

Rocktech Displays Limited



Module P/N: RK-Android-3566-02

Version: 1.0

Description: Android/Linux System Embedded Board

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Revision History

Date	Rev.	Page	Description
2024-12-14	1.0	All	First issue

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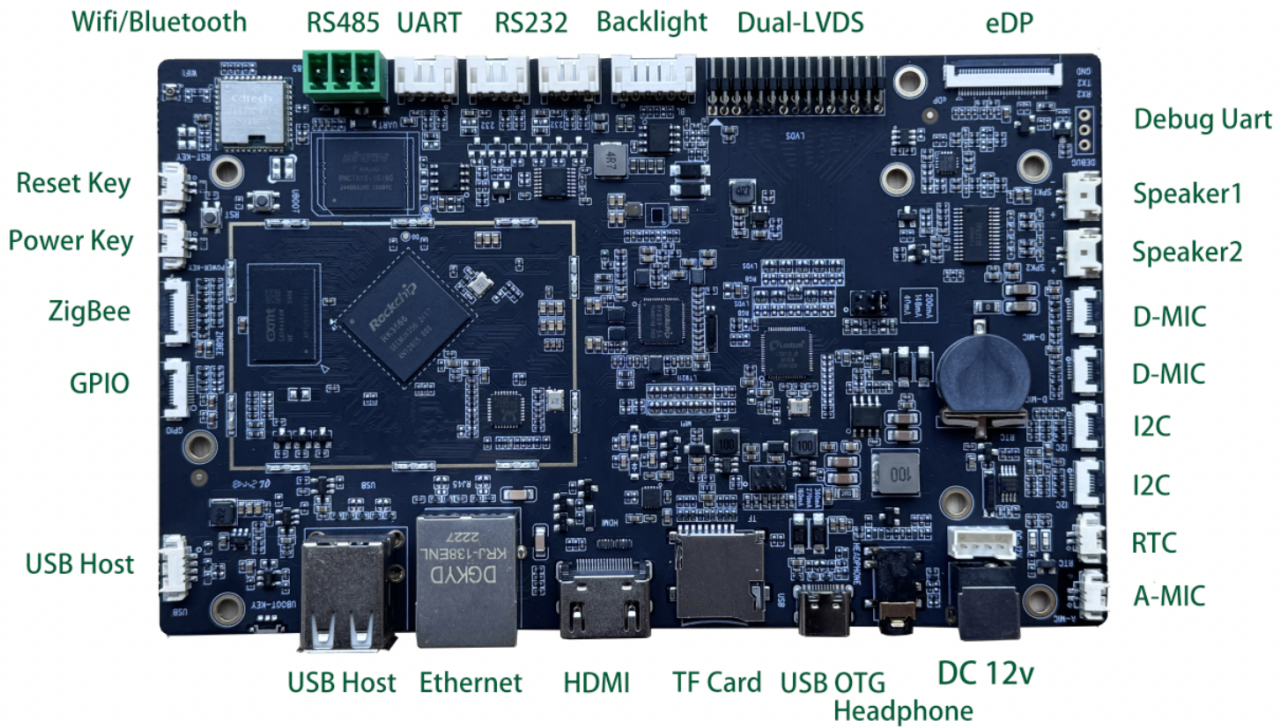
1. General Features

RK-Android-3566-02 is a HMI board working on Android/Linux operating system, designed for customer's convenience running their products under Android/Linux control unit. It supports Serial interface with customer's MCU, by sending commands via Serial interface from customized APP, customer would easily finish their control unit development running on Android/Linux system.

