

SPECIFICATION

Model number: MX.6956V1.0

Product name: BT Module

Approved by Shiyuan		
Checked by 审核	Rechecked by 复审	Approved by 批准

Please send the original back to us after you have approved and signed.

客户承认签章后敬请寄回正本一份。

Approved by customer		
Comments 确认意见	Approved by 批准签字	Company's seal 盖章
Customer's Name:		

REVISION HISTORY

VERSION	DATE	BOARD ID	PAGE	DESCRIPTION	AUTHOR
V1.0	2021-01-14	MX. 6956V1.0	All	First Issued.	陈建生

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1. GENERAL DESCRIPTION(一般描述)

MX.6956V1.0 has a 32-bit single-core processor, with 4MB system flash memory, Support for universal multi-protocol SoC, Bluetooth 5.1+EDR protocol.

CPU	32-bit DSP supports hardware Float Point Unit(FPU) Up to 240MHz programmable processor 64Vectored interrupts 4 Levels interrupt priority
DSP Audio Processing	SBC, AAC Audio decodes supported for BT audio mSBC voice codecs supported for BT phone Supports MP2, MP3, WMA, APE, FLAC, AAC, MP4, M4A, WAV, AIF, AIFC audio decoding Packet Loss Concealment (PLC) for voice processing Acoustic echo cancellation/suppression (AEC,AES) Single/Dual MIC Environmental Noise Cancellation (ENC) Multi-band DRC limiter 30-band EQ configuration for voice Effects
Audio Codec	Two channels 16-bit DAC, SNR >= 95dB Three channels 16-bit ADC , SNR >= 90dB Sampling rates of 8KHz/11.025KHz/16KHz/22.05KHz/24KHz/32KHz/44.1KHz/48KHz are supported One analog MIC amplifier, build-in MIC bias generator Supports two PDM digital MIC inputs three channels Stereo analog MUX Supports cap-less, single-ended, and differential mode at the DAC path Supports 16ohm and 32ohm Speaker loading
Bluetooth	Compliant with Bluetooth V5.1+BR+EDR+BLE specification Meet class1 class2 and class3 transmitting power requirement Support GFSK and $\pi/4$ DQPSK all paket types Provides +6dbm transmitting power

2. BOARD PICTURE (板卡外观图)

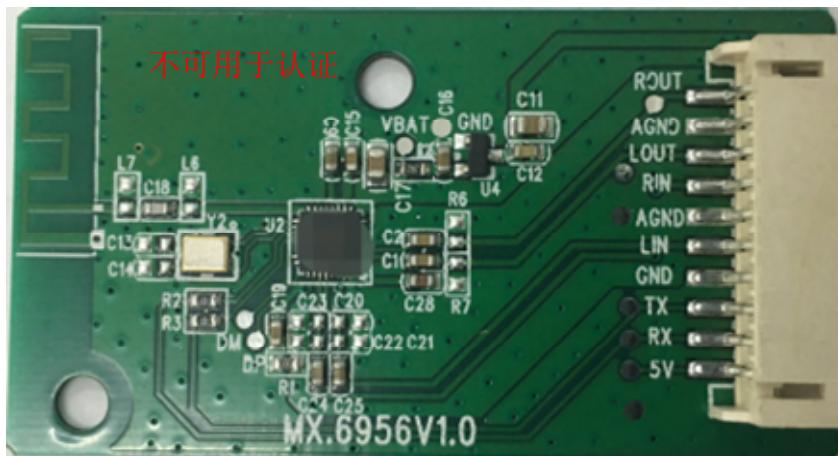
Pictures are for reference only, specific to prevail in kind.

The optional connectors and functions are marked with “*”.

以下图片仅供参考，请以【结构图】或【实物】为准。

可选的接口或者功能都以“*”标示。

尺寸: 55mm(L)*30mm(W)*1.0mm(H) (H 为 PCB 厚度)



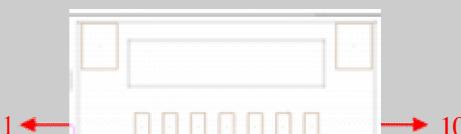
3. HARDWARE CONFIGURATION (硬件配置)

Operating Frequency Band	2.4GHz ~ 2.48GHz unlicensed ISM band
Bluetooth Specification	Transport:V5.1 & Receive:V5.1
Output Power Class	Class 2
Operating Voltage	4.2- 5.2V
Host Interface	UART
Audio Interface	Analog L/R
Ambient Operating Temperature	0°C~+45°C
Storage Temperature	-20°C~+70°C
Operating Humidity	RH 95%(Non-Condensing)
Storage Humidity	RH 95%(Non-Condensing)

