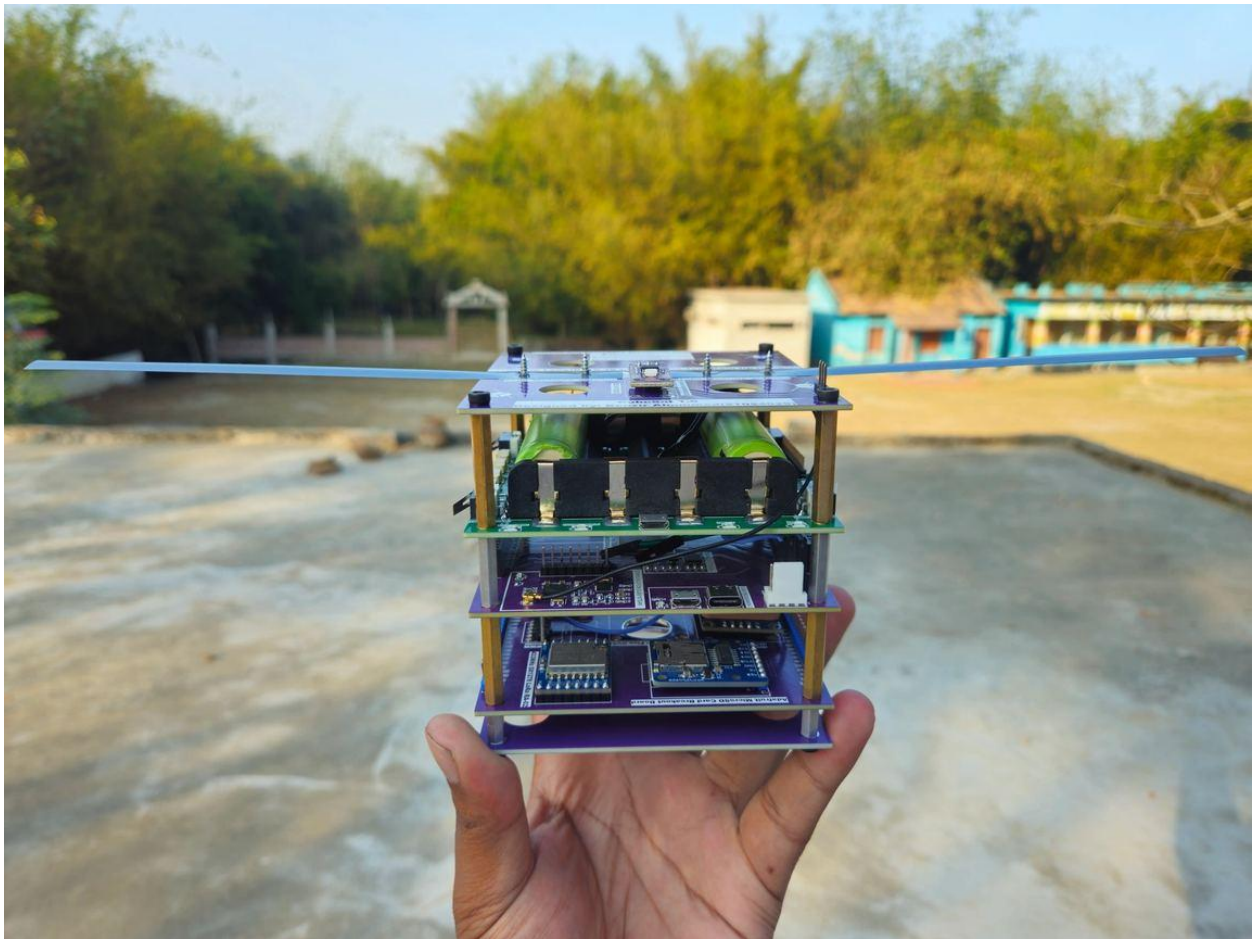


BENZIR AHAMMED

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Space Power Electronics & PCB Design Engineer

Satellite EPS · PCDU · MPPT · Multi-layer PCB



SELECTED WORK · 2023 – 2026

Profile

I design the power hardware that keeps small spacecraft and energy systems alive - solar arrays, power conditioning and distribution units, MPPT converters and battery management electronics, taken from architecture through schematic, multi-layer PCB layout, fabrication and bench validation. My work spans space-grade CubeSat electronics and commercial power hardware. I hold a BSc in Aeronautical Engineering (Avionics), am first author on three IEEE publications covering CubeSat EPS architecture and low-power UHF communication, and currently lead battery, BMS and motor-controller R&D at Bangladesh's first indigenous electric vehicle programme.

CORE COMPETENCIES

Space Power Systems

CubeSat EPS architecture, PCDU design, triple-junction GaAs arrays, UMPPT, N-1 redundancy

PCB Engineering

Multi-layer layout, EMI/EMC, signal and power integrity, star grounding, DFM release

Embedded Firmware

ATmega and ESP32, STM 32, CAN / SPI / I2C / UART, interrupt-driven and low-power design

Power Electronics

Buck / boost / buck-boost converters, MPPT control, gate drive, snubber and thermal design

Energy Storage

Li-ion and LiFePO4 charging, hybrid supercapacitor storage, BMS, cell balancing, SoC estimation

Validation

Bench bring-up, oscilloscope and electronic-load testing, root-cause failure analysis

Tools : EasyEDA Pro · KiCad · LTspice · Proteus · MATLAB / Simulink · Python, C, C++ · JLCPCB / LCSC

Education : BSc in Aeronautical Engineering (Avionics) — Aviation & Aerospace University Bangladesh, 2022–2025 · CGPA 3.41 / 4.00

PROJECT 01

CubeSat Solar Array — 222.8 W Deployable Panel System

SOLLAB Co., Ltd. — South Korea

Role: Hardware Design Engineer · Ongoing remote R&D engagement · GSFC-STD-7000 compliant

A five-panel, 184-cell spacecraft solar array built on AZUR SPACE 3G30A triple-junction GaAs cells — sized, strung and routed for a 2-week LEO direct-solar-feed mission, delivered with a full design and specification report.

