

# MBC04A

Atheros AR3011 Bluetooth module

## MBC04A Bluetooth Module

### KEY FEATURES

Support SPP, DUN, HID, HCRP, HSP, OPP, LAN, FAX, PAN, A2DP,AVRCP,  
BIP and Syn. Profile..

Bluetooth 2.1+EDR

Power Level Class 2 (<4dBm)

High sensitivity -85dBm

Printing Antenna

### APPLICATIONS

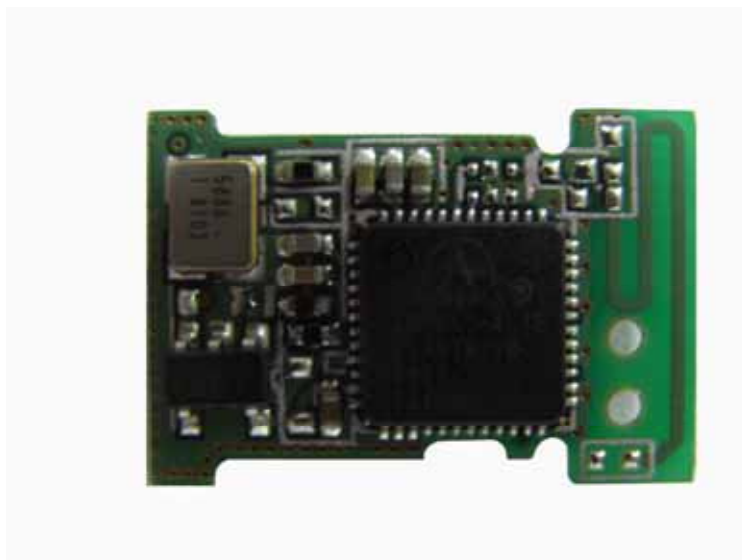
PDA and smart phone.

Digital frame with Bluetooth file transfer supporting.

GPS receiver.

Botebook PC and UMPC.

