

Description

The BLUESMALL101 is a professional, slim and powerful wireless module ready for integration in brand new electronic products.

Based on CSR BC02 Chipset has 8Mb of Flash memory



Applications

BLUESMALL101 allows you to cut the cables using wireless communication with PC, Pda, Mobile phone...

It's suitable for integration in microprocessor systems without operative system since it doesn't need drivers to work. It also can work stand alone for simple cable replacement in audio/data applications.

- Audio systems
- Mobile phones, Smartphones, PDA
- Fitness Machines
- Professional GPS systems
- Telemetry systems

Mechanical and electrical

Dimensions	40 X 18 X 2,3mm
Connections	34 pin, pitch 1.27mm, SMT
Power supply	3,3V
Current	78 mA (Max on RF burst) 38 mA (RX typical)

Benefits

- Easy to setup
- Easy to manage and use
- Low power (battery operation)
- Zero Time for development

Applications

- Bluetooth serial applications
- Wireless UART
- Serial Cable replacement
- Bluetooth Audio
- Bluetooth HCI

Features

- Class 1 100m range
- Based on BC04 chip-set from CSR
- 8Mb flash memory
- +3.3V power supply
- Data communication UART (TTL signals)
- PCM Audio interface
- N.8 IO signals (programmable by firmware)
- Standard or custom firmware
- Our direct support for PCB integration and Antenna design

Pin assignment and description

PIN	Name	Type	Description	Note
1	GND	GND	Ground	
2	VPA	Power	+3.3V Power Supply for RF Power Amplifier	
3	GND	GND	Ground	
4	RESET	CMOS Input	Reset (active Low)	
5	SPI_MISO	CMOS Output	Serial Peripheral Interface data output (For Firmware flashing)	
6	SPI_MOSI	CMOS Input	Serial Peripheral Interface data input (For Firmware flashing)	
7	SPI_CSB	CMOS Input	Chip Sel for Synchronous Serial Interface (For Firmware flashing)	
8	SPI_CLK	CMOS Input	Serial Peripheral Interface clock (For onboard Firmware flashing)	
9	UART_CTS	CMOS Output	UART request to send (active low)	
10	UART_TX	CMOS Output	UART data output (active high)	
11	UART_RTS	CMOS Output	UART request to send (active low)	
12	UART_RX	CMOS Input	UART data input (active high)	
13	AIO0	Bi-directional	Programmable input/output line	
14	AIO1	Bi-directional	Programmable input/output line	
15	1.8V_FILTER	Analogue	Connection to external filtering capacitors	
16	VDD	Power Supply	+3.3V Power Supply for Module	
17	GND	GND	Ground	
18	PCM_SYNC	Bi-directional	Synchronous data SYNC	
19	PCM_OUT	CMOS Output	Synchronous data output	
20	PCM_CLK	Bi-directional	Synchronous data clock	
21	PCM_IN	CMOS Input	Synchronous data input	
22	USB_D+	Bi-directional	USB data plus	
23	USB_D-	Bi-directional	USB data minus	
24	GND	GND	Ground	
25	PIO7	Bi-directional	Programmable input/output line	
26	PIO6	Bi-directional	Programmable input/output line	
27	PIO5	Bi-directional	Programmable input/output line	
28	USB_DETACH	CMOS Input	Detaches from USB when this input is high	
	USB_ON	CMOS Input	USB on (input senses when VBUS is high)	
29	PIO2	Bi-directional	Programmable input/output line	
	USB_PULL_UP	CMOS Input	USB pull-up (via 1.5k ohm Resistor to USB_D+)	
30	PIO3	Bi-directional	Programmable input/output line	
	USB_WAKEUP	CMOS Output	Output goes high to wake up PC when in USB mode	
31	GND	GND	Ground	
32	GND	GND	Ground	
33	ANTENNA	OUT	Antenna output (50 ohm)	
34	GND	GND	Ground	

Electrical and RF

Absolute Maximum Rating	Min	Max
Storage Temperature	-40°C	+85°C
Supply Voltage (VDD, VPA)	-0.30V	+3.60V

Recommender Operating Conditions	Min	Max
Operating Temperature Range	-25°C	+75°C
Supply Voltage (VDD, VPA)	+2.70V	+3.60V

