

Signia's PCMCIA and Compact Flash Bluetooth Solutions Accelerate Product Development

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Signia Technologies is enabling OEM manufacturers to get their Bluetooth products to market faster by adding Compact Flash and PCMCIA Manufacturing Kits to its lineup of Ulysses Bluetooth Solutions that includes Baseband and Radio ICs, Software Protocol Stacks, Antennas and Development Kits.

Ulysses Manufacturing Kits

Many companies have expertise in the development of modem cards, laptop computers, PDAs and other mobile computing devices and are looking for ways of rapidly adding Bluetooth radio functionality to their designs. Signia addresses this need by offering licensable Compact Flash and PCMCIA manufacturing kits that are designed to provide a complete, carefully considered and verified solution.

Manufacturing kits contain everything needed to take a design into volume production. For example, the PCMCIA kit includes a complete Bill of Materials (BOM), schematics, Gerber files for a board layout designed to fit into a standard PCMCIA frame, and even test setup recommendations. The designs are completely verified, including software integration, antenna layout, and certification, so they can go immediately into production.

With Signia providing the whole solution as a platform, OEM manufacturers can focus on developing their own software and system applications and can bring their products to market faster because of the reduced development, regulatory, and test times associated with the product design cycle

Ulysses Baseband IC Solutions

To obtain board designs optimized for low component count and small footprint, Signia has developed radio and baseband ICs that were created with flexibility in mind.

Signia's Ulysses SBT3100 Baseband Controller IC includes core Bluetooth functionality with USB, UART and

BlueRF interfaces. It also contains a unique Host Processor Interface providing a cost effective way to address a number of different applications.

For products such as PCMCIA and Compact Flash, a host processor interface will be the most common connection available from the PC or PDA. Signia's SBT3100 Baseband Controller was tailored to provide optimal 1Mbits/sec communications over this interface.

The SBT3100's Host Processor Interface eliminates the need for glue logic and enables more reliable communications at baud rates greater than 115Kbits/sec, which many current operating systems using a UART interface can't support. Most Bluetooth chips today provide only UART and USB interfaces, both of which are undesirable for interfacing to the PCMCIA controller because they require additional parts, adding to the BOM cost. Signia's baseband can directly connect with the PCMCIA bus, eliminating the need for extra components to convert from USB or UART to PCMCIA.

Ulysses Radio IC Solutions

Signia's also offers the Ulysses SBT5010 Radio IC which is a fully-integrated transceiver and modem developed in TSMC's low cost 0.25um RFCMOS process. It is the smallest footprint Bluetooth radio, packaged in a 5mm x 5mm 36 pin eLGA package. The SBT5010's BlueRF interface provides maximum flexibility by allowing second sourcing of baseband ICs. The IC also provides on-chip calibration to minimize the effects of process variation and to improve testability.

Signia's Partnerships

Signia has developed a number of strategic partnerships to offer broad expertise in manufacturing, integration and test solutions.

Signia is working with software partners DCM and Adamyia to offer innovative products such as support for a Bluetooth approved WinCE and Linux operating system, expertise in TCP/IP, and software baseband implementations.

Antenna design can be one of the trickiest technical aspects of Bluetooth radio implementation. To address this, Signia has partnered with Antennas America to provide experience in low-cost high volume commercial antenna design.

Signia is also working with leading test instrument companies such as Teradyne, whose Integra J750 and Catalyst SoC testers offer high-volume Bluetooth Mixed Signal testing, and Agilent to provide support for low cost PCMCIA and Compact Flash testing using products such as Agilent's E1852A Bluetooth Test Set.

Complete Bluetooth Solutions

Signia's strategy has been to focus on minimizing the total Bluetooth implementation and volume manufacturing cost, while improving ease of integration. Signia's solution includes the optimization of Baseband and Radio ICs, software protocol stacks, antennas, assembly and test, and regulatory compliance. By taking this approach, Signia has developed very low cost Manufacturing Kit solutions for PCMCIA and Compact Flash cards.

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Manufacturing Kit Deliverables

Hardware

- Prototype Hardware Including PCMCIA Or CF Interface
- Embedded Antenna
- 2 Fully Operational Bluetooth PCMCIA Cards

Documentation

- Technical Documentation
- Block Level Functional Diagram
- Schematic
- Bill Of Materials
- PADS PCB Files
- Gerber Files
- API Descriptions
- Example HCI Driver
- Regulatory Documentation (FCC, Bluetooth Logo, Microsoft Logo)
- Suggested Test Equipment
- Suggested Test Setup

Software

- HCI Command Script Interpreter
- NDIS Skeleton For Netmeeting Demos
- Fully Functional Protocol Stack With Standard Profiles
- Send And Monitor Individual Commands Or Events And Exchange Data Sequences (ACL And SCO Packets) Between Bluetooth Devices.