### Picture



TOP VIEW

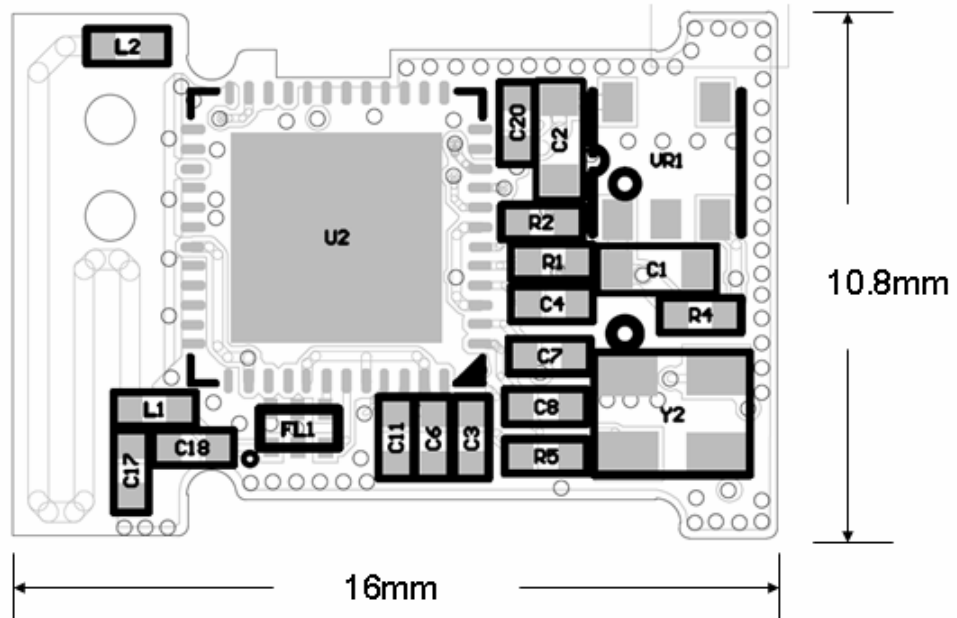
PHYSICAL SIZE 16mm X 10.8mm X 2.6mm

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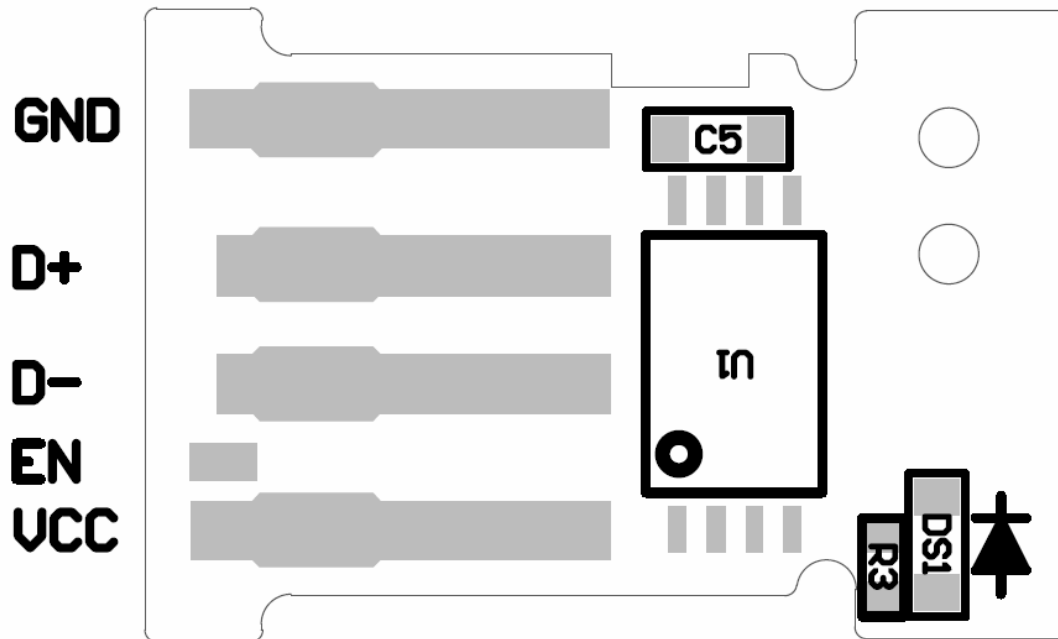
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# Hardware Pad Functions

## Dimension

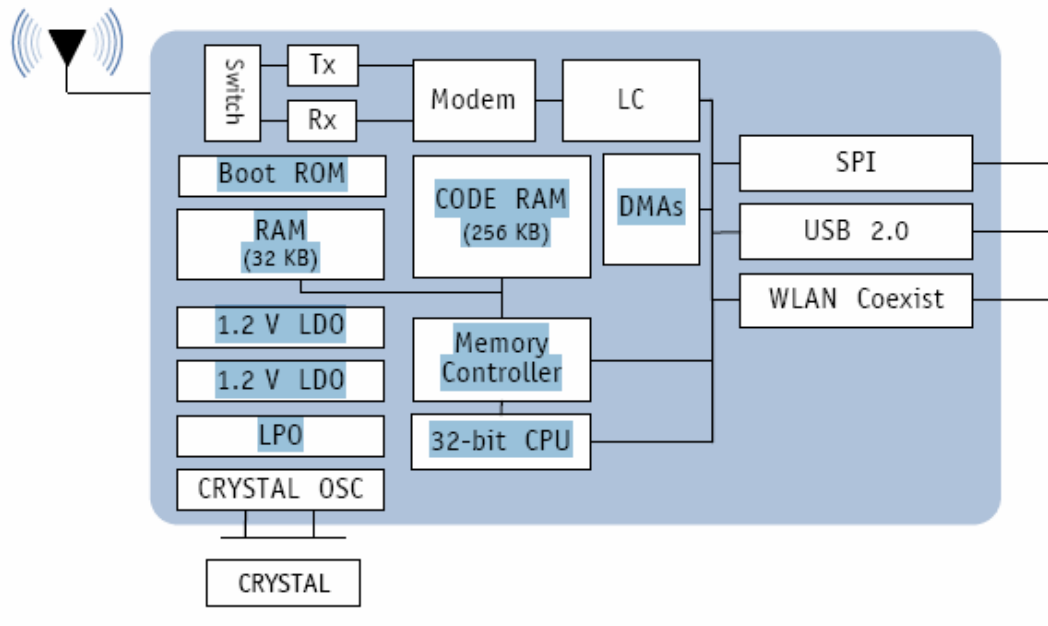


## PCB Footprint



Symbol	Function	Description
GND	Ground	Ground connections for digital and analog
D+	USB+	USB2.0 full speed, USB+
D-	USB-	USB2.0 full speed, USB-
EN	Enable	High active
Vcc	Power input	DC input 3.3 – 5V

## Hardware Block Diagram



## Bundled Software

**Atheros Bluetooth Software**  
**Support Microsoft Windows XP and Vista**

## Electrical Characteristics

Absolute Maximum Ratings		
Rating	Min	Max
Storage temperature	-40 °C	+150 °C
Supply Voltage	-0.4 V	4 V
Other terminal voltages	-0.4	3.7 V

Recommended Operating Conditions		
Operating Condition	Min	Max
Operating temperature range	-40 °C	+105 °C
Guaranteed RF performance range	-40 °C	+105 °C
Supply voltage	3.3V	5V