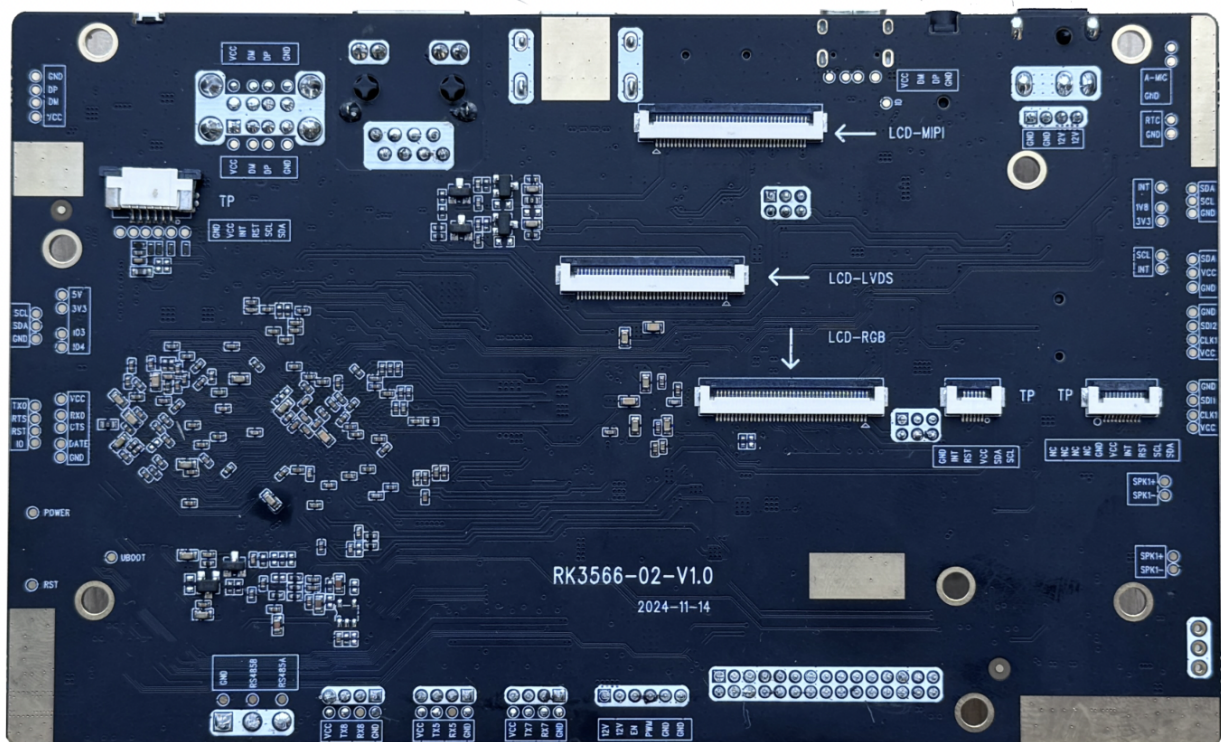
RK-Android-3566 series works based on Android/Linux operating system, uses Rockchip RK3566 SOC with Quad-core Cortex™-A55, integrated 2G DDR and 8GB eMMC, supporting video playing, image viewing, Audio/LVDS signal output, RS232/RS485/ Ethernet /Wifi/4G/Bluetooth/USB interface etc.

General Features	
CPU	Rockchip RK3566, Quad-core Cortex™-A55, 1.8 GHz
Operation System	Android 11.0, Linux(Buildroot/Yocto/Debian)
Memory	DDR 2G
Internal Memory	eMMC 16GB
GPU	Mali-G52-2EE
Serial Interface	UART, RS232, RS485 supported
TFT LCD supported	4.3", 5", 7", 10.1", 12.1", 15.6", 21.5" etc.
CTP supported	CTP with I2C/USB interface
Internet connection	Ethernet/ Wifi/Bluetooth
Camera supported	USB Camera
Speaker Supported	Left/Right Channel
Microphone	supported
USB 2.0 interface	3xUSB Host(2xType-A, 1x 4pin), 1xUSB OTG(Type-C)
Ethernet	10/100/1000 Ethernet
Audio Output	Speaker/Headphone
GPIO	Output/Input GPIO Supported
Max Display Resolution	2560*1440 for Mipi, 4096x2304 for HDMI
Video Format supports	wmv, avi, flv, rm, rmvb, mpeg, ts, mp4 etc
Audio Format Supports	Mp3 etc
Image format Supports	BMP, JPEG, PNG, GIF etc
Real Time Clock supports	Supports Real Time Clock

