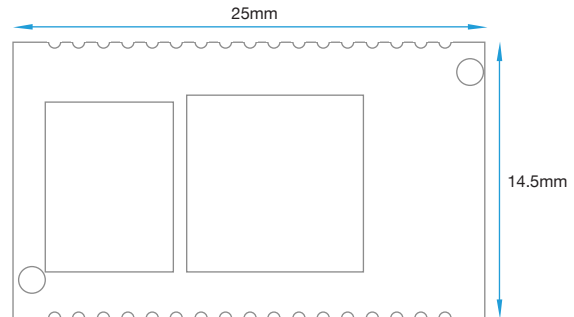
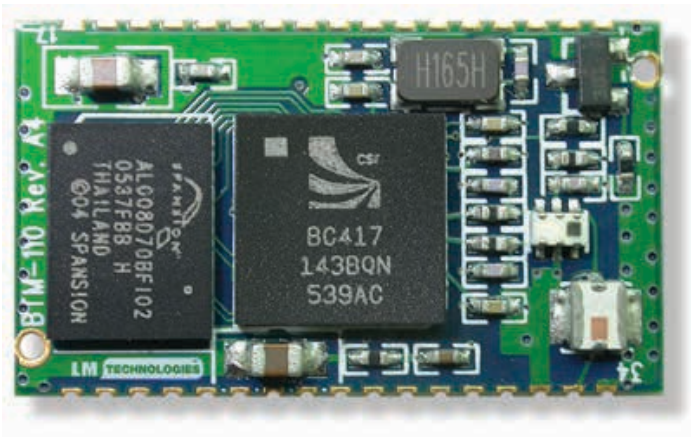




LM071 Bluetooth 2.0 / 2.1 + EDR Module

Class 2 BC04, 8MB Flash, Up to 25m

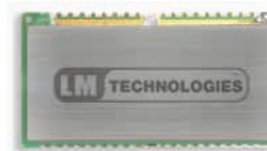
Product LM071
 Part No 071-0101
 Revised 02/MAR/2015



Features

- The module is a Max 4dBm (Class2) module.
- Bluetooth standard v2.0 and BT v2.1 + EDR specification
- Support for up to 7 ACL links and 3 SCO links (HCI mode firmware)
- Low current consumption: Hold, Sniff, Park, Deep Sleep Mode
- 3.0V to 3.6V operation
- Interface: USB, UART & PCM (for VOICE CODEC)
- SPP firmware available by default. Also offered HID firmware Support for 802.11 Co -Existence
- RoHS compliant
- External Antenna
- No Host Stack required
- Extensive Technical Support available
- Support for encryption data and authentication
- Low Cost Solution
- Low Power, Robust Design
- Interoperable with PDAs, Phones, PCs and Laptops

- AT Command Set provided for module configuration
- Small outline: 25mm x 14.5mm x 2.2mm
- Class 2 Radio with 25m range in open space
- Excellent solution to integrate wireless connectivity to a product for short range connectivity



Applications

- Serial Communications
- Cordless handsets
- Digital camera's and printer's
- Embedded Devices
- Access Points
- GPS, POS, Barcode Readers
- Domestic and industrial applications

Overview

The LM071 Bluetooth Class 2 Module is a an integrated module which runs on LM's own tried and tested BT2.1 EDR or BT2.0 EDR SPP Stack Firmware. The LM071 Bluetooth Class 2 Module comes with SPP Stack and can also work with a range of Bluetooth profiles such as SPP, OBEX, HID, DUN etc. It supports 3.0v to 3.6v input and has a footprint of 25mm x 14.5mm x 2.2mm.

The Bluetooth Class 2 Module is designed to provide excellent performance, with minimum power consumption, it can also be offered as a HCI mode module due to it's low cost.



