Apply

-Charging circuit. Not Apply

-*Communications* (Wi-Fi, Bluetooth, BLE, RF, IR), links to external sensors or interaction with other devices. Working range. Not Apply

-*Working levels*, voltages, Power. 12V. Checked

**PCB review:**

- BOM review correct field filling, Checked

- Datasheet and component matching, Part number matching footprint. Checked

- Second revision of the BOM, the footprints coincide with the Mfg PN, the prices are correct, there is enough stock, etc. Checked

- BOM correct values to PN Checked

- BOM correct footprints to PN Checked

- Footprint verification against Datasheet. Measurement on PCB. Check pads distances, Thermal pads, Checked

- No Pocket tracks. Checked

- Correct track width according to current. Checked

- Correct track space according to the voltage. Checked

- Connectors for the right use. Checked

- DRC run again. Checked

- Space for heat-sinks. Not Apply

- Correct labels located on the silkscreen, indicate polarities, function of each pin in the connectors, name of each connector, voltages, current, sizes >1mm, etc. Checked

**Mechanical review:**

- PCB size and quantity, Checked

- Retention notches or holes, Checked

- Screw holes, screw type Checked

- Retention nails etc. Checked Not requested

- Inputs and output connectors with drill or media communications connectors. Checked

**Firmware requirements:**

- Interrupt routines to enabled pin Checked

- PWM devices to PWM enabled pins Checked

- Microcontroller as per client reference. Checked

Done By

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