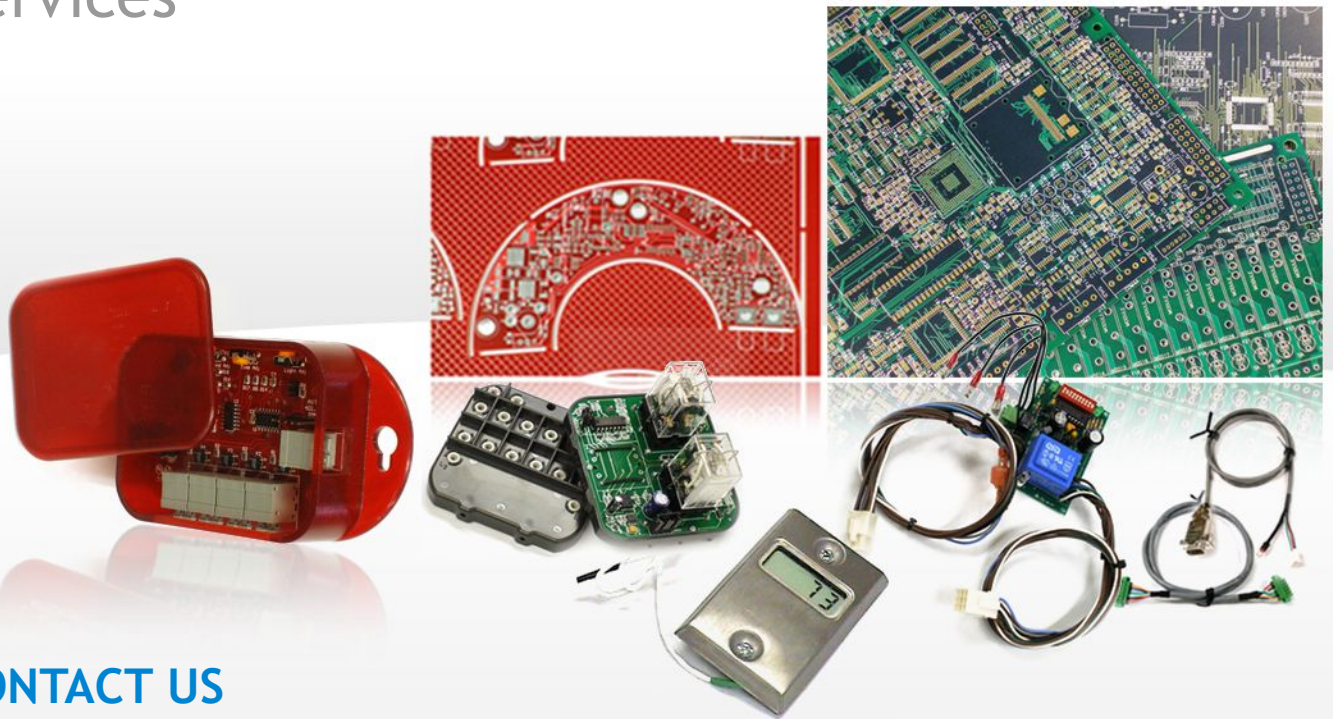


Optima

Technology Associates, Inc.

★ PCBAs ★ PCBs ★ System Assembly ★ Engineering Services

Electronic Manufacturing Services



CONTACT US

Phone: (717) 932-5877
Fax: (717) 932-5878
Email: optima@optimatech.net

PCBA

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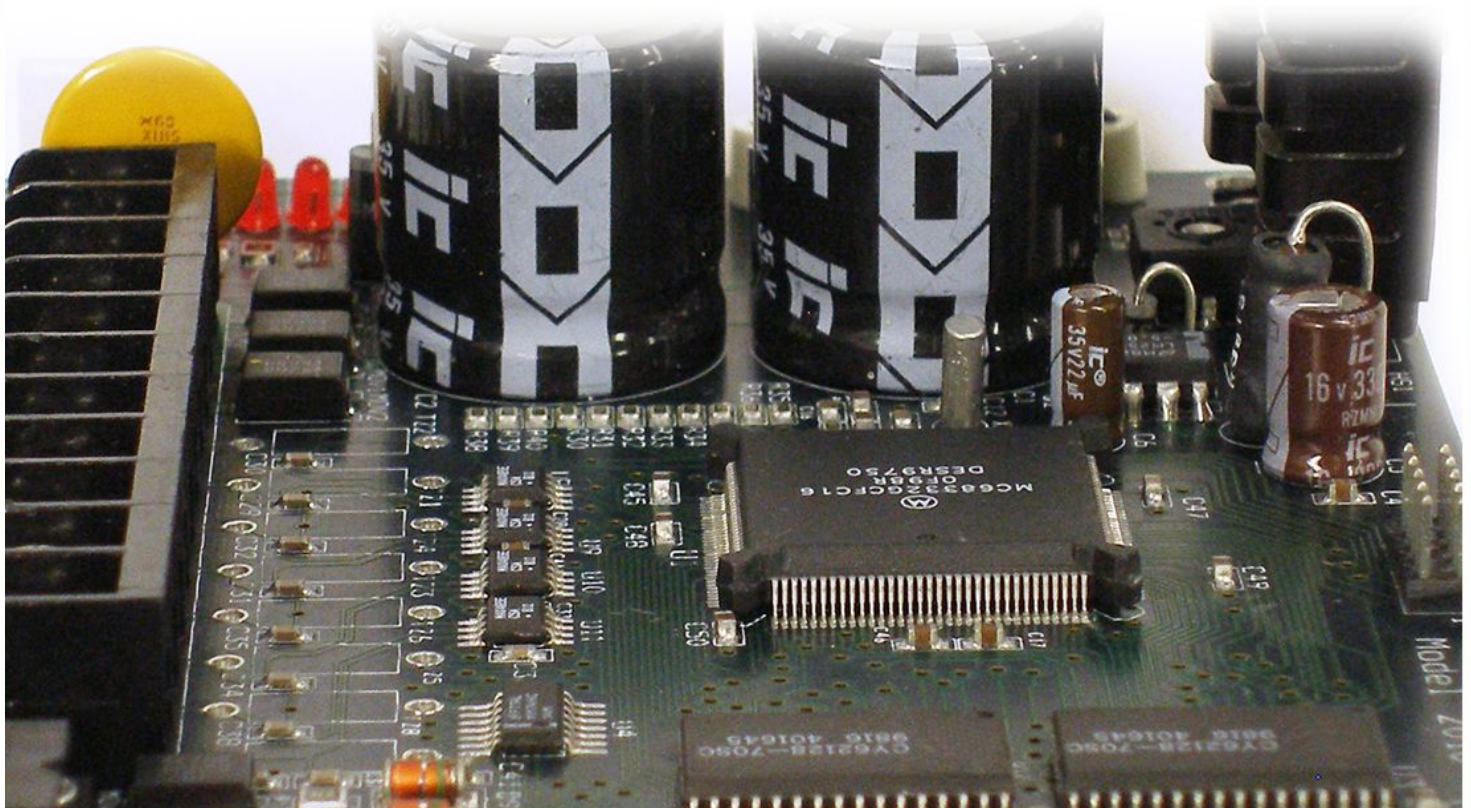
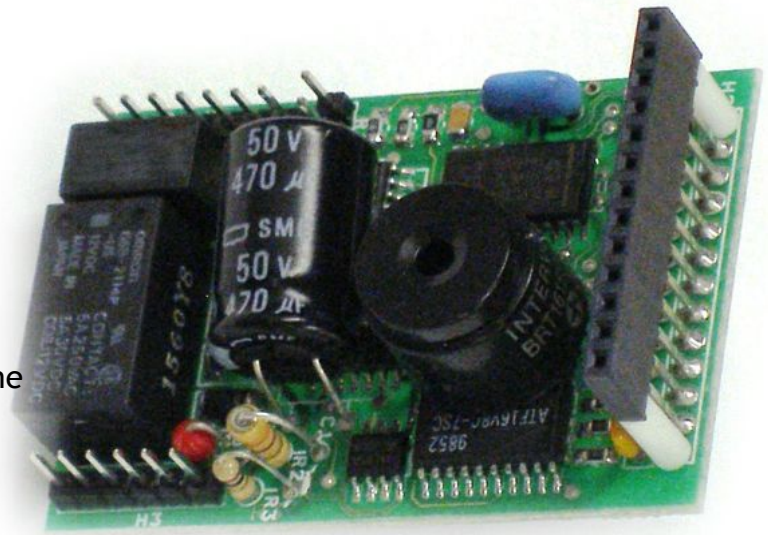
Turn-Key PCB Assembly & Test

Customer / Application

Security & Access Control Products

Key Aspects

- ▶ Customer since 1999
- ▶ Over 5 years defect free, 100% on-time performance
- ▶ Over 50,000 assemblies delivered
- ▶ SMT/TH mixed technology
- ▶ Includes PCB fabrication & functional test



Project Description

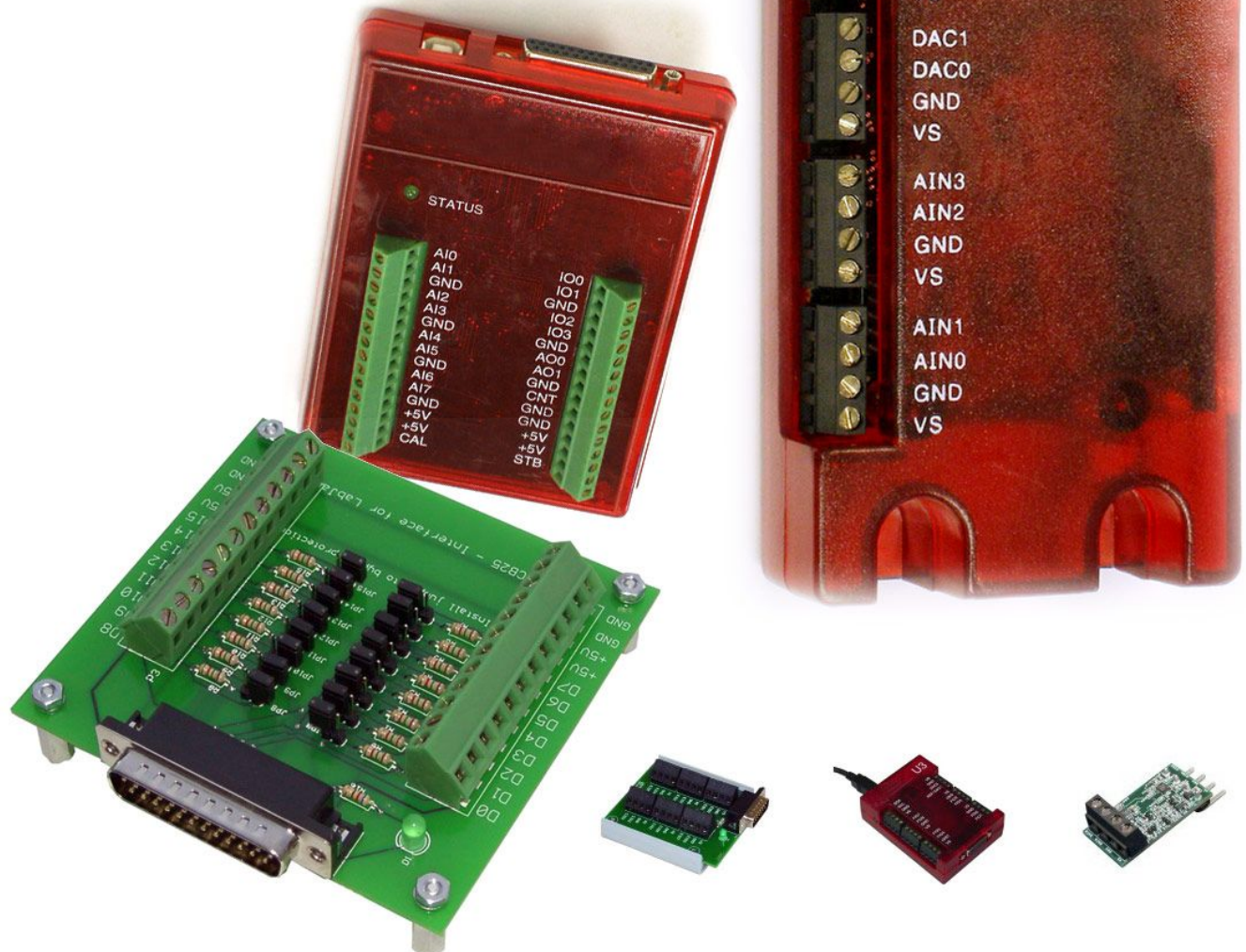
Turn-Key PCB Assembly & Test

Customer / Application

Measurement & Automation Solution Provider

Key Aspects

- ▶ Customer since 1999
- ▶ Turn-key assembly including molded enclosure & test
- ▶ Over 100,000 assemblies delivered
- ▶ SMT/TH mixed technology
- ▶ In-circuit and unit functional test



Project Description

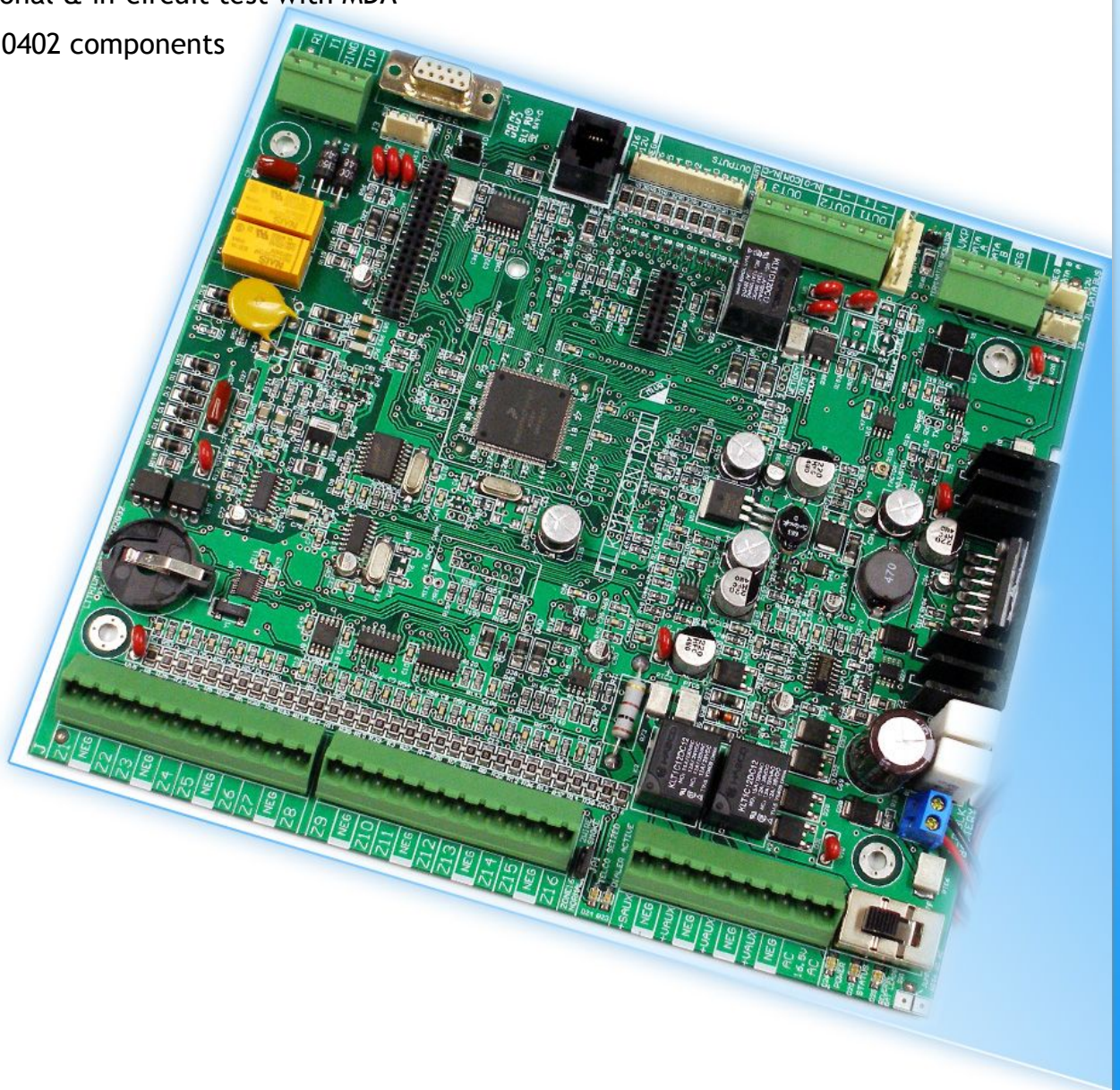
Turn-Key PCB Assembly & Test

Customer / Application

Security & Home Automation Products

Key Aspects

- ▶ Main system controller with 0402 components
- ▶ Functional & in-circuit test with MDA
- ▶ BGA / 0402 components



Project Description

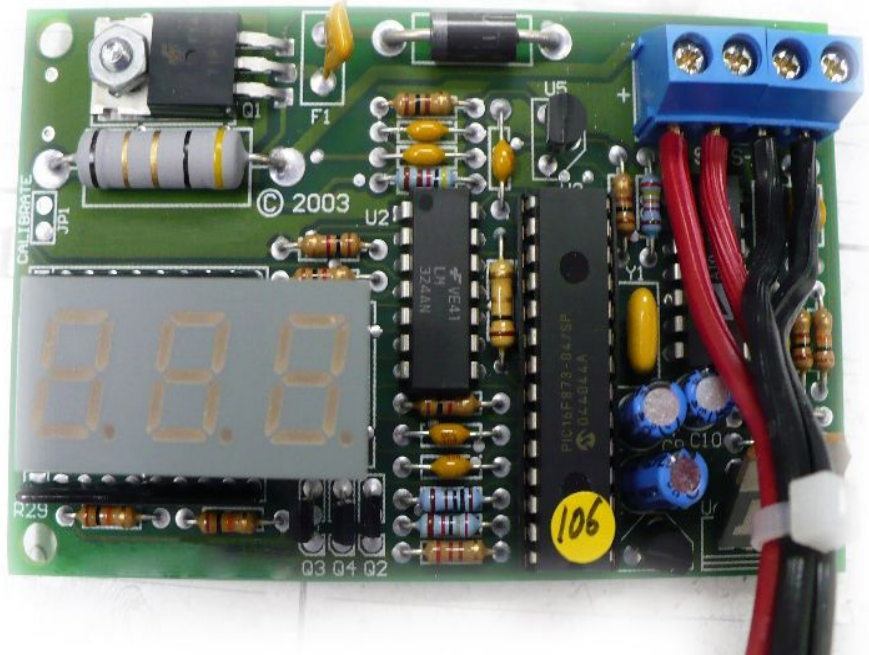
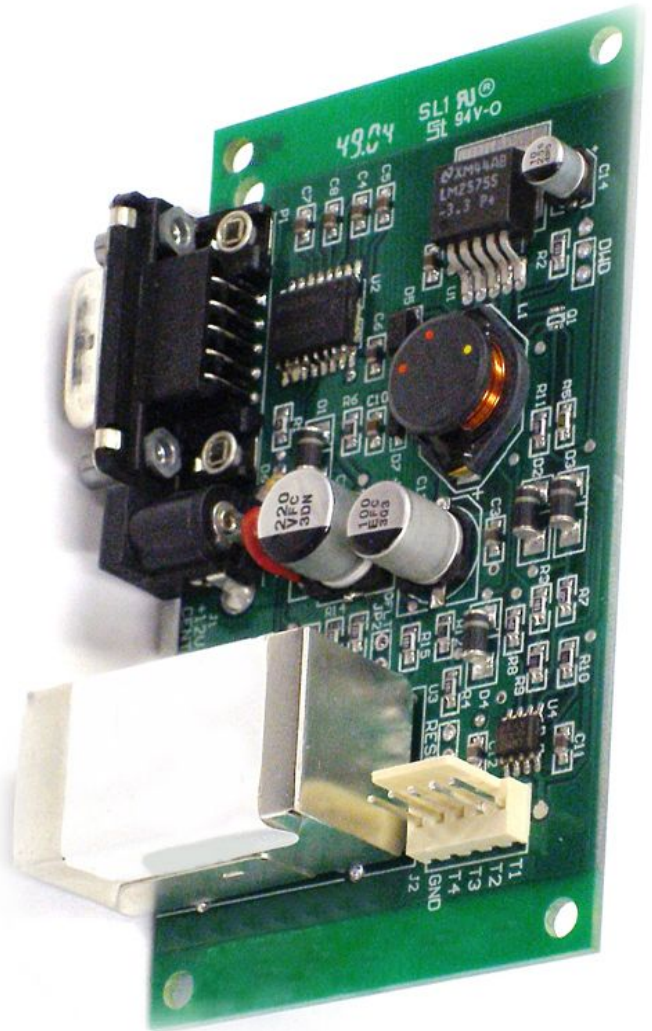
Turn-Key PCB Assembly & Test

