

地址:深圳市宝安区沙井东环工业区 A3 栋

电话: 0755-29179480/1 FAX: 0755-84736169

公司网址: www.c-chip.com.cn

The Bluetooth module F-6888 manual

## Product overview:

Intelligent wireless audio data transmission products F-6688 Bluetooth module for the independent development of our company, is the high price of stereo wireless transmission scheme of low cost, module uses BEKEN chip to provide the high quality and compatibility for the module, the overall better performance. F-6688 Bluetooth module with free driving mode, customers only need to access the application module products, wireless transmission can quickly realize the music, enjoy wireless musi. Support the intelligent voice prompt and the function of times; Integrated TF card play function; Integrated mobile U disk broadcast function; Support the internal LINE - IN; Support the internal FM radio.

### 二、Field of application:

This module is mainly used for music transmission in short distance, can be connected with mobile phone and personal computer, conveniently, the connection between PDA and other digital products, enjoy bluetooth wireless transmission of music.

- **X** Bluetooth audio
- Bluetooth stereo headset
- \* hands-free phone

The Bluetooth wireless audio transmission

#### 三、Essential qualities:

**Bluetooth Profiles** 

XA2DP v1.2

XAVRCP v1.4

**※**HFP v1.5

XAVCTP v1.3

SPP v1.2

**※GAVDP v1.2** 

**XAVDTP v1.2** 

## 四、Performance parameters:

Model	F-6888 V1.1		
Bluetooth	Bluetooth V4.1		
Supply voltage	DC3.3-4.2V		
Supported Bluetooth agreement	HFPV1.5, A2DPV1.2,AVRCPV1.4, GAVDP v1.2, AVDTP v1.2, SPP v1.2, AVCTP v1.3		
Working current	≤45mA		
Standby current	nt <500uA		
Temperature range	re range -40°C to +80°C		
Wireless working range:	More than 10 meters		
Transmission Power:	ion Power: CLASS2, 4dbm		
Sensitivity:	-80dBm<0.1%BER		
Frequency Range:	ncy Range: 2.402GHz-2.480GHz		
Output port:	t: I2C, SPI and UART interface		
Audio Performance	ormance SBC decode		
S/N Rate:	≥75dB		

Company: SHENZHENSHIXINZHONGXIN TECHNOLOGY CO., LTD.

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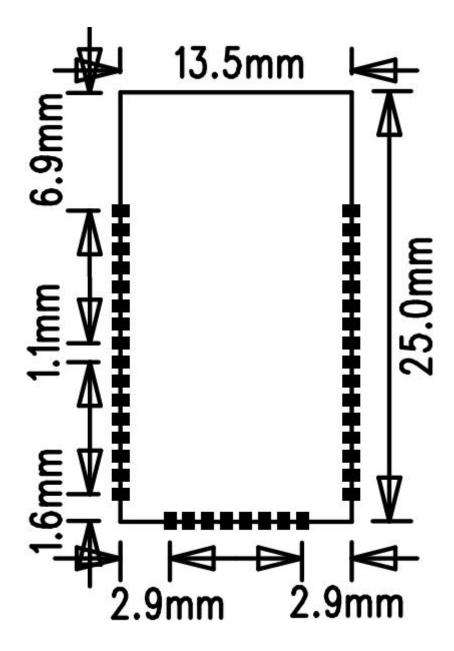


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The size of the modern 25V42 FV4 ONANA

The size of the modern 25X13.5X1.8MM

## The size of the modern:

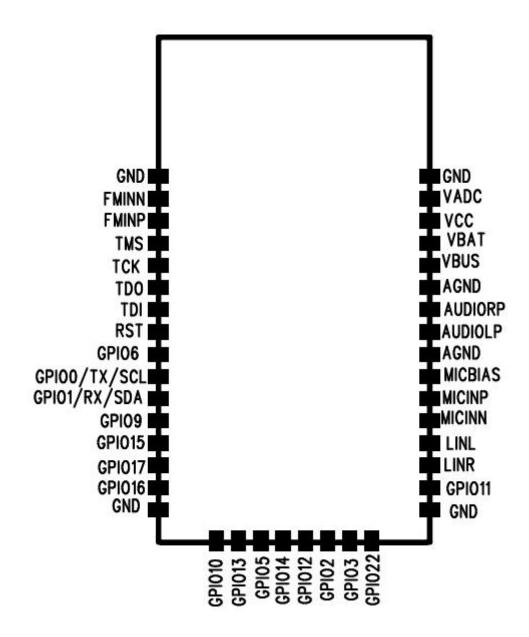




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#### The definition of pin:





