



## USB Bridge Solutions

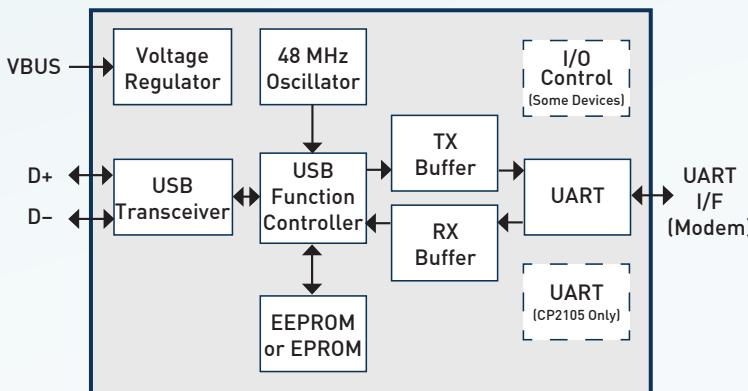
[www.silabs.com/usb](http://www.silabs.com/usb)

## DESCRIPTION

Silicon Labs' new CP21xx USB bridge ICs eliminate software complexity and driver compatibility issues, providing a cost-effective, small-footprint turnkey solution for adding USB and human interface device (HID)-USB connectivity to applications such as personal medical devices, cellular and cordless phones, smart card and flash card readers, personal digital assistants, MP3 players, bar code readers, wireless modems and industrial control systems.

With the rapid proliferation of USB and HID-USB in the embedded world, developers are looking for painless, economical ways to embed USB connectivity in their designs. A leading supplier of USB connectivity solutions, Silicon Labs developed the CP21xx bridge family so that designers can add USB to microcontroller-based applications without the cost and complexity of developing sophisticated USB software. The CP21xx ICs require no USB expertise to deploy, enabling developers to focus time and resources on end applications.

USB-TO-UART BRIDGE BLOCK DIAGRAM



## CP21xx FEATURES

- USB 2.0 Compliant, full-speed (12 Mbps)
- No external crystal required
- Up to 1024 Bytes of EEPROM or EPROM
- User programmable custom Baud rates
- Supports all modem interface signals
- Baud rates up to 2 Mbps
- Industrial temperature range -40 to 85 °C
- SMBus master device (CP2112)
- HID class support, no driver installation needed (CP2112)

## APPLICATIONS

- USB to RS-232 converters
- USB to Dual RS-232 converters
- USB to RS-422/RS-285 converters
- Upgrade of legacy RS-232 devices
- PDA USB interface cable
- Cellular phone USB interface cable
- Barcode readers in Point-of-Sale terminals
- Portable medical equipment
- PC peripherals
- Barcode readers in Point-of-Sale terminals
- Industrial connectivity (CP2112)

## EASY USB TO UART BRIDGE COMMUNICATION

Download the white paper  
“USB Simplified”:  
[www.silabs.com/usb](http://www.silabs.com/usb)



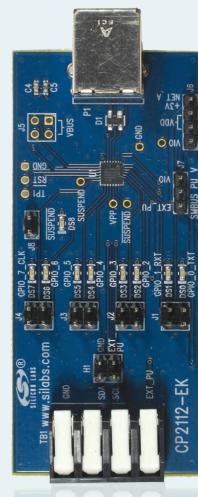
## USB Bridge Solutions

[www.silabs.com/usb](http://www.silabs.com/usb)

## Development Tools and Turnkey Support from Silicon Labs

Silicon Labs offers several single-chip connectivity bridge solutions to support USB to serial protocols as well as specialized bridges for human interface device (HID) class applications. Complete tools are provided to help designers throughout the entire project enabling USB connectivity to be easily added to any MCU in our portfolio. These solutions offer hardware and software platforms to easily set up and configure, compile and debug a project. Full documentation and a broad range of third-party compilers and development tools are available.

- Easily implement USB in your designs
- Pre-programmed with all the necessary USB software
- No need to be familiar with the USB specification
- Seamless compatibility with most operating systems
- Evaluation kits available to support your design

USB Bridges: [www.silabs.com/usb](http://www.silabs.com/usb)

PART NUMBER	DESCRIPTION	EEPROM (BYTES)	RAM (BYTES)	DIGITAL PORT I/O PINS	SERIAL BUSSES	INTERNAL OSC	TEMP. RANGE	OTHER	PACKAGE	EVAL KIT
CP2104	UART to USB Bridge	1024	1152	4	UART, USB 2.0	•	-40 to 85 °C	Volt Reg, RS-485, Split V <sub>DDIO</sub>	QFN24	CP2104EK
CP2105	UART to Dual USB Bridge	296	608	5	UART, USB 2.0	•	-40 to 85 °C	Volt Reg, RS-485, Split V <sub>DDIO</sub>	QFN24	CP2105EK
CP2110	HID USB to UART Bridge	343	960	10	UART, USB 2.0	•	-40 to 85 °C	Volt Reg, RS-485, Split V <sub>DDIO</sub>	QFN24	CP2110EK
CP2112	USB to SMBus Bridge	194	512	8	USB 2.0, SMBus	•	-40 to 85 °C	Volt Reg	QFN24	CP2112EK