

Lichee RV Dock

Datasheet v1.0



Characteristic:

- Support Lichee RV core board
- Onboard display connector
- Onboard 2.4G WIFI+BT module and SMT Antenna
- Onboard USB-A female connector
- On board speaker driver and its connector
- On-board electret microphone circuit

Update record of this document		
V1.0	Edited on December 15, 2021; Original document	

Hardware overview		
Supported core board	Lichee RV	
	Onboard a display output connector	
Display output	RGB screen signal and MIPI screen signal are connected to 2x20p pin pad	
interface	(Users can use our screen adapter board to drive the screen of RGB interface or	
	MIPI interface)	
Network connections	Onboard 2.4G WIFI+BT module , SMT Antenna , IPEX connector	
USB	Onboard a USB-A female connector	
	On board speaker driver and its connector (Supports up to 4 Ω 3W speakers)	
Audio	On-board electret microphone circuit	
Storage	A SOP8 pad is reserved to connect SPI interface. Components are not welded	
Storage	by default	
Expansion connector	Onboard 30P FPC connector, which can be directly connected to our Mic Array	
	R6	
GPIO expansion	GPIO is led out through 2x20p 2.54mm pad for user use	
LED	Onboard a WS2812 RGB LED	
	On board a power indicator light	
Button	Onboard a RST button	
Button	Onboard a user button	



Software overview		
System	Tina Linux(Based on OpenWRT 14.07), Debian	
	YoC (RTOS)	
BSP	Tina SDK from AllWinnerTech	
DSP	(register and download from https://open.allwinnertech.com/)	
Supported		
development	C/C++, Python, Golang, etc	
language		
UI&YoC resources	https://occ.t-head.cn/	

Working conditions		
Power supply	Type-c connector or DEBUG Pins VCC: 5V±10%, 0.5A max	
Temperature rise	<30K	
Temperature range	0℃ ~ 65℃	







