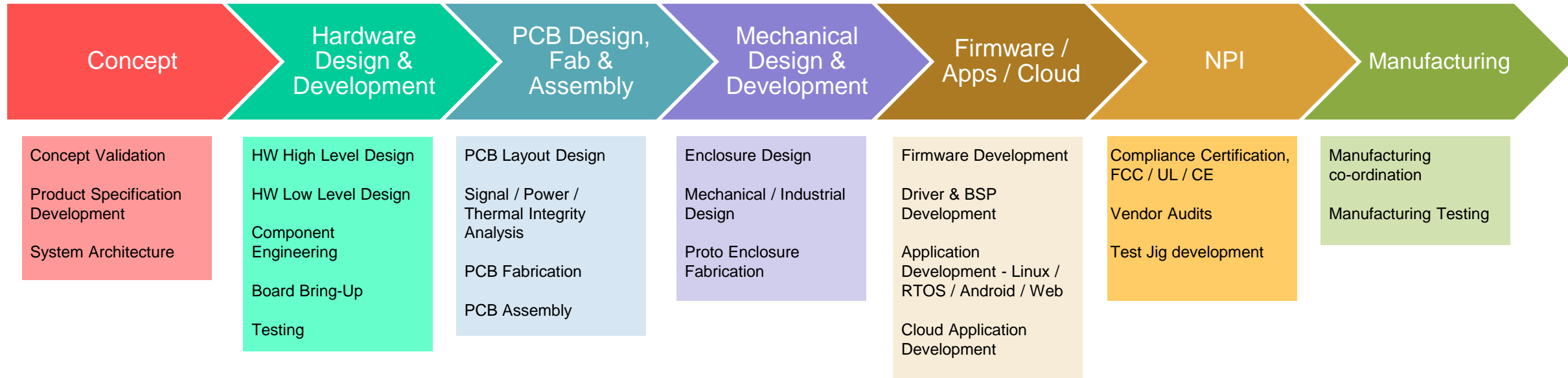


Electronics  
Engineering  
Services

# About Us

- Electronic Engineering and R&D Services Company based out of San Jose having development center in India.
- 30+ Years of Experience in Hardware and PCB design.
- Experienced Management and Engineering teams
- 20+ qualified and experienced Engineers
- Owned by Engineers

# Product Engineering Services



# Hardware Engineering Case Studies

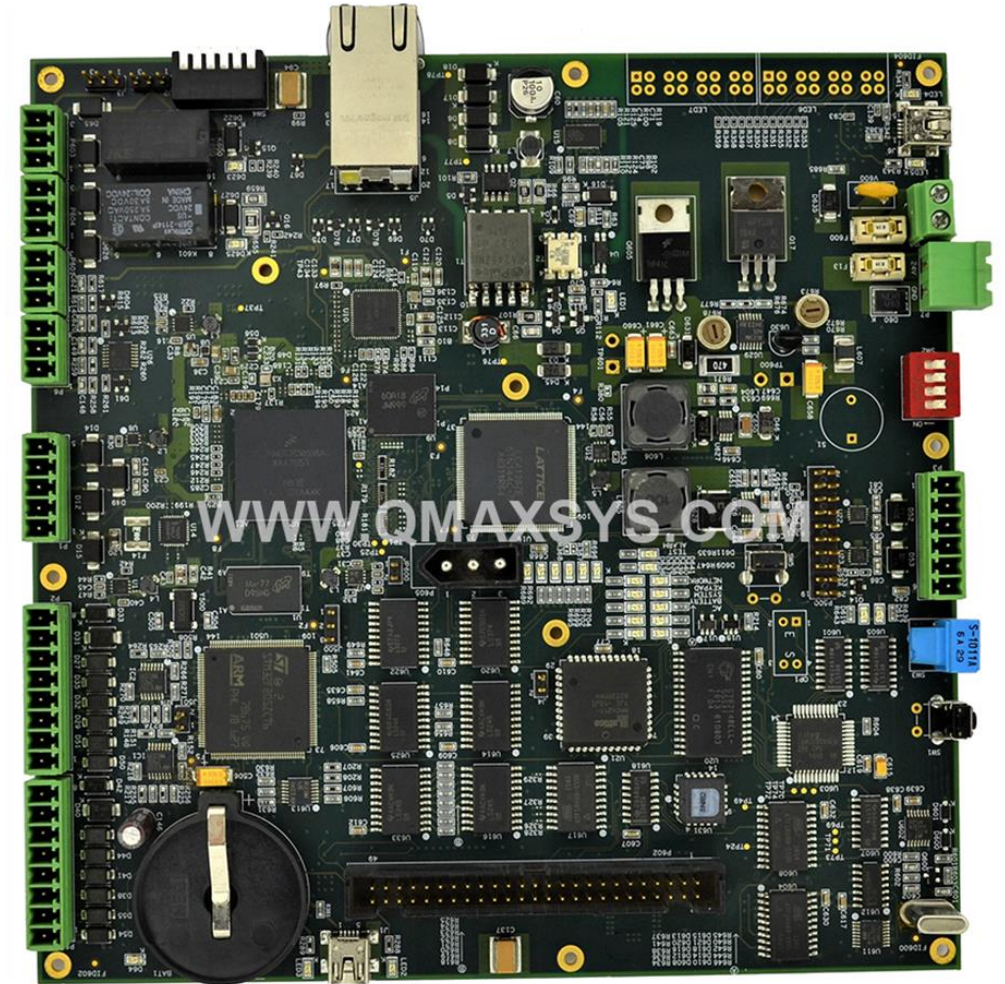


# Security System Controller

- Hardware / Firmware design and Development
- Mechanical / Enclosure Design / DFM
- IMx6 CPU / STM32
- Linux / RTOS
- High Density Digital
- FCC Class B certified



Stackable Design



# Aerospace Structural Health Monitoring System

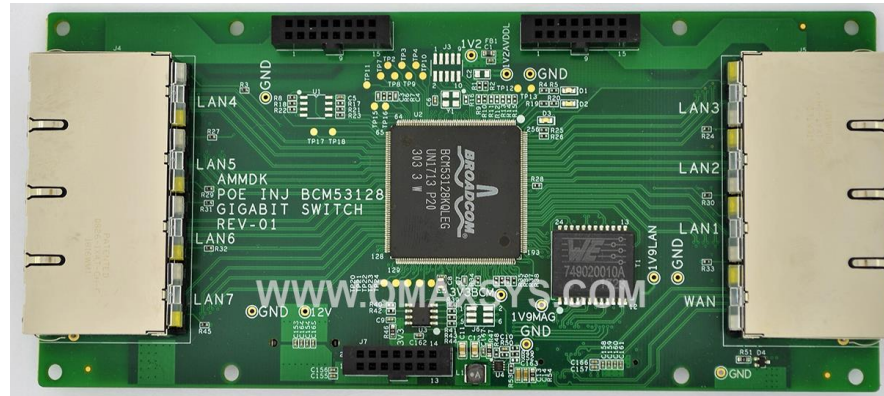
- Altera A10 FPGA for Digital Signal processing
- Low Power, Light Weight, Compact Design
- Complete HW / FPGA / Enclosure design
- Ultra-Low Noise / SNR of 50dB
- High Speed ADCs / DACs / Sync – E / HV Mux





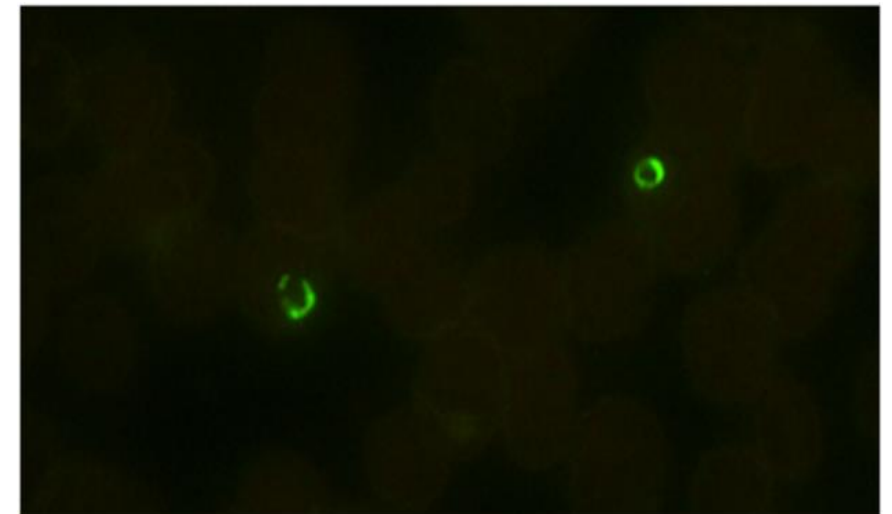
# Control System with POE Switch and RTOS

- Qualcomm Snapdragon 820
- NXP K66 running RTOS, K20
- Broadcom BCM53128 GBE Switch
- Hardware Design and Development
- Firmware and Driver Development
- High Power POE Injector.