Customer / Application

Security & Home Automation Products

Key Aspects

- ▶ Repeat customer for over 5 years
- ▶ TH, SMT, and mixed technology assemblies
- ▶ Complete turn-key, including final customer packaging
- ▶ In-circuit and unit functional test



Project Description

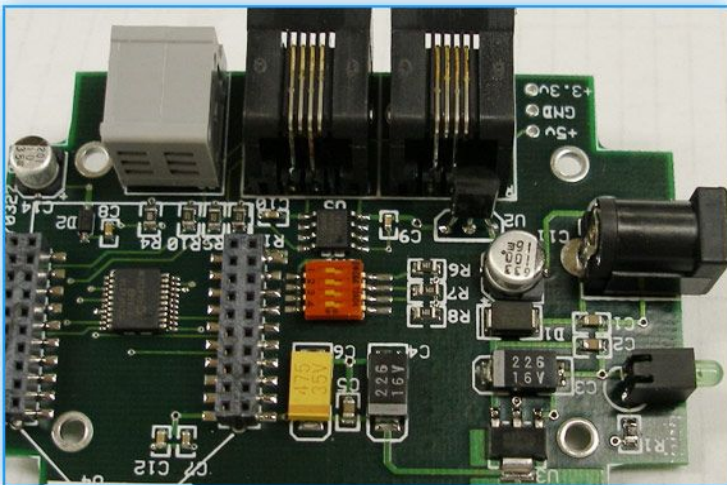
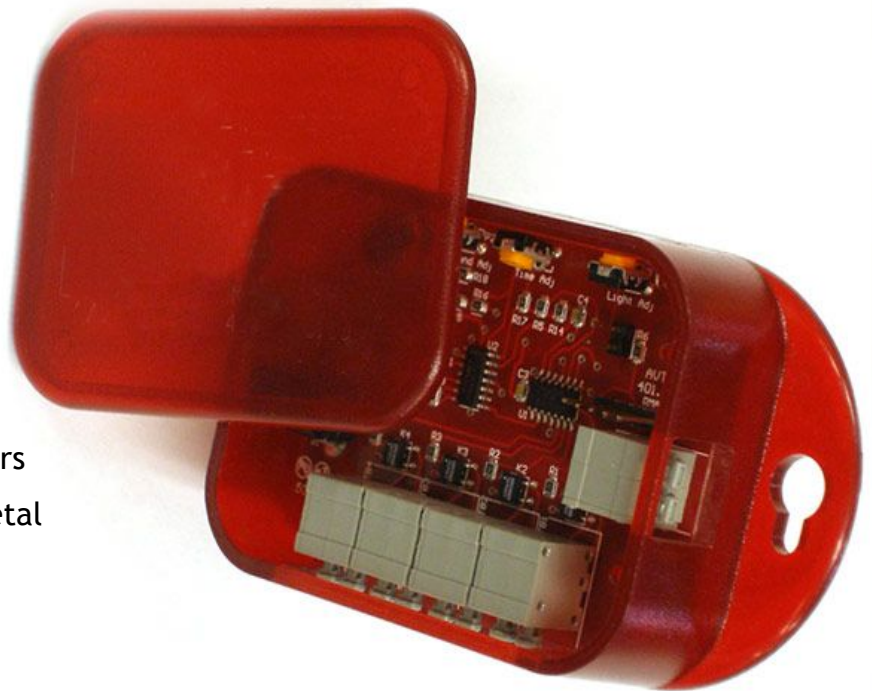
Turn-Key PCB Assembly & Test

Customer / Application

Environmental Monitoring of IT & Facilities

Key Aspects

- ▶ Repeat customer for over 3 years
- ▶ Turn-key assembly including metal or plastic enclosures & test
- ▶ SMT/TH mixed technology
- ▶ Cable harness assemblies
- ▶ Unit functional test



Project Description

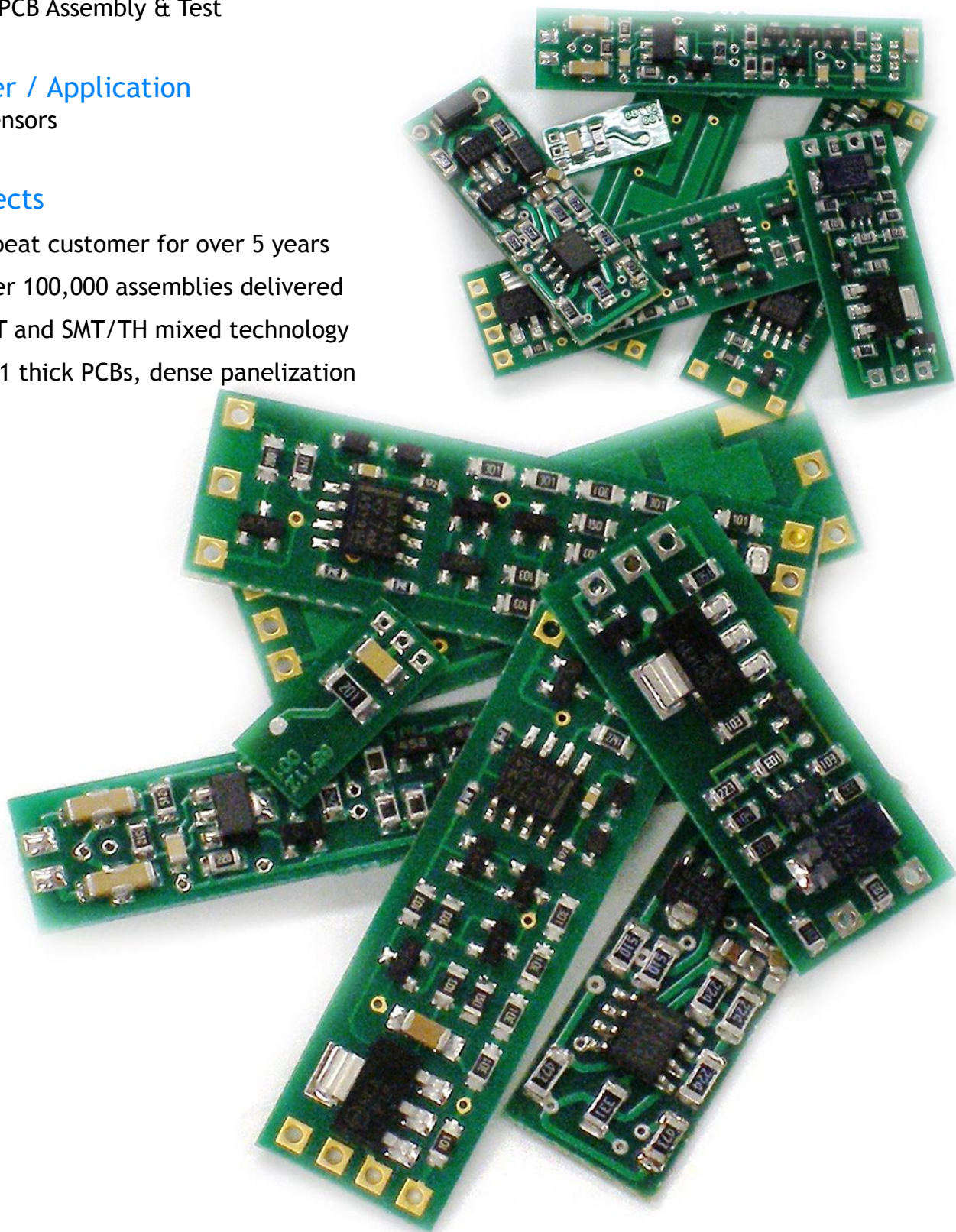
Turn-Key PCB Assembly & Test

Customer / Application

Motion Sensors

Key Aspects

- ▶ Repeat customer for over 5 years
- ▶ Over 100,000 assemblies delivered
- ▶ SMT and SMT/TH mixed technology
- ▶ .031 thick PCBs, dense panelization



Project Description

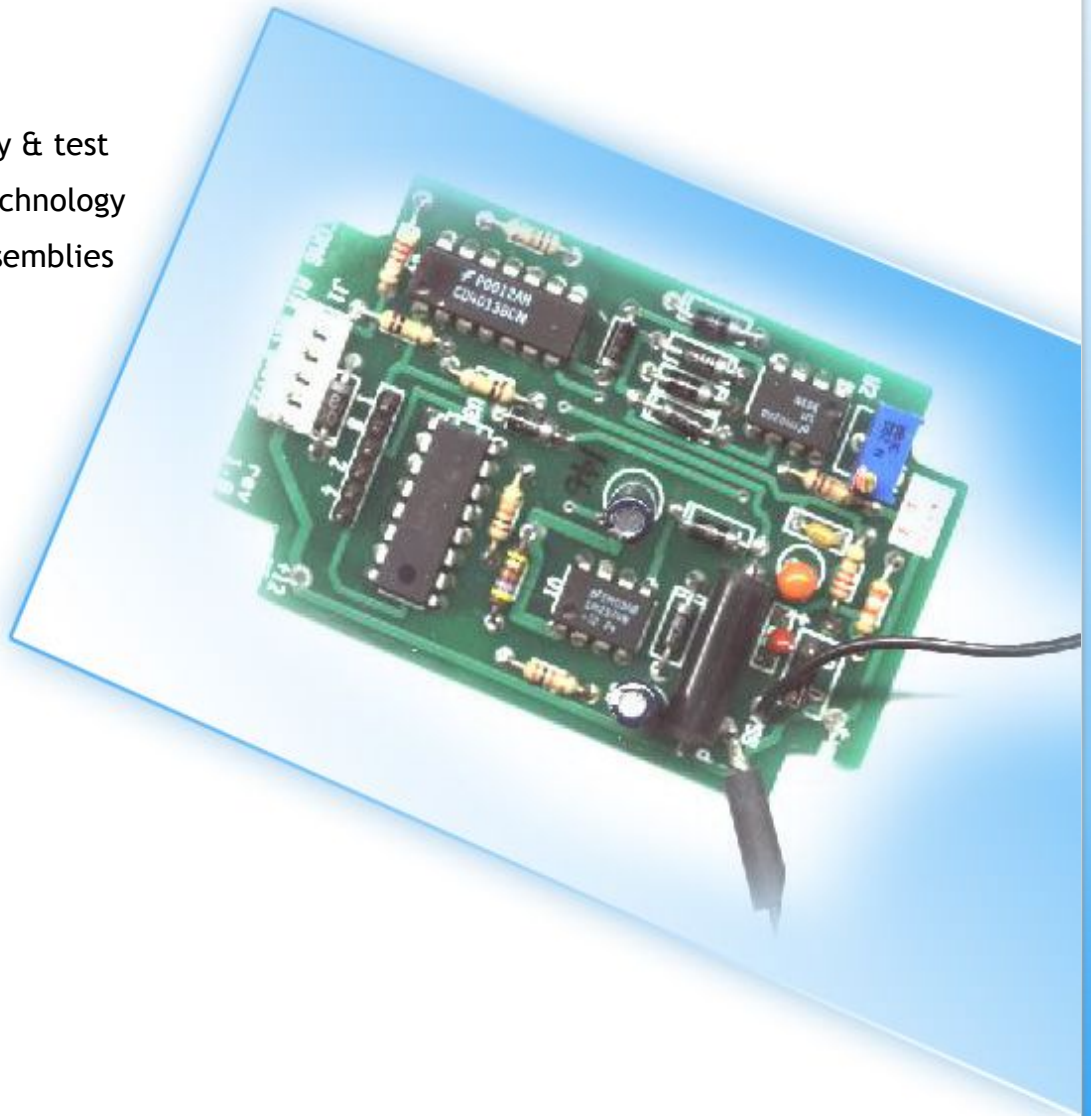
Turn-Key PCB Assembly & Test

Customer / Application

Wireless Infrared Speed Timing Device Mfgr

Key Aspects

- ▶ Turn-key assembly & test
- ▶ SMT/TH mixed technology
- ▶ Cable Harness Assemblies



Project Description

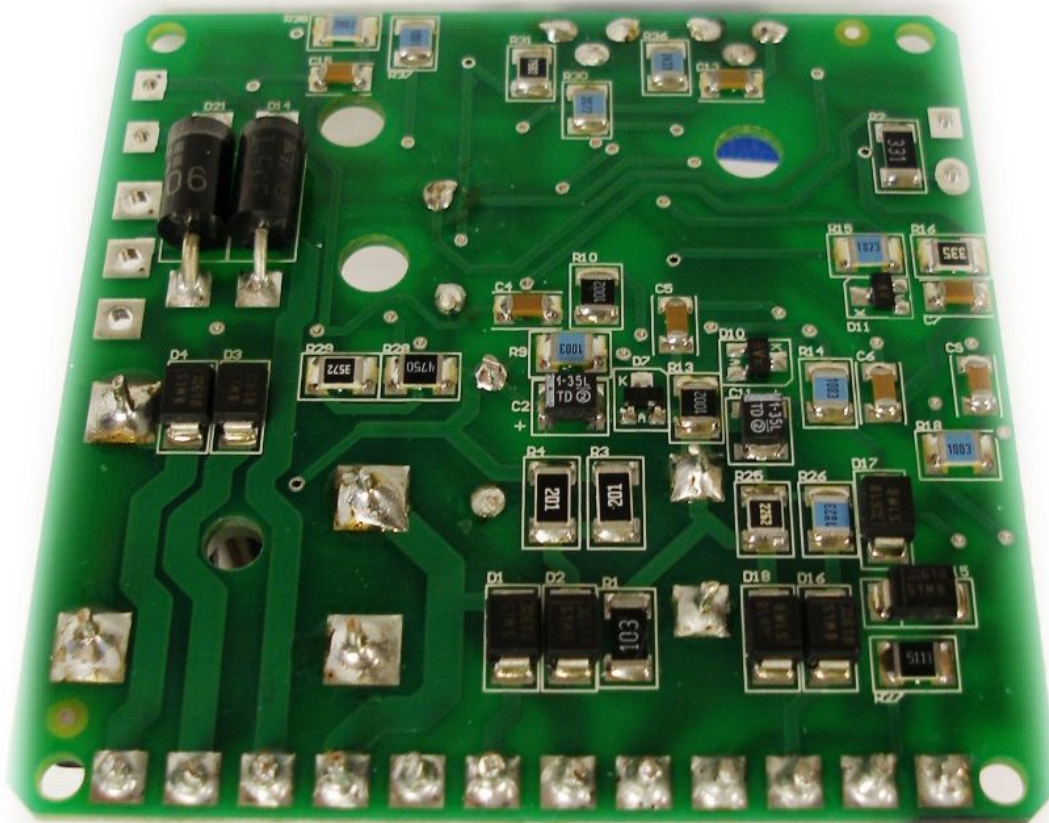
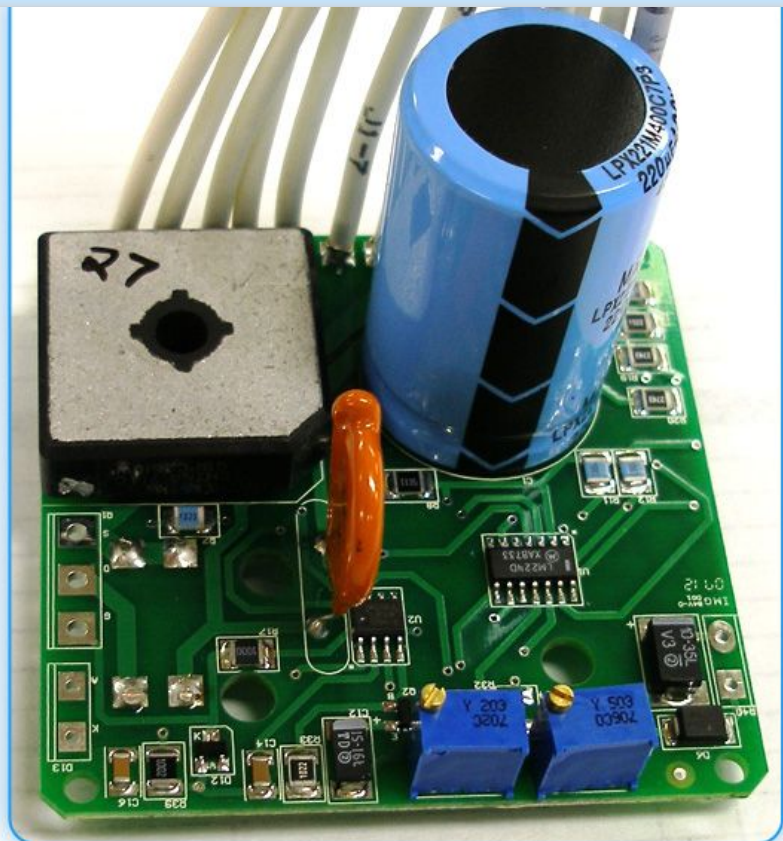
Turn-Key PCB Assembly & Test

Customer / Application

Diesel Engine Controls

Key Aspects

- ▶ Turn-key assembly & test
- ▶ Cable Harness Assemblies
- ▶ SMT/TH mixed technology



Project Description

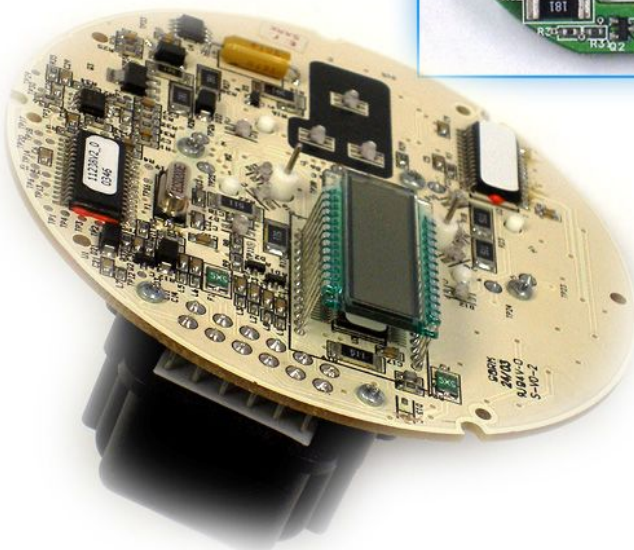
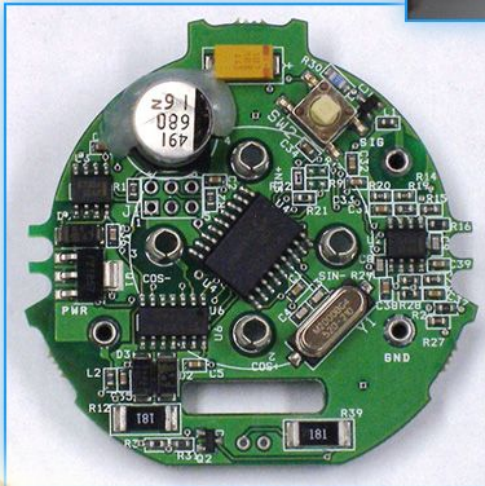
Turn-Key PCB Assembly & Test

Customer / Application

Instrumentation & Controls

Key Aspects

- ▶ Repeat customer for over 5 years
- ▶ Turn-key assembly, including enclosures, & test
- ▶ Molded plastic, and Stamped metal enclosures
- ▶ Functional Test
- ▶ Level 3 PPAP approvals



