

■ INTRODUCTION

F-6188 is the Bluetooth 2.1+EDR module for intelligent wireless audio transmission products designed by our company and qualified by SIG with QDID: 61489. F-6188 also is the low cost stereo audio Bluetooth solution with high performance. The main chip uses BK8000L chip, providing the high quality and best compatibility. Without any driver, you can connect the module with your device to enjoy the high quality music easily.

■ APPLICATIONS

F-6188 is used for Bluetooth audio transmission and it is convenience to connect with mobile phone , personal computer , PDA and other digital products with Bluetooth hardware to enjoy the music wirelessly .The major application are included :

- ✧ Bluetooth speaker
- ✧ Bluetooth stereo headset
- ✧ Bluetooth speaker with data transmission

■ FEATURES

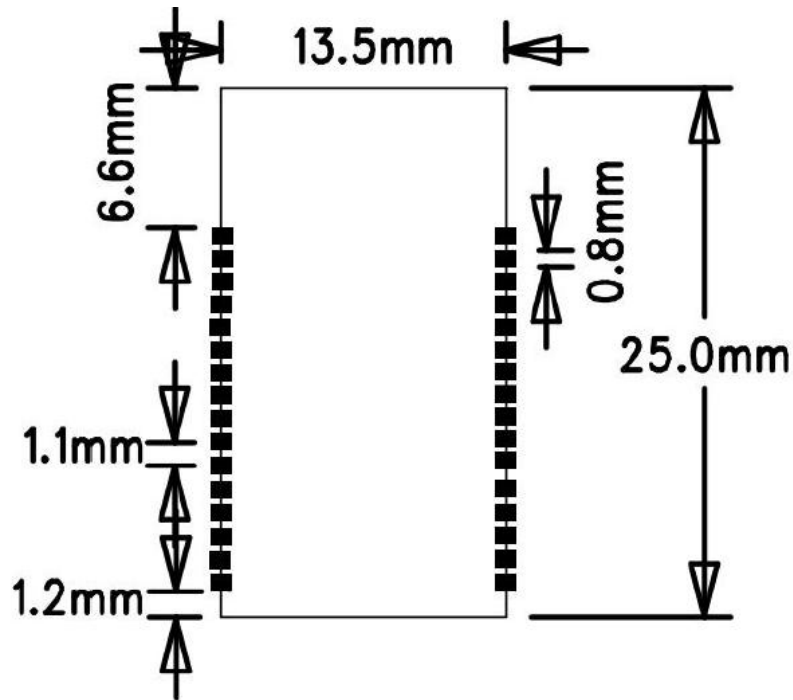
Bluetooth Profiles list below:

- ✧ Bluetooth V2.1+EDR specification support
- ✧ A2DP V1.2
- ✧ AVRCP V1.4
- ✧ HFP V1.5
- ✧ GAVDP V1.2
- ✧ HSP V1.2
- ✧ IOP