# Medical Electronics – Digital Nanoscope

- Freescale – i.MX6 – Quad Core DSP/ARM Processor
- Complete product development
- Hardware, Firmware, Camera Drivers, Image processing
- Full Utilisation of GPU to improve image processing
- Stepper motor control for Zoom and Focus Control
- Superfine X-Y Slide Movement using Servo motor
- Ultra High Sensitive image sensor from Omnivision

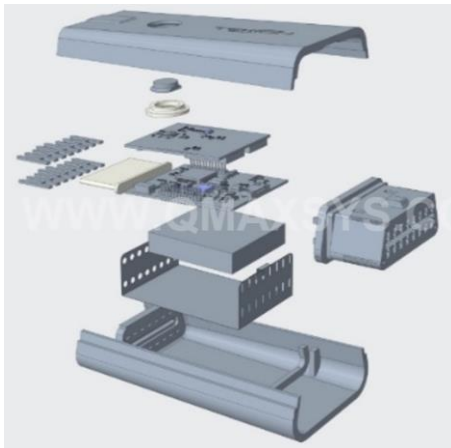


Falciparum positive - FISH imaging



## OBD 2 Device

- Hardware / Firmware / ID / Mechanical design
- Lora / BLE 4.2 / Temp / OBD2 / 3D Accelerometer
- Multiple RF / Battery Powered / Automotive
- Indoor Location tracking device
- FCC / RoHS / CE / Contract Manufacturing



3D Model



Actual Product



# Ultra Low Power BLE Mouse

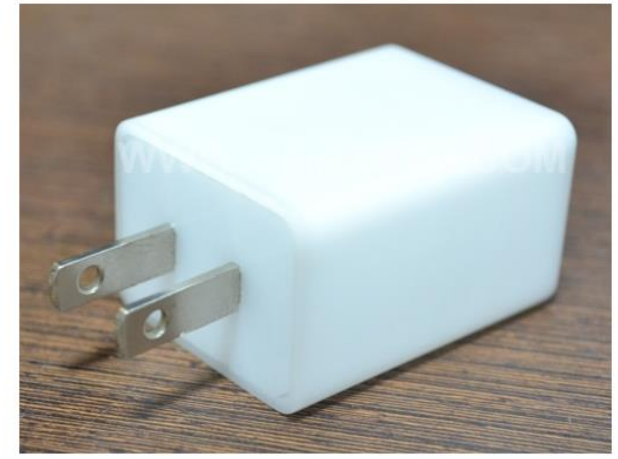
- Cutting Edge Ultra Low Power BLE Technology
- Pixart PMW3610 Laser sensor and LM18 lens
- Hardware Design / Firmware Development
- Prototype Manufacturing



Prototype

# IOT Micro Gateway

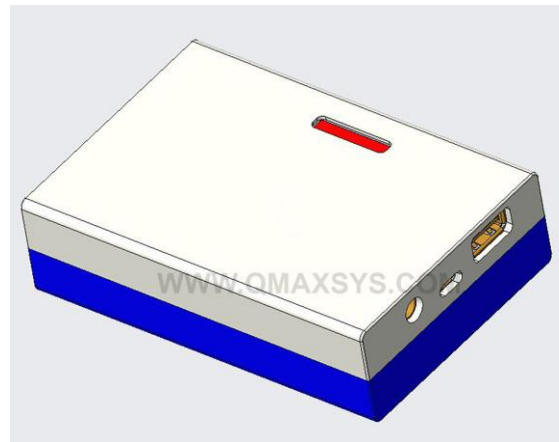
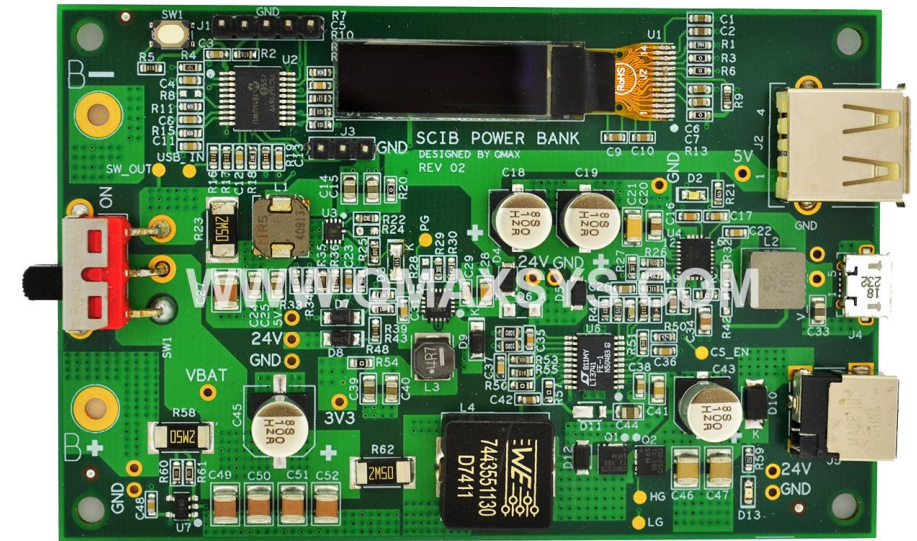
- Qualcomm QCA4020 Chipset
- Dual Band Wi-Fi, Bluetooth 5.0, ZigBee
- Gateway between WAN and IOT Devices
- Hardware / Firmware / RF Development
- Power Supply Design
- Enclosure design / ID
- Compact Design: 42mm x 36mm x 27mm





# Lithium Titanate Battery Power Bank

- Lithium Titanate Battery
- Capacity: 3000 mAh, High Current, Super Fast Charging
- Charging Current - 20A, Full Charge in under 10 Mins.
- Inbuilt Safety Features, OLED Display
- Hardware, Firmware, Enclosure Design



# Rugged Automotive Control Electronics

- Complete product development
- NPI Contract manufacturing
- Test jigs / Test plans comprehensive documentation
- Volume Production
- Encapsulated in Epoxy
- ARAI ( Automotive standards) certified
- FCC / Vibration / Temp Tested
- Tier 1 Automotive client



# IOT Connectivity Dongle

- Qualcomm QCA4024 Chipset
- BLE 5.0 / Zigbee / Thread
- Complete product development
- Hardware design, Firmware development
- RF design and optimisation
- Industrial design and Manufacturing





# OBD Device Charging Station

- Complete product development
- HW / FW / Linux System Integration
- Charging and Firmware upgrade of Custom OBD2 Devices
- Mechanical / Enclosure Design
- Custom connector design with Contacts for Firmware Update
- Contract Manufacturing



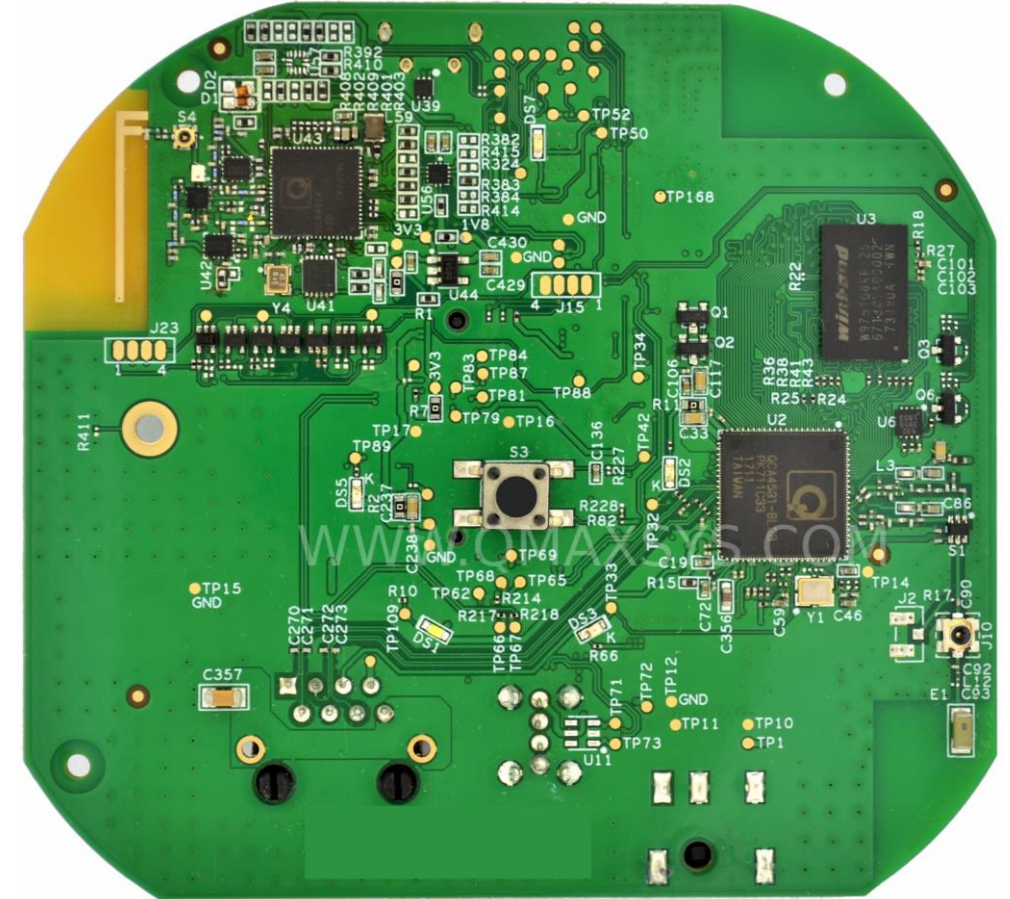
# 4K, 360 Degree Camera

- Qualcomm Snapdragon 800 CPU / 2.3 GHz ARM Core
- Hardware / PCB Design / Firmware
- HDMI / MIPI CSI-2 / MIPI DSI / USB - 3.0 / Battery Powered
- High Res LCD / Touch Screen / Wi-Fi / GPS /
- 4K camera / Audio out / Microphone
- Sony IMX135 Image sensor / Camera Driver / 4K Video Via HDMI
- Power management / Touchscreen driver development



