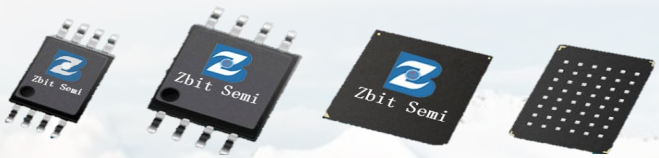
Stock Code：688416

Zbit Semiconductor, Inc.



PROFILE

PART 01

Basic Information

Stock Code: 688416

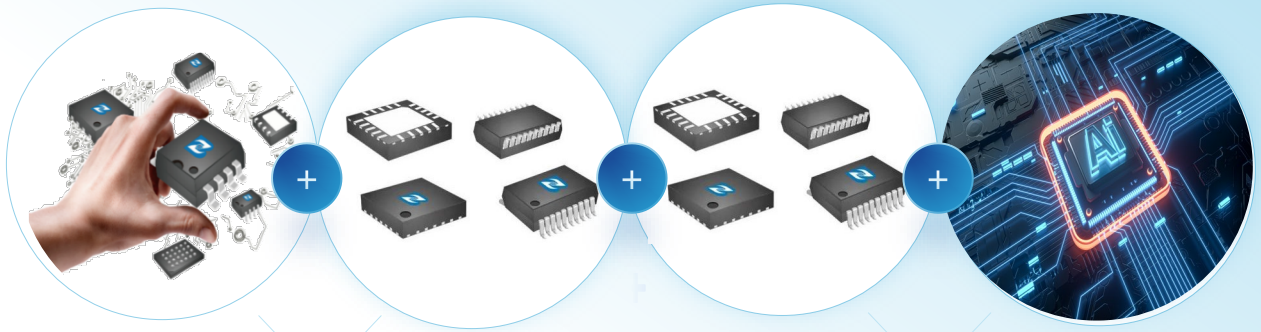
Founded in 2015, our company is a leading chip design firm in the industry. On August 29, 2022, it was listed on the Sci - tech Innovation Board of the Shanghai Stock Exchange.

NOR Flash

MCU

High-density memory

AI Chip



Main businesses

Dedicated to developing

Products widely used in

Consumer Electronics	Industrial Control	Communications	Iot	.....

Hefei Headquarters

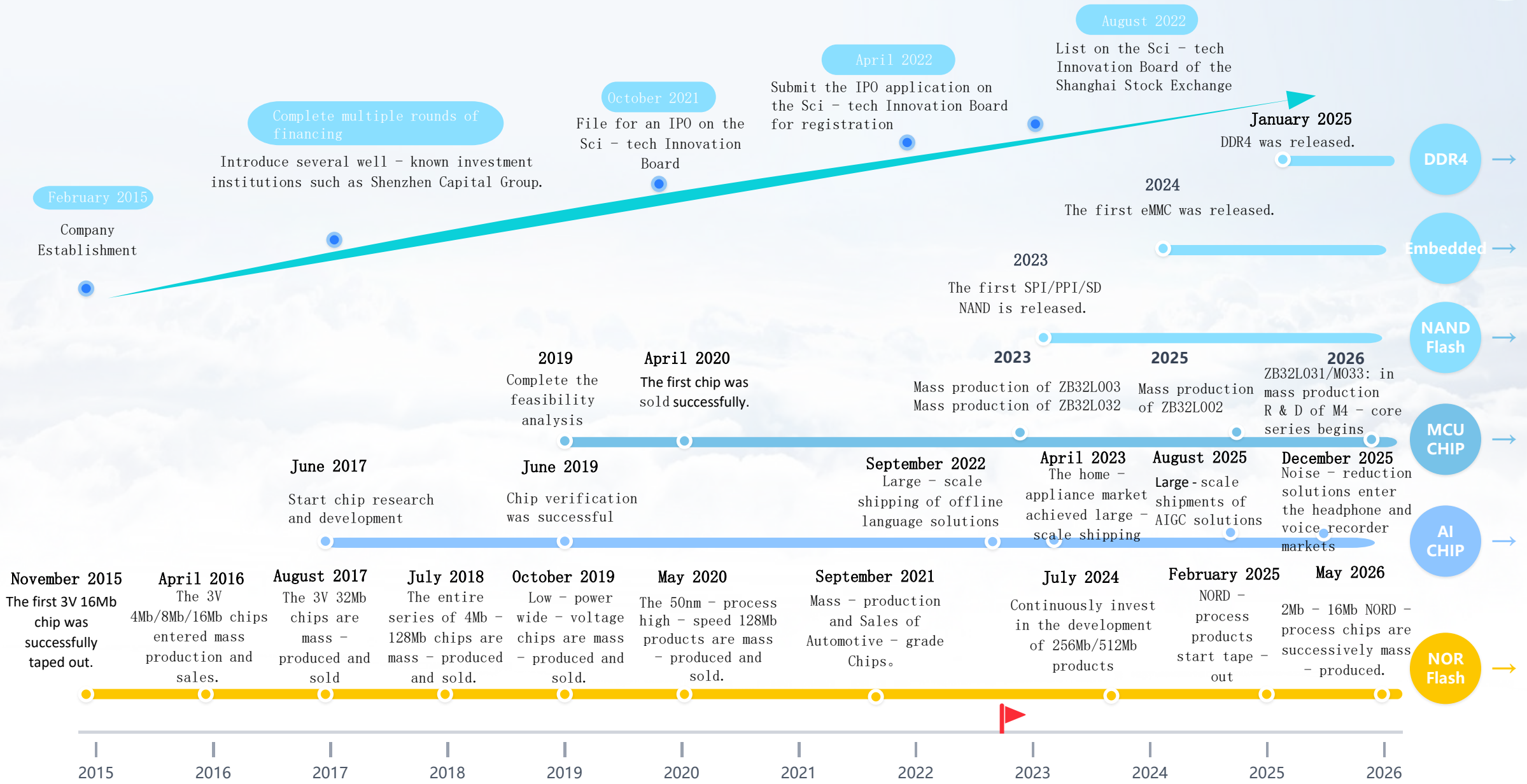
Current Staff
190+人

R&D Staff
60%+

R&D & Sales Center
Shanghai / Hefei / Suzhou & Shenzhen

Zbit Development History

Stock Code : 688416



Supply chain advantages ensure the company's production capacity growth.

