Highlights problems

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| Features |
| 1, Bluetooth audio,BLE data transmission, U disk player, TF card player. Supports MP3, WAV, FLAC, APE format decoding |
| 2,Optional:Serial AT commands. Support change the baud rate, change the Bluetooth name, specify playback equipment, and mobile data transparent transmission |
| 3, support for dual-mode BLE and SPP data transparent transmission, but also can play a Bluetooth audio, not conflict |
| 4, support for Bluetooth phone, multi-button control, the song, next song, play pause, adjust volume, etc. simple functions. |
| 5, support for the full file name get played, serial specify the path play, loop or single play |
| 6, support the recording function 128KBS. Recording to TF card or U disk, delete recordings playback, etc. |
| 7, the use of rich materials, reference pcb, using video tutorials, mobile pass-through video tutorials, video tutorials serial AT |
| 8, low cost, large price advantages, super simple external, fixed up capacitor 5 |
| 9, already have easy docking APP, or to develop micro-channel applet. Achieve mobile control |

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| Program Description - source chips - quality chips |
| 1, the chip of choice is AC690X "Pearl Co., Ltd. Shanghai Jie Li," the chip |
| 4, chip secondary development of our products, which has been burning the firmware, the user directly in accordance with the manual just fine |
| 3, the chip has passed BQB certification, so no need to worry about quality |
| 4, the chip may have large shipments, so the cost and performance parameters you can not see inside the industry, absolute value for money |
| 5, the chip's raw data, we will not provide, please understand.Aftermarket emphasis on high efficiency to the point, clear problem |

# Shenzhen Electronics Co., Ltd. Qing month

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table of Contents

[First, the basic science issues 3](#_bookmark0)

[Two, BT201 related issues highlights 4](#_bookmark1)

[Two, KT1025 and KT1025B related issues highlights --- stereo 6](#_bookmark2)

[Third, the hardware-related issue highlights 7](#_bookmark3)

One,Basic science problem

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| problem | 1, what is BLE 4.0 |
| Q & A | Starting Bluetooth 4.0 has two branches, the classic 4.0 and BLE4.0, classic Bluetooth 4.0 is the traditional upgrade from 3.0, backward compatible. BLE 4.0 and a new branch is not backward compatible. It is an abbreviation BLE Bluetooth low energy Bluetooth Low Energy, by definition, its low power consumption. Our solution is a Bluetooth 5.0 chip, is currently the latest version. |
| problem | 2, which devices support BLE |
| Q & A | iOS platform: Iphone4s, 5,5c, 5s, Ipad 3,4, mini and so support BLE, without doing MFI certification. Android platform: equipped with Bluetooth 4.0 and above android phone and upgrade to a higher stock Android 4.3 system. |
| problem | 3, Why not BLE device in the system Bluetooth interface |
| Q & A | The default Bluetooth phone work in Classic mode, you need to implement a search through the program, the pairing of the whole process connections and communications. IOS system, if you do not have a developer certificate LightBlue download from the Apple Store. Android system, you can use simple serial BLE provided by the Division I assistant simple debugging, or through their own APP software testing. |
| problem | 4, BLE transmission speed |
| Q & A | BLE only physical bandwidth 1M, actual transfer speed between 1 ~ 6KB. Specific need to be validated according to the environment and the items you use, if possible, use a little higher baud rate will get better communication effect as much as possible. |
| problem | 5, transceiver limitations bytes |
| Q & A | I provide BLE module, through the serial port to receive and send no byte limit. In iOS system, when the communication module, the current iOS system can support up to 90-byte transmit the amount, but the study found that, iOS interior is subcontracted, and subcontracting efficiency is not high, so you will be more than 20 bytes subcontracting send data, our module is optimized in this regard, than the iOS system efficiency subcontractors increased by 10%. |
| problem | 6, Bluetooth module self-examination method FAQ |
| Q & A | 1, each piece before it leaves the factory through the serial port module debugging code written in part, to ensure that the serial port module without any problems, problems to worry Ji, Ji also need to doubt the serial function modules. Serial module factory 100 percent qualified. Serial level module is the TTL, if the connection request by the computer and  RS232 level converter circuit chip by respective ring. When sending AT commands behind the carriage return line must be added, and some aides have serial option "Send new line", must be the option.2Do not set up inside to search for Bluetooth BLE, the phone default in classic mode, Bluetooth BLE 4.0 does not support the search. |

