

版本 Version: V1.0
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名称: 透传蓝牙模块

Name: Bluetooth Module

型号: CDT-BMA9022-10

Model: CDT-BMA9022-10

软件:

Software:

客 户 CUSTOMER	客户承认 APPROVE (请盖印章)	日期 DATE

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DESIGN: _____

CHECK: _____

APPROVAL: _____

Functional Overview

The **CDT-BMA9022-10** designed by Dragon basing on the QN9022 is a new generation of BT 4.0 SOC Bluetooth module, This chip built in a 32-bit ARM Cortex-M0 MCU.

1. Applications

- Sports and fitness
- Healthcare and medical
- Remote control
- Smartphone accessories
- PC peripherals(Mouse Keyboard)
- Wireless sensor networks

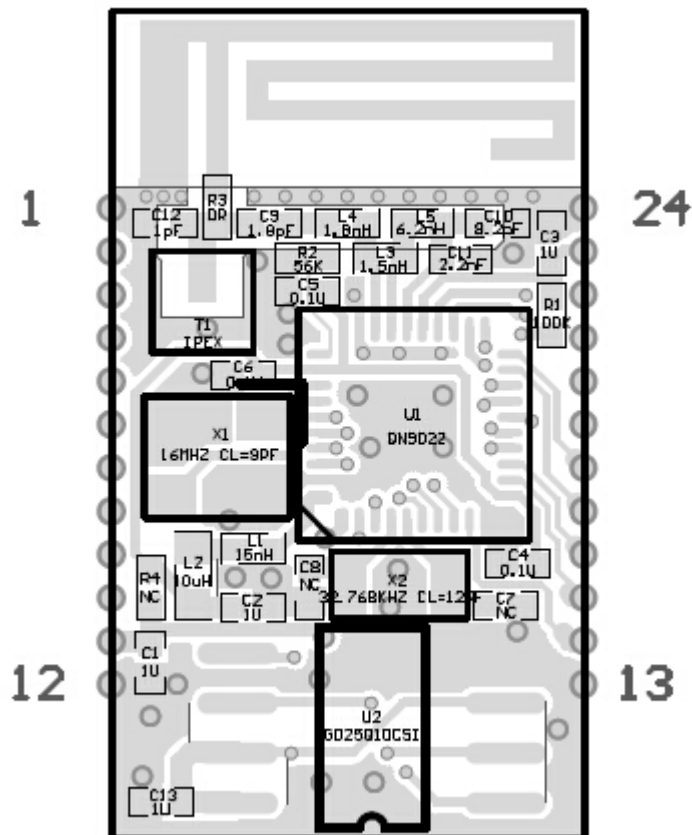
2. Product Features

- Radio Transceiver
 - Typical -95dbm RX sensitivity(non DC-DC mode)
 - Typical -93dbm RX sensitivity(DC-DC mode)
 - TX output power from -20 dBm to +4dBm
- True single-chip BLE Soc Solution
 - Integrated BLE radio
 - Complete BLE protocol stack and application profiles
 - Supports both master and slave modes
 - Up 8 simultaneous links in master mode
 - Frequency bands: 2400 MHz to 2483.5 MHz
 - 1 Mbits/s on air data rate and 250 KHz deviation
 - GFSK modulation format
- Very low power consumption
 - Single 2.4V to 3.6V power supply
 - Integrated DC-DC and LDO
 - 2 uA deep sleep mode
 - 3 uA sleep mode (32KHz RC OSC on)
 - 9.25 mA Rx current with DC-DC
 - 8.8 mA Tx current @0 dBm Tx power with DC-DC
- Compact 5 X 5 mm QFN 40 package

- High level integration
 - 4 channel , 10 bit ADC
 - 2 general purpose analog comparators
 - GPIO pins can be used as interrupt sources
 - 4 general purpose timers
 - 32 KHz sleep timer
 - Watchdog timer
 - Real time clock with calibration
 - 2 channel programmable PWM
 - SPI / UART interface
 - I2C master / slave interface
 - Battery monitor
 - AES1-28 security coprocessor