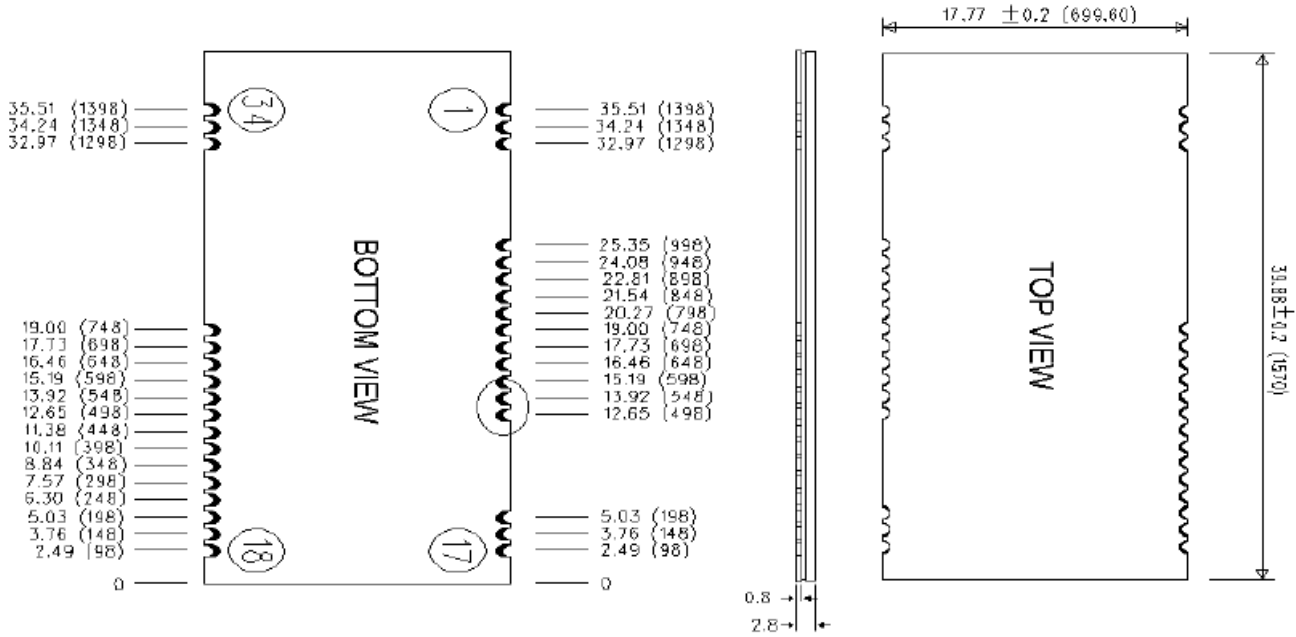
Power Consumption	Average (mA)	Peak
SCO Connection HV3 (1s interval sniff mode)	36,3	45,7
SCO Connection HV1 (1s interval sniff mode)	36,5	42,8
ACL Data Transfer 115.2Kbps UART	83	84,8
ACL Data Transfer 721Kbps USB	99,5	107
Peak Current during RF Burst	115	120
Leakage Current (all off) supply connected	40	75

Receiver	Units	Min	Typ	Max	BT Spec.
Sensitivity at 0.1% BER	dBm	Min	-80	-78	-70
Maximum Receiver Signal	dBm	-	-	-8	-20
C/I Co-channel	dB	-	9	-	0
Adjacent Channel Selectivity C/I 1Mhz	dB	-	-	0	0
2nd Adjacent Channel Selectivity C/I 2Mhz	dB	-	-	-30	-30
3rd Adjacent Channel Selectivity C/I 3Mhz	dB	-	-	-40	-40
Image Rejection C/I	dB	-	-	-9	-9

Transmitter	Units	Min	Typ	Max	BT Req
RF Output Power	dBm	-	12	20	<23
RF Power Control Range	dB	-	26	-	Pmax +4dBm
RF Power Range Control Resolution	dB	2	-	8	2-8
20dB Bandwidth for Modulate Carrier	KHz	-	850	-	<1000
2nd Adjacent Channel Power (+/-2MHZ)	dBc	-	-	-	-20
3rd Adjacent Channel Power (+/-3MHZ)	dBc	-	-	-	-40

Mechanical drawing

Physical Dimension Unit in mm (mils)

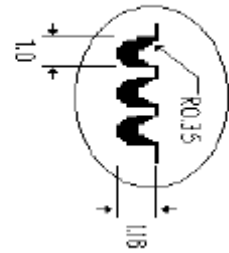


PCB pad

Pad dimensions 1mm by 1mm (on the PCB)

Pad Pad distance 1.27mm (center by center)

Gerber data available for our customer to design PCB in the right way.



Order informations

You can buy online from www.eikonsite.it or contact your local reseller.

Applications and firmware options

- Serial port cable replacement with AT commands for setup (**default firmware : EikonAT onboard**)
- HCI firmware (**EikonHCI**)
- Custom firmware available on request (preloaded on modules from 500pcs/order)

Firmware on BLUESMALL101 can be updated using our evaluation kits once this module has been mounted on your board (SPI interface).

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