

# KANO-RPI3-VE

## User Manual

2017.05

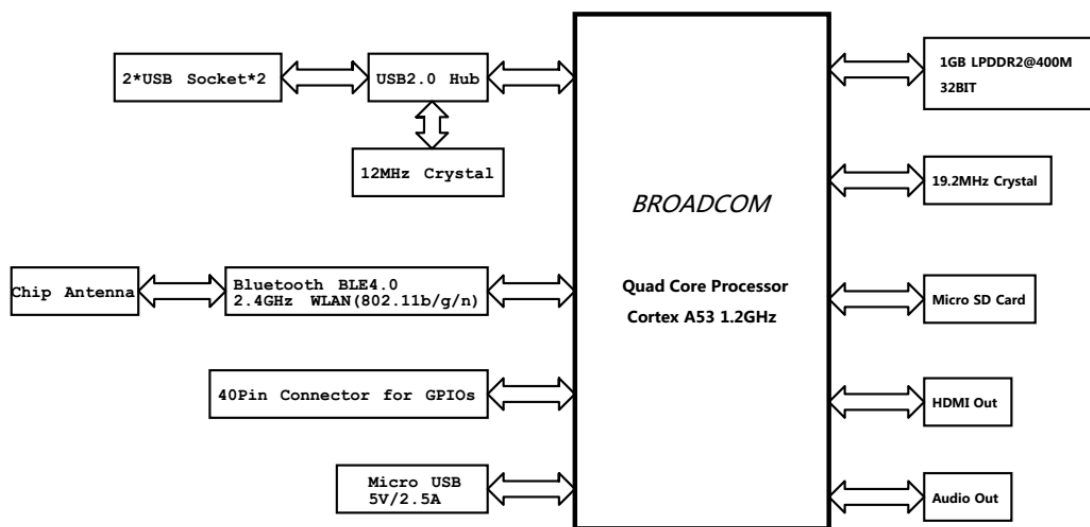
### 1. Product Introduction

This product design is based on the Raspberry Pi 3 Model B V1.2 board, change USB hub chip, remove Ethernet function and RJ-45 connector, remove DSI and CSI connector according to client's requirements.

### 2. Platform Architecture

#### 2.1 Block Diagram and Description

##### System Block Diagram



##### System Description

Referring to the Raspberry Pi 3 Model B V1.2 board, based on the Broadcom Quad Core SOC, use 5V/2.5A for system power supply via micro USB, use 1GB LPDDR2 for synchronous dynamic random access and 19.2MHz crystal for system clock, support HDMI and Audio output, support Bluetooth BLE4.0 and 802.11 b/g/n WLAN then communication via chip antenna, use USB2.0 hub to expanded 4 USB2.0 interfaces, reserved 40pin 2.54mm pin pitch for GPIOs.

##### 2.2 Key Components

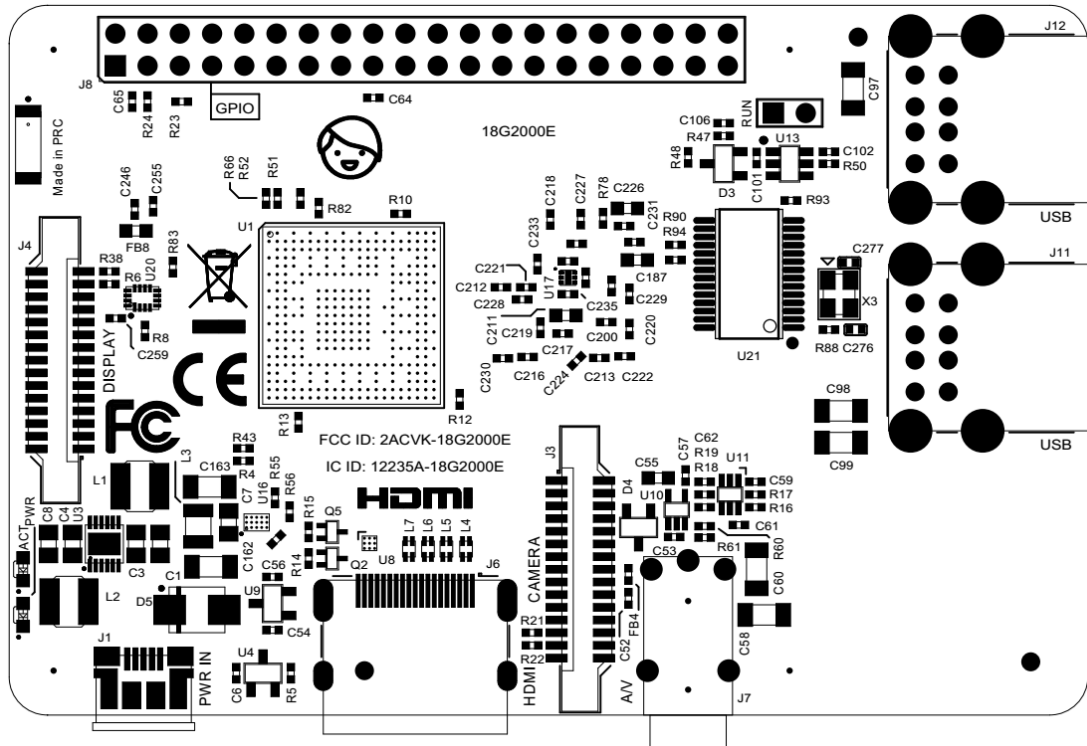
Name	Component Model
CPU	BCM2837
DDR2 MEMORY	EDB8132B4PB
WLAN and Bluetooth	BCM43438