■ Internal 128K bytes Flash (Option)

Pin Assignment



TOP VIEW

Pin Description

Pin	Pin name	I/O	Description	Remark
1	GND	P	Ground	Power
2	DAT0	I/O	DAT0 / CLKOUT0 / P3_3	GPIO27
3	DIN0	I/O	DIN0 / ACMP0_O / P3_2	GPIO26
4	AIN1	I/O	T0_2 / AIN 1 / ACMP0- / P3_1	GPIO25
5	AIN0	I/O	T2_1 / AIN 0 / ACMP0+ / P3_0	GPIO24
6	CS0	I/O	CS0_0 / CTS0 / P0_1	GPIO1
7	SPICLK0	I/O	SDA / RTS0 / SPICLK0 / P0_2	GPIO2
8	T0	I/O	T0_ECLK / CLKOUT0 / P0_3	GPIO3
9	SWDIO	I/O	SWDIO / AIN2 / ACMP1+ / P0_6	GPIO6
10	SWCLK	I/O	SWCLK / AIN3 / ACMP1- / P0_7	GPIO7
11	VCC	P	Battery Power Supply DC 2.4 to 3.6V	Power
12	GND	P	Ground	Power
13	GND	P	Ground	Power
14	TXD0	I/O	TXD0 / DAT0 / RTCI / P0_0	GPIO0
15	RXD0	I/O	RXD0 / DIN1 / T0_0 / P1_7	GPIO15
16	PWM0	I/O	PWM0 / CS0_1 / T0_3 / P1_6	GPIO14
17	T1	I/O	T1_ECLK / PWM0 / ACMP1_O / P2_7	GPIO23
18	PWM1	I/O	T2_0 / PWM1 / P2_6	GPIO22
19	SDA	I/O	SDA / T3_0 / ACMP0_O / P2_3	GPIO19
20	SCL	I/O	SCL / T3_ECLK / PWM1 / P2_4	GPIO20
21	TXD1	I/O	TXD1 / DAT1 / T3_1 / P2_1	GPIO17
22	RXD1	I/O	RXD1 / DIN1 / T3_2 / P2_0	GPIO16
23	RST		System reset control, LOW is reset	System
24	GND		Ground	Power

P:POWER I/O: input/output interface control

Electrical Characteristics

Recommended Operating condition

Operating Condition Parameter	Min	TYPE	Max	Units
Operating temperature range	-40°C	+25°C	+85°C	°C
Storage temperature range	-55°C		+150°C	°C
Supply voltage :VCC	+2.4	+3.0	+3.6	V
Absolute voltage :VCC	+2.4	+3.0	+4.8	V

Radio Characteristics VCC=3.0V Temperature=+27°C				
Receiver Characteristics-Basic Data Rate	Min	TYPE	Max	Units
<i>Output Power(without DC-DC)</i>	-20		+4	dBm
<i>Output Power(with DC-DC)</i>	-20		0.5	dBm
<i>Frequency range</i>	2400		2483.5	MHz
<i>Channel spacing</i>		2		MHz
<i>Bluetooth Sensitivity(without DC-DC)</i>			-95	dBm
<i>Bluetooth Sensitivity(with DC-DC)</i>			-93	dBm

DC Characteristics VCC=3.0V Temperature=+27°C				
Current consumption	Min	TYPE	Max	Units
<i>Deep sleep mode</i>		2		uA
<i>Sleep mode</i>		3		uA
<i>Idel mode (without DC-DC)</i>		0.84		mA
<i>Mcu mode (without DC-DC)</i>		1.35		mA
<i>Tx mode (with DC-DC)</i>		8.8		mA
<i>Rx mode (with DC-DC)</i>		9.25		mA

Recommended PCB Layout PAD Unit: mm