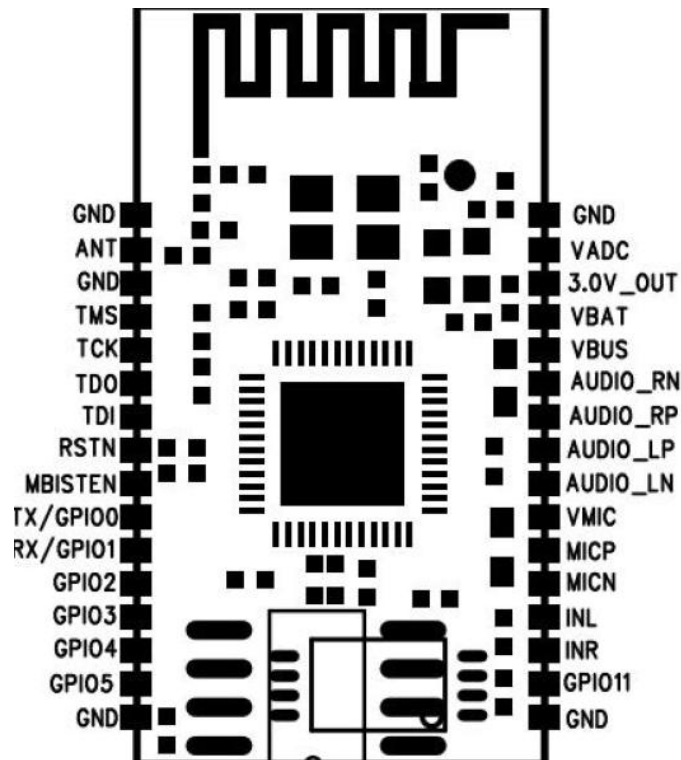
■ PARAMETERS

MODEL	F-6188
BLUETOOTH	Bluetooth V2.1+EDR
SUPPORT BLUETOOTH Profile	HFPV1.5,A2DPV1.2, AVRCPV 1.4, HSP1.2, GAVDP1.2, IOP
Power consumption	≤ 25mA
STANDBY CURRENT	<500uA
SUPPLY VOLTAGE	DC2.8 ~ 4.2V
TEMPERATURE RANGE	-40 ~+85℃
THE WIRELESS TRANSMISSION RANDG	>10 m
TRANSMISSION POWER	CLASS2 4dBm
SENSITIVITY	- 80dBm@0.1%BER
FREQUENCY RANGE	2.4GHz-2.480GHz
Interface	I2C, SPI and UART interface
AUDIO PERFORMANCE	SBC algorithm
THE AUDIO SNR	≥ 75dB
MODULE SIZE	25.00 X 13.50 X 1.80MM

■ OUTLINE DIMENSION (MODULE FOOT PRINT)



■ DEVICE PINOUT DIAGRAM



■ PIN DEFINITION

Pin	Symb	I/O	Description
1	GND	GND	RF_GND
2	ANT	ANT	ANT PORT

3	GND	GND	RF_GND
4	TMS(GPIO19)	Digital I/O	JTAG pin
5	TMS(GPIO18)	Digital I/O	JTAG pin
6	TMS(GPIO21)	Digital I/O	JTAG pin
7	TMS(GPIO20)	Digital I/O	JTAG pin
8	RSTN	Digital I/O	JTAG pin/Reset pin-low active
9	MBISTEN	Digital I/O	Memory bit check
10	GPIO0(TX)	Digital I/O	UART TX
11	GPIO1(RX)	Digital I/O	UART RX
12	GPIO2	Digital I/O	GPIO2
13	GPIO3	Digital I/O	GPIO3
14	GPIO4	Digital I/O	GPIO4
15	GPIO5	Digital I/O	GPIO5
16	GND	GND	Ground connect battery negative
17	AGND	AGND	Ground connect battery negative
18	GPIO11	Digital I/O	Gpio11
19	LINR	AUX_INPUT	LINR
20	LINL	AUX_INPUT	LINL
21	MICN	MIC_	MICN
22	MICP	MCI+	MICP
23	VMIC	VMIC	VMIC
24	AUDIOLN	Audio output	Left channel audio output negative
25	AUDIOLP	Audio output	Left channel audio output positive
26	AUDIORP	Audio output	Right channel audio output positive
27	AUDIORN	Audio output	Right channel audio output negative
28	VBUS	Charge port	VBUS
29	VBAT	Power supply	Power supply
30	3V0	Power	3.0V output
31	ADC	Power	ADC input
32	GND	GND	GND