Project Description

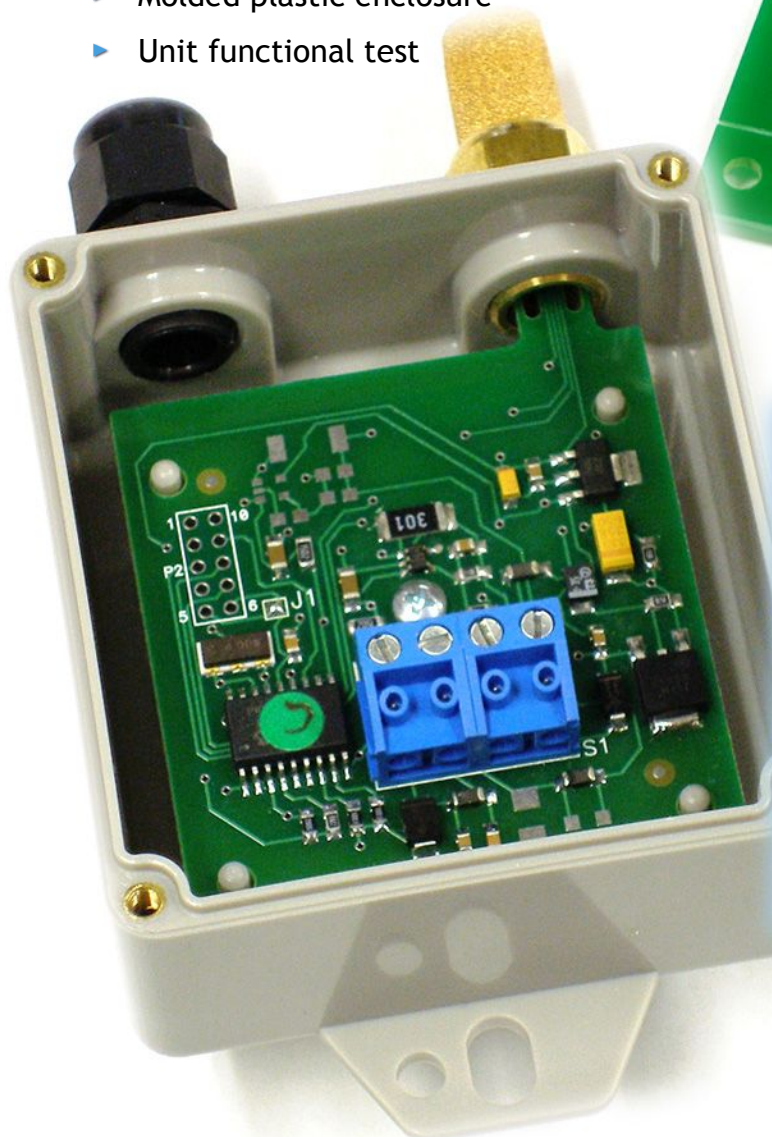
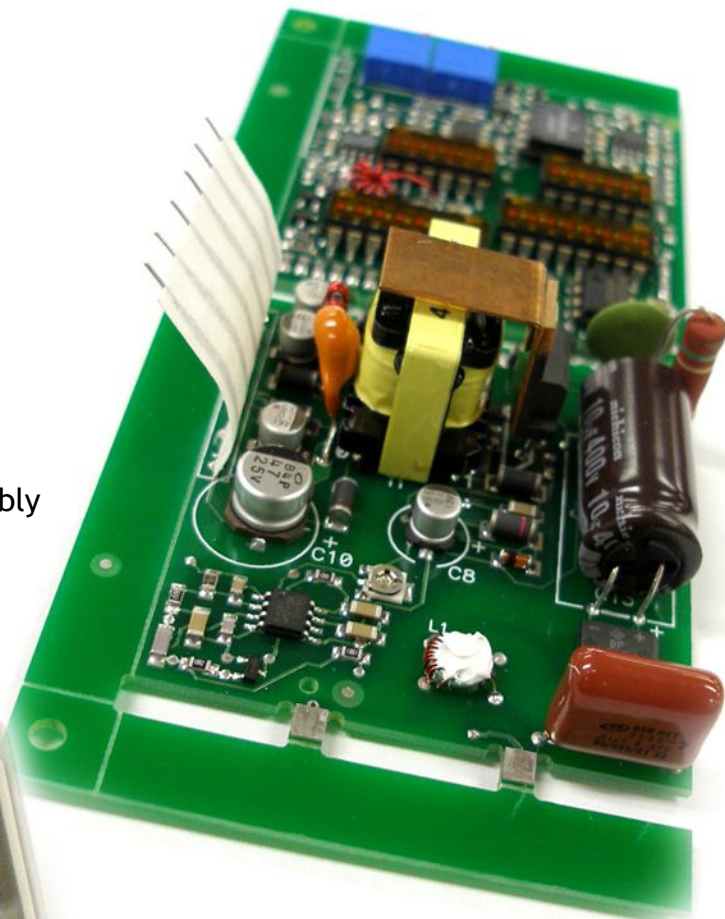
Turn-Key PCB Assembly & Test

Customer / Application

Industrial Controls & Instrumentation

Key Aspects

- ▶ Repeat customer for over 3 years
- ▶ SMT/TH mixed technology
- ▶ Design, engineering, & turn-key assembly
- ▶ Molded plastic enclosure
- ▶ Unit functional test



Project Description

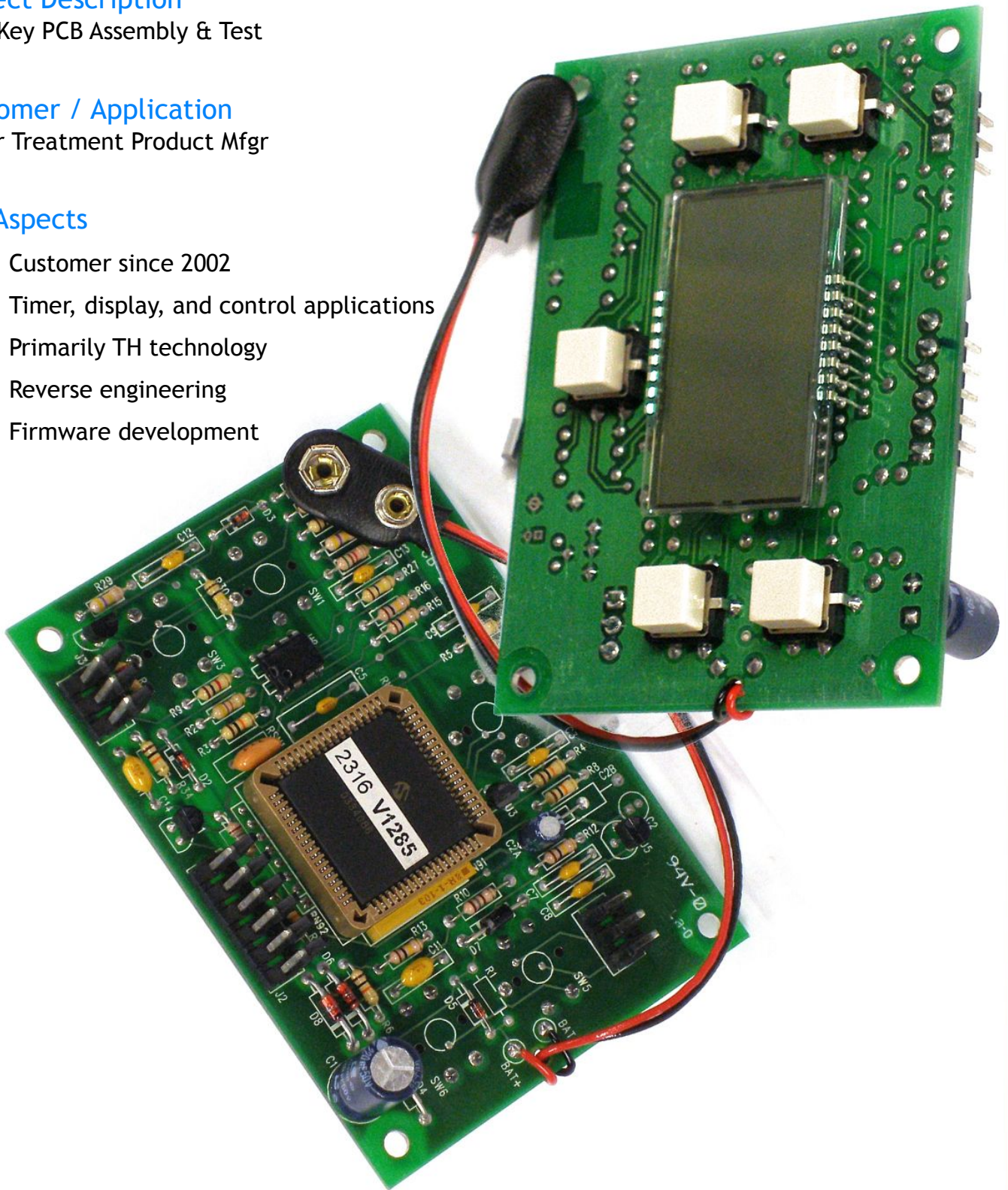
Turn-Key PCB Assembly & Test

Customer / Application

Water Treatment Product Mfg

Key Aspects

- ▶ Customer since 2002
- ▶ Timer, display, and control applications
- ▶ Primarily TH technology
- ▶ Reverse engineering
- ▶ Firmware development



Project Description

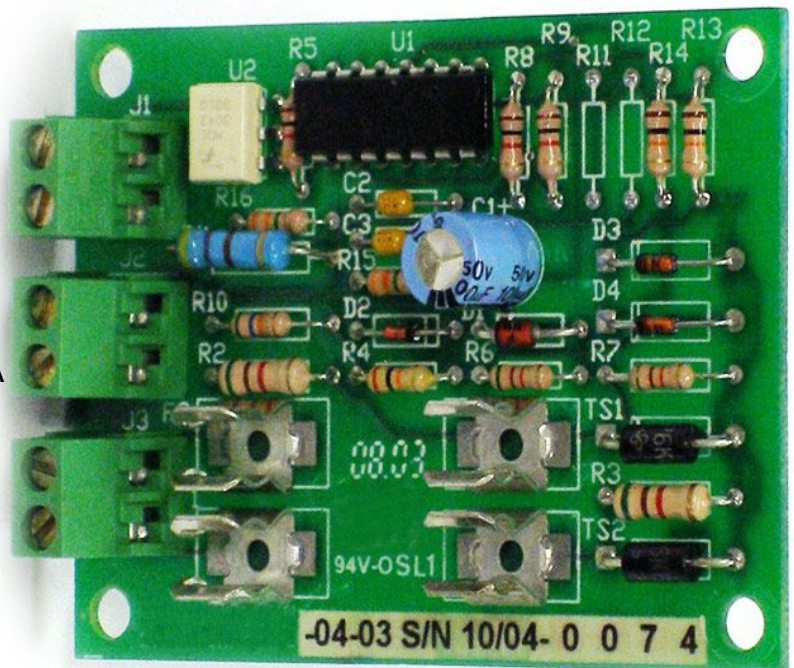
Turn-Key PCB Assembly & Test

Customer / Application

Motor Starter & Controls

Key Aspects

- ▶ Functional & in-circuit test with MDA
- ▶ SMT , TH, and mixed technology
- ▶ Cable Harness Assemblies



Project Description

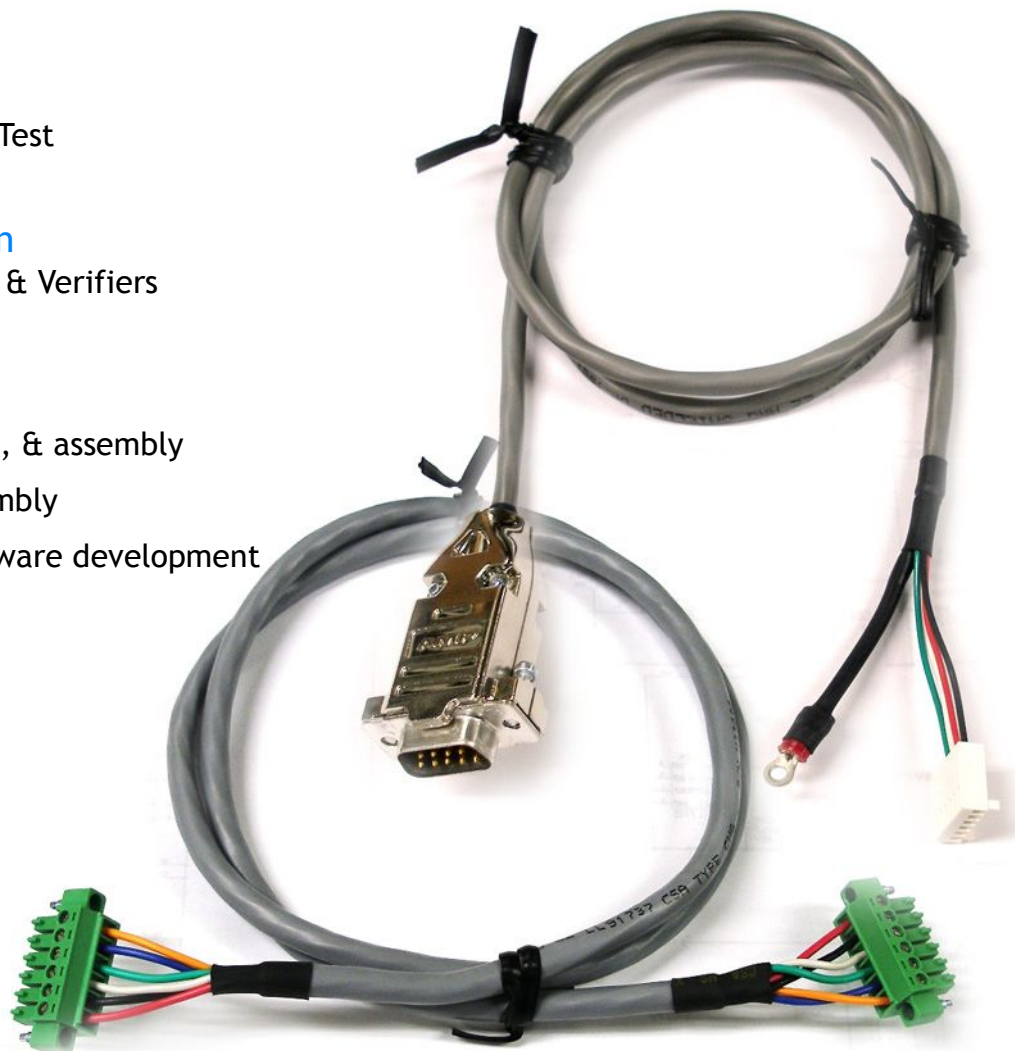
Turn-Key PCB Assembly & Test

Customer / Application

High Speed Coin Counters & Verifiers

Key Aspects

- ▶ Design, engineering, & assembly
- ▶ Cable Harness Assembly
- ▶ Engineering & Firmware development



Project Description

Turn-Key PCB Assembly & Test

Customer / Application

Instrumentation, Controls, & Sensor Mfgr

Key Aspects

- ▶ Turn-key assembly & test
- ▶ Cable Harness Assembly
- ▶ Unit functional test



Project Description

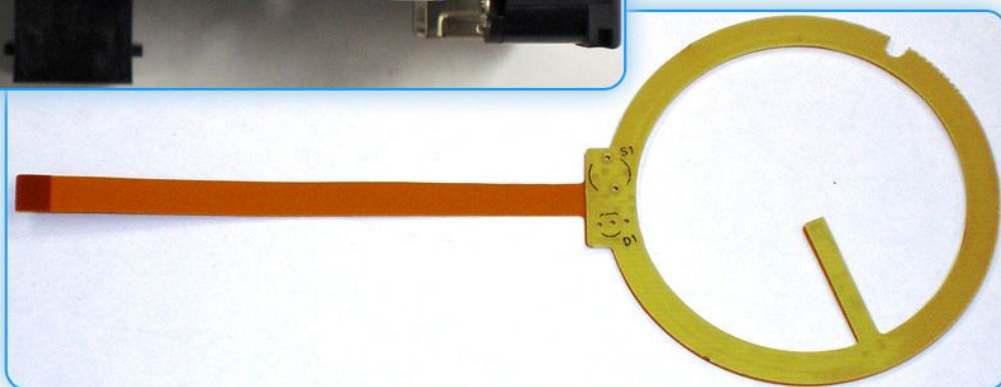
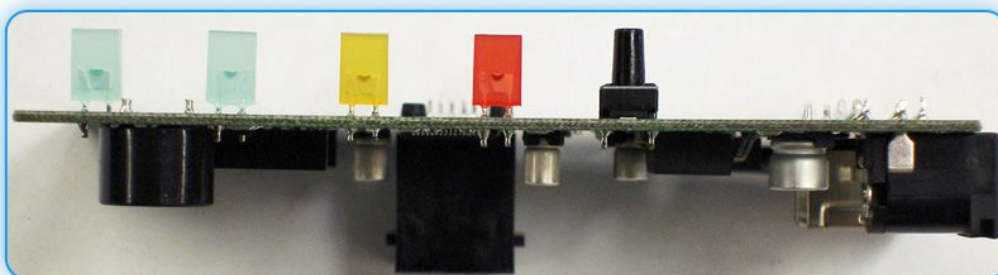
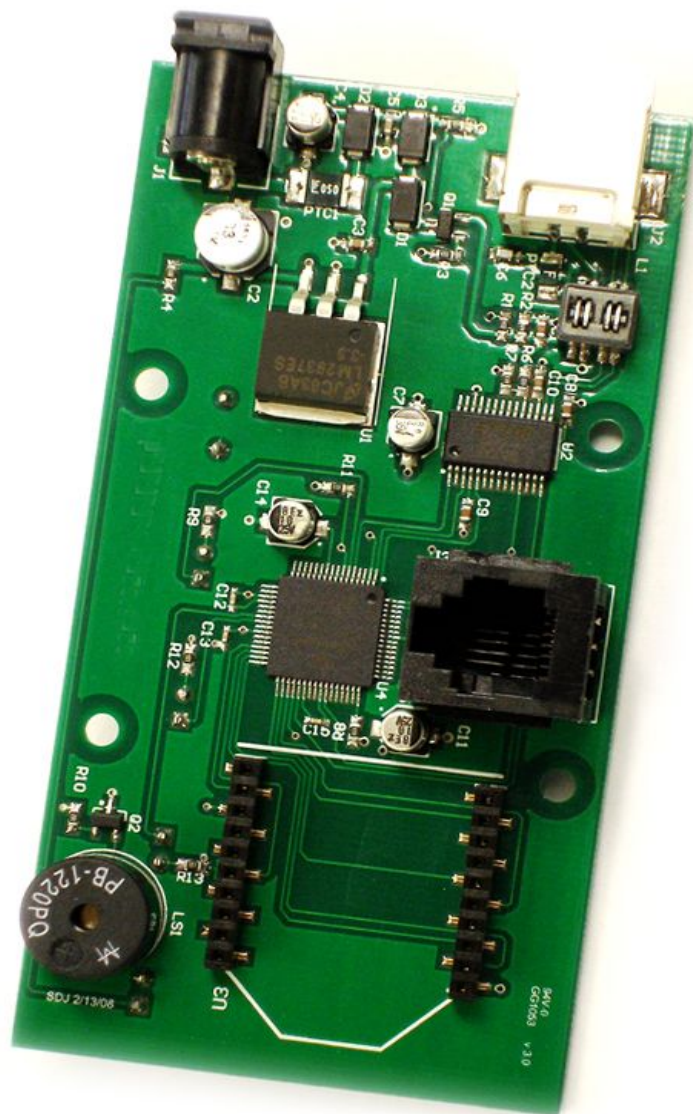
Turn-Key PCB Assembly & Test

Customer / Application

Laboratory Instrumentation & Analysis

Key Aspects

- ▶ Turn-key assembly & test
- ▶ Rigid & Rigid/Flex Assembly
- ▶ SMT/TH mixed technology
- ▶ Unit functional test



