Chipsmall

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

20.0 x 13.0 x 2.0 mm SMT Bluetooth Module

ABBTM-2.4GHz-31-T

Compliant to MSL level 3

Pb | **RoHS** Compliant

20.0 x 13.0 x 2.0 mm SMT

FEATURES:

• Bluetooth Spec v1.2 Compliant
• Class 2, up to 10-meter range
• Complete 2.4GHz Bluetooth® System
• Power management: low power 1.8V operation for Bluetooth® core
• Compact size: 20.0mm (L) x 13.0 (W) mm x 2.0mm (H)
• Bluetooth® Profile Supported: HSP, HFP, A2DP, AVRCP
• Built-in 16-bit stereo codec
• On-board flash memory (8Mbits)
• Optional echo cancellation software library
• Surface mount module for embedded applications
• Several firmware options
• Rewritable flash memory for easy upgrade route
• Custom firmware production available

APPLICATIONS:

• Stereo Bluetooth® headset/headphone
• Automotive car kit applications
• Personal Navigation Devices
• PDAs and other portable terminals
• MP3 headset

GENERAL DESCRIPTION

Abracon's ABBTM-2.4GHz-31-T module is a complete Bluetooth® solution built on CSR BC03 MultiMedia External Core, supported by 8Mbit on-board Flash Memory. ABBTM-2.4GHz-31-T is a short range, compact, cost effective solution designed to facilitate Bluetooth® connectivity for applications including PND, Car & Home Audio and other Handsfree solutions.

ABBTM-2.4GHz-31-T module is a Power Class-2 Bluetooth® device, compliant with version 1.2 specification. The overall architecture comprises of a radio front-end, antenna interface & supporting circuitry for software protocols including L2CAP, SDP, GAP, HSP, HFP, A2DP and AVRCP resident in the on board Flash Memory

ELECTRICAL SPECIFICATIONS:

Operating Frequency Band	2.4GHz ~ 2.48GHz Unlicensed ISM Band
Bluetooth Specification	V1.2
Output Power Class	Class 2
Operating Voltage	+1.8V and +3.3V
Host Interface	UART
Audio Interface	Analogue
Flash Memory Size	8 Mb

Absolute Maximum Ratings		
	Minimum	**Maximum**
Storage temperature	-40ºC	+150ºC
Supply voltage: VBAT	-0.30V	3.6V

Recommended Operating Conditions		
	Minimum	**Maximum**
Operating temperature range	-40ºC	+85ºC
Supply voltage: Vcc	+3.0V	+3.6V
Supply voltage: Vdd	+1.7V	+1.9V

Test Conditions: Vcc=3.3V; F=2.45GHz; T=20°C

20.0 x 13.0 x 2.0 mm SMT Bluetooth Module

ABBTM-2.4GHz-31-T

RoHS Compliant

20.0 x 13.0 x 2.0 mm SMT

▷ **POWER CONSUMPTION**

Operation Mode	Average	Unit
SCO Connection HV3 (30ms interval sniff mode)	21	mA
SCO Connection HV1	42	mA
ACL Data transfer 115.2Kbps UART no traffic (Slave)	5	mA
ACL Data transfer 115.2Kbps UART no traffic (Slave)	22	mA
ACL Data transfer 721Kbps USB	45	mA
Standby	0.15	mA
CODEC		
Microphone inputs and ADC/channel	0.85	mA
DAC and loudspeaker driver, no signal/channel	1.4	mA
Digital audio processing subsystem	8	mA

Test Conditions: Vcc=3.3V; F=2.45GHz; T=20°C

Firmware Configuration

a) UART Baud: 115200 , N, 8, 1
b) BlueTooth Name: ABBTM
c) Pin Code: 0000

Software Description

1. After Power on 3V3, the module is connectable and Pairing
2. ABBTM-2.4GHz-T can be found with the name "ABBTM" via any Bluetooth device
3. Input the Pincode "0000", you can pair with the module named "ABBTM"
4. Then the ABBTM can be connected
5. Data can be transferred between the ABBTM and any other Bluetooth device