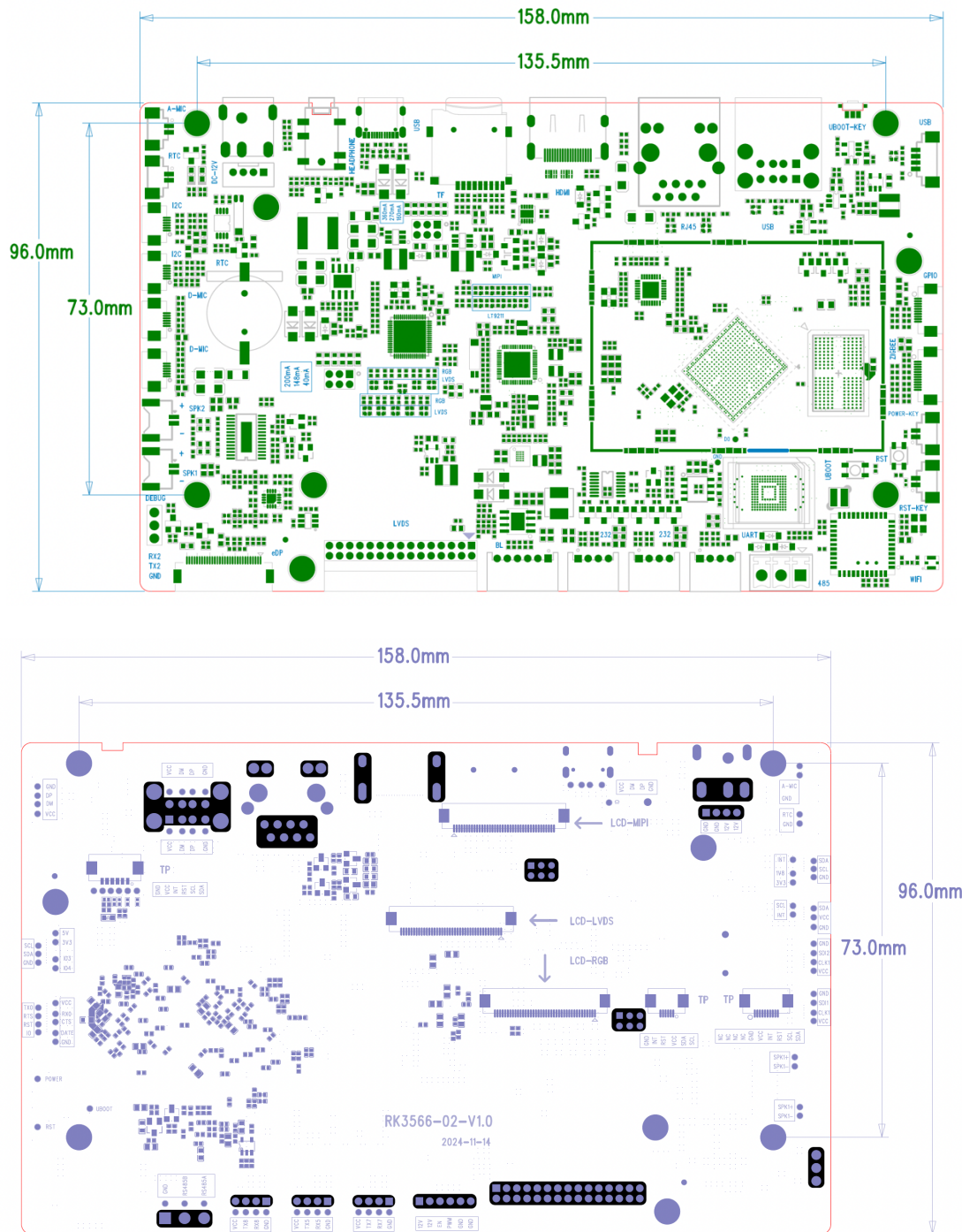
2. Outline dimension and product pictures