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## Pin function:

1         GND         GND         RF_GND           2         FMINN         FMINN         FMINN           3         FMINP         FMINP         FMINP           4         TMS(GPI019)         Digital I/O         JTAG pin           5         TCK(GPI018)         Digital I/O         JTAG pin           6         TDO(GPI021)         Digital I/O         JTAG pin           7         TDI(GPI020)         Digital I/O         JTAG pin / Reset pin-low active           9         GPIOG         Digital I/O         GPI0G           10         GPI0O(TX)         Digital I/O         GPI0G           11         GPI01(RX)         Digital I/O         GPI09           12         GPI09         Digital I/O         GPI015           13         GPI015         Digital I/O         GPI015           14         GPI017         Digital I/O         GPI016           15         GPI016         Digital I/O         GPI016           16         GND         GPI016         GPI017           17         GPI010         Digital I/O         GPI013           19         GPI01         Digital I/O         GPI013           19         GPI01	Pin	Symb	I/O	Description
3         FMINP         FMINP         FMINP           4         TMS(GPIO19)         Digital I/O         JTAG pin           5         TCK(GPIO18)         Digital I/O         JTAG pin           6         TDO(GPIO21)         Digital I/O         JTAG pin           7         TDI(GPIO20)         Digital I/O         JTAG pin /           8         RSTN         Digital I/O         JTAG pin /           9         GPIO6         Digital I/O         GPIO6           10         GPIO0(TX)         Digital I/O         UART TX           11         GPIO1(RX)         Digital I/O         GPIO9           13         GPIO15         Digital I/O         GPIO15           14         GPIO17         Digital I/O         GPIO16           15         GPIO16         Digital I/O         GPIO16           16         GND         GND         Ground connect battery negative           17         GPIO10         Digital I/O         GPIO10           19         GPIO13         Digital I/O         GPIO13           19         GPIO5         Digital I/O         GPIO12           20         GPIO14         Digital I/O         GPIO12           21         <	1	GND	GND	RF_GND
4         TMS(GPIO19)         Digital I/O         JTAG pin           5         TCK(GPIO18)         Digital I/O         JTAG pin           6         TDO(GPIO21)         Digital I/O         JTAG pin           7         TDI(GPIO20)         Digital I/O         JTAG pin           8         RSTN         Digital I/O         JTAG pin / Reset pin-low active           9         GPIO6         Digital I/O         GPIO6           10         GPIO0(TX)         Digital I/O         UART TX           11         GPIO1(RX)         Digital I/O         GPIO9           12         GPIO9         Digital I/O         GPIO15           13         GPIO15         Digital I/O         GPIO15           14         GPIO17         Digital I/O         GPIO16           15         GPIO16         Digital I/O         GPIO16           16         GND         GROD         GPIO10           17         GPIO10         Digital I/O         GPIO13           19         GPIO13         Digital I/O         GPIO14           20         GPIO14         Digital I/O         GPIO12           21         GPIO12         Digital I/O         GPIO12           22	2	FMINN	FMINN	FMINN
5         TCK(GPIO18)         Digital I/O         JTAG pin           6         TDO(GPIO21)         Digital I/O         JTAG pin           7         TDI(GPIO20)         Digital I/O         JTAG pin           8         RSTN         Digital I/O         JTAG pin / Reset pin-low active           9         GPIO6         Digital I/O         GPIO6           10         GPIO0(TX)         Digital I/O         UART TX           11         GPIO1(RX)         Digital I/O         GPIO9           13         GPIO15         Digital I/O         GPIO15           14         GPIO17         Digital I/O         GPIO16           15         GPIO16         Digital I/O         GPIO17           15         GPIO16         Digital I/O         GPIO16           16         GND         GND         Ground connect battery negative           17         GPIO10         Digital I/O         GPIO10           18         GPIO13         Digital I/O         GPIO13           19         GPIO5         Digital I/O         GPIO14           20         GPIO14         Digital I/O         GPIO12           21         GPIO2         Digital I/O         GPIO2           <	3	FMINP	FMINP	FMINP
