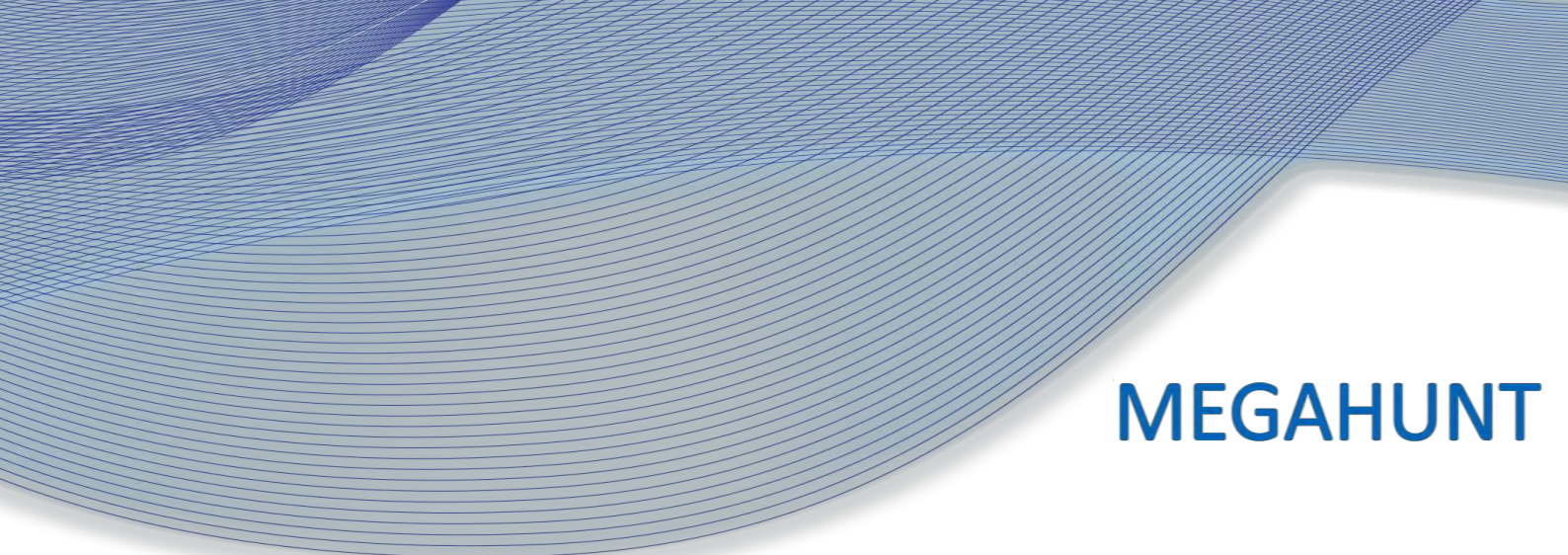




MEGAHUNT

WSM-QP1604 Specification

Embedded 2D bar code imaging module

Version: 1.2

Date: 2021-03-02



Megahunt Tehnologies Inc.

Directory

Chapter 1 Module Settings 1

Chapter 2 Module Parameters 2

Chapter 3 Interface Description5

Chapter 4 Requirements for Use 8

Chapter 5 Development Tools9

Chapter 1 Module Settings



☞ The WSM-QP1604 is an embedded 2D bar code imaging module with small volume, high integration, flexibility and excellent performance.

☞ The WSM-QP1604 can be integrated into bus, ticket vending machine, self-service ordering machine, access control gate and other application equipment. It is widely used in intelligent transportation, self-service retail, intelligent medical treatment, intelligent building and other fields.

☞ The WSM-QP1604 adopts a highly compatible transmission interface, which can adapt to more scanning equipment, and the data transmission is more safe and reliable.

☞ The WSM-QP1604 adopts advanced image recognition algorithm and wide-angle optical lens, which can easily scan all types of 1D bar code and 2D bar code at high speed, and freely cope with all kinds of scanning applications.

☞ The WSM-QP1604 has strong reading ability and can provide excellent code scanning and reading performance in various lighting environments (including completely dark environment) and large temperature and humidity range. It can also adapt to various harsh and complex working environments, such as impact, vibration and strong exposure.

