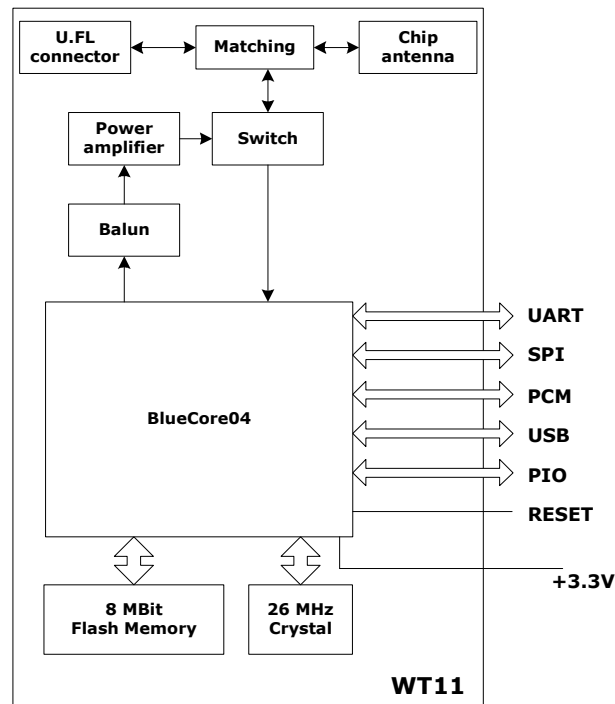


## 1. BLOCK DIAGRAM AND DESCRIPTIONS



**Figure 3:** Block Diagram of WT11

### BlueCore04

BlueCore4 is a single chip Bluetooth solution which implements the Bluetooth radio transceiver and also an on chip microcontroller. BlueCore4 implements Bluetooth® 2.0+EDR (Enhanced Data Rate) and it can deliver data rates up to 3 Mbps.

The microcontroller (MCU) on BlueCore04 acts as interrupt controller and event timer run the Bluetooth software stack and control the radio and host interfaces. A 16-bit reduced instruction set computer (RISC) microcontroller is used for low power consumption and efficient use of memory.

BlueCore04 has 48Kbytes of on-chip RAM is provided to support the RISC MCU and is shared between the ring buffers used to hold voice/data for each active connection and the general purpose memory required by the Bluetooth stack.

### Crystal

The crystal oscillates at 26MHz.

### Flash

Flash memory is used for storing the Bluetooth protocol stack and Virtual Machine applications. It can also be used as an optional external RAM for memory intensive applications.

**Balun**

Balun changes the balanced input/output signal of the module to unbalanced signal of the monopole antenna.

**Power amplifier**

Power amplifier is used to increase the output power to a level required by class 1 specification.

**Switch**

Switch is used to separate transmission and receiver modes.

**Matching**

Antenna matching components match the antenna to 50 Ohms and also selects between chip antenna and UFL connector.

**Antenna**

The antenna is ACX AT3216 chip antenna.

**U.FL**

This is a standard U.FL male connector for external antenna possibility.

**USB**

This is a full speed Universal Serial Bus (USB) interface for communicating with other compatible digital devices. WT11 acts as a USB peripheral, responding to requests from a Master host controller such as a PC.

**Synchronous Serial Interface**

This is a synchronous serial port interface (SPI) for interfacing with other digital devices. The SPI port can be used for system debugging. It can also be used for programming the Flash memory.

**UART**

This is a standard Universal Asynchronous Receiver Transmitter (UART) interface for communicating with other serial devices.

**Audio PCM Interface**

The audio pulse code modulation (PCM) Interface supports continuous transmission and reception of PCM encoded audio data over Bluetooth.

**Programmable I/O**

WT11 has a total of 6 digital programmable I/O terminals. These are controlled by firmware running on the device.

**Reset**

This can be used to reset WT11.

### **802.11 Coexistence Interface**

Dedicated hardware is provided to implement a variety of coexistence schemes. Channel skipping AFH (Adaptive Frequency Hopping), priority signaling, channel signaling and host passing of channel instructions are all supported. The features are configured in firmware. Since the details of some methods are proprietary (e.g. Intel WCS) please contact Bluegiga Technologies for details.