Custom Hybrid, MCM, Module, Box Assembly and Testing Services

Fact Sheet
June 2012

www.aeroflex.com/EMS

INTRODUCTION

Aeroflex Plainview, a supplier of standard products and custom microelectronic solutions offers Space and Military qualified assembly and test services meeting the requirements of MIL-PRF-38534 Class H & K. In addition, Aeroflex Plainview has been accredited by the Department of Defense as a Trusted Source, Category 1A supplier for assembly services.

Our MCM packaging technology enables out customers to realize the optimum Size, Weight and Power (SWaP) of their products by applying flip-chip, chip and wire, Chip-on-Board (COB), Surface Mount Technology (SMT) and Planar Magnetics. In many cases, more than one of these technologies are combined in a single module.

From DC to 40GHz, Aeroflex can provide microelectronic packaging and test solutions for high speed digital, precision analog and RF/Microwave devices used in military, space and critical industrial applications.

AEROFLEX Offers:

- ❑ One stop solution for your microelectronic assembly, evaluation, test and screening requirements
- ❑ MIL-PRF-38534 compliant (Class H & K), ISO-9001 and AS9100 certified
- ❑ Customer furnished tooling - Aeroflex is experienced in integrating customer originated designs into a smooth, seamless high quality process.
- ❑ Full turnkey and “design to spec” services for hybrid, SMT assemblies and boxes.
- ❑ Vertically integrated die to box facility, Class 1,000, Class 10,000 and Class 100,000 manufacturing space.
- ❑ High reliability Chip on Board design and manufacturing services
- ❑ RF/Microwave manufacturing services for high volume phased array antennas
- ❑ Value-added services such as radiation testing and characterization, classified testing and COTS / commercial upscreening
- ❑ Aeroflex HiRel products, such as FPGAs and ASICs, are available for vertical integration
- ❑ Off Shore assembly available for large volume: Hi-Rel, telecom and military applications

PRODUCTION CAPABILITIES

Aeroflex Plainview can provide a complete solution for your microelectronic assembly, evaluation, test and screening requirements.

- ❑ Assembly
  - • Wafer saw and electrical probe
  - • Assembly and wirebond
    - State-of-the Art gold ball bonding: 90µ pitch available
    - Large Area – 16" x 13" bondable area
    - 1 mil to 2 mil automatic gold ball bonding
    - Gold and aluminium wedge bonding
    - Heavy Aluminium – 4 mil to 20 mil wire
    - Ribbon Bonding – .25 mil x 3 mil to 2 mil x 10 mil
    - Vacuum brazing – Eutectic die and substrate attach
    - GaAs MMIC gold-tin die attach
    - Epoxy die bonding to 7µ placement accuracy
    - Gap welding – beam lead diodes / wire / ribbon
    - Active laser trim of thick and thin film resistors
    - RF / Microwave Tuning
    - Hi-Rel Chip-On-Board assemblies / SMT (See Figure 4/5)
    - Hermetic or epoxy package sealing
    - Plastic packages / flip chips
    - Transformers / coils
  - • Internal preseal visual
    MIL-STD-883, Method 2010 or 2017, Cond A or B
  - • Hermetic packages available
    - LCC, PGA, QFP, DIP, FP, TO cans, ring frame, Multi-Chip Modules (MCM), SOIC, CCGA, LGA
  - • Solder dip - MIL-STD-883, Method 2003
- ❑ Electrical test
  - • Wafer level DC parametrics
  - • Memory, logic and analog IC testing
  - • Wafer probe and package IC testing
  - • RF testing to 40GHz
- ❑ Burn-In Services
  - • Static/Dynamic burn-in
- ❑ Environmental test per MIL-STD-883 Test Methods
  - • Hermeticity – Method 1014, Cond A1, A2, C3
  - • PIND – Method 2020, Cond A, B
  - • X-Ray Radiographic – Method 2012
  - • Centrifuge – Method 2001
  - • Temp cycle – Method 1010
  - • Mechanical shock and variable vibration – Method 2007
  - • Thermal vacuum testing

