

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

Fact Sheet

February 2012



INTRODUCTION

Aeroflex Plainview for over thirty-five years has been a leader in the microelectronic packaging arena. Our MCM technology (See Figure 1) is designed to operate in severe environments where performance, size and weight are the most critical parameters.

A Variety of substrate interconnect technologies such as Thick Film, Thin Film, Al₂O₃, LTCC, Aluminum Nitride, BeO, or PWB can be used to provide miniature size, high frequency and thermal management performance gains.

The optimum use of assembly methods such as Chip-On-Board (COB), chip and wire, Surface Mount Technology (SMT) and plastic packaging are used to meet your demanding requirements.

Using Aeroflex designed rad-hard, mixed-signal digital integrated circuits and FPGAs, Aeroflex can meet the most demanding electronic packaging requirements.

From DC to light, Aeroflex can provide electronic design and test solutions for high speed digital, fiber optic, RF and microwave applications for military, telecom, sensor, and medical applications (See Figure 2).

AEROFLEX PLAINVIEW OFFERS:

- One stop solution for your microelectronic assembly, evaluation, test and screening requirements
- Quick-turn capabilities available
- MIL-PRF-38534 compliant (Class H&K), ISO-9001-2000 and AS9100 certified
- Element evaluation and component screening
- Full turnkey and "design to spec" programs available
- Value-added services such as radiation testing, classified testing and COTS/commercial upscreening
- Class 100,000 clean rooms for hybrid, SMT and box assembly
- Class 10,000 for thick film substrate manufacturing

SPECIALIZED SERVICES

- Customer furnished tooling - Aeroflex is experienced in assembling customer originated designs into a smooth, seamless high quality process.
- Radiation testing - with over 15 years in the radiation-hardened IC arena, Aeroflex is experienced in the testing and characterization of IC's for space applications.
- Space Qualified Assembly Services – Certified Class K per MIL-PRF-38534
- SMT assembly / Box assembly (See Figure 3)

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 12μ 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 preseat 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)
 - 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
 - Accelerated life test
- 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
- Off Shore assembly available for large volume: Hi-Rel, telecom and military applications

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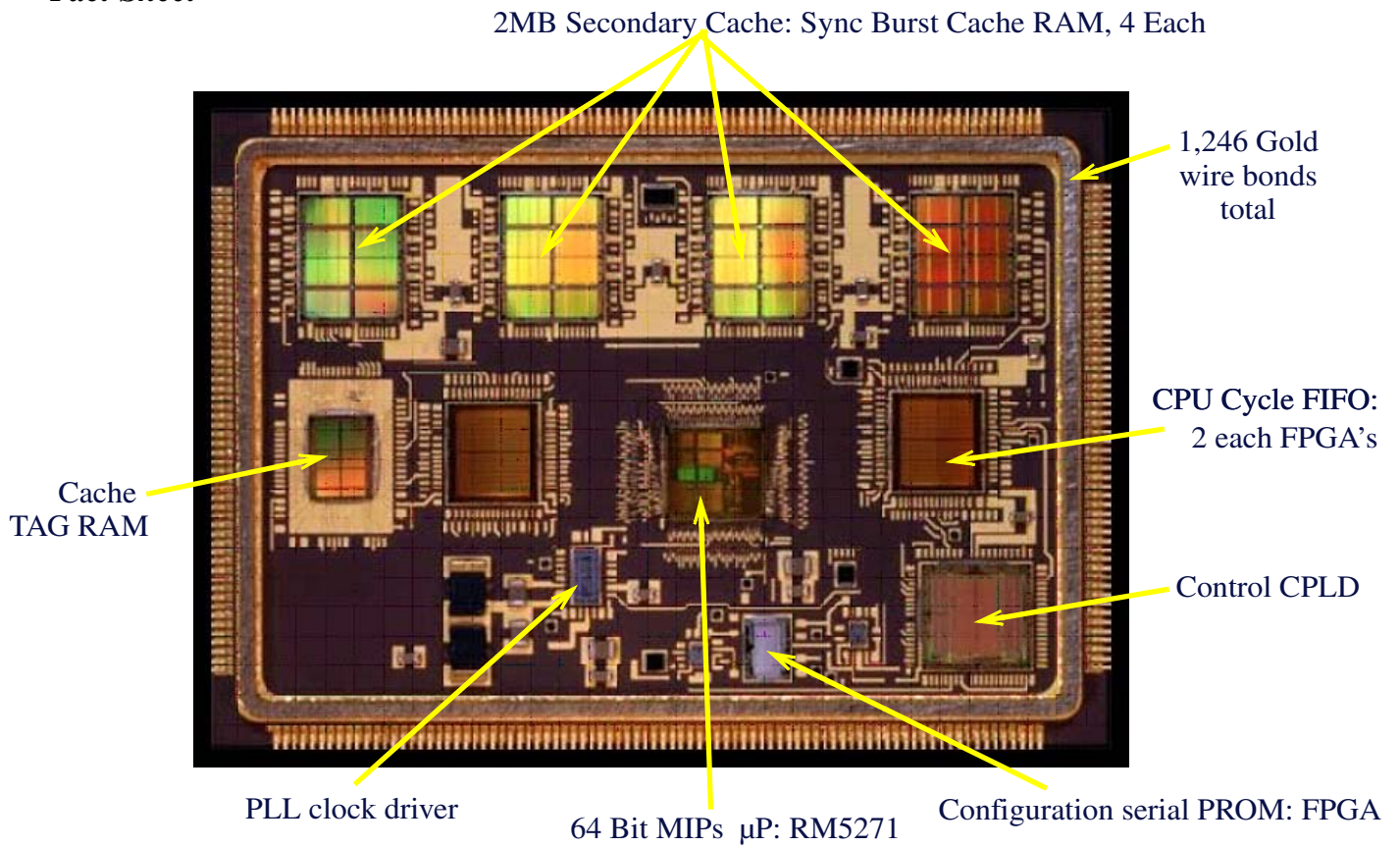