6         TDO(GPIO21)         Digital I/O         JTAG pin           7         TDI(GPIO20)         Digital I/O         JTAG pin           8         RSTN         Digital I/O         JTAG pin / Reset pin-low active           9         GPIO6         Digital I/O         GPIO6           10         GPIO1(TX)         Digital I/O         UART TX           11         GPIO1(TX)         Digital I/O         GPIO9           13         GPIO15         Digital I/O         GPIO9           13         GPIO15         Digital I/O         GPIO15           14         GPIO17         Digital I/O         GPIO17           15         GPIO16         Digital I/O         GPIO16           16         GND         GND         Ground connect battery negative           17         GPIO10         Digital I/O         GPIO10           18         GPIO13         Digital I/O         GPIO13           19         GPIO3         Digital I/O         GPIO14           20         GPIO14         Digital I/O         GPIO14           21         GPIO12         Digital I/O         GPIO2           23         GPIO3         Digital I/O         GPIO3           24 <td>4</td> <td>TMS(GPIO19)</td> <td>Digital I/O</td> <td>JTAG pin</td>	4	TMS(GPIO19)	Digital I/O	JTAG pin
7         TDI(GPIO20         Digital I/O         JTAG pin           8         RSTN         Digital I/O         JTAG pin / Reset pin-low active           9         GPIO6         Digital I/O         GPIO6           10         GPIO0(TX)         Digital I/O         UART TX           11         GPIO1(RX)         Digital I/O         GPIO9           13         GPIO15         Digital I/O         GPIO9           13         GPIO15         Digital I/O         GPIO15           14         GPIO17         Digital I/O         GPIO17           15         GPIO16         Digital I/O         GPIO16           16         GND         GND         Ground connect battery negative           17         GPIO10         Digital I/O         GPIO10           18         GPIO13         Digital I/O         GPIO13           19         GPIO3         Digital I/O         GPIO13           19         GPIO14         Digital I/O         GPIO14           20         GPIO14         Digital I/O         GPIO14           21         GPIO12         Digital I/O         GPIO2           23         GPIO3         Digital I/O         GPIO3           24	5	TCK(GPIO18)	Digital I/O	JTAG pin
8         RSTN         Digital I/O         JTAG pin / Reset pin-low active           9         GPIO6         Digital I/O         GPIO6           10         GPIO0(TX)         Digital I/O         UART TX           11         GPIO1(RX)         Digital I/O         UART RX           12         GPIO9         Digital I/O         GPIO9           13         GPIO15         Digital I/O         GPIO17           14         GPIO17         Digital I/O         GPIO16           15         GPIO16         Digital I/O         GPIO16           16         GND         GND         Ground connect battery negative           17         GPIO10         Digital I/O         GPIO10           18         GPIO13         Digital I/O         GPIO13           19         GPIO13         Digital I/O         GPIO14           20         GPIO14         Digital I/O         GPIO12           21         GPIO12         Digital I/O         GPIO12           22         GPIO2         Digital I/O         GPIO2           23         GPIO3         Digital I/O         GPIO22           25         GND         GND         GND           26         GPIO11 <td>6</td> <td>TDO(GPIO21)</td> <td>Digital I/O</td> <td>JTAG pin</td>	6	TDO(GPIO21)	Digital I/O	JTAG pin