### 3. Operating Characteristics

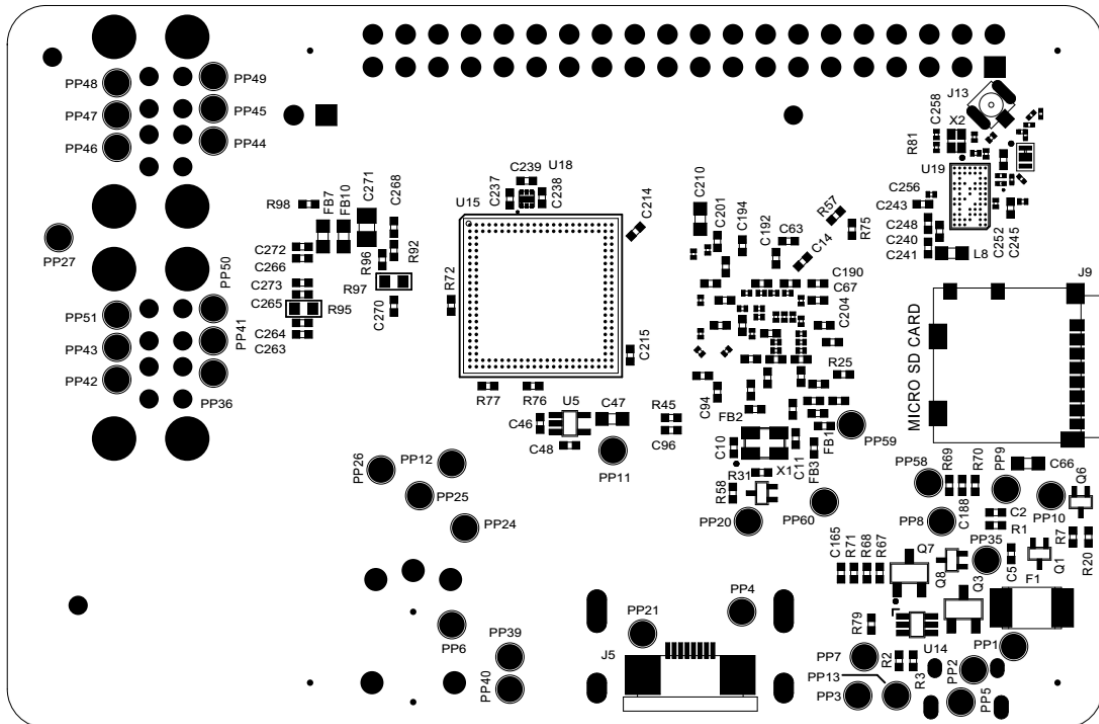
Parameter	Conditions	Min.	Typ.	Max.	Unit
Input Power Supply			5.1	5.5	V
Operating Current				2.5	A
Power Ripple Voltage	5.1V power network			150	mV
	3.3V, 2.5V, 1.8V and 1.2V power network			50	mV
Operating Ambient Temperature		0		+50	°C
Storage Temperature		-20		+70	°C
Operating Ambient Humidity		0		60	%
Operating Altitude		0		2000	m
Operating Air Pressure		840		1060	hPa

## 4. PCB View

The size of PCB is 85mm(L)\*56mm(W)\*1.4mm(T).