Project Description

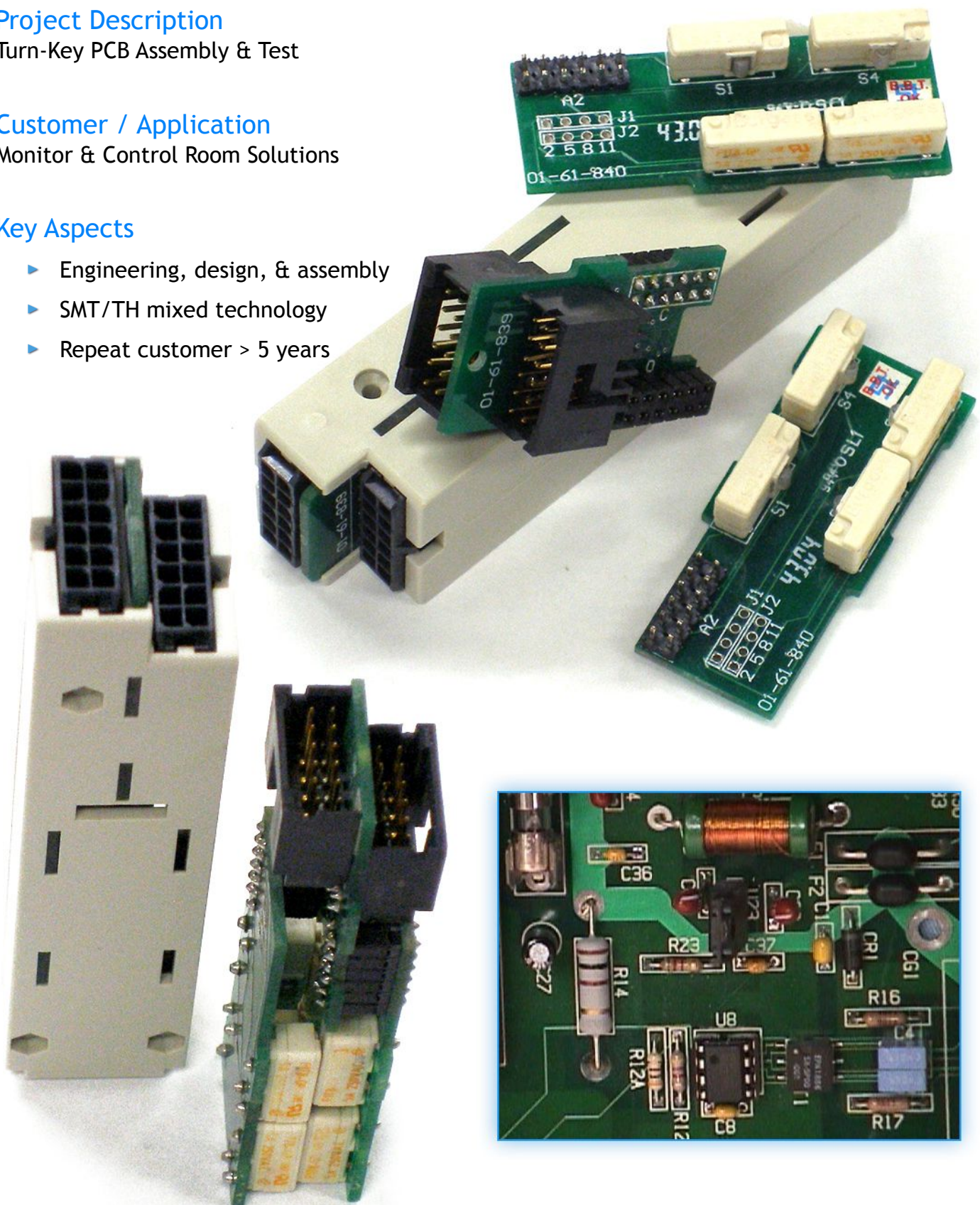
Turn-Key PCB Assembly & Test

Customer / Application

Monitor & Control Room Solutions

Key Aspects

- ▶ Engineering, design, & assembly
- ▶ SMT/TH mixed technology
- ▶ Repeat customer > 5 years



Project Description

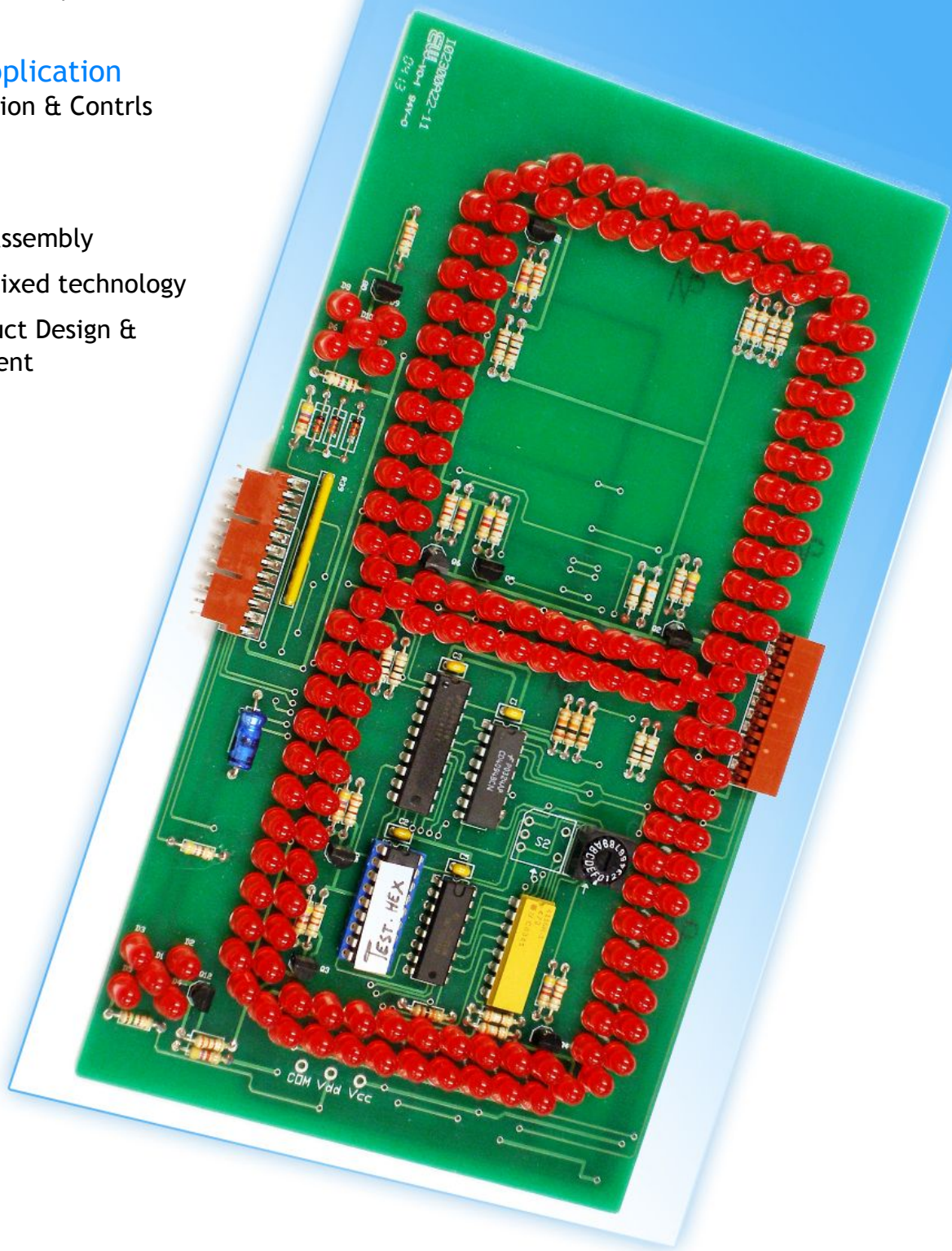
Turn-Key PCB Assembly & Test

Customer / Application

Factory Automation & Contrls

Key Aspects

- ▶ Turn-key assembly
- ▶ SMT/TH mixed technology
- ▶ New Product Design & Development



Project Description

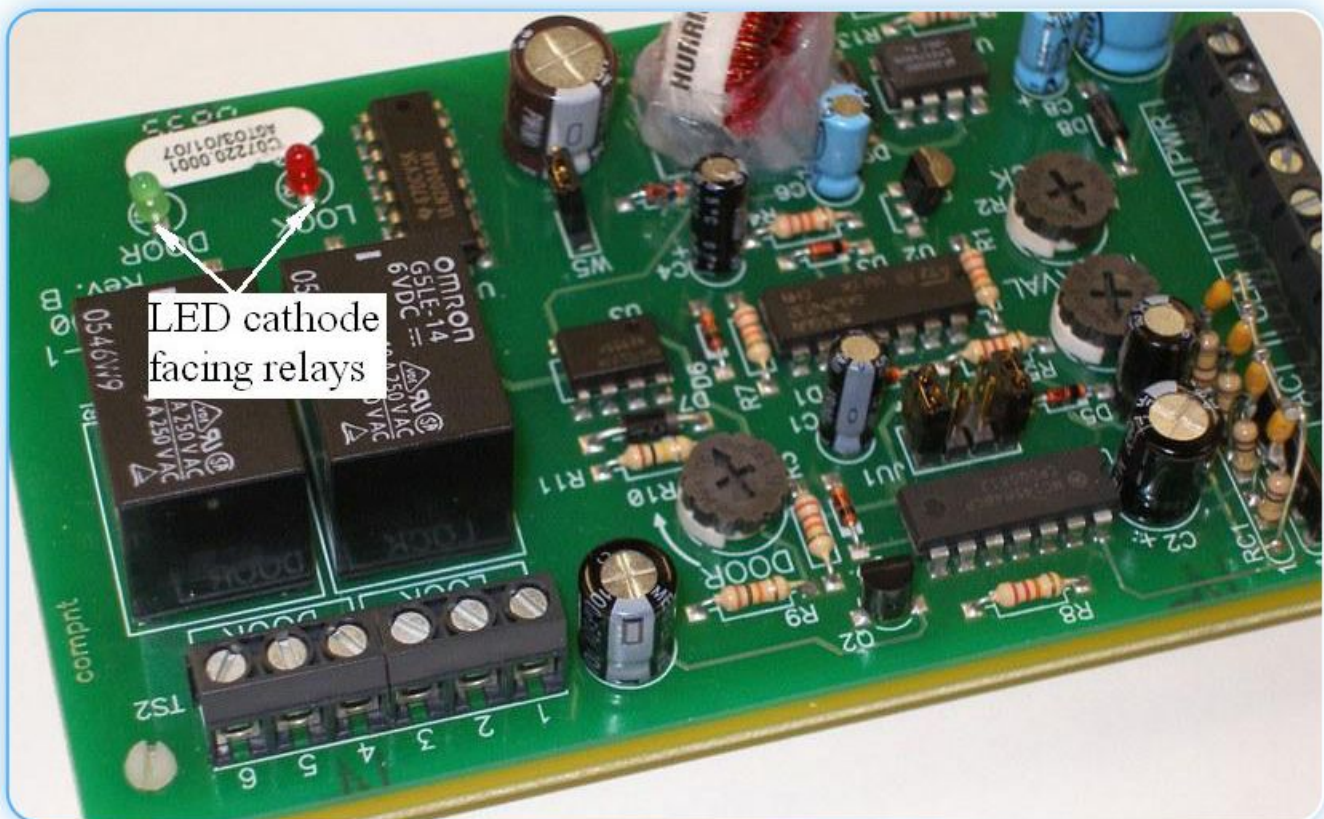
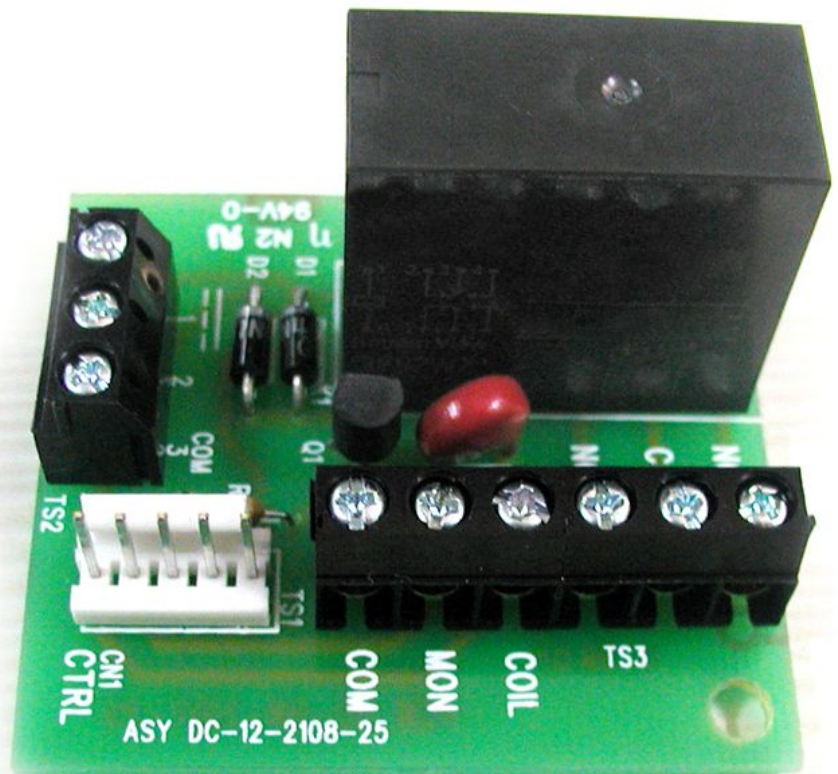
Turn-Key PCB Assembly & Test

Customer / Application

Automatic Door Manufacturer

Key Aspects

- ▶ Turn-key assembly & test
- ▶ SMT/TH mixed technology
- ▶ Unit functional test



Project Description

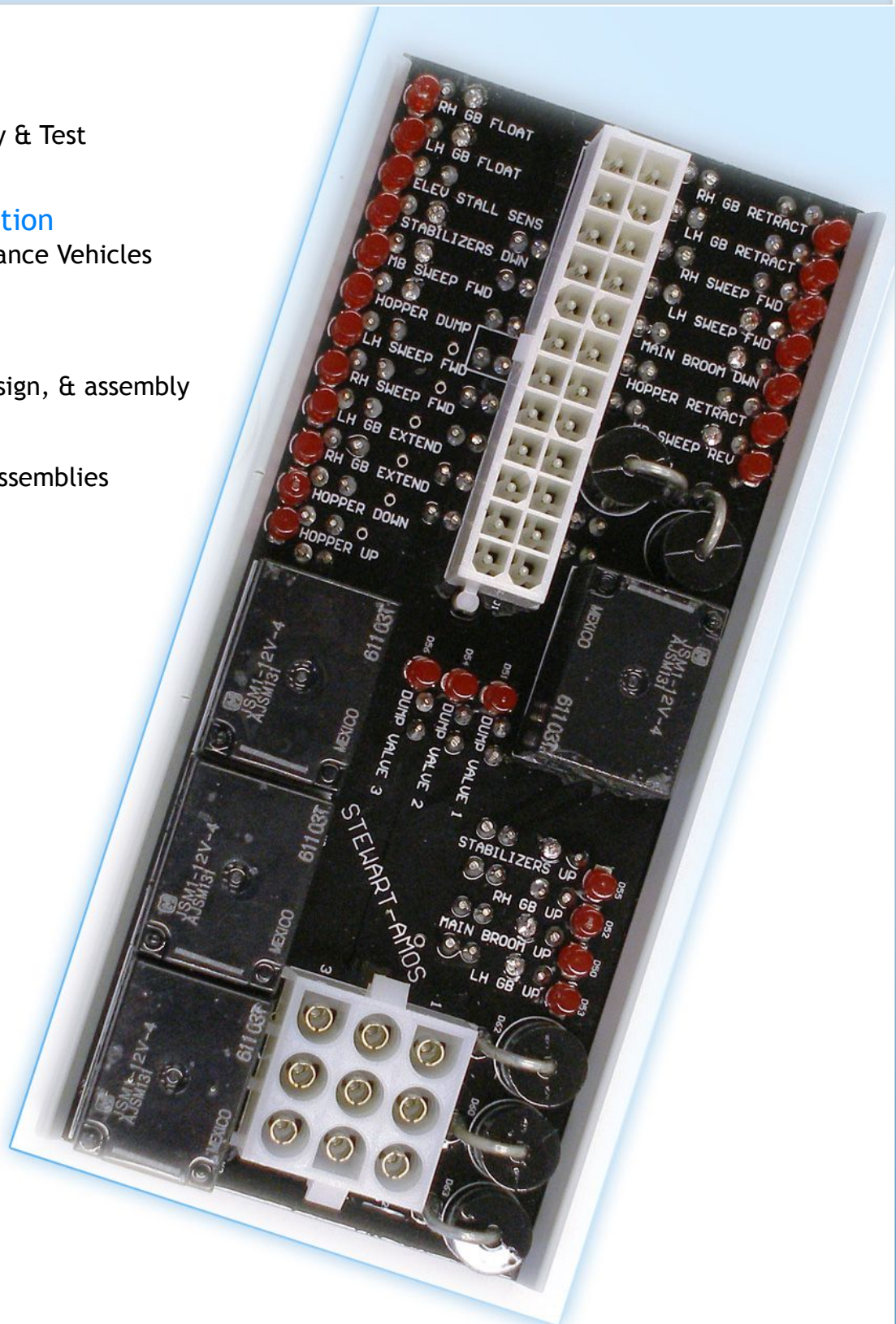
Turn-Key PCB Assembly & Test

Customer / Application

Construction/Maintenance Vehicles

Key Aspects

- ▶ Engineering, design, & assembly
- ▶ TH technology
- ▶ Cable Harness Assemblies
- ▶ System Build



Project Description

Turn-Key PCB Assembly & Test

Customer / Application

Robotic Product Manufacturer

Key Aspects

- ▶ Consumer electronic product
- ▶ Delivered over 20,000 assemblies for holiday season roll-out
- ▶ SMT/TH mixed technology
- ▶ Unit functional test



Project Description

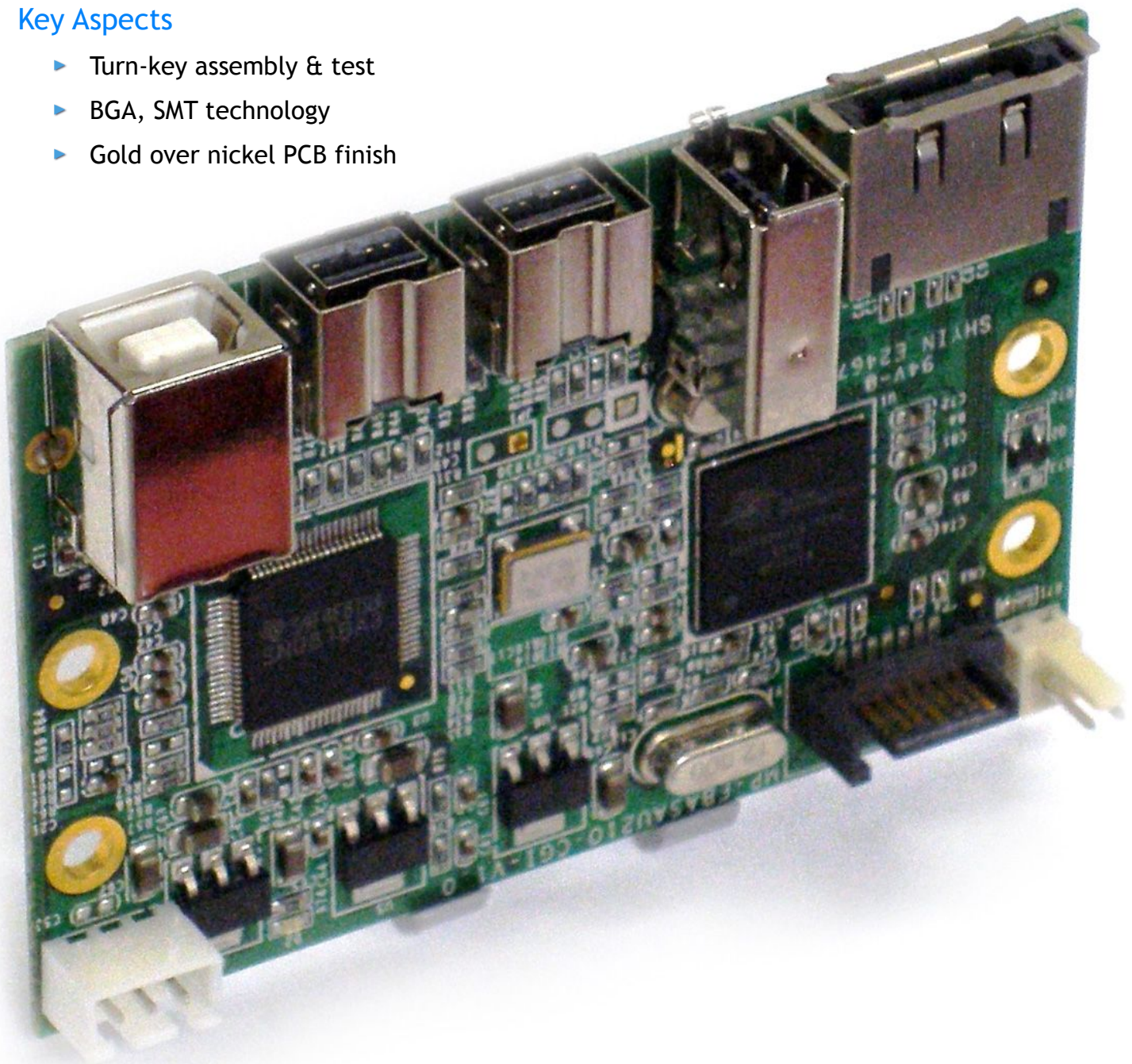
Turn-Key PCB Assembly & Test

Customer / Application

Data Storage Solutions for Digital Audio

Key Aspects

- ▶ Turn-key assembly & test
- ▶ BGA, SMT technology
- ▶ Gold over nickel PCB finish



Project Description

Turn-Key PCB Assembly & Test

Customer / Application

High Voltage Relay Products

Key Aspects

- ▶ Turn-key assembly
- ▶ SMT/TH with BGA technology
- ▶ Cable Harness Assemblies



Project Description

Engineering & Assembly

Customer / Application

High Power Ultrasonic Equipment Mfgr

Key Aspects

- ▶ Design, engineering, PCB layout & assembly
- ▶ TH technology
- ▶ Low mix / low-to-mid range volumes



