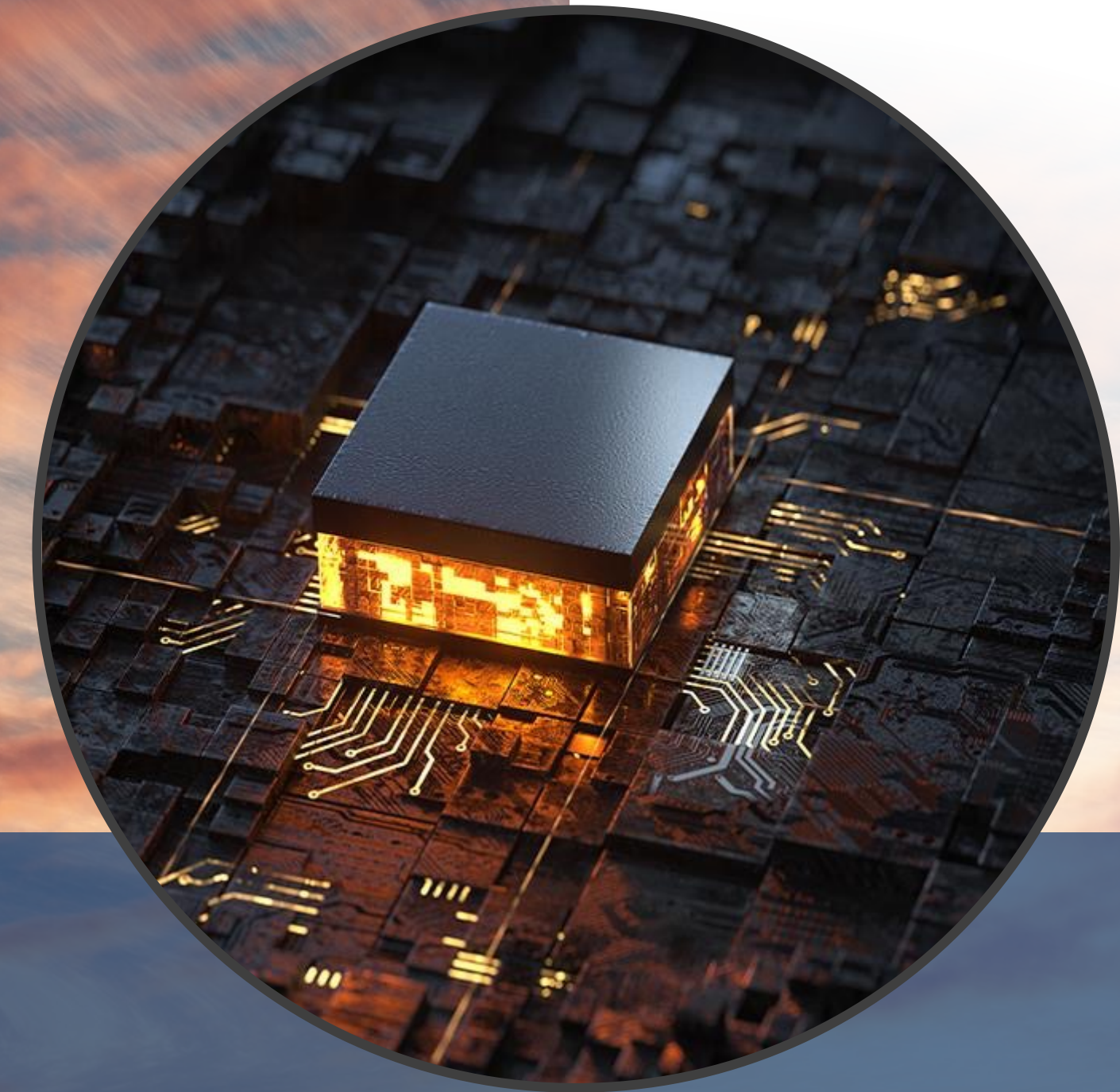


SPIRIT ELECTRONICS



Redefining Distribution

We provide franchised distribution, value-add services,
upscreening/test and contract manufacturing all under one roof.



