

# AST6Q38 Bluetooth module specification

## 1. Product Overview

The AST6Q38 Bluetooth module is an intelligent wireless data transmission Bluetooth module independently developed by our company. It has the characteristics of low cost and low power consumption. In actual applications, customers only need to cooperate with the corresponding firmware, access the application product, and quickly connect to control the product through instructions.

## 2. Application fields

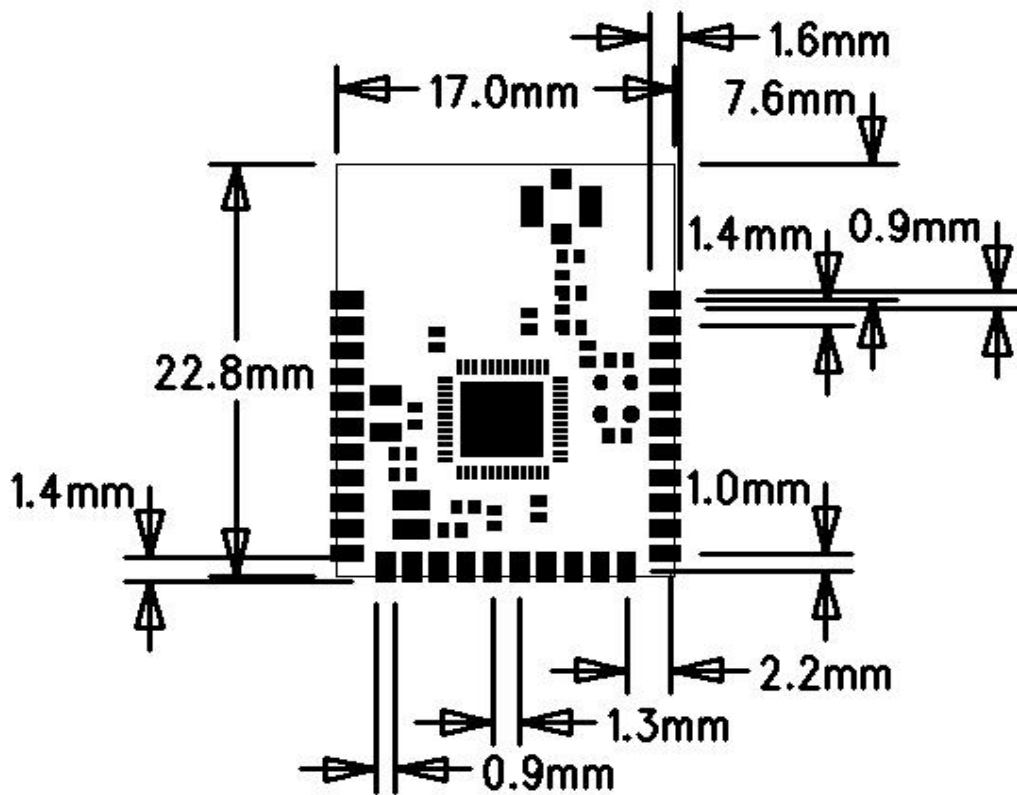
This module is very convenient to connect to Bluetooth devices of digital products such as mobile phones, tablets, notebooks, etc., and realizes command control of the product through wireless data transmission.

- Smart home appliances
- Smart toys
- Bluetooth control

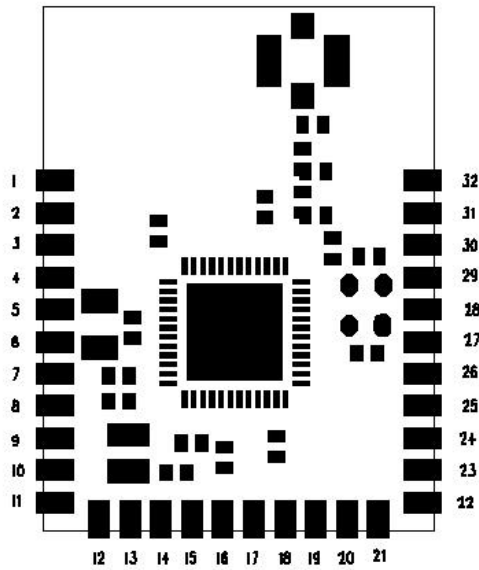
## 3. Module performance parameters:

Model	AST6Q38
Bluetooth specifications	Bluetooth 5.0
Supply voltage	1.8~3.3V
Working current	TBD
Sleep current	TBD
Temperature range	-40°C~85°C
Transmit power	-20~7dBm
Module size	22.8*17.0MM