9         GPIO6         Digital I/O         GPIO6           10         GPIO0(TX)         Digital I/O         UART TX           11         GPIO1(RX)         Digital I/O         UART RX           12         GPIO9         Digital I/O         GPIO19           13         GPIO15         Digital I/O         GPIO15           14         GPIO17         Digital I/O         GPIO16           15         GPIO16         Digital I/O         GPIO16           16         GND         GND         Ground connect battery negative           17         GPIO10         Digital I/O         GPIO10           18         GPIO13         Digital I/O         GPIO13           19         GPIO5         Digital I/O         GPIO13           20         GPIO14         Digital I/O         GPIO14           21         GPIO12         Digital I/O         GPIO12           22         GPIO2         Digital I/O         GPIO2           23         GPIO3         Digital I/O         GPIO3           24         GPIO22         Digital I/O         GPIO22           25         GND         GND         GND           26         GPIO11         Digital	7	TDI(GPIO20	Digital I/O	JTAG pin
Digital I/O   GPIO9   Digital I/O   GPIO15   GPIO15   Digital I/O   GPIO15   GPIO17   Digital I/O   GPIO17   Digital I/O   GPIO16   GPIO17   GPIO16   GPIO16   GPIO16   GPIO16   GPIO16   GPIO17   GPIO16   GPIO10   GPIO13   GPIO10   GPIO13   GPIO10   GPIO10   GPIO10   GPIO10   GPIO14   Digital I/O   GPIO14   Digital I/O   GPIO12   GPIO12   GPIO12   GPIO12   GPIO12   GPIO12   GPIO12   GPIO10   GPIO11   Digital I/O   GPIO10   GPIO10	8	RSTN	Digital I/O	JTAG pin / Reset pin-low active
11         GPIO1(RX)         Digital I/O         UART RX           12         GPIO9         Digital I/O         GPIO9           13         GPIO15         Digital I/O         GPIO15           14         GPIO17         Digital I/O         GPIO16           15         GPIO16         Digital I/O         GPIO16           16         GND         Ground connect battery negative           17         GPIO10         Digital I/O         GPIO10           18         GPIO13         Digital I/O         GPIO13           19         GPIO5         Digital I/O         GPIO13           19         GPIO5         Digital I/O         GPIO14           20         GPIO14         Digital I/O         GPIO12           21         GPIO12         Digital I/O         GPIO12           22         GPIO2         Digital I/O         GPIO3           24         GPIO22         Digital I/O         GPIO22           25         GND         GND         GND           26         GPIO11         Digital I/O         GPIO11           27         LINR         AUX_INPUT         LINR           29         NC         NC         NC	9	GPIO6	Digital I/O	GPIO6
12         GPIO9         Digital I/O         GPIO15           13         GPIO15         Digital I/O         GPIO15           14         GPIO17         Digital I/O         GPIO17           15         GPIO16         Digital I/O         GPIO16           16         GND         GROD         Ground connect battery negative           17         GPIO10         Digital I/O         GPIO10           18         GPIO13         Digital I/O         GPIO13           19         GPIO5         Digital I/O         GPIO5           20         GPIO14         Digital I/O         GPIO14           21         GPIO12         Digital I/O         GPIO12           22         GPIO2         Digital I/O         GPIO2           23         GPIO3         Digital I/O         GPIO3           24         GPIO22         Digital I/O         GPIO22           25         GND         GND         GND           26         GPIO11         Digital I/O         GPIO11           27         LINR         AUX_INPUT         LINR           28         LINL         AUX_INPUT         LINL           29         NC         NC         NC	10	GPIO0(TX)	Digital I/O	UART TX
Digital I/O   GPIO15   Digital I/O   GPIO17   Digital I/O   GPIO17   Digital I/O   GPIO16   GPIO16   GPIO16   GPIO16   GPIO16   GPIO16   GPIO16   GPIO10   GPIO10   GPIO10   GPIO10   GPIO10   GPIO10   GPIO10   GPIO13   GPIO13   GPIO13   GPIO14   Digital I/O   GPIO15   GPIO14   Digital I/O   GPIO14   GPIO12   GPIO12   Digital I/O   GPIO12   GPIO12   GPIO12   Digital I/O   GPIO12   GPIO2   Digital I/O   GPIO3   GPIO3   Digital I/O   GPIO3   GPIO3   GPIO3   GPIO3   Digital I/O   GPIO22   GPIO2   Digital I/O   GPIO22   GPIO2   Digital I/O   GPIO22   GPIO2   Digital I/O   GPIO22   GRID   GRID	11	GPIO1(RX)	Digital I/O	UART RX
GPI017   Digital I/O   GPI018	12	GPIO9	Digital I/O	GPIO9