State Indicator

a) Connectable and discoverable LED: 100mS High Level per 2S
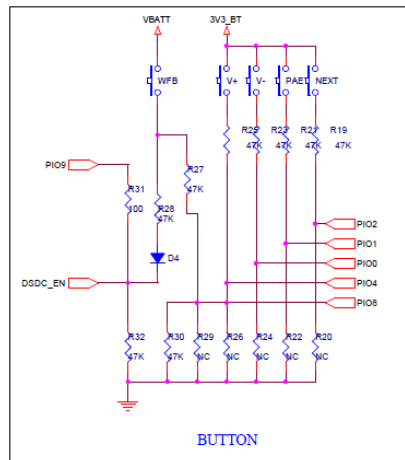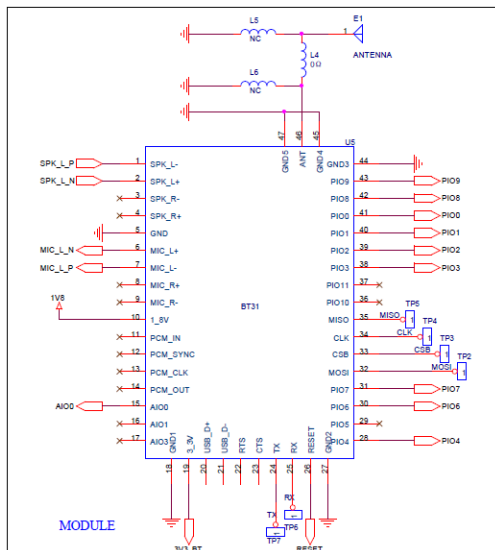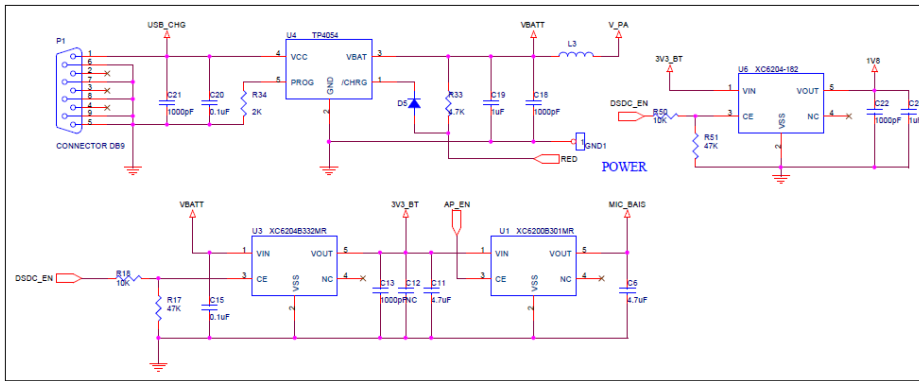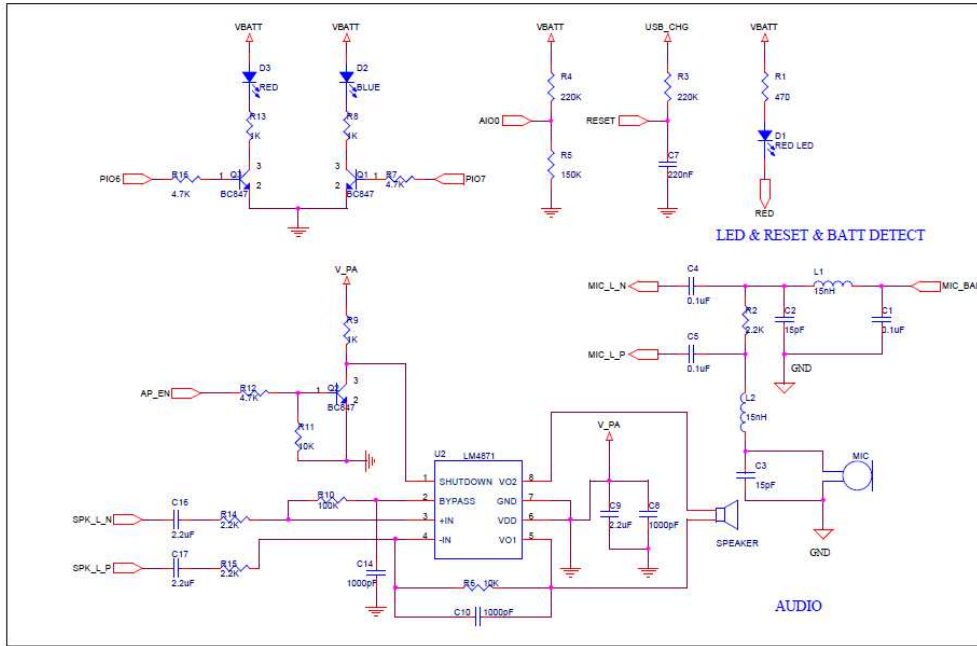b) Connected LED: always on

ABRACON IS ISO 9001:2008 CERTIFIED

ABRACON CORPORATION

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30332 Esperanza, Rancho Santa Margarita, California 92688
tel 949-546-8000 | fax 949-546-8001 | www.abracon.com