LM071 Bluetooth 2.0 / 2.1 + EDR Module

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Packaging Options

Individual

Part No 071-0100

LM071 with BT2/0/2.1 + EDR firmware

Tray

Part No 071-0101

LM071 with BT2/0/2.1 + EDR firmware

Tape & Reel 900

Part No 071-0102

LM071 with BT2/0/2.1 + EDR firmware

- User Guides, Manuals and Widcomm Configuration Software available to download via our website - <http://www.lm-technologies.com/support/downloads>

General Specification

Chipset	CSR Bluecore 4 BC04
Power Classification	Class 2
Module Type	Surface Mount SMT
Bluetooth Specification	Bluetooth 2.0 and Bluetooth 2.1 + EDR
Frequency	2402 - 2480 MHz
Data Rate	Up to 3 Mbps in HCI Mode
Range	25m in open space
Rx Sensitivity	-82 dBm typical
Antenna	External Antenna
Voltage operation	3.0V - 3.6V
Average Current Consumption (Deep Sleep Mode)	40 uA
Average Current Consumption (ACL Sniff Mode)	2.4 mA
Peak Current Consumption	58 mA
Power Output	+4 dBm
Default Firmware	v4.55 (BT2.0), v6.18 (BT2.1)
Size	25mm x 14.5mm x 2.2mm
Bluetooth Profile	Serial Port Profile (SPP)
Interface	UART
Serial Parameters	Default 19200, 8 N 1
UART lines	TxD, RxD, GND, CTS, RTS
Baud Rates	1.2/2.4/4.8/9.6/19.2/38.4/57.6/115.2/230.4/460.8/921.6 kbps
Configuration	AT Command Set
Flash Memory	8MB
RoHS Compliant	Yes



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Pin Assignments

Pin	Name	Type	Description
1	PIO 8	Bi-directional	Programmable Input / Output line
2	PIO 9	Bi-directional	Programmable Input / Output line
3	PIO 10	Bi-directional	Programmable Input / Output line
4	AIO 0	Bi-directional	Programmable Input / Output line, 32KHz sleep clock input
5	AIO 1	Bi-directional	Programmable Input / Output line, 32KHz sleep clock input
6	RESET	CMOS Input	Reset if high. Input debounced so must be high for >5ms to cause a reset
7	SPI_MISO	CMOS_Output	Serial Peripheral Interface Data Output
8	SPI_CSB	CMOS Input	Chip Select For Synchronous Serial Interface active low
9	SPI_CLK	CMOS Input	Serial Peripheral Interface Clock
10	SPI_MOSI	CMOS Input	Serial Peripheral Interface Data Input
11	UART_CTS	CMOS Input	UART Clear To Send (Active Low)
12	UART_TX	CMOS Output	UART Data Output
13	UART_RTS	CMOS Output	UART Request To Send (Active Low)
14	UART_RX	CMOS Input	UART Data Input
15	PIO 11	Bi-directional	Programmable Input/Output line
16	3V3	Power	3.3V Power Supply Input
17	GND	GND	Ground
18	PCM_OUT	CMOS Output	Synchronous Data Output
19	PCM_SYNC	Bi-directional	Synchronous Data Sync
20	PCM_IN	CMOS Input	Synchronous Data Input
21	PCM_CLK	Bi-directional	Synchronous Data Clock
22	USB_DP	Bi-directional	USB Data Plus
23	USB_DN	Bi-directional	USB Data Minus
24	PIO 7	Bi-directional	Programmable Input /Output line
25	PIO 6	Bi-directional	Programmable Input /Output line, CLK_REQ , WLAN_Active /Ch_Data input
26	PIO 5	Bi-directional	Programmable Input /Output line, USB_DETACH, BT_Active output
27	PIO 4	Bi-directional	Programmable Input / Output Line, USB_ON, BT_Priority /Ch_Clk Output
28	PIO 3	Bi-directional	Programmable Input/Output Line, USB_WAKE_UP, CLK_REQ_IN
29	PIO 2	Bi-directional	Programmable Input / Output Line, USB_PULL_UP, CLK_REQ_OUT
30	PIO 1	Bi-directional	Programmable Input/Output Line, TX Enable
31	PIO 0	Bi-directional	Programmable Input / Output Line, RX Enable
32	GND	GND	Ground
33	RF_IO	Analogue	50 ohm Antenna connection
34	GND	GND	Ground