15         GPIO16         Digital I/O         GPIO16           16         GND         GND         Ground connect battery negative           17         GPIO10         Digital I/O         GPIO10           18         GPIO13         Digital I/O         GPIO13           19         GPIO5         Digital I/O         GPIO5           20         GPIO14         Digital I/O         GPIO14           21         GPIO12         Digital I/O         GPIO12           22         GPIO2         Digital I/O         GPIO3           24         GPIO22         Digital I/O         GPIO3           24         GPIO22         Digital I/O         GPIO22           25         GND         GND         GND           26         GPIO11         Digital I/O         GPIO11           27         LINR         AUX_INPUT         LINR           28         LINL         AUX_INPUT         LINL           29         NC         NC         NC           30         MICINP         MIC+         MICP           31         VMIC         VMIC         VMIC           32         AGND         AGND         AGND	13	GPIO15	Digital I/O	GPIO15
GND	14	GPIO17	Digital I/O	GPIO17
17         GPI010         Digital I/O         GPI010           18         GPI013         Digital I/O         GPI013           19         GPI05         Digital I/O         GPI05           20         GPI014         Digital I/O         GPI014           21         GPI012         Digital I/O         GPI012           22         GPI02         Digital I/O         GPI02           23         GPI03         Digital I/O         GPI03           24         GPI022         Digital I/O         GPI022           25         GND         GND         GND           26         GPI011         Digital I/O         GPI011           27         LINR         AUX_INPUT         LINR           28         LINL         AUX_INPUT         LINL           29         NC         NC         NC           30         MICINP         MIC+         MICP           31         VMIC         VMIC         VMIC           32         AGND         AGND         AGND	15	GPIO16	Digital I/O	GPIO16
18         GPIO13         Digital I/O         GPIO13           19         GPIO5         Digital I/O         GPIO5           20         GPIO14         Digital I/O         GPIO14           21         GPIO12         Digital I/O         GPIO12           22         GPIO2         Digital I/O         GPIO2           23         GPIO3         Digital I/O         GPIO3           24         GPIO22         Digital I/O         GPIO22           25         GND         GND         GND           26         GPIO11         Digital I/O         GPIO11           27         LINR         AUX_INPUT         LINR           28         LINL         AUX_INPUT         LINL           29         NC         NC         NC           30         MICINP         MIC+         MICP           31         VMIC         VMIC         VMIC           32         AGND         AGND         AGND	16	GND	GND	Ground connect battery negative
19         GPIO5         Digital I/O         GPIO5           20         GPIO14         Digital I/O         GPIO14           21         GPIO12         Digital I/O         GPIO12           22         GPIO2         Digital I/O         GPIO2           23         GPIO3         Digital I/O         GPIO3           24         GPIO22         Digital I/O         GPIO22           25         GND         GND         GND           26         GPIO11         Digital I/O         GPIO11           27         LINR         AUX_INPUT         LINR           28         LINL         AUX_INPUT         LINL           29         NC         NC         NC           30         MICINP         MIC+         MICP           31         VMIC         VMIC         VMIC           32         AGND         AGND         AGND	17	GPIO10	Digital I/O	GPIO10
20         GPIO14         Digital I/O         GPIO14           21         GPIO12         Digital I/O         GPIO12           22         GPIO2         Digital I/O         GPIO2           23         GPIO3         Digital I/O         GPIO3           24         GPIO22         Digital I/O         GPIO22           25         GND         GND         GND           26         GPIO11         Digital I/O         GPIO11           27         LINR         AUX_INPUT         LINR           28         LINL         AUX_INPUT         LINL           29         NC         NC         NC           30         MICINP         MIC+         MICP           31         VMIC         VMIC         VMIC           32         AGND         AGND         AGND	18	GPIO13	Digital I/O	GPIO13