OUR CULTURE

Team **SPiRiT** 43 years of service

Continually Achieving and Improving Quality and Customer Satisfaction Through Our Spirit and Commitment to Excellence. ISO9001 and AS9100 Certifications



SPIRIT ELECTRONICS



S D B A D V A N T A G E S

SDB SPEND CATEGORIES

- Veteran Owned
- Woman Owned
- Hub Zone Certified
- Small Business



TEAM SPIRIT'S STRENGTHS



INFRASTRUCTURE

- Niche combination of in-house offerings: Distribution, value-add services, test/screening, radiation services, circuit card assy.
- Sophisticated ERP system for inventory and operations management
- Program management & team support
- Secure supply chain with redundant counterfeit mitigation

QUALITY

- Quality Management System integrated for high reliability quality operation
- Strive for 100% lot acceptance by customers
- Cybersecurity focus and CMMC, level 3 self-certification
- Thorough vetting of external value-add sub-con suppliers
- QBRs with critical external providers, franchised OEM partners

ENGINEERING

- ASIC design team with 3 decades of experience
- Legacy as back-end test provider for all Xilinx product, 20+ years
- On-site engineering support team for services (value-add, test and CCA)
- Large library to leverage cost savings and schedule reduction
- EOL & obsolescence support programs available



Your One-Stop Shop

We are redefining the meaning of distribution in our industry with value add, test and assembly services now available under one roof.



OUR LINE CARD: BEST BRANDS IN THE BUSINESS

WE ARE THE BOM.

With inventory options for EOL and LTB, we're protecting your interest. We are a designated high reliability distributor and an accredited distributor for your EOL products. We are a franchised and authorized distributor for these brands:



RENESAS

@

SPIRIT ELECTRONICS



BIG IDEAS FOR EVERY SPACE

Products

- Die & Wafer
- Packaged product with value-add
- Efficient, thermally optimized and reliable SMD, MIL-STD-883 (/883) and Class-V/Q products for the defense, high-reliability (Hi-Rel), and radiation hardened / space marketplaces.



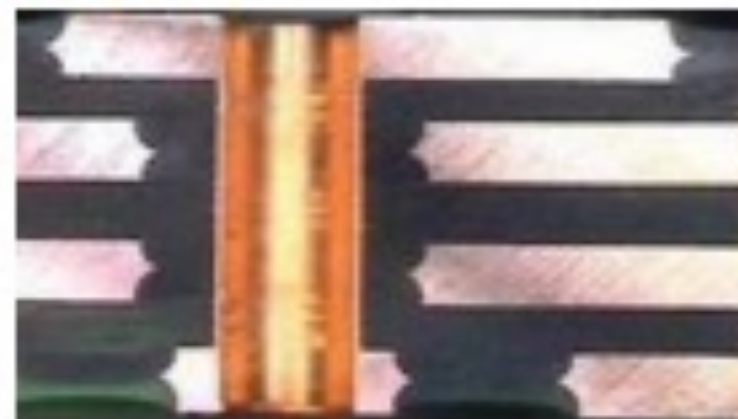


Combination PCB



- Copper foil thickness: 8.6oz & 2oz copper on the very same layer
- Number of Layers: 2- 6 Layers
- Board thickness: 0.051"-0.137" (1.3 - 3.5 mm)
- Available: IVH / 11.4oz, 14.3oz and < 6.8oz copper for Inner layer
- UL Certified