#### 4. Module size diagram



## 5. Module function pins



PIN	definition	function
1	GND	GND
2	VDD	Power supply
3	P29	Digital and Analog GPIO
4	P23	Digital and Analog GPIO
5	P24	Digital and Analog GPIO
6	P15	Digital and Analog GPIO
7	P16	Digital and Analog GPIO
8	P02	Digital GPIO/UART_TX
9	P03	Digital GPIO/UART_RX
10	P04	Digital GPIO/UART_TX
11	P05	Digital GPIO/UART_RX

12	P17	Digital and Analog GPIO
13	P18	Digital and Analog GPIO
14	P25	Digital and Analog GPIO
15	P26	Digital and Analog GPIO
16	P08	Digital and Analog GPIO/ADC1
17	P09	Digital and Analog GPIO/ADC2
18	P13	Digital and Analog GPIO/ADC3
19	P14	Digital and Analog GPIO/ADC4
20	P28	Digital and Analog GPIO
21	P27	Digital and Analog GPIO
22	P21	Digital and Analog GPIO
23	P22	Digital and Analog GPIO
24	P07	Digital and Analog GPIO
25	P06	Digital and Analog GPIO
26	P11	Digital and Analog GPIO
27	P12	Digital and Analog GPIO
28	P00	Digital and Analog GPIO
29	P19	Digital and Analog GPIO
30	P20	Digital and Analog GPIO
31	Res	RST
32	P10	Digital and Analog GPIO

## 6. Notes:

1. Regarding the usage environment of wireless Bluetooth, wireless signals including Bluetooth applications are greatly affected by the surrounding environment. Obstacles such as trees and metals will absorb wireless signals to a certain extent. Therefore, in practical applications, the distance of data transmission is affected by Certain impact.
2. Since the Bluetooth module must be matched with the existing system and placed in the casing, the metal casing has a shielding effect on wireless radio frequency signals. So it is not recommended to install it in a metal enclosure.

**FCC Statement**

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, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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 important announcement

Important Note:

**Radiation Exposure Statement**

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.

**End Product Labeling**

The final end product must be labeled in a visible area with the following"

Contains FCC ID: 2AATP-TP902

**Manual Information to the End User**

The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module in the user's manual of the end product which integrates this module.

The end user manual shall include all required regulatory information/warning as show in this manual.

## Integration instructions for host product manufacturers according to KDB 996369 D03 OEM Manual v01r01

### 2.2 List of applicable FCC rules

CFR 47 FCC PART 15 SUBPART C has been investigated. It is applicable to the modular transmitter

### 2.3 Specific operational use conditions

This module is stand-alone modular. If the end product will involve the Multiple simultaneously transmitting condition or different operational conditions for a stand-alone modular transmitter in a host, host manufacturer have to consult with module manufacturer for the installation method in end system.

### 2.4 Limited module procedures

Not applicable

### 2.5 Trace antenna designs

Not applicable

### 2.6 RF exposure considerations

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.

### 2.7 Antennas

This radio transmitter **FCC ID:2AATP-TP902** has been approved by Federal Communications Commission to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

Antenna No.	Model No. of antenna:	Type of antenna:	Gain of the antenna (Max.)		Frequency range:
			Antenna 1 (TJ068-N040003-01)	Antenna 2 (TJ068-N050006-01)	
Bluetooth	/	PIFA Antenna	3.0	3.0	2402-2480MHz

### 2.8 Label and compliance information

The final end product must be labeled in a visible area with the following" Contains **FCC ID:2AATP-TP902**.

### 2.9 Information on test modes and additional testing requirements

Host manufacturer is strongly recommended to confirm compliance with FCC requirements for the transmitter when the module is installed in the host.

### 2.10 Additional testing, Part 15 Subpart B disclaimer

Host manufacturer is responsible for compliance of the host system with module installed with all other applicable requirements for the system such as Part 15 B.

### 2.11 Note EMI Considerations

Host manufacture is recommended to use D04 Module Integration Guide recommending as "best practice" RF design engineering testing and evaluation in case non-linear interactions generate additional non-compliant limits due to module placement to host components or properties.

### 2.12 How to make changes

This module is stand-alone modular. If the end product will involve the Multiple simultaneously transmitting condition or different operational conditions for a stand-alone modular transmitter in a host, host manufacturer have to consult with module manufacturer for the installation method in end system. According to the KDB 996369 D02 Q&A Q12, that a host manufacture only needs to do an evaluation (i.e., no C2PC required when no emission exceeds the limit of any individual device (including unintentional radiators) as a composite. The host manufacturer must fix any failure.