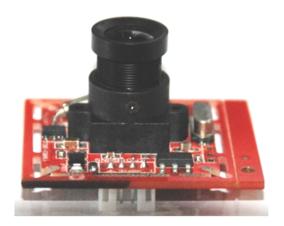
# SC03MPB

## Spinel 300K Pixels Serial JPEG Color Camera Module

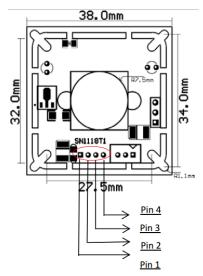


Spinel SC03MPB Camera is a highly integrated serial JPEG camera module which can be attached to any host system that requires a JPEG compressed still camera for embedded imaging applications. The module uses an Omni Vision CMOS OV7725 color image sensor along with a JPEG compression chip that provides a low cost and low powered camera system. The module has an on-board serial interface (TTL/RS232/RS485) that is suitable for a direct connection to any host microcontroller UART or a PC system COM port.

The SC03MPB camera is capable of outputting **JPEG format images and/or NTSC/PAL video per request**.

The SC03MPB camera module comes in a compact form factor with a built in lens and a 4 pin PH 1.5 socket connector that provides easy access to both power and serial data. PC test tool is provided for easy testing.

Below is the layout of the camera module (unit in mm).



Pin definition: Pin 1: VCC, Pin 2: RX, Pin 3: TX, Pin 4: GND

For more information relating to serial cameras, please email us at <a href="mailto:info@spinelelectronics.com">info@spinelelectronics.com</a>
Or call us at 800-837-5859; or visit our Website: <a href="www.spinelelectronics.com">www.spinelelectronics.com</a>