21       GPIO12       Digital I/O       GPIO12         22       GPIO2       Digital I/O       GPIO2         23       GPIO3       Digital I/O       GPIO3         24       GPIO22       Digital I/O       GPIO22         25       GND       GND       GND         26       GPIO11       Digital I/O       GPIO11         27       LINR       AUX_INPUT       LINR         28       LINL       AUX_INPUT       LINL         29       NC       NC       NC         30       MICINP       MIC+       MICP         31       VMIC       VMIC       VMIC         32       AGND       AGND       AGND	19	GPIO5	Digital I/O	GPIO5
22       GPIO2       Digital I/O       GPIO2         23       GPIO3       Digital I/O       GPIO3         24       GPIO22       Digital I/O       GPIO22         25       GND       GND       GND         26       GPIO11       Digital I/O       GPIO11         27       LINR       AUX_INPUT       LINR         28       LINL       AUX_INPUT       LINL         29       NC       NC       NC         30       MICINP       MIC+       MICP         31       VMIC       VMIC       VMIC         32       AGND       AGND       AGND	20	GPIO14	Digital I/O	GPIO14
23         GPIO3         Digital I/O         GPIO3           24         GPIO22         Digital I/O         GPIO22           25         GND         GND         GND           26         GPIO11         Digital I/O         GPIO11           27         LINR         AUX_INPUT         LINR           28         LINL         AUX_INPUT         LINL           29         NC         NC         NC           30         MICINP         MIC+         MICP           31         VMIC         VMIC         VMIC           32         AGND         AGND         AGND	21	GPIO12	Digital I/O	GPIO12
24         GPIO22         Digital I/O         GPIO22           25         GND         GND         GND           26         GPIO11         Digital I/O         GPIO11           27         LINR         AUX_INPUT         LINR           28         LINL         AUX_INPUT         LINL           29         NC         NC         NC           30         MICINP         MIC+         MICP           31         VMIC         VMIC         VMIC           32         AGND         AGND         AGND	22	GPIO2	Digital I/O	GPIO2
25         GND         GND         GND           26         GPIO11         Digital I/O         GPIO11           27         LINR         AUX_INPUT         LINR           28         LINL         AUX_INPUT         LINL           29         NC         NC         NC           30         MICINP         MIC+         MICP           31         VMIC         VMIC         VMIC           32         AGND         AGND         AGND	23	GPIO3	Digital I/O	GPIO3
26         GPIO11         Digital I/O         GPIO11           27         LINR         AUX_INPUT         LINR           28         LINL         AUX_INPUT         LINL           29         NC         NC         NC           30         MICINP         MIC+         MICP           31         VMIC         VMIC         VMIC           32         AGND         AGND         AGND	24	GPIO22	Digital I/O	GPIO22
27         LINR         AUX_INPUT         LINR           28         LINL         AUX_INPUT         LINL           29         NC         NC         NC           30         MICINP         MIC+         MICP           31         VMIC         VMIC         VMIC           32         AGND         AGND         AGND	25	GND	GND	GND
28         LINL         AUX_INPUT         LINL           29         NC         NC         NC           30         MICINP         MIC+         MICP           31         VMIC         VMIC         VMIC           32         AGND         AGND         AGND	26	GPIO11	Digital I/O	GPIO11
29         NC         NC         NC           30         MICINP         MIC+         MICP           31         VMIC         VMIC         VMIC           32         AGND         AGND         AGND	27	LINR	AUX_INPUT	LINR
30         MICINP         MIC+         MICP           31         VMIC         VMIC         VMIC           32         AGND         AGND         AGND	28	LINL	AUX_INPUT	LINL
31 VMIC VMIC VMIC 32 AGND AGND AGND	29	NC	NC	NC
32 AGND AGND AGND	30	MICINP	MIC+	MICP
	31	VMIC	VMIC	VMIC
33 AUDIOLP Audio output Left channel audio output positive	32	AGND	AGND	AGND
	33	AUDIOLP	Audio output	Left channel audio output positive

