

# Product Brief

## UTAH

### SAB C165 UTAH



The C165 UTAH is a new low-cost member of the Infineon Communication Controller family. The device combines the successful Infineon C166 16-bit full static core with a full-speed Universal Serial Bus (USB) device core, four independent HDLC controllers, IOM<sup>®</sup>-2 interface and

3-KByte of on-chip Dual-Port RAM. The C165 UTAH addresses all USB based features in ISDN-TA, Intelligent-NT and low cost SOHO-PBX designs offering up to 18 MIPs along with legacy peripherals such as USART, SSC/SCI and Timers. The USB device core has a built-in

DMA, that provides maximum flexibility and performance. Off-loading the CPU in such a manner allows the user to implement value-added software features for enabling product differentiation.

#### The C165 UTAH provides: C166 Static Core with Peripherals Including

- 16-bit fully-static core design running up to 36 MHz (18 MIPs)
- Peripheral Event Controller (PEC) for 8 user-defined independent DMA channels
- Sixteen dynamically programmable priority-level interrupt system
- Eight fast external interrupts
- Up to 72 software-configurable Input/Output (I/O) ports, some with interrupt capabilities
- 8-bit or 16-bit external data bus
- Multiplexed or demultiplexed address/data bus
- Up to 8-MByte linear address space for code and data
- Five programmable chip-select lines with wait-state

- On-chip 3-KByte Dual-Port SRAM for user applications
- On-chip 1-KByte special function register area
- On-chip PLL with output-signal
- Five multimode General Purpose Timers (GPTs)
- USART with AutoBaud detection & IrDA support
- SSC/SCI serial interface
- On-chip programmable watchdog timer
- Glueless interface to EPROM, Flash EPROM, and SRAM
- Power management supporting idle and power-down modes
- Bootstrap loader support via USART interface
- On-Chip Debug Support (OCDS) & JTAG Boundary Scan Test Support (IEEE 1149.1) for low-cost product development & debugging

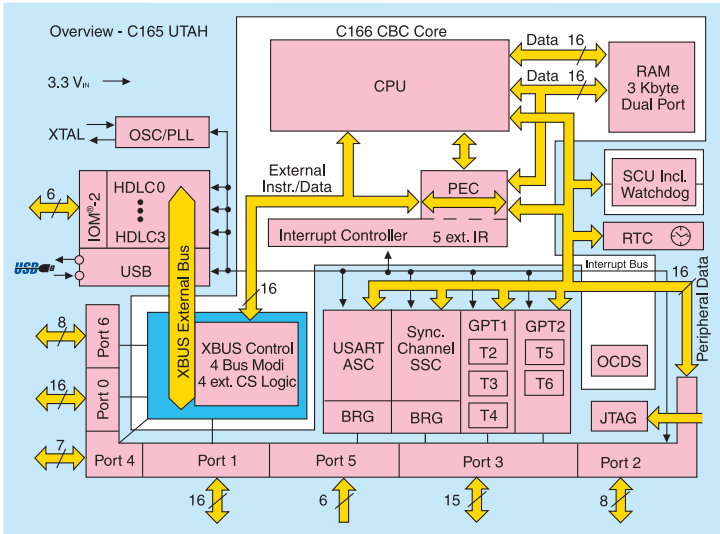
#### ISDN BRI CORE Including

- 56 kbit/s to 144 kbit/s user data rate
- IOM-2/PCM interface to S/U transceiver
- TE mode support
- Four on-chip independent full duplex HDLC channels
- Independent FIFOs for each transmit and receive channel

#### USB Interface Including

- USB Specification 1.1 compliant
- Support for audio, data and communication device class
- 12 Mbit/s full-speed mode
- Seven configurable endpoints in addition to control endpoint
- Support for multiple configurations and alternate settings
- DMA support

# C165 UTAH: Block Diagram

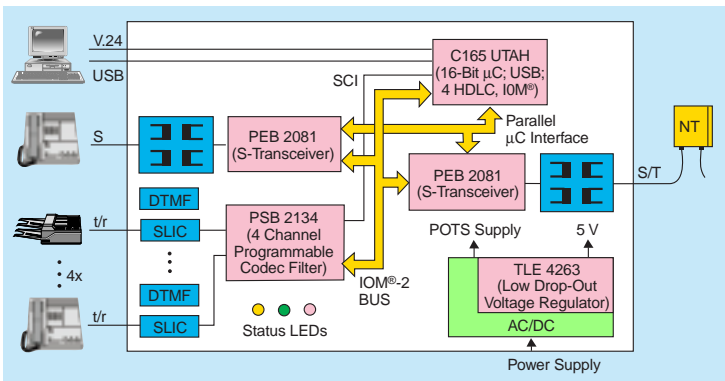


## Document and Support Package

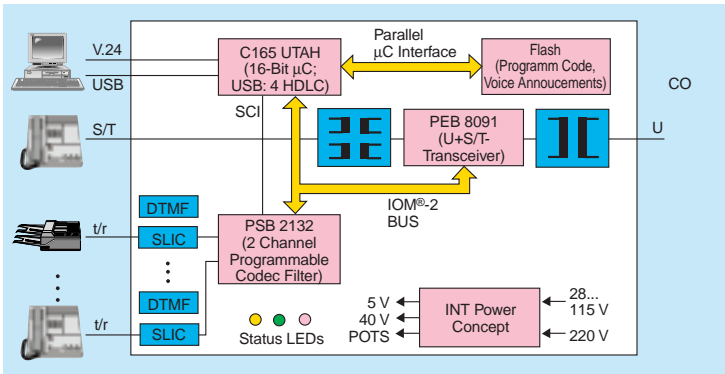
- Application Notes
- System Verification Report
- Application Hints
- CD-ROM

# C165 UTAH: Application Examples

## Infinion Solution for Low Cost SOHO PBX - Data Port(s)



## High End Intelligent NT for 2B1Q Linecode



## Availability

The UTAH device is available with complete documentation and support package. A dedicated engineering support team is there to assist you. Please contact your local Infineon office for further details.

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