Deepen collaboration with top domestic wafer manufacturers

Since 2015, we've been strategic partners, co - developing 65nm/55nm NOR Flash products. The 50nm NOR Flash and 55nm MCU processes are industry - leading.

The world's 5th - largest and China's largest foundry, with a domestically leading chip production process platfor

Huahong Semiconductor is the second-largest wafer foundry in Chinese mainland, specializing in specialty process chip manufacturing. It serves as the Company's new partner for advanced specialty processes.

Long-term stable cooperation with wafer probing and chip packaging & testing manufacturers

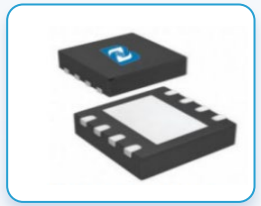
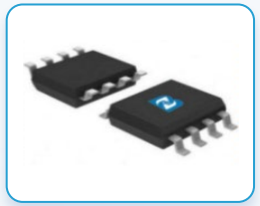
The company maintains stable partnerships with wafer foundries to support its long-term future growth

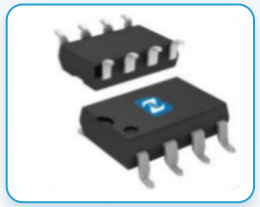
FLASH

PART 02

Main products: Flash memory chips

Stock Code: 688416



Full NOR Flash series: 3V high voltage, 1.2V/1.8V low voltage, 1.65－3.6V wide voltage

High performance, low power consumption, leading power efficiency in the industry

State-of-the-art process: NOR Flash available in 50nm

Full NOR Flash capacity range: 1Mb－512Mb

Products supplied to renowned clients including Xiaomi, 360 and other enterprises.

杰理科技 JieLi Technology · ASR MICROELECTRONICS · TELINK SEMICONDUCTOR · ESPRESSIF · REALTEK · 国芯 NationalChip

360 · SigmoStar · STAR-NET 星网锐捷 · 三星医疗电气 SANXING MEDICAL ELECTRIC

Rockchip 瑞芯微电子 · Skyworth 创维 · ALLWINNER · 君正 Ingenic · SIFLI 思澈科技

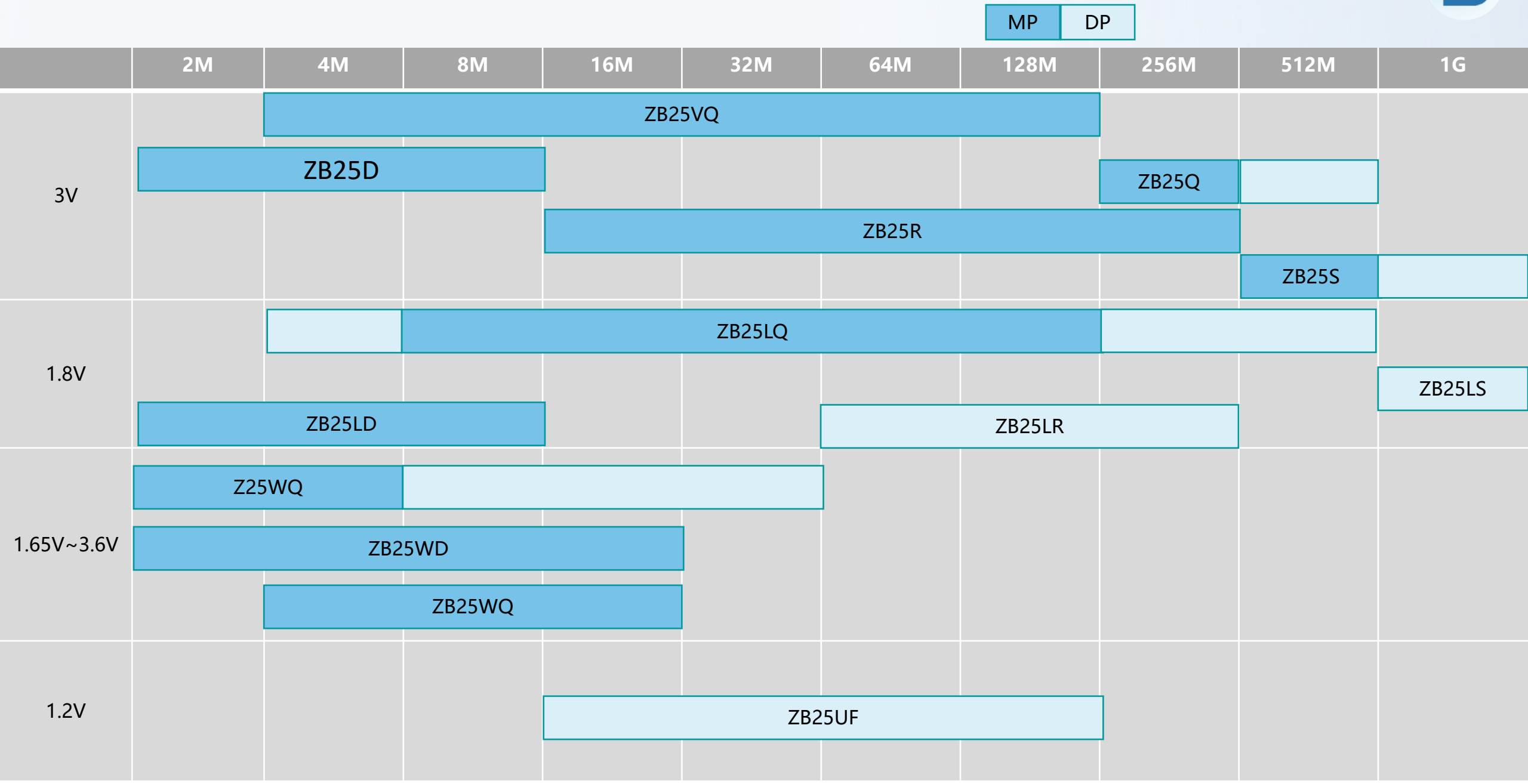
MEGAHUNT · ZTE中兴 · MEDIATEK · NOVATEK · Amlogic