4. INTERFACE DEFINITION (接口定义)

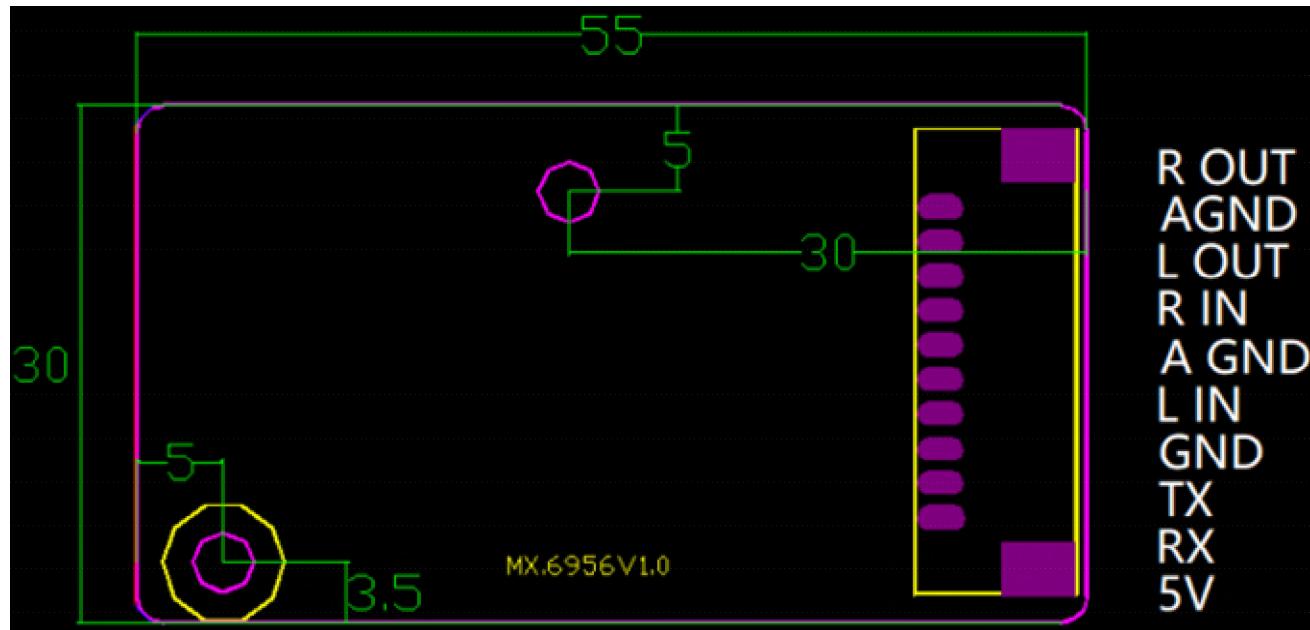
The optional connectors and terminals are marked with “*”. 标“*”的为可选。

◆ CON1(10PIN/2.0): EXT -BT CONNECTOR (外挂蓝牙接口)



NO.	SYMBOL	DESCRIPTION
10	5V	5.0V Power Supply For Bluetooth
9	RX	The RX of Bluetooth
8	TX	The TX of Bluetooth
7	GND	Ground
6	L-input	Audio left Channel Input+
5	AGND	Analog Ground
4	R-input	Audio Right Channel Input+
3	L-output	Audio Left Channel Output+
2	AGND	Analog Ground
1	R-output	Audio Right Channel Output+

5. MECHANICAL DIMENSION (结构尺寸图)



PCB Tolerance		Connector Tolerance (Unless Otherwise Stated)	
PCB size	±0.15mm		
PCB thickness	≤1.0mm	±0.1mm	±0.3mm
	>1.0mm	±10%	

5. FCC Statement

FCC standards: FCC CFR Title 47 Part 15 Subpart C Section 15.247

Integral antenna with antenna gain 0dBi

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.

Any 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.

We will retain control over the final installation of the modular such that compliance of the end product is assured. In such cases, an operating condition on the limit modular approval for the module must be only approved for use when installed in devices produced by a specific manufacturer. If any hardware modify or RF control software modify will be made by host manufacturer,C2PC or new certificate should be apply to get approval,if those change and modification made by host manufacturer not expressly approved by the party responsible for compliance ,then it is illegal.

FCC Radiation Exposure Statement

The modular can be installed or integrated in mobile or fix devices only. This modular cannot be installed in any portable device. This modular complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. This modular must be installed and operated with a minimum distance of 20 cm between the radiator and user body.

If the FCC identification number is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. This exterior label can use wording such as the following: "Contains Transmitter Module FCC ID: 2AV346956 Or Contains FCC ID: 2AV346956"

When the module is installed inside another device, the user manual of the host must contain below warning statements;

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.

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.

2. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. The devices must be installed and used in strict accordance with the manufacturer's instructions as described in the user documentation that comes with the product. Any company of the host device which install this modular with modular approval should perform the test of radiated & conducted emission and spurious emission,etc. according to FCC part 15C : 15.247 and 15.209 & 15.207 ,15B Class B requirement, Only if the test result comply with FCC part 15C : 15.247 and 15.209 & 15.207 ,15B Class B requirement, then the host can be sold legally.

Notice to OEM integrator

Must use the device only in host devices that meet the FCC RF exposure category of mobile, which means the device is installed and used at distances of at least 20cm from persons.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The end user manual shall include FCC Part 15 compliance statements related to the transmitter as show in this manual(FCC statement).

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.

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

The use condition limitations extend to professional users, then instructions must state that this information also extends to the host manufacturer's instruction manual.

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

Any company of the host device which install this modular should perform the test of radiated & conducted emission and spurious emission etc. according to FCC Part 15C: 15.247 and 15.209 & 15.207, 15B class B requirement, only if the test result comply with FCC part 15C: 15.247 and 15.209 & 15.207, 15B class B requirement. Then the host can be sold legally.

This modular transmitter is only FCC authorized for the specific rule parts (47CFR Part 15.247 and 15.407) listed on the grant, and that the host product manufacturer is responsible for compliance to any other FCC rules that apply to the host not

covered by the modular transmitter grant of certification.

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

Must have on the host device a label showing Contains FCC ID:2AV346956