

B02 Specification

Overview :

The B02 all-in-one board uses Rockchip RK3368 Octa-Core Cortex-A53 core, supports Google Android 5.1/6.0 and the processing power is up to 1.5GHz. It contains with PowerVR SGX6110 and 4K/H.264/H.265 decode chipset which support main stream AV formats and photo decoding.

The B02 supports the powerful feature "Dual-mode independent screen" "by dual 6/8-bit LVDS /MIPI-DSI/eDP to drive 2048*1536 pixels 7" -108" monitor and a 1080p HDMI 2.0 output. The 4K performance is reach to 60fps that provides the best quality of video.

The external I/O includes Micro SD card slot/IrDA/BT 4.0/WiFi 11b/g/n/G-sensor/GPS/UARTs/Serial ports/Camera input/RGB control IO.

The powerful quad-core makes the products to be comprehensively used in commercial signage/ interactive multimedia device/security/IPC in smart control area.

Based on the highly integrated hardware platform and powerful Android OS, it dramatically improves the performance between human & machine data interactive, even works for the internet devices and equipment.

Features :

- High performance. RK3368 is one of the most powerful Octa-core solution with Cortex A53processor.
- High stability. RK3368 enhanced hardware & software capability by developing new technology to fulfill 24/7 human monitoring.
- High integration. B02 integrated 10/100M Ethernet, WiFi, Bluetooth, 6W amplifier, Micro SD card slot, IR, HDMI output, HDMI CEC protocol LVDS, eDP, Microphone, G-Sensor, GPS, RGB control IO, POE functions, basically simplified the design effort.
- High expandability. USB *7 , UART *3 , I2C*1, IO *6.
- Supports 7.4V charge/discharge