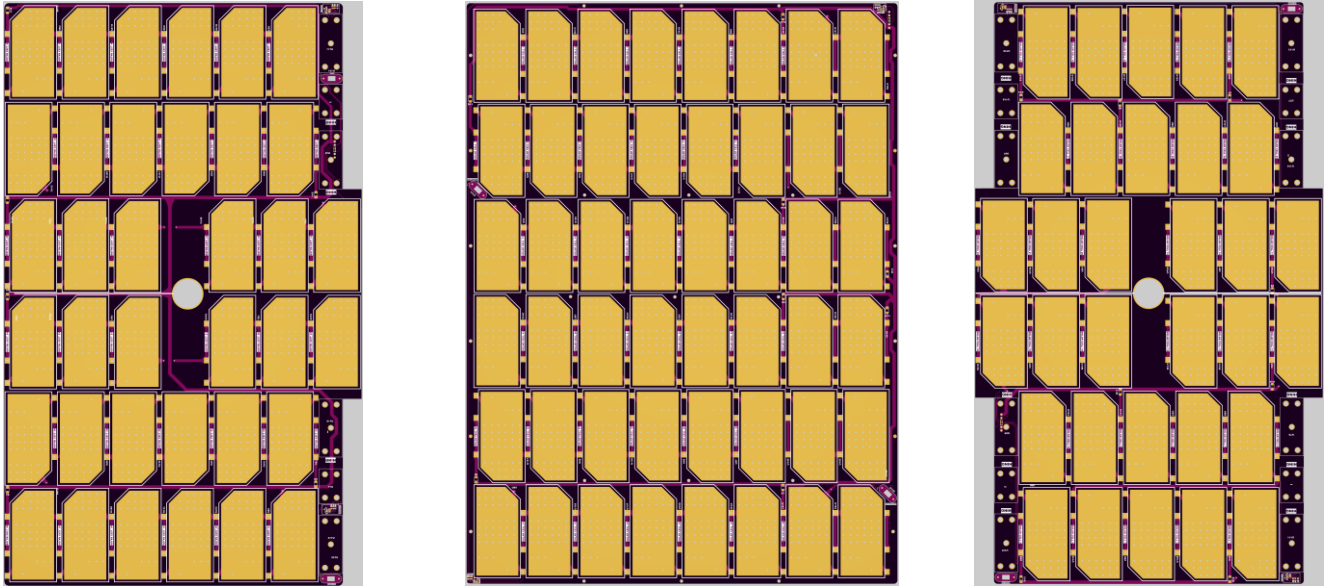


Figure 1. Solar panel configurations on AZUR SPACE 3G30A triple-junction GaAs cells: **(a)** fixed panel — 48 cells, 6S8P, 500 × 400 mm, 14.45 V, 58.1 W; **(b)** deployable panel A (×2) — 36 cells, 6S6P, 500 × 300 mm, 14.45 V, 43.6 W each; **(c)** deployable panel B (×2) — 32 cells, 4S8P, 500 × 300 mm, 9.64 V, 38.8 W each. All values at 28 °C BOL; total array 184 cells, 222.8 W.

TECHNICAL HIGHLIGHTS

- **184 cells across five panels delivering 222.8 W BOL @ 28°C** against a 212.6 W mission budget — +4.8% margin.
- **AZUR SPACE 3G30A triple-junction GaAs** (29.3% efficiency, built-in bypass diodes); one fixed 6S8P panel plus four deployables (6S6P / 4S8P), every string self-contained and under 20 V for PCDU MPPT compatibility.
- **GSFC-STD-7000 compliance engineered in** — redundant grounding via bleed resistors (4.3.1.3), bonding $\leq 100 \Omega$ (4.3.1.4) and all surfaces $>10 \text{ cm}^2$ grounded $<1 \text{ M}\Omega$ for ESD (4.3.1.5).
- CSS-10 sun sensor integration for attitude reference; hinged deployable mechanics with routed harness paths.

Outcome : Delivered as a final design & specification report (v4) with complete string design, routing rules, grounding, bonding and ESD strategy — part of a continuing R&D engagement with SOLLAB's space solar programme.

PROJECT 02

5-Channel UMPPT PCDU — 28 V Unified Bus, 212.6 W

SOLLAB Co., Ltd. — South Korea

Role: Hardware Design Engineer · Companion unit to the 222.8 W solar array · GSFC-STD-7000 derated

A Power Conditioning and Distribution Unit for a 2-week LEO CubeSat mission — five independent MPPT channels combined onto a regulated 28 V bus, with supercapacitor transient buffering and full protection, sensing and OBC telemetry.

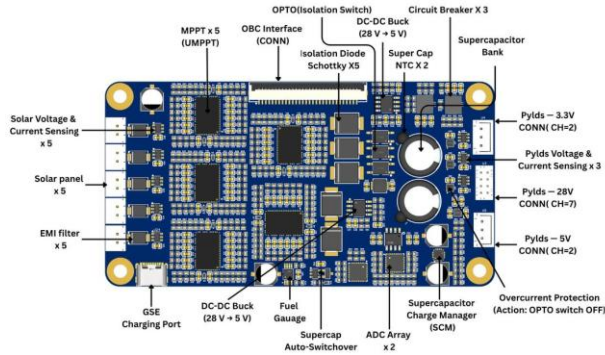


Figure 2. PCDU board — annotated subsystem map

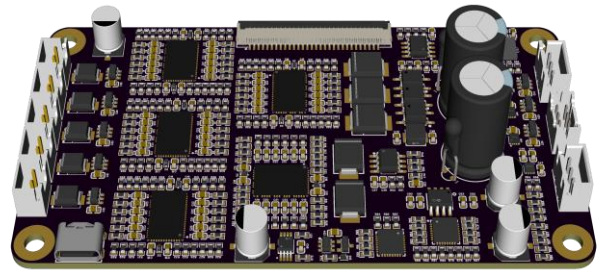


Figure 3. 3D view-supercap. bank and 5-channel MPPT tiers

TECHNICAL HIGHLIGHTS

- **5-channel UMPPT topology** — one LT8490 synchronous buck-boost MPPT controller per solar panel, combined via Schottky isolation diodes onto a **28 V unified bus**; distributes 212.6 W across 3.3 V, 5 V and 28 V rails (11 payload channels).
- **Supercapacitor buffer (2x BCAP0350, 175 F / 5 V)** with charge manager and auto-switchover for pulsed-load support on the 5 V rail — no battery, direct solar feed.
- **Per-channel two-stage EMI filtering with TVS clamping** (SMBJ series, 3x V_{oc} derating) and INA181A1 high-side voltage/current sensing into an ADS7953 ADC array for closed-loop P&O MPPT.
- **Layered protection** — three circuit breakers, opto isolation switch for overcurrent action, isolation diodes, fuel gauge and dual NTC thermal monitoring, all telemetered to the OBC.
- All COTS power ICs **derated per NASA GSFC-STD-7000**; SMD packaging validated against Falcon 9 / Electron launch vibration profiles.

Outcome : Delivered as a full design and analysis report with the annotated board and fabrication-ready layout — the power core of SOLLAB's CubeSat mission, feeding from the 184-cell array of Project 04.

1U CubeSat EPS — N-1 Redundant Power System

Aviation & Aerospace University Bangladesh (AAUB)

Role: Architect, Schematic & PCB Designer · Simulated, fabricated and live-validated

A flight-ready Electrical Power System for a 1U CubeSat — distributed N-1 redundant architecture taken from reliability modelling through schematic, 96 x 96 mm PC-104 layout, assembly and a live telemetry dashboard.

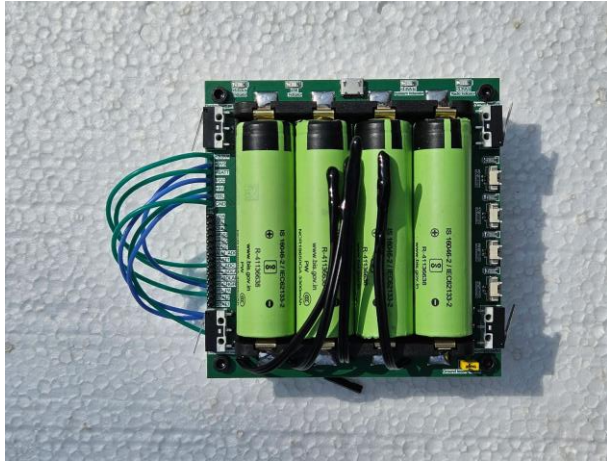


Figure 4. Fabricated and fully functional On-Board Electrical and power system (EPS) developed for the 1U CubeSat.

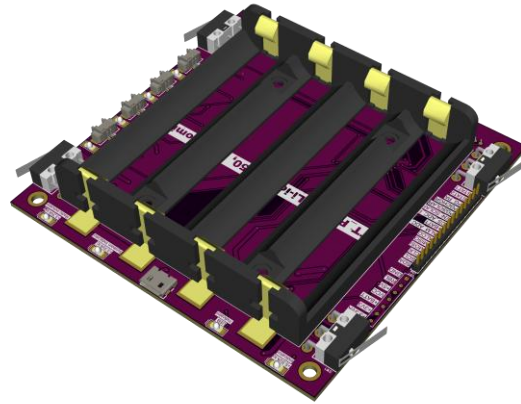


Figure 5. Top-View 3D Model of the CubeSat EPS Board Showing battery holders, solar and OBC connectors, and the deployment switch interface.

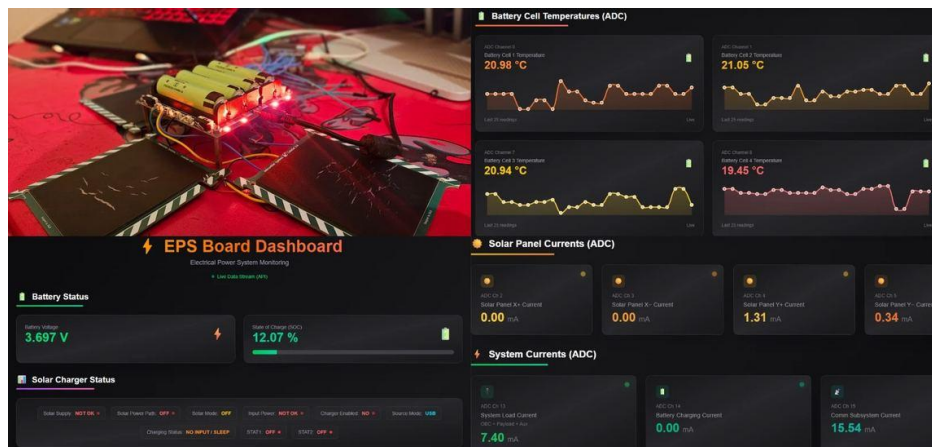


Figure 6. Live bring-up with solar panels + Python telemetry dashboard over SPI/I2C

TECHNICAL HIGHLIGHTS

- **Distributed N-1 redundant architecture** raising modelled reliability from $R = 0.797$ (conventional) to $R = 0.991$.
- **BQ24650 MPPT solar charging** with CC-CV control holding SOC above 90% across simulated LEO orbits; converter efficiency sustained above 85% at typical loads.
- Power path built on LTC3130 / TPS63020 regulators, LTC4376 / MAX40200 ideal diodes and **LTC4362-2 eFuse circuit breakers** for per-rail fault isolation.
- 16-channel telemetry — **ADS8688 16-bit SPI ADC**, BQ27441-G1 fuel gauge and ZXCT1086 current sensing across cells, solar strings and subsystem rails.
- Validated in **MATLAB/Simulink (500 km orbit, 35-minute eclipse)** and on the bench with a live Python telemetry dashboard.

Outcome : Basis of the first-author MEPCON 2025 paper on reliability-oriented distributed CubeSat EPS with N-1 redundancy and hybrid storage.

1U CubeSat OBC & Radio — Full-Stack Flight Avionics

Aviation & Aerospace University Bangladesh (AAUB)

Role: Architect, Schematic & PCB Designer · Fabricated, assembled and bench-validated

A flight-ready On-Board Computer and UHF radio for a 1U CubeSat — full schematic design, component selection, multi-layer layout and EPS integration, taken through fabrication, assembly and live bench bring-up.

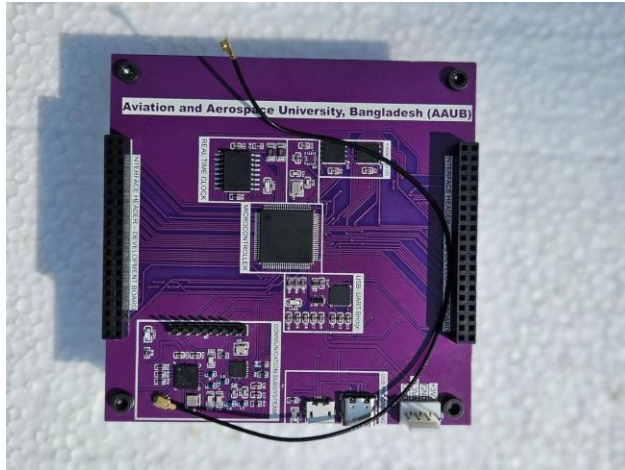


Figure 7. Fabricated and fully functional On-Board Computer (OBC) developed for the proposed 1U CubeSat.

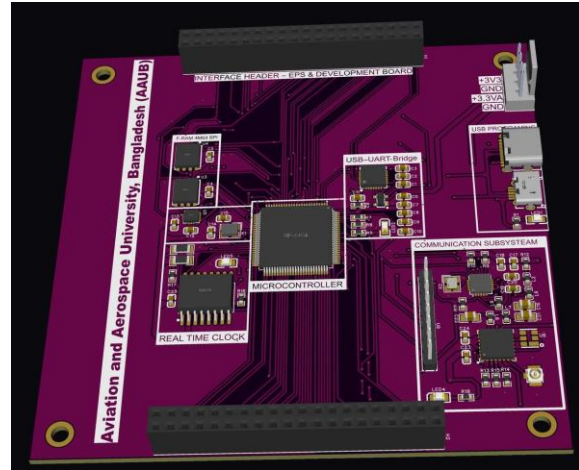


Figure 8. 3D view of the Proposed OBC & Radio hardware realization

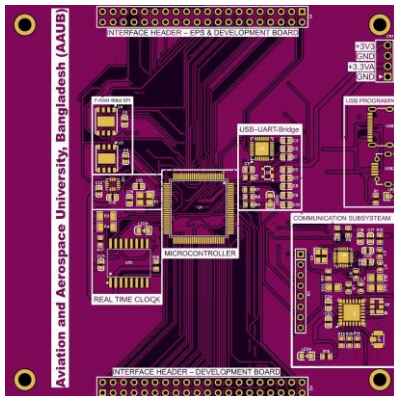


Figure 9. PCB layout of the proposed OBC & Radio

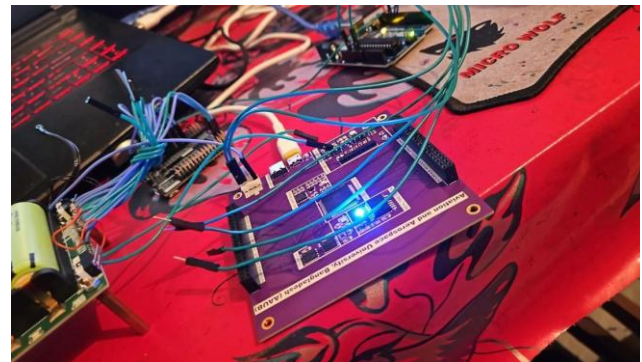


Figure 10. Live bench bring-up and firmware validation of proposed OBC & Radio

TECHNICAL HIGHLIGHTS

- Built around the **ATmega2560 (100-pin TQFP)** running all satellite housekeeping — power control, sensor polling, memory, communication and real-time telemetry.
- **Dual redundant 4 Mbit SPI F-RAM (CY15B104Q x2)** so critical mission data survives a single memory failure.
- UHF link with **Si4463 transceiver + RFFM6406 front-end PA**; PA bypass mode enables low-power beacon operation during eclipse. SAW TX/RX filters on an isolated +3.3VA analogue rail.
- **Closed-loop EPS integration** — EN_SOLAR, PGSOLAR, PGCHR, STAT1/2 and battery-alarm lines monitored directly by the OBC over the PC-104 header.
- **BMX160 9-DOF IMU**, **DS3231 RTC** with battery backup, **CP2102 USB-UART** programming chain — assembled and validated live on the bench.

Outcome : Fabricated, assembled and bench-validated as the avionics core of AAUB's indigenous 1U CubeSat programme — the platform behind the Best Thesis Award and two first-author IEEE publications.

Indigenous 1U CubeSat — Full-Stack Hardware

Undergraduate Thesis — Best Thesis Award

Role: System Architect & Designer of all five subsystems · 2025

A complete flight-ready 1U CubeSat — EPS, OBC, Radio, Antenna and Science Payload, every subsystem architected, designed, fabricated and validated as one integrated PC-104 stack.

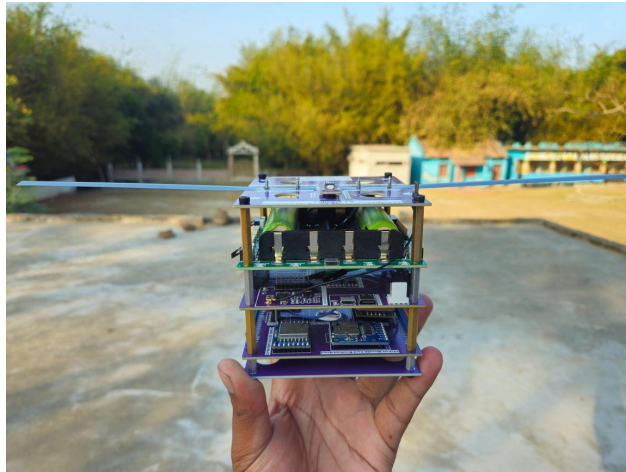


Figure 11. Integrated 1U stack with deployed dipole antennas

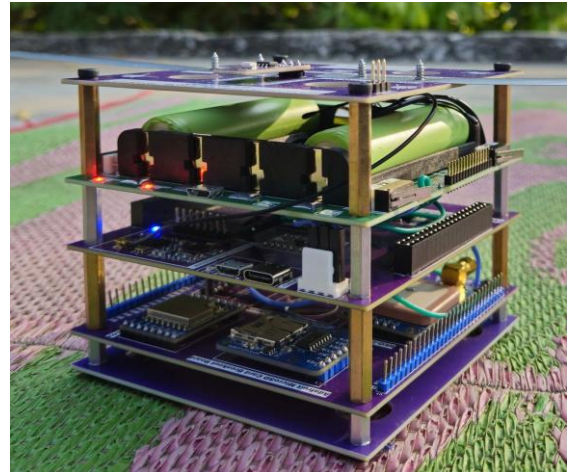


Figure 12. Powered flight stack — all subsystems live

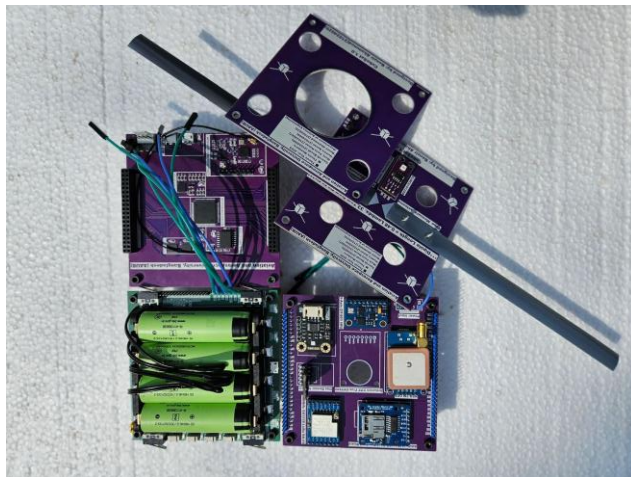


Figure 13. All five subsystem boards, designed in our lab

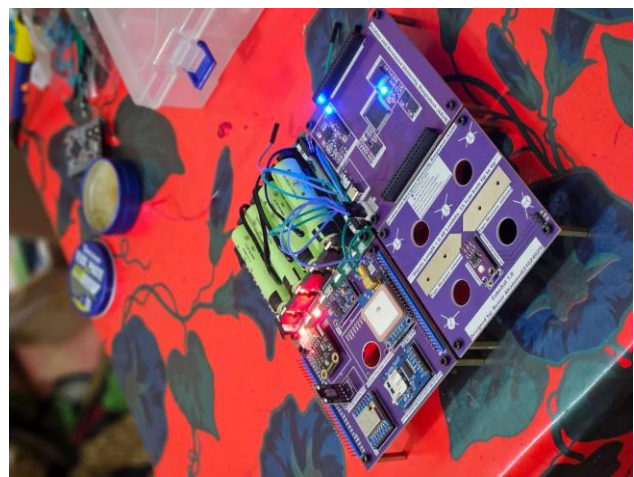


Figure 14. Integration and bring-up on the bench

TECHNICAL HIGHLIGHTS

- **EPS** — BQ24650 MPPT charging, LTC3130 / TPS63020 rails, LTC4362-2 eFuses, ADS8688 16-bit telemetry ADC; **N-1 redundant architecture, R = 0.991**, validated with a live Python dashboard.
- **OBC & Radio** — ATmega2560 flight computer, Si4463 UHF transceiver with RFFM6406 PA, dual redundant CY15B104Q F-RAM, BMX160 IMU, DS3231 RTC; closed-loop EPS management over SPI/I2C.
- **Antenna** — 437 MHz half-wave dipole (33.1 cm) with 50→70 Ω impedance-matching network.
- **Payload** — NEO-7M GPS, OV5642 5 MP camera, SX1278 LoRa, BME280 environmental and CJMCU-4541 gas sensors for Earth observation and atmospheric sensing.
- Simulated under LEO conditions (500 km, 35-minute eclipse); fully PC-104 compatible, designed in EasyEDA Pro.

Outcome : Awarded **Best Thesis Award** — the platform behind two first-author IEEE publications on CubeSat power and communication architecture.

MPPT Solar Charge Controller — 300 W Class

International client — commercial delivery

Role: Electrical & PCB Design Engineer · 2026

A microcontroller-driven boost converter charging a 45-cell LiFePO4 pack directly from a solar array, delivered with a 33-page design report traceable to manufacturer datasheets.

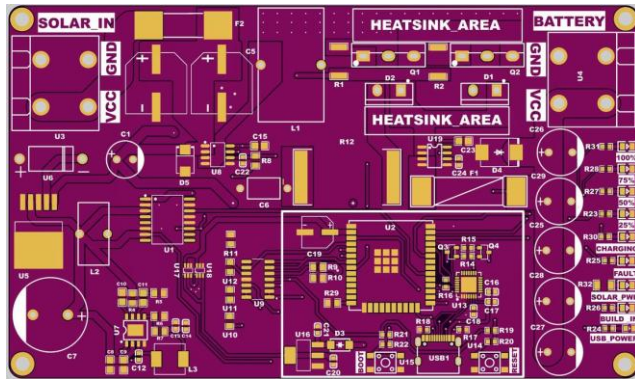


Figure 15. PCB layout — power stage, heatsink areas and status LED bank

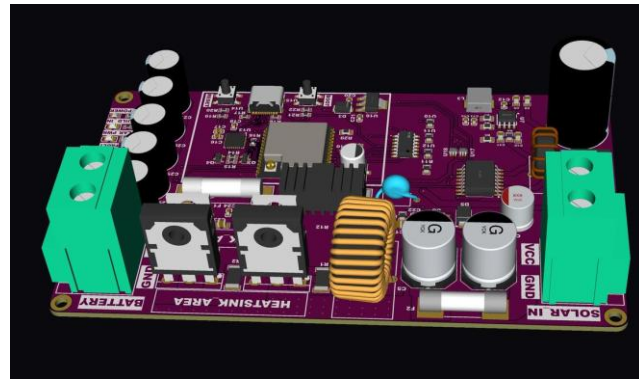


Figure 16. 3D view — ESP32 control section, toroidal inductor and TO-220 power devices

TECHNICAL HIGHLIGHTS

- 50 V VOC / 8 A ISC solar input → 164 V, 45S LiFePO4 output at approximately 300–330 W charge power.
- Single-switch non-isolated **boost topology with paralleled MOSFETs**, IR2110 high-side gate drive and a tuned RC snubber.
- **Isolated Hall-effect current sensing** (ACS711 / ACS712) on both input and output with an OPA4340 analogue front end for MPPT and Coulomb counting.
- Three independent auxiliary rails (12 V, 3.3 V main, 3.3 V USB) with **LM66100 power-path isolation** to combine sources safely.
- Every passive value derived from first principles — inductor and capacitor sizing, divider ratios, snubber values and heatsink thermal budget.

Outcome : Delivered a fabrication-ready 2-layer design with Gerbers, drill and pick-and-place files, a fully LCSC-sourced BOM, a 33-page hardware design report and a companion firmware specification covering GPIO mapping, ADC scaling and the charge state machine.

PROJECT 07

4S→6S Series-Injection Drone Power Module — 150 A Burst

FPV drone platform — international client (under NDA)

Role: Electrical & PCB Design Engineer · 2026 · Design verified from first principles before layout

A bidirectional battery power-boost module that series-injects a 2S booster pack onto a 4S main pack for burst propulsion — sixteen paralleled power FETs, hardware-latched protection and full analytical verification ahead of schematic capture.

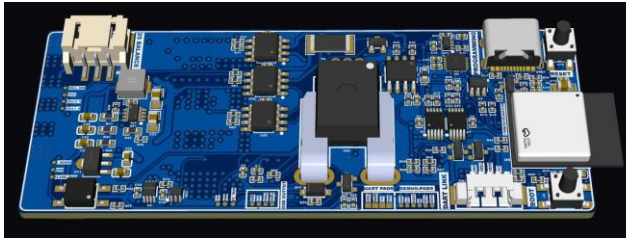


Figure 17. Control side — ESP32-C6, isolated sensing and programming chain

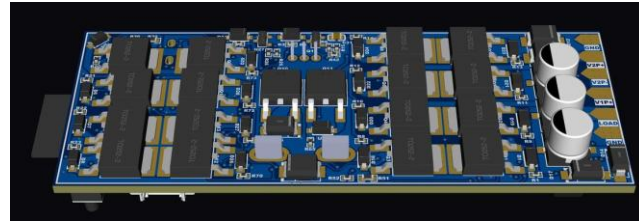


Figure 18. Power side — sixteen TO-252 FETs on 2 oz thermal planes

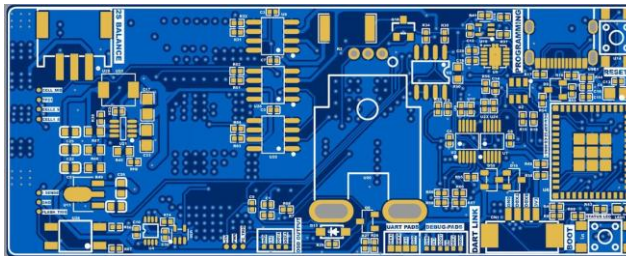


Figure 19. Top layer — 2S balance, differential cell sensing, UART/debug

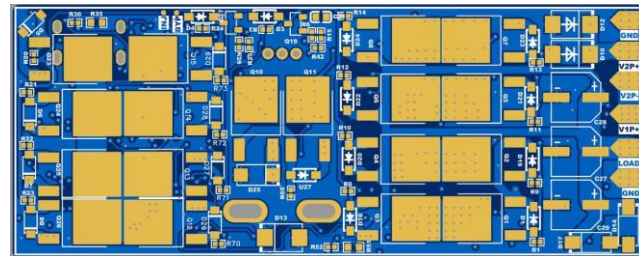


Figure 20. Bottom layer — bypass and inject FET banks with gate networks

TECHNICAL HIGHLIGHTS

- **8 + 8 NCE60P50K FET banks** — back-to-back bidirectional bypass pairs plus a unidirectional inject bank rated for **150 A boost bursts**, each device on a dedicated 2 oz copper plane with via stitching.
- **Firmware-independent protection** — ACS758 current sensing into an LM393 hardware SR-latch over-current trip, gate Vgs zener clamps, SMBJ30A TVS coordination and RC break-before-make dead time.
- **Floating-pack instrumentation** — INA149 difference amplifiers with ADS1115 ADC measure individual 2S cell voltages riding 16.8–25.2 V above ground.
- Precharge circuit tames ESC bulk-capacitor inrush; XL2596S buck rail powers the ESP32-C6 control and telemetry link.
- Every stage validated analytically at worst case (junction temperature, clamp currents, divider chains) in a formal **Design Verification Report** gating schematic capture.

Outcome : DVR-gated design flow — verification report, LCSC-sourced BOM and KiCad schematic delivered, with layout thermal rules and a proof-board test plan; identified and corrected a critical under-sized FET bank specified by the client.

PROJECT 08

UWB Direction-Finding Flight Controller — STM32G473

UAV client — commercial delivery

Role: PCB Design Engineer · 2026 · 36 x 36 mm, 4-layer, released fab-ready

A compact flight-controller-class board that measures aircraft bearing with a UWB radio array, sits inline on the pilot's control and video links to overlay warnings — and keeps the pilot in control even if the board loses power.

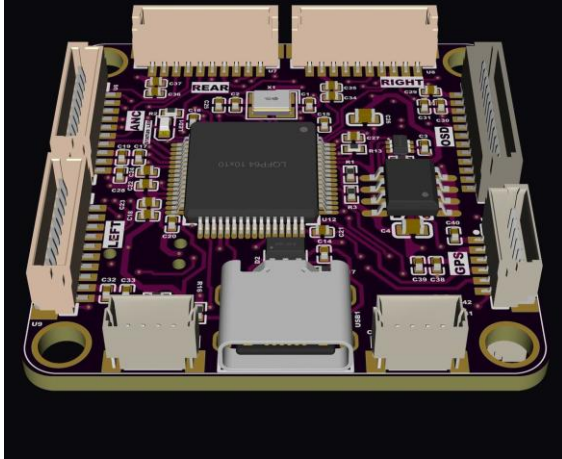


Figure 21. Top -3D VIEW— STM32G473, UWB array ports (LEFT / RIGHT / REAR / ANC)

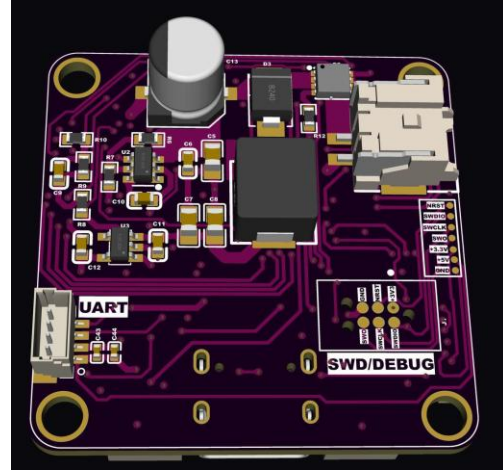


Figure 22. Bottom -3D VIEW — buck power stage, UART and SWD/debug

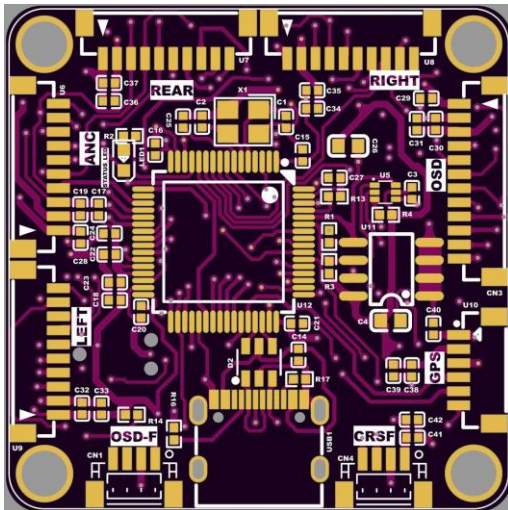


Figure 23. Top layer — MCU fan-out, OSD, GPS and CRSF ports

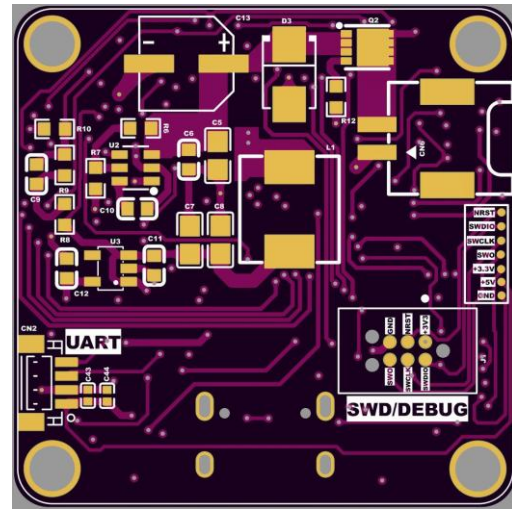


Figure 24. Bottom layer — power entry, 5 V buck and debug breakout

TECHNICAL HIGHLIGHTS

- **STM32G473 (Cortex-M4, 170 MHz)** orchestrating a **3-receiver + anchor DW3220 UWB array** for phase-difference-of-arrival (PDoA) direction sensing.
- **CRSF inline pass-through with hardware fail-safe bypass** — the pilot's RC link survives even total board power loss.
- **OSD warning overlay** onto the pilot's video feed — digital VTX on the main board, analog via a companion daughterboard.
- 4S LiPo input (12–16.8 V) with reverse-polarity P-FET and TVS protection into a 5 V buck and 3.3 V LDO; GPS, USB-C DFU, SWD debug, temperature sensor and EEPROM.
- **36 x 36 mm, 4-layer, 1 oz copper** on the standard 30.5 mm M3 pattern — solid inner ground plane, via-stitched pours, 90 Ω length-matched USB pair; all pins verified against the STM32G473 datasheet.

Outcome : Released fabrication-ready to JLCPCB with native EasyEDA Pro source, netlist and BOM after a documented client design review — every review finding closed and verified.

Team Ababil CanSat — 16th Worldwide, AAS Competition 2025

20th International CanSat Design-Build-Launch Competition · Virginia, USA

Role: Electrical & Mechanical Lead · Six custom flight boards · 5–9 June 2025

A complete flight-ready CanSat avionics suite — six circular boards designed from scratch under strict size, mass and reliability constraints, flown in international competition against a global field.



Figure 25. Team Ababil, AAUB — Monterey, Virginia, June 2025

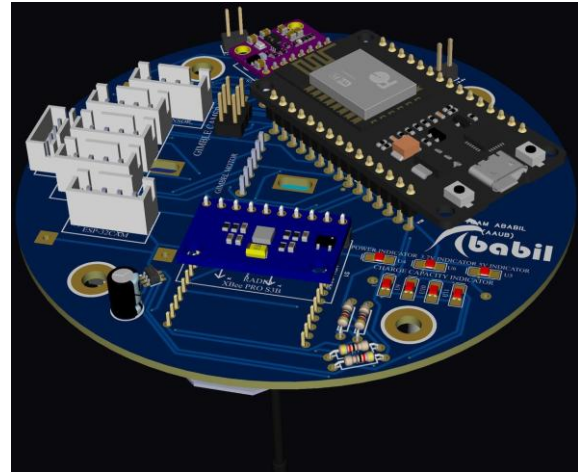


Figure 26. OBC top — ESP32, XBee PRO S3B radio, gimbal and camera ports

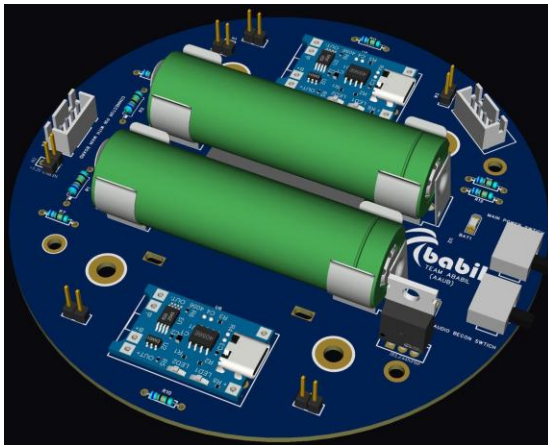


Figure 27. EPS — dual 18650 cells, TP4056 charging, beacon and main power switching

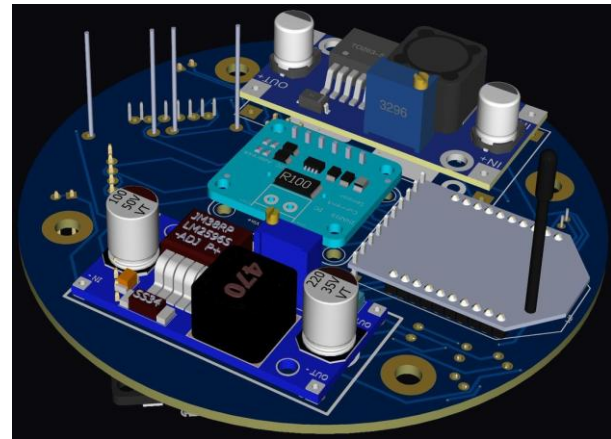


Figure 28. OBC underside — buck rails, INA219 current sensing, telemetry radio

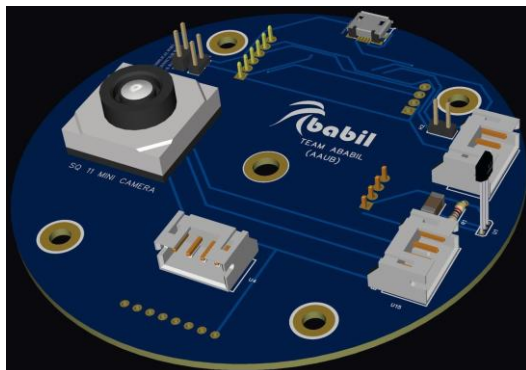


Figure 29. Deployable camera board — SQ11 module and umbilical port

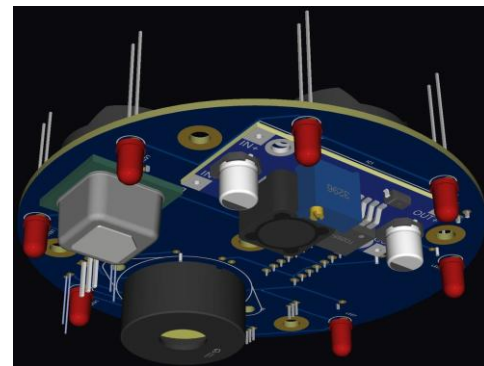


Figure 30. Audio beacon board — recovery buzzer and indicator ring

TECHNICAL HIGHLIGHTS

- Designed **all six flight boards** in EasyEDA Pro — EPS, OBC (dual-sided), data storage, deployable camera and audio beacon — from schematic through layout, routing and 3D mechanical validation.
- **Power architecture**: dual 18650 Li-ion cells with independent TP4056 charge channels, IRLZ44N switching, isolated main and beacon power domains, multi-rail buck regulation with INA219 current telemetry.
- **Avionics**: ESP32 flight computer with XBee PRO S3B long-range telemetry, ESP32-CAM and gimbal interfaces, DS3231 RTC and microSD logging on a dedicated storage board.
- **Recovery systems**: deployable camera board with umbilical port, plus an audio beacon board with buzzer and LED indicator ring for post-landing location.
- Every board constrained to the CanSat envelope — circular form factor, stacked mounting, mass budget and launch vibration survival.

Outcome : 16th worldwide (89.72% overall) at the AAS International CanSat Competition, Virginia. Phase scores: PDR 98.02% · CDR 97.35% · ENV 93.75% · **FRR 100%** · PFR 78.79% — achieved by a first-time team building from zero. Published as a first-author IEEE paper on resilient CanSat-class power systems.

PROJECT 10

Rover-71 — Four-Board Electrical Architecture

Anatolian Rover Challenge (ARC'25), Turkey · University Rover Challenge

Role: Electrical Lead · Every PCB custom-designed · 8th globally of 27 teams

The complete electrical architecture for an indigenous Mars rover — four custom boards carrying autonomous compute, manipulator control, science instrumentation and high-current drive, built to survive Martian-analogue field conditions.



Figure 31. Rover-71 deployed in the field — University Rover Challenge

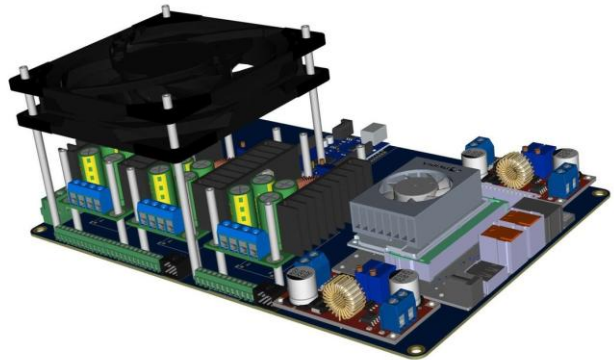


Figure 32. Main control board — NVIDIA Jetson Orin NX, multi-rail power and cooling

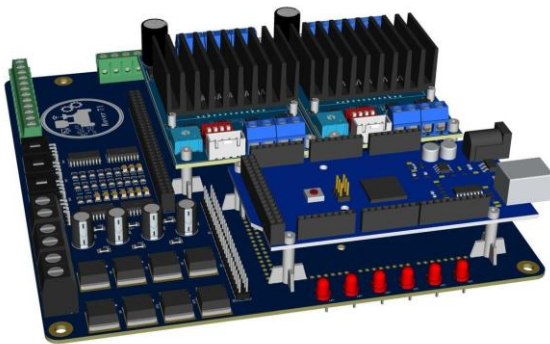


Figure 33. Robotic arm controller — TB6600 stepper drive stage

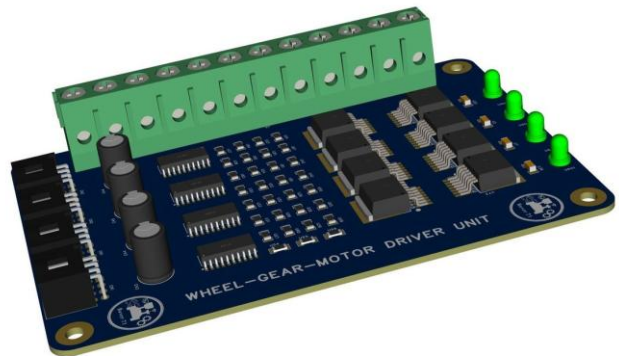


Figure 34. Wheel-gear motor driver unit — BTS7960 high-current stage

TECHNICAL HIGHLIGHTS

- **Main control board** — central compute hub integrating **NVIDIA Jetson Orin NX (16 GB)**, Raspberry Pi 4 and Arduino Mega for autonomous navigation and decision-making, with multiple independent buck rails and active thermal management.
- **Robotic arm controller** — TB6600 stepper drive stage for precise manipulator control during sample collection and scientific operations.
- **Science module** — dedicated board for experiment execution and real-time sensor data acquisition.
- **Wheel-gear motor driver unit** — BTS7960 DC drive stage with opto-isolated inputs and robust high-current handling for rover mobility.
- Architected for **reliability, modularity and field survivability** — each subsystem independently powered, protected and replaceable in the field.

Outcome : 8th position globally (83.83%) among 27 international teams at ARC'25, Turkey, and field-deployed at the University Rover Challenge. Co-authored an IEEE TENSYP 2024 publication on the rover's electro-mechanical design.

PROJECT 11

CC2651R3 Wireless Sensor Node — 0.8 µA Sleep, Single AA

International client — commercial delivery

Role: PCB & Embedded Hardware Engineer · 2026 · Zigbee + BLE 5.0

An ultra-low-power dual-protocol wireless sensor node running for years from a single AA cell — printed 2.4 GHz antenna, matched balun and a boost front end that runs down to 0.7 V.

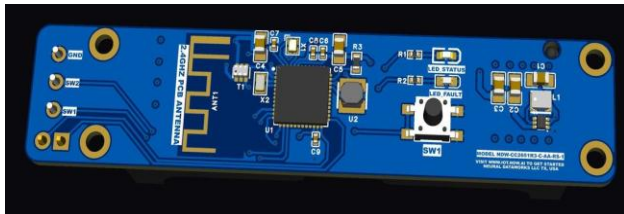


Figure 35. Radio side — CC2651R3, balun and printed 2.4 GHz antenna

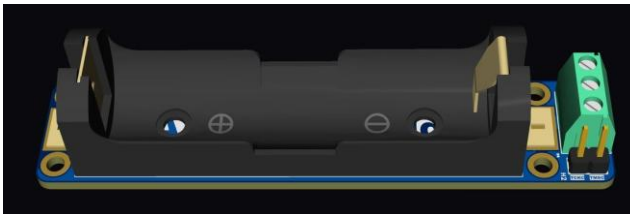


Figure 36. 3D View with AA holder and terminal block

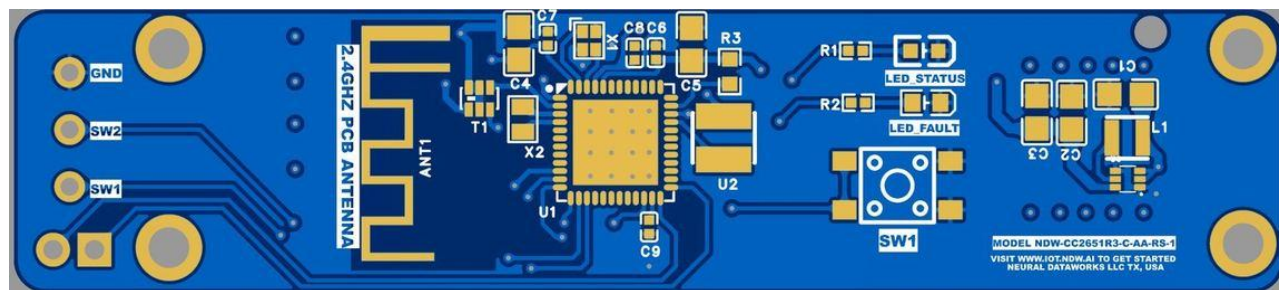


Figure 37. Top layer — RF section, matching network and antenna keep-out

TECHNICAL HIGHLIGHTS

- **TI CC2651R3 SoC** (VQFN-48) running **Zigbee (IEEE 802.15.4)** and **BLE 5.0** at 2.4 GHz, +5 dBm output.
- **0.8 µA sleep current** — single AA cell (1.5 V) boosted to 3.3 V by a TPS610994 operating from 0.7 V, feeding the SoC's internal DC/DC to a 1.68 V core rail.
- **RF chain:** Johanson 2450BM15A0015E balun into a printed PCB trace antenna — matched layout with controlled keep-out, no external antenna cost.
- 48 MHz main and 32.768 kHz sleep crystals; dry-contact reed switch input for door, window and tamper sensing.
- 2-layer, single-side SMD assembly for low-cost JLCPCB / PCBWay turnkey fabrication.

Outcome : Delivered fabrication-ready with full technical documentation covering RF layout rules, power budget and assembly notes.

PROJECT 12

Solar Energy Harvesting PCB — 97% Boost Efficiency

International client — commercial delivery

Role: PCB & Embedded Hardware Engineer · 2026 · AEM15820 + sodium-ion

A microwatt-class solar harvesting front end with MPPT, sodium-ion charging and an ESP32 power interface — the same photovoltaic conversion discipline as the spacecraft array, at the opposite end of the power scale.

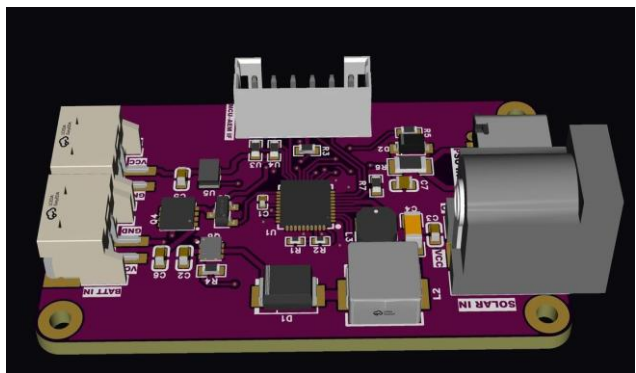


Figure 38. Harvesting board — solar and USB-C inputs, battery and load rails

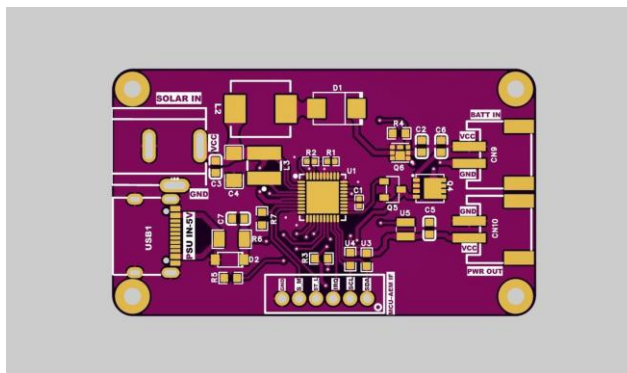


Figure 39. Layout — SOLAR IN, PSU IN, BATT IN and PWR OUT domains

TECHNICAL HIGHLIGHTS

- **e-peas AEM15820** energy-harvesting PMIC reaching **97% boost efficiency**, with MPPT tuned to a Voltaic 2.5 W ETFE panel at an 85% ratio.
- **Sodium-ion 18650 storage** (2P Hakadi, 4.1 V charge) configured over I2C — and **chemistry-flexible by firmware**: LiFePO4, Li-ion or LiPo can be swapped with no PCB respin.
- USB-C 5 V fallback charging at 100 mA constant-current with constant-voltage termination.
- Regulated 3.3 V / 100 mA rail for an ESP32 and sensors, plus a raw storage tap for high-current peripherals such as a cellular modem.
- I2C telemetry and event-driven control, NTC thermal protection, and a **15 nA shipping mode** for inventory storage.

Outcome : Delivered with register configuration maps, an ESP32 driver library, a full application sketch, power-routing guidance, operational state definitions, troubleshooting guide and BOM.

Research & Publications

Five peer-reviewed IEEE publications, first author on three, covering CubeSat power architecture, reliability and low-power satellite communication.

A Framework for Resilient Power Systems in CanSat-Class Reusable Small Satellites

1st Author | 26th International Middle East Power Systems Conference (MEPCON 2025), Aswan, Egypt |

DOI: [ieeexplore.ieee.org/document/11360120](https://doi.org/10.1109/MEPCON51120.2025.11360120)

Reliability-Oriented Design and Evaluation of a Distributed CubeSat EPS with N-1 Redundancy and Hybrid Li-ion/Supercapacitor Storage

1st Author | 26th International Middle East Power Systems Conference (MEPCON 2025), Aswan, Egypt |

DOI: [ieeexplore.ieee.org/document/11360261](https://doi.org/10.1109/MEPCON51120.2025.11360261)

A Low-Power UHF Communication Architecture for 1U CubeSats Operating in LEO

1st Author | 28th International Conference on Computer and Information Technology (ICCIT 2025), Cox's Bazar, Bangladesh

DOI: [ieeexplore.ieee.org/document/11491438](https://doi.org/10.1109/ICCIT51120.2025.11491438)

Design and Development of an Indigenous Ground Station for LEO Orbit Satellites

2nd Author | IEEE International Conference on Next Generation Electronics (NEleX 2023), December 2023 |

DOI: [ieeexplore.ieee.org/document/10421680](https://doi.org/10.1109/NEleX51120.2023.10421680)

Electro-Mechanical Design Analysis and Implementation of an Indigenous Mars Rover (Rover-71)

3rd Author | IEEE International Conference on TENSYP 2024, New Delhi, India |

DOI: [ieeexplore.ieee.org/document/10752217](https://doi.org/10.1109/TENSYP51120.2024.10752217)

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