Revised: 01.14.15

RoHS Compliant

20.0 x 13.0 x 2.0 mm SMT

APPLICATION SCHEMATIC

LED & RESET & BATT DETECT

AUDIO

POWER

MODULE

BUTTON

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20.0 x 13.0 x 2.0 mm SMT Bluetooth Module

ABBTM-2.4GHz-31-T

Pb | **RoHS Compliant**

20.0 x 13.0 x 2.0 mm SMT

▷ PIN DESCRIPTION

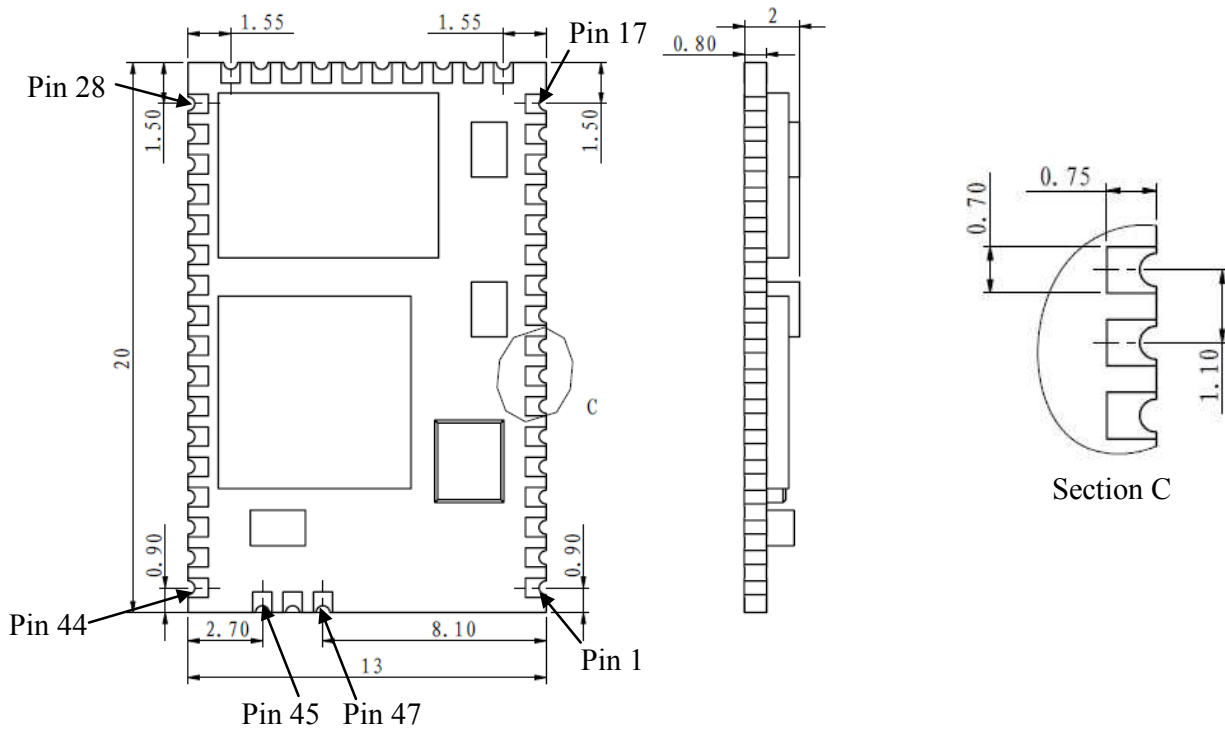| Pin No.	Name	Type	Function
1	SPK L-	Analogue	Speaker output negative(left side)
2	SPK L+	Analogue	Speaker output positive(left side)
3	SPK R-	Analogue	Speaker output negative(right side)
4	SPK R+	Analogue	Speaker output positive(right side)
5	GND	GND	Ground
6	MIC L+	Bi-directional	Programmable input/output line
7	MIC L-	Bi-directional	Programmable input/output line
8	MIC R+	Bi-directional	Programmable input/output line
9	MIC R-	Bi-directional	Programmable input/output line
10	1.8V	Power	+1.8V Supply
11	PCM-IN	CMOS Input	Synchronous Data Input
12	PCM-SYNC	Bi-directional	Synchronous Data Sync
13	PCM-CLK	Bi-directional	Synchronous Data Clock
14	PCM-OUT	CMOS Output	Synchronous Data Output
15	AIO0	Bi-directional	Programmable input/output line
16	AIO1	Bi-directional	Programmable input/output line
17	AIO**3**	Bi-directional	Programmable input/output line
18	GND	GND	Ground
19	3.3V	Power	+3.3V Supply
20	N.C.	Not Connected	
21	N.C.	Not Connected	
22	RTS	CMOS Output, tri-state, with weak internal pull-up	UART request to send active low
23	CTS	CMOS Input with weak internal pull-down	UART clear to send active low
24	TX	CMOS Output, tri-state, with weak internal pull-up	UART data output
25	RX	CMOS Input with weak internal pull-down	UART data input
26	RESET	CMOS Input	Reset if High
27	GND	GND	Ground
28	PIO4	Bi-directional with programmable strength	PIO
29	PIO5	Bi-directional with programmable strength	PIO
30	PIO6	Bi-directional with programmable strength	PIO line or clock request output to enable external clock for external clock line
31	PIO7	Bi-directional with programmable strength	Programmable input/output line or programmable frequency clock output
32	MOSI	CMOS Input	Serial Peripheral Interface Data Input
33	CSB	CMOS Input	Chip Select for Synchronous Serial Interface (active low)
34	CLK	CMOS Input	Serial Peripheral Interface Clock
35	MISO	CMOS Output	Serial Peripheral Interface Data Output
36	PIO10	Bi-directional	Programmable input/output line
37	PIO11	Bi-directional	Programmable input/output line
38	PIO3	Bi-directional with programmable strength	PIO
39	PIO2	Bi-directional with programmable strength	PIO or external clock request
40	PIO1	Bi-directional with programmable strength	Control output for external PA (if fitted)
41	PIO0	Bi-directional with programmable strength	Control output for external Tx/Rx switch (if fitted)
42	PIO8	Bi-directional	Programmable input/output line
43	PIO9	Bi-directional	Programmable input/output line
44	GND	GND	Ground
45	GND	GND	Ground
46	ANT	RF	RF Interface
47	GND	GND	Ground