LM071 Bluetooth 2.0 / 2.1 + EDR Module

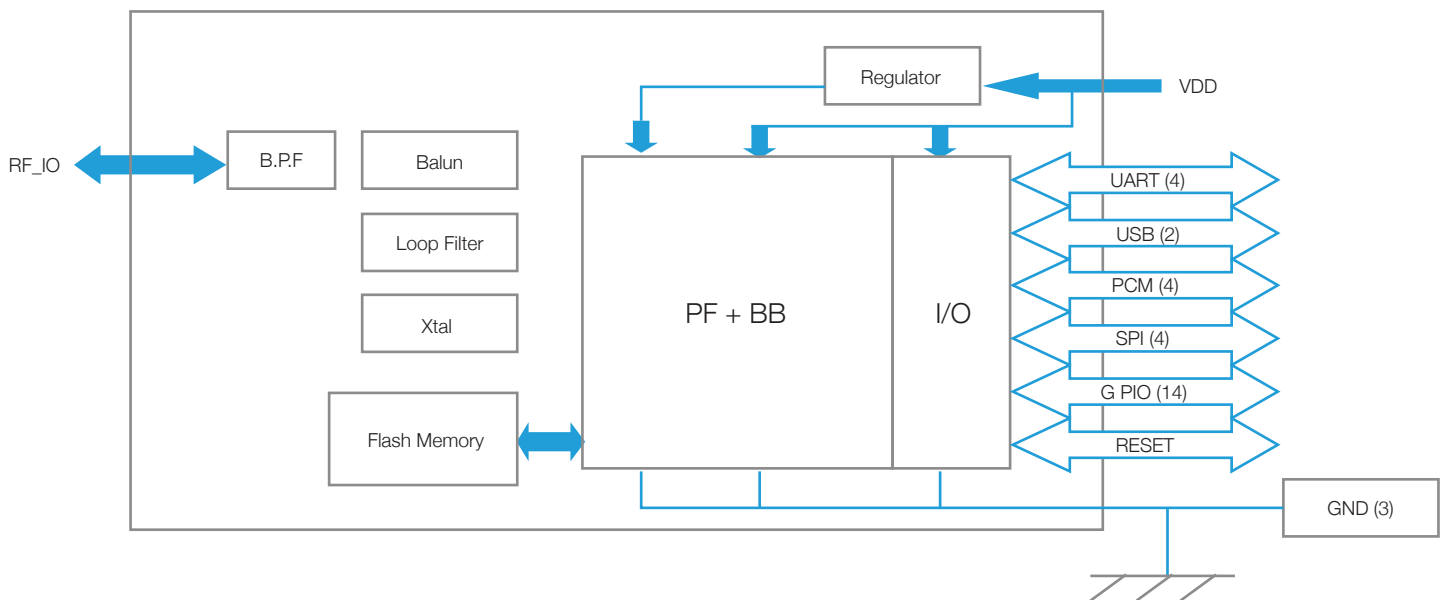
Class 2 BC04, 8MB Flash, Up to 25m

Product LM071
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General Electrical Specification

Parameter	Description	Min	Typical	Max	Units
Operating Voltage VDD	-	3.00	3.30	3.60	V
RF Output Power	Measured in 50 ohm	-6	0	4	dBm
RX Sensitivity	-	-	-83	-80	dBm
Input Low Voltage	RESET, UART, GPIO, PCM	-0.30	-	0.80	V
Input High Voltage	RESET, UART, GPIO, PCM	0.70VDD	-	VDD+ 0.30	V
Output Low Voltage	UART, GPIO, PCM	-	-	0.40	V
Output High Voltage	UART, GPIO, PCM	VDD -0.40	-	-	V
Average Current Consumption	Deep Sleep	-	40	-	uA
Average Current Consumption	ACL 40ms sniff	-	2.4	-	mA
Average Current Consumption	SCO connection HV1	-	39	-	mA
Peak Current	Tx burst + 4dBm	-	-	58	mA

Block Diagram



Antenna Circuit

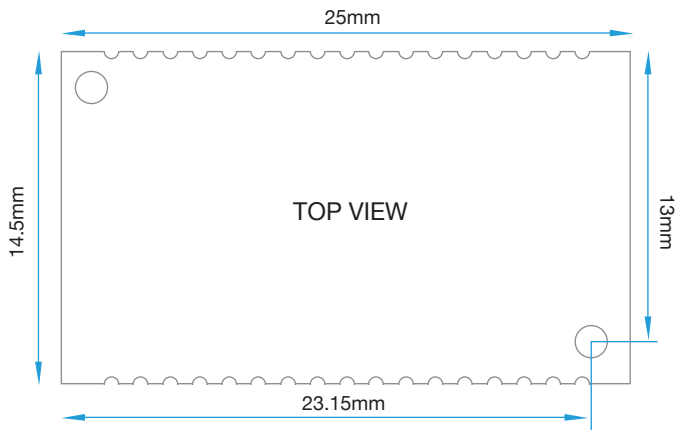
C1	NC/0603	0.1UF,16V, 80-20 ,Y5V,0603	CHIP/C
C2	NC/0603	0.1UF,16V, 80-20 ,Y5V,0603	CHIP/C
L4	OR/0603	OR, 1/10W, /-5, 0603	CHIP/R



