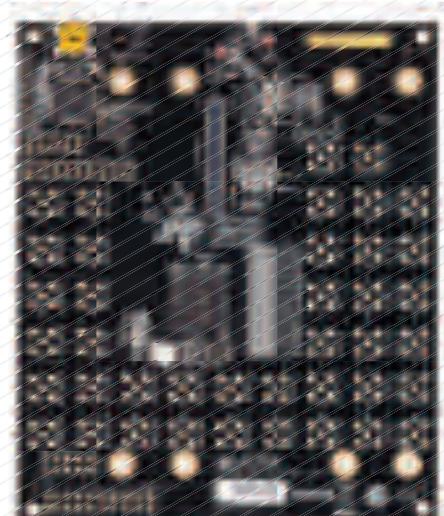


MachXO3



The most advanced, cost effective solution to all of your bridging, protocol and I/O needs.



- LOW POWER
- SMALL FOOTPRINT
- LOWEST COST PER I/O
- INFINITELY RECONFIGURABLE

36 WLCSP	49 WLCSP	81 WLCSP
2.5 x 2.5mm 0.40mm pitch	3.2 x 3.2mm 0.40mm pitch	3.8 x 3.8mm 0.40mm pitch

Available in amazingly small WLCSP packages from 2.5mm x 2.5mm and BGA packages with 0.5mm and 0.8mm pitch



Instant-on 1 ms boot-up with dual boot and background upgrade



Available with low voltage 1.2 V or 3.3/2.5 V cores

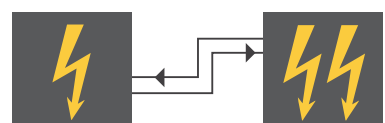


- + SPI
- + I2C
- + MIPI CSI-2
- + MIPI DSI

Adds SPI, I2C, and MIPI interfaces to legacy designs

MachXO3: BRIDGING & I/O PROBLEMS SOLVED

VOLTAGE MISMATCHES



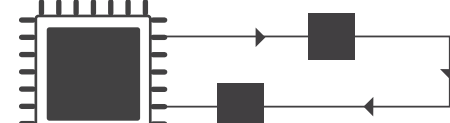
PROBLEM

A device only accepts one I/O voltage level.

SOLUTION

MachXO3 enables a device to accept different I/O voltages.

NOT ENOUGH I/O



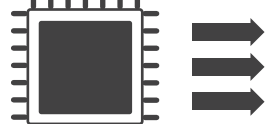
PROBLEM

Processor has insufficient I/O to connect required interface devices, chips and sensors.

SOLUTION

MachXO3 expands available I/O without changing main processor platform design.

SLOW OR LIMITED PERFORMANCE



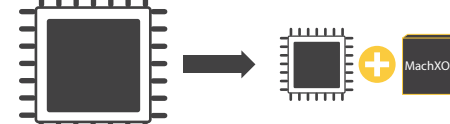
PROBLEM

Processor is unable to multi-task or performance slows due to processing too much information.

SOLUTION

MachXO3 offloads timing critical functionality to increase performance.

COST



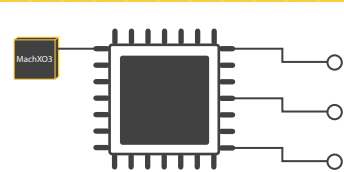
PROBLEM

Large processors and large FPGAs are expensive.

SOLUTION

MachXO3 with a smaller processor gives same or better system level performance while lowering system cost.

PROCESSOR LACKS THE REQUIRED FUNCTIONALITY



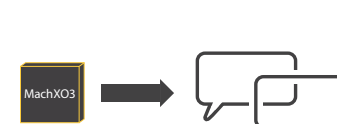
PROBLEM

Legacy processor lacks latest functionality.

SOLUTION

MachXO3 quickly takes on new functionality allowing processor design reuse.

PROCESSOR LACKS NECESSARY INTERFACES



PROBLEM

Processor has either incorrect or insufficient interfaces.

SOLUTION

MachXO3 provides multiple new and additional interfaces.

INFLEXIBILITY

UPDATING



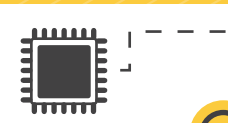
PROBLEM

Major system design changes are required to implement new features.

SOLUTION

MachXO3 allows for rapid design changes.

INNOVATION STIFLED BY REQUIRED DESIGN REUSE



PROBLEM

Product architecture is fundamentally dependent on reusing design components that are not leading edge technologies.

SOLUTION

MachXO3 provides interface bridging IP that allows designers to leverage innovative technologies without impacting reused parts of the product design.

HIGH POWER CONSUMPTION



PROBLEM

Always-On central processors consume too much power.

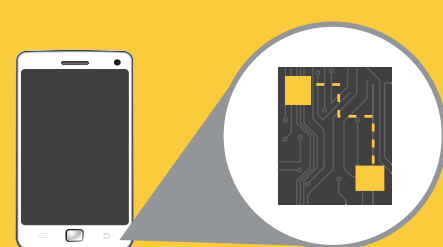
SOLUTION

MachXO3 decreases power by staying awake in a low power state and only waking the processor when needed.

MachXO3 APPLICATIONS

BRIDGING

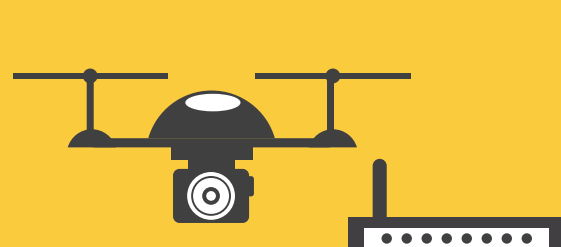
Mobile Applications



- Smartphones
- Smart Wearables
- Tablets
- Industrial Equipment

INTERFACE & LOGIC

Consumer Electronics, Hand-held Industrial Devices



- Drones
- Femto Cell Routers
- Medical Endoscopy Cameras
- DSC/DSLR Cameras

VIDEO INTERFACES

Cameras and Displays



- DSC/DSLR Cameras
- LED and LCD Panels
- Machine Vision Equipment
- Broadcasting Equipment

NEED MORE INFORMATION?

www.latticesemi.com/MachXO3