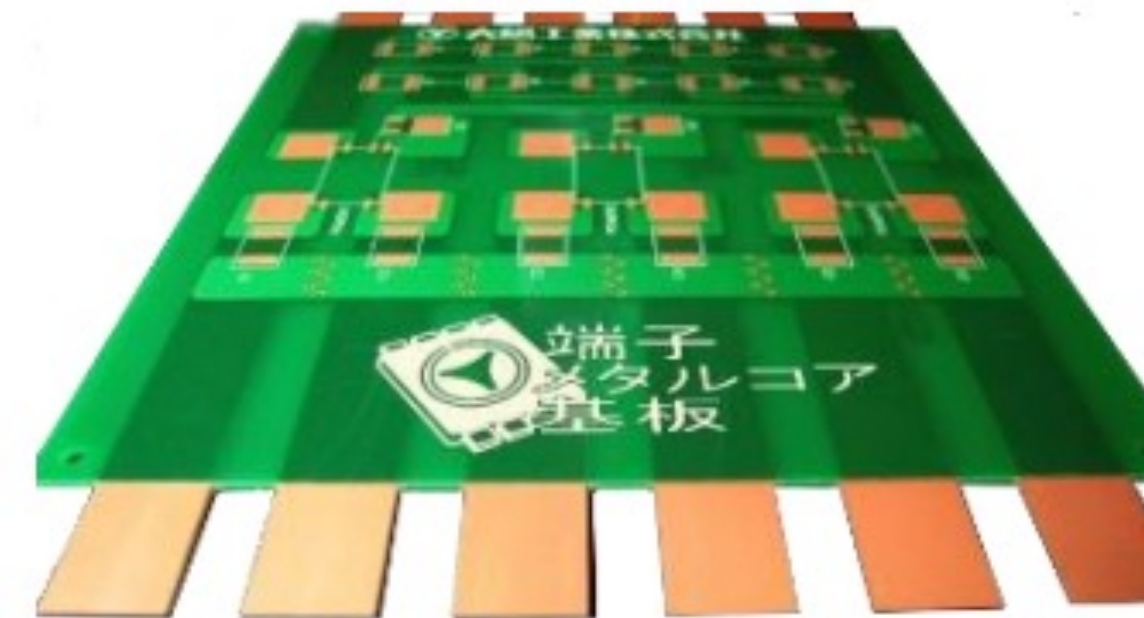
Heavy Copper PCB



- Copper foil thickness: 8.6/11.4/14.3oz (using rolled copper foil)
- Number of Layers: 2-6 Layers (depending on Cu foil thickness)
- Board thickness: 0.051"-0.137" (1.3-3.5 mm)
- Available : IVH / less that 6.8oz for Inner layer
- UL Certified