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20.0 x 13.0 x 2.0 mm SMT Bluetooth Module

ABBTM-2.4GHz-31-T

Pb | **RoHS** Compliant

20.0 x 13.0 x 2.0 mm SMT

▷ MECHANICAL DIMENSIONS

1.55 1.55 Pin 17 0.80 2

Pin 28

1.50 1.50

20

C

0.90 0.90

Pin 44

2.70 8.10

13

Pin 45 Pin 47

Pin 1

Recommended Land Pattern

0.70 0.75

1.10

Section C

13

1.55 1.55

1.50

20

0.90 0.90

A

2.70 8.10

1.50

0.70 1.10

Section A
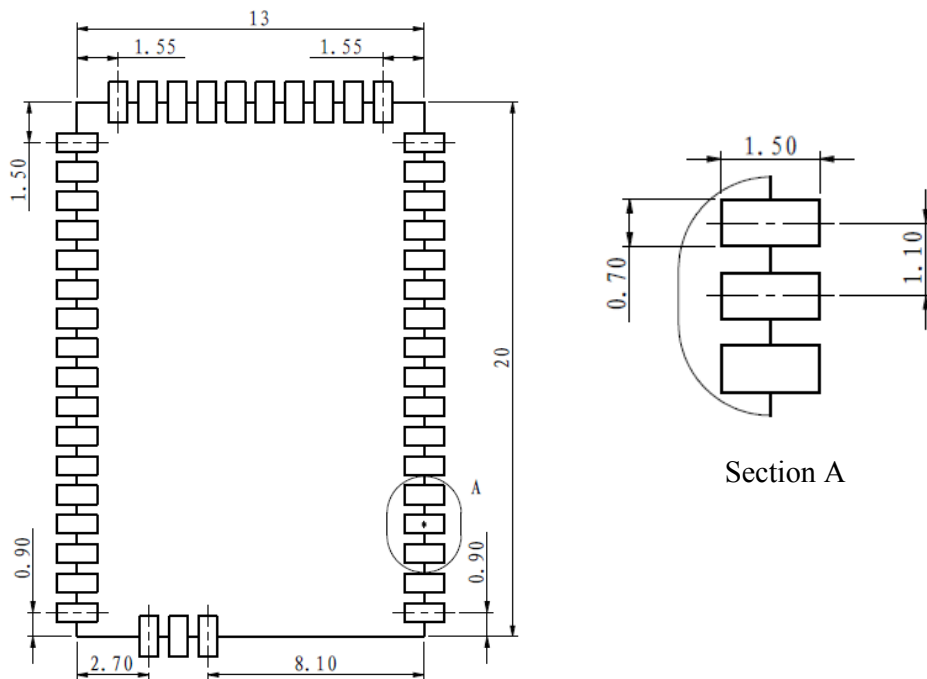
Note: Specified dimensions without tolerance are listed for reference purposes only.