LM071 Bluetooth 2.0 / 2.1 + EDR Module
 Class 2 BC04, 8MB Flash, Up to 25m

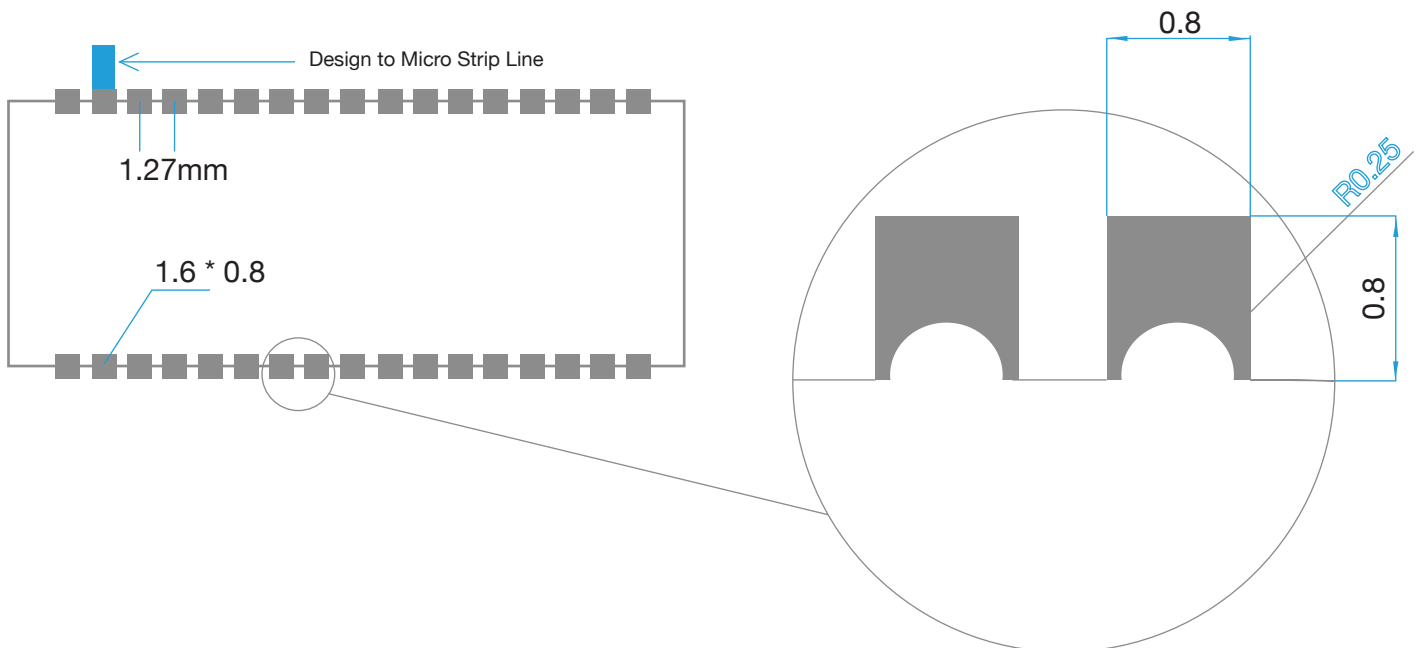
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Dimensions All measurements in mm



Pin Out Information

1	PIO 8	GND	34
	PIO 9	RF_IO	
	PIO 10	GND	
	AIO 0	PIO 0	
	AIO 1	PIO 1	
	RESET	PIO 2	
	SPL_MISO	PIO 3	
	SPL_CSB	PIO 4	
	SPL_CLK	PIO 5	
	SPL_MOSI	PIO 6	
	UART_CTS	PIO 7	
	UART_TX	USB_DN	
	UART_RTS	USB_DP	
	UART_RX	PCM_CLK	
	PIO 11	PCM_IN	
	3V3	PCM_SYNC	
17	GND	PCM_OUT	18



