GOC-B95432

Bluetooth Module Hardware Specification

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NOTES:

1. **The module must use ladder steel net, and recommend ladder steel net thickness 0.16--0.20mm. The adaptability of the products is adjusted accordingly.**
2. **Before the use of the module, bake at 60 degrees centigrade and bake for 12 hours.**

Release Record

Version Number	Release Date	Comments
V1.0	2021/03/30	Initial draft

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1. Introduction

The GOC-B95432 module is a highly integrated Bluetooth 5.0 dual mode Module . It integrates a high-performance RF transceiver, baseband, MCU, rich feature peripheral units, programmable protocol and profile to support Bluetooth classic and low energy application. The Flash program memory makes it suitable for customized applications.

The GOC-B95432 is designed with advanced technology process and integrated with switch DCDC regulator, that it has ultra-low power consumption and ultra-low leakage power. The embedded high order interference suppression filter and fast automatic gain control logic make it work well in high interference environment.

2. Block Diagram

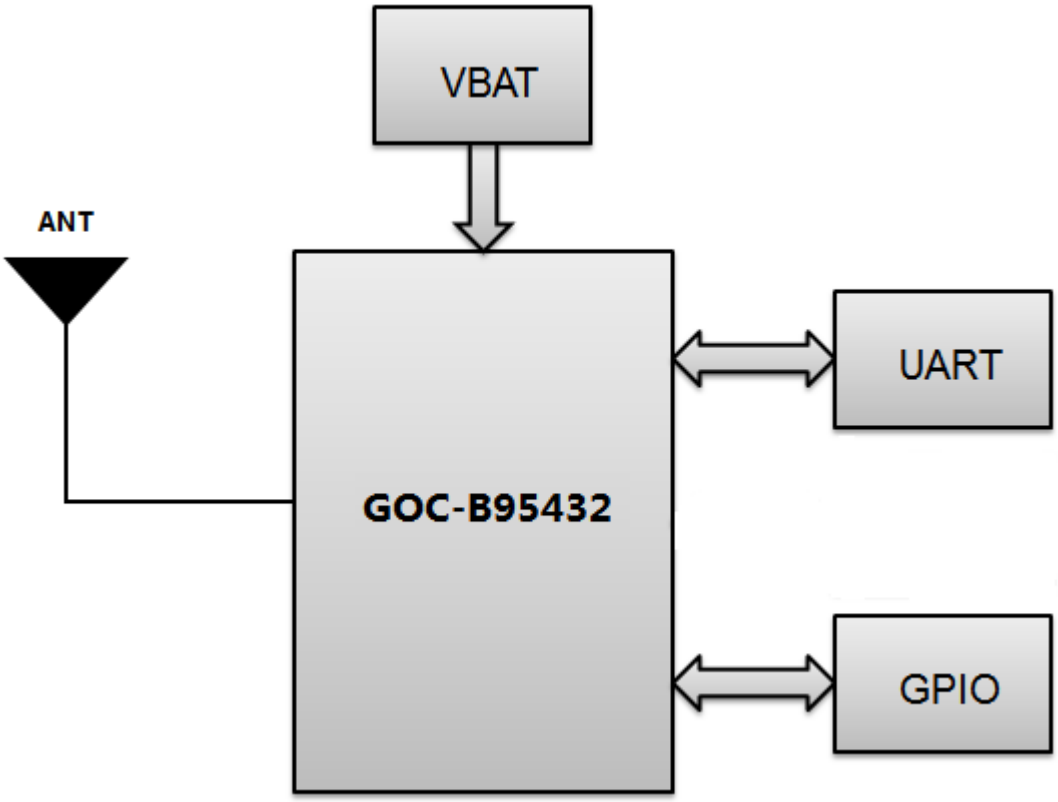

Figure 1: Block Diagram

3. Features

- Bluetooth® SIG Bluetooth Dual Mode 5.0 compliant
- Low-power 2.4GHz Transceiver
- MCU integrated
- 160 KB programmable Flash for Program and 20 KB RAM for Data
- Program code read protection
- Operation voltage from 2.0V to 3.6V
- UART interface
- GPIO with multiplexed interface functions
- Typical Package Type: 12.45.*10.41*1.62mm