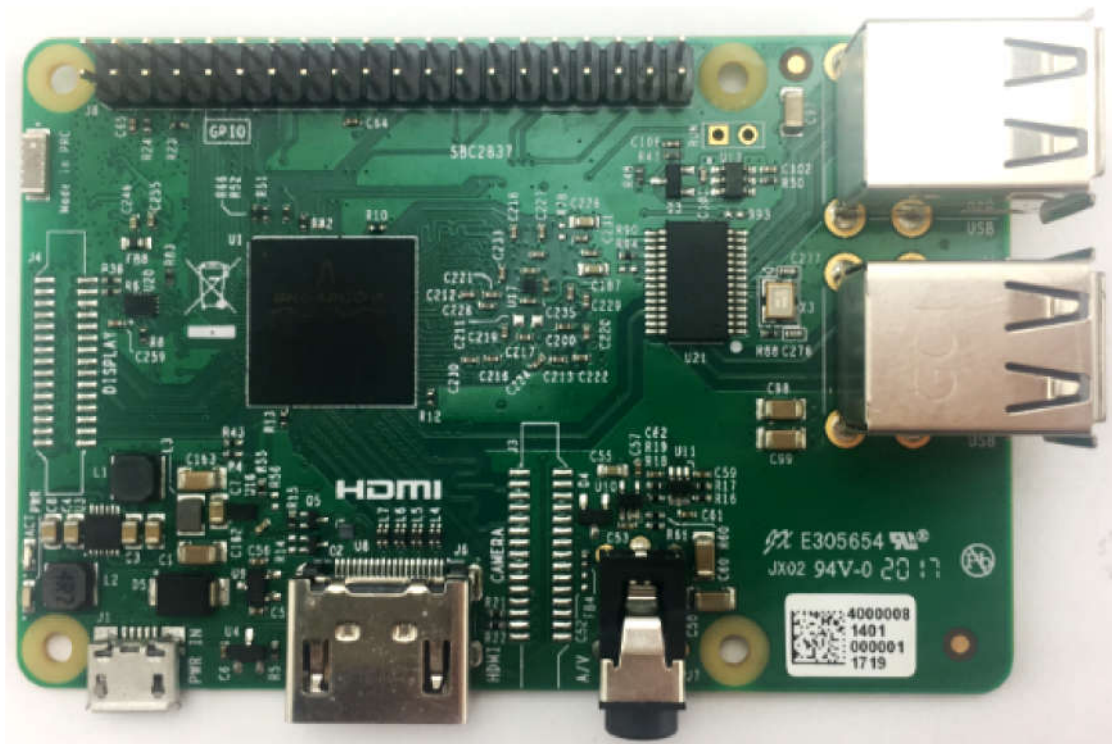


Top View

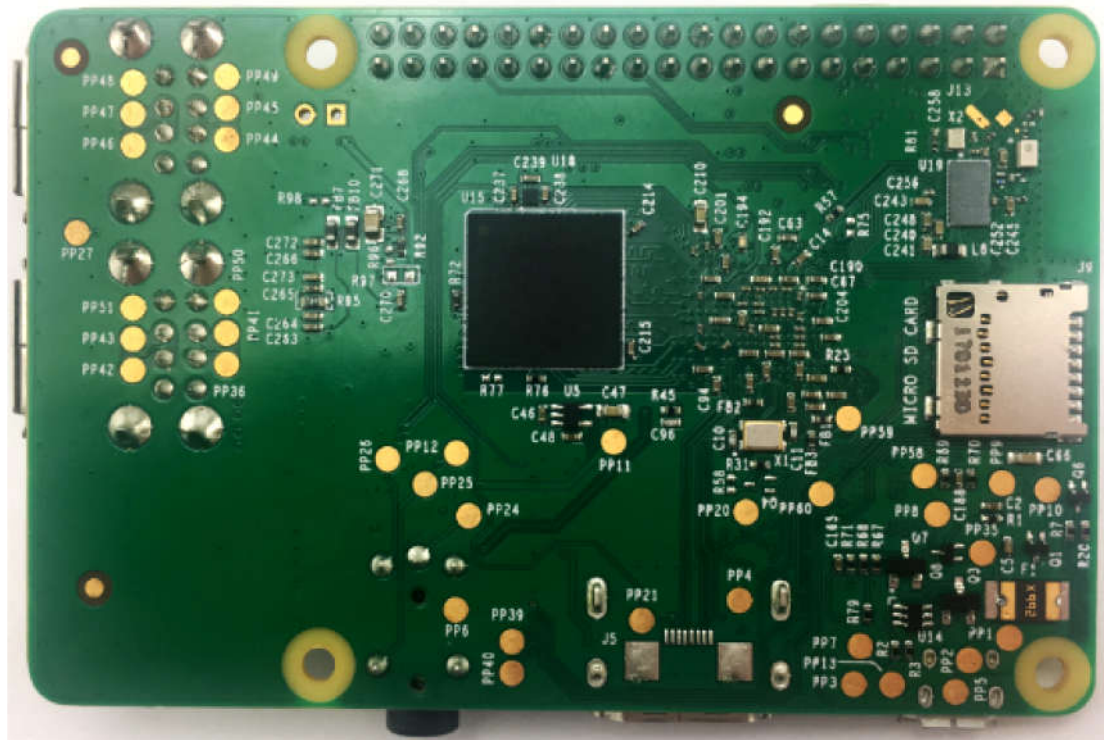


Bottom View

