Sipeed MaixGO Datasheet

v1.1

Key Features:

- CPU: RISC-V Dual Core 64bit, with FPU，400Mhz-500Mhz, Neural network processor
- Image Recognition: QVGA@60FPS/VGA@30FPS
- Audio port: Support Sipeed R6+1 Microphonoe Array board with FPC10 connector and 2x3W Speaker
- Power management: Charging current up to 2.5A; integrated dynamic path management
- Download circuit: Use USB Type-C cable to complete the download
- Digital Triaxial Accelerometer Onborad MSA300
- Wireless Function(Optional): Support 2.4G 802.11.b/g/n

UPDATE	
V1.0	2019/7/9 Published original document
V1.1	Added MaixGO pin assignment table

SPECIFICATION	
Master module	Sipeed M1 or M1W AIOT module(For details, please refer to the following specification: Sipeed M1 Datasheet V1.11.pdf 偶 or Sipeed M1W Datasheet V1.11.pdf)
Power management	ETA6002(ETA6002 is a single-cell Li-Ion switch-type charging chip with a charging current of 2.5A. It integrates dynamic path management, and the internal path of the switch has an internal resistance of only 50mohm, allowing the system to remain in the adapter without the battery) Battery path and USB path can be switched automatically
GPIO interface	All GPIOs connected to header 2*20 2.54mm
Micro SD card（TF card） slot	Support Self-elastic card holder
Onboard MEMS microphone	MSM261S4030H0 is an omnidirectional, bottom-ported, I2S digital output MEMS microphone with excellent performance and reliability.
DVP Camera interface	24P 0.5mm FPC connector
LCD interface	MaixLCD board（with Resistive touch screen） is directly connected to the pin header
Digital Triaxial Accelerometer	· User selectable range : ±2g, ±4g, ±8g, ±16g · User selectable data output rate · I2C interface · 14 bits resolution · Low power consumption
RTC (Real-time clock)	Onboard 32.768k crystal connected with STM32F103
Button	Three-way dial switch and one Reset push button

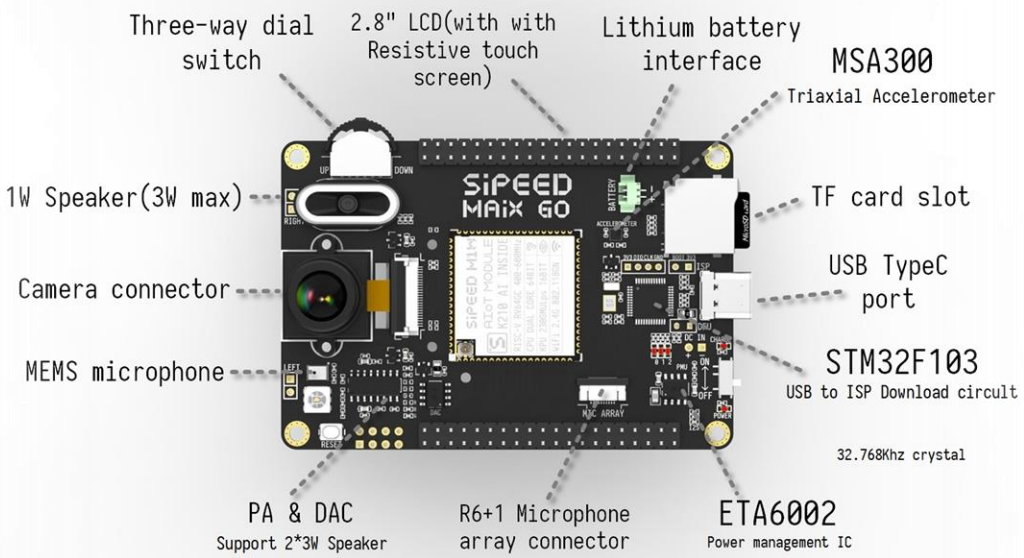
SOFTWARE FEATURES	
FreeRtos & Standard SDK	Support FreeRtos and Standrad development kit.
MicroPython Support	Support MicroPython on M1

Machine vision	Machine vision based on convolutional neural network
Machine hearing	High performance microphone array processor

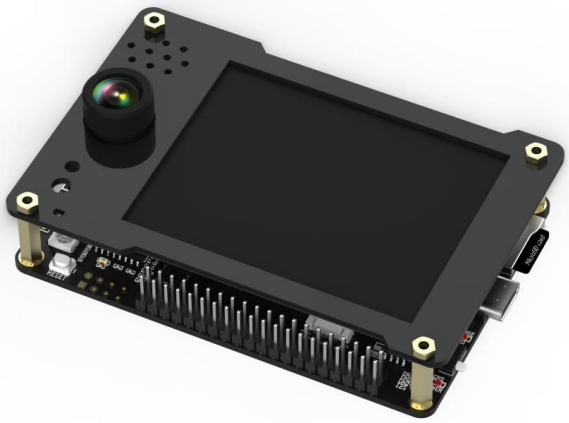
HARDWARE FEATURES	
Supply voltage of external power supply	4.8V ~ 5.2V
Supply current of external power supply	>600mA
Temperature rise	<30K
Range of working temperature	-30℃ ~ 85℃