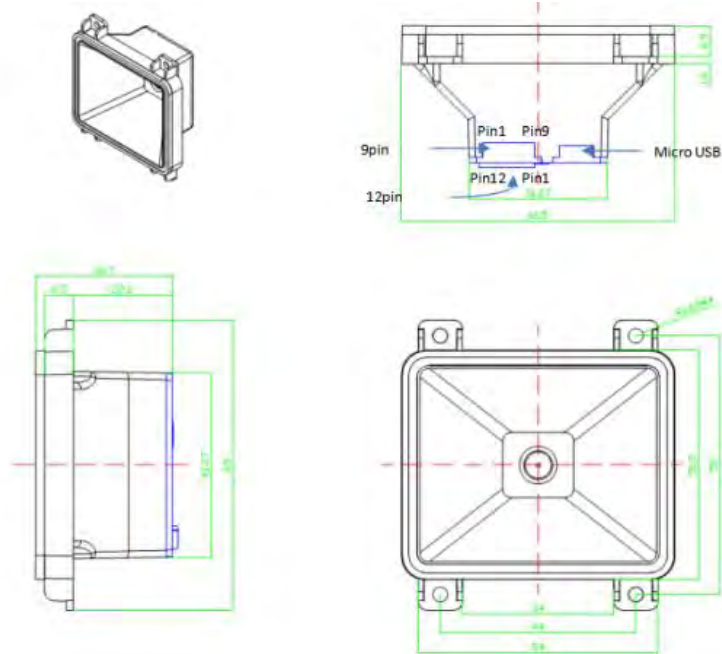
Chapter 2 Module Parameters

Scanning Code	Image	640 (Horizontal) X 480 (Vertical) CMOS	
	Sensor		
	Light Source	White fill light/Color light prompt	
	Horizontal View	68°	
	Angle		
	Symbologies	2D	QR Code,PDF417,DataMatrix(ECC200)
			EAN13,EAN8,UPC-A,UPC-E0,UPC-E1,Cod
			e128,Code39,Code93,CodeBar ,Interleaved
	1D		2 of 5,Industrial 25,Matrix 2 of 5,Code11, MSI
			Plessey ,RSS-14, RSS-Limited,
			RSS-Expanded
	Depth of Field	EAN-13	2 ~ 11.0cm (13mil)
		Code128	2.5 ~ 13.0cm (15mil)
		Mobile	
		phone QR	3.0 ~ 13.0cm (5-inch screen mobile
		code for	phone)
		taking bus	
		Wechat	
		payment	1.0 ~ 20cm (5-inch screen mobile
		code	phone)
	Scan Angle	Roll:360°, Pitch:±60°, Skew:±60°	
	Resolution	1D	≥5mil
		2D	≥10mil
	Symbol Contrast	≥20%	
Physical	Weight	30g	

parameters	Dimensions		65mm x 61.5mm x30.7mm (L x W x H)
	Interface		TTL-232 / USB 2.0 Full Speed
	Voltage		DC +3.3V±5%, USB 5V
	Current	Operating	125mA(No voice broadcast)
	@USB 5V		/450mA(Voice broadcast)
	power supply	Sleep	85mA
Environmental parameters	Operating Temperature		-20℃ ~ 60℃
	Storage Temperature		-40℃ ~ 70℃
	Working Humidity		5% RH~95% RH (Non-condensing)
Reliability	Anti-mechanical shock	Shock	5~200Hz, 10Grms, 3axes, 1.5Hr
		Fall	It can withstand falling from as high as 1.2 meters to the concrete floor.
	Heat Shock Resistance	Lowest Temperature	-20 °C (-4 °F)
		Maximum Temperature	60 °C (140 °F)
		Cycles	High Temperature: 30 minutes Low Temperature: 30 minutes
		Period	24h

Module Size Chart

(unit: mm)

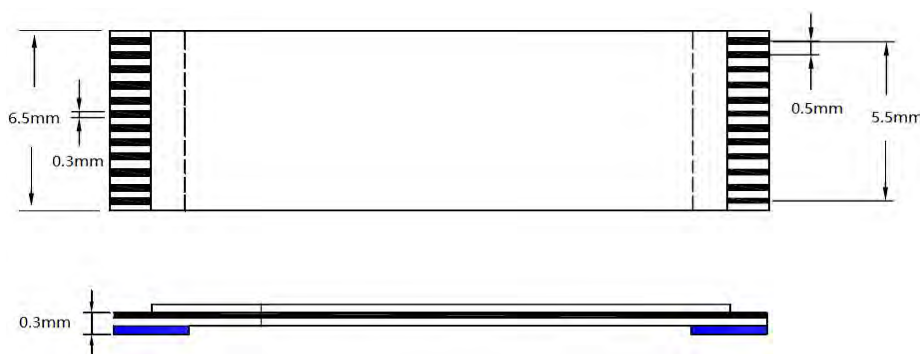


Chapter 3 Interface Description

1. Interface definition and signal description of module 12 pin:

PIN	Definition	Description
1	NC	
2	VCC	Power Supply Input 3.3V
3	GND	
4	RXD	TTLlevel 232 receive data
5	TXD	TTLlevel 232 send data
6	DN	USB D-
7	DP	USB D+
8	NC	
9	BEEP	Buzzer control
10	DLED	LED indicator
11	Reserved	
12	TRIG	Trigger input signal

WSM-QP1604 requires a 12-pin FFC cable to be connected to the peripherals.