Project Description

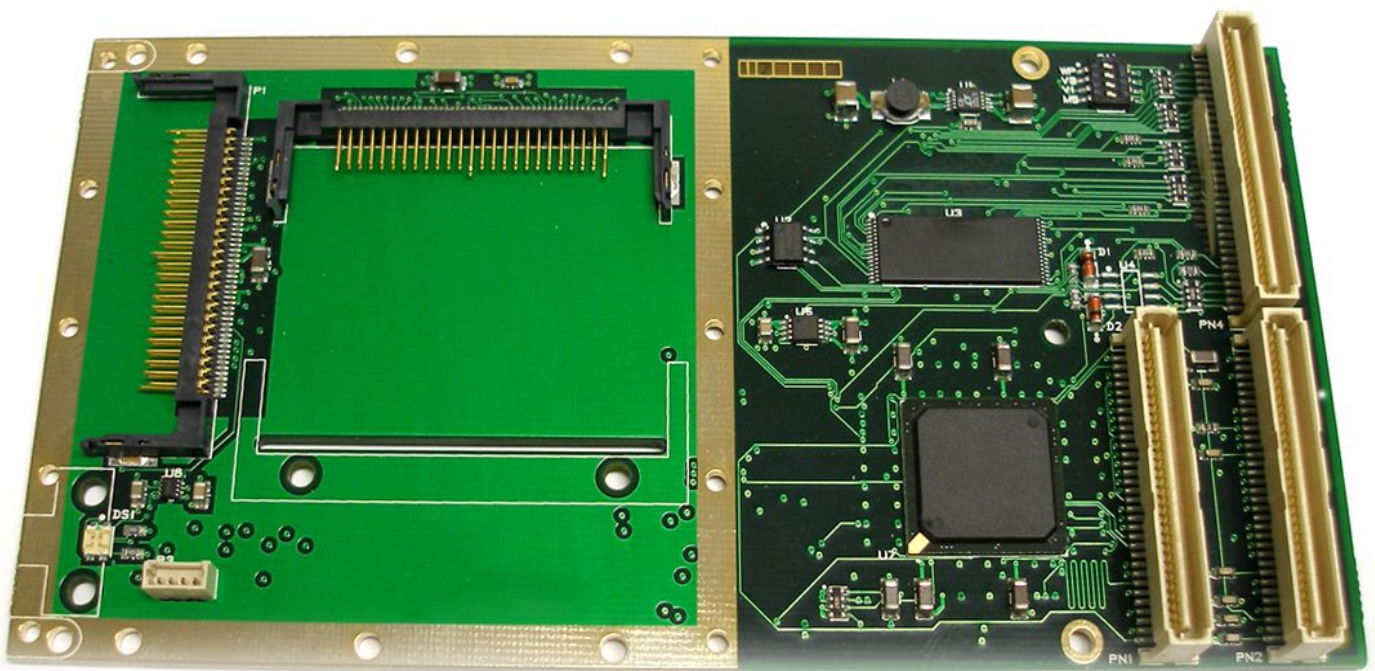
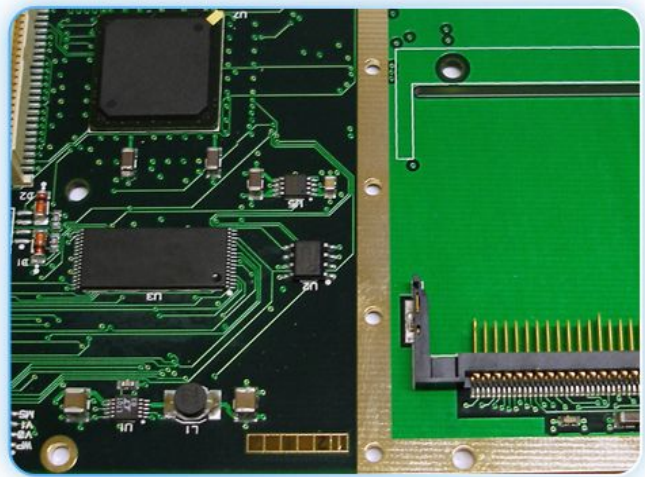
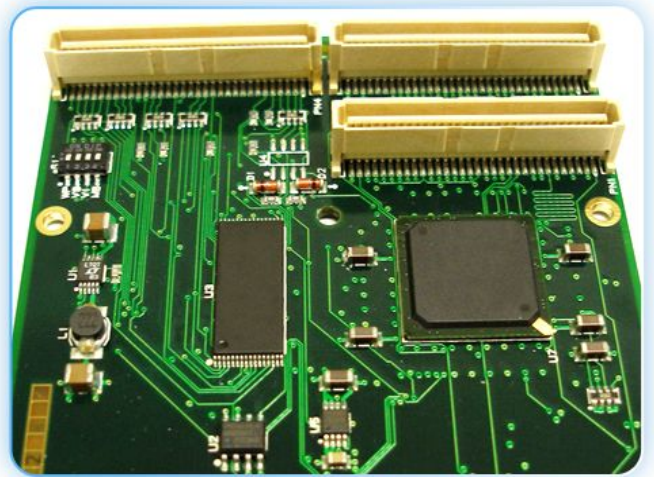
Turn-Key PCB Assembly & Test

Customer / Application

High Density Assembly

Key Aspects

- ▶ Turn-key assembly & test
- ▶ SMT/TH with BGA technology
- ▶ Unit functional test



PCB

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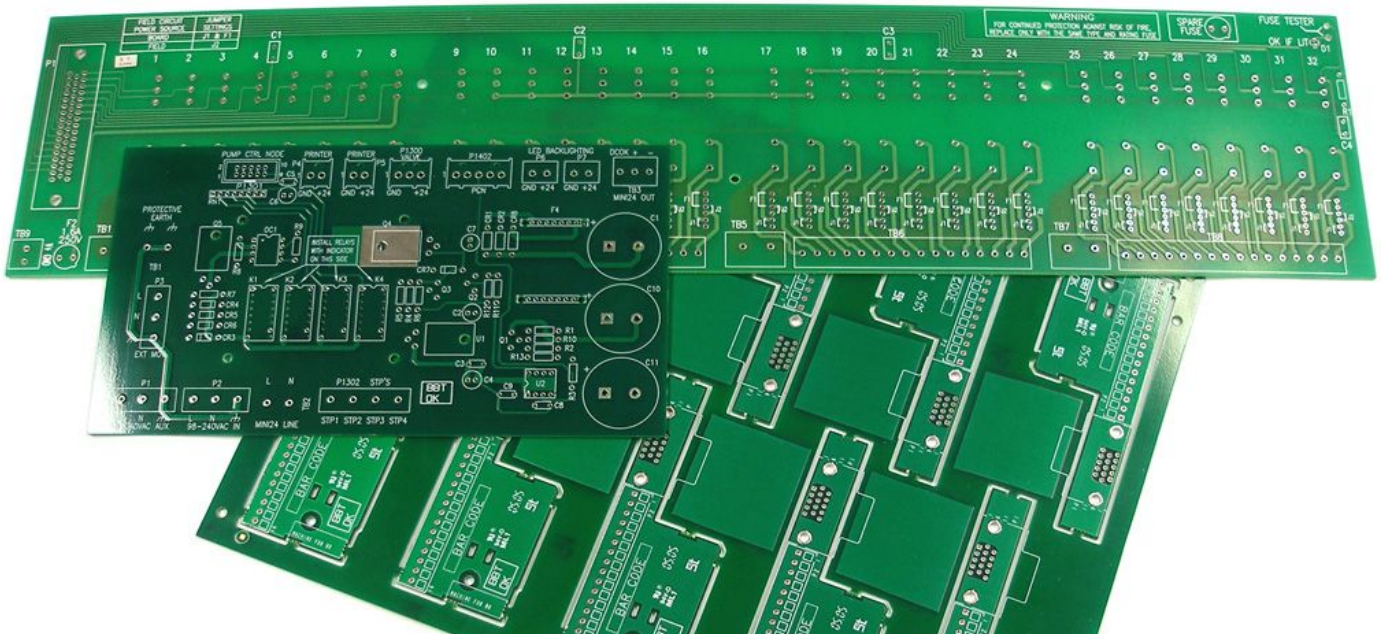
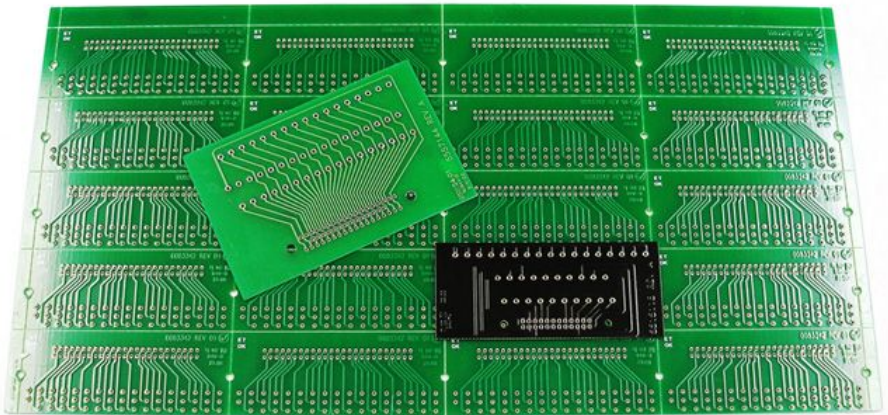
PCB Fabrication

Customer / Application

\$1.5B Global Device & Industrial Automation

Key Aspects

- ▶ 99.5%+ On Time & Quality Performance
- ▶ 2-8 Layer, Rigid FR4
- ▶ SMOBC, Immersion Tin, Immersion Silver, ENIG, Pb-Free HASL
- ▶ Single Piece & Multiple
- ▶ Up to 3 oz Copper



Project Description

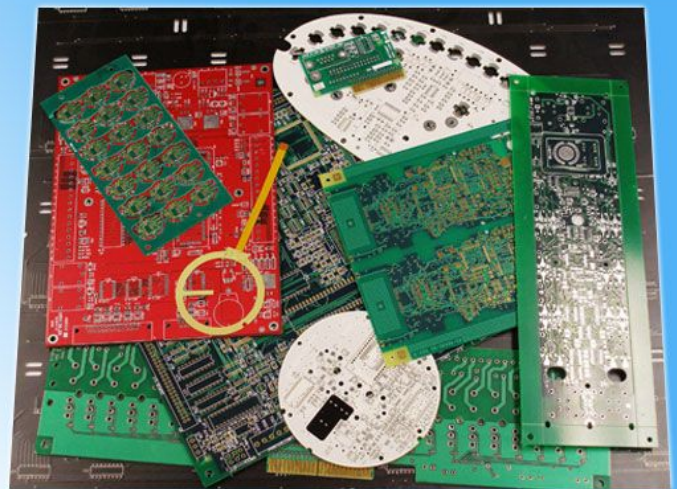
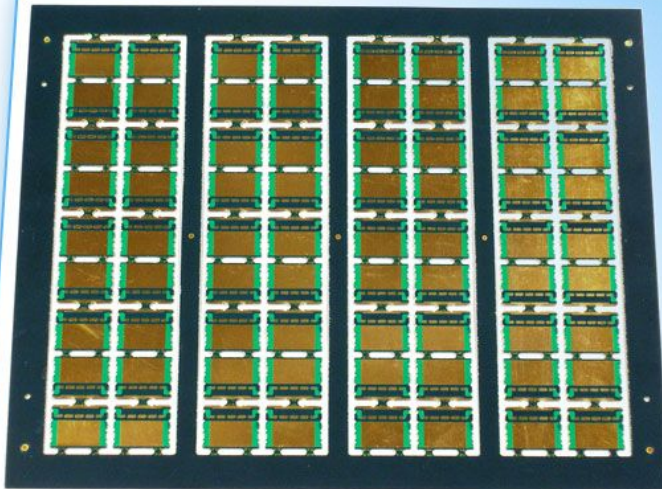
PCB Fabrication

Customer / Application

Commercial, Industrial, Automotive, Consumer, and Aerospace

Key Aspects

- ▶ Single-sided / Double-sided (Rigid)
- ▶ Multi-layer (up to 10 layers)
- ▶ Buried Vias, Controlled Impedance
- ▶ Various materials & finishes
- ▶ Up to 16" x 20"



Project Description

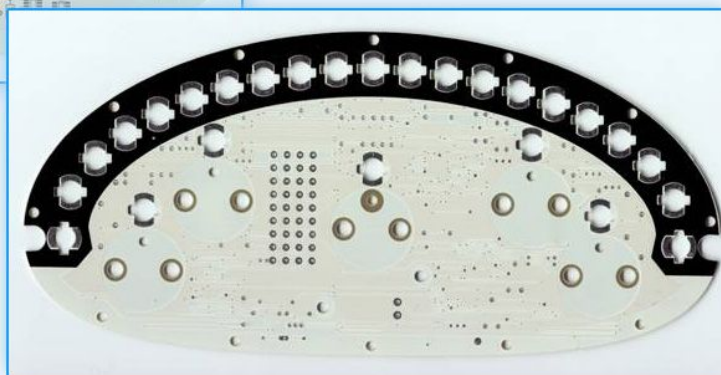
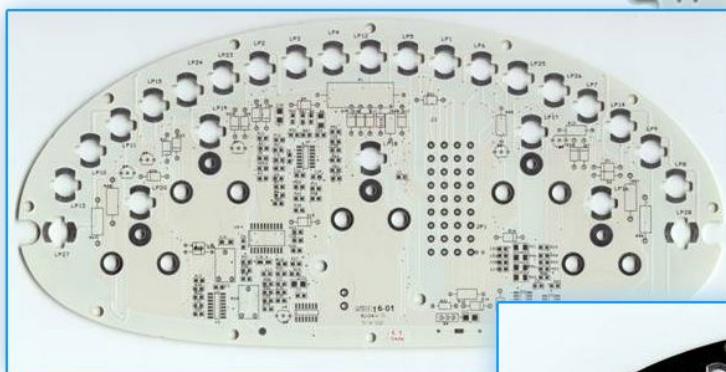
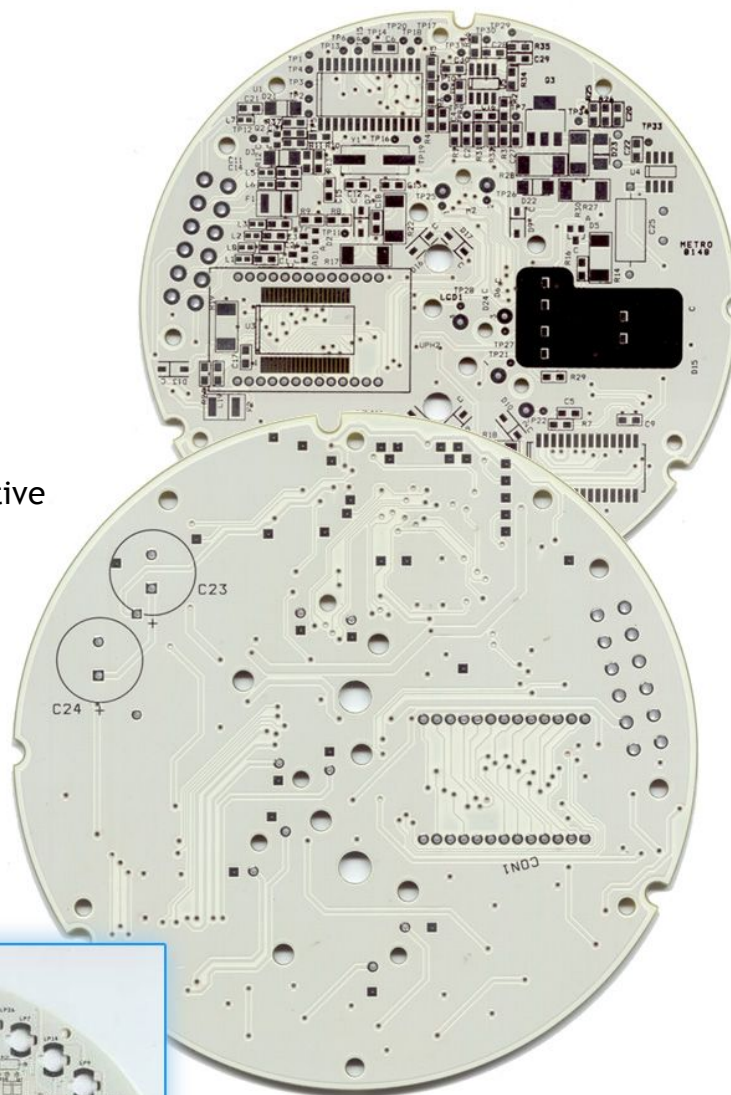
1 to 4 Layer PCBs

Customer / Application

Instrumentation & Controls

Key Aspects

- ▶ Repeat customer for over 5 years
- ▶ High volume, high mix, cost competitive PCBs
- ▶ Various panelization requirements
- ▶ Level 3 PPAP approvals
- ▶ 100% BBT



Project Description

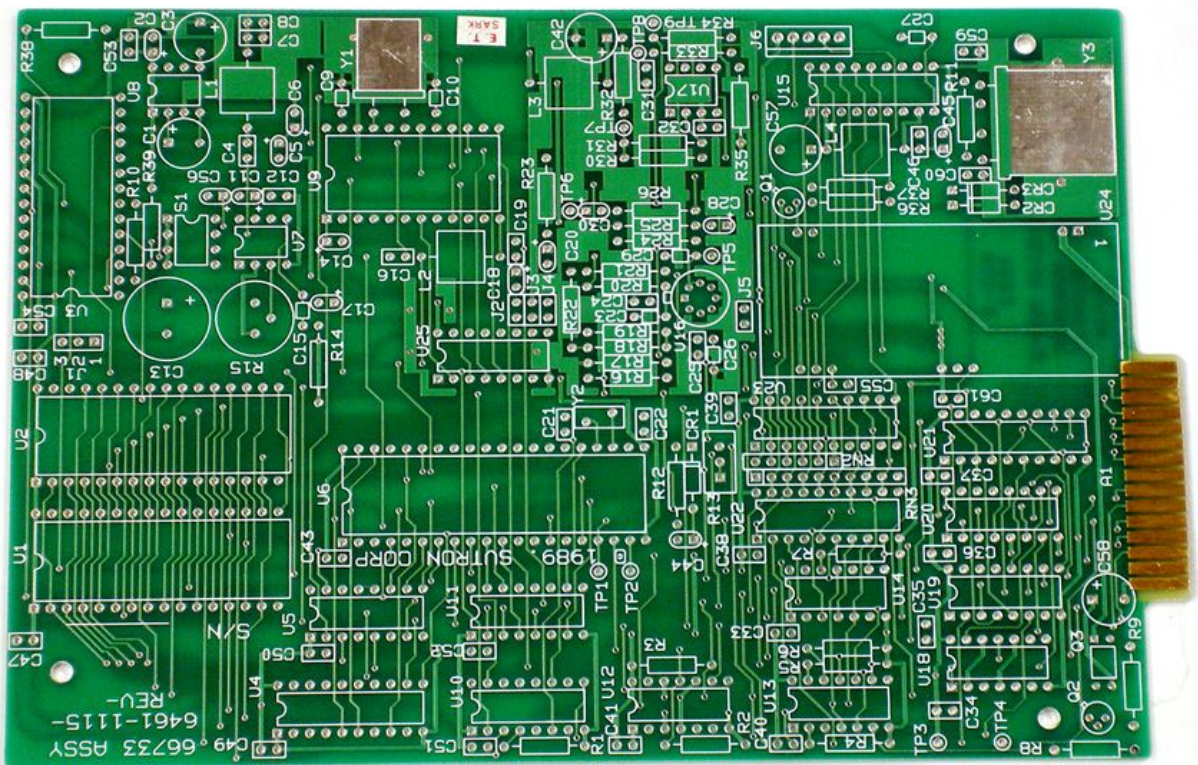
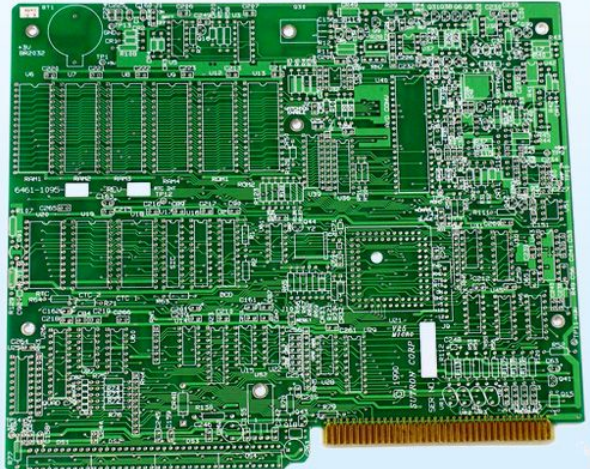
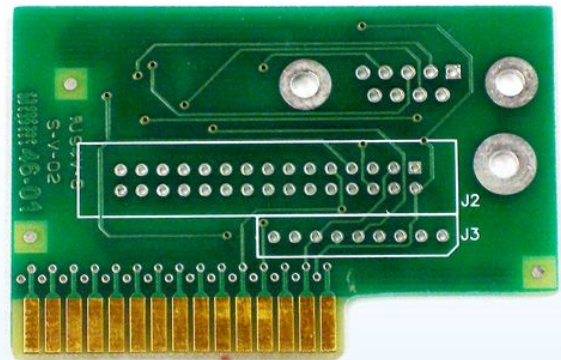
PCB Fabrication