# IOT Gateway

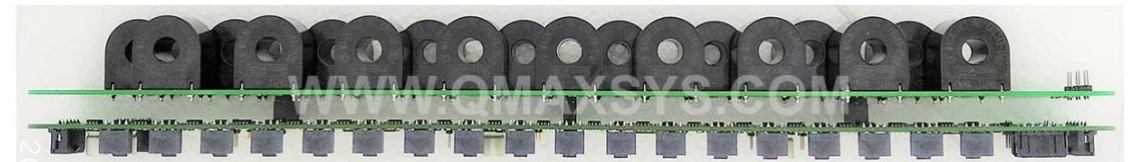
- Qualcomm QCA4531 + QCA4024
- Wi-Fi, BLE 5.0, Zigbee, SIG Mesh
- Firmware and Hardware Development
- Enclosure Design





# Power Measurement Board

- Polyphase Power measurement system
- Texas Instruments MSP430F6779 SOC
- Hardware Design / Firmware Development
- PCB Design / IoT Application
- Voltage / Current / PF Measurement
- High accuracy measurements



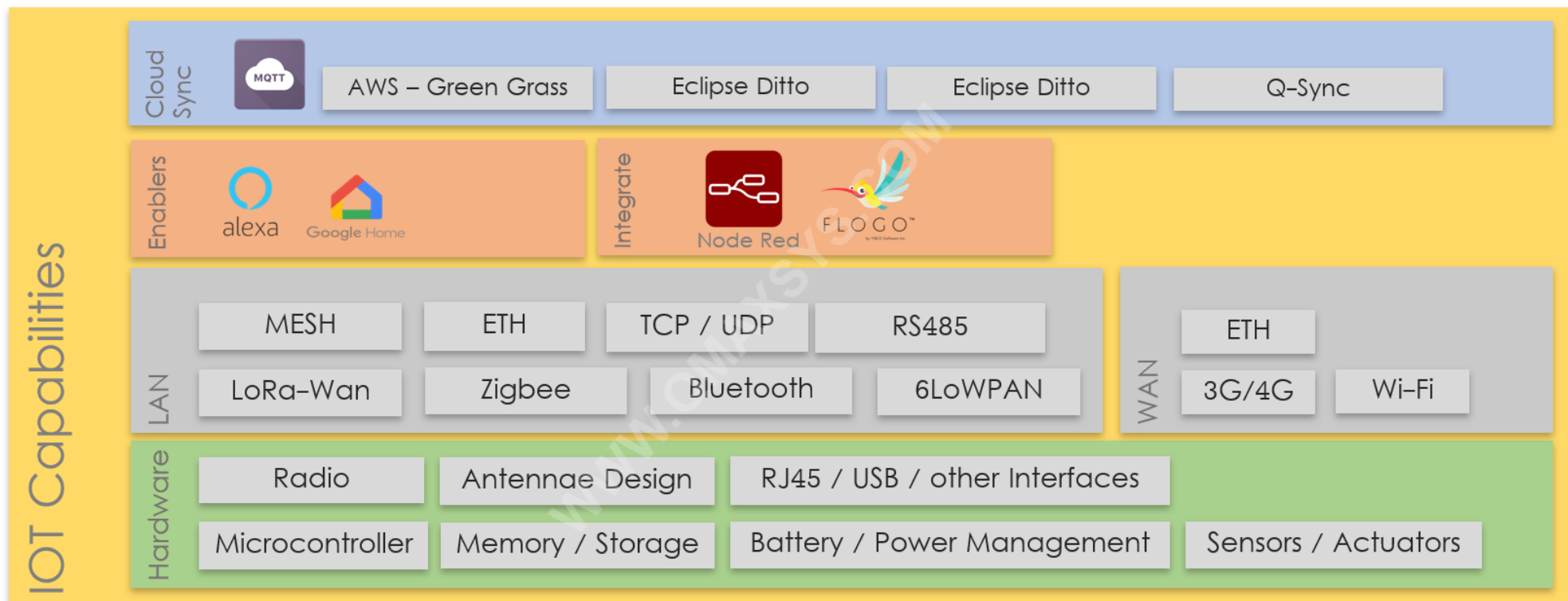
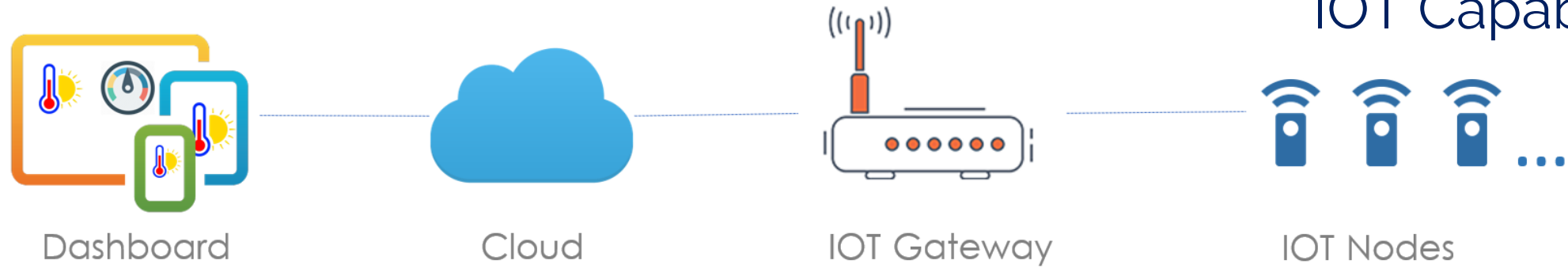


# Bluetooth Padlock

- Complete Product Development
- Hardware / Firmware Development
- Android application development
- Industrial and Mechanical design
- Anti-Shim Technology
- IP65 rated



# IOT Capabilities



# PCB Design Case Studies

# PCB Design Services

- PCB Design
- SI / PI / EMI Analysis
- Thermal Analysis
- PCB Fabrication and Assembly ( thru partners )
- Compliance testing and certification ( thru partners )

# Design Expertise

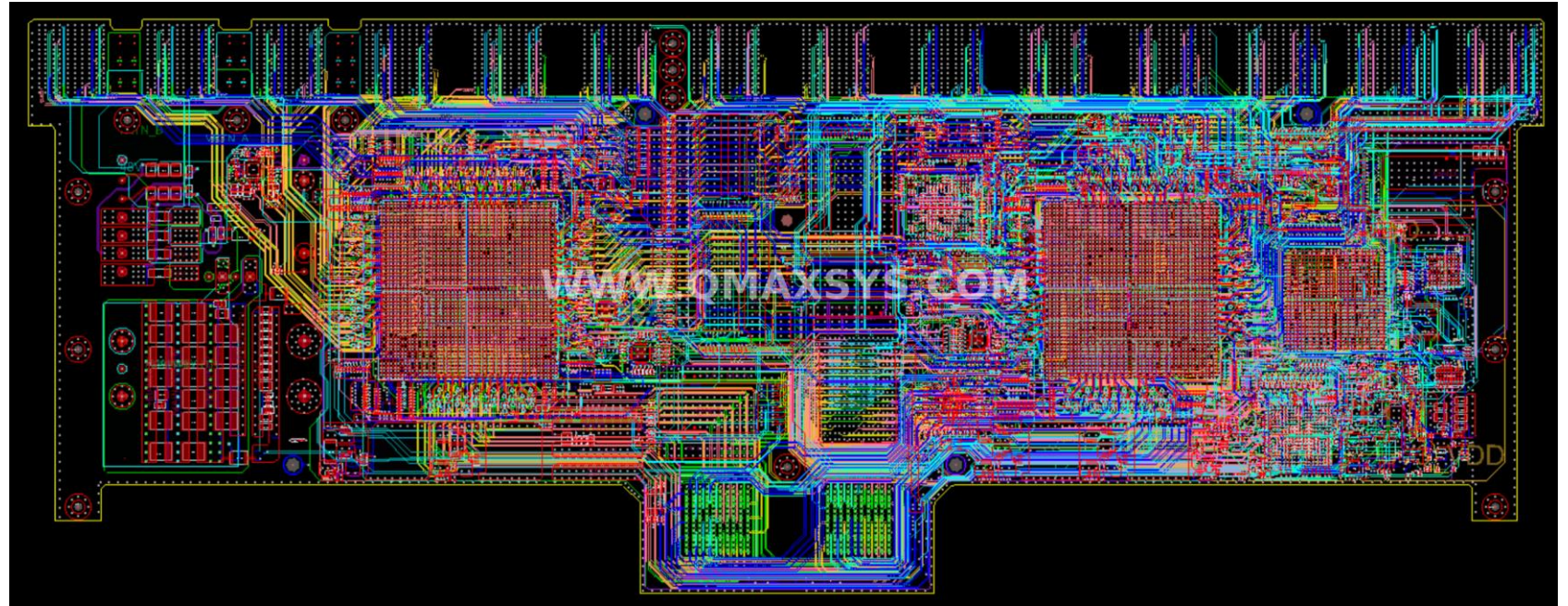
- Highly Dense and Complex PCB Engineering
- High-Speed Digital Designs
- Analog and Mixed Signal Designs
- Power Electronics
- RF Designs
- Compliance Engineering
- DFX

# Tools Expertise

- PCB Layout
  - Cadence Allegro / Mentor PADS / Expedition / Altium
- Schematic Entry
  - Concept HDL / Orcad Capture / Altium / PADS Logic
- Signal Integrity / Power Integrity
  - Sigirity / ADS / HFSS /
- Thermal Analysis
  - Flotherm
- CAM
  - CAM 350 / Genesis / Valor Enterprise 3000
- Mechanical
  - Creo / Solidworks