TAIYO KOGYO CO.,LTD.
Printed Circuit Company



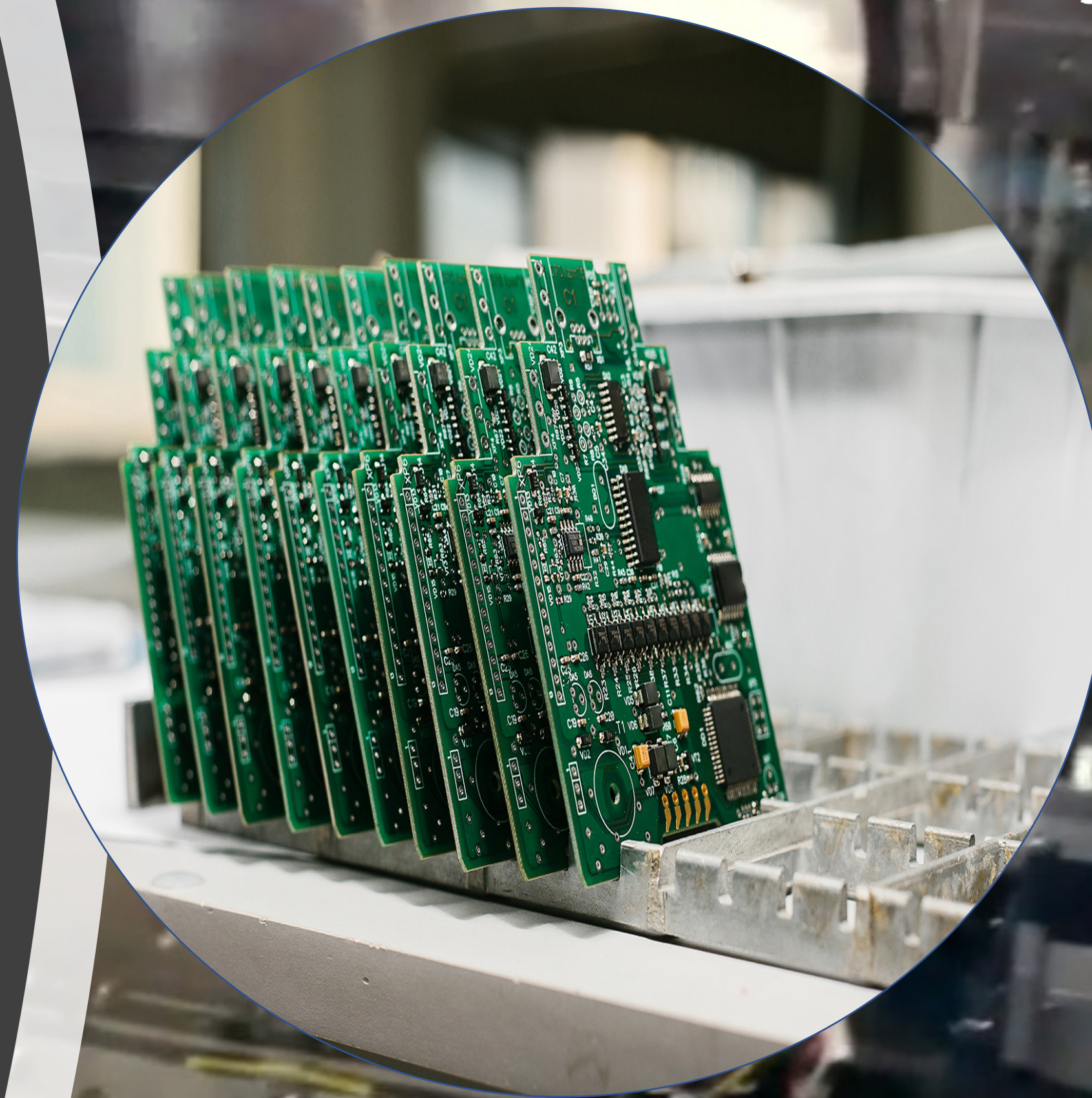
**Embedded
Bus Bar PCB**

Instead of using etching process to make traces, 14.3oz. or heavier Bus-Bar is made with rolled copper foils by metal fabrication, and it can be embedded in the PCB.



Circuit Card Assembly Line

- 45,000 chip-per-hour pick & place machine
- High accuracy, can place an 03015 ultra-tiny chips, up to the industry's largest FPGAs.
- SMT/SMD thru-hole and mixed technology PCB assemblies
- Ability to trace a part all the way down to the reference designator on the board
- PCB sizes from 50mm x 50mm (2" x 2") to 810mm L x 480mm W
- 5300 sq ft dedicated to board assembly (Phx, AZ HQ Facility)
- Equipment: Screen Printer, Pick & Place, AOI (Automated Optical Inspection), Reflow Oven (10x 12.5" Zones)
- Prototype quantities, up to production volume runs
- Able and willing to handle high \$ ASP components



IN-HOUSE VALUE-ADD SERVICES

- Temp Cycle
- Burn-In
- C-SAM
- HAST
- PIND
- Nitrogen Storage
- XRF
- Kitting
- Solderability
- Steam Age
- Laser Marking
- Solder-Exchange
- Hot Solder Dip
- Robotic BGA
- Re-Ball
- Tape & Reel