4. Specification

Feature	Description
Module Name	GOC-B95432
Bluetooth Standard	Bluetooth V5.0
Frequency Band	2402MHz~2480MHz
Interface	UART/GPIO
Antenna Reference	50ohm
Modulation	GFSK, π/4-DQPSK, 8-DPSK
Receiver sensitivity	-94dBm
Output power	4dBm
Size	12.45*10.41 *1.62mm (L*W*H)
Operating temperature	-40℃~+85℃
Storage temperature	-40℃~+125℃
VBAT	3.3V Supply Voltage

Table 1: Specification

5. Pin Diagram And Description

5.1 Pin Diagram

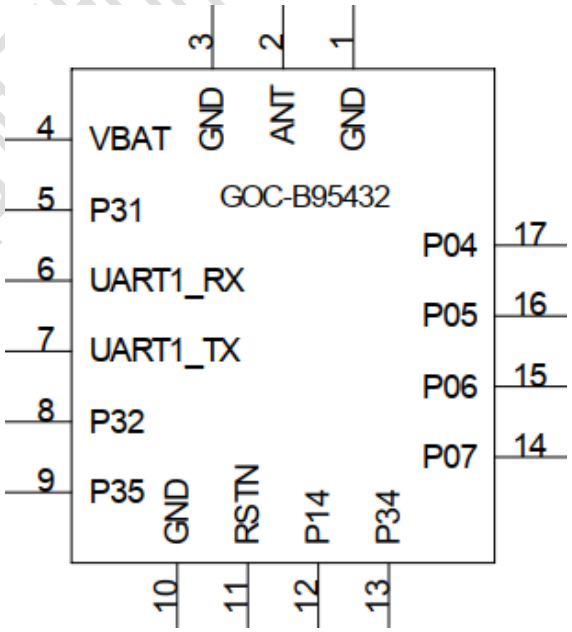

Figure 2: Pin Diagram

5.2 Pin Definition

Pin	Pin Name	Type	Description
1	GND	GND	Ground
2	ANT	RF	Buletooth Antenna
3	GND	GND	Ground
4	VBAT	POWER	3.3V Power Supply
5	P31	Input/Output	General purpose IO
6	UART1_RX	Input	UART1_RX
7	UART1_TX	Output	UART1_TX
8	P32	Input/Output	General purpose IO
9	P35	Input/Output	General purpose IO
10	GND	GND	Ground
11	RSTN	Analog	Low reset
12	P14	Input/Output	General purpose IO
13	P34	Input/Output	General purpose IO
14	P07	Input/Output	General purpose IO
15	P06	Input/Output	General purpose IO
16	P05	Input/Output	General purpose IO
17	P04	Input/Output	General purpose IO