# Networking Board

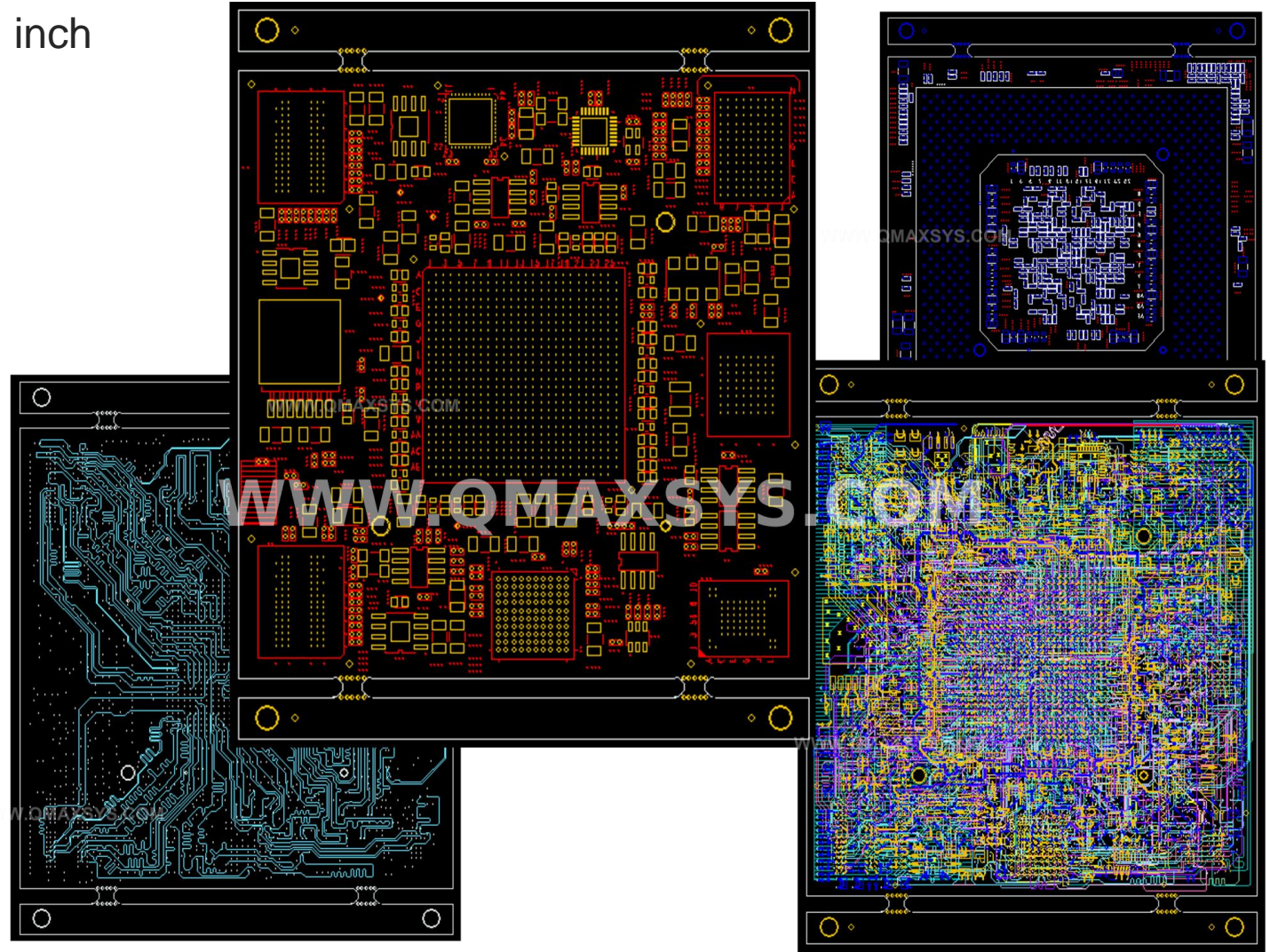
- 100 GBE Switch/Router Board / High speed ( 12.5 Gbps ) / DDR3
- 36 layers / 2597 Pins BGAs
- 19705 pins
- Chipset: BCM88650
- High Current
- Ultrahigh density
- Cadence Allegro 16.5





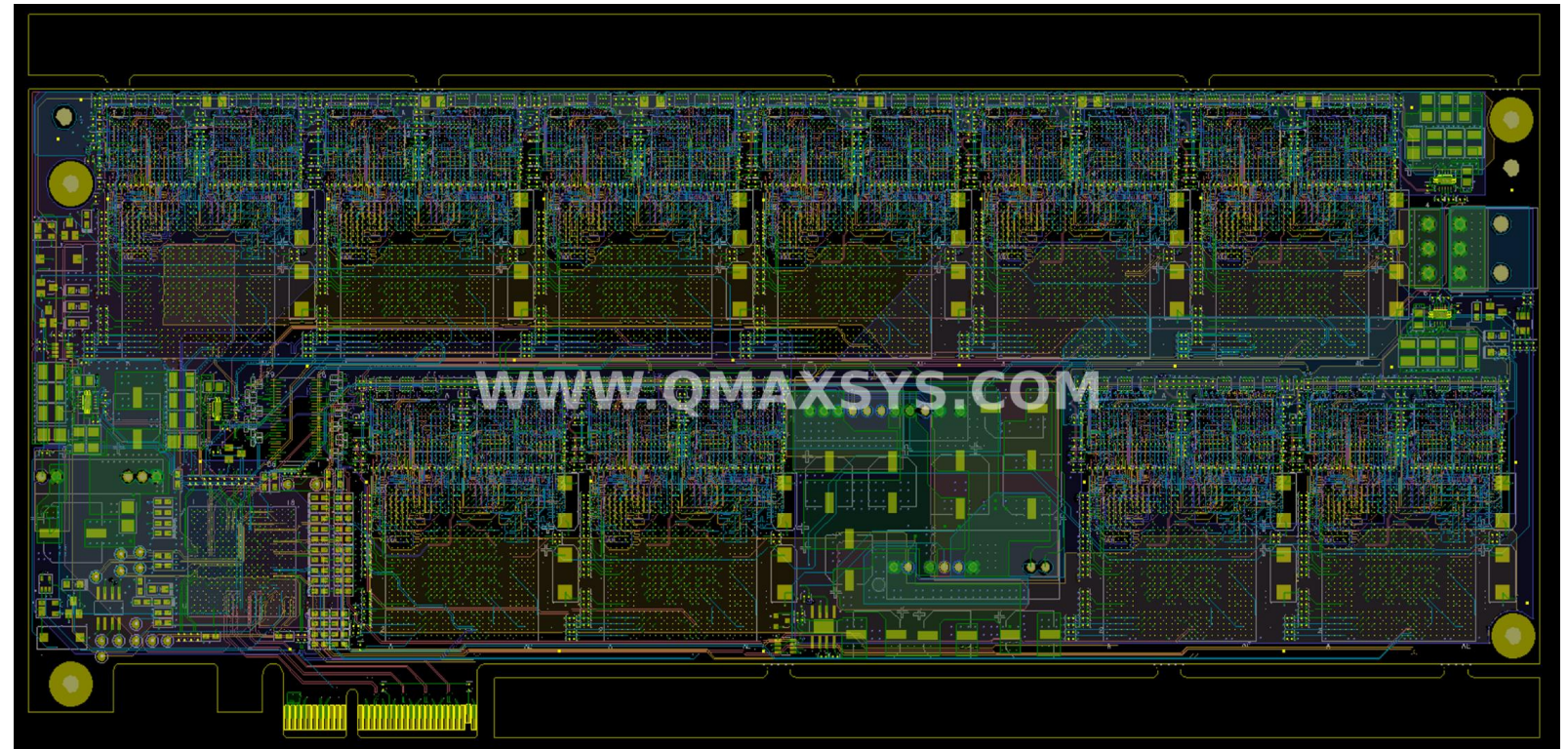
# Rugged SBC Board

- Ultra high density – 460 Pins per sq. inch
- Military Application
- 20 layer
- High Speed Digital
- Double side components
- HDI – Blind /Buried Vias