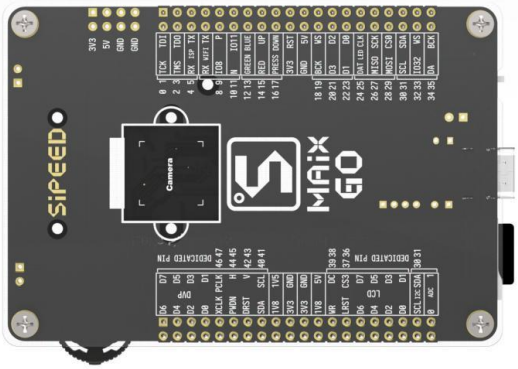
RF FEATURES（M1w-Dock Only）	
MCU : ESP8285	Tensilica L106 32-bit MCU
Wireless Standard	802.11 b/g/n
Frequency Range	2400Mhz - 2483.5Mhz
TX Power (Conduction test)	802.11.b : +15dBm(±2dBm) 802.11.g : +10dBm(±2dBm)(54Mbps) 802.11.n : +10dBm(±2dBm) (65Mbps)
Antenna Connector	IPEX 3.0x3.0mm
Wi-Fi mode	Station/SoftAP/SoftAP+Station
The connection between K210 and ESP8285	Please read the schema of M1w_V1.11 for the specific connection.(dl.sipeed.com)

OVERVIEW


Three-way dial switch
2.8" LCD(with with Resistive touch screen)
Lithium battery interface
MSA300
Triaxial Accelerometer
1W Speaker(3W max)
TF card slot
Camera connector
USB TypeC port
MEMS microphone
STM32F103
USB to ISP Download circult
32.768Khz crystal
PA & DAC
Support 2*3W Speaker
R6+1 Microphone array connector
ETA6002
Power management IC
SiPEED
MAiX GO

SIZE	
Length	90 mm
Width	61.5 mm
Height	18.5mm（before assembled）、9.5mm（after assembled）





Maix-GO (PIN ASSIGNMENT TABLE)						
Maixduino **Slik**	K210 IO	ESP32 IO	**Function**	**Remark1**	Remark2	IO **Volt**
RST	Dedicated pin		K210_RST	10K pull up		1.8V
0	IO0	IO15(SPI-CS)	JTAG_TCK ESP8285-CS	12K pull down	These connections are only available for modules that have been FCC certified	3.3V
1	IO1	IO14(SPI-CLK)	JTAG_TDI ESP8285-CLK			
2	IO2	IO12(SPI-MISO)	JTAG_TMS ESP8285-MISO			
3	IO3	IO13(SPI-MOSI)	JTAG_TDO ESP8285-MOSI			
4	IO4		K210_ISP_RX			
5	IO5		K210_ISP_TX			
WIFI TX	IO6	IO1(U0TX)				
WIFI RX	IO7	IO3(U0RX)				
8	IO8	EN		12K 上拉		
9	IO9					
10	IO10					
11	IO11					
12	IO12		LED_B			
13	IO13		LED_G			
14	IO14		LED_R			
15	IO15		Button middle	10K pull up		
16	IO16		Button down K210_BOOT	10K pull up		
17	IO17		Button up	10K pull up		
18	IO18		MIC_BCK	MEMS MIC (Left channel)	Microphone array conncector (FPC10)	
19	IO19		MIC_WS			
20	IO20		MIC_DAT3			
21	IO21		MIC_DAT2			
22	IO22		MIC_DAT1			
23	IO23		MIC_DAT0			
24	IO24		MIC_LED_DAT			
25	IO25		MIC_LED_CLK	FPC10-pin1		
26	IO26		SPI0_MISO	TF card		
27	IO27		SPI0_SCLK			
28	IO28		SPI0_MOSI			
29	IO29		SPI0_CS0			
30	IO30		IIC_SCL			
31	IO31		IIC_SDA			
32	IO32		PA_EN	10K pull down		
33	IO33		I2S_WS	Audio DAC		
34	IO34		I2S_DA			
35	IO35		I2S_BCK			
36	IO36		LCD_CS			1.8V
37	IO37		LCD_RST			
38	IO38		LCD_DC			
39	IO39		LCD_WR			
40	IO40		DVP_SDA	4.7K pull up		
41	IO41		DVP_SCL			
42	IO42		DVP_RST			
43	IO43		DVP_VSYNC			
44	IO44		DVP_PWDN			
45	IO45		DVP_HSYNC			
46	IO46		DVP_XCLK			
47	IO47		DVP_PCLK			

RESOURCES	
Official Website	www.sipeed.com
Github	https://github.com/Lichee-Pi
BBS	http://bbs.sipeed.com
Wiki	maixpy.sipeed.com
Sipeed Model Store	https://maixhub.com/
SDK Reference	dl.sipeed.com/MAIX/SDK
HDK Reference	dl.sipeed.com/MAIX/HDK
E-mail (Technical Support)	support@sipeed.com
Telegram Link	https://t.me/sipeed
QQ Group	878189804

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