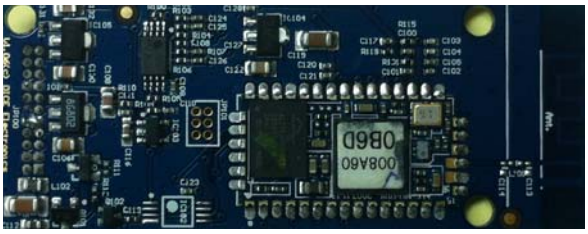
www.diceelectronics.com
P.O. Box 4470
Lake Tahoe, NV 89449
Ph: 888.DICE.999 Fx: 775.546.6012

User Manual



Product Name:	BT1DB
Module :	BT1DB
Version:	1.03
Release Date:	August 03, 2010

This document is proprietary and shall not be used without the written permission of Dice Electronics, LLC.

Copyright Dice Electronics, LLC. All Rights Reserved. Subject to change without notice.

P.O. Box 4470
Lake Tahoe, NV 89449
Ph: 888.DICE.999 Fx: 775.546.6012

Compliance Information

This product has been tested and found to comply with Bluetooth BQB requirements, part 15 of FCC rules, IC, R&TTE Directive 99/5/EC or CE marked requirements.

Warning: Users should not make changes or modify the device in any way. Changes or modifications without expressly approved by the party responsible for compliance could void the user's authority to operate the device.

FCC Compliance Statement:

FCC STATEMENT
1. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference.
(2) This device must accept any interference received, including interference that may cause undesired operation.
2. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.
This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.
Increase the separation between the equipment and receiver.
Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
Consult the dealer or an experienced radio/TV technician for help.

FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body

P.O. Box 4470
Lake Tahoe, NV 89449
Ph: 888.DICE.999 Fx: 775.546.6012

IC Radiation Exposure Statement for Canada

Operation is subject to the following two conditions:
(1) this device may not cause interference, and
(2) this device must accept any interference, including interference that may cause undesired operation of the device.

CE

The device is approved to be used in the member states of the EU. We declare that the device complies with the essential requirements and other relevant provisions of the Radio and Telecommunications Terminal Equipment Directive 1999/5/EC (R&TTE Directive). This equipment may be operated in all European Union member countries. When operated in France and Spain, this equipment uses non harmonized frequency bands.

CE2200!

P.O. Box 4470
Lake Tahoe, NV 89449
Ph: 888.DICE.999 Fx: 775.546.6012

CONTENT

1 Overview 5

1.1 Communication 6
1.2 Application 6

2 Connectivity 6

3 General Specifications 8
3.1 Bluetooth Specification 8
3.2 Power 8
3.3 Environmental Specification 8

4 Product Marking 9
4.1 Compliance Label 9

1 Overview

BT1DB is a Bluetooth integration board based on the FLC-BTMDC751 BQB certified module. The board consists of a power supply section, audio amplifier, microphone support circuit, antenna and an FLC-BTMDC751 module.

FLC-BTMDC751 module complies with Bluetooth specification version 2.0. It is based on CSR's BC5 platform that integrates RF, and baseband controller. Supported profiles include HS/HF, A2DP, AVRCP and SPP.

Board can accommodate an 8 pin EEPROM such as AT25256A and can be communicated to via SPI lines. An off board CPU controls this component and its absence or presence does not impact the Bluetooth communications.

For additional specifications please refer to the documentation of the FLC-BTMDC751 module.

1.1 Communication

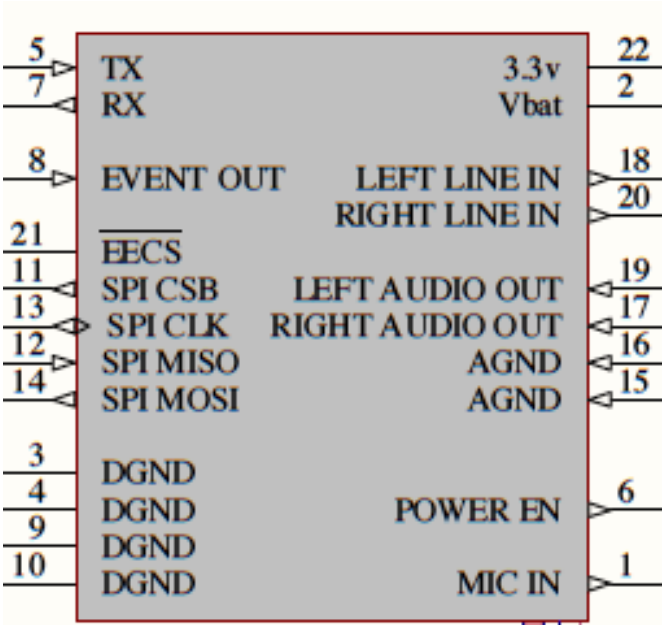
Standard AT commands are used to control and communicate the Bluetooth boards. UART shall be set to 115K,8,N,1 and communicated using standard 3.3V logic levels.