■ **NOTICE**

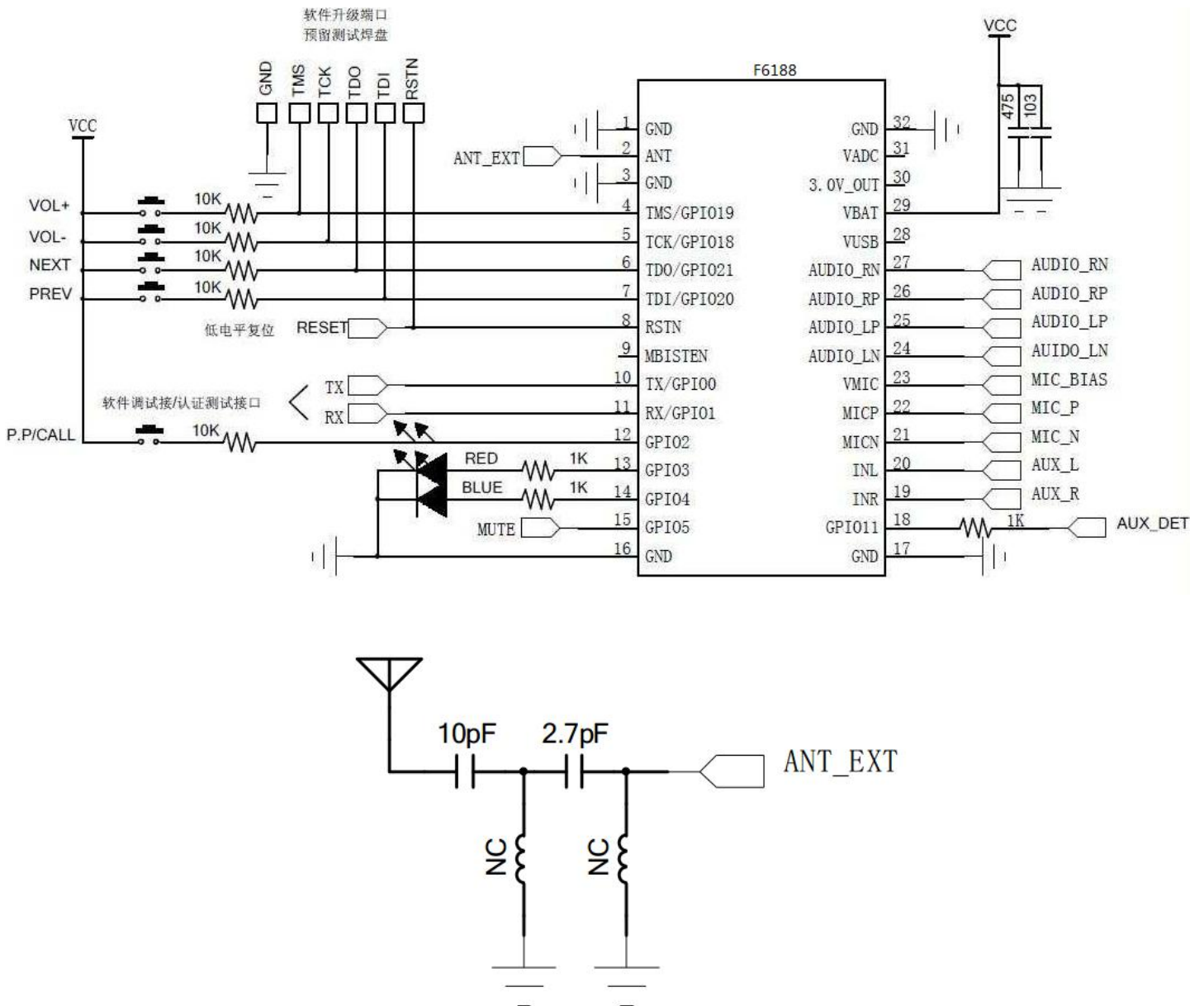
In order to better SNR, please pay attention to the hardware design of PA, DC booster and the module power circuit to avoid influencing module.

Application notes

1. The signal strength is depending on the environment of Bluetooth application, such as wood and metal will block the transmission signal to get the shorter transmission distance.
2. Because of metal will block the signal transmission, it is recommend not to using the metal housing.