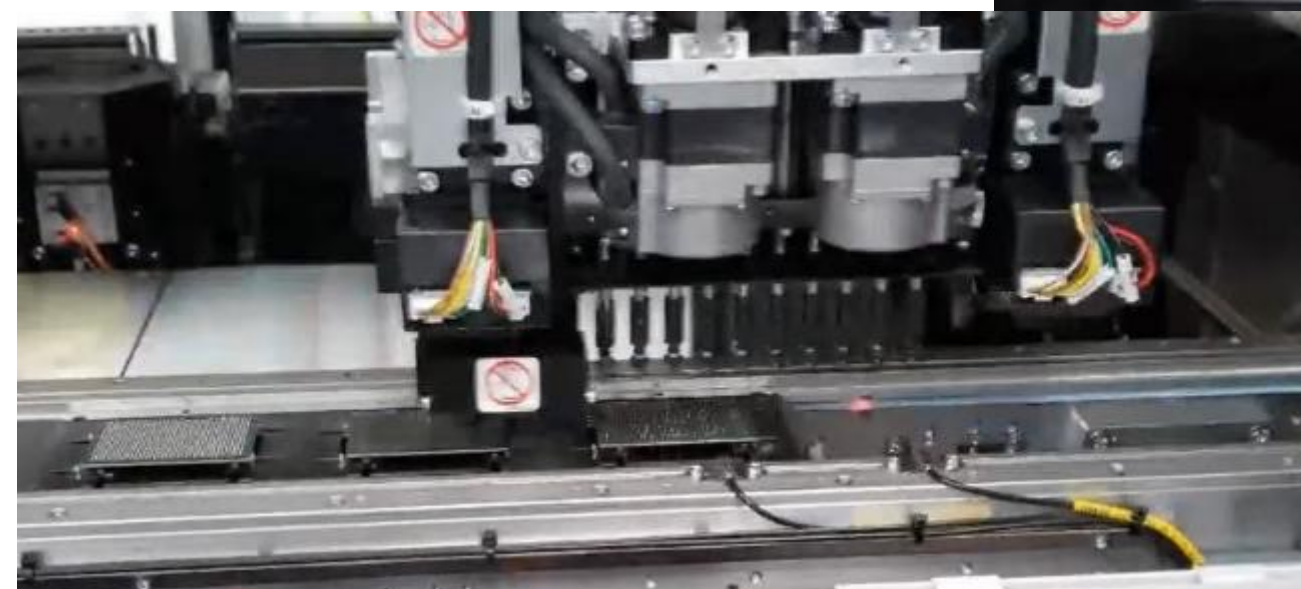
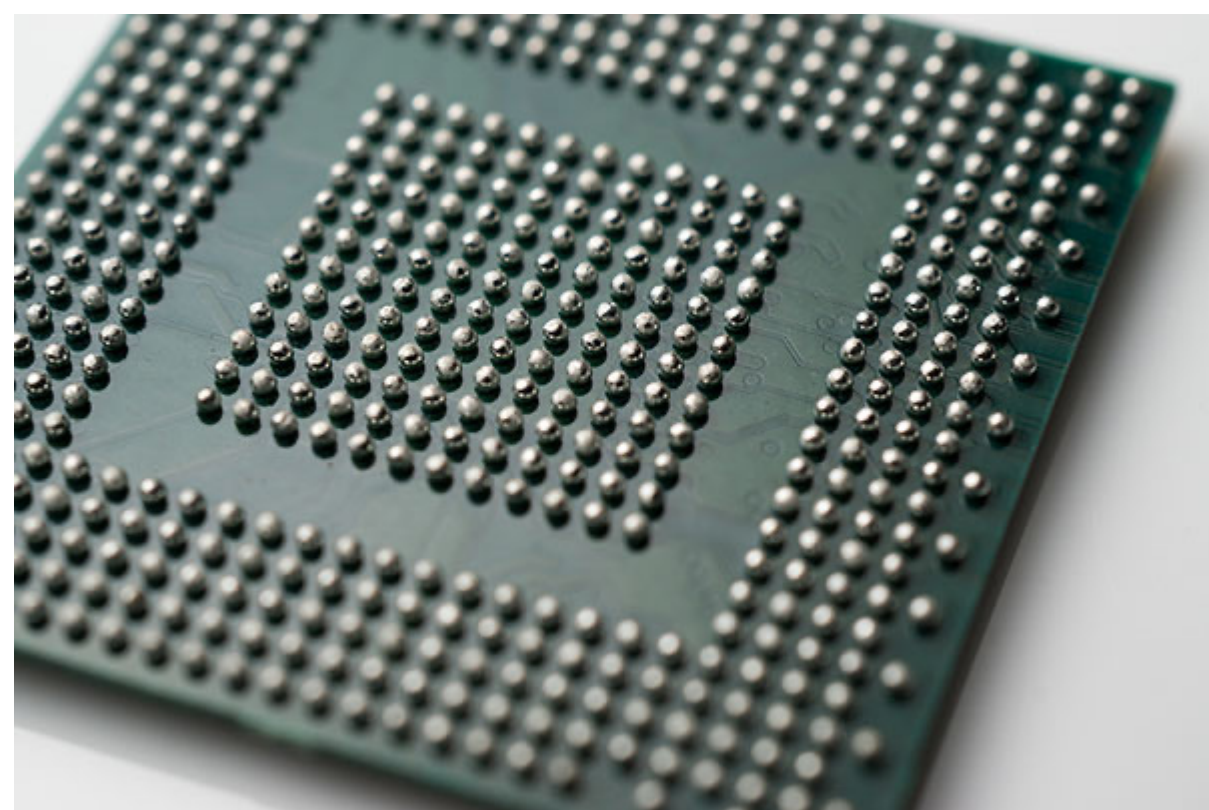




ENGINEERING SUPPORT

Robotic BGA Reball

- High Precision
- Streamlined Process
- Robotic Ball Removal
- SMT Automated Flow
- MIL/Aero Focused