RK-Android-3566-02 top



RK-Android-3566-02 bottom

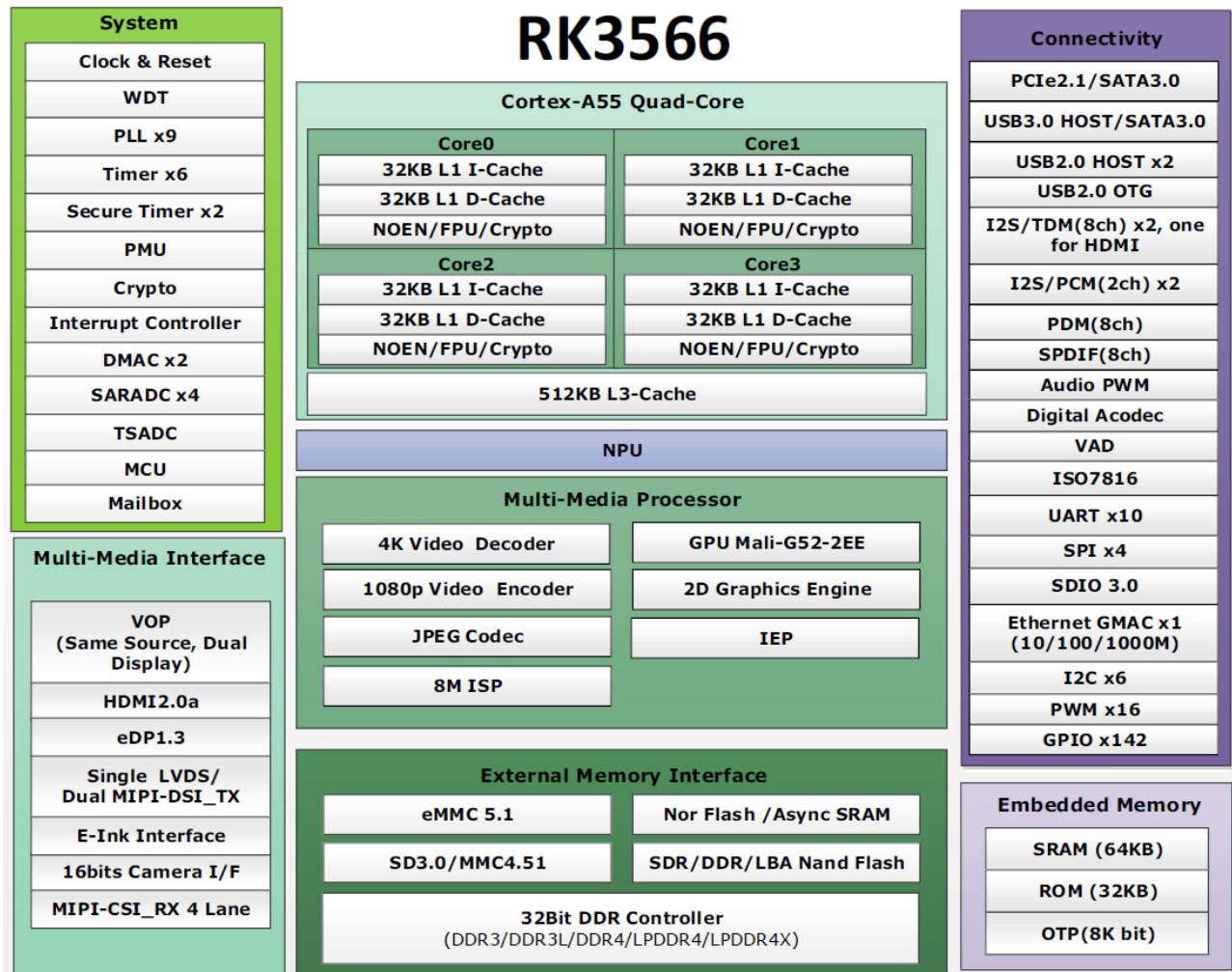


RK-Android-3566-02 outline

3. Electrical specifications

Items		Min	Typical	Max
Power Supply	DC 12V input	--	12V	
Power Consumption	Operating current	--	150mA	-
Environment	Operating Temp	-20°C	--	70°C
	Storage Temp	-30°C	--	80°C

4. Block Diagram



5. Interface Description

Interface	Description
Power Input	12V DC input
Headphone	
USB OTG	USB Type-C
TF Card	
Ethernet	1x Ethernet
USB Host	2x USB Type-A, 1x 4Pin Connector
GPIO	2x5v, 2x3.3v, 2x GND, 6x GPIO
Zigbee	
Power-Key	
Reset-Key	
Wifi/Bluetooth	
RS485	
RS232/UART	2xRS232 or 2xUART
Backlight	6pin Backlight for Dual channel LVDS TFT
Speaker	L/R Speaker
MIC	Support dual/Quad microphone arrays.
I2C	
RTC	
UBoot key	For Firmware upgrade.
UART Debug	
HDMI	
Dual-LVDS	TFT LCD Dual channel LVDS Interface
eDP	TFT LCD eDP Interface
LCD-MIPI	TFT LCD MIPI Interface
LCD-LVDS	TFT LCD Single channel LVDS Interface
LCD-RGB	TFT LCD RGB Interface
CTP	I2C CTP interface
BL Switch	Support 40mA, 148mA, 160mA, 200mA, 270mA, 360mA

UART/RS232/RS485 alternative, need customization

Other peripheral blocks customization questionnaire

Operation System:	Android11, Linux(Buildroot/ Debian/ Yocto)		
SOC:	Rockchip RK3566, Quad-core Cortex™-A55, 1.8 GHz		