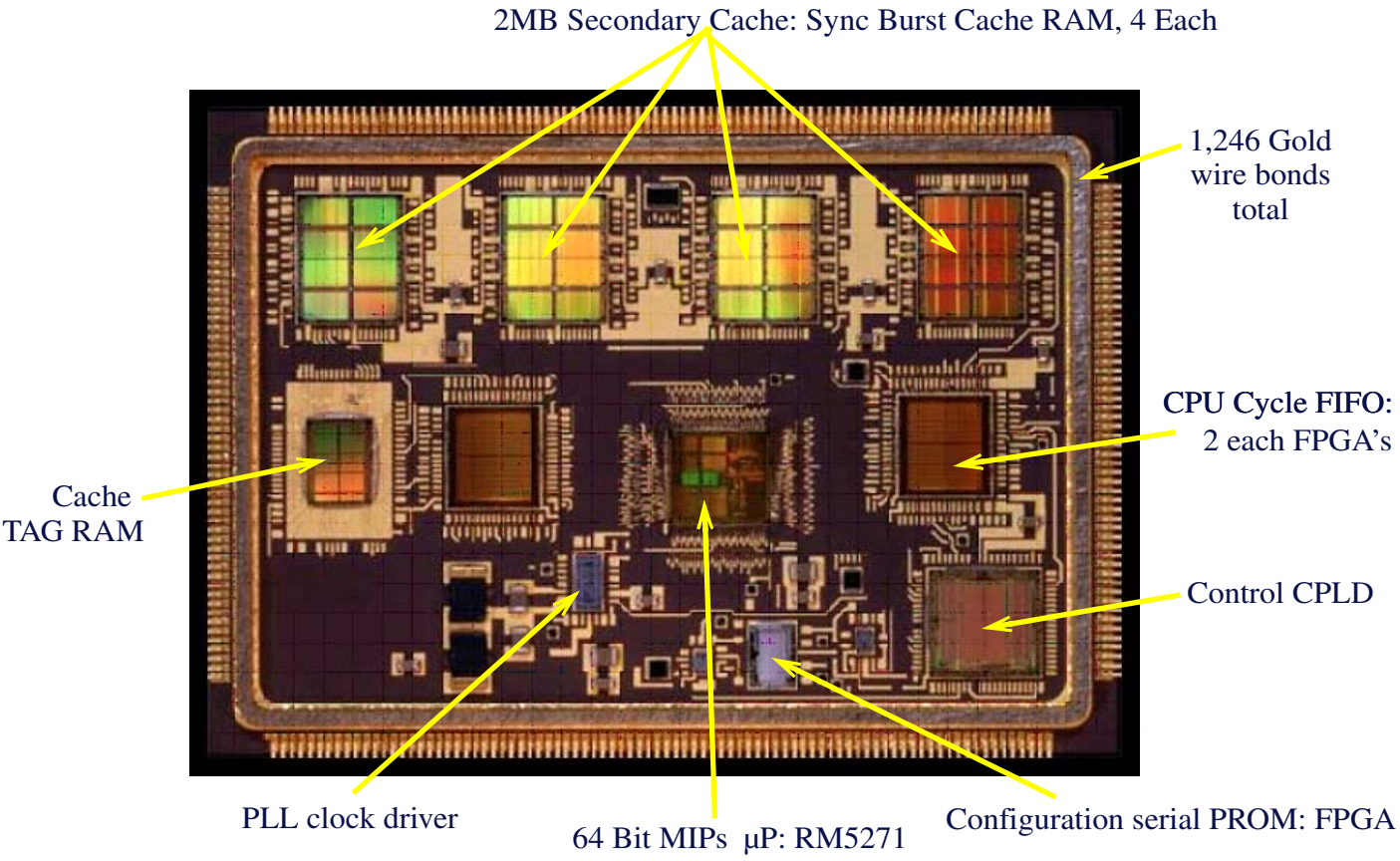


FIGURE 1 – Microprocessor MCM – ACT-5271SC-F10-M21C

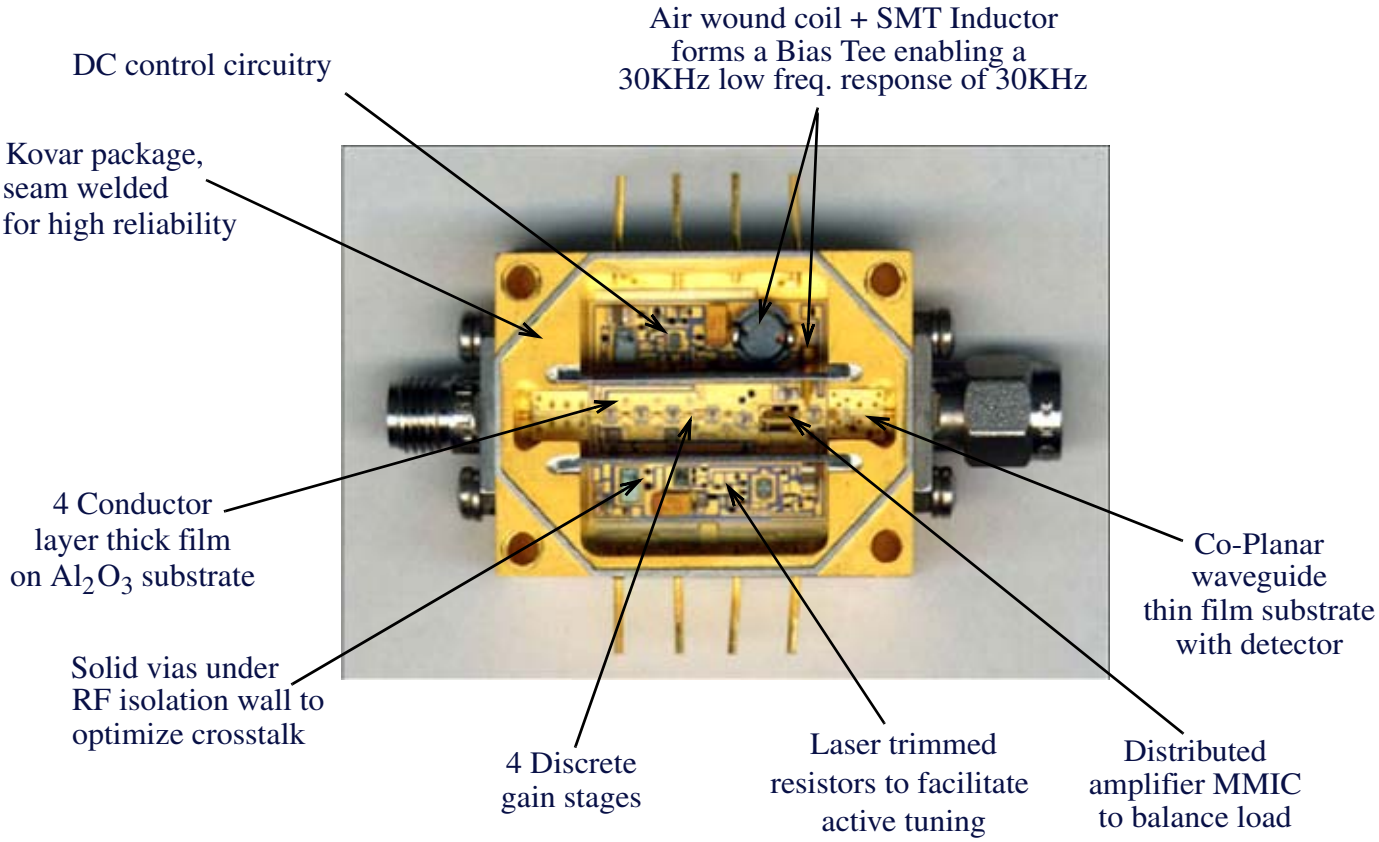


FIGURE 2 – Highly Integrated 10GHz RF Module – AMPF-128MDA

FIGURE 3 – Box Assembly, Li Battery Electronic Unit (BEU)