Pin annotation

Nultiple Functions Default Functions Perfault Functions Nultiple Functions 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 100						
PBNH UART2_RX PT_TNI* TW2_200 E00 Image: State in the s						
PHH3 UAT2_TX TP_TU1* TU2_SCL 0000 0000 00000						
INIZ_SUL SPII-HOLD TT_INT POIL - FBS UARTS_TX CPU UART UARTI_TX SPII-HOLD DSI_RST R68_RS POIS - FBS UARTS_TX CPU UART UARTI_TX PHM2 DSI_RST R68_RS POIS - FBS UARTS_TX CPU UART UARTI_TX SPII_M2 R68_RS POIS - FBIS R68_RS POIS - FBIS R68_RS PUIS PHM3 UARTS_TX SPII_N05 R68_RS POIS - FBIS R68_RS PUIS - FBIS R68_RS EDS - FBIS R68_RS EDS - FBIS <t< td=""><td></td><td>_</td><td></td><td></td><td></td><td></td></t<>		_				
SPE1-HOLD R6B.R2 PD1 PH72 UART3.RX FCPU UART UART3.RX PM72 R6B.R3 PD1 PD1 PC005 R6B.R3 PD1 P005 R6B.R4 PD1C_D3 PM10 SP11.M20 R6B.R3 PD1 P005 R6B.R3 PD1 P005 R6B.R4 PD1C_D3 PM10 SP11.M20 R6B.R3 PD1 P005 R6B.R3 PD1 P005 R6B.R4 P017 P007 R017 P017						
PNM2 DSI_RST RGB_RST P033 O CGSI TP_RST TW12_SDA CM1C_02 RGB_RS5 P017 O O CGSI TW12_SDA SP11_NP3 RGB_R3 P013 O O CGSI CM1C_02 RGB_R3 P013 SP11_NP3 RGB_R1 P013 O O CGSI CM1C_02 RGB_R3 PM17 SP11_NP3 RGB_R0 P012 O O CGSI CM1C_02 RGB_R3 PM17 UART3_TX SP11_CS1 RGB_CDE P013 O O O O O O O PM17 UART3_TX PM17 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td></t<>						
DWIC_D2 R68_R5 DD17 0						
SPI1_WP RGB_R3 CDS - G G - PD16 RGB_R4 UART1_RX PWH7 SPI1_MIS0 RGB_R1 PD12 - G G - PD22 RGB_B1 UART1_RX PWH7 SPI1_MOS1 RGB_R0 PD12 - G G - PD13 RGB_G5 SPI1_CLK UART3_RX UART3_TX SPI1_CD RGB_G1 PD19 - G G - PD22 VSVNC UART1_RX PWH7 PWH3 DMIC_DB RGB_G2 PD3 - G G - PD20 MSVNC DMIC_CLK PWH4 LVDS6_V2P DST_D3P RGB_G2 PD3 - G G - PD3 RGB_G3 DST_D3H LVDS6-V3N PWH6 LVDS6_V2P DST_D4P RGB_G3 PD4 - G G - PD3 RGB_G3 DST_D3H LVDS6-V3N PWH6 LVDS6_V2P DST_D4P RGB_G3 PD4 - G G - PD3 RGB_G3 DST_D3H LVD56-V3N PWH6 LVDS6_V2P DST_D4P RGB_B3 PD3 - G G - PD3 RGB_B3 DST_D4H LVD56-V3N PWH6 LVD56_V2P DST_D4P RGB_B3 PD3 - G G - PE12 RGB_1M12 DM1C_D1 PWH6					TP_RST	TWI2_SDA
SPIL_MISS RGB_R1 PD12 <td></td> <td>RGB_R5</td> <td></td> <td></td> <td></td> <td></td>		RGB_R5				
SPI1_NOSI RGB_R0 PD12_0 O GND SPI1_CLK UART3_IX UART3_IX SPI1_CD RGB_GLK PD13_0 O PD21 VSVNC UART1_IX PWM5 PWM2 DMIC_DD DSI_BL RGB_CLK PD13_0 O PD20 HSVNC UMR1_IX PWM6 LVDS9_V3P DSI_D3P RGB_C2 PD3_0 O PD70 RGB_G3 DSI_D3N LVDS0-V3N PWM6 LVDS9_V2P DSI_CKP RGB_B4 PD1_0 O PD0_0 PD0_0 PD3 RGB_B3 DSI_D1N LVDS0-V3N LVDS0-V3N LVDS9_V0P DSI_CKP RGB_B1 PD1_0 O PD1_0 RGB_B3 DSI_D1N LVDS0-V3N LVDS0_V1P DSI_D2P RGB_B1 PD1_0 O PE13 RGB_B1 DSI_D1N LVDS0-V3N LVDS0_V1P DSI_D1P RGB_B1 PD1_0 PE12 RGB_B1 DSI_D1N LVDS0-V3N PWM6 WM6 DM1_D1 RGB_B1N10 PE1_0 PE1_0 RGB_B1N12 DM1_D1 PWM6 PWM6 DM1_D1		RGB_R3			RGB_R4	DMIC_D3 PWM0