Memory	DDR 2G		
Internal Memory	eMMC FLASH 8G		
Integrated Blocks	USB 2.0		
PCBA General Outline:			
Serial Interface:	☐ UART	☐ RS232	☐ RS485
TFT LCD Size:	☐ no need	☐ need, Size:	
CTP:	☐ no need	☐ need USB interface	
POE:	☐ no need	☐ need	
TF card:	☐ no need	☐ need	
Ethernet:	☐ no need	☐ need	
GPIO:	☐ no need	☐ need	
Wifi:	☐ no need	☐ need	
Bluetooth:	☐ no need	☐ need	
4G Module:	☐ no need	☐ need	
HDMI Output:	☐ no need	☐ need	
Camera:	☐ no need	☐ need	
Speaker:	☐ no need	☐ need	
Microphone:	☐ no need	☐ need	
Real Time Clock	☐ no need	☐ need	
Other Blocks requires:			
Remark:			

6. Reliability Testing Standard

No.	Test Item		Test Conditions	Remark
1	High Temperature	Storage	80°C, 48Hr	
		Operation	70°C, 48Hr	
2	Low Temperature	Storage	-30°C, 48Hr	
		Operation	-20°C, 48Hr	
3	High Temperature and High Humidity		40°C, 90%RH, 48Hr	
4	ESD Test		Air +/-8KV 5 times; Contact: +/-4 KV 5 times;	
5	Vibration Test(Storage)		50HZ, 30min, Amplitude: 2 cm, X/Y/Z directions	

7. Technical Support

All peripheral hardware debugged well by Rocktech

Customer needs to develop their application based on Android/Linux SDK, rocktech will provide demo or document for some special function not included in Android/Linux SDK.

Future technical support, pls contact: sales@rocktech.com.hk