2. Module 9pin connector (Pin Spacing: 1.0mm) description:

PIN	Definition	Description
1	TRIG	
2	DLED	LED indicator
3	BEEP	Buzzer control
4	DP	USB D+
5	DN	USB D-
6	TXD	TTL level 232 send data
7	RXD	TTL level 232 receive data
8	GND	
9	VCC	Power Supply Input 5V

3. Module 2pin connector (Pin Spacing: 1.25mm)

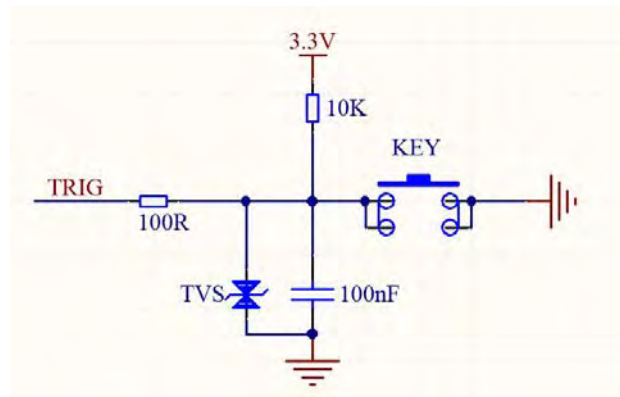
The 2pin connector is used to connect the external Speaker(Power 1W)(As shown in the figure below):



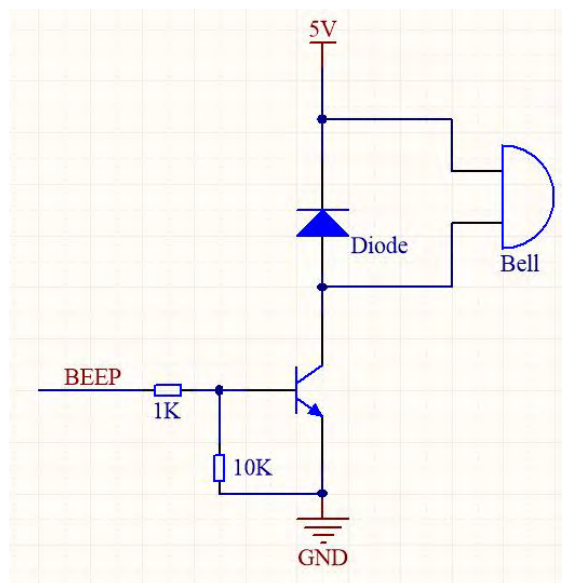
4. Drive Circuit

The power supply, TTL level, USB and other pins of the WSM-QP1604 module are directly connected to external circuits. The trigger pin and buzzer pin require a drive circuit. Please refer to the following circuit design:

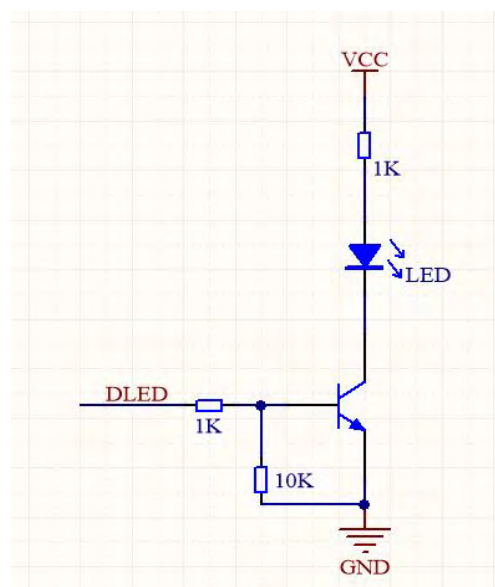
☞ Drive Circuit of Trigger Pin (TRIG):



☞ Drive Circuit of Passive Buzzer:



☞ Drive Circuit of DLED Pin:



The BEEP and DLED pins will give out a high pulse after successful decoding.

Chapter 4 Requirements for Use

Environmental requirements

Working Temperature		-20℃ ~ 60℃
Storage Temperature		-40℃ ~ 70℃
Working Humidity		5%RH~95%RH (Not Coagulated)

ESD

Always exercise care when handling the engine outside its package. Be sure grounding wrist straps and properly grounded work areas are used.

Thermal Considerations

Electronic components in the WSM-QP1604 will generate heat during the course of their operation. Operating the WSM-QP1604 continuously for an extended period may cause temperatures to rise.

The following precautions should be taken into consideration when integrating the WSM-QP1604.

- ☞ Reserve sufficient space for good air circulation in the design.
- ☞ Avoid wrapping the WSM-QP1604 with thermal insulation materials such as rubber.

Ripple Noise

Image sensor and decoder chip are directly fed by the input power of WSM-QP1604. To ensure the image quality, a power supply with low ripple noise is needed..

Acceptable ripple range (peak-to-peak) : ≤50mV.

Chapter 5 Development Tools

The WSM-QL1604 has development tools to support application development to meet rapid assessment and development needs.

DECODE_EVB

The DECODE_EVB is provided to help users to test and evaluate the WSM-QL1604, which contains beeper & beeper driver circuit, LED & LED driver circuit, TTL-232 to RS-232 converter, trigger & reset button, etc. The module can be connected to the DECODE_EVB via a 12-pin FFC cable type 1 (contacts on the same side). And USB connection or RS-232 connection can be used when connecting the DECODE_EVB to a host device.