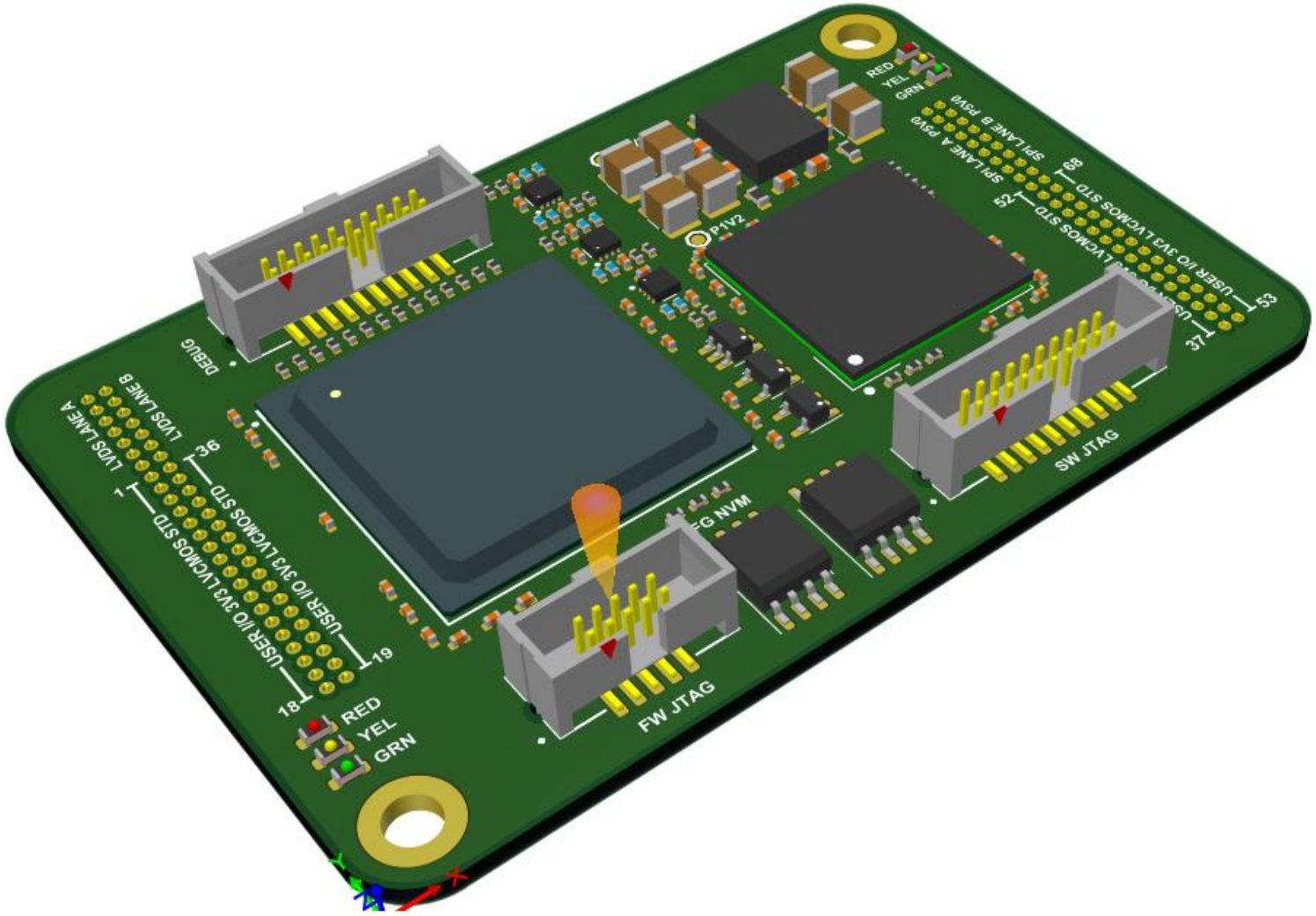
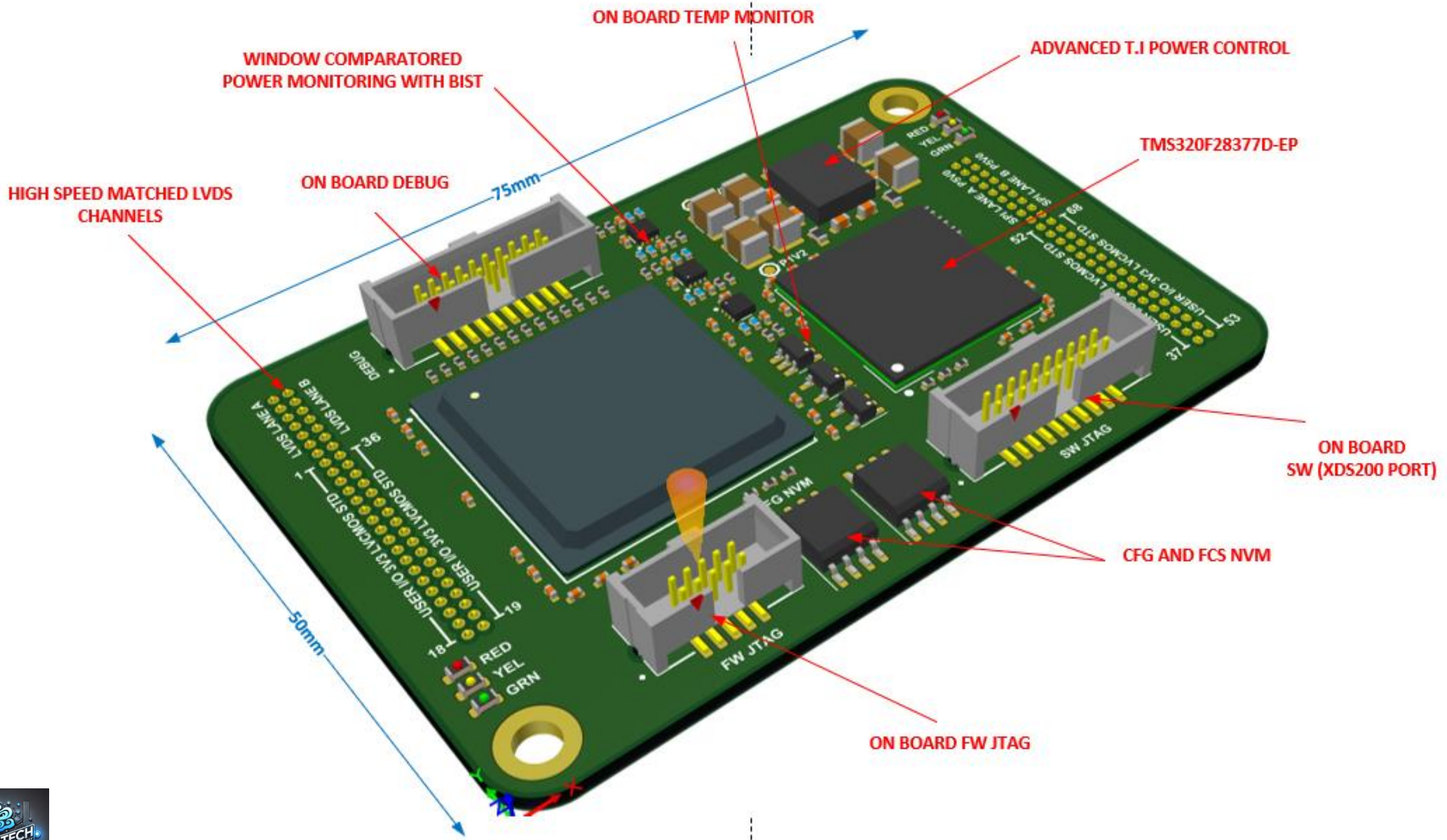