# Video Processor PCB

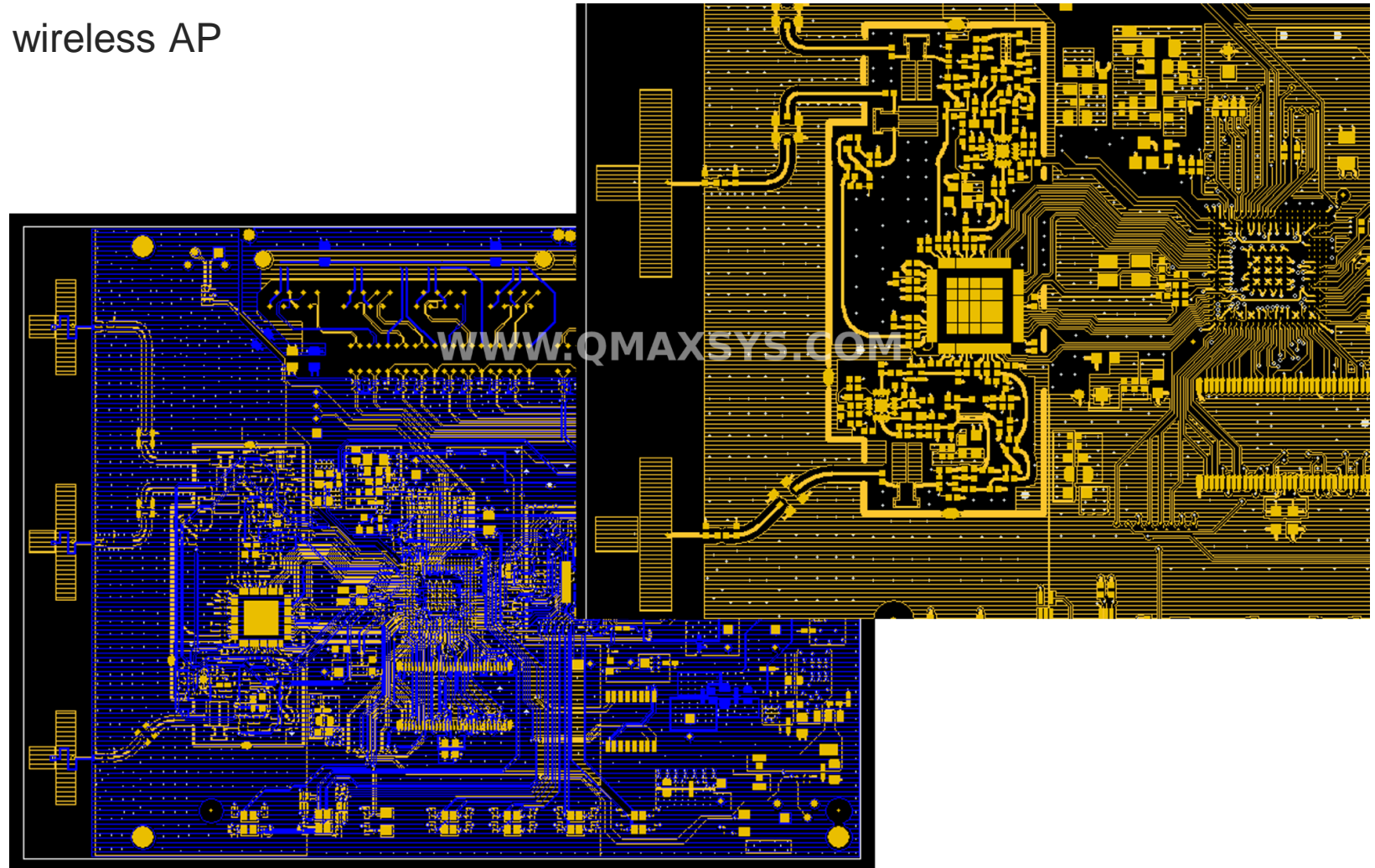
- Video Processing Hardware
- High speed digital / PCIE / DDR3
- Cadence Allegro
- High Current
- Total pin count : 16533





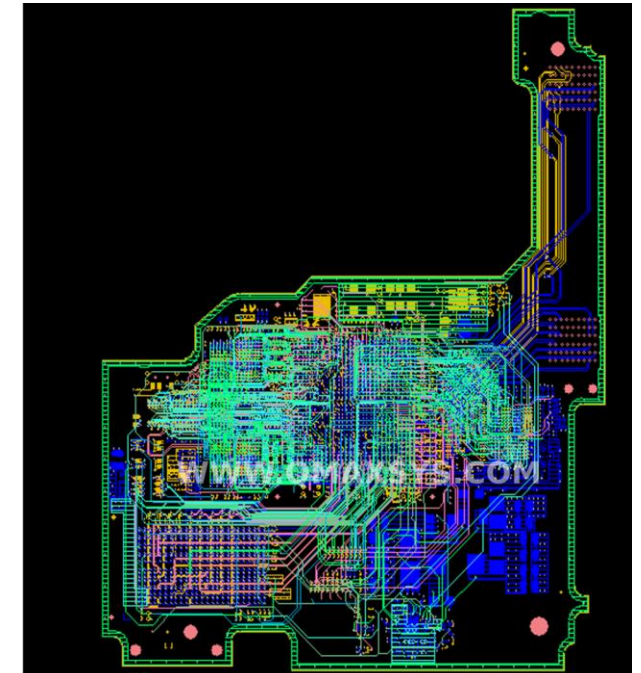
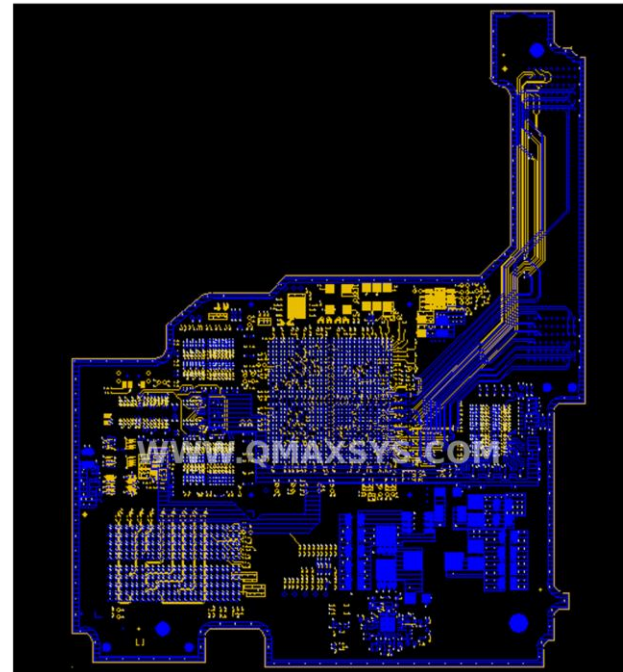
# WIFI AP Board

- Low density, Consumer grade wireless AP
- Wireless LAN Application
- 4 layer
- High Speed Digital, RF
- High Volume product



# Blade Server NIC

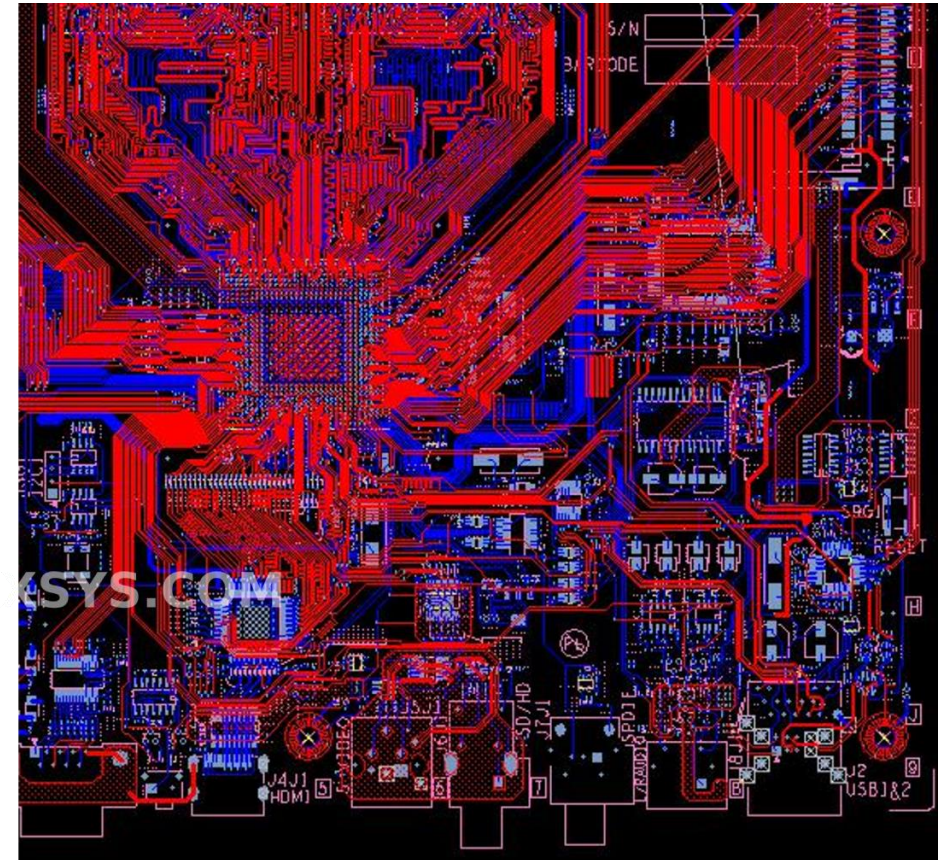
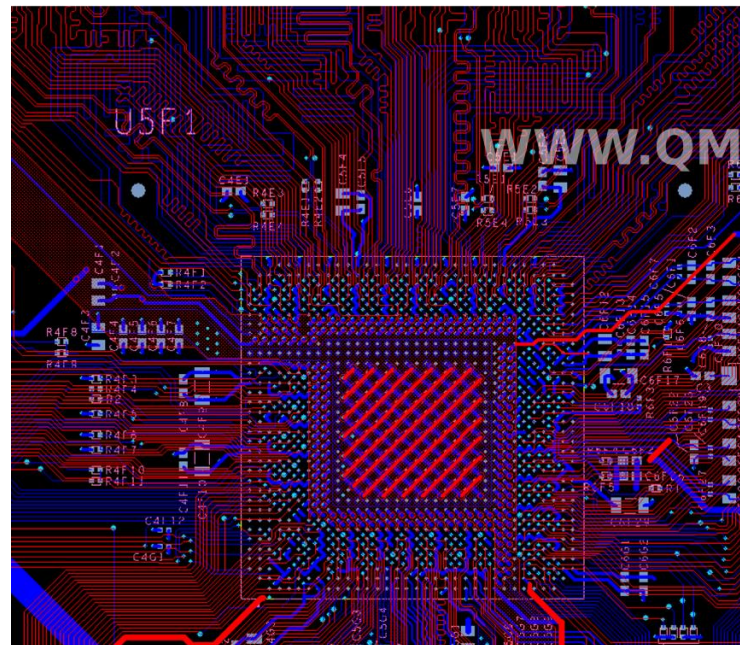
- High density
- Blade server Application
- 14 layers
- High Speed 10 Gbps Ethernet