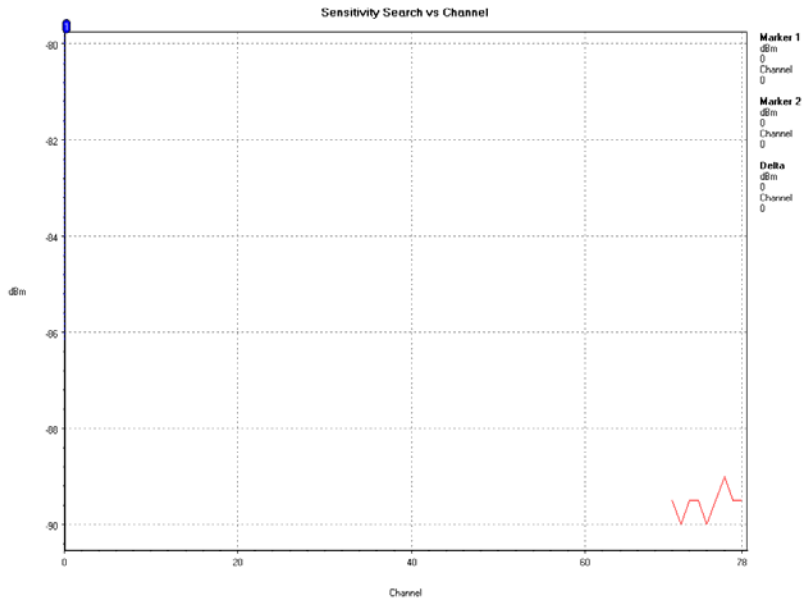
### RF Transmitter

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
$F_{TX}$	Transmit output frequency range	1 MHz center frequency	2.402	—	2.480	GHz
$P_{out}$	Maximum GFSK output power	—	0	2	4	dBm
	EDR power relative to GFSK	—	-4	-2	1	dB

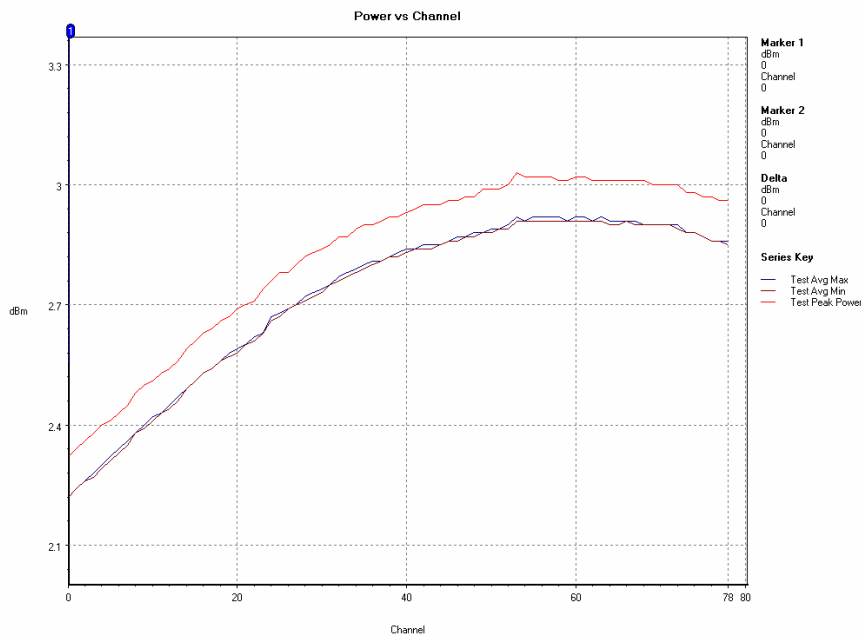
### RF Receiver

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
$F_{RX}$	Receive input frequency range	1 MHz channel spacing	2.402	—	2.480	GHz
Sens	1 Mbps sensitivity	0.1% BER	—	-88	—	dBm
	2 Mbps sensitivity	0.01% BER	—	-88	—	dBm
	3 Mbps sensitivity	0.01% BER	—	-82	—	dBm
$P_{max}$	Maximum input	—	—	—	0	dBm