HI-RELIABILITY VALUE-ADD SERVICES

MIL-STD-883
PEM QUAL

- Up-Screening
 - Extended temperature testing
 - Space-level screening
- Qualification & Reliability
 - X-Ray
 - Temp cycling
 - Burn-in
 - C-SAM
 - Electrical testing
 - Preconditioning
 - HAST
 - DPA
- Radiation Effects Testing



Wafer & Die Services

Performance:

- Wafer Probing (hot & cold temperature)
- Wafer-Level Programming
- Wafer Thinning (to 50 microns)
- Wafer Sawing (to 300mm wafers)
- Wafer Mapping/Inking
- Wafer Dicing
- Pick-and-Place
- Visual Inspection (MIL-STD-883 or custom)
- Lot Qualification (Class H or K)
- Long-Term Die & Wafer Storage

ASICs & SoCs

- ASIC test methodology and test pattern generation
- Memory built-in self-test (BIST)
- Scan insertion
- FPGA design and verification
- Design synthesis
- Custom integrated circuit solutions that solve problems and add value
- Robust ASIC design solutions for reliable operation in harsh environments

RF Design

- From schematic to layout
- Enabling the IoT
- Meeting the challenges of 5G in RF PCB design

MOTS Memory!

DDR, LPDDR and Flash



Accelerate your time-to-market with pre-screened and pre-qual'd components, now available as MOTS (Military-Off-The-Shelf) from Spirit Electronics. They are rigorously tested for reliability in a wide range of applications and optimized for performance, power and security.