#### **SCO3MPB Features**

300K Pixels resolution

### **ZMID protocol** or VC0706 protocol

#### **Fully customizable**

Image Device Serial Output TTL/RS232/RS485 Pixels 300K Pixels Image Resolution G40 x480 (VGA), 320 x 240 (QVGA), 160x120 Image Compression JPEG Video Output Available upon request for custom orders Baud Rate 115200bps (Default), 2400/9600/14400/19200/57600/38400bps optional Focal Length 3.6 mm (default), 2.0mm/2.8mm/6.0mm/ 8.0mm/12mm/16mm available Angel of View 90° (Default), 150°/120°/60°/ 45°/30°/15° available Minimum Illumination I LUX IR Illuminator Default with no IR illumination, custom options of 12/24/36pcs 850nm/940nm IR LED Plate IR-Cut filter (IR filter) IR-Cut filter Switcher Not available Power Supply SV DC (default), custom option wide voltage 9-36V DC Current Consumption Night Image Black and white Night Vision Range Foretacl Simple		Specifications
Pixels Image Resolution Image Compression JPEG Video Output Available upon request for custom orders Baud Rate 115200bps (Default), 2400/9600/14400/19200/57600/38400bps optional Focal Length 3.6 mm (default), 2.0mm/2.8mm/6.0mm/ 8.0mm/12mm/16mm available Angel of View 90° (Default), 150°/120°/60°/ 45°/30°/15° available Minimum Illumination IR Illuminator Default with no IR illumination, custom options of 12/24/36pcs 850nm/940nm IR LED Plate IR-Cut filter (IR filter) IR-Cut filter Switcher Not available Power Supply 5V DC (default), custom option wide voltage 9-36V DC Current Consumption Night Image Black and white Night Vision Range Fine Consume Simple	Image Device	1/4" CMOS OV7725
Image Resolution640 x480 (VGA), 320 x 240 (QVGA), 160x120Image CompressionJPEGVideo OutputAvailable upon request for custom ordersBaud Rate115200bps (Default), 2400/9600/14400/19200/57600/38400bps optionalFocal Length3.6 mm (default), 2.0mm/2.8mm/6.0mm/ 8.0mm/12mm/16mm availableAngel of View90° (Default), 150°/120°/60°/ 45°/30°/15° availableMinimum Illumination1 LUXIR IlluminatorDefault with no IR illumination, custom options of 12/24/36pcs 850nm/940nm IR LED PlateIR-Cut filter (IR filter)Default at 850nm, custom options at 650nm or 940nmIR-Cut filter SwitcherNot availablePower Supply5V DC (default), custom option wide voltage 9-36V DCCurrent ConsumptionTypical: 75mA, Max: 150mA (when LED's are on)Night ImageBlack and whiteNight Vision Range5 meters (16.4ft)ProtocolDefault ZMID protocol, VC0706 optionalExposureAutoAutoAutoAuto Gain ControlAutoCable Length20CM (7.8in) 4 pin wires (Default), other length per requestPin ConfigurationPin 1: VCC, Pin 2: RX, Pin 3: TX, Pin 4: GNDConnectorDefault 4 bare wires, other connectors can be customized per request	Serial Output	TTL/RS232/RS485
Image CompressionJPEGVideo OutputAvailable upon request for custom ordersBaud Rate115200bps (Default), 2400/9600/14400/19200/57600/38400bps optionalFocal Length3.6 mm (default), 2.0mm/2.8mm/6.0mm/ 8.0mm/12mm/16mm availableAngel of View90° (Default), 150°/120°/60°/ 45°/30°/15° availableMinimum Illumination1 LUXIR IlluminatorDefault with no IR illumination, custom options of 12/24/36pcs 850nm/940nm IR LED PlateIR-Cut filter (IR filter)Default at 850nm, custom options at 650nm or 940nmIR-Cut filter SwitcherNot availablePower Supply5V DC (default), custom option wide voltage 9-36V DCCurrent ConsumptionTypical: 75mA, Max: 150mA (when LED's are on)Night ImageBlack and whiteNight Vision Range5 meters (16.4ft)ProtocolDefault ZMID protocol, VC0706 optionalExposureAutoAutoAutoAuto Gain ControlAutoCable Length20CM (7.8in) 4 pin wires (Default), other length per requestPin ConfigurationPin 1: VCC, Pin 2: RX, Pin 3: TX, Pin 4: GNDConnectorDefault 4 bare wires, other connectors can be customized per request	Pixels	300K Pixels
Video Output  Baud Rate  115200bps (Default), 2400/9600/14400/19200/57600/38400bps optional  Focal Length  3.6 mm (default), 2.0mm/2.8mm/6.0mm/ 8.0mm/12mm/16mm available  Angel of View  90° (Default), 150°/120°/60°/ 45°/30°/15° available  Minimum Illumination  I LUX  IR Illuminator  Default with no IR illumination, custom options of 12/24/36pcs 850nm/940nm IR LED Plate  IR-Cut filter (IR filter)  Default at 850nm, custom options at 650nm or 940nm  IR-Cut filter Switcher  Not available  Power Supply  5V DC (default), custom option wide voltage 9-36V DC  Current Consumption  Night Image  Black and white  Night Vision Range  Fometers (16.4ft)  Protocol  Default ZMID protocol, VC0706 optional  Exposure  Auto  Auto  Cable Length  20CM (7.8in) 4 pin wires (Default), other length per request  Pin Configuration  Pin 1: VCC, Pin 2: RX, Pin 3: TX, Pin 4: GND  Connector  Default 4 bare wires, other connectors can be customized per request	Image Resolution	640 x480 (VGA), 320 x 240 (QVGA), 160x120