# STB Board

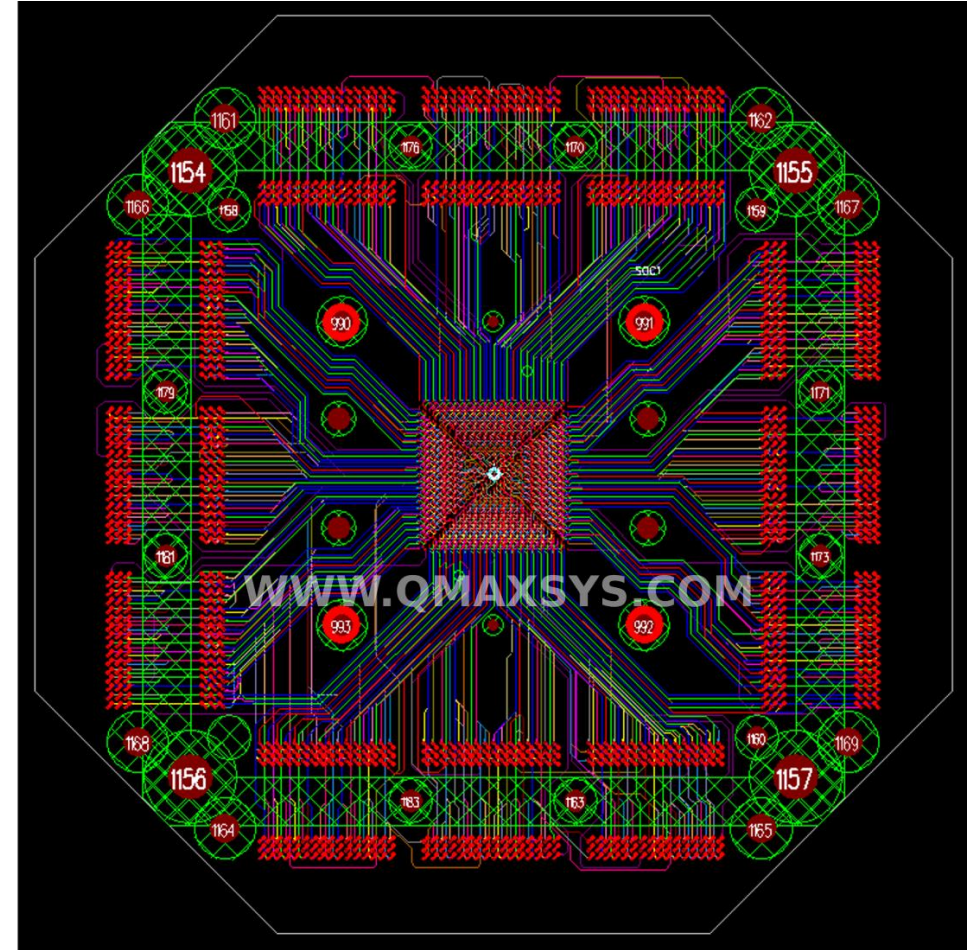
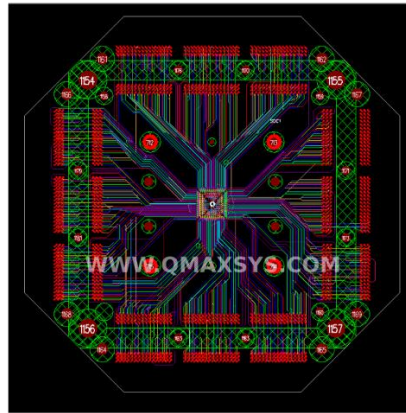
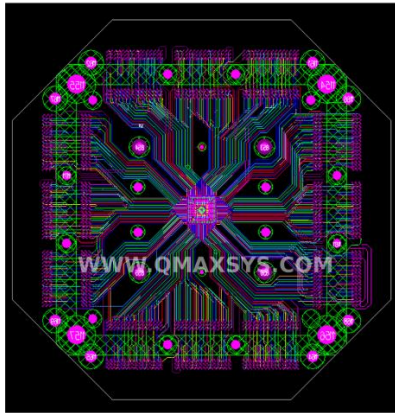
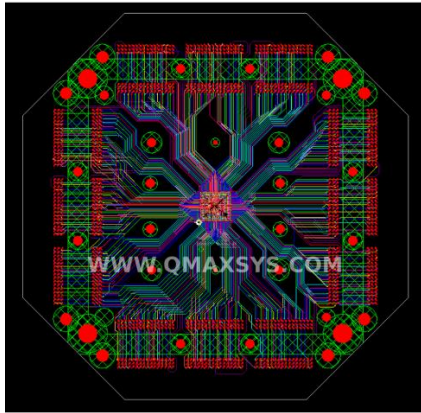
- Set Top Box
- 4 layers
- High speed Digital / Analog
- Medium density / High volume product
- Consumer Electronics





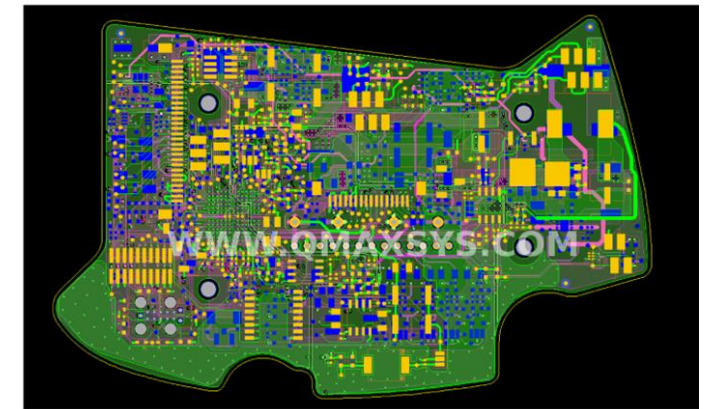
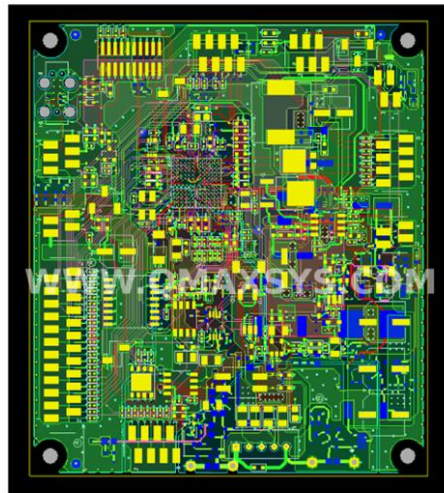
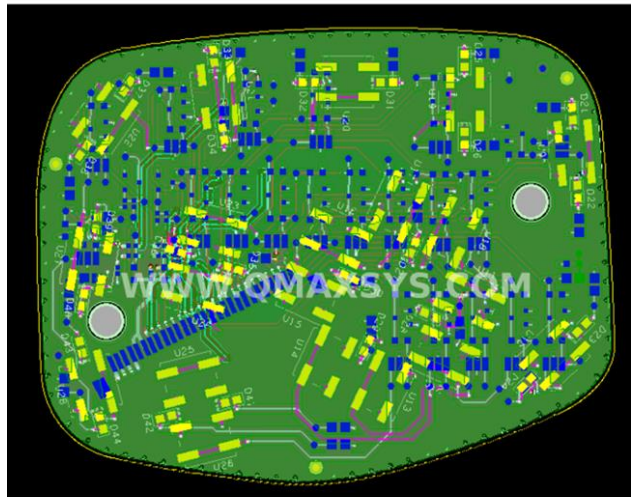
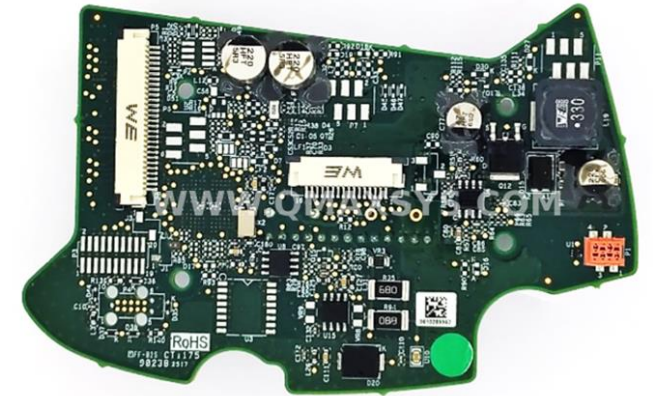
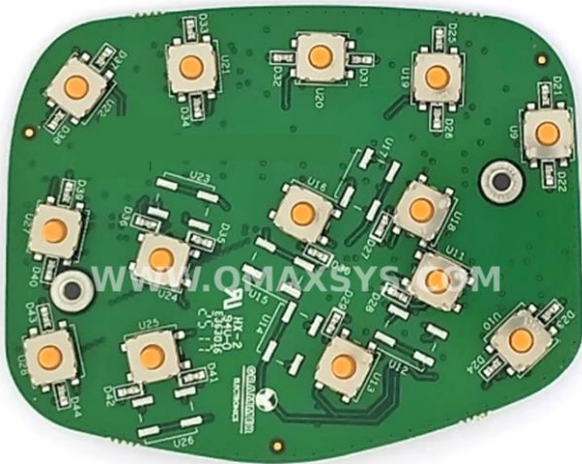
# Automated Test Equipment PCBs