SPIRIT ELECTRONICS

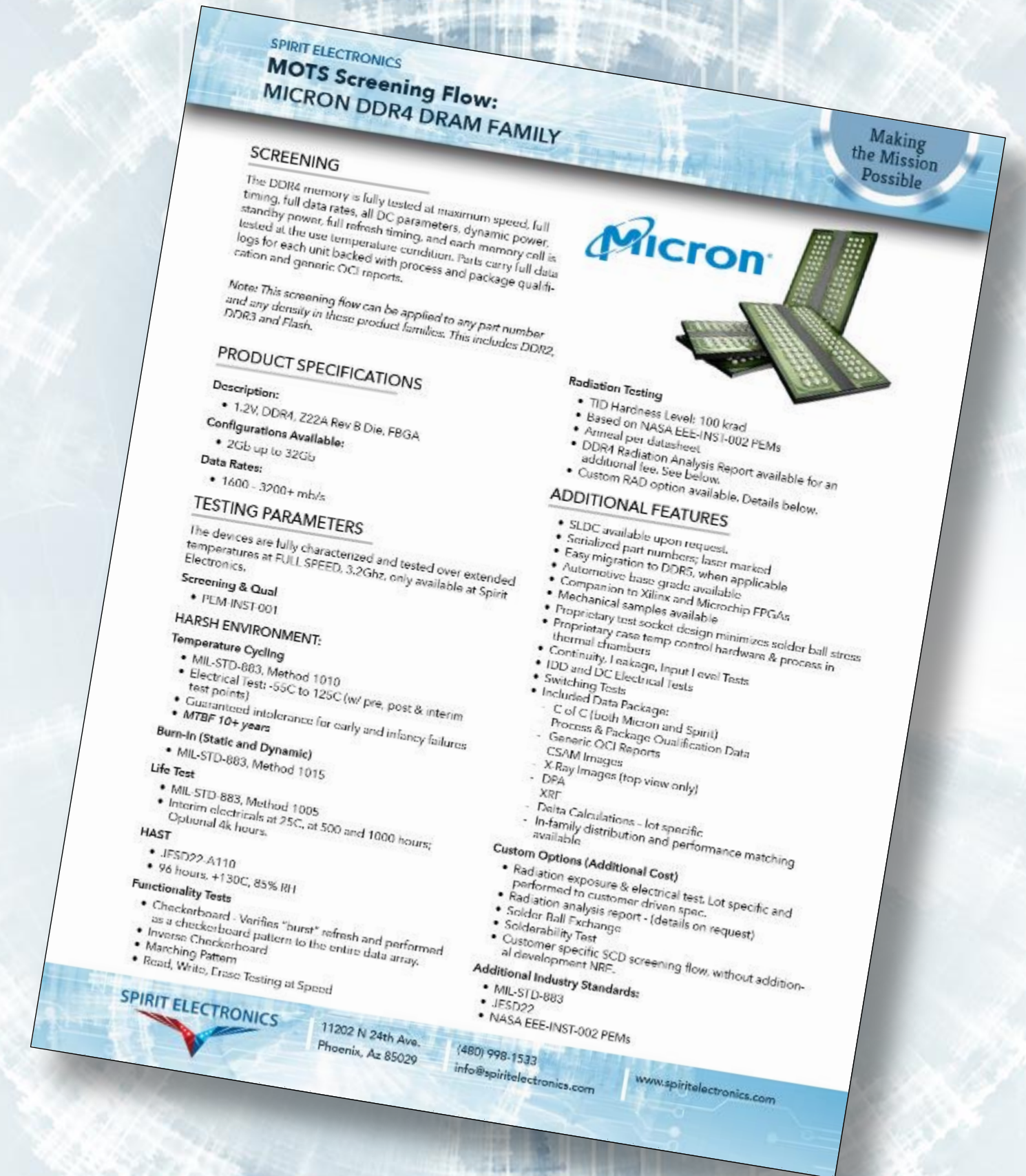


Data Sheets for Custom Devices

Eliminate the need for customer control devices.

With more than 40 years of experience, Spirit Electronics has a wide breadth of engineering knowledge.

We are equipped to collaborate with your engineering team or create a customized engineering solution for your project.