Baud Rate  115200bps (Default), 2400/9600/14400/19200/57600/38400bps optional  Focal Length  3.6 mm (default), 2.0mm/2.8mm/6.0mm/ 8.0mm/12mm/16mm available  Angel of View  90° (Default), 150°/120°/60°/ 45°/30°/15° available  Minimum Illumination  IR Illuminator  Default with no IR illumination, custom options of 12/24/36pcs 850nm/940nm IR LED Plate  IR-Cut filter (IR filter)  Default at 850nm, custom options at 650nm or 940nm  IR-Cut filter Switcher  Not available  Power Supply  5V DC (default), custom option wide voltage 9-36V DC  Current Consumption  Night Image  Black and white  Night Vision Range  Fometres (16.4ft)  Protocol  Default ZMID protocol, VC0706 optional  Exposure  Auto  Auto  Auto  Cable Length  20CM (7.8in) 4 pin wires (Default), other length per request  Pin Configuration  Pin 1: VCC, Pin 2: RX, Pin 3: TX, Pin 4: GND  Connector  Default 4 bare wires, other connectors can be customized per request	Image Compression	JPEG
Focal Length 3.6 mm (default), 2.0mm/2.8mm/6.0mm/ 8.0mm/12mm/16mm available  Angel of View 90° (Default), 150°/120°/60°/ 45°/30°/15° available  Minimum Illumination 1 LUX  IR Illuminator Default with no IR illumination, custom options of 12/24/36pcs 850nm/940nm IR LED Plate  IR-Cut filter (IR filter) Default at 850nm, custom options at 650nm or 940nm  IR-Cut filter Switcher Not available  Power Supply 5V DC (default), custom option wide voltage 9-36V DC  Current Consumption Typical: 75mA, Max: 150mA (when LED's are on)  Night Image Black and white  Night Vision Range 5 meters (16.4ft)  Protocol Default ZMID protocol, VC0706 optional  Exposure Auto  Auto  Auto  Cable Length 20CM (7.8in) 4 pin wires (Default), other length per request  Pin Configuration Pin 1: VCC, Pin 2: RX, Pin 3: TX, Pin 4: GND  Connector Default 4 bare wires, other connectors can be customized per request	Video Output	Available upon request for custom orders
Focal Length 3.6 mm (default), 2.0mm/2.8mm/6.0mm/ 8.0mm/12mm/16mm available  Angel of View 90° (Default), 150°/120°/60°/ 45°/30°/15° available  Minimum Illumination 1 LUX  IR Illuminator Default with no IR illumination, custom options of 12/24/36pcs 850nm/940nm IR LED Plate  IR-Cut filter (IR filter) Default at 850nm, custom options at 650nm or 940nm  IR-Cut filter Switcher Not available  Power Supply 5V DC (default), custom option wide voltage 9-36V DC  Current Consumption Typical: 75mA, Max: 150mA (when LED's are on)  Night Image Black and white  Night Vision Range 5 meters (16.4ft)  Protocol Default ZMID protocol, VC0706 optional  Exposure Auto  White Balance Auto  Auto  Cable Length 20CM (7.8in) 4 pin wires (Default), other length per request  Pin Configuration Pin 1: VCC, Pin 2: RX, Pin 3: TX, Pin 4: GND  Connector Default 4 bare wires, other connectors can be customized per request	Baud Rate	115200bps (Default),
8.0mm/12mm/16mm available  Angel of View 90° (Default), 150°/120°/60°/ 45°/30°/15° available  Minimum Illumination 1 LUX  IR Illuminator Default with no IR illumination, custom options of 12/24/36pcs 850nm/940nm IR LED Plate  IR-Cut filter (IR filter) Default at 850nm, custom options at 650nm or 940nm  IR-Cut filter Switcher Not available Power Supply 5V DC (default), custom option wide voltage 9-36V DC  Current Consumption Typical: 75mA, Max: 150mA (when LED's are on) Night Image Black and white Night Vision Range 5 meters (16.4ft) Protocol Default ZMID protocol, VC0706 optional  Exposure Auto White Balance Auto  Auto Gain Control Cable Length 20CM (7.8in) 4 pin wires (Default), other length per request  Pin Configuration Pin 1: VCC, Pin 2: RX, Pin 3: TX, Pin 4: GND Connector Default 4 bare wires, other connectors can be customized per request		2400/9600/14400/19200/57600/38400bps optional