Table 2: Pin Description

5.3 PCB Layout Footprint

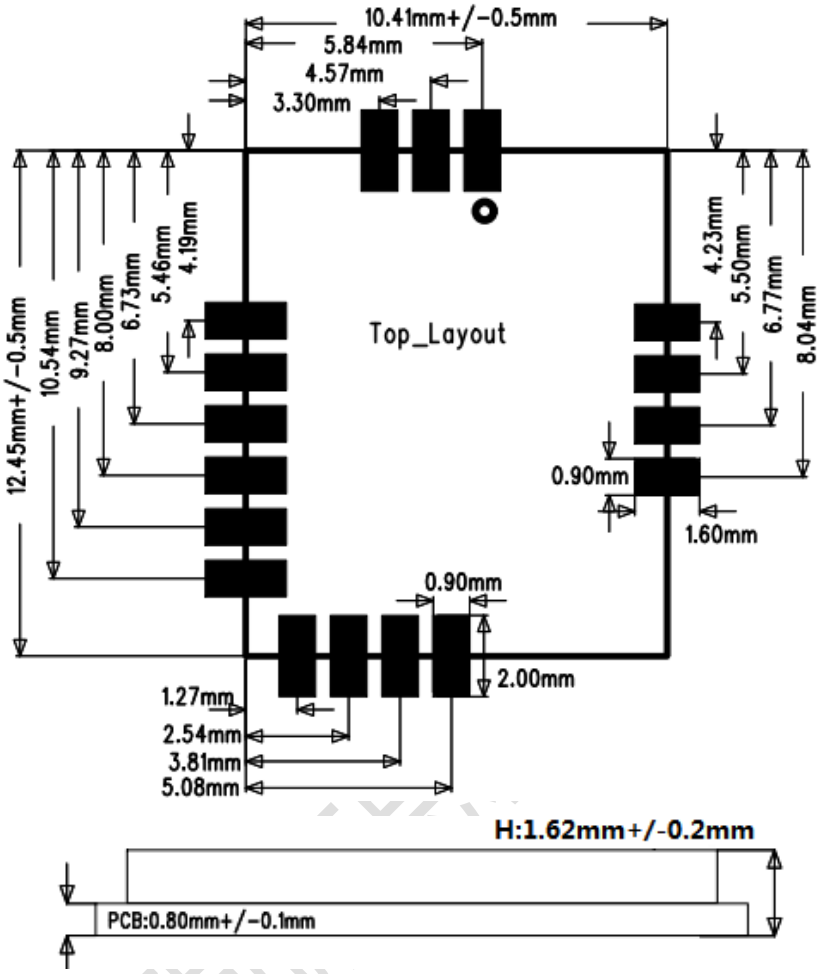

Figure 3: PCB Layout Footprint

6. UART Interface

The GOC-B95432 UART interface provides a simple mechanism for communicating with other serial devices using the RS232 protocol.

2 signals implement the UART function, TXD and RXD.When GOC-B95432 is connected to another digital device,RXD and TXD transfer data between the 2 devices.

When connecting the module to a host, please make sure to follow Figure 4

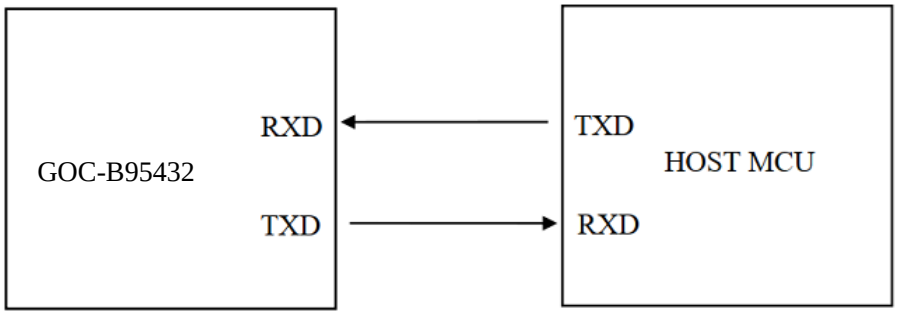

Figure 4: GOC-B95432 And HOST MCU Use UART Interface

7. Electrical Characteristics

7.1 Absolute Maximum Ratings

Maximum Ratings	Min	Typ	Max
VBAT	2.0V	-	3.60V

Table 3: Absolute Maximum Ratings

7.2 Recommended Operating Conditions

Operating Conditions	Min	Typ	Max
Storage Temperature	-40℃	-	125℃
Operating Temperature	-40℃	-	85℃
VBAT	3.13V	3.30 V	3.46V

Table 4: Recommended Operating Conditions

8. Recommended Reflow Profile

Referred to IPC/JEDEC standard.
Peak package body temperature :<260 ℃.
Time of peak temperature for Pb-free assembly : 5~10sec.