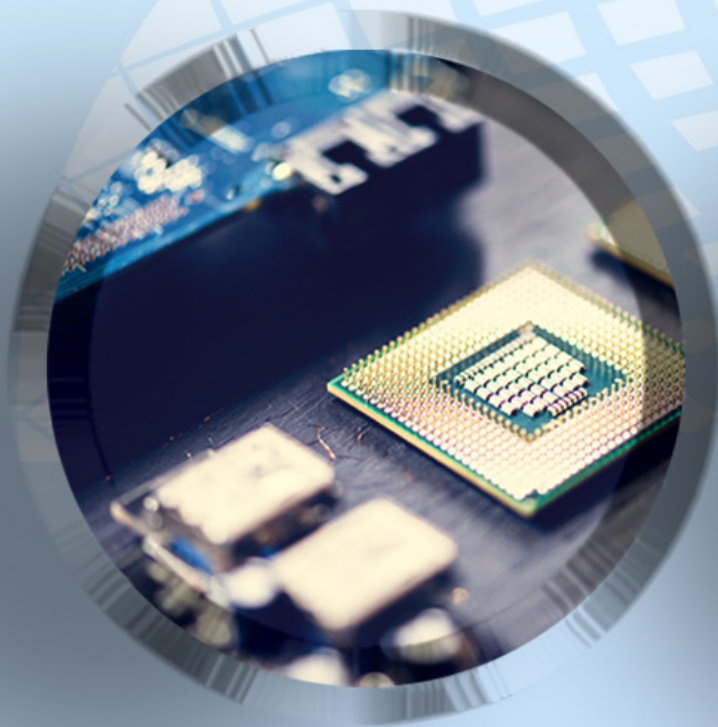


Your **Full Turnkey**
SOLUTION

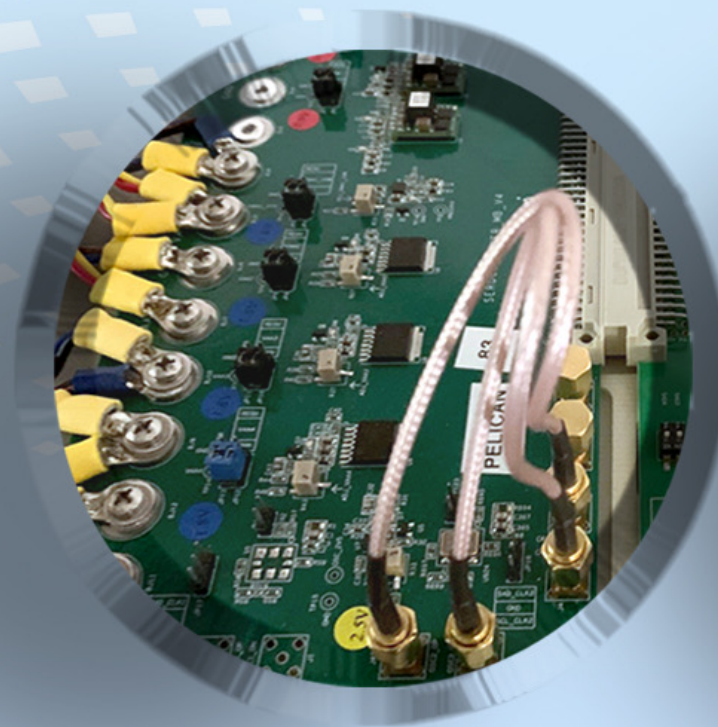
SPIRIT ELECTRONICS



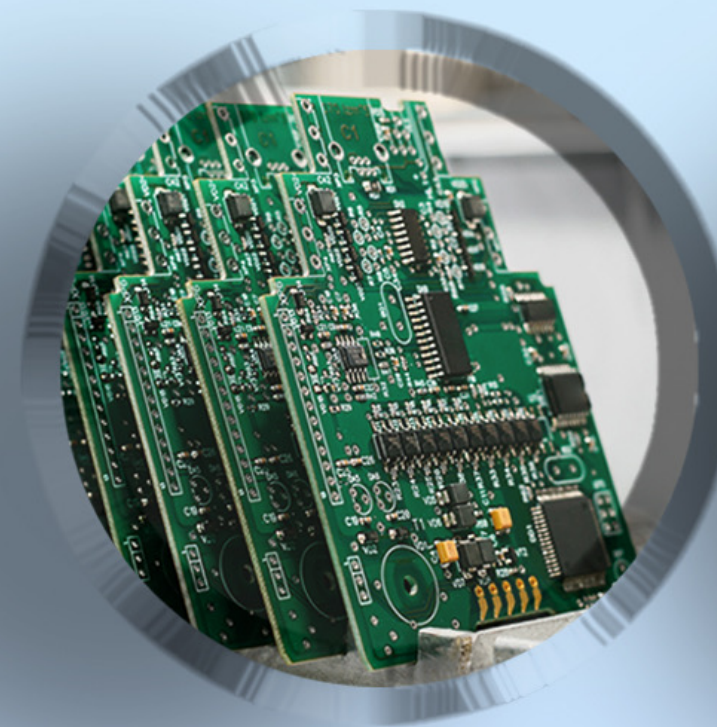
✓ **Component Procurement**



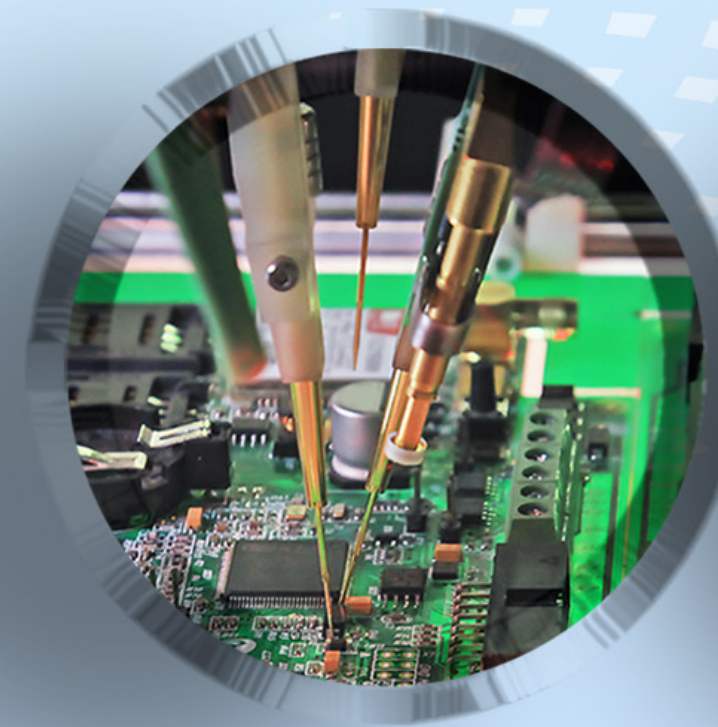
✓ **Screening / Value-Add**



✓ **BOM Management**



✓ **Contract Manufacturer**



✓ **System Level Test**



Advantages

- Cost & Schedule Reduction
- Reduced Material Handling
- Care Custody and Control
- Robust QA Controls & Oversight
- Reduced Paperwork & Processing
- Expertise and Tribal Knowledge

• ***One PO, One Supplier***

THANK
YOU

SPIRIT ELECTRONICS