Dimensions: mm.

REFLOW PROFILE
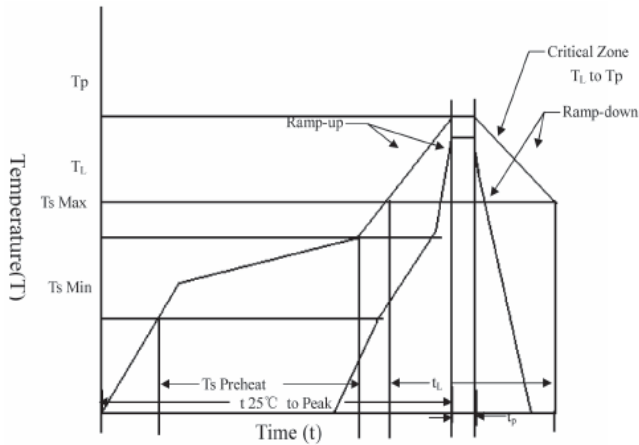
T_S max to T_L (Ramp-up Rate)	3°C/second max.
Preheat Temperature Min. (T_S Min.) Temperature Typical (T_S Typ.) Temperature Max. (T_S Max.) Time (t_S)	150°C 175°C 200°C 60 ~ 180 seconds
Ramp-up rate (T_L to T_p)	3°C/second max.
Time Maintained Above: --Temperature (T_L)/Time (T_L)	217°C/60 ~ 150 seconds
Peak Temperature (T_p)	250°C max. for 10 seconds
Target Peak Temperature (T_p Target)	250°C +0/-5°C
Time within 5°C of actual peak (t_p)	20 ~ 40 seconds
Ramp-down Rate	6°C/second max.
Tune 25°C to Peak Temperature (t)	8 minutes max.

PACKAGING:

500pcs/reel
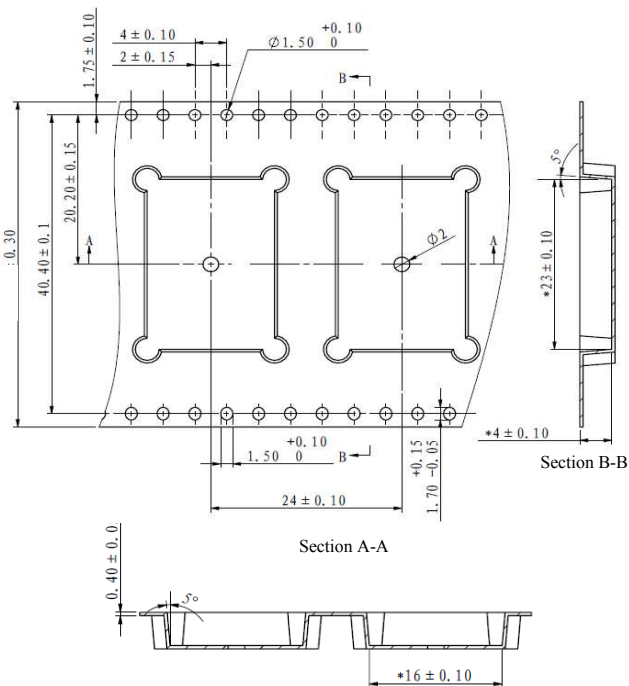
包装要求：
500 pcs/Reel
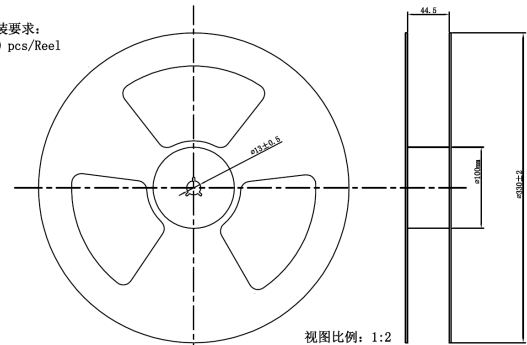
视图比例: 1:2

a) Unless otherwise specified, the tolerance is ±0.1mm
b) The carrier tape material thickness is 0.4mm
c) Unless otherwise specified, the round corner is R0.3; the peeling angle is no greater than 5°
d) The finished products has no rough edges and no damage; cover tape should is sealed
e) Material is ROHS compliant

Packaging:

ABBTM-2.4GHz-31-T devices will be packaged per MSL level-3 requirements; Labeled as MSL 3, Tape- Packed + Vacuum-Packed with Antistatic bag, Desiccant, Humidity Indicator Card (HIC). Ref: IPC/JEDEC J-STD-033B.1