

## MM330 Bluetooth Class 2 Enhancement Module

### Overview

BluePacket MM330 is a high performance Bluetooth module for embedded system based on CSR BlueCore3-Multimedia External Bluetooth chip. MM330 is fully integrated with external 8M bit of Flash, Crystal, RF filter, Power Amplifier circuitry and peripheral passive components, this all-in-one module provides the most compact integrated design to ease your system design for benefits of time-to-market and cost saving.

When used with the CSR Bluetooth software stack, it provides a fully compliant Bluetooth system to v1.2 of the specification for data and voice communications.

BlueCore3-Multimedia External is a single chip radio and baseband IC for Bluetooth 2.4GHz systems, containing the Kalimba DSP, an open platform digital signal processor (DSP) coprocessor supporting enhanced audio applications. BlueCore3-Multimedia External has been designed to reduce the number of external components required, ensuring that production costs are minimised. The device incorporates auto-calibration and built-in self-test (BIST) routines to simplify development, type approval and production test. All hardware and device firmware is fully compliant with the Bluetooth v1.2 Specification.

### MM330 Module



actual size



4X actual size

### Applications

- Wireless Stereo Headphones
- Wireless Stereo Headsets
- Portable Audio Devices
- USB Audio Dongle
- Wireless Stereo Speakers
- Handsfree Speakers
- Automotive Car kits
- Wireless MP3 players
- Echo cancellation (CVC enabled)

### Features

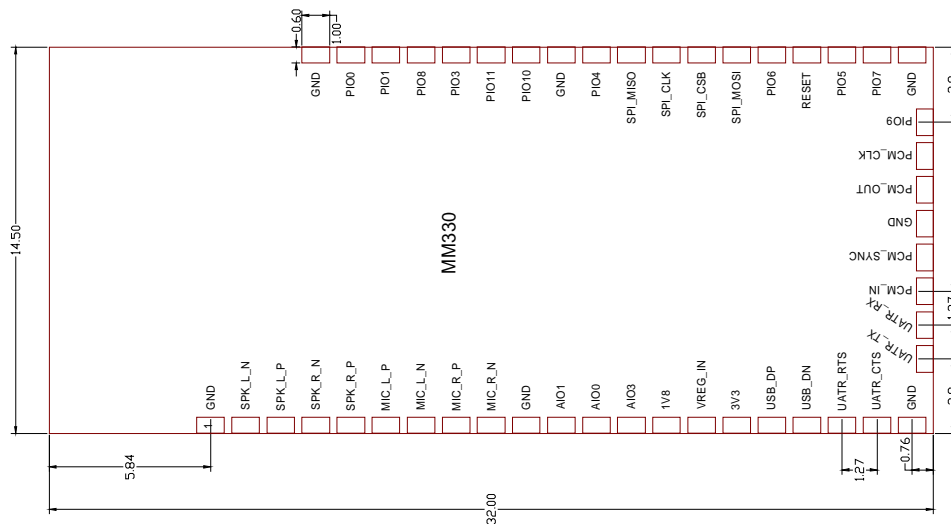
- Bluetooth 1.2 & RoHS Compliant
- Support A2DP/Headset/Handsfree/AVRCP profile
- CODEC embedded with 16-bit resolution, standard sample rates of 8kHz, 11.025kHz, 16kHz, 22.05kHz, 32kHz, 44.1kHz and 48kHz (DAC only) supported.
- Crystal oscillator with built-in digital trimming
- Power management includes digital shut down and wake up commands with an integrated low power oscillator for ultra-low power Park/Sniff/Hold mode
- On-chip linear regulator; 1.8V output from a 2.2-4.2V input
- Power-on-reset cell detects low supply voltage
- Synchronous serial interface up to 4Mbaud for system debugging and programming the Fresh memory
- UART interface with programmable baud rate up to 1.5Mbaud with an optional bypass mode
- Full speed USB v1.1 interface supports OHCI and UHCI host interfaces
- Bi-directional serial programmable audio interface supporting PCM, I2S and SPDIF formats
- Optional I2C. compatible interface

# Technical Specifications

- RF output power: up to +9 dBm (Class 2 enhancement)
- RX Sensitivity: -85 dBm Typ. (Class 2 enhancement)
- Working distance: up to 20 meters in open space
- 8 Mb on board flash memory
- 3.3 V and 1.8 V power operation
- Up to 14 fully configurable I/O available
- Kalimba DSP, 32 MIPS , 24 bit fixed point DSP core
- 16-bit stereo audio CODEC embedded
- Low power consumption\*( VDD=1.8V, Temp=20°C, Output power=4dBm)
  - BC3-MM: 28 mA (SCO connection HV3 @ no sniff mode)
  - 42 mA (SCO connection HV1)
  - 45 mA (ACL data transfer 720K bps UART or USB)
  - 0.45mA(ACL connection, Sniff Mode 40ms interval,38.4k bps UART)
  - 47 uA ( Standby Mode, connected to host, no RF activity)
- DSP: max 0.65mA/MIPS(Core) and 0.15mA/MIPS(memory access)
- Internal CODEC: 8mA @ music streaming
- Compact Size: 32.0mm x 14.5mm

\* Refer to CSR datasheet

## MM330 Footprint (Top View)



## BluePacket Communications, Co., Ltd.

### Taiwan

10F-1, No.420, Sec. 1, Keelung Rd., 110, Taipei, ROC  
Phone: 886-2-2720-1299 FAX: 886-2-2720-5738  
Web: [www.bluepacket.net](http://www.bluepacket.net) Email: sales@bluepacket.net

### USA

1645A S. Main St. Suite 208, Milpitas, CA 95035  
Phone: 408-946-6058 FAX: 408-946-6084