



CASE STUDY

SATELLITE SET-TOP BOXES FROM CONCEPT TO 100K UNITS SHIPPED IN 118 DAYS

THE RESULTS

- Design through Mass Production in 4 Months
- Resolved Local Content Requirements
- Achieved 35% Total Cost Reduction
- Substantial Quality Improvements

Based on local content requirements, customer demand or logistics, there is an increasing trend among OEMs to have products manufactured in a specific geographic region. The proximity between the customer and an EMS partner also allows for better collaboration and efficiency in addressing design and production issues.

THE OPPORTUNITY

A set-top box company for one of the world's leading satellite content providers came to Sanmina to design a new satellite set top box and move production from China to Mexico. The existing products were being made in China and the company tried to meet local content and cost requirements but was not successful. They were also experiencing a number of manufacturing and assembly challenges, including unacceptable defect levels and repair costs.

The OEM asked Sanmina to design a new satellite set top box based on the ST Micro 5107 to meet a specific price point for the Mexican market. Not only did they need a new design, the company had a very aggressive delivery time schedule—four months from design to mass production.

THE SOLUTIONS

To meet these challenges, Sanmina had to rethink the entire product to meet cost and schedule demands, coming up with different ideas based on the existing design:

- **Plastic Chassis.** The existing design of the set top box used a metal chassis; Sanmina proposed using a plastic chassis, which reduced cost substantially. Sanmina designed the plastic chassis for low-cost production in its own plastics production facility.
- **2-Layer PCB.** Many similar products were using 4-6 layer PCBs. Sanmina designed, developed and produced the PCBs using just 2-layers, resulting in a significantly lower cost.
- **24-hour Design Cycle.** With design teams all over the world, the Sanmina India design team was used to keep the design process going, day and night, which helped to meet the aggressive design timeline.
- **Quick ramp to production.** Once the product was designed, prototyped and tested, Sanmina Guadalajara ramped production within a few weeks to meet production volume requirements.
- **Vertically integrated.** Sanmina's ability to do the entire product design, PCB and enclosure development, product introduction and volume ramp significantly improved time to market and product cost.

THE BENEFIT

Working in close collaboration with the customer, this new set-top box went from design to mass production in 118 days. While overcoming significant technical challenges, Sanmina was able to provide the customer with a nearly 35% cost reduction, with the product produced in the geography where it will be sold. Today, the OEM is one of Sanmina's largest multimedia customers and continues to partner with us on new products.

SANMINA'S EXPERIENCE WITH SET-TOP BOX DESIGN

- 1982 Satellite receivers and antenna controllers for North America
- 1985 Satellite receivers for Europe
- 1989 First MAC receiver, PAL receiver for SKY
- 1994 SAT 800 generation: budget PAL and PAL/VideoCrypt versions
- 1995 First generation digital receivers (dBox, CI versions)
- 1999 Second generation digital receivers (OpenTV, Media Highway)
- 2000 Third-generation digital receivers, with digital recording capability
- 2001 PVR STBs for satellite and cable platforms
- 2003 First JDM platforms delivered to market for satellite and cable
- 2007 Designed HD upconversion DVR boxes for EU markets
- 2009 Low cost satellite unit designed and shipped from Mexico
- 2010 Designed and demonstrated low-cost free-to-air satellite STB in India





SANMINA MULTIMEDIA CAPABILITIES

Sanmina is a strong partner to the world's leading multimedia OEMs, with a clear focus of delivering quality, flexibility and value. From design, technology to complete systems and New Product Introduction (NPI), we provide cost-effective end-to-end supply chain solutions critical to building today's most innovative multimedia products.

Sanmina designs and delivers home entertainment, personal lifestyle and other multimedia devices including:

- Set-top boxes
- Audio and video equipment
- Cinematography
- Casino gaming systems
- Global positioning systems
- Portable media players
- Point-of-sale terminals
- Home controls
- Digital audio players
- And many other multimedia products

We have the experience, technical expertise and global presence to help you reduce cost, accelerate time-to-market and simplify supply chains.

ABOUT SANMINA

Sanmina Corporation is a leading integrated manufacturing solutions provider serving the fastest-growing segments of the global Electronics Manufacturing Services (EMS) market. Recognized as a technology leader, Sanmina provides end-to-end manufacturing solutions, delivering superior quality and support to Original Equipment Manufacturers (OEMs) primarily in the medical, communications networks, defense and aerospace, industrial and semiconductor systems, multimedia, computing and storage, automotive and clean technology sectors. Sanmina has facilities strategically located in key regions throughout the world.

More information regarding the company is available at www.sanmina.com.