中科蓝讯 bluetrum · deli · 国科微 · mi · 芯海科技 CHIPSEA

Application Fields

SPI NOR Flash Product Roadmap

Stock Code：688416



Mass-Produced NOR Product Portfolio

Stock Code：688416

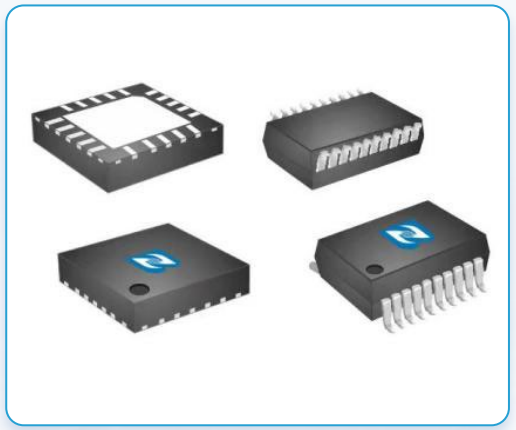
Vol	Cap	PN	Dual	Quad	QPI	DTR	SOP8 150mil	SOP8 208mil	VSOP8 208mil	TSSOP8 173mil	SOP16 300mil	DFN 6 1.0*0.72mm	DFN 6 1.2*1.2mm	DFN 8 1.5*1.5mm	DFN 8 2*3mm	DFN 8 4*3mm	DFN 8 4*4mm	DFN 8 5*6mm	DFN 8 6*8mm	TFBGA-24 BALL	KGD
3.0V	2Mb	Z25Q20A	√	√			•	•	•	•		•	•	•	•	•	•	•	•	•	√
		ZB25D20A	√				•	•	•	•		•	•	•	•	•	•	•	•	•	√
	4Mb	ZB25Q40A	√	√			•	•	•	•			•		•	•	•	•	•	•	√
		Z25Q40A	√	√			•	•	•	•			•		•	•	•	•	•	•	√
		ZB25D40B	√				•	•	•	•			•		•	•	•	•	•	•	√
	8Mb	ZB25D80B	√				•	•	•	•						•	•	•	•	•	√
		ZB25D80C	√				•	•	•	•						•	•	•	•	•	√
	16Mb	ZB25Q16A	√	√			•	•	•	•						•	•	•	•	•	√
	256Mb	ZB25Q256	√	√	√	√		•			•							•	•	•	√
	512Mb	ZB25S512	√	√	√	√					•							•	•	•	√
2.3~ 3.6V	4Mb	Z25VQ40A	√	√			•	•	•	•			•		•	•	•	•	•	•	√
		ZB25VQ40B	√	√			•	•	•	•						•	•	•	•	•	√
	8Mb	ZB25VQ80B	√	√			•	•	•	•						•	•	•	•	•	√
	16Mb	ZB25VQ16A	√	√			•	•	•	•						•	•	•	•	•	√
	32Mb	ZB25VQ32D	√	√	√	√	•	•	•							•	•	•	•	•	√
		ZB25VQ32E	√	√	√	√	•	•	•							•	•	•	•	•	√
	64Mb	ZB25VQ64C	√	√	√	√	•	•	•								•	•	•	•	√
		ZB25VQ64D	√	√	√		•	•			•					•		•		•	√
	128Mb	ZB25VQ128E	√	√	√	√	•	•	•								•	•	•	•	√
		ZB25VQ128D	√	√	√	√		•	•									•	•	•	√
1.8V	2Mb	ZB25LD20A	√				•	•	•	•		•		•	•	•	•	•	•	•	√
	4Mb	ZB25LD40B	√				•	•	•	•					•	•	•	•	•	•	√
	8Mb	ZB25LD80C	√				•	•	•	•						•	•	•	•	•	√
		ZB25LD80B	√				•	•	•	•						•	•	•	•	•	√
	16Mb	ZB25LQ16B	√	√	√			•								•		•	•	•	√
	32Mb	ZB25LQ32B	√	√	√	√	•	•	•	•							•	•	•	•	√
	64Mb	ZB25LQ64A	√	√	√	√	•	•	•								•	•	•	•	√
	128Mb	ZB25LQ128C	√	√	√	√		•	•									•	•	•	√
1.6~ 3.6V	2Mb	Z25WQ20A	√	√			•	•	•	•		•	•		•	•	•	•	•	•	√
		ZB25WD20	√				•	•	•	•		•		•	•	•	•	•	•	•	√
	4Mb	Z25WQ40A	√	√			•	•	•	•			•		•	•	•	•	•	•	√
		ZB25WQ40A	√	√			•	•	•	•					•	•	•	•	•	•	√
		ZB25WD40C	√				•	•		•				•	•						√
	8Mb	ZB25WQ80A	√	√			•	•	•	•						•	•	•	•	•	√
		ZB25WD80C	√				•	•		•				•	•						√
	16Mb	ZB25WQ16B	√	√			•	•	•	•						•	•	•	•	•	√