Angel of View  90° (Default), 150°/120°/60°/ 45°/30°/15° available  Minimum Illumination  1 LUX  IR Illuminator  Default with no IR illumination, custom options of 12/24/36pcs 850nm/940nm IR LED Plate  IR-Cut filter (IR filter)  Default at 850nm, custom options at 650nm or 940nm  IR-Cut filter Switcher  Not available  Power Supply  5V DC (default), custom option wide voltage 9-36V DC  Current Consumption  Night Image  Black and white  Night Vision Range  5 meters (16.4ft)  Protocol  Default ZMID protocol, VC0706 optional  Exposure  Auto  White Balance  Auto  Auto Gain Control  Cable Length  20CM (7.8in) 4 pin wires (Default), other length per request  Pin Configuration  Pin 1: VCC, Pin 2: RX, Pin 3: TX, Pin 4: GND  Connector  Default 4 bare wires, other connectors can be customized per request	Focal Length	3.6 mm (default), 2.0mm/2.8mm/6.0mm/
Minimum Illumination  ILUX  IR Illuminator  Default with no IR illumination, custom options of 12/24/36pcs 850nm/940nm IR LED Plate  IR-Cut filter (IR filter)  Default at 850nm, custom options at 650nm or 940nm  IR-Cut filter Switcher  Not available  Power Supply  5V DC (default), custom option wide voltage 9-36V DC  Current Consumption  Typical: 75mA, Max: 150mA (when LED's are on)  Night Image  Black and white  Night Vision Range  5 meters (16.4ft)  Protocol  Default ZMID protocol, VC0706 optional  Exposure  Auto  White Balance  Auto  Auto  Cable Length  20CM (7.8in) 4 pin wires (Default), other length per request  Pin Configuration  Pin 1: VCC, Pin 2: RX, Pin 3: TX, Pin 4: GND  Connector  Default 4 bare wires, other connectors can be customized per request		8.0mm/12mm/16mm available
Minimum Illumination IR Illuminator Default with no IR illumination, custom options of 12/24/36pcs 850nm/940nm IR LED Plate IR-Cut filter (IR filter) Default at 850nm, custom options at 650nm or 940nm IR-Cut filter Switcher Not available Power Supply SV DC (default), custom option wide voltage 9-36V DC Current Consumption Typical: 75mA, Max: 150mA (when LED's are on) Night Image Black and white Night Vision Range Frotocol Default ZMID protocol, VC0706 optional Exposure Auto White Balance Auto Auto Gain Control Cable Length 20CM (7.8in) 4 pin wires (Default), other length per request Pin Configuration Pin 1: VCC, Pin 2: RX, Pin 3: TX, Pin 4: GND Connector Default 4 bare wires, other connectors can be customized per request	Angel of View	90° (Default), 150°/120°/60°/
IR Illuminator  Default with no IR illumination, custom options of 12/24/36pcs 850nm/940nm IR LED Plate  IR-Cut filter (IR filter)  Default at 850nm, custom options at 650nm or 940nm IR-Cut filter Switcher  Not available  Power Supply  SV DC (default), custom option wide voltage 9-36V DC Current Consumption  Typical: 75mA, Max: 150mA (when LED's are on)  Night Image  Night Vision Range  Protocol  Default ZMID protocol, VC0706 optional  Exposure  Auto  White Balance  Auto  Auto  Cable Length  20CM (7.8in) 4 pin wires (Default), other length per request  Pin Configuration  Pin 1: VCC, Pin 2: RX, Pin 3: TX, Pin 4: GND  Connector  Default 4 bare wires, other connectors can be customized per request		45°/30°/15° available
12/24/36pcs 850nm/940nm IR LED Plate IR-Cut filter (IR filter) IR-Cut filter Switcher Power Supply SV DC (default), custom option wide voltage 9-36V DC Current Consumption Night Image Night Vision Range Protocol Exposure Auto White Balance Auto Gain Control Cable Length Pin Configuration Pin 1: VCC, Pin 2: RX, Pin 3: TX, Pin 4: GND Connector Default 350nm, custom options at 650nm or 940nm Night use of 9-36V DC Current Consumption Typical: 75mA, Max: 150mA (when LED's are on) Night Image Black and white S meters (16.4ft) Default ZMID protocol, VC0706 optional Exposure Auto Auto Configuration Pin 1: VCC, Pin 2: RX, Pin 3: TX, Pin 4: GND Connector Default 4 bare wires, other connectors can be customized per request	Minimum Illumination	1 LUX
IR-Cut filter (IR filter) IR-Cut filter Switcher Power Supply SV DC (default), custom option wide voltage 9-36V DC Current Consumption Night Image Night Vision Range Protocol Exposure White Balance Auto Auto Gain Control Cable Length Pin Configuration Connector Pefault at 850nm, custom options at 650nm or 940nm Not available SV DC (default), custom options at 650nm or 940nm Not available Not	IR Illuminator	Default with no IR illumination, custom options of