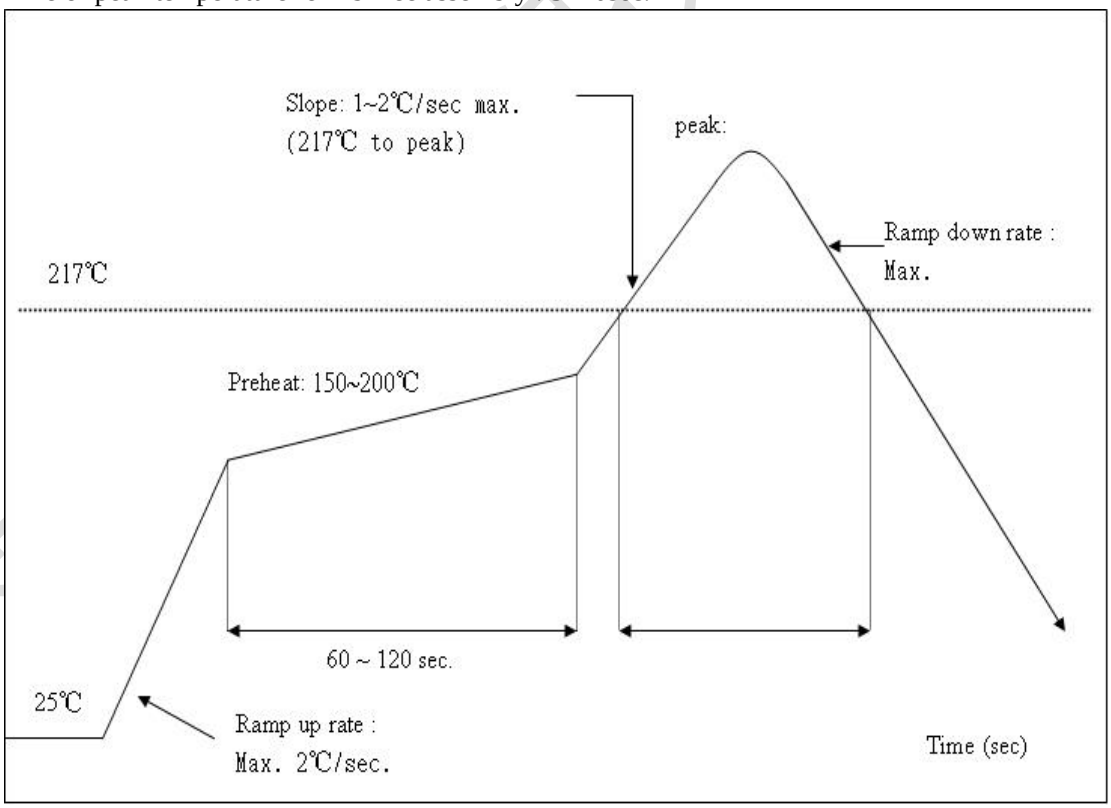

Figure 5: Solder Reflow Profile

9. PCB Layout Recommendation

9.1 Antenna

Antenna trace impedance should be adjusted to 50ohm.The area above(or under)the RF antenna trace should be free from other traces.

9.2 HCI UART Lines Layout Guideline

The following HCI line routing must obey the following rule to prevent overshoot/undershoot, as these lines drive 4 ~ 8mA
UART1_RX UART1_TX
The route length of these signals be less than 15 cm and the line impedance be less than 50Ω.

9.3 Power Trace Lines Layout Guideline

－ VBAT Trace Width: 25mil

9.4 Ground Lines Layout Guideline

－ A Complete Ground in Ground Layer.
－ Add Ground Through Holes to GOC-B95432 Module Ground Pads
－ Decoupling Capacitors close to GOC-B95432 Module Power and Ground Pads

10. Module Part Number Description

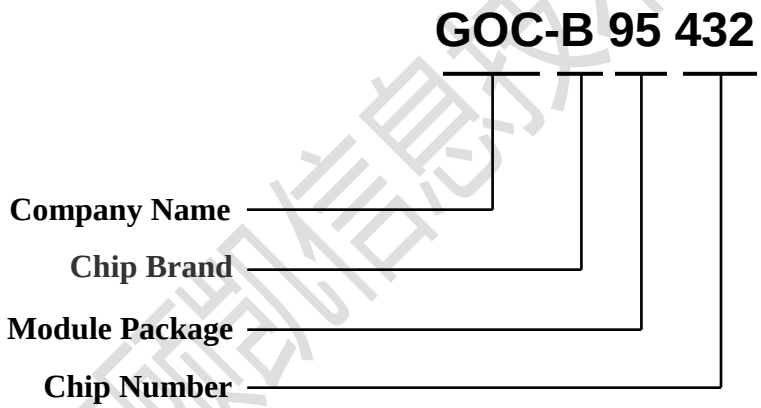

Figure 6: Module Part Number Description

For a list of available options (e.g. package, packing) and orderable part numbers or for further information on any aspect of this device, please go to www.goodocom.com or contact the GOODOCOM Sales Office nearest to you.

11. Ordering Information

Part Number	Description	Remark
GOC-B95432 V1.0	Bluetooth Module	

Table 5: Ordering Information

12. Packaging Information

12.1 Net Weight

The module net weight: 0.2g±0.05g

12.2 Package

TBD

12.3 Storage Requirements

1）Temperature: 22~28℃;
2 ）Humidity: <70%（ RH）;
Vacuum packed and sealed in good condition to ensure 12 months of welding.