Two, BT201 related issues highlights

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| problem | 1, I see so much information on, do not understand, I just need a cell phone can be connected to play music with call control buttons on it |
| Q & A | 1,Yes, we can support the default function,Because only standardized products to meet most customer needs in order to run the amount, in order to reduce costs. So the extra features mean more expensive, but cheaper. But other customers will use, you do not need it  2,I do not understand where it does not matter, because we are a full-featured product. A plurality of functions is not any exclusion. Serial section without looking. |

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| problem | 2, this module can connect the phone to play music? Talk with you? |
| Q & A | Possible, audio module supports Bluetooth, Bluetooth call [call is enabled by default, the user can send instructions to turn off]. On this basis, while also supports transparent transmission of data |

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| problem | 3, your board is too big, no way to embed into our products, I would like to buy their own chip, can it? Peripheral complicated? |
| Q & A | Yes, our module just for the convenience of the user test, so the board design, guests test is very convenient and efficient  If you need chips, directly in accordance with the principles of drawing and PCB board can we give, very simple, direct copy on the line.Antenna copy |

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| problem | 4, I do not need the call function, how the deal with it? |
| Q & A | Through the serial port command, shut off the call this function, the next time after power Bluetooth will not have a conversation, on the contrary, like |

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| problem | 5, I do not need BLE data capabilities, how to shield it? |
| Q & A | Can directly send instructions to turn off the serial port can BLE the next power on it will not chip initialization protocol stack BLE |

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| problem | 6, I do not need music features, just BLE Or SPP transparent transmission function, how? |
| Q & A | This can be through serial AT commands, you can shut off the Bluetooth audio detail can look at the manual. On the contrary, like |

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| problem | 7, I just need Bluetooth to play music and talk, not to TF card and U disk, how do |
| Q & A | 1, directly above the hardware associated circuitry can not answer, we have an internal automatic detection, you useless, internal software automatically handled well  2, if you only use TF Card, rather than Bluetooth, is also possible, set the automatic power equipment have read equipment, no equipment to enter Bluetooth |

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| problem | 8, Bluetooth transparent transmission of data What does it mean? |
| Q & A | Bluetooth transparent transmission of meaning: what MCU to send Bluetooth, Bluetooth will send anything to the phone. On the contrary, what made mobile phones to Bluetooth, the Bluetooth on what you send to the MCU. Through the serial port. Chip without any data processing, is the only one forwarding it |

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| problem | 9. Why do I use the phone to search for Bluetooth, only the "BT201-AUDIO", did not see "BT201-BLE" it |
| Q & A | End phone system settings to search for the name, can only search a classic Bluetooth, which is "BT201-AUDIO". BLE device is not found. You want to test BLE, please use this test APP to search LightBlue  In the "User's Manual 02\_" This data library has a detailed manual, there are a lot of video easy for customers to understand and test, be sure to take a look |

Third, the characteristics of the KT1025 and KT1025B related issues instructions

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| problem | 1, KT1025A and KT1025B What difference does it make? Why do the two models it? How can I do this selection? |
| Q & A | 1, KT1025A stereo output, so the original pricing strategy on a lot higher, so expensive  2, rather than KT1025B stereo output, factory positioned at the low end, in fact, the chip is exactly the same, but a lot of the low price  3, the user in the use of the process, then that if only one speaker is recommended to use KT1025B, the left and right channels will merge within the chip output. If you want to add two speakers, there is no election, and can only be KT1025A |