Customer / Application

Hydraulic, Meteoric, and Oceanic Real-Time Data Collection

Key Aspects

- ▶ 2-8 Layer Rigid FR4
- ▶ SMOBC, HASL, Immersion Tin, Immersion Silver, ENIG Finishes
- ▶ Single Piece & Multiple Up Panels
- ▶ Selective Gold Plating
- ▶ 100% BBT



Project Description

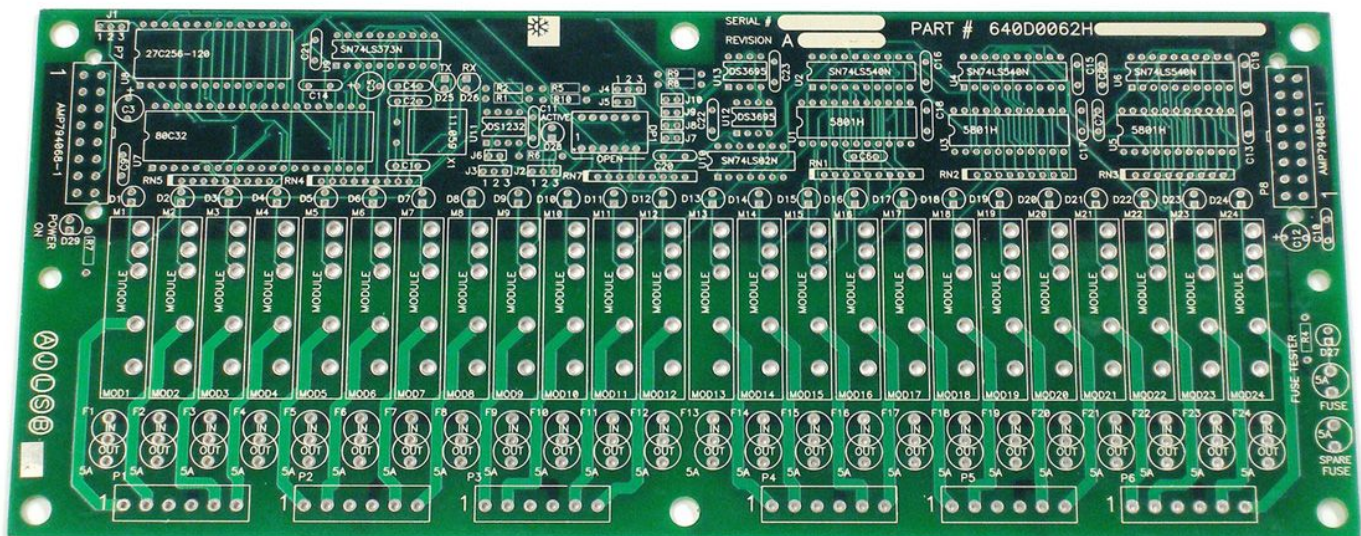
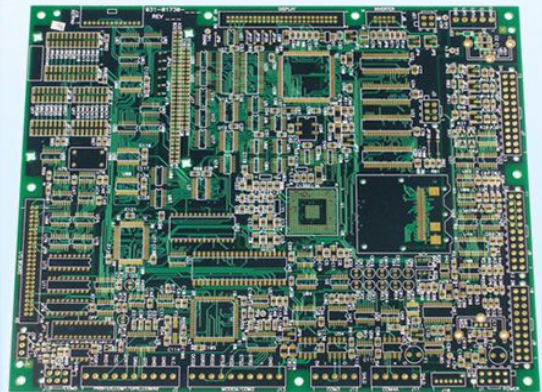
PCB Fabrication

Customer / Application

Power and Motor Control, Contract Manufacturing

Key Aspects

- ▶ 2-8 Layer Rigid FR4
- ▶ SMOBC, HASL, Immersion Tin, Immersion Silver, ENIG Finishes
- ▶ Single Piece & Multiple Up Panels
- ▶ Selective Gold Plating
- ▶ 100% BBT



Project Description

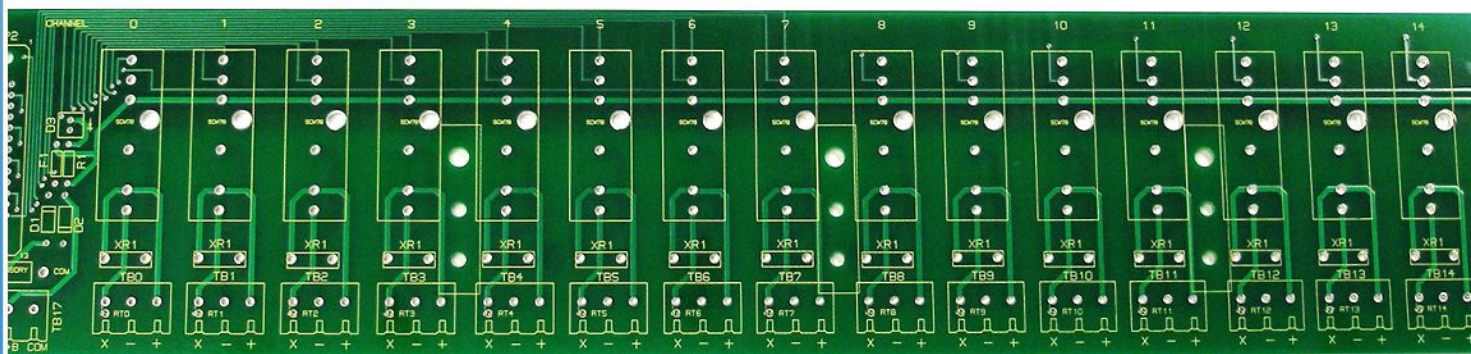
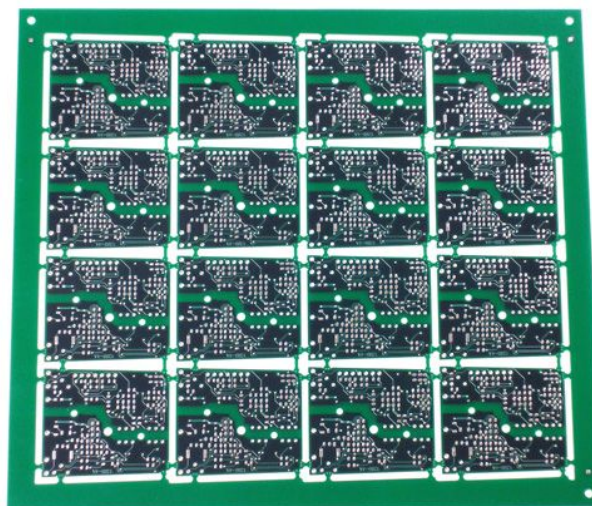
PCB Fabrication

Customer / Application

Industrial Data Acquisition & Signal Conditioning

Key Aspects

- ▶ 0-8 Layer Rigid FR4
- ▶ SMOBC, Pb-Free HASL, ENIG Finishes
- ▶ Single Piece & Multiple Up Panels
- ▶ 0.031" to 0.093" thick
- ▶ 100% BBT



Project Description

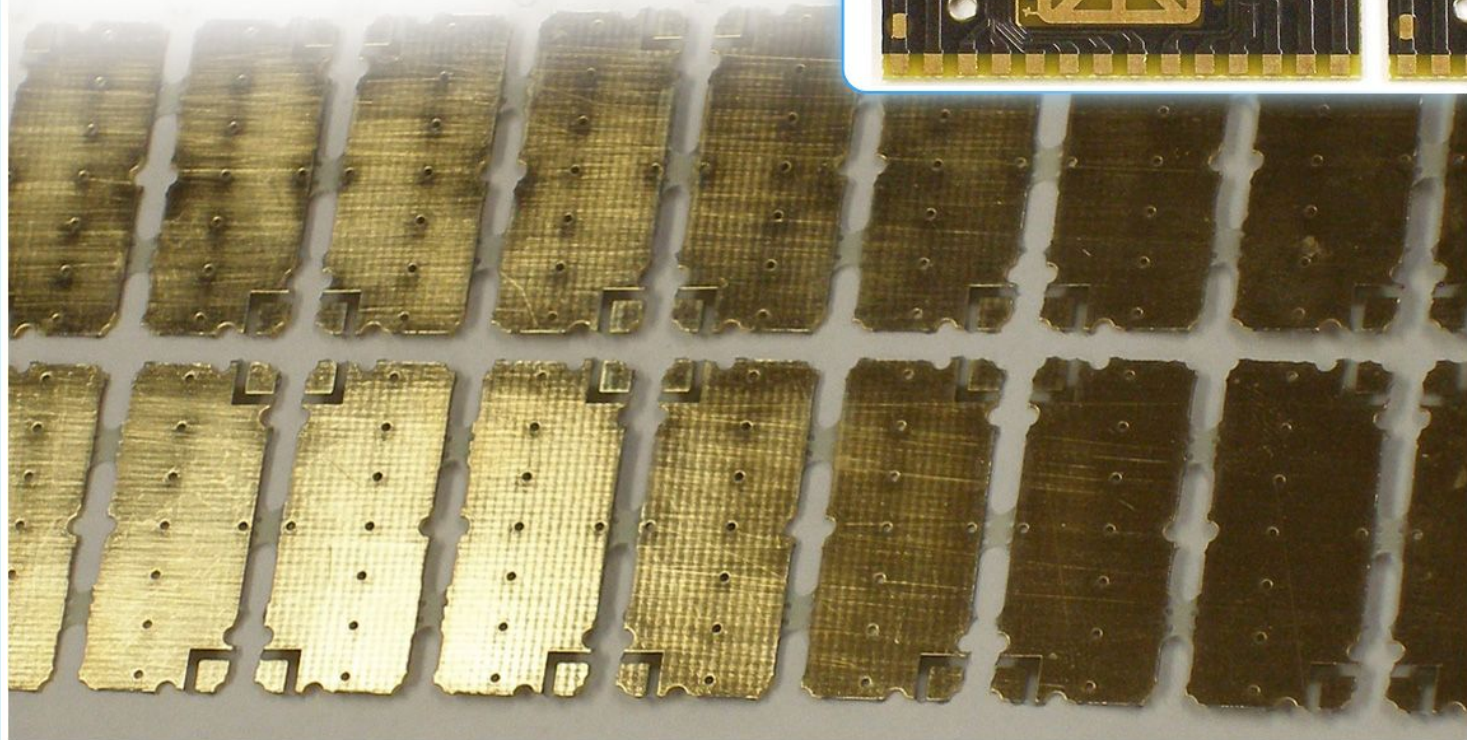
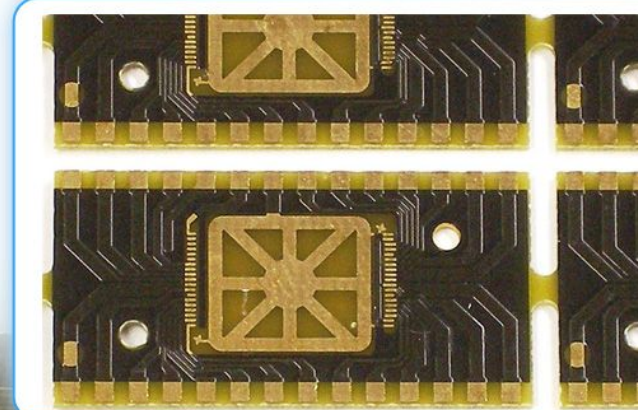
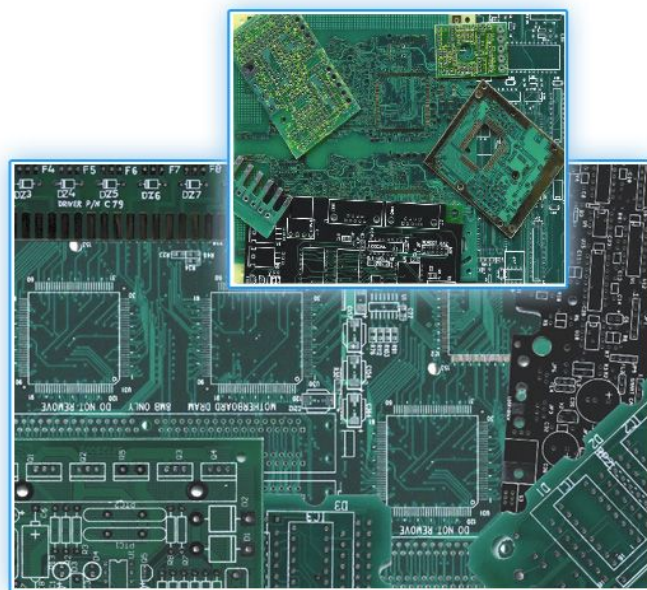
PCB Fabrication

Customer / Application

Commercial, Industrial, Automotive,
Consumer, and Aerospace

Key Aspects

- ▶ 1-4 Layer Rigid FR4, Teflon
- ▶ Gold over Nickel, wire bond surfaces, plated half-vias
- ▶ Single Piece & Multiple Up Panels
- ▶ 0.031 to 0.093" thick
- ▶ 100% BBT



Project Description

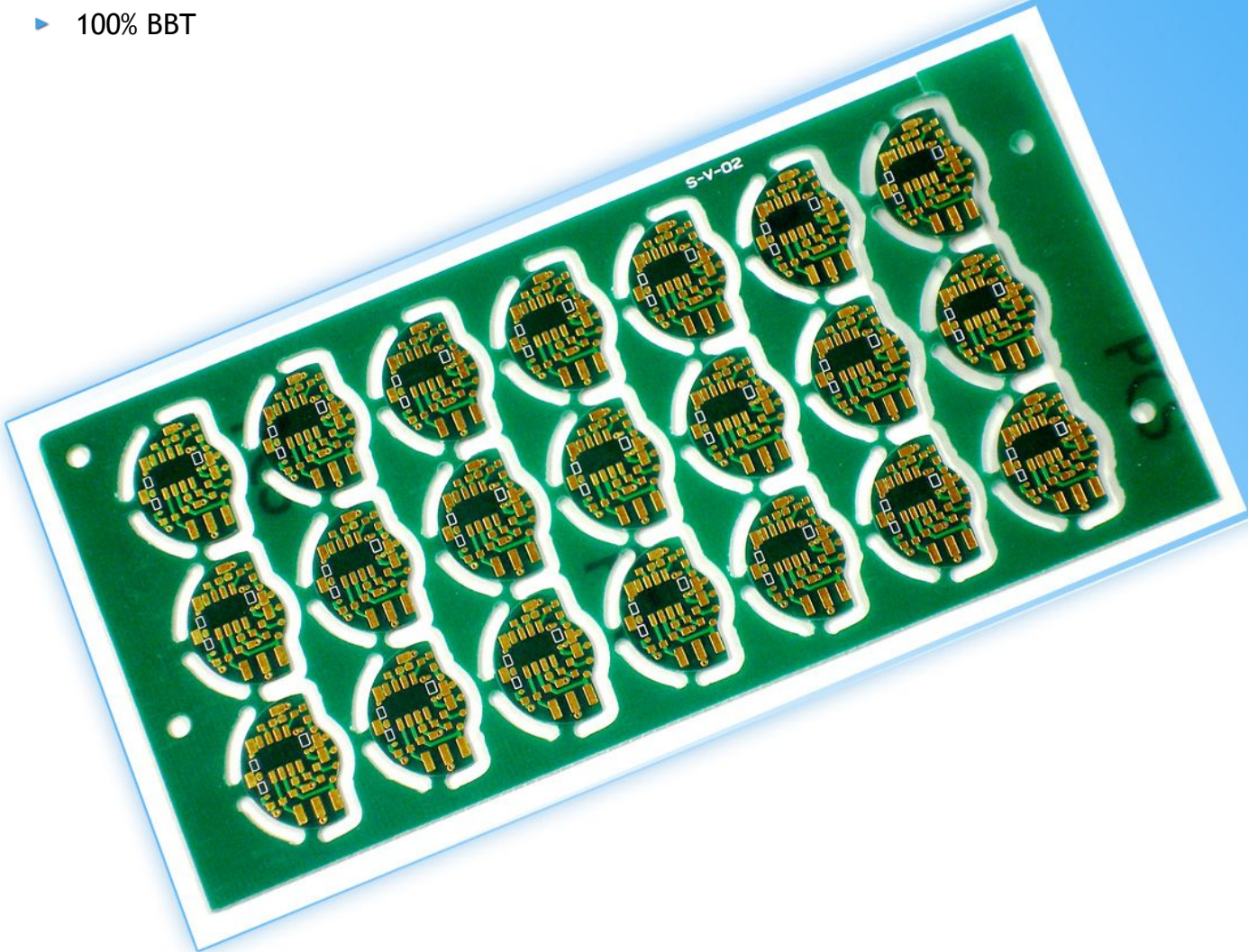
PCB Fabrication

Customer / Application

Aftermarket Vehicle Engine Management & Temperature Control

Key Aspects

- ▶ 2-4 Layer Rigid FR4
- ▶ SMOBC, HASL, ENIG Finishes
- ▶ Multiple Up Panels
- ▶ 0.031 to 0.062" thick
- ▶ 100% BBT



Project Description

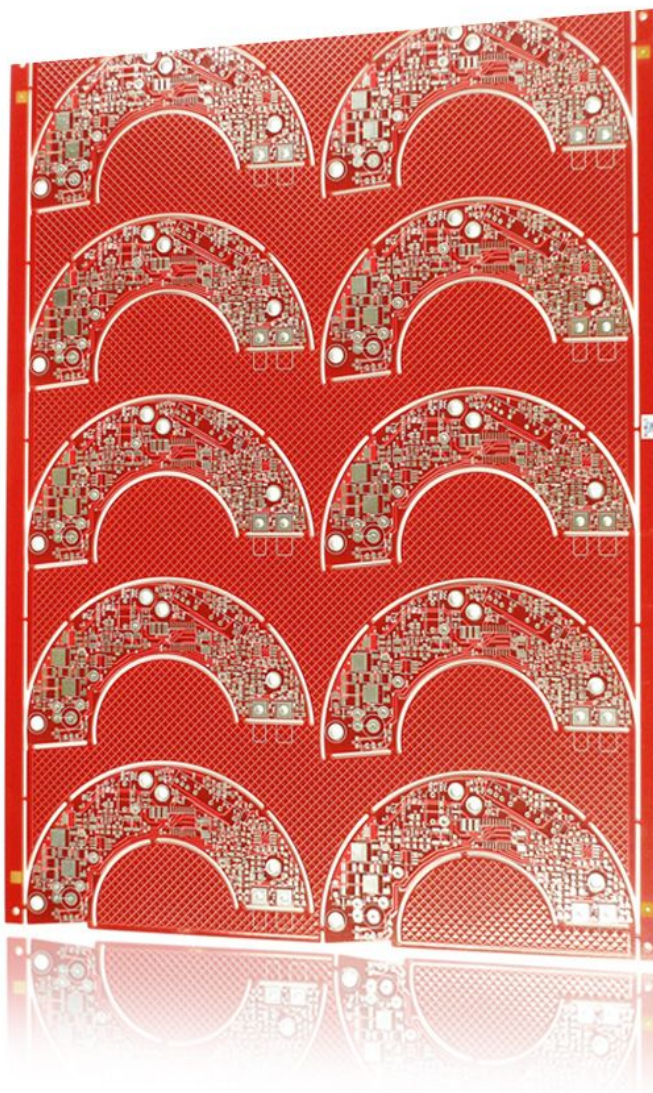
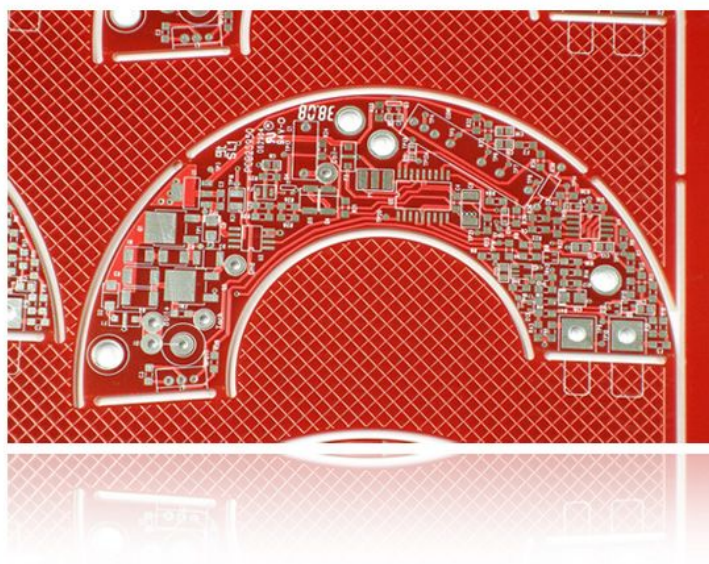
PCB Fabrication