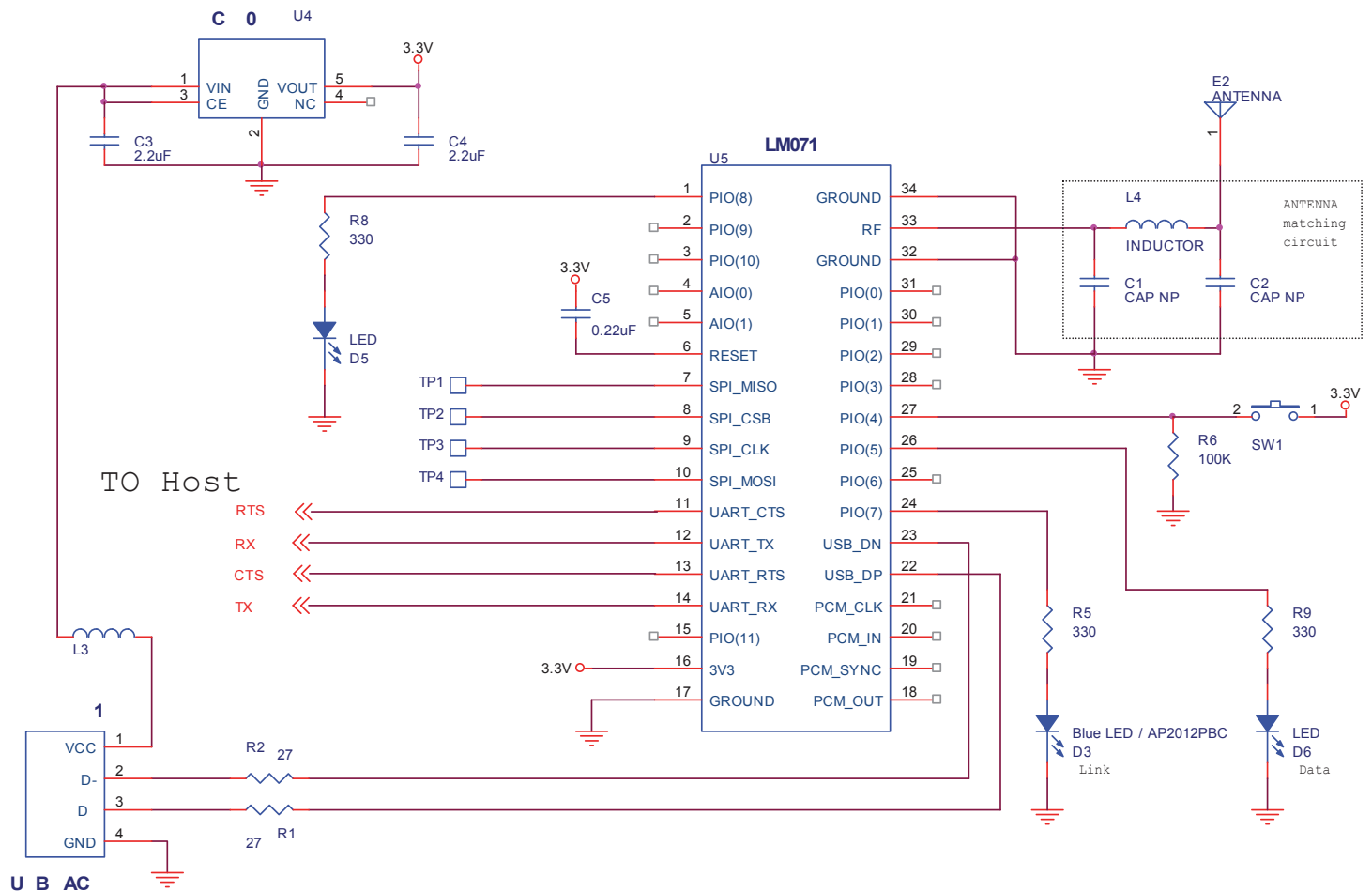


LM071 Bluetooth 2.0 / 2.1 + EDR Module

Class 2 BC04, 8MB Flash, Up to 25m

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Application Schematic



Revision History

1.3	02/MAR/2015	Updated Datasheet
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