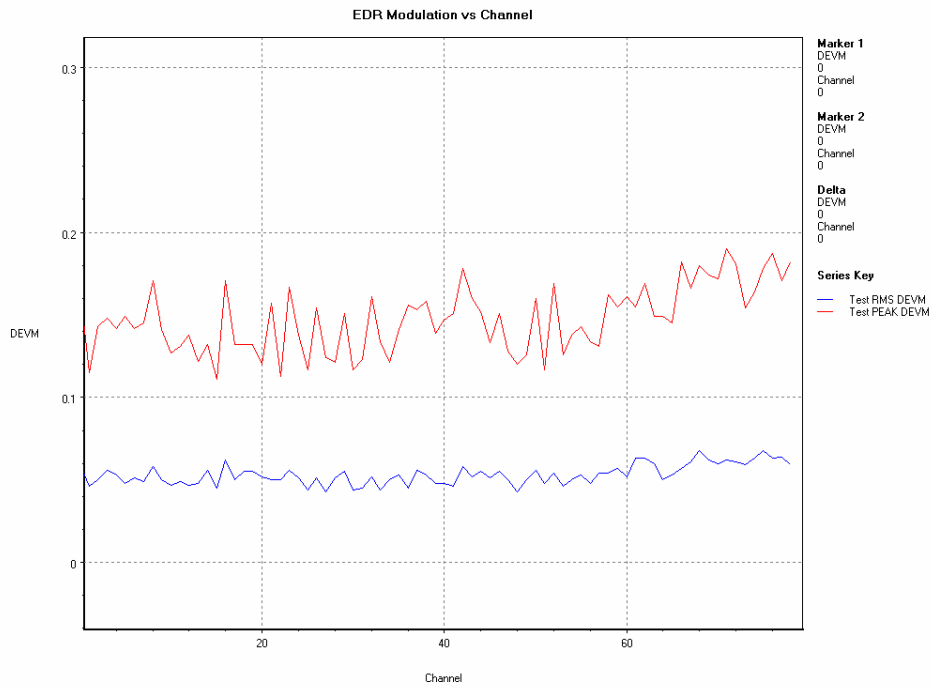
# Test report



Created 2009/2/10 TFF 04:57:11 using BlueSuite PFI0 by Anritsu

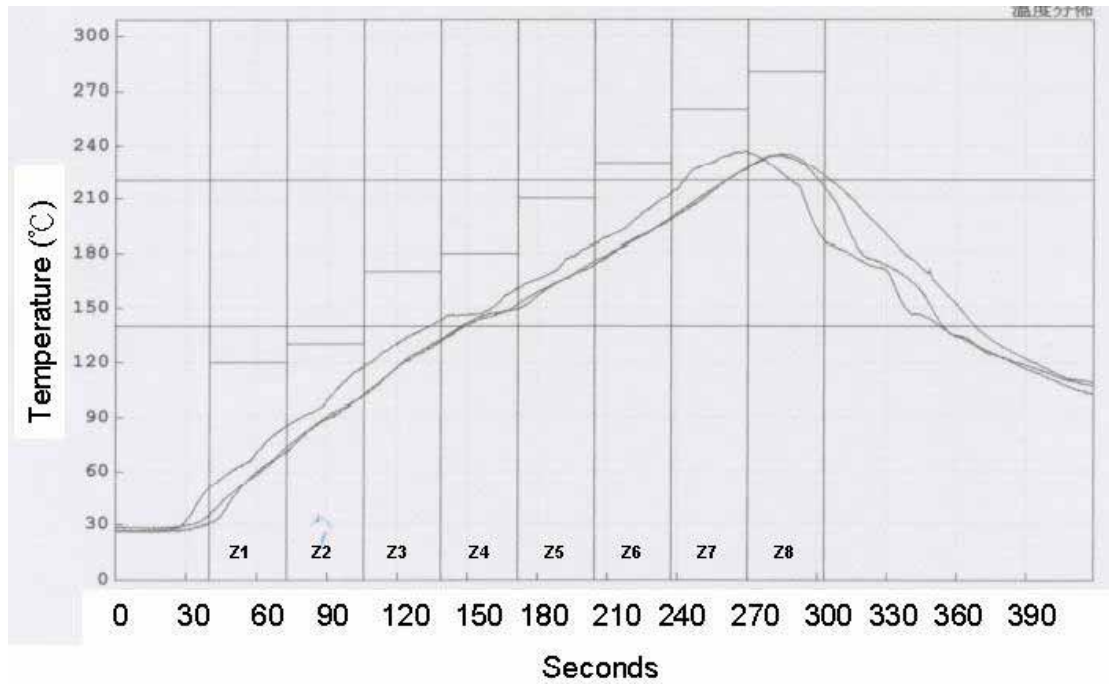


Created 2009/2/10 TFF 04:57:25 using BlueSuite PFI0 by Anritsu



Created 2009/2/10 下午 05:51:38 using BlueSuite PRO by Anritsu

## Reflow profile



Setpoints (°C)

Zone	Z1	Z2	Z3	Z4	Z5	Z6	Z7	Z8
Top	120	130	170	180	210	230	260	280
Bottom	120	130	170	180	210	230	260	280

Conveyer Speed (cm/min): 73

## Contact Information

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## Document History

Date	Revision	Reason of Change
2008,Dec,10	V1.0	Original publication
2009Mar,13	V1.1	Add EN pin

## MBC04A-datasheet