Company Product

-- MCU

PART 03

Product- MCU IC（ARM Cortex-M serial）

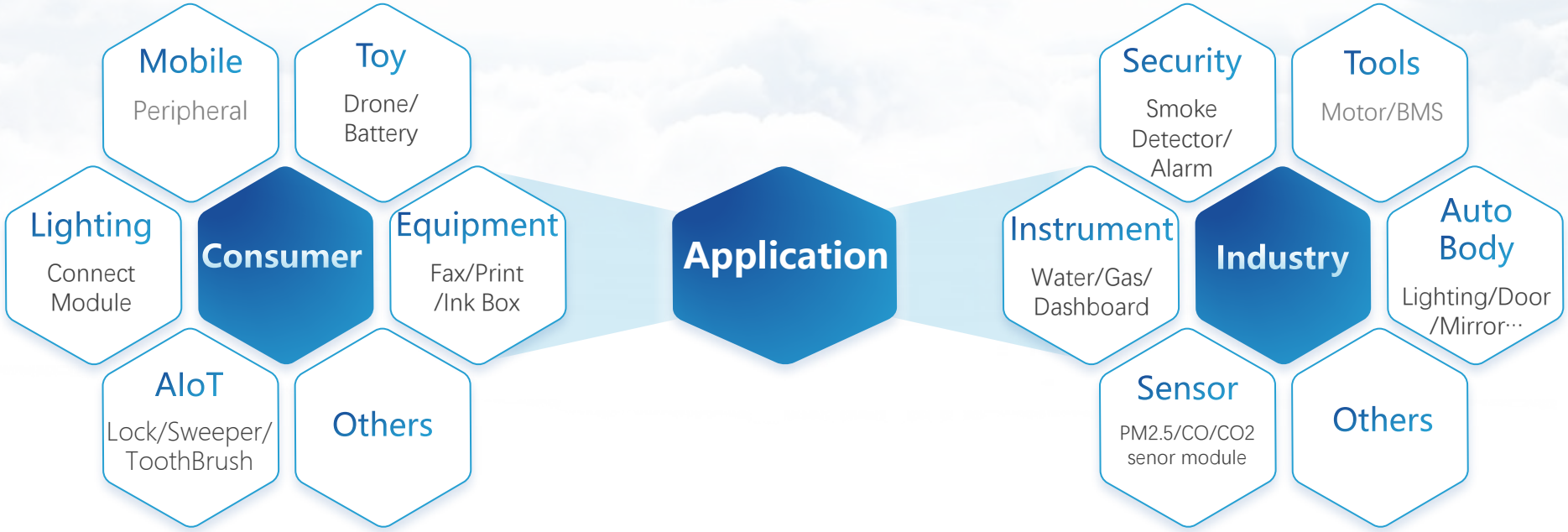


- High cost performance
- Low-power
- 55nm process
- High reliability

Well-known customer list for ZBIT MCU products

oppo　Segway-Ninebot 九号公司　雅迪

360　OFILM 欧菲光　Kaadas 凯迪仕·智能锁



MCU product feature

• MCU design with high performance ARM Cortex-M core，Ultra low power consumption feature，with high performance Timer，include UART，IIC，SPI digital Interface and ADC，OPA，VC analog interface etc。

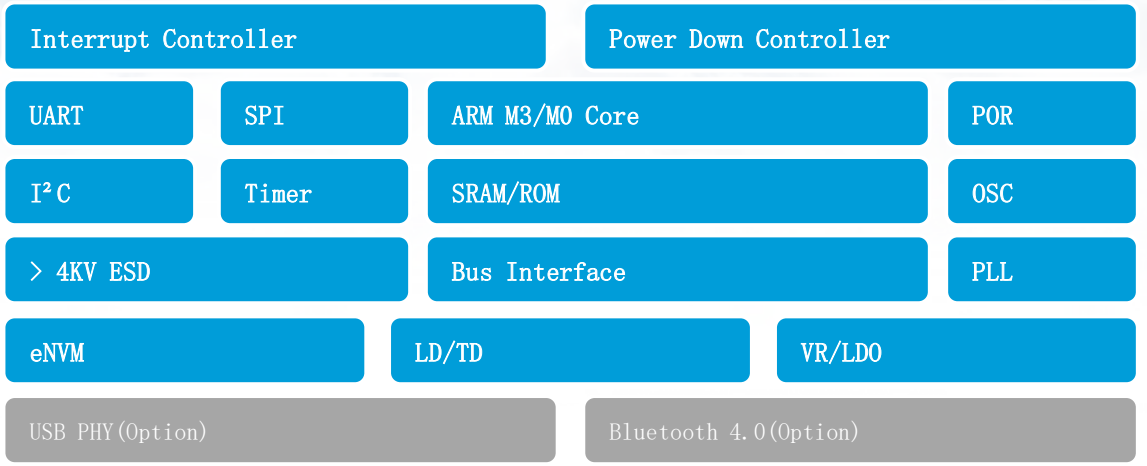
• Cooperation with the best IP partners such as ARM/IBM/SST etc. ensure the high quality and reliability for MCU products

ARM
- *Low power，High performance，Low cost*
- *Standard cell library, I/O, complier*

IBM
- *65nm RF*
- *45nm&65nm Low power*

SST
- *High reliability, Safety*
- *e-Flash*

MCU IP Platform



MCU product list

Stock Code：688416

恒烁股份
Zbit Semi, Inc.