- Test boards for BGA packages
- High Density – 0.4mm BGA
- High Layer count – 18-20 layers
- Impedance Controlled



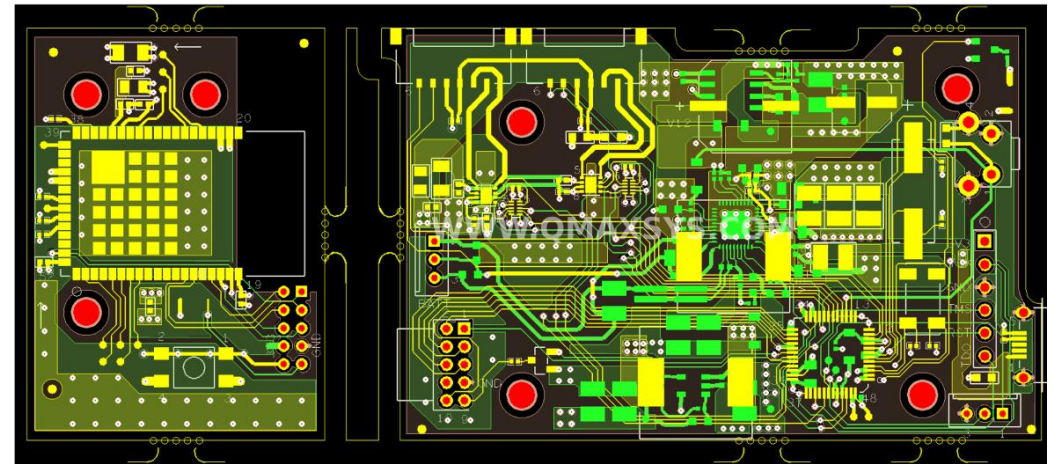
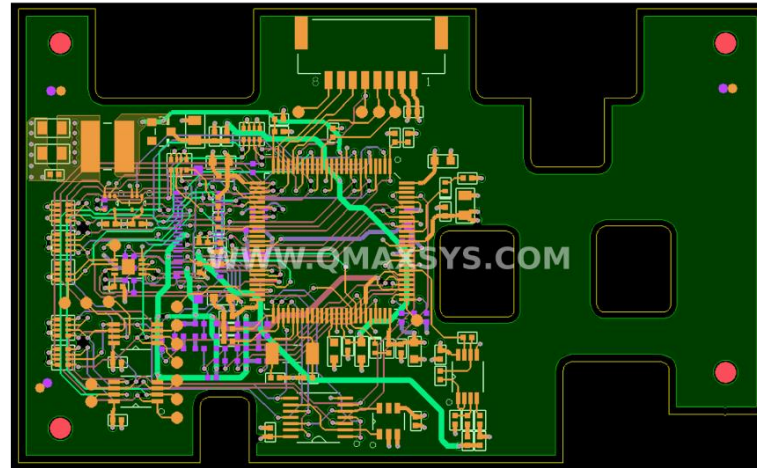
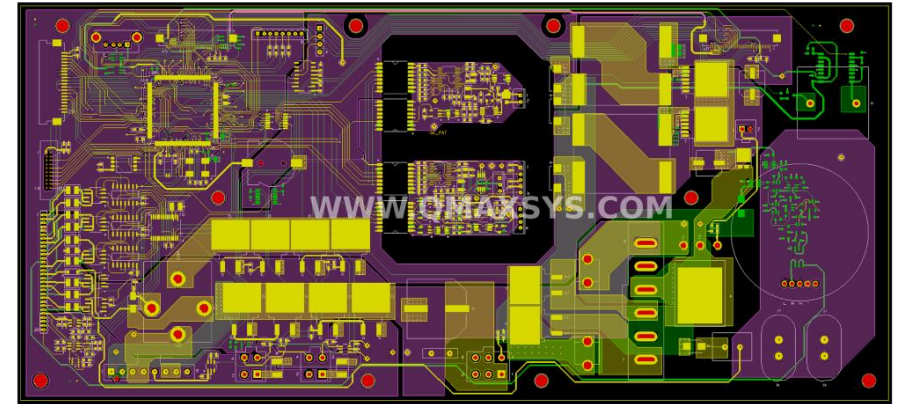
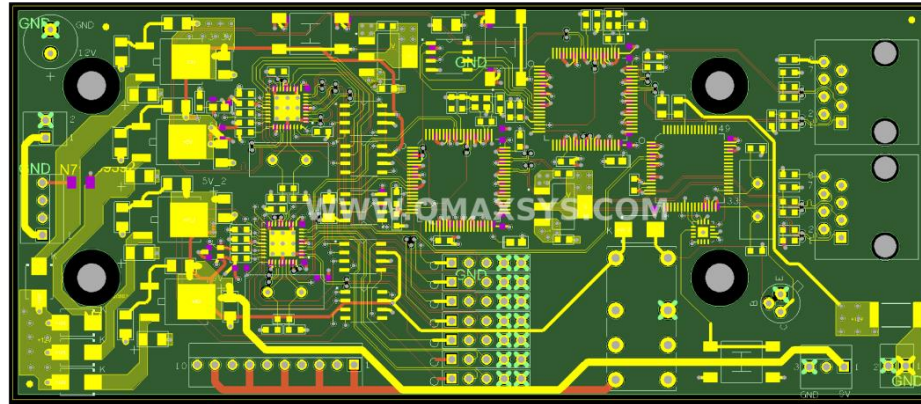
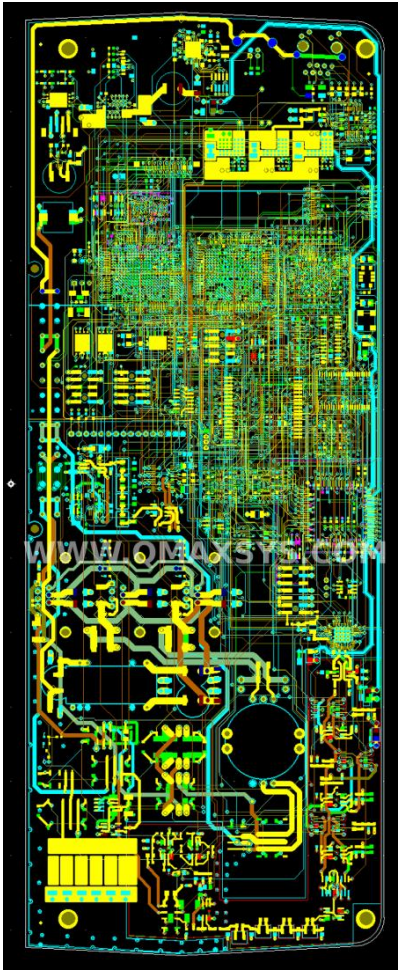


# Automotive PCBs



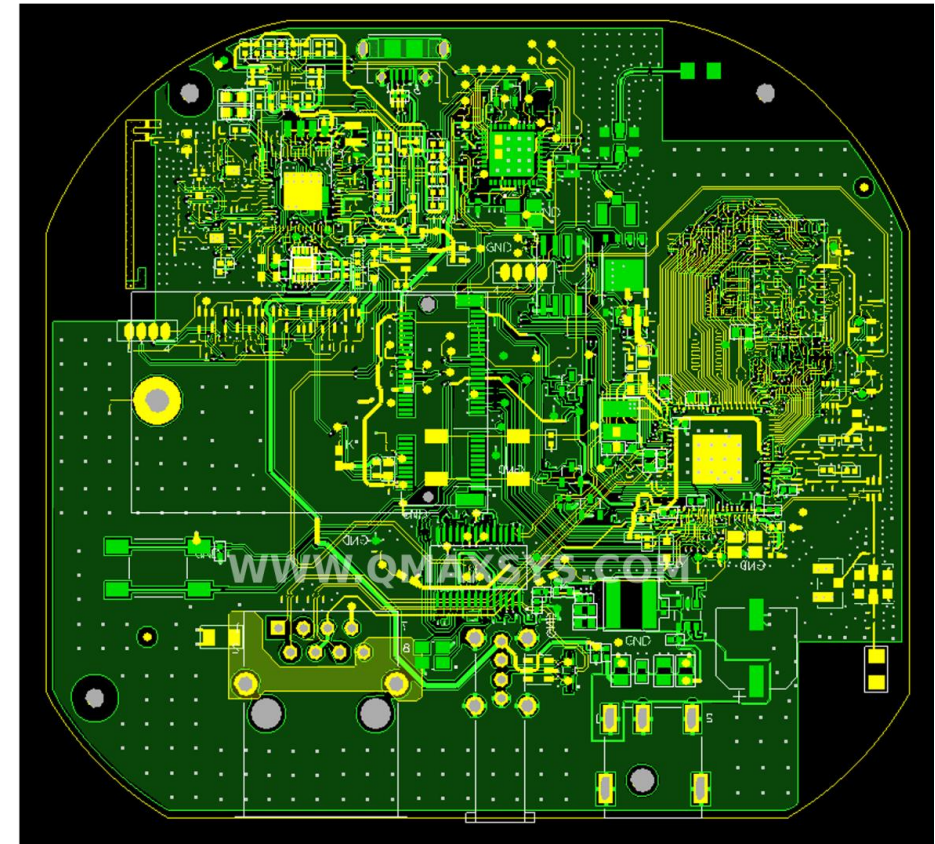
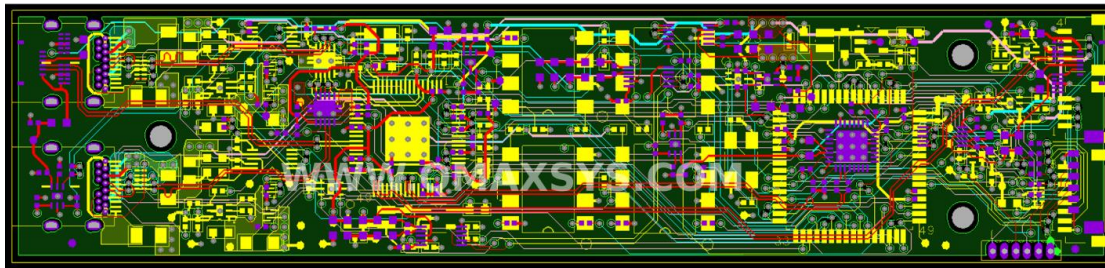
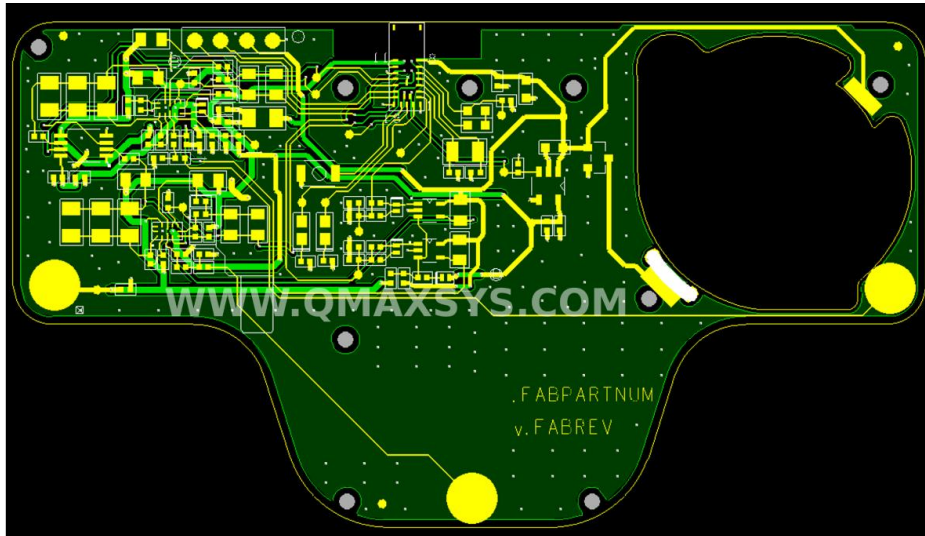