1.2 Application

BT1DB is a Bluetooth integration board may be used in automotive multimedia applications, or can be integrated to home products where Bluetooth connectivity is desired.

2 Connectivity

A 1.27mm 2x11 connector accommodates power, ground, audio, and UART communication lines necessary to operate the integration board.



Pin	Symbol	I/O	Information
1	MIC IN	Analog	Microphone Input (+)
2	Vbat	Power	DC power (+)
3	DGND	Ground	Digital Ground
4	DGND	Ground	Digital Ground
5	TX	Bi-directional CMOS output, tri-state, with weak internal pull-up	UART data output
6	POWER EN	Digital	Power Enable
7	RX	CMOS input with weak internal pull-down	UART data input
8	EVENT OUT	Digital	Event indicator
9	DGND	Ground	Digital Ground
10	DGND	Ground	Digital Ground
11	SPI CSB	CMOS input with weak internal pull-up	N/C
12	SPI MISO	CMOS output, tri-state, with weak internal pull-down	EEPROM SPI
13	SPI CLK	input with weak internal pull-down	EEPROM SPI
14	SPI MOSI	CMOS input, with weak internal pull-down	EEPROM SPI
15	AGND	Ground	Analog Ground
16	AGND	Ground	Analog Ground
17	RIGHT AUDIO OUT	Analog	Right Audio Out
18	LEFT LINE IN	Analog	N/C
19	LEFT AUDIO OUT	Analog	Left Audio Out
20	RIGHT LINE IN	Analog	N/C
21	EECS	Digital	EEPROM Chip Select
22	3.3V	Digital (3.3V)	Power Supply On Control Line

P.O. Box 4470
Lake Tahoe, NV 89449
Ph: 888.DICE.999 Fx: 775.546.6012

3 General Specifications

3.1 Bluetooth Specification

Standard	Bluetooth2.1+ EDR, Class II
Frequency Band	2.4~2.48GHz
Modulation Method	GFSK;PI/4-DQPSK;8DPSK
Maximum Data Rate	2.1Mbps
Hopping	1600hops/sec, 1MHz channel space
RF Input Impedance	50 ohms
Baseband Crystal OSC	16MHz
Interface	UART, PIO, AIO, USB, SPI, Speaker, Microphone
Operation Range	10 meters (33 feet)
Sensitivity	-85dBm@0.1%BER
RF TX Power	0dBm
Connectivity	Point to Point

3.2 Power

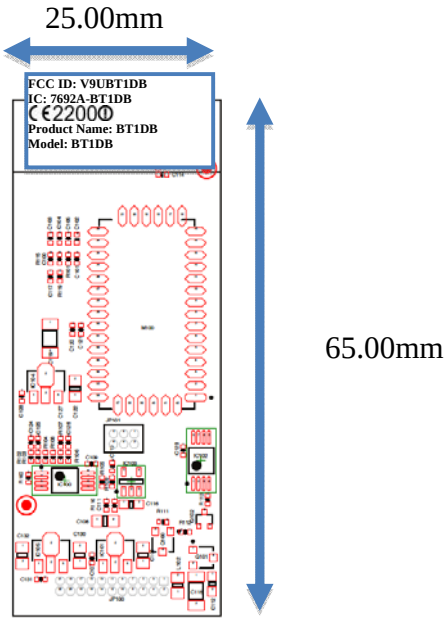
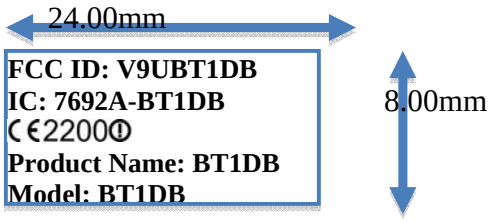
Operating Voltage	11.6V-13.8V
Maximum Voltage	24V

3.3 Environmental Specification

Temperature	-40ºC to +85ºC
Humidity	10%~90% Non-Condensing

4 Product Marking

FCC/IC/CE compliance marking shall be placed onto the module in the following manner



4.1 Compliance Label