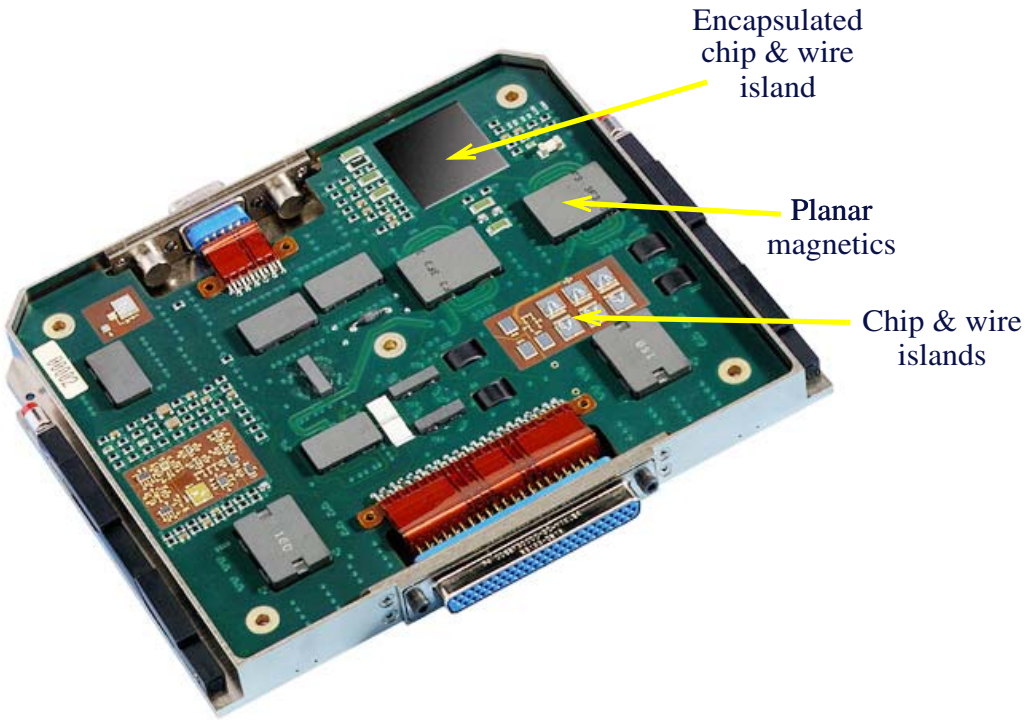
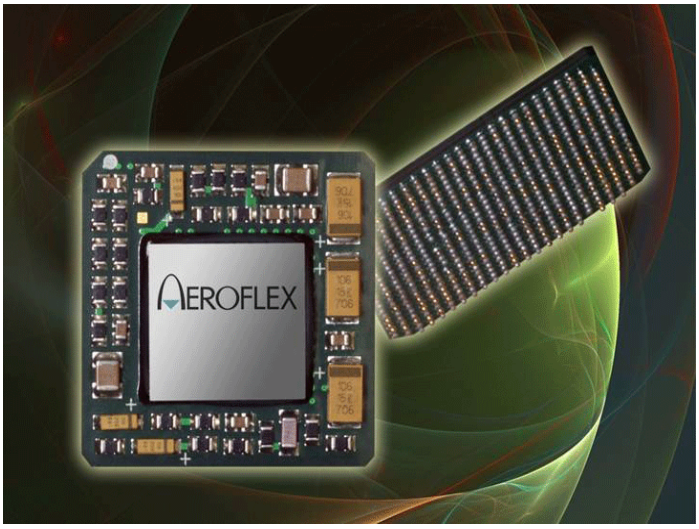


FIGURE 4 – DC-DC Converter, Plug-and-Play Low-Voltage Power Supply, +28V Input. Output: +5V, +3.3V, +2.5V, 70W – ACT8616



- High I/O Count
- Ideal for Mixed Signal Applications
- Hermetic Seal over Die Island
- Suitable to 2 GHz
- Polyimide PWB for High Reliability Applications
- Low Mass allows device to be automatically picked & placed
- Ability to overcome Obsolescence
- MIL-PRF-38534 Qualification

FIGURE 5 – Chip On Board MCM BGA Assembly

PLAINVIEW, NEW YORK
Toll Free: 800-THE-1553
Fax: 516-694-6715

INTERNATIONAL
Tel: 805-778-9229
Fax: 805-778-1980

NORTHEAST
Tel: 603-888-3975
Fax: 603-888-4585

SE AND MID-ATLANTIC
Tel: 321-951-4164
Fax: 321-951-4254

WEST COAST
Tel: 949-362-2260
Fax: 949-362-2266

CENTRAL
Tel: 719-594-8017
Fax: 719-594-8468

www.aeroflex.com info-ams@aeroflex.com

AEROFLEX
A passion for performance.

Our passion for performance is defined by three attributes represented by these three icons: solution-minded, performance-driven and customer-focused