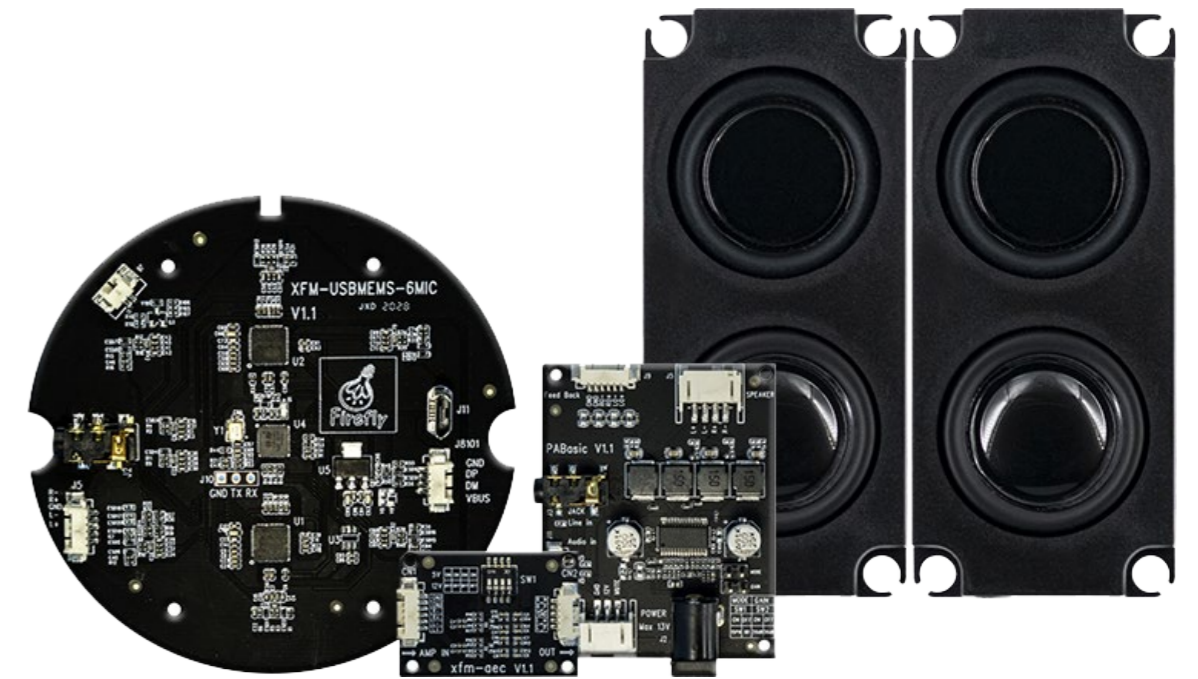




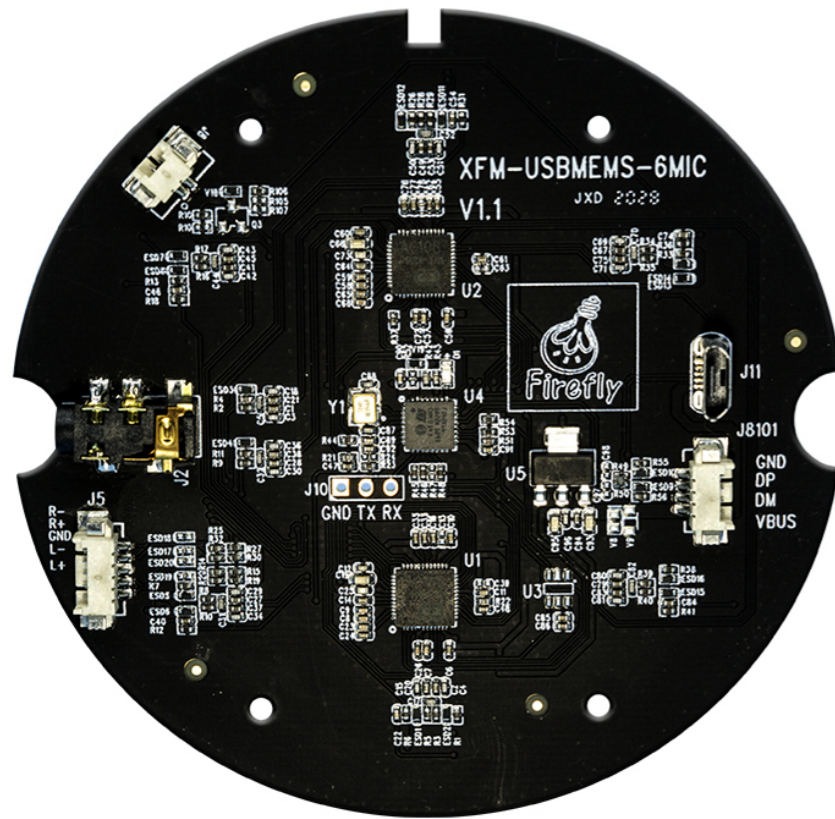
Intelligent Voice Control Kit

V1.0 2024-9-18

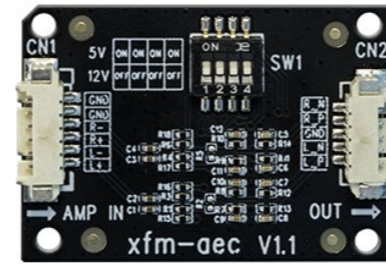
T-CHIP INTELLIGENCE TECHNOLOGY



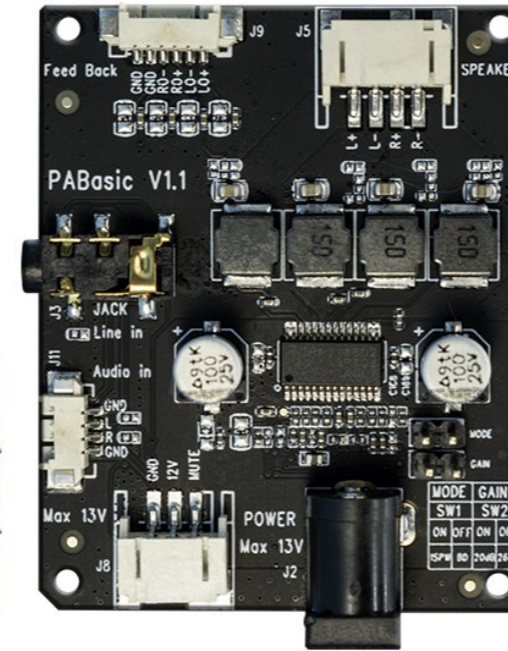
Pictures



Circular 6-microphone array board



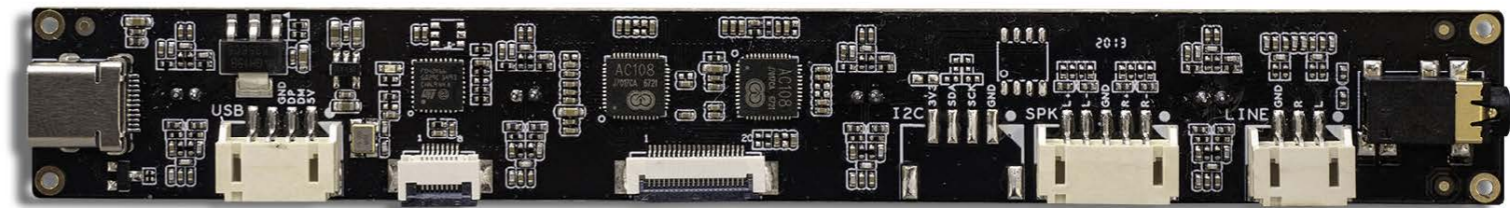
XFM-AEC module



PA amplifier



Speaker



Rectangle 4 microphone array board

Product features



Integrated voice control hardware

Consisting of Mic array board, XFM-AEC module, PA amplifier and two Dual channel speakers, the kit provides basic integrated voice control hardware – only an additional SoC is needed for the development of a smart voice control product.



Mic array board capturing far-field voice

You can choose 4-mic array board or 6-mic array board – to connect to the USB 2.0 standard interface. The voice pickup distance is up to 5 meters; its accurate speech recognition provides stable audio stream.



Wake word to activate

Fitting CAE array algorithm and DNN noise reduction algorithm, it supports iFLYTEK AIUI Open Platform; and it realizes wake word activation, voice interaction, noise reduction, echo cancellation, sound localization, man-machine interaction and so on.

Product features



Compatible with various hardware platforms

It adapts to any hardware platform based on Android system, and it perfectly fits Firefly hardware platforms such as RK3328, RK3399Pro, RK3399, RK3128.



Abundant resources

SDK, tutorials, tech docs and dev tools are provided, making development more simple and more convenient.



A wide range of applications

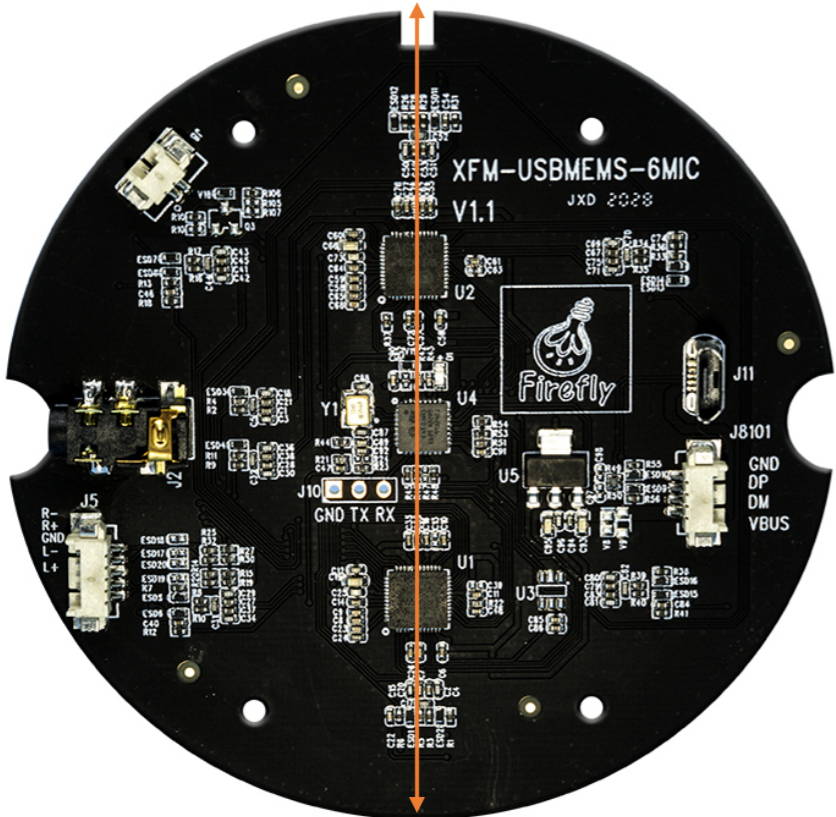
It has a wide range of application – robot, industrial development board, intelligent service terminal, intelligent mirror, smart home panel, business display device, etc.

Specifications



Specifications				
Intelligent Voice Control Kit	Features	Supports iFLYTEK AIUI Open Platform, capable of wake word activation, noise reduction, echo cancellation, sound localization, man-machine interaction and so on with features of far-field voice pickup and accurate speech recognition.		
	Hardware	Consists of Microphone array board, XFM-AEC module, PA amplifier and two Dual channel speakers; provides basic integrated voice control hardware – only an additional SoC is needed for the development of a smart voice control product.		
	Compatibility	Adapts to any hardware platform based on Android system, and perfectly fits Firefly hardware platforms such as RK3328, RK3399Pro, RK3399, RK3128.		
	Applications	Robots, industrial development boards, intelligent service terminals, business display devices, etc.		
Microphone Array Board	Type	4 microphone array	6 microphone array	
	Module Shape	Rectangle	Circle	
	MIC Quantity	Supports 4 ECM MICs (6027 is recommended)	Supports 6 MEMS MICs	
	MIC SNR	SNR > 70dB	SNR > 65dB	
	MIC Sensitivity	-32db ± 2db	-32db ± 1db	
	Wake-Up Range	3 ~ 5m	3 ~ 5m	
	Recognition Range	3 ~ 5m	3 ~ 5m	
	Operating Temperature	-20°C ~ 70°C	-20°C ~ 70°C	
	Sound Localization	4mic horizontal 180°	6mic 360°	
	Localization Accuracy	±15°	±15°	
	Other Features	Supports AEC, 60° voice pickup beam(3 beams), DNN noise reduction algorithm	Supports AEC, 60° voice pickup beam(6 beams), DNN noise reduction algorithm	
	Interface	Type-C	MicroUSB	
	Size	150mm(W) × 20mm(D)	Diameter: 85mm; Max height: 10mm; Aperture diameter: 2.2mm	
XFM-AEC Module	Size	35mm(W) × 25mm(D) × 6.5mm(H) , aperture diameter: 2.2mm		
	Features	Needs to be used together with a USB sound card and an amplifier to quickly build an AEC hardware system; supports 5V/12V switching, quickly adapts to output of different power speakers.		
PA Amplifier	Parameter	Minimum Value	General Value	Maximum Value
	Operating Voltage (1SPWM mode)	3.8V	12V	14V
	Operating Voltage(BD mode)	8V	12V	14V
	VIH(Mute)	2.2V	-	PVDD(Supply Voltage)
	VIL(Mute)	-	-	0.8V
	Effective current(stand-by) (@12V, Mute=High)	40mA	60mA	100mA
	Effective current(playing music) (@12V)	40mA	-	2000mA
	Speaker (4Ω)	1.5W	5W	8W
	Speaker (6Ω)	1.5W	5W	10W
	Speaker (8Ω)	1.5W	5W	10W
	Operating Temperature	-10°C	-	85°C
	Storage Temperature	-45°C	23°C ± 5°C	125°C
	Features	PABasic is a D-type amplifier module, most supports 2×10W/6Ω speakers, and supports dual-channel AEC. Uses TDA3138D2 amplifier chip(2×10W/6Ω), supports stereo analog audio input.		
Speaker	Channel	Dual-channel		
	Size	100mm × 45mm × 21mm		
	Power	8Ω / 5W		

Dimension

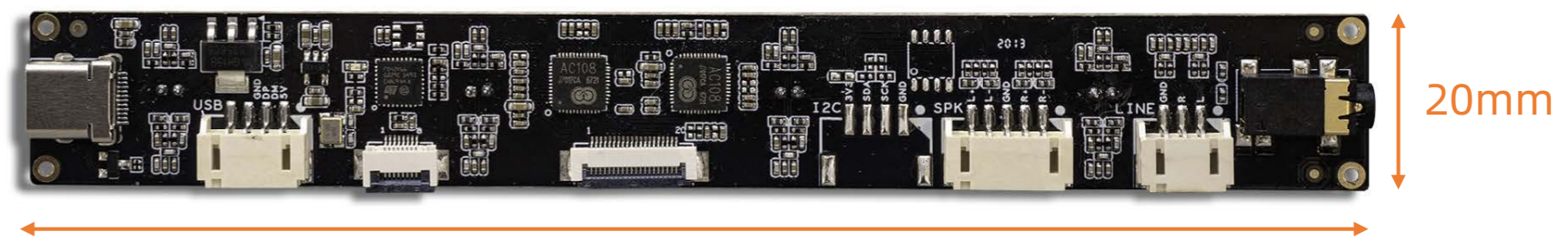


85mm

Circular 6-microphone array board



Speaker



150mm

20mm

Rectangle 4 microphone array board



T-CHIP INTELLIGENCE TECHNOLOGY



Contact Us
(+86)18688117175



E-mail
global@t-firefly.com



Website
<https://en.t-firefly.com/>



Address
Room 2101, Hongyu Building, #57 Zhongshan 4Rd, East District,
Zhongshan, Guangdong, China.