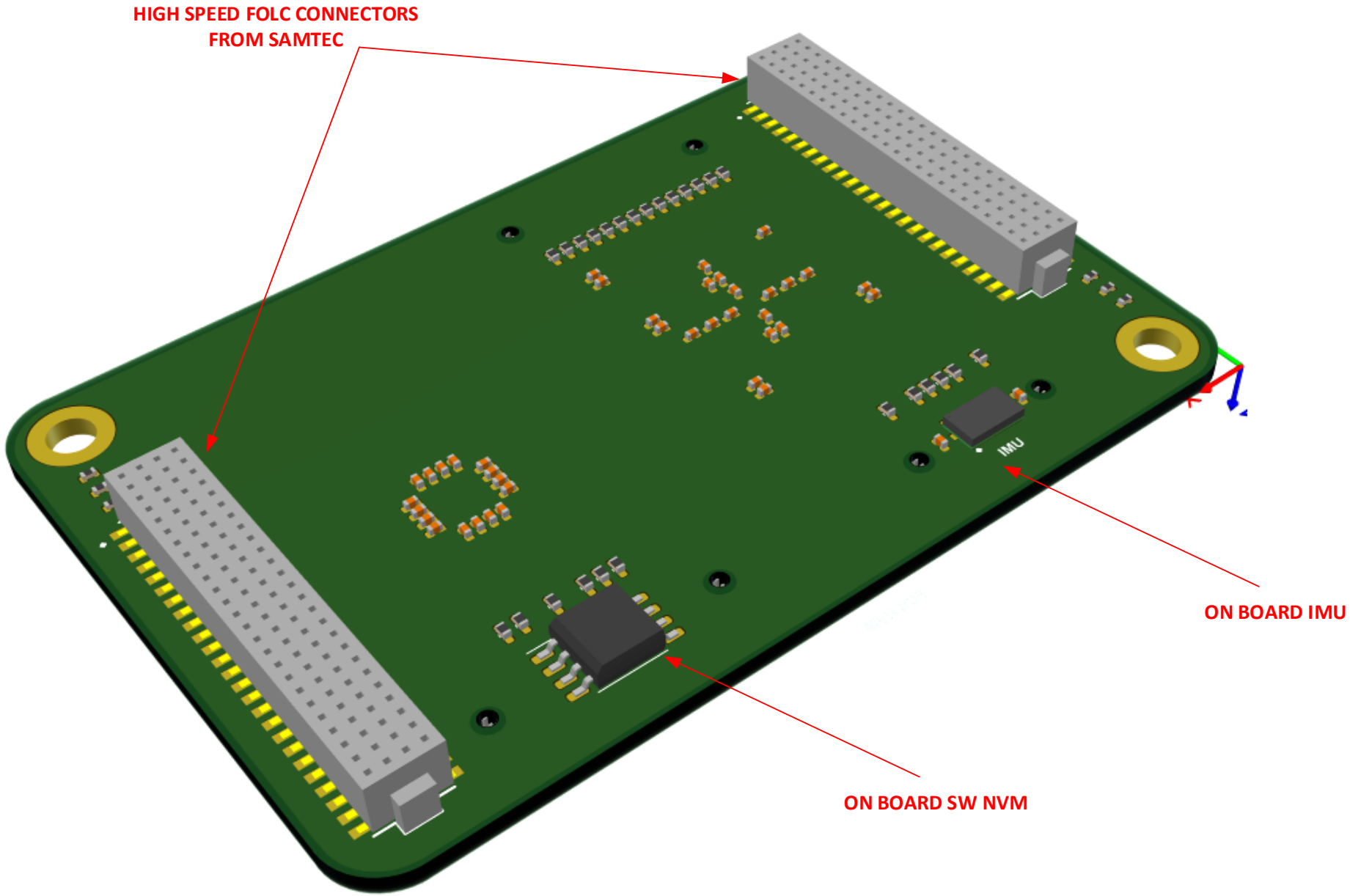
In a 75mm * 50mm FORM FACTOR