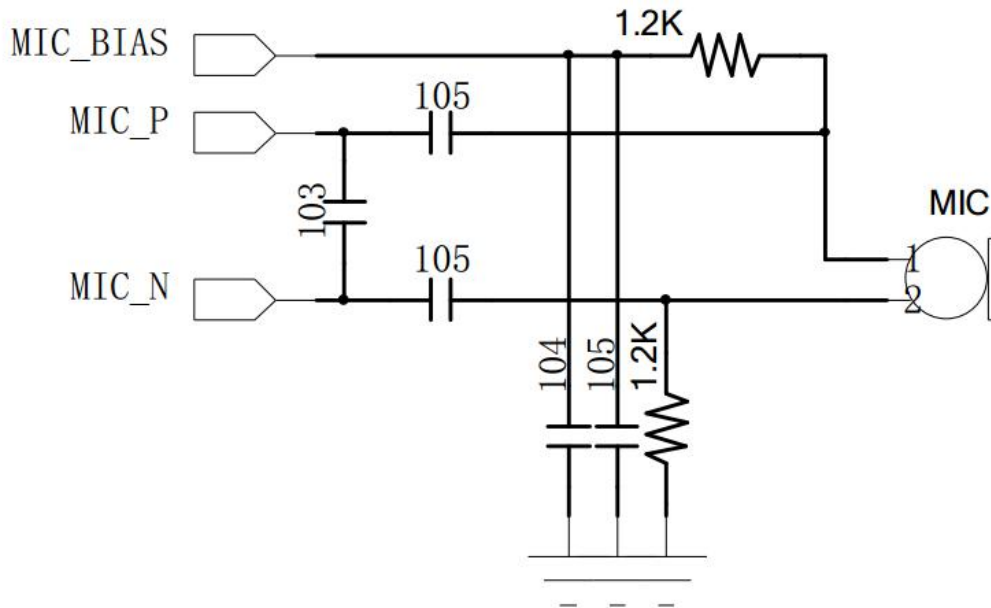
3. PCB layout guideline: no any copper existed in the antenna area of the module.

APPLICATION CIRCUIT



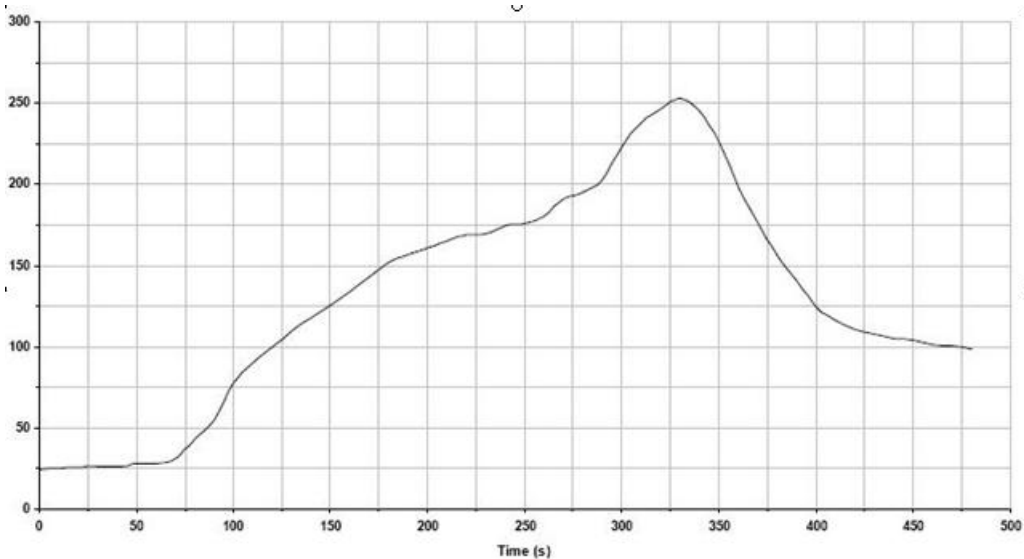
NOTICES:

The module has built-in antenna, no need external antenna except the application needed



MIC Recommended Specification: Sensitivity-38DB +/-2DB, Working voltage: DC2V

■ THE REFLOW 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 liquids temperature(217°C):45-90 seconds
- ✓ Device absolute maximum reflow temperature: 250°C