

GENERAL DESCRIPTION

>> F2M03MLA is a low power embedded Bluetooth™ v2.0 multimedia module with an on board antenna, integrated stereo amplifier and a 32 bit digital signal processor (DSP) allowing enhanced audio algorithms such as MP3 decoding and advanced echo cancellation as well as other general purpose applications. The module is a fully Bluetooth™ compliant device for audio and data communication. With a transmit power of up to +8dBm and receiver sensibility of down to -81dBm combined with stereo sound and low power consumption the F2M03MLA is suitable for the most demanding audio applications. Developers can easily implement a wireless solution into their product even with limited knowledge in Bluetooth™ and RF. The module is fully Bluetooth™ v2.0 qualified and it is certified according to CE and FCC, which give fast and easy Plug-and-Go implementation and short time to market.

>> With its extremely small outline and the on board highly efficient omni-directional antenna the F2M03MLA module remarkably simplifies the integration of any Bluetooth™ solution. The high output power combined with advanced audio features and low power consumption makes this module ideal for demanding battery powered audio applications.

>> The standard Wireless Audio Headset firmware is intended for most Bluetooth™ audio applications. Five Bluetooth™ profiles are currently supported: Headset, HandsFree, A2DP, AVRCP and SPP. The firmware can act stand alone with a button interface or controlled and configured with a very easy-to-use command interface. Customized firmware solutions with additional profiles, such as: HCI, SPP, DUN, OPP and HID can be delivered. It is also possible to implement advanced audio processing algorithms to improve the sound quality remarkably.

APPLICATIONS

- >> Stereo headphones
- >> Automotive hands-free kits
- >> Echo cancellation
- >> High performance telephony headsets
- >> Industrial and domestic appliances
- >> Medical systems
- >> Automotive applications
- >> Stand-alone sensors
- >> Embedded systems
- >> Cordless headsets



KEY FEATURES

- >> Fully qualified end product with Bluetooth™ v2.0, CE and FCC
- >> Low power consumption
- >> Integrated high output antenna
- >> Transmit power up to +8dBm
- >> Range up to 150m (line of sight)
- >> Piconet and Scatternet capability, support for up to 7 slaves
- >> Require only few external components
- >> Industrial temperature range -40°C to +85°C
- >> Serial interface up to 1.5Mbps
- >> Extensive digital and analog I/O interface
- >> 16-bit Stereo codec
- >> 32-bit Kalimba DSP for enhanced audio applications and other general purpose applications
- >> Many digital audio options: PCM, I²S and SPDIF
- >> Support for custom applications
- >> Large internal memory for custom applications
- >> RoHS compliant

TECHNICAL DETAILS

HARDWARE

- >> Bluetooth™ class 1 radio
 - > Nominal transmit power: +8dBm
 - > Nominal sensitivity: -81dBm
 - > Frequency: 2.4GHz ISM band
 - > Chipset: CSR BC3-MultiMedia
- >> Integrated high output antenna
- >> Internal 8Mbit Flash for complete system solution
- >> 16-bit stereo audio codec
- >> I²S and SPDIF interfaces
- >> 13-bit PCM interface
- >> Integrated amplifiers for microphones and speakers
- >> Built-in 32MIPs Kalimba DSP
- >> 8 digital and one 8-bit analog I/O
- >> Host processor interface: UART/USB
- >> Optional I²C compatible interface
- >> Serial interface up to 1.5Mbps
- >> Operating temperature: -40°C to +85°C
- >> Physical size (LxWxH) [mm]: 18.5x13.2x2.0
- >> Weight: 1.2g
- >> Supply voltage: regulated 3.1-3.6 VDC

CONTACT INFORMATION

- >> Please find your local distributor below or visit www.free2move.net to find your distributor in your country and for further information about our products.

Your distributor:



FIRMWARE

- >> Standard: Wireless Audio Headset; HSP, HFP, A2DP, AVRCP and SPP profile
- >> Customized: HCI, DUN, OPP and HID

CERTIFICATIONS

- >> Bluetooth™ v2.0 (ODID: B012539)
- >> Radio (EN 300 328 v.1.6.1)
- >> EMC (301 489-17 v1.2.1)
- >> Safety (EN 60950-1:2006)
- >> FCC (FCC ID: R47F2M03MLA)
- >> RoHS compliant

ORDER INFORMATION

- >> Standard module:
 - > F2M03MLA-S03 (Wireless Audio Headset)
- >> OEM-boards:
 - > F2M02MLA-S03 (Wireless Audio Headset)
 - > F2M02MLA-S03-K (Wireless Audio Headset, K: Additional pin-sockets for custom PCB)
- >> Evaluation kit:
 - > F2M03M-KIT-1
- >> Related products:
 - > F2M03GX Extended range module with U.FL-connector
 - > F2M03GXA Extended range module with antenna
 - > F2M03GLA Low power module with antenna

PRODUCT CODES