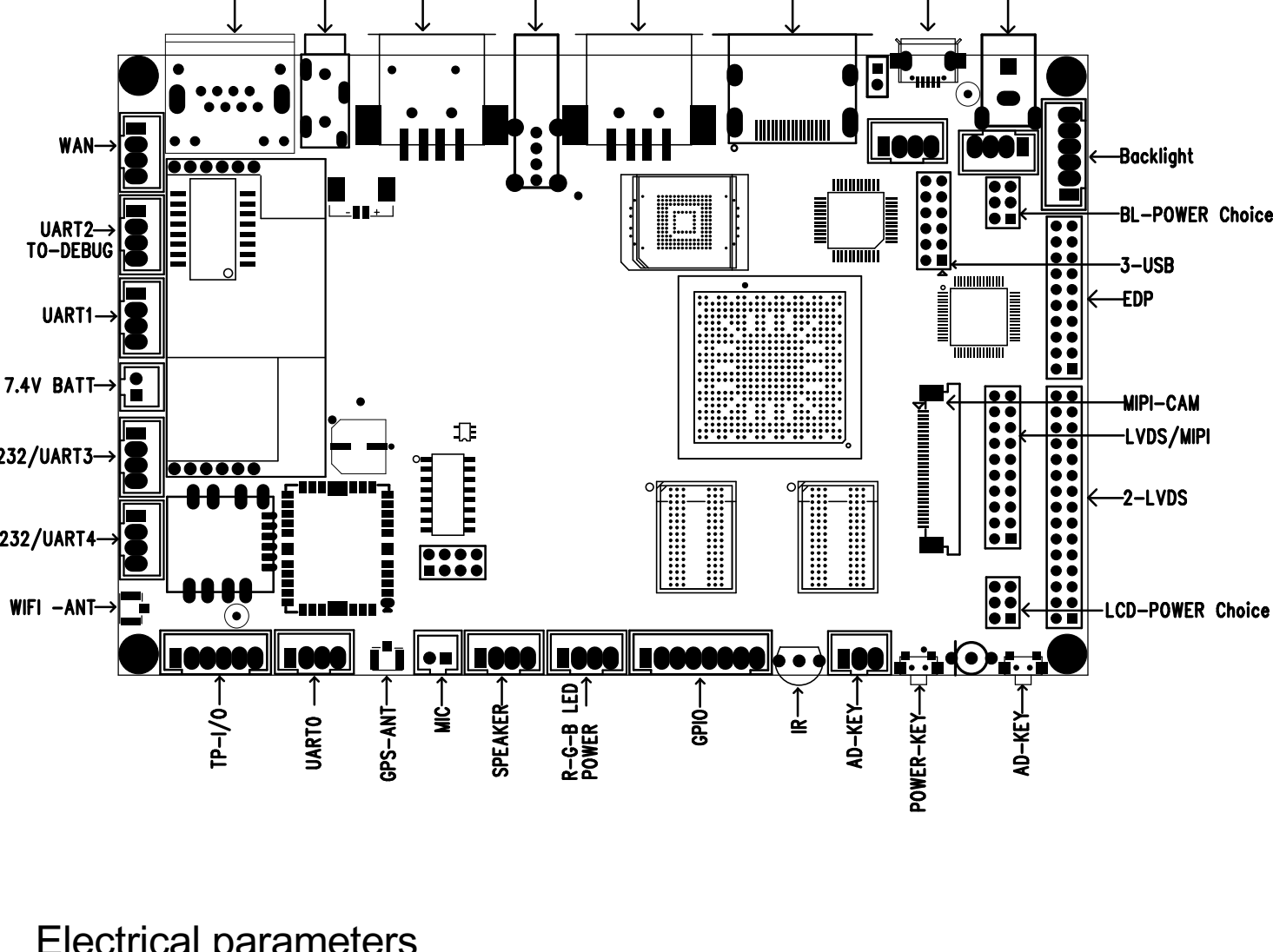
Product Specification

Hardware spec :

CPU	Rockchip RK3368 Octa-Core Cortex-A53
Frequency	1.5G
Memory	DDR3 1G (Up to 2G)
FLASH	EMMC 8GB/16G/32G optional, support NAND FLASH)
Monitor interface	MIPI, LVDS (Single /6/8 bit dual channel) 2048*1536 · Support HDMI 7"-108" Dual-mode independent screen
Back light	3.3V/5V/12V Optional
Touch screen	I2C (Multi touch resistive/capacitive screen) USB interface(support multi-touch resistive/capacitive/Nano/Optical panel)
Networks	RJ45 10/100MEthernet
	2.4G Wi-Fi 802.11b/g/n
	Bluetooth,V2.1+EDR/Bluetooth 3.0/3.0+HS/4.0
	3G USB DOG NLE WCDMA ·EVDO ·CDMA ·GSM) 2G/3G 850/900/1800/1900MHz/2100MHz (Option)
GPS	GSP Module Sensitivity :-159dBm Freq :1575.42MHz Satellite Channel : 20 Accuracy : <10m (Option)
Screen rotation	0/90/180/270degree, support G-sensor
Camera input	5M Camera module(Optional)
RTC	Built-in RTC battery
Watch Dog	Support software watch dog
Peripherals	USB camera, Up-to 8M pixels
	IR remote control
	HDMI, 1080P output
	MIPI interface monitor
	LVD interface monitor
	6 *USB HOST, 1*USB OTG
	2 * serial ports. Support external serial port module (NFC/printer/ card reader ,Bar code scanner)
	6*GPIO
	SD card up to 64GB
	D class high watts speaker , 3W*2 4R Support headset output
Audio	MP3,WMA,WAV, APE, FLAC, AAC, OGG,M4A,3GPP
Video	H.265 , VP9,MAV,W MV,AVS,H.263,MPEG4
Photo	JPG · BMP · PNG

Software Specification :