## 5. Appearance

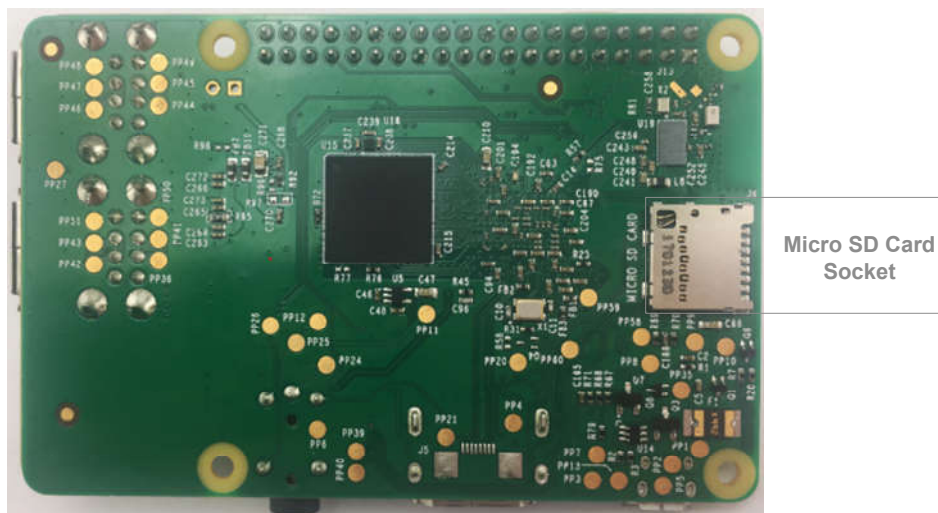
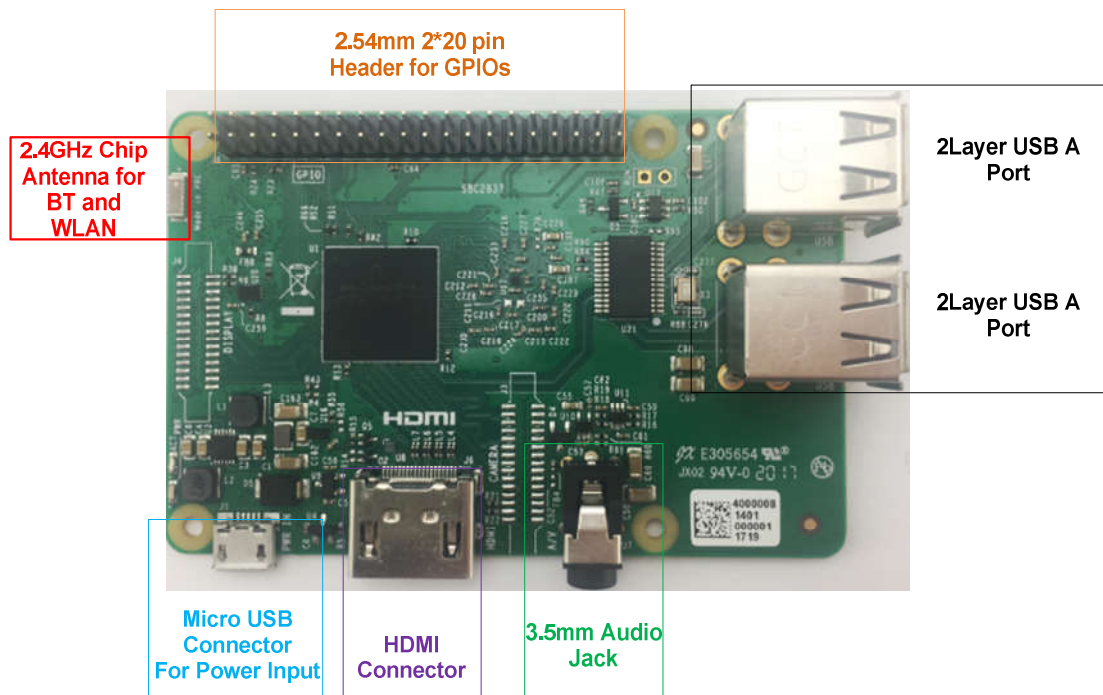


Top View



Bottom View

## 6. Interface



### 6.1 Micro USB Connector

5.1V/2.5A DC via micro USB connector.

### 6.2 HDMI

1x full size HDMI.

### 6.3 3.5mm Audio Jack

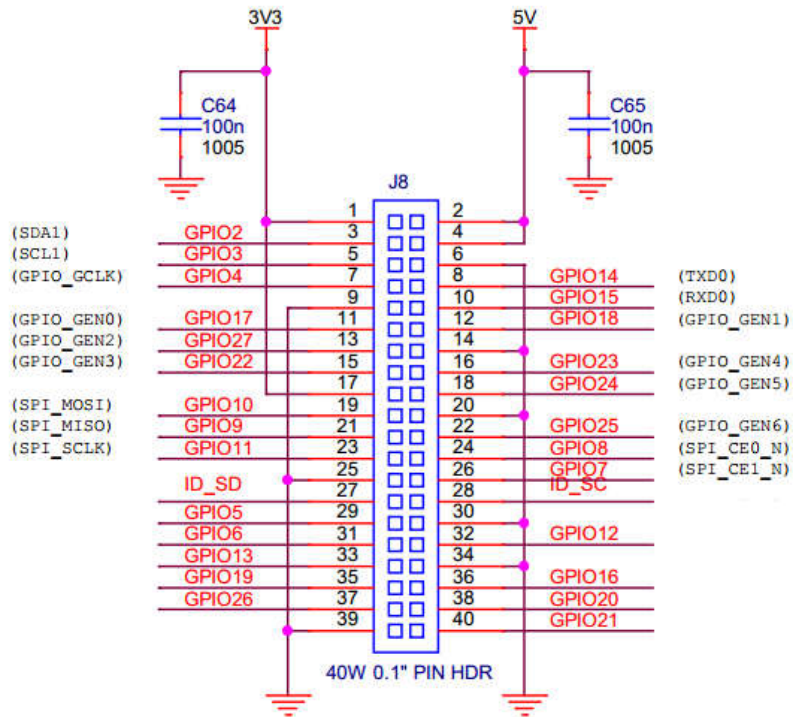
Support audio out and TV out.

### 6.4 USB 2.0

2 2Layer USB A port, support full USB2.0 speed.

## 6.5 GPIOs

2.54mm 2\*20 pin socket for GPIOs.



## 6.6 Chip Antenna

2.4GHz chip antenna for BLE4.0 and IEEE 802.11 b/g/n WLAN.

## 6.7 Micro SD Card Socket

Micro SD card for loading operating system and data storage.

**FCC Caution:** Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter.

**NOTE:**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

To maintain compliance with FCC's RF Exposure guidelines, The 20cm is the minimum distance that has to be maintained between your body and the device.

**FCC ID: 2ACVK-18G2000E**

IC Caution:

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:

(1) this device may not cause interference,

(2) this device must accept any interference, including interference that may cause undesired operation of the device.

This Class [B] digital apparatus complies with Canadian ICE-003.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Cet appareil numérique de la classe [B] est conforme à la norme NMB-003 du Canada.