UART3_TX SPI1_CS RGB_G4 PD10 O PD11 RGB_G5 SPI1_CLK UART3_RX PWM3 DHIC_D0 RGB_DE PD19 O PD21 VSYNC UART1_TX PWN5 PWM2 DHIC_D1 DS1_BL RGB_G2 PD8 O PD99 RGB_G3 DS1_D3N LVDS0-V3N PWN6 LVDS0_V3P DS1_D2P RGB_G6 PD6 O PD7 RGB_G3 DS1_D3N LVDS0-V3N PWN6 LVDS0_V2P DS1_D2P RGB_G6 PD6 O PD7 RGB_B3 DS1_D1N LVDS0-V3N PWN6 LVDS0_V2P DS1_D1P RGB_B2 PD2 O PD9 RGB_B3 DS1_D1N LVDS0-V4N UD50-V4N LVDS0_V2P DS1_D1P RGB_B0 PD0 O PD1 RGB_B1 DS1_D1N LVDS0-V4N UD50-V4N PWM6 DHIC_D1 RGB_E1NT9 PE15 O PE13 RGB_INT2 DMIC_D0 PWM6 PWM6 DHIC_D1 GND GP10 TMI MIPI_DSI RGB_LCD	(SPI1_MISO)	RGB_R1	PD13 0) O O PD22	RGB_BL	UART1_RX PWM7
WINTS_INRELECT INDCOM	(SPI1_MOSI)	RGB_R0	PD12 0	GND		
PWM2 DMIC_DI DSI_BL RGB_CLK PD18 0 PD20 HSYNC DMIC_CLK PWM4 LVDS0_V3P DSI_D3P RGB_G2 PD8 0 PD7 RGB_G3 DSI_D3N LVDS0-V3N PWM6 LVDS0_CKP DSI_D2P RGB_G0 PD6 0 0 PD7 RGB_G1 DSI_D2N LVDS0-VAN LVDS0_V2P DSI_D2P RGB_B2 PD2 0 PD3 RGB_B3 DSI_D1N LVDS0-VAN LVDS0_V2P DSI_D2P RGB_B0 PD0 0 PD1 RGB_B1 DSI_D1N LVDS0-VAN LVDS0_V2P DSI_D0P RGB_B0 PD0 0 PE13 RGB_INT1 TWIZ_SCL DWM6 DMIC_D1 RGB_INT0 PE15 0 PE16 RGB_INT2 DMIC_D0 PWM6 PWM6 DMIC_D1 GND GPI0 TWI MIPI_DSI RGB_LCD	UART3_TX SPI1_CS	RGB_G4	PD10 0) O O PD11	RGB_G5	SPI1_CLK UART3_RX
LVDS0_V3P DS1_D3P RGB_G2 PD3 0 PD9 RCGB_G3 DS1_D3N LVDS0-V3N PWM6 LVDS0_V2P DS1_D2P RGB_G0 PD6 0 PD7 RGB_G1 DS1_D2N LVDS0-CKN LVDS0_V2P DS1_D1P RGB_B2 PD2 0 PD3 RGB_B3 DS1_D1N LVDS0-V0N LVDS0_V2P DS1_D1P RGB_B2 PD2 0 PD1 RGB_B3 DS1_D1N LVDS0-V0N LVDS0_V0P DS1_D0P RGB_B0 P00 0 PD1 RGB_B1 DS1_D0N LVDS0-V1N PWM6 DMIC_D1 RGB_INT0 PE13 0 PE16 RGB_INT2 DMIC_D0 PWM6 Power GND GPI0 TWI MIPI_DSI RGB_LCD	PWM3 DMIC_D0	RGB_DE	PD19-0) O O PD21	VSYNC	UART1_TX PWM5
LVDS0_CKP DSI_D2P RGB_G0 PD6 0 PD7 RCGB_G1 DSI_D2N LVDS0-CKN LVDS0_V2P DSI_CKP RGB_B4 PD4 0 0 PD5 RGB_B5 DSI_CKN LVDS0-V2N LVDS0_V2P DSI_D1P RGB_B2 PD2 0 0 PD3 RGB_B3 DSI_D1N LVDS0-V1N LVDS0_V0P DSI_D0P RGB_B0 PD0 0 0 PD1 RGB_B1 DSI_D0N LVDS0-V1N PWM6 DMIC_D1 RGB_INT0 PE15 0 PE12 RGB_INT1 TWI2_SCL GND GND GND TWI MIPI_DSI RGB_LCD	PWM2 DMIC_D1	DSI_BL RGB_CLK	PD18 0) O O PD20	HSYNC	DMIC_CLK PWM4
LVDS0_V2P DSI_CKP RGB_B4 PD4 0 PD5 RCGB_B5 DSI_CKN LVDS0-V2N LVDS0_V1P DSI_D1P RGB_B2 PD2 0 PD3 RGB_B3 DSI_D1N LVDS0-V0N LVDS0_V0P DSI_D0P RGB_B0 PD0 0 PD1 RGB_B1 DSI_D0N LVDS0-V1N PWM6 DMIC_D1 RGB_INT0 PE15 GID PE10 RGB_INT2 DