

Template A — SoC / FPGA Power Tree

Use for multi-rail processors/SoCs with strict sequencing, DVS, and telemetry.

Project & Input

- Application: _____ Board rev: _____ Date: _____
- VIN range: _____ Surge: _____ Isolation: ☐No ☐Yes
- PFC: ☐No ☐Yes Spread-spectrum: ☐No ☐Yes

Rail List (enter V/I/priority)

- Vcore ____V ____A(avg) ____A(peak) Priority __ DVS: ☐Y ☐N
- DDR ____V ____A(avg) ____A(peak) Priority __ Termination: ☐Y ☐N
- 3V3 ____V ____A(avg) ____A(peak) Priority __ Loads: _____
- Others: _____

Sequencing & Reset

- Power-up order: _____
- PG dependencies: _____
- Reset hold (ms): ____ Power-down order: _____

Noise/Transient Targets

- Vcore ΔV target: ____ mV @ ΔI =____ A / ____ μ s
- RF/PLL rails: plan Buck→LDO PSRR target: ____ dB @ ____ kHz

Protection & Path

- eFuse/Hot-swap ILIM: ____A dV/dt: ____ V/ms TVS class: ____
 - Reverse block / OR-ing / MUX: ☐Y ☐N Notes: _____
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Template B — Industrial / PLC (Isolated)

Use for PLC/industrial systems with isolation, safety, and EMC constraints.

Input & Isolation

- AC/DC → PFC ☐Y ☐N DC bus ____V Isolation barrier: ____ kV

- Creepage/Clearance target: ____ mm Safety std: _____

Isolated Converters

- Flyback/LLC: ____Vout ____A Opto/Driver: _____

- Aux bias: ____V ____A Gate-drive supply: ____V ____A

Secondary POL & Loads

- 12V → Buck(s) → POL list: _____

- Sequencing groups: Core / IO / Analog / Aux

EMI & Grounding

- CM/DM filters placed near source Y-cap location: _____

- Chassis ↔ Logic GND strategy: _____

Protection

- Hot-swap/eFuse limits: ____A Foldback: ☐Y ☐N TVS: _____

 - Surge/ESD/Cable: ISO 7637-2 / IEC61000-4-x Notes: _____
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Template C — Wearable / IoT (Ultra-low Iq)

Use for battery-powered designs focusing on low Iq, small form factor, and RF coexistence.

Input & Storage

- Battery: Li-ion/LiPo ☐ Coin ☐ Supercap ☐ Capacity: ____ mAh

- Charge: CC/CV ____A/____V Thermistor: ☐Y ☐N JEITA: ☐Y ☐N

Power Path

- Path: SYS/VSYS ☐ Ideal diode ☐ Ship mode ☐ Reverse block ☐

- Low-Iq buck list: _____ LDO noise targets: ____ mVrms

Rails & Peaks

- Sensor/MCU/Radio rails (V/I avg/peak): _____

- Peak management (burst/slots): _____

Telemetry & Sleep

- PMBus/SMBus: ☐Y ☐N Gauge: ☐Y ☐N Ship/Sleep currents: ____ μ A

- Brownout/Reset thresholds: _____ Wake sources: _____

EMI/Coexistence

- Switcher freq: ____ kHz Avoid band: ____ MHz Spread spectrum ☐

 - RF coexistence check (harmonics/spurs): _____
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