# Industrial Control PCBs



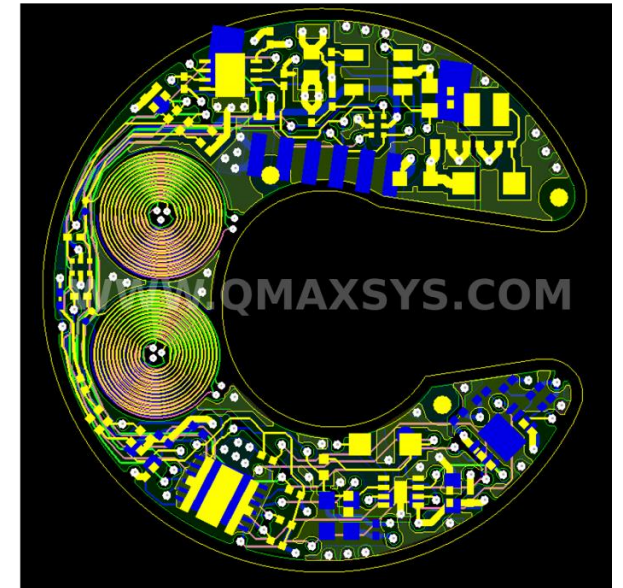
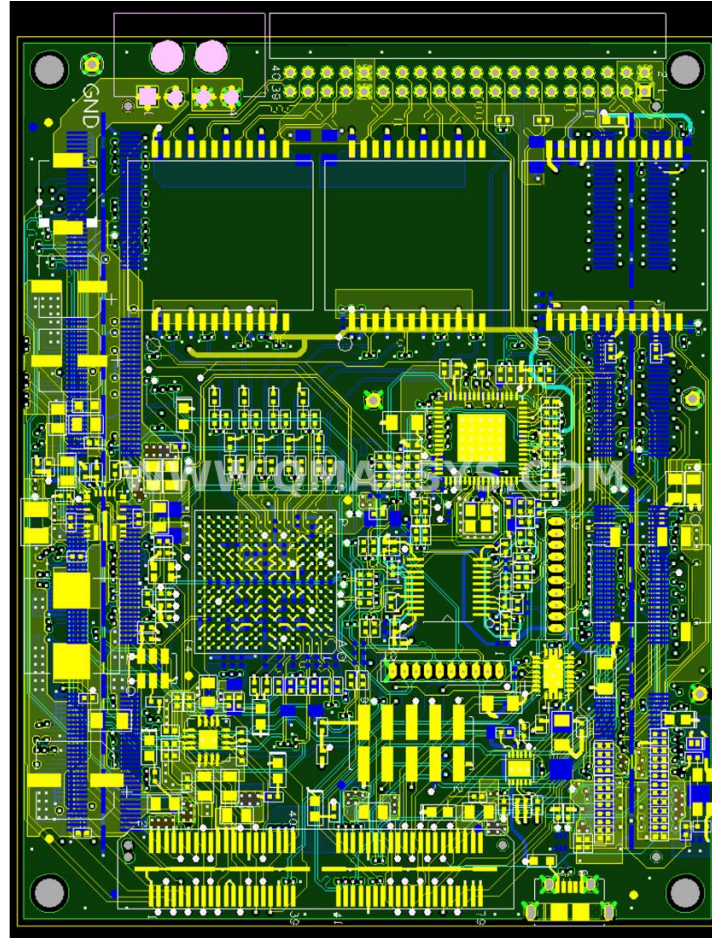
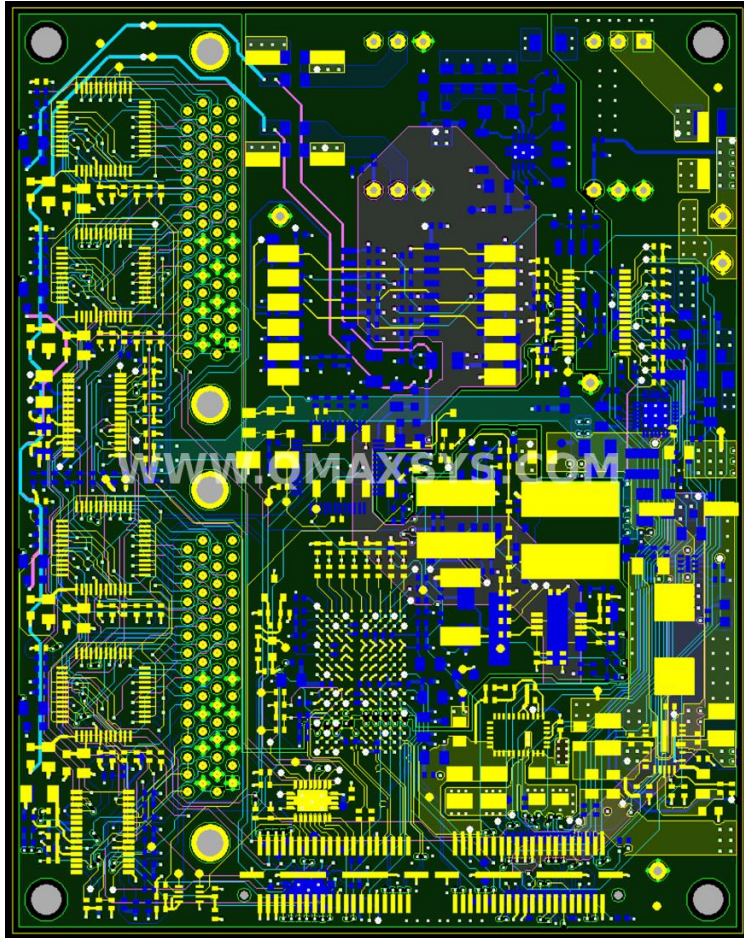


# Medical Electronics PCBs





# Aerospace PCBs





## Qmax Advantage

- Our PCB Designers are highly Skilled, Experienced and Qualified
- High Quality PCB Design work, Clean Documentation, Lower Price Guaranteed
- Well managed Schematics Symbols, PCB Footprints and 3D models
- Well defined process and procedures
- Clean communication model, Daily status reports / Online Design review
- Experience in all major CAD tools
- Flexible deployment model
- Discounted rates for long term engagement

## Value Added Services

- PCB Fabrication : 2 – 36 Layer / IPC Class 2 and Class 3 / HDI / Flex / Rigid - Flex
- Component Sourcing
- PCB Assembling / SMT / X-Ray / Micro BGA
- Box builds
- Testing services
- Qmax has long term working relations with suppliers in USA, Taiwan, China and India, Qmax can help you choose the right supplier.

For More Information  
Please Visit Our Website at  
**[WWW.QMAXSYS.COM](http://WWW.QMAXSYS.COM)**



# Thanks!

**Saravanabhavan Chandrasekar**  
VP - Engineering

**Qmax Systems Inc**  
2085, Zanker Road,  
San Jose, CA 95131, USA

**Qmax Systems India Pvt. Ltd.**  
795, Trunk Road  
Chennai - 600056, India

**[info@qmaxsys.com](mailto:info@qmaxsys.com)**  
**[www.qmaxsys.com](http://www.qmaxsys.com)**