ARM® Cortex® -M0+
ZB32 Series 32-Bit MCU Selection Table

型号	主频 MHz	Flash	SRAM	DMA	I/O	定时器								通讯								模拟				TRNG	AES	内部温度传感器	硬件除法器	封装
						Ad Timer	G Timer	B Timer	LP Timer	AWK Timer	PCA	RTC	I+W WDG	UART	USART	LPUART	IIC	IIS	SPI	QSPI	One WIRE	12bit ADC	LVD	VC	OPA					
ZB32L002F5P6	24	24K	3K	-	17	1	1	2	1	1	1	1	2	2	-	1	1	-	1	-	1	7ch	1	1	-	-	-	-	-	TSSOP20
ZB32L002F5Q6	24	24K	3K	-	17	1	1	2	1	1	1	1	2	2	-	1	1	-	1	-	1	7ch	1	1	-	-	-	-	-	QFN20(3x3)
ZB32L003F8P6	24	64K	4K	-	17	1	1	2	1	1	1	1	2	2	-	1	1	-	1	-	1	7ch	1	1	-	-	-	-	-	TSSOP20
ZB32L003F8Q6	24	64K	4K	-	17	1	1	2	1	1	1	1	2	2	-	1	1	-	1	-	1	7ch	1	1	-	-	-	-	-	QFN20(3x3)
ZB32L032G8P6	64	64K	16K	16ch	22	3	4	2	1	1	1	1	2	2	2	-	2	1	1	1	1	11ch	1	2	-	1	1	1	-	TSSOP28
ZB32L032K8x6	64	64K	16K	16ch	25	3	4	2	1	1	1	1	2	2	1	1	2	1	2	1	-	12ch	1	2	2	1	1	1	-	LQFP32 QFN32(5x5)
ZB32L032C8T6	64	64K	16K	16ch	39	3	4	2	1	1	1	1	2	2	2	1	2	1	2	1	1	17ch	1	2	2	1	1	1	-	LQFP48
ZB32M022E6S7	60	32K	4K	2ch	22	1	1	3	-	-	-	-	1	-	1	-	-	-	-	-	-	11ch	-	2	2	-	-	1	1	SSOP24
ZB32M022G6P7	60	32K	4K	2ch	26	1	1	3	-	-	-	-	1	-	1	-	-	-	-	-	-	11ch	-	2	2	-	-	1	1	TSSOP28

x: T:LQFP Package, Q为QFN Package

MCU product roadmap

M3	Low Power	ZB32L103(M3) 72M、128KB/32KB CAN、USB 32/48/64 PIN （Tape-out）	ZB32F103(M3) 96M、256KB/48KB CAN、USB 48/64/100 PIN （Tape-out）	
M0	Mainstream Model	CX32L003 24M 、64KB/4KB RTC、20 PIN	ZB32L030 24M 、64KB/8KB OPA、28/32/48 PIN	ZB32L032 64M 、64KB/16KB DMA、DAC、OPA 28/32/48 PIN
	Value Model	ZB32L003 24M 、64KB/4KB RTC、20 PIN	ZB32L002 1.8V 48M 32K/4K 运放、20PIN （Kicking off）	ZB32L031 48M 、64KB/16KB （Under Feasibility Study）

Company Product

-- High-density memory

PART 04

Product Roadmap – NAND Flash

Product	Configuration	2025 Q1	2025 Q2	2025 Q3	2025 Q4	2026 Q1	2026 Q2	2026 Q3	2026 Q4
SPI NAND	3.3V SLC (x1, x2, x4) WSON8x6 Internal ECC, 2KB/4KB Page	1 & 2& 4Gb							
							1~4Gb, 1.8V		
SD NAND	3.3V SLC/MLC LGA8x6, SD 2.0 Internal ECC, 2KB/4KB Page	1 &2 & 4Gb							
		32Gb							
PPI NAND	3.3V SLC 25ns BGA63/BGA24/TSOP48 8b/528B ECC, 2KB Page	2Gb							

Planning

CS QS

Product Roadmap – Embedded Memory

Product	Configuration	2025 Q1	2025 Q2	2025 Q3	2025 Q4	2026 Q1	2026 Q2	2026 Q3	2026 Q4
eMMC	**eMMC5.1**, BGA153 VCC 3.3V, VCCQ 1.8V SDR/DDR/HS200/HS400	8/32/64/128 GB							
					4GB (CS)	4GB (QS)			
UFS	**UFS2.2**, BGA153 VCC 3.3V, VCCQ2 1.8V M-PHY 3.0, UniPro 1.6						64~256GB		
	UFS3.1, BGA153 VCC 2.5V, VCCQ 1.2V M-PHY 4.1, UniPro 1.8								128~512GB

Planning CS QS

Product Roadmap – DRAM

Type	Density	Configuration	2025 Q1	2025 Q2	2025 Q3	2025 Q4	2026 Q1	2026 Q2	2026 Q3	2026 Q4
DDR4	4Gb	1.2V x8/ x16 0~95℃/-40~95℃ 3200/2666/2400Mbps								
	8Gb	1.2V x8/ x16 0~95℃/-40~95℃ 3200/2666/2400Mbps								
LPDDR4x	8Gb	1.1V x32 0~95℃/-40~95℃ 4266Mbps								