Customer / Application

Contract Manufacturing

Key Aspects

- ▶ 2-8 Layer Rigid FR4
- ▶ SMOBC, HASL, Immersion Tin, Immersion Silver, ENIG Finishes
- ▶ Single Piece & Multiple Up Panels
- ▶ 100% BBT



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Project Description

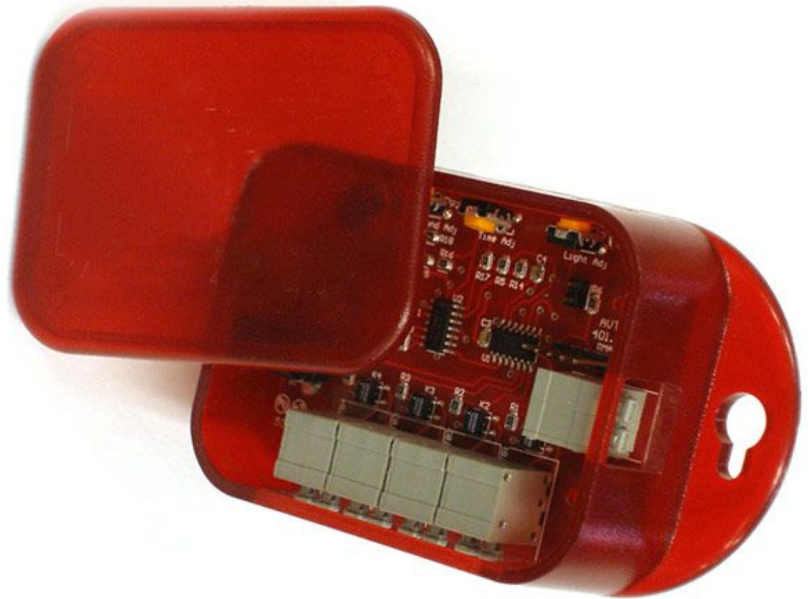
PCB Assembly, Test & Enclosure

Customer / Application

Environmental Monitoring of
IT Facilities

Key Aspects

- ▶ Repeat customer for over 3 years
- ▶ Turn-key assembly including metal or plastic enclosures & test
- ▶ SMT/TH mixed technology
- ▶ Cable harness assemblies
- ▶ Unit functional test



Project Description

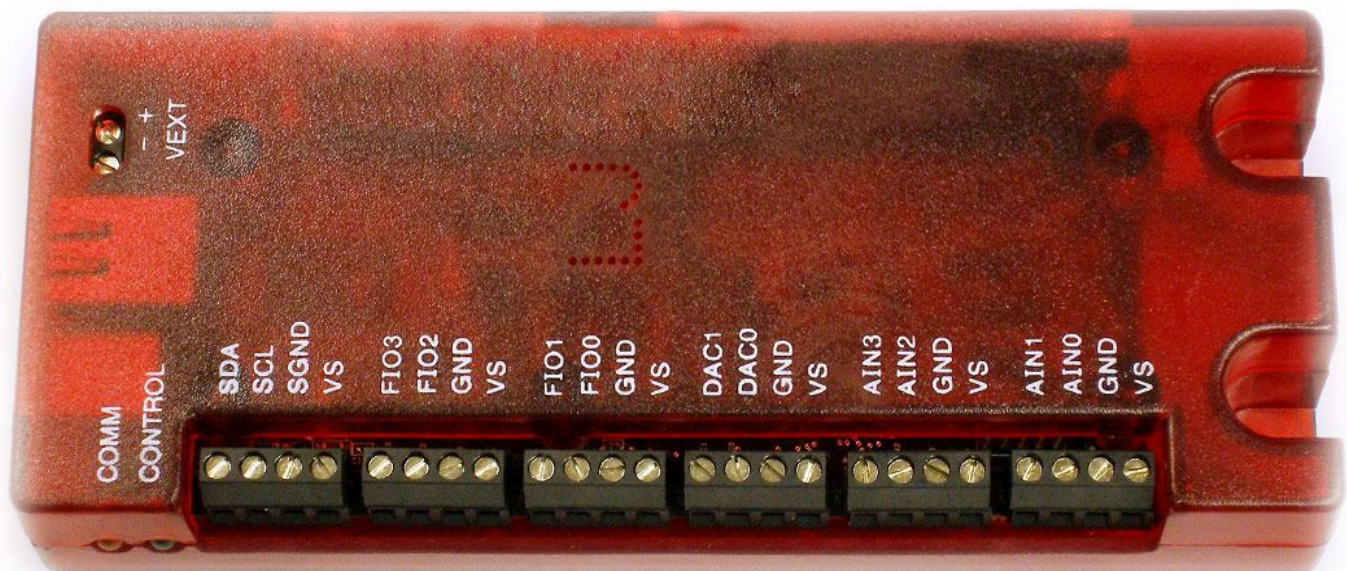
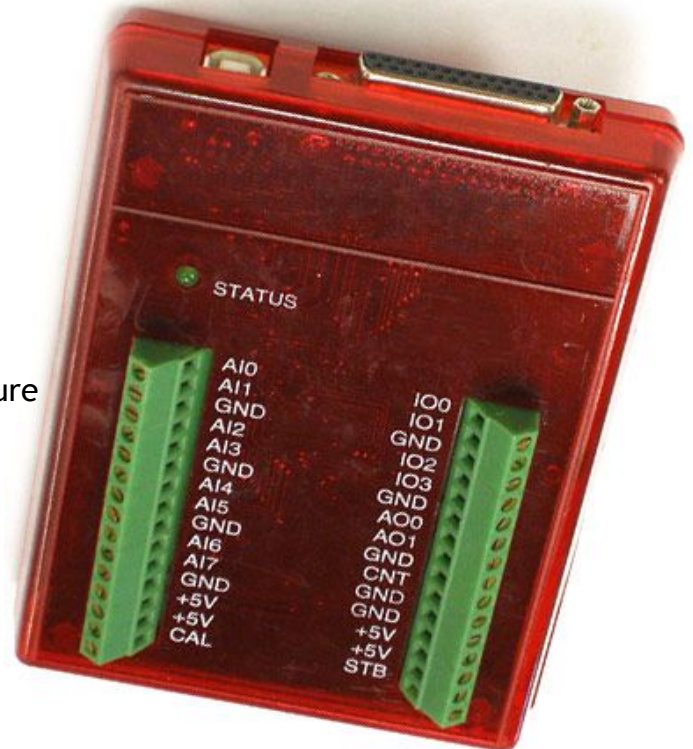
PCB Assembly, Test & Enclosure

Customer / Application

Measurement & Automation Solution Provider

Key Aspects

- ▶ Customer since 1999
- ▶ Turn-key assembly including molded enclosure & test
- ▶ Over 100,000 assemblies delivered
- ▶ SMT/TH mixed technology
- ▶ In-circuit and unit functional test



Project Description

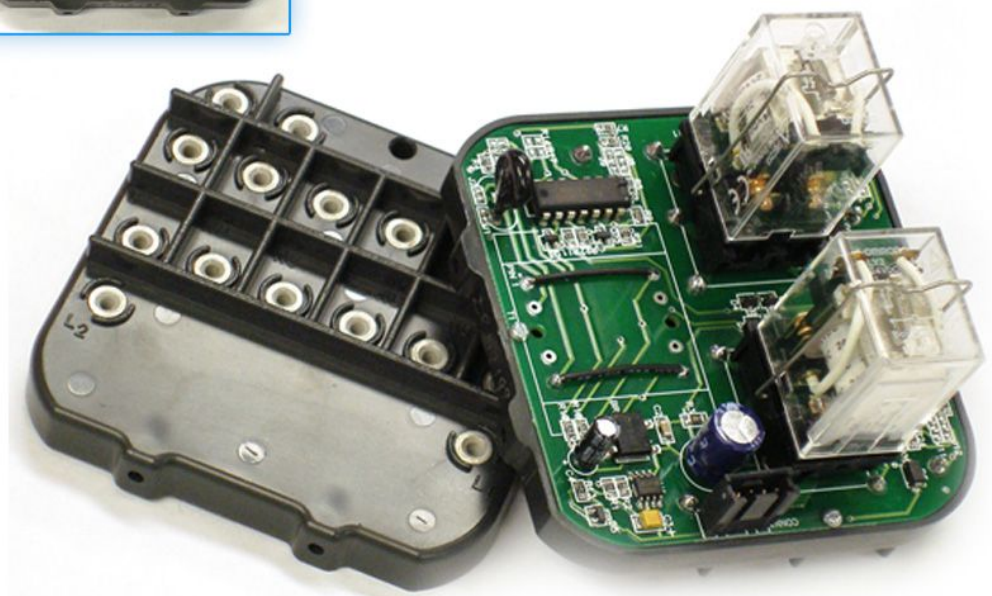
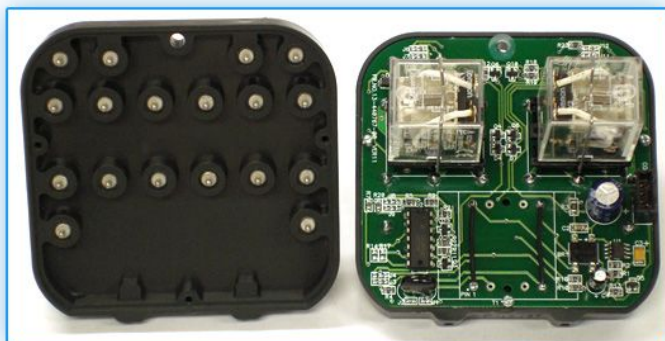
PCB Assembly, Test & Enclosure

Customer / Application

Industrial Controls & Instrumentation

Key Aspects

- ▶ Repeat customer for over 3 years
- ▶ SMT/TH mixed technology
- ▶ Design, engineering, & turn-key assembly
- ▶ Molded plastic enclosure



Project Description

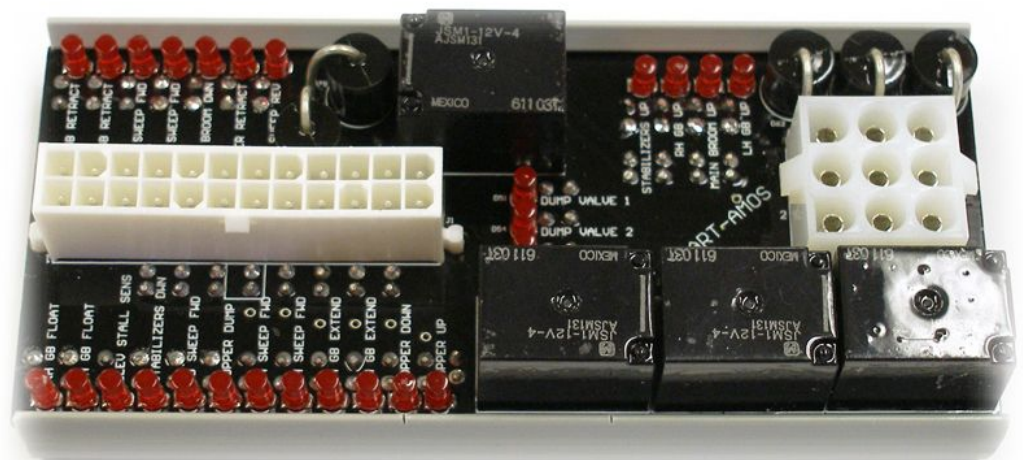
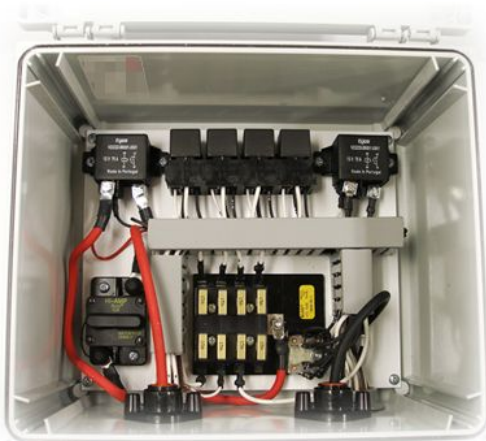
PCB Assembly, Test & Enclosure

Customer / Application

Construction/Maintenance Vehicles

Key Aspects

- ▶ Engineering, design, & assembly
- ▶ TH technology
- ▶ Cable Harness Assemblies
- ▶ System Build



Project Description

PCB Assembly, Test & Enclosure

Customer / Application

High Performance Electronic Gaming Peripher

Key Aspects

- ▶ Engineering, design, & assembly
- ▶ Turn-key assembly & test
- ▶ Molded plastic enclosures
- ▶ Cable harness assemblies



Project Description

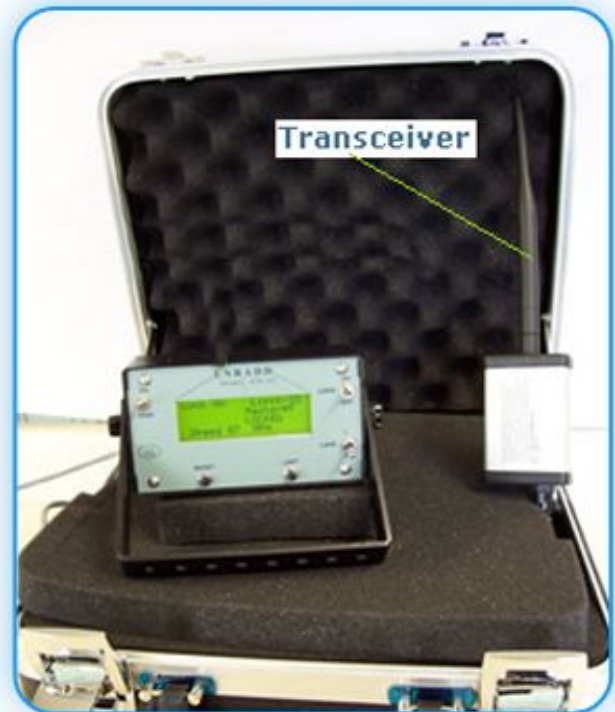
PCB Assembly, Test & Enclosure

Customer / Application

Wireless Infrared Speed Timing Device Mfg

Key Aspects

- ▶ Turn-key assembly & test
- ▶ TH and SMT/TH mixed technology
- ▶ Low mix / low-to-mid range volumes
- ▶ Cable harness assemblies



Project Description

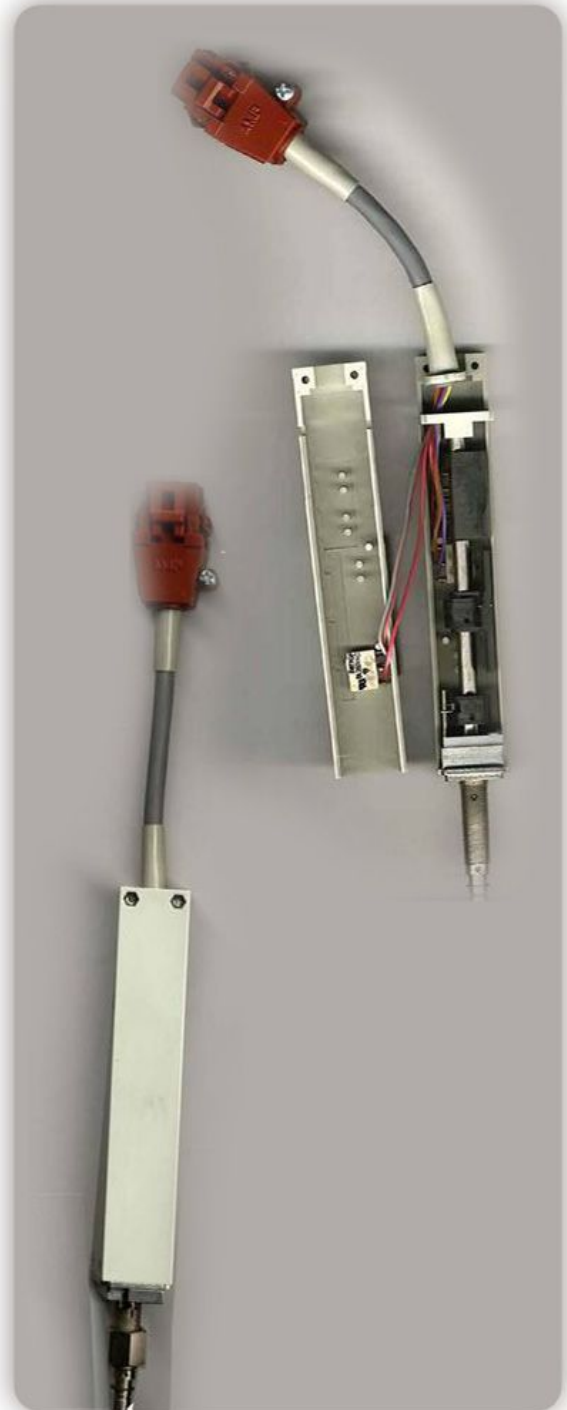
Assembly, Test & Enclosure

Customer / Application

Monitor & Control Room Solutions

Key Aspects

- ▶ Repeat customer for over 10 years
- ▶ Turn-key assembly & test
- ▶ Design, engineering, & turn-key assembly
- ▶ SMT/TH mixed technology
- ▶ Cable harness assemblies



Engr

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Project Description

Engineering Design

Customer / Application

Industrial Controls &
Instrumentation

Key Aspects

- ▶ Engineering, design, and turn-key assembly
- ▶ Development and qualification testing
- ▶ Includes final customer packaging
- ▶ -40 to 165F +/- 1 degree
- ▶ > 2 year battery life



Engineering Design

Customer / Application

Construction/Maintenance Vehicles

Key Aspects

- ▶ Repeat customer since 2005
- ▶ Engineering, design, and turn-key assembly
- ▶ Relay logic
- ▶ > 120 I/Os



Project Description

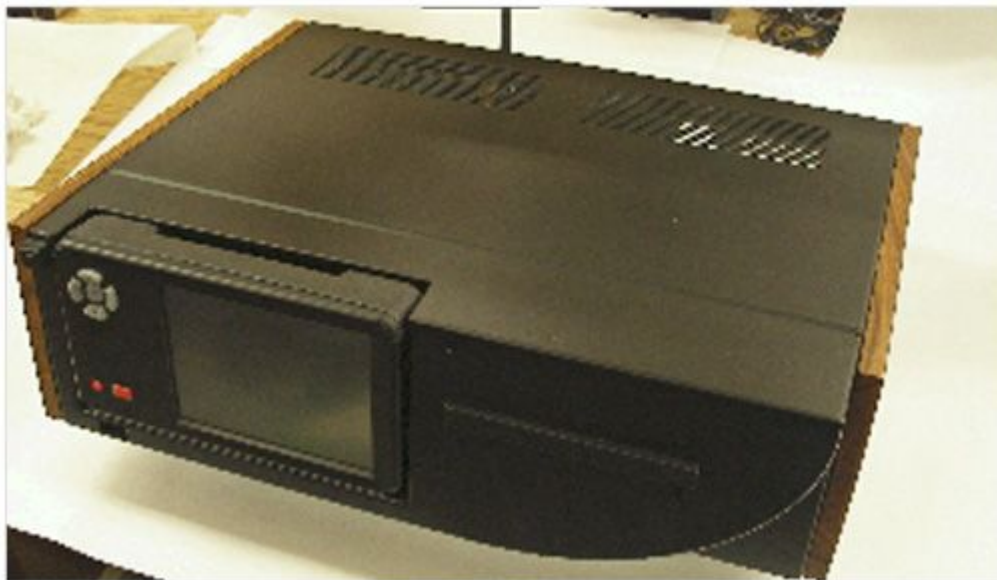
Engineering Design

Customer / Application

Home Audio Memory Systems

Key Aspects

- ▶ Engineering design, and development
- ▶ Complete turn-key assembly
- ▶ Proprietary compression technology
- ▶ RF remote (30,000 ft² range)
- ▶ Rechargeable battery



