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0. Revision History

Date: May 27, 2003

REV 0.1

1. Introduction

Project Name: BT-PA03A

Project Code:

This document describes the requirements specification of BT-PA03A. It is a confidential document of EPOX.

2. Scope

The BT-PA03A is a low power and high performance communication product which allows laptop PCs and other devices to print what you want to printer. It meets the requirement of today for sharing and printing information without any physical attachment. By replacing the USB cable of any standard USB printer, the Bluetooth Printer Adapter USB enables wireless printing of even complex and large documents. In order to print without cables, the Bluetooth Printer Adapter USB makes use of Bluetooth Wireless Technology, which is a low power consumption standard that allows a wide range of mobile devices to communicate wirelessly. The Bluetooth Printer Adapter USB operates with all standard USB attached printers. The Bluetooth Printer Adapter USB enables interaction with other wireless devices and allows you to print within a range of 100 meters depending on the construction of the building. It is especially well-suited for wireless printing, but also can be used for general-purpose wireless replacement.

3. Physical Requirements

- Systems interface USB 1.1 Compliant
- Size 88 x 37 x 18 mm (L x W x H)
- Connection USB B type Connector
- Form Factor TBD

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4. Hardware specifications

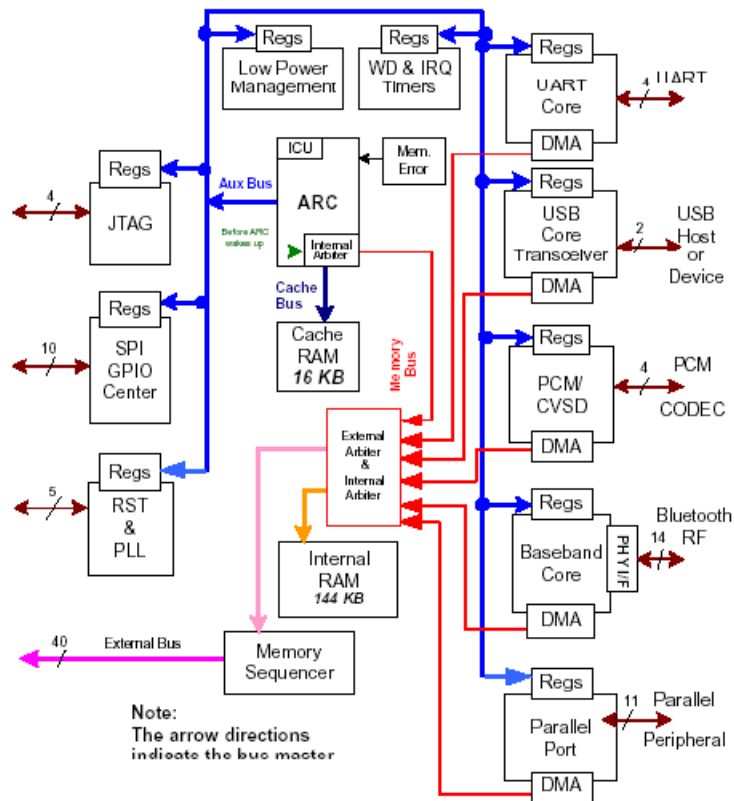
• BaseBand Chipset	BrightCOM BIC2102
• Flash Memory	512K Bytes Flash
• Bluetooth Chip Set	SiliconWave SiW1701
• Supply Voltage	2.7V to 3.3V
• Frequency Range	2.402 - 2.4835 GHz
• Antenna	Build-In antenna
• Antenna Load	50 Ohm
• Receive Sensitivity	Typical - 80dBm
• Printer Interface	USB 1.1 Compliant
• Profile support	Hard Copy Cable Replacement Profile
• Power Consumption	About 0.7W @ 5Vdc
• Power Adapter	Input AC100 ~ 240V / Output DC5V@1A
• Operating Range	Typical 100 meters at line of sight
• RF Channel	79 Channels (23 Channels for France)
• Regulatory Approval	FCC, CE
• System Support	Windows XP/2000/98SE/ME
• Environmental	-20 ~ 85°C (operation), -40 C to 120 °C (storage)
• Dimensions	88 x 37 x 18 mm (L x W x H).
• Weight	TBD

5. Key Component description

BrightCOM BIC2102 :

- Implements Bluetooth specifications v1.1 for Personal Area Networking
- Bluetooth-programmable radio interface, compliant with BlueRF v1.0 RXMODE3 and RXMODE2
- Bluetooth Baseband implemented on-chip, supporting:
 - Point-to-point and point-to-multipoint ACL and SCO connections
 - Scatternet (2 Piconets)
 - Master/slave switching
- Industry-standard communication interfaces:
 - UART core up to 921.6 Kbps
 - Full-speed USB interface functioning in
- Host/Device modes
 - PCM CODEC interface with CVSD transcoding
 - Centronics/1284-compatible parallel port
 - SPI Master/Slave bus
- Complete System-on-Chip:
 - Integrated ARC3.2 32-bit RISC processor
 - 16KB instruction cache
 - 144KB RAM
 - Interface to external memory up to 4 MB of
- Flash/SRAM/ROM
- Up to 30-pin GPIO signals
- JTAG debug and test interfaces
- Supported Bluetooth models include:
 - Complete Bluetooth protocol stack and profiles
- running on a single embedded chip
 - BrightAPI™ for hostless Bluetooth applications
 - Bluetooth controller implementation via standard
- HCI for host-based implementations
- Extensive power-down control modes
- Physical characteristics
 - BGA144 package (10x10 mm)
 - 1.8V core, 3.3V I/O

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SiliconWave SiW1701:

The SiW1701 Radio Modem IC is a new addition to SiliconWave's product family for Bluetooth™ wireless communications. The radio modem IC combines a 2.4-GHz radio transceiver and GFSK modem with digital control functions. The digital interface has been improved to allow direct connection to Bluetooth baseband ICs from Silicon Wave.

The SiW1701 continues to lower system cost, reduce power consumption, and minimize size. Higher functional integration and simplified system design with reduced external components are the major accomplishments of this new product.

- Very low power consumption in active and standby modes.
- Radio and modem on a single IC.
- Compliant with Bluetooth specification 1.1.
- External power amplifier control for +20 dBm applications.
- Single-ended RF I/O reduces system BOM.
- Direct-conversion architecture with no external channel filter or VCO resonator components.
- On-chip digital and analog voltage regulation simplifies voltage input requirement. No external voltage regulator is necessary.

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- Programmable digital interface with selectable output data sampling rate.
- Supports multiple host reference clock inputs or crystal reference with internal crystal calibration.
- Industrial temperature operating range from -40°C to +85°C.