Planning CS QS

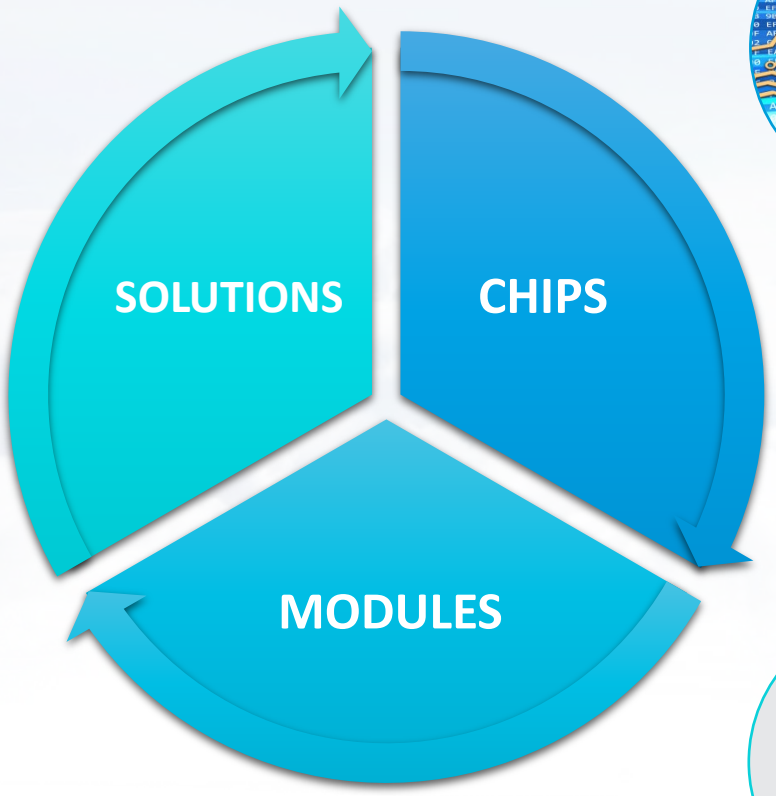
Company Product

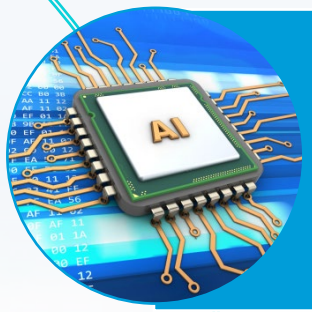
-- AI

PART 05

AI Products Structure

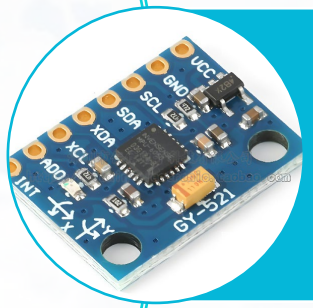
Stock Code：688416





AI Chips

- CIM （Compute in Memory）：VAD、SoC……
- SoC （System on Chip）：High cost-effective and large capacity SoC……



AI Modules

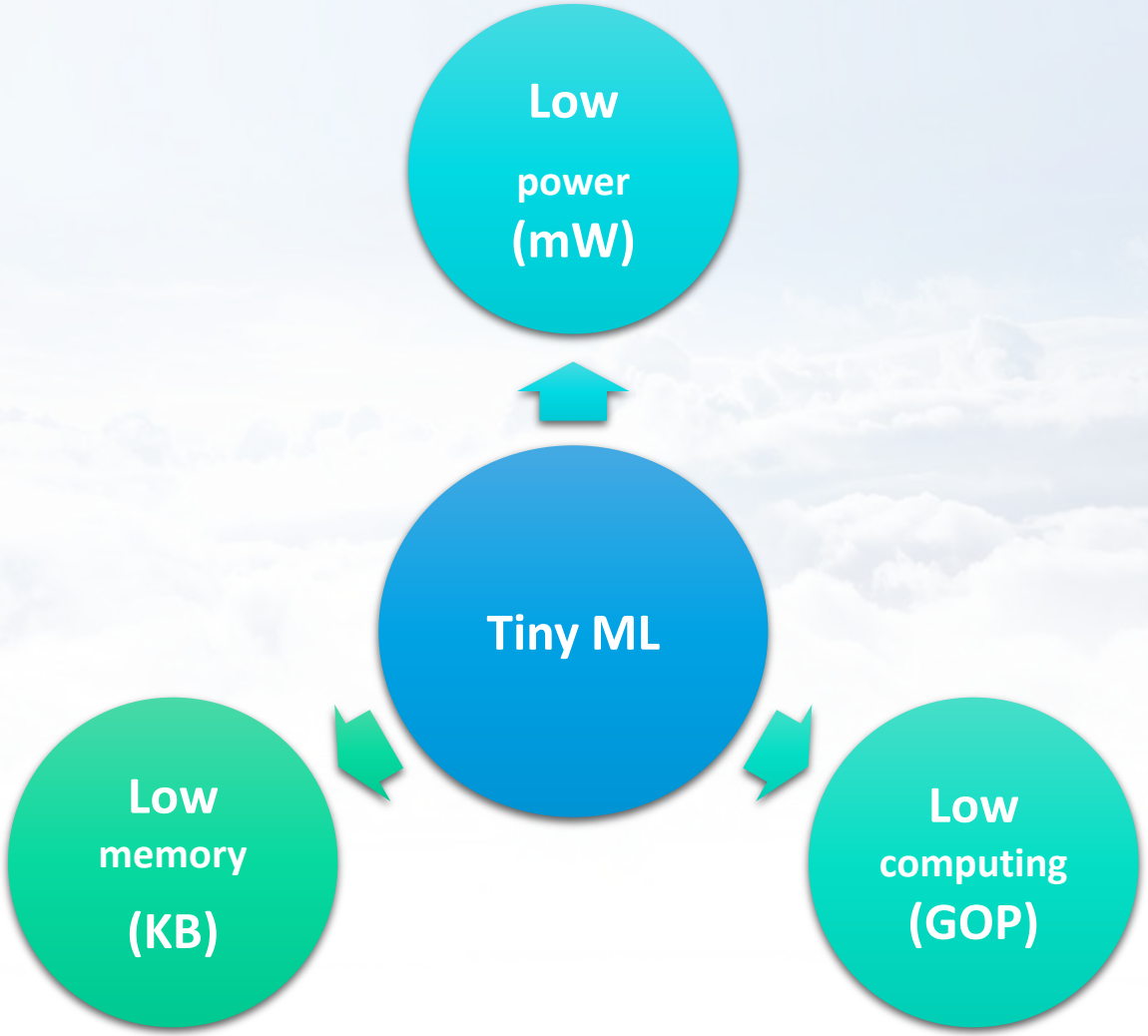
- Chip Modules：Chip + TinyML Algorithm + Firmware
- PCBA Modules：PCB + Chip + TinyML Algorithm + Firmware