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| problem | 2, KT1025A and KT1025B Both chips Why cheaper? Performance is not missing |
| Q & A | 1, the chip we use is the largest shipments of the category, because the huge volume, so the fierce competition, the price is not high   1. Chip original purpose is to make Bluetooth speaker, machine, etc. Product story 2. Just chip with audio playback and data capabilities, so we have developed software to support these functions   (3) the performance of the chip without doubt, know the customer is very clear, we have been above-board with a large number of customers |

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| problem | 3, the chip lead times, lead times, and the life cycle of how it? |
| Q & A | 1 chip lead times, basically orders less than 3K, most will be able to delivery the next day, a little faster delivery day  2,We have three automatic burner, each machine is a write speed per hour of 1500  3,1025A and B chips are based on a huge amount of our Bluetooth speaker programs developed from, so large shipments to ensure that the price advantage of the chip  4,At the same time large shipments also means that the life cycle of the president of the chip, while the supply of adequate and stable, no need to worry about out of stock or roasted |

Fourth, the hardware-related issue highlights

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| problem | 1, KT1025A KT1025B layout and the requirements of the PCB Gaobu Gao |
| Q & A | 1Now Bluetooth technology becomes more mature, the production too demanding program, has no market competition, and so it must be simple, do not be afraid chip as long as attention to the power input analog GND GND will have no problems  GND surrounding the chip capacitor, as close as possible chip Bluetooth antenna GND line and the output line of the chip at the spacer is preferably 0.6MM  24MHZ crystal traces as short as possible, trace land line surrounded,Please refer to the detailed "\_ 11\_ Function Manual Quick Apply" |

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| problem | 2, after bonding the chip does not work properly energized, light is off |
| Q & A | 1, the supply voltage test chip is normal 18 feet  1, there is no test chip 12 feet 3.3V voltage output  2, there is no check 24MHZ crystal soldered  3, the chip itself is not soldered  5, LED light-emitting diode there is no good welding, details refer to "11\_ \_ Rapid Application Function Instruction Manual" |

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| problem | 3, 12-foot chip is 3.3V output, this can drive up to load it? In addition the supply voltage of the chip is how much? What are the requirements it |
| Q & A | 1, 12 pin chip is inside of 3.3V LDO output, very stable, low dropout LDO. Can drive current of 100mA, if the external need to use a good note the size of the load, large currents can cause chip breakdown. Try to control the load is less than 80mA very safe  2, the supply voltage of the chip is 3.3V - 5.2V between, optimum operating voltage is 4.2V. So if the voltage is 5V, it proposes to add a diode chip is actually lower than 3.2V can still work, the limit should be 2.9V. But it requires rigorous testing  3, Power supply is required, if it is an audio tape, then the power supply is clean, will affect the audio noise, the power supply is not clean, the more troublesome the rear audio processing them. Mobile phone charger 5V In fact, the output is very clean, generally do not have much background noise. If less power almost without audio is not the problem. |

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| problem | 4. Why do I draw a good circuit in accordance with the board, the board found not up and running yet? Or you can find other work, except Bluetooth search is not it? |
| Q & A | 1, affect the chip is working alone on three points:Oscillator, the power supply, the periphery of the chip capacitor few. Very simple, I do not want complicated.   1. , The crystal must not be used casually, because Bluetooth is a high-frequency and wireless, it is to rely on the frequency, if your crystal error, it will lead to a short distance, connected and disconnected, or do not search. The crystal must be 10ppm,The best sample pre-purchased from our company, the bulk on the casual 2. ,Supply voltage should not exceed 5.2V, otherwise permanent burn chip, chip capacitors do not short-circuit the periphery, it is best to see a voltage regulator chip to work together properly, without a speaker, current is between 20mA-50mA, the exceeded, there is abnormal |

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|  | 2, a Bluetooth chip can work but not search, most likely, "crystal" and that a few chip peripheral capacitance. Focus check  Also Bluetooth antenna, like a man in our draw, if you feel there is a problem antenna, the antenna can be cut off, leads to a wire to try, should also be connected on only a very short distance |