Project Description

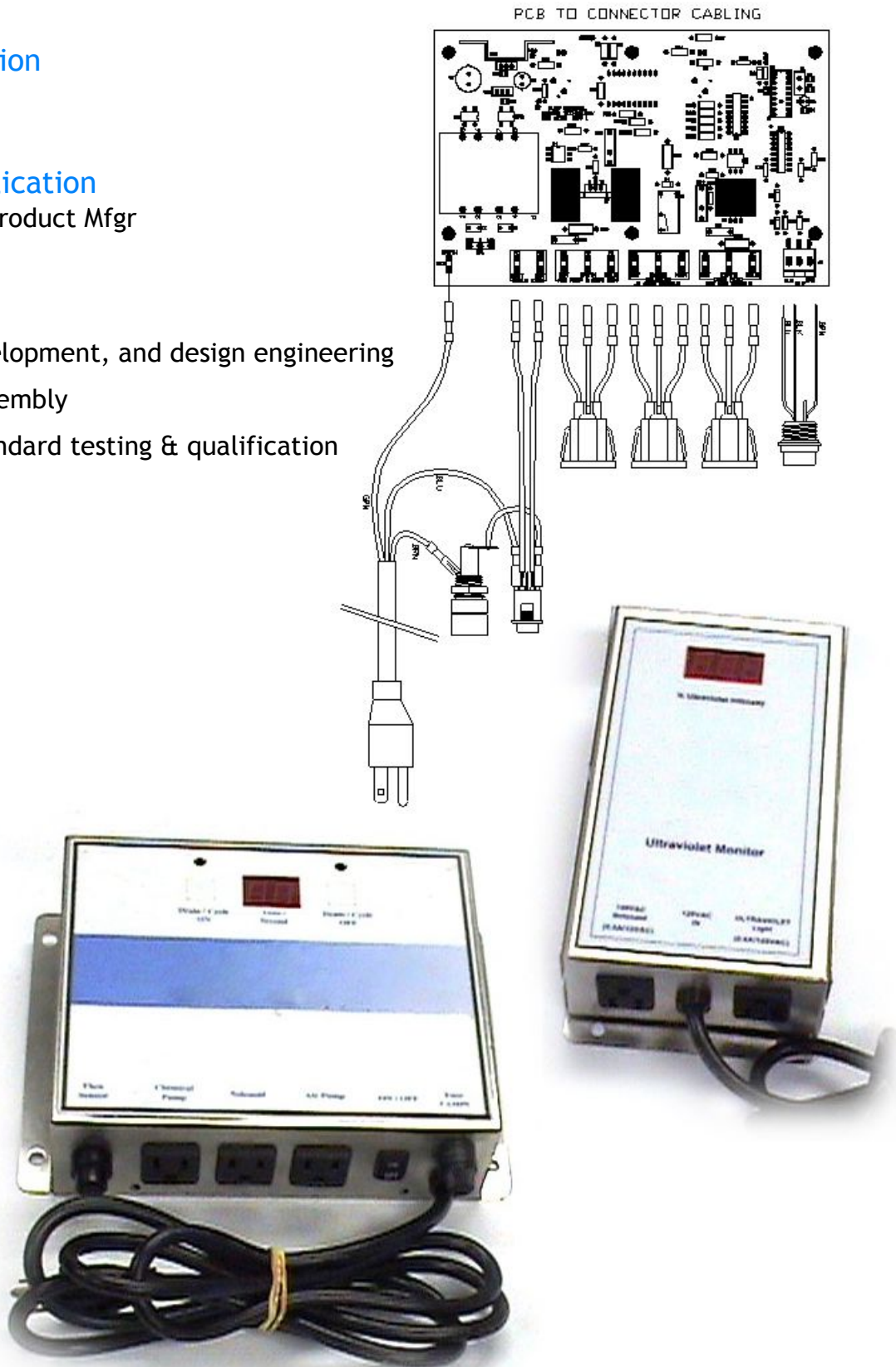
Engineering Design

Customer / Application

Water Treatment Product Mfgr

Key Aspects

- ▶ Design, development, and design engineering
- ▶ Turn-key assembly
- ▶ National standard testing & qualification



Project Description

Engineering Design

Customer / Application

High Performance Electronic Gaming
Peripherals

Key Aspects

- ▶ Hardware/firmware design. Enclosure design
- ▶ Verification testing and approval
- ▶ Turn-key assembly and test
- ▶ Xbox, P/S, and USB compatibility
- ▶ Firmware development & enclosure design



Project Description

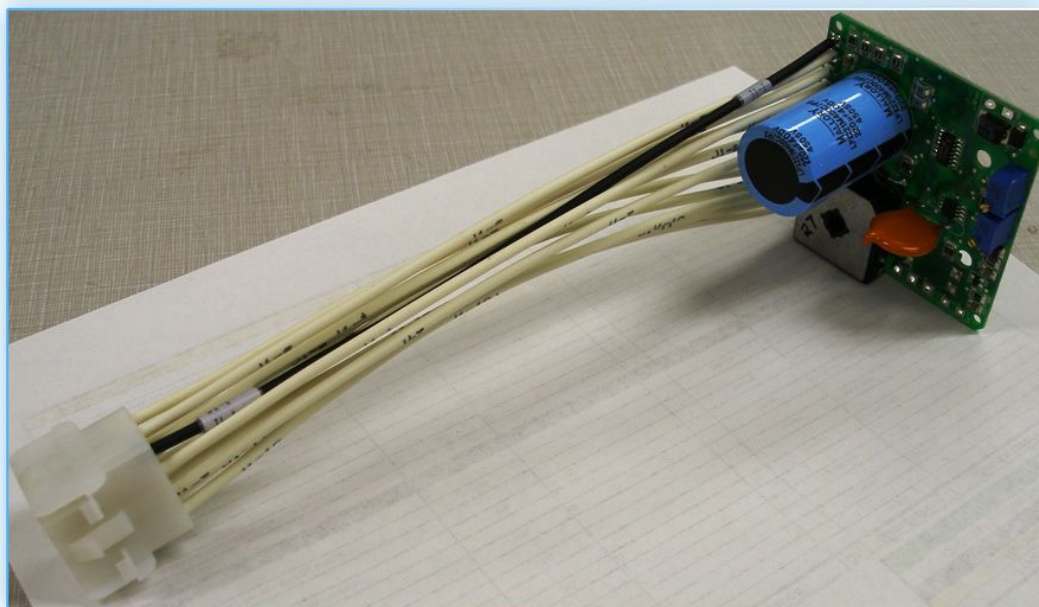
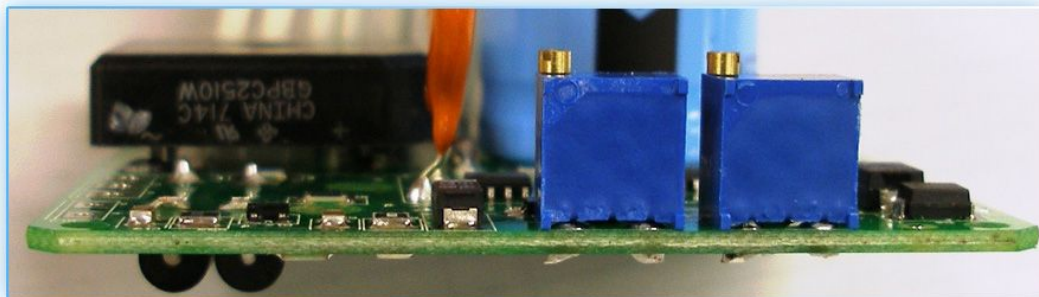
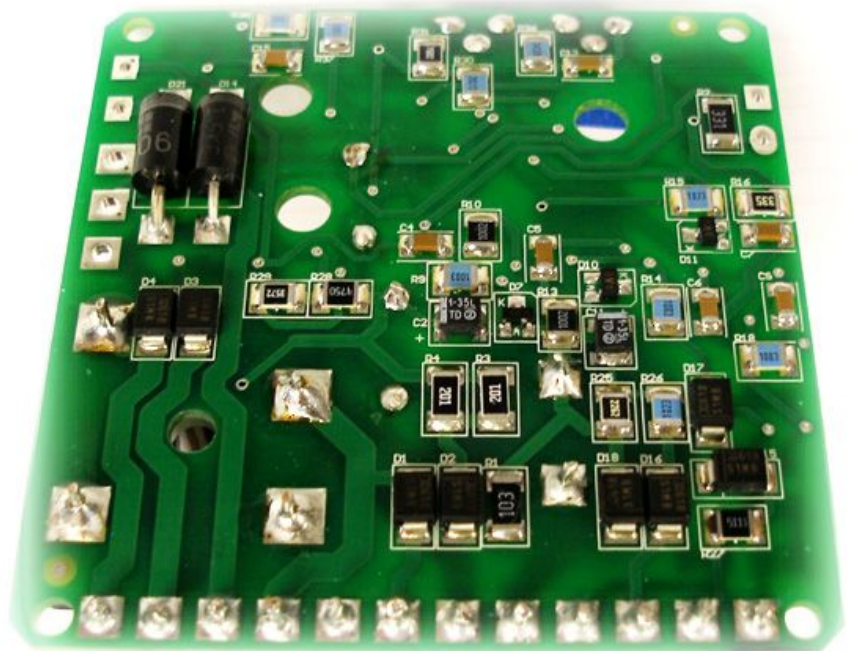
Engineering Design

Customer / Application

Diesel Engine Controls

Key Aspects

- ▶ PCB layout and gerber file generation
- ▶ PCB fabrication
- ▶ Turn-key assembly and test
- ▶ Reverse engineering



Project Description

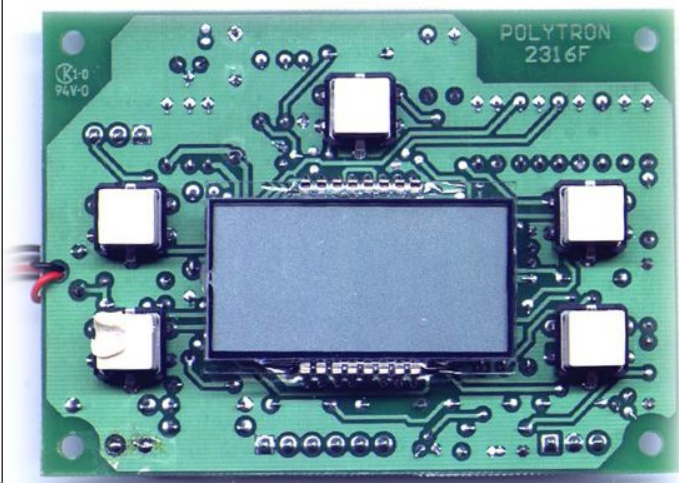
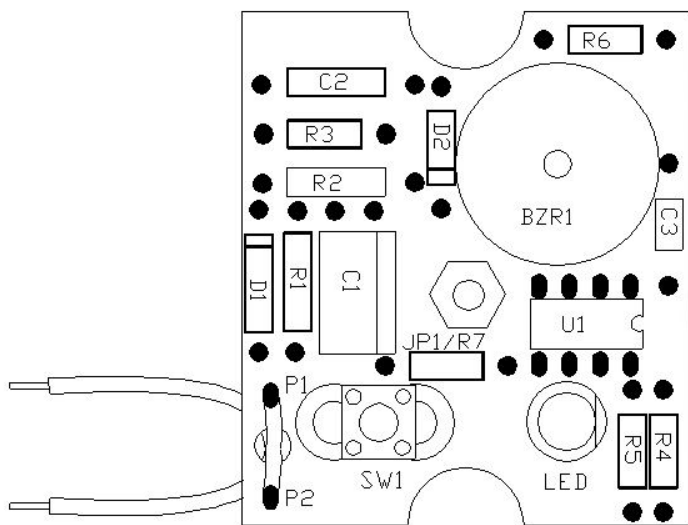
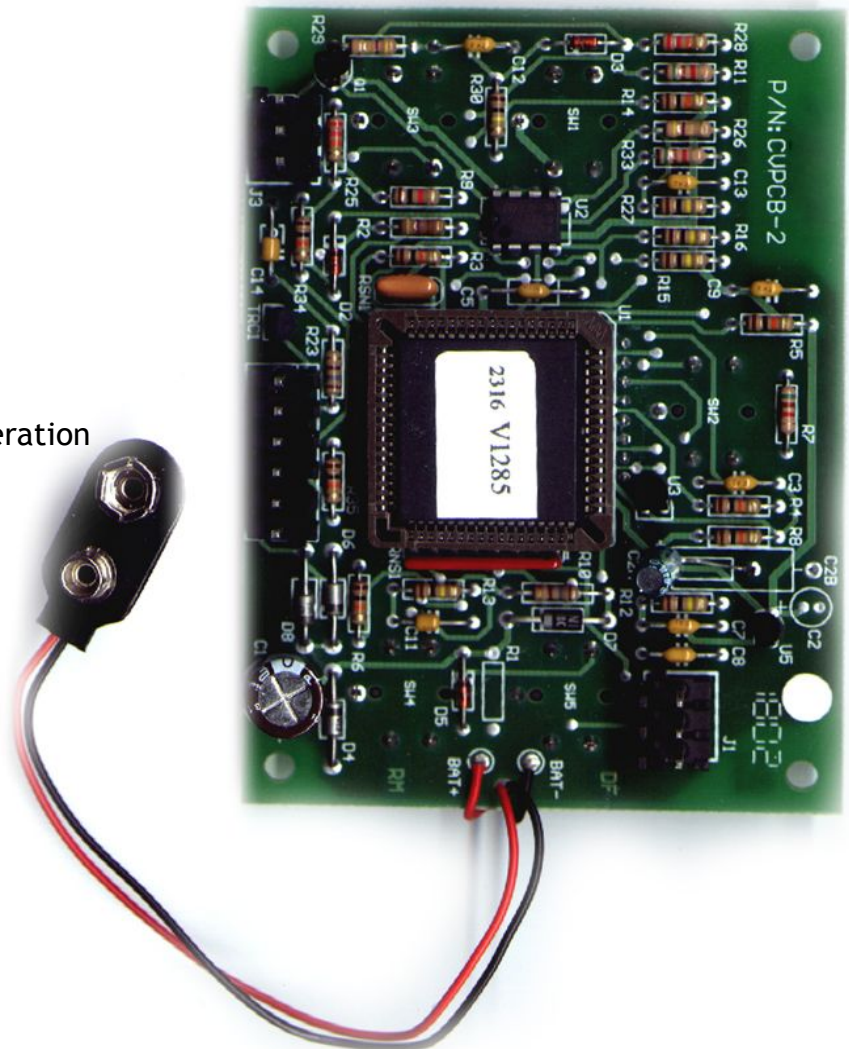
Engineering Design

Customer / Application

Water Treatment Product Mfgr

Key Aspects

- ▶ Reverse engineering
- ▶ PCB layout and gerber file generation
- ▶ PCB fabrication
- ▶ Turn-key assembly and test



Project Description

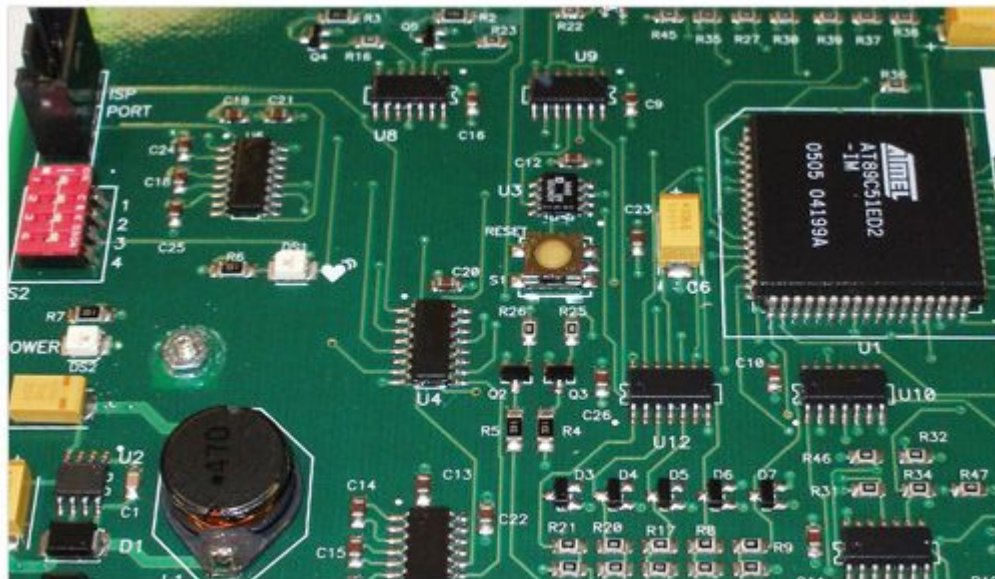
Engineering Design

Customer / Application

High Speed Coin Counters & Verifiers

Key Aspects

- ▶ Reverse engineering
- ▶ Hardware/firmware revision
- ▶ PCB layout and gerber file generation
- ▶ Turn-key assembly and test



Project Description

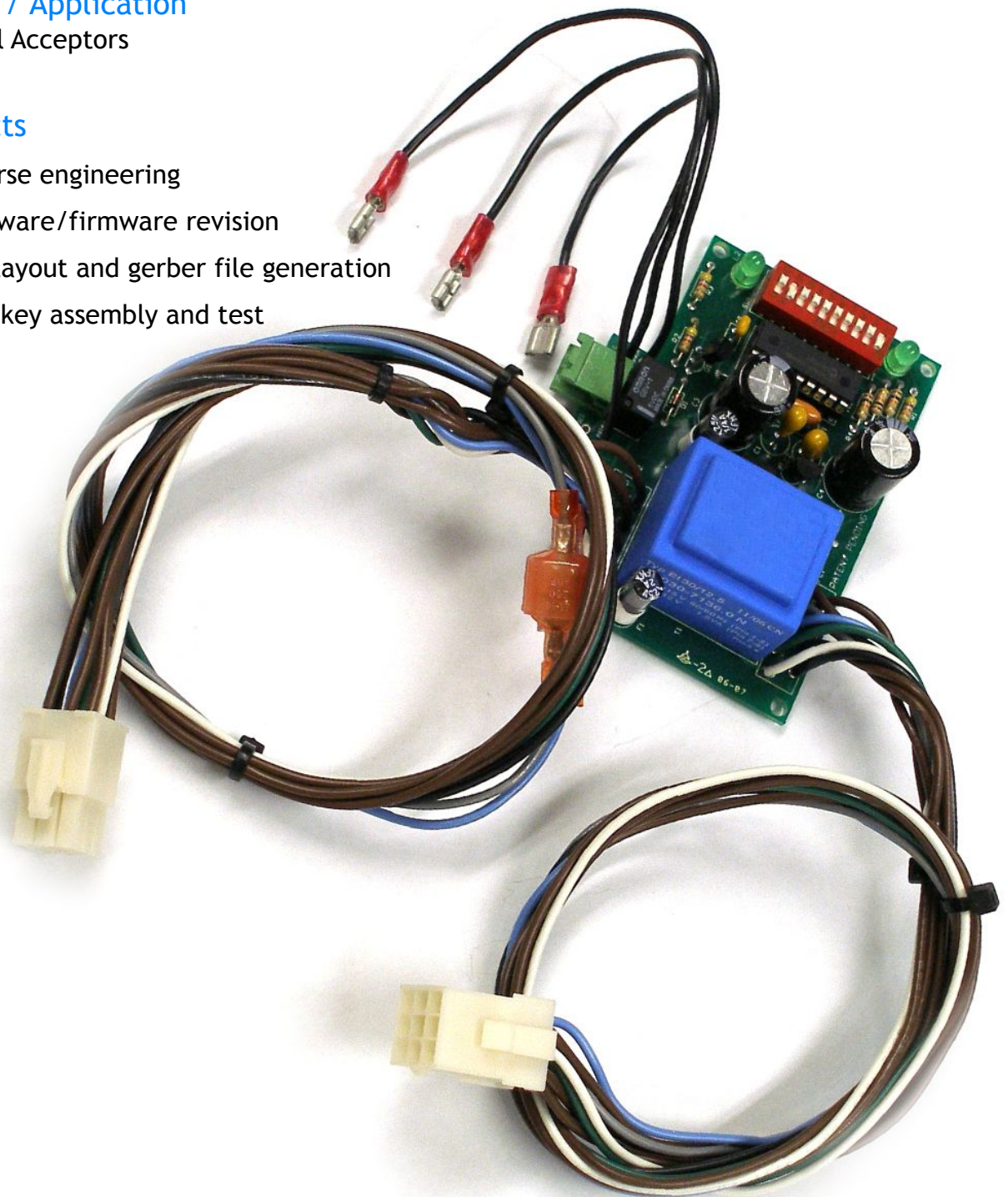
Engineering Design

Customer / Application

Vending Bill Acceptors

Key Aspects

- ▶ Reverse engineering
- ▶ Hardware/firmware revision
- ▶ PCB layout and gerber file generation
- ▶ Turn-key assembly and test



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