AI Solutions

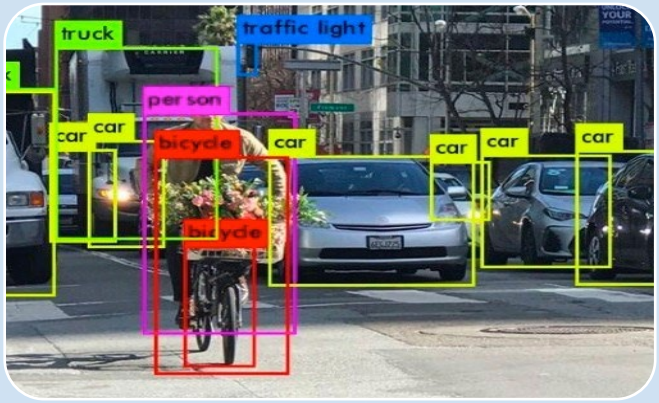
- Online + Offline Solutions
- Multimodal Fusion Solutions

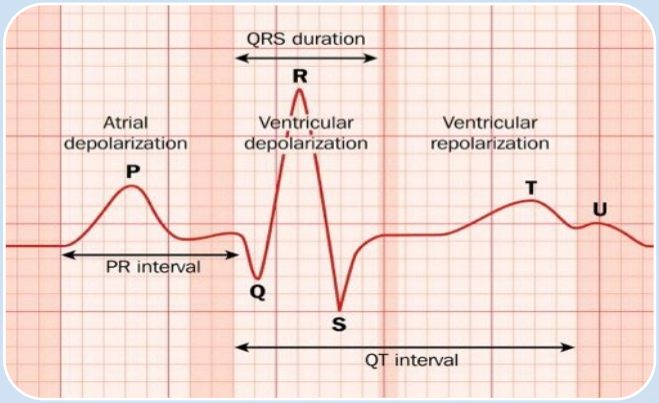
AI Software Technology - TinyML

TinyML is the way, tools and technology to implement machine learning on the mW-level power consumer devices.



Multimodal AI algorithms





ZBIT-IV（Intelligent Vision）

- Visual Wake Words
  - （Model：300K~500K params）
- Object Classification
  - （Model：0.5~1M params）
- Object Detection
  - （Model：0.8~2M params）

ZBIT-IA（Intelligent Audio）

- Keywords Spotting
  - （Model：2~4K params）
- Digital Noise Reduction
  - （Model：0.3~1M params）
- Speaker-ID
  - （Model：0.5~2M params）

ZBIT-IT（Intelligent Time-series）

- Time-series Analysis
  - （Model：300~700K params）
- Anomaly Time-series
  - （Model：0.8~2M params）

Multi-Hardware Cores Deployment

ARM

- Cortex-M
- Cortex-A
- … …

RISC-V

- RISC-V
- RISC

MIPS

DSP

HiFi

Synopsys

ARC

ZBIT AIBU AI Audio Product and Technology

Stock Code：688416

TinyML

AI Audio Product and Technology

VAD

-Voice Active Detection

KWS

-Key Word Spotting

DNR

-Deep Noise Reduction

SID

-Speaker ID

AIGC

-Artificial Intelligence Generated Content

CHIP

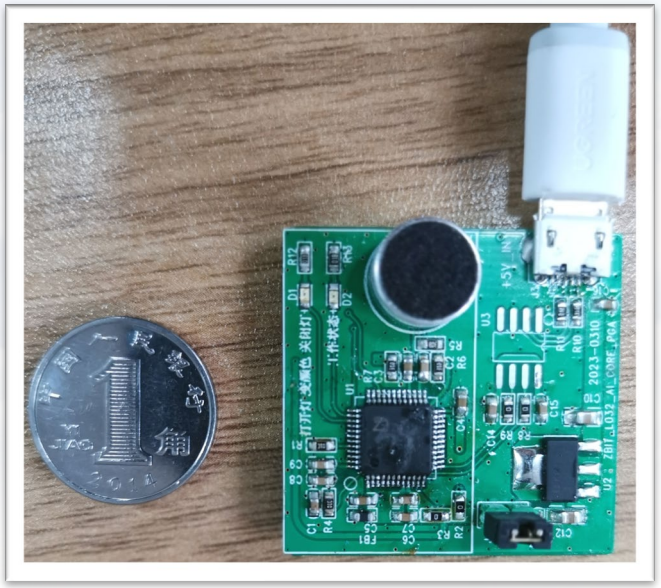
-Ultra LowPower Audio Chips

ZBIT SW product - AI algorithm

Name	Function	Hardware
KWS	Offline voice wakeup and recognition	M0+ 16KB+ SRAM,64KB+ FLASH, 50MHz+
DNR	Deep Noise reduction	M4 320KB+ SRAM,1MB+ FLASH, 216MHz+
Baby Crying	Baby cry detection	M0+ 16KB+ SRAM,64KB+ FLASH, 50MHz+
Glass Breaking	Glass break detection	M0+ 32KB+ SRAM,256KB+ FLASH, 100MHz+
SPEAKER ID	Voiceprint identification	RISC 32KB+ SRAM,256KB+ FLASH, 160MHz+
AEC	Acoustic Echo Cancellation	M4 324KB+ SRAM,2MB+ FLASH, 180MHz+
MSS	Music Source Separation	M7 1MB+ SRAM,2MB+ FLASH, 480MHz+

ZBIT HW product - AI module

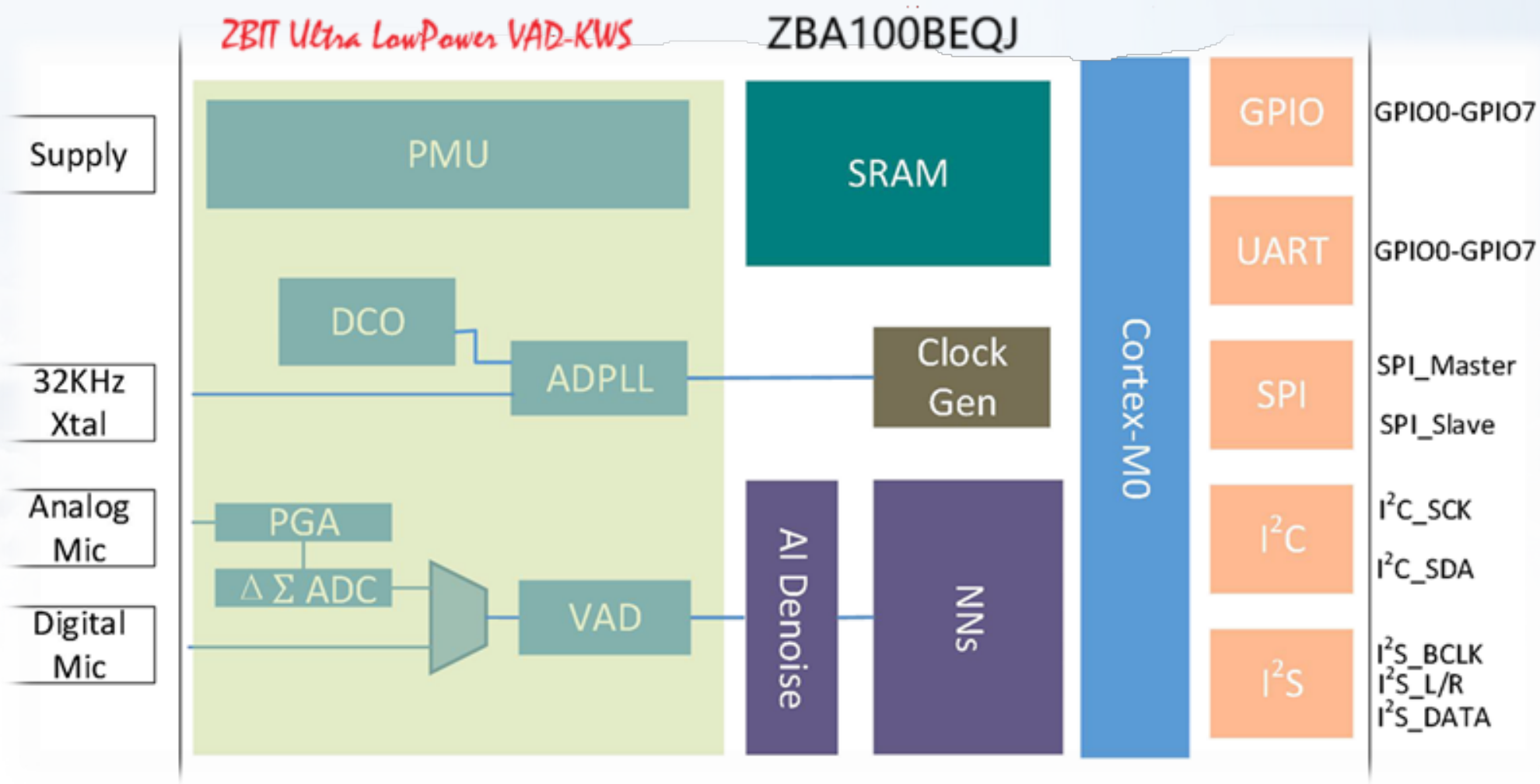
Stock Code：688416



Name	Function	Hardware
KWS Module	Offline voice wakeup and KWS	M0+ (64MHz, 64KB Flash, 16KB SRAM)
Baby Crying Module	Baby cry detection	M0+ (64MHz, 64KB Flash, 16KB SRAM)
Glass Breaking Module	Glass break detection	M4+ (216MHz, 1MB Flash, 320KB SRAM)
SPEAK ID Module	Voiceprint identification	RISC (160MHz, 256KB Flash, 30KB SRAM)
Smart Fan	BLDC FOC control， Offline voice control	M3 (160MHz, 256KB Flash, 64KB SRAM)

ZBIT Ultra LowPower AI VAD-KWS Chip

Stock Code：688416



VAD-Standby： 150uA； KWS-Active： 330uA


THANK YOU
恒久发展 烁动我芯
Sustainable Growth, Spark Our Core