IR-Cut filter Switcher Power Supply 5V DC (default), custom option wide voltage 9-36V DC Current Consumption Typical: 75mA, Max: 150mA (when LED's are on) Night Image Black and white Night Vision Range Frotocol Default ZMID protocol, VC0706 optional Exposure Auto White Balance Auto Auto Gain Control Cable Length 20CM (7.8in) 4 pin wires (Default), other length per request Pin Configuration Pin 1: VCC, Pin 2: RX, Pin 3: TX, Pin 4: GND Connector Default 4 bare wires, other connectors can be customized per request		12/24/36pcs 850nm/940nm IR LED Plate
Power Supply 5V DC (default), custom option wide voltage 9-36V DC Current Consumption Typical: 75mA, Max: 150mA (when LED's are on)  Night Image Black and white  Night Vision Range 5 meters (16.4ft)  Protocol Default ZMID protocol, VC0706 optional  Exposure Auto  White Balance Auto  Auto Gain Control Auto  Cable Length 20CM (7.8in) 4 pin wires (Default), other length per request  Pin Configuration Pin 1: VCC, Pin 2: RX, Pin 3: TX, Pin 4: GND  Connector Default 4 bare wires, other connectors can be customized per request		•
Current Consumption  Typical: 75mA, Max: 150mA (when LED's are on)  Night Image  Night Vision Range  S meters (16.4ft)  Protocol  Default ZMID protocol, VC0706 optional  Exposure  Auto  White Balance  Auto  Auto  Cable Length  20CM (7.8in) 4 pin wires (Default), other length per request  Pin Configuration  Pin 1: VCC, Pin 2: RX, Pin 3: TX, Pin 4: GND  Connector  Default 4 bare wires, other connectors can be customized per request	IR-Cut filter Switcher	Not available
Night Image Black and white  Night Vision Range 5 meters (16.4ft)  Protocol Default ZMID protocol, VC0706 optional  Exposure Auto  White Balance Auto  Auto Gain Control Auto  Cable Length 20CM (7.8in) 4 pin wires (Default), other length per request  Pin Configuration Pin 1: VCC, Pin 2: RX, Pin 3: TX, Pin 4: GND  Connector Default 4 bare wires, other connectors can be customized per request	Power Supply	
Night Vision Range 5 meters (16.4ft) Protocol Default ZMID protocol, VC0706 optional Exposure Auto White Balance Auto Auto Gain Control Auto Cable Length 20CM (7.8in) 4 pin wires (Default), other length per request Pin Configuration Pin 1: VCC, Pin 2: RX, Pin 3: TX, Pin 4: GND Connector Default 4 bare wires, other connectors can be customized per request	Current Consumption	· ·
Protocol  Exposure  Auto  White Balance  Auto  Auto  Cable Length  Pin Configuration  Connector  Default ZMID protocol, VC0706 optional  Auto  Auto  Auto  Auto  Auto  20CM (7.8in) 4 pin wires (Default), other length per request  Pin 2: RX, Pin 3: TX, Pin 4: GND  Default 4 bare wires, other connectors can be customized per request	Night Image	Black and white
Exposure  White Balance Auto Auto Auto Gain Control Cable Length  20CM (7.8in) 4 pin wires (Default), other length per request  Pin Configuration Pin 1: VCC, Pin 2: RX, Pin 3: TX, Pin 4: GND Connector Default 4 bare wires, other connectors can be customized per request	8	
White Balance Auto Gain Control Cable Length Cable Length Pin Configuration Connector  Default 4 bare wires, other connectors can be customized per request	Protocol	•
Auto Gain Control  Cable Length  20CM (7.8in) 4 pin wires (Default), other length per request  Pin Configuration  Pin 1: VCC, Pin 2: RX, Pin 3: TX, Pin 4: GND  Connector  Default 4 bare wires, other connectors can be customized per request	•	Auto
Cable Length  20CM (7.8in) 4 pin wires (Default), other length per request  Pin Configuration  Pin 1: VCC, Pin 2: RX, Pin 3: TX, Pin 4: GND  Connector  Default 4 bare wires, other connectors can be customized per request	White Balance	Auto
request Pin Configuration Pin 1: VCC, Pin 2: RX, Pin 3: TX, Pin 4: GND Connector Default 4 bare wires, other connectors can be customized per request	Auto Gain Control	Auto
Pin Configuration Pin 1: VCC, Pin 2: RX, Pin 3: TX, Pin 4: GND Connector Default 4 bare wires, other connectors can be customized per request	Cable Length	20CM (7.8in) 4 pin wires (Default), other length per
Connector Default 4 bare wires, other connectors can be customized per request		•
customized per request		, , , , , , , , , , , , , , , , , , ,
	Connector	·
Waterproof Subject to the housing/enclosure		• •
racer proof	Waterproof	Subject to the housing/enclosure

Environmental	
Operating Temp.	-4°F~158°F (-20°C~+70°C)
Storage Temp.	-13°F~176°F (-25°C~+80°C)
Dimension in Millimeters	32mm (L) x 32mm (W)/ 38mm (L) x 38mm (W)
Dimension in inches	1.26 Inch (L) x 1.26 inch (W)/
	1.50 Inch (L) x 1.50 inch (W)
Weight	Approx. 12Grams or 0.4 oz