Full Military Temp

Common Compute Module




ON BOARD TEMP MONITOR
WINDOW COMPARATORED
POWER MONITORING WITH BIST
ADVANCED T.I POWER CONTROL
TMS320F28377D-EP
HIGH SPEED MATCHED LVDS
CHANNELS
ON BOARD DEBUG
75mm
ON BOARD
SW (XDS200 PORT)
CFG AND FCS NVM
50mm
ON BOARD FW JTAG
DEBUG
LVDS LANE A
LVDS LANE B
USER I/O 3V3 LVCMOS STD
SW JTAG
FW JTAG
RED
YEL
GRN


HIGH SPEED FOLC CONNECTORS
FROM SAMTEC
IMU
ON BOARD IMU
ON BOARD SW NVM

Firmware Support Features

Feature	Description
FPGA Support	Microsemi IGLOO2: M2GL025 to M2GL090 (MIL-grade temperature range supported)
User I/O	68x 3.3 V LVCMOS Standard I/Os
High-Speed Interfaces	2x LVDS Lanes (A and B)
Debug Interface	Onboard Firmware Debug Header
JTAG Interface	Dedicated FW JTAG for secure configuration and field updates
Non-Volatile Memory	Dual NVM banks: Configuration NVM + Fault Code Store (FCS) NVM
BIST Power Monitoring	Built-In Self-Test (Core & I/O) and Brown-Out Reset (BOR) detection
Environmental Sensors	Onboard temperature monitor
Inertial Sensor	**ADXL345** 3-axis digital accelerometer (16-bit resolution, ±2g to ±16g range, I^2C/SPI interface)
Interface Protection	Full ESD protection on all external I/O interfaces
Timing	Low-jitter PLL Filter + SiTime Mems Clock

Software Support Features

Feature	Description
Processor	TI Delfino TMS320F28377D-EP Dual-Core DSP (Military-Temperature Qualified)
Performance	800 MIPS, with FPU, Control Law Accelerators (CLA), and Complex Math Unit
Comm Interfaces	CAN FD, Multiple SPI ports, McBSP
Debug & Development	Integrated XDS200-compatible JTAG/debug interface
Indicators	Tri-colour User LEDs (Red, Yellow, Green)
NVM Storage	Non-volatile memory for runtime configuration and logs
Power System	Advanced Dual-Output Power Module from TI – optimised for high power density, low EMI, and rugged EMI/EMC compliance

Power Management Subsystem

The module integrates the **Texas Instruments TPSM6440xx** power module — a **compact, low IQ, dual-output 2 A / 3 A synchronous buck converter** optimized for **power density** and **low EMI** operation. It is ideally suited for high-reliability embedded systems requiring efficient, quiet power in a small footprint.

•**Chipset Family**: *TI TPSM6440xx*

•**Inputs**: Wide 3 V to 36 V input range

•**Outputs**: Dual output — up to **2 A or 3 A** per channel

•**Quiescent Current**: Ultra-low IQ for efficient standby performance

•**Key Features**:
– Integrated inductor and FETs (SiP construction)
– **Low EMI design**, suitable for noise-sensitive applications
– Thermal shutdown, overcurrent, and undervoltage protection
– Adjustable soft-start and sequencing support

•**Application**: Supplies regulated power rails (e.g., 1.2 V core, 3.3 V I/O) for FPGA, DSP, and peripheral systems

•In this instance the CCM takes in a P5V0 supply input.