FIGURE 1 – Microprocessor MCM – ACT-5271SC-F10-M21C

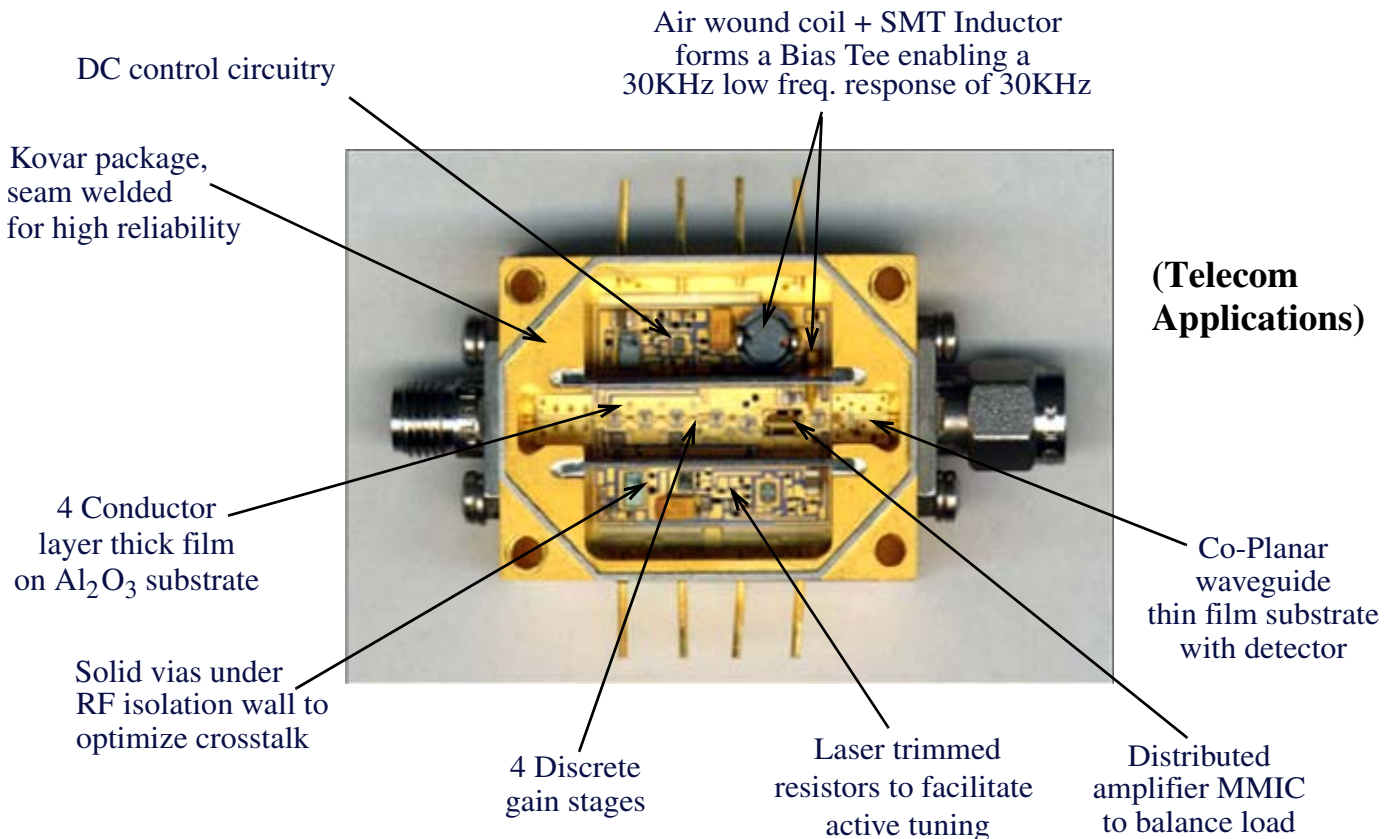


FIGURE 2 – Highly Integrated 10GHz RF Module – AMPF-128MDA



FIGURE 3 – Box Assembly (BEU)

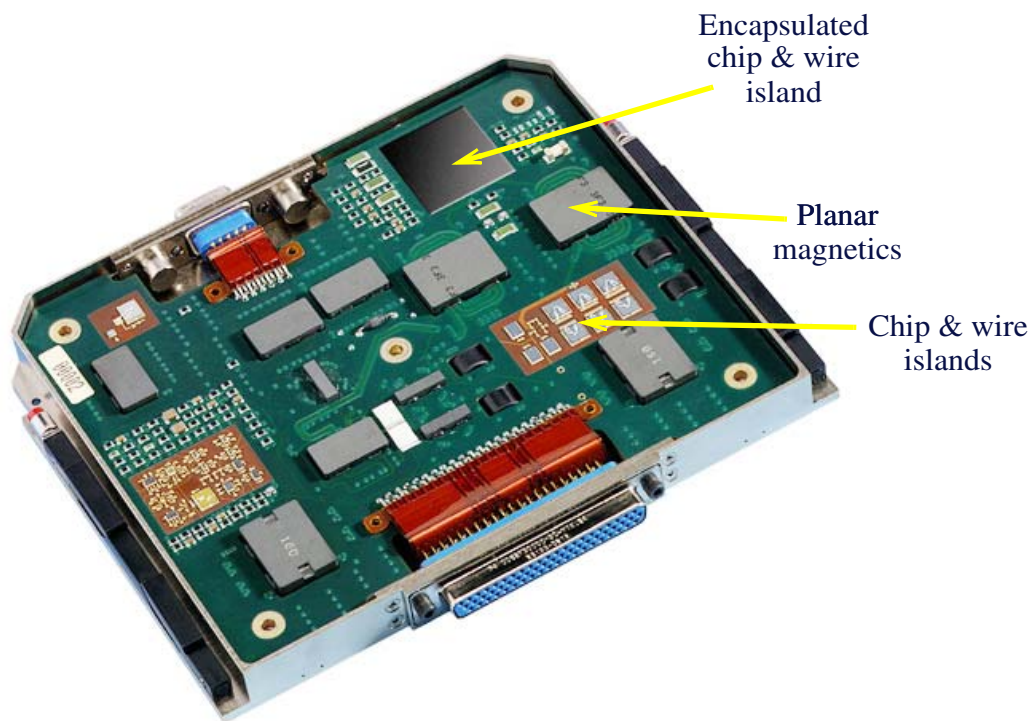
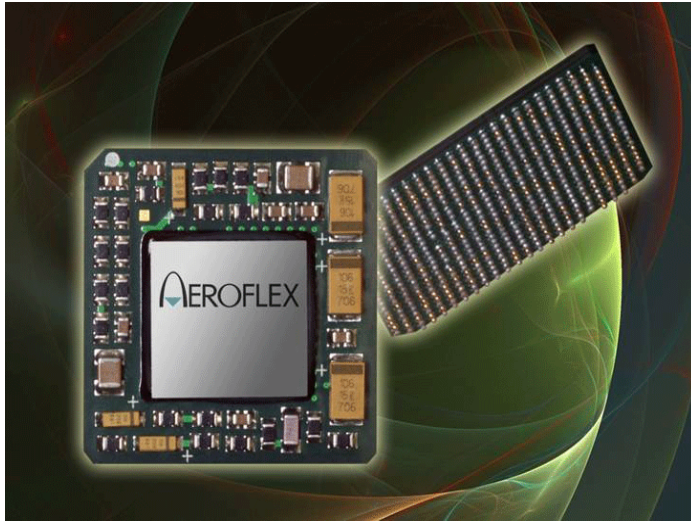


FIGURE 4 – DC-DC Plug-and-Play Low-Voltage Power Supply, Non-RadHard, +28V Input. Output: +5V, +3.3V, +2.5V, 70W – ACT8616



- 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

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