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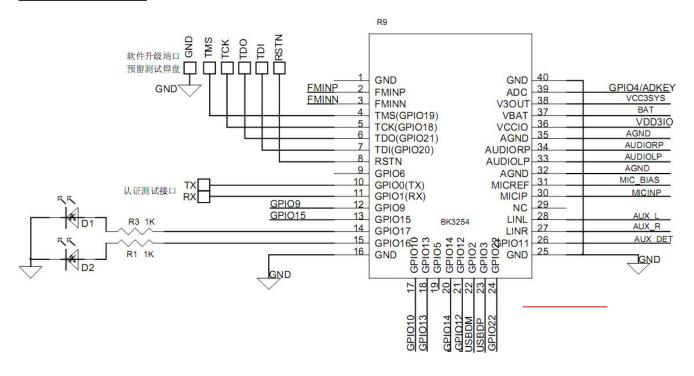
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34	AUDIORP	Audio output	Right channel audio output positive			
35	AGND	AGND	AGND			
36	VDD3IO	VDD3IO	VDD3IO			
37	VBAT	Power supply	Power supply			
38	VCC	Power	VCC			
39	ADC	Power	GPIO4			
40	GND	GND	GND			

#### Warnings for the circuit connection

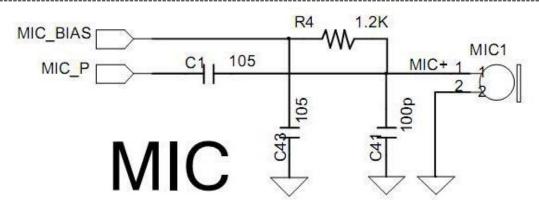
When use the F-6888 module, please pay attention on the interference source such as power amplifier, Booster circuit which may affect the module. To avoid the power consumption loop of the module circuit with the big power circuit to come the series connection loop to make the SNR of the whole unit up.

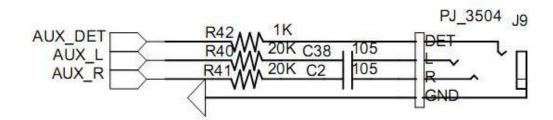
## **Application circuit**





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# line in



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GPIO4/ADKEY 22K VCC3SYS S1 - MODE 1.8K1% 3.6K1% 6.8K1% S7 - NEXT 15K1% S2 - UP 47K1% GPI022 HW VDD3IO

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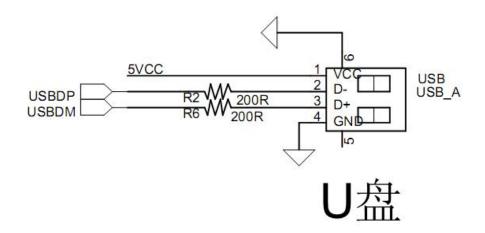
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12 SHEET 11 WP 10 GPIO12 CD 8 D1 7 **GPI014** D0/DO 6 VSS 5 CLK GPIO12 NC 4 VDD VCC3SYS 3 2.2R VSS **R18** VDD3IO 2 CMD/DI 1 D3/CS 475 9 D2 C9 **GPIO13** 

Support 32G TF/SD card Doc .System support FAT16/FAT32/EXFAT Songs Support MP3 (8-320Kbps) /WAV (44-48k)



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0R **FMINN FMINP** FM ANT

#### Attentions:

- 1. AUX\_DET Pins much be connected with 1K resistance
- 2. The IO of SD card need to be used the assigned

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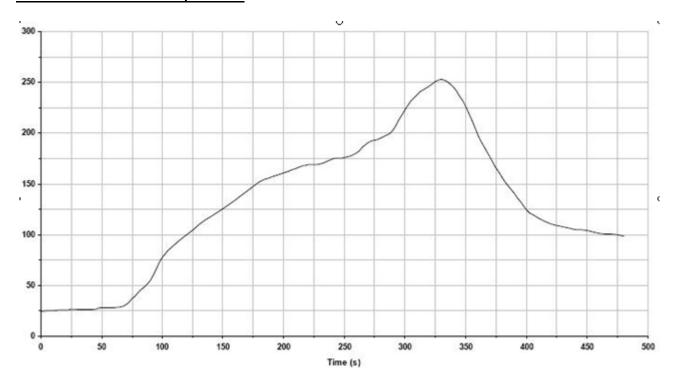
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## Recommend backflow temperature



### Key features of the profile:

- -Initial Ramp=1-2.5°C/sec to 175°C equilibrium
- -Equilibrium time=60 to 80 seconds
- -Ramp to Maximum temperature (250°C) = 3°C/sec Max
- -Time above liquidus temperature (217°C): 45 90 seconds
- -Device absolute maximum reflow temperature: 250°C



"Este equipamento opera em caráter secundário, isto é, não tem direito a proteção contra interferência prejudicial, mesmo de estações do mesmo tipo, e não pode causar interferência a sistemas operando em caráter primário."

Quando instalado em outro produto, este (produto final ou hospedeiro) deve incluir o selo completo em seu manual