OS	Google Android 5.1/6.0
Audio effect	Clock, Alarm , Calculator, Audio recorder
Language	Supports multiple languages
Audio recorder	MP3 · WMA
Tool	Calendar
	Alarm Clock
	Calculator
	Note
	Weather/Clock
	Audio recorder
Office tool	EPUB, WORD, EXCEL, POWERPOINT, PDF, TXT
e-book	PDF/TXT/CHM/DOC/EXCEL/EPUB/RTF/FB2
Schedule	Calendar
input	Standard Android keyboard, Selectable input
Networks	Browser -ChromeLite
	GOOGLE Market
	Email
	Gmail
	Google talk
System Management	APK installer
	Original Android OS with root privilege
	Real-time remote management, system reset, 24/7 auto monitoring
	System setting
	Google Maps
	Global time
	OTA upgrade
	WiFi Display



Electrical parameters

●Power (DC_12V JACK)

S/N	Definition	Type	Description
1	GND	GND	GND
2	GND	GND	GND
3	12V	INPUT	12V INPUT
4	12V	INPUT	12V INPUT

●BACKLIGHT (LCD BL JACK)

S/N	Definition	Type	Description
1	12V	OUTPUT	12V OUTPUT
2	12V	OUTPUT	12V OUTPUT
3	LCD-EN	OUTPUT	(GPIO3-D7)
	LCD-BL	OUTPUT	(GPIO3-D7/PWM3)
5	GND	GND	GND
6	GND	GND	GND

●LVDS (LVDS JACK)

S/N	Definition	Type	Description
1	VCC	OUTPUT	3V/5V/12V OUTPUT
2	VCC		
3	VCC		
4	GND	GND	GND
5	GND		
6	GND		
7		OUTPUT	Data
8	LVDS0-D0P	OUTPUT	Data
9		OUTPUT	Data
1 0	LVDS0-D1P	OUTPUT	Data
1 1		OUTPUT	Data
1 2	LVDS0-D2P	OUTPUT	Data
1 3	GND	GND	GND
1 4	GND		
1 5			
1 6	LVDS0-CLKP	OUTPUT	CLK
1 7		OUTPUT	Data
1 8	LVDS0-D3P	OUTPUT	Data
1 9		OUTPUT	Data
2 0	LVDS1-D0P	OUTPUT	Data
2 1		OUTPUT	Data
2 2	LVDS1-D1P	OUTPUT	Data
2 3		OUTPUT	Data
2 4	LVDS1-D2P	OUTPUT	Data
2 5	GND	GND	GND
2 6	GND		
2 7			
2 8	LVDS1-CLKP	OUTPUT	CLK
2 9		OUTPUT	Data
3 0	LVDS1-D3P	OUTPUT	Data

●LVDS ,MIPI interface Jumper (LVDS LCD VCC JP JACK)

S/N	Definition	Type	Description
1	LCD-VCC	INPUT	LCD POWER
2	12V	OUTPUT	12V POWER
3	LCD-VCC	INPUT	LCD POWER
4	5V	OUTPUT	5V POWER
5	LCD-VCC	INPUT	LCD POWER
6	3.3V	OUTPUT	3.3V POWER

●MIPI LCD Jumper (LCD-MIPI JACK)

S/N	Definition	Type	Description
1	VCC	OUTPUT	3V/5V/12V POWER
2	VCC		
3	VCC		
4	GND	GND	GND
5	GND		
6	GND		
7	MIPI	OUTPUT	DATA
8	MIPI D0P	OUTPUT	DAT
9	MIPI	OUTPUT	DAT
1 0	MIPI D1P	OUTPUT	DAT
1 1	MIPI D2N	OUTPUT	DAT
1 2	MIPI D2P	OUTPUT	DAT
1 3	GND	GND	GND
1 4	GND		
1 5	MIPI		
1 6	MIPI CLKP	OUTPUT	CLK
1 7	MIPI D3N	OUTPUT	DAT
1 8	MIPI D3P	OUTPUT	DAT
1 9	GND	GND	GND
2 0		GND	GND

●SPEAKER Interface (SPEAKER OUT JACK)

S/N	Definition	Type	Description
1	LP	OUTPUT	L channel Pos
2	LN	OUTPUT	L channel Neg
3	RP	OUTPUT	R channel Pos
4	RN	OUTPUT	R channel Neg

●MICROPHONE (MIC JACK)

S/N	Definition	Type	Description
1	MIC+	INPUT	MIC Positive
2	MIC-	INPUT	MIC Negative

●UART1

S/N	Definition	Type	Description
1	3.3V	OUTPUT	3.3V
2	UART1_TX	OUTPUT	(TX1)
3	UART1_RX	INPUT	(RX1)
4	GND	GND	GND

●UART2 (For debug)

S/N	Definition	Type	Description
1	3.3V	OUTPUT	3.3V
2	UART2_TX	OUTPUT	(TX2)
3	UART2_RX	INPUT	(RX2)
4	GND	GND	GND

●UART3

S/N	Definition	Type	Description
1	3.3V	OUTPUT	3.3V
2	UART3_TX	OUTPUT	(TX3)
3	UART3_RX	INPUT	(RX3)
4	GND	GND	GND

●Touch Screen (TP JACK)

S/N	Definition	Type	Description
1	TP_VCC	OUTPUT	3.3V
2	TP_INT	INPUT	Interrupt(GPIO1-B7)
3	TP_RST	OUTPUT	RESET(GPIO0-B6)
4	TP_SCL	OUTPUT	CLK (I2C2)
5	TP_SDA	OUTPUT	DATA (I2C2)
6	GND	GND	GND

●GPIO (GPIO JACK)

S/N	Definition	Type	Description
1	3.3V	OUTPUT	3.3V
2	GND	GND	GND
3	GPIO3_D4	OUTPUT/INPUT	GPIO3_D4/PWM1
4	GPIO3_D5	OUTPUT/INPUT	GPIO3_D5/PWM2
5	GPIO0_B1	OUTPUT/INPUT	GPIO0_B1
6	GPIO0_A4	OUTPUT/INPUT	GPIO0_A4
7	GPIO0_B2	OUTPUT/INPUT	GPIO0_B2
8	GPIO3_B5	OUTPUT/INPUT	GPIO3_B5

●Keypad (KEY JACK)

S/N	Definitio	Type	Description
1	GND	GND	GND
2	ADKEY	OUTPUT	KEY
3	Power	OUTPUT	POWER

●USB-HOST (USB-HOST JACK)

S/N	Definitio	Type	Description
1	GND	GND	GND
2	DP	INPU	DP+
3	DM	INPU	DM-
4	5V	OUTPUT	5V

●USB-HOST (USB-HOST JACK)

S/N	Definition	Typ	Descripti
1	GND	GND	GND
2	DP	INPUT	DP+
3	DM	INPUT	DM-
4	5V	OUTPUT	5V

●USB-HOST (USB-HOST JACK)

S/N	Definition	Type	Description
1	GND	GND	GND
2	DP	INPUT	DP+
3	DM	INPUT	DM-
4	5V	OUTPUT	5V

●IrDA (IR JACK)

S/N	Definitio	Type	Descripti
1	IR	INPUT	DAT
2	GND	GND	GND
3	3.3V	OUTPUT	3.3V

●OTG (OTG JACK)

S/N	Definitio	Typ	Descripti
1	GND	GND	GND
2	OTG_ID	INPU	ID

●USB-OTG 介面 (USB-OTG JACK)

S/N	Definitio	Type	Descripti
1	5V	OUTPUT	5V
2	DM	INPUT	DM-
3	DP	INPUT	DP+
4	GND	GND	GND

●Camera (Camera JACK)

S/N	Definition	Type	Description
1	NC	NC	NC
2	GND	GND	GND
3	SDA	OUT	Data (I2C3)
4	VDD28	OUT	2.8V
5	SCL	OUT	CLK(I2C3)
6	RST	OUT	RESET
7	VSYNC	OUT	VSYNC
8	PDN	OUT	(GPIO3_B4)
9	HREF	OUT	HREF
10	VDD18	OUT	1.8V
11	VDD28	OUT	2.8V
12	D7	OUT	Data
13	XCLK	OUT	CLK
14	D6	OUT	Data
15	GND	GND	GND
16	D5	OUT	Data
17	PLCK	OUT	CLK
18	D4	OUT	Data
19	D0	OUT	Data
20	D3	OUT	Data
21	D1	OUT	Data
22	D2	OUT	Data
23	NC	NC	NC
24	NC	NC	NC

●Li-Ion BATTERY (BATT JACK)

S/N	Definition	Type	Description
1	BATT	POWER	7.4V
2	GND	GND	GND

●RTC BATTERY (RTC JACK)

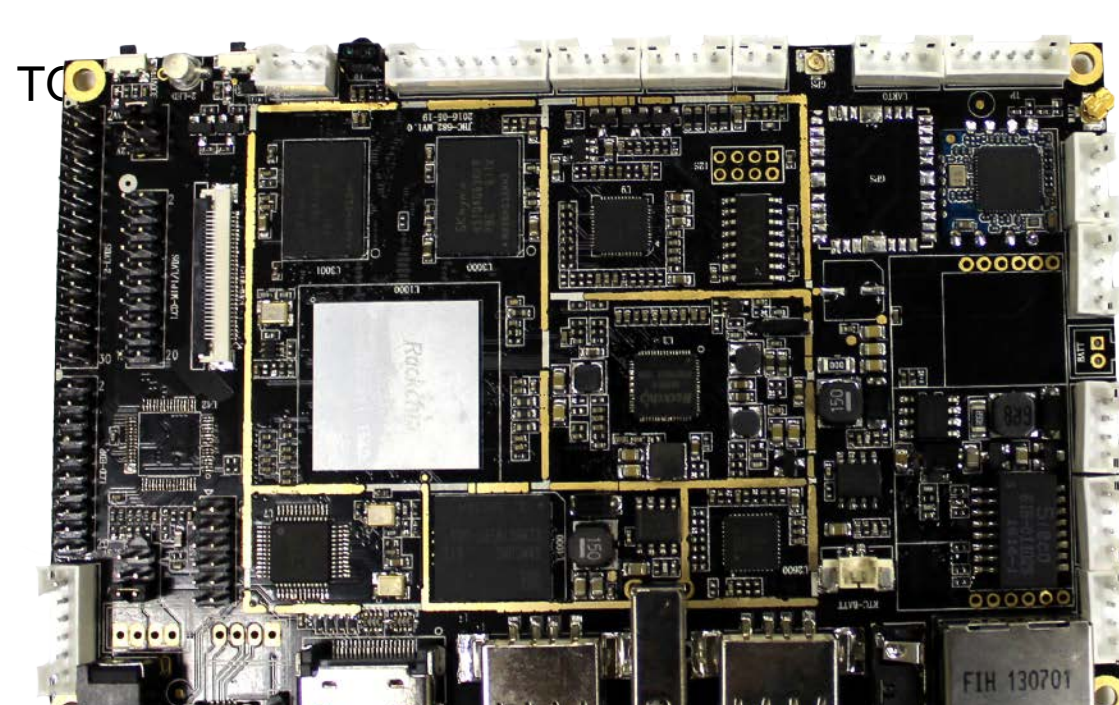
S/N	Definition	Type	Description
1	RTC 3V	POWER	3V
2	GND	GND	GND

●RGB-LED (RGB-LED JACK)

S/N	Definition	Type	Description
1	LED-R	OUTPUT	Red LED indicator
2	LED-G	OUTPUT	Green LED indicator
3	LED-B	OUTPUT	Blue LED indicator
4	GND	GND	GND

Appendix

● Product outlook



BACKSIDE

