Bluetooth module manual

Model: DK-BT-MUSIC-21A

1. product description:

The DK-BT-MUSIC-21A Bluetooth module is an intelligent wireless audio data transmission product independently developed by the company. It is a low-cost and high-efficiency stereo wireless transmission solution. The module uses the JL AC6921A chip to provide the module with high-quality sound quality and Compatibility, the overall performance is more optimized. The DK-BT-MUSIC-21A Bluetooth module adopts a driver-free mode. Customers only need to connect the module to the application product to quickly realize the wireless transmission of music and enjoy the fun of wireless music.

The model approval code of the module will be reflected on the module label.

2. Module function description

DK-BT-MUSIC-21A module is a highly integrated, low-cost, low-power Bluetooth stereo with call function + U disk + TF card + FM + Line in full-featured single-chip module, in line with V5.0 + BR + EDR specification. (At the same time, LCD dot matrix screen is reserved, mic recording can also be made, infrared remote control is supported, and file transmission is supported, but these need to be supported by the enhanced version of the software).

1. Can play MP3/WMAWAV/SBC
2. Bluetooth stereo transmission, Bluetooth call
3.FM radio
4. TF/SD card control, support USB (slave) function, which can realize card reader function
5. Stereo Line-in input
6.IR remote control
7. Support 3X3 matrix buttons
8. Two controllable LEDs, support external power amplifier mute function
9. Internal integrated power management
10. Support U disk control
11. The internal integrated 2x1W power amplifier supports direct output of dual-channel power amplifiers (2x6 ohm speakers are recommended, and the power is about 2x0.75W)
12. With high-speed UART debugging and upgrade interface

3. Module product application

This module is mainly used for short-distance music transmission. It can be easily connected to bluetooth devices of digital products such as laptops, mobile phones, PDAs, etc., to realize wireless transmission of music. Due to the integrated FM and MMC card playback functions, this product has There is a very high cost performance.

1. Bluetooth speaker single chip solution, integrated Linein, FM, IR, TF/SD card, U disk and power amplifier
2. Bluetooth stereo headset
3. Bluetooth wireless audio transmission

4. Card reader, Bluetooth dialer, Bluetooth companion and other products

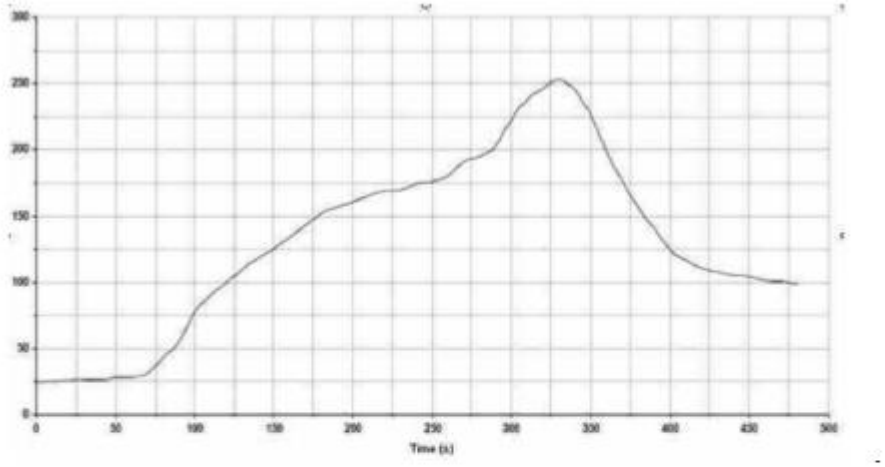
4. Module product specifications

Bluetooth version: Bluetooth V5.0+BR+EDR
Modulation method: GFSK, π /4-DQPSK
Support: HFP/HSP, OPP., A2DP/AVRCP, PBAP profiles
Sensitivity: (0.1% BER) -82dBm
Transmit power: meet the requirements of class2 and class3 transmit power, and can provide a maximum transmit power of +7dbm
Power supply voltage: 3.2V-4.2V
Power consumption current: normal working current 45mA, 32mA when playback is paused
Signal to noise ratio: 70dB
Resolution: 50dB
Temperature range: -40^{o}C to +50^{o}C
Frequency range: 2.4GHz-2.4835GHz

5. Precautions

A. Regarding the use environment of wireless Bluetooth, wireless signals, including Bluetooth applications, are greatly affected by the surrounding environment. Obstacles such as trees and metals will absorb the wireless signal. Therefore, in actual applications, data transmission is The distance is affected to a certain extent.
B. Because the Bluetooth module must be matched with the existing system, it is placed in the shell. Because the metal shell has a shielding effect on the radio frequency signal. Therefore, it is not recommended to install in a metal enclosure.
C. PCB layout: The antenna part of the Bluetooth module is a PCB antenna. Metal will weaken the function of the antenna. When laying the module, it is strictly forbidden to pave the ground and wire under the module antenna. It is better if it can be hollowed out.
D. The antenna should not be too close to metal objects, such as batteries, chips, and should not overlap with metal objects. The antenna of the module should be placed on the edge of the motherboard.

Recommended reflow temperature



Key features of the profile:

-Initial Ramp=1-2.5℃/sec to 175℃ equilibrium

-Equilibrium time=60 to 80 seconds

-Ramp to Maximum temperature (250℃)=3℃/sec Max

-Time above liquidus temperature(217℃): 45 - 90 seconds

-Device absolute maximum reflow temperature: 250℃

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.

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.
The Bluetooth Module is designed to comply with the FCC statement. FCC ID is 2A2PIDKBTMUSIC21A. The host system using Bluetooth Module Module, should have label indicated it contain modular's FCC ID: 2A2PIDKBTMUSIC21A . This radio module must not installed to colocate and operating simultaneously with other radios in host system additional testing and equipment authorization may be required to operating simultaneously with other radio. The Bluetooth Module and its antenna must not be co-located or operating in conjunction with any other transmitter or antenna within a host device.

Notice to OEM integrator
The end user manual shall include all required regulatory information/warning as show in this manual. The OEM integrator is responsible for testing their end-product for any additional compliance requirements required with this module installed.
The OEM can use metal antennas or IPEX antennas, and the antenna gain is less than 6dBi for this module.
The device must be professionally installed
The intended use is generally not for the general public.lt is generally for industry/commercial use.
The connector is within the transmitter enclosure and can only be accessed by disassembly of the transmitter that is not nomally required, the user has no access to the connector.Installation must be controlled. Installation requires special training.
This device complies with Part 15.247 of the FCC Rules.
RF warning for portable device:
The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.

For more technical development questions, please contact

Applicant Company	Guangzhou Diankong Electronics Co., LTD
Applicant Address	Room 201, No.33, Pinglong Road, Huashan Town, Huadu District, Guangzhou city
Applicant Contact	Peng Zitao
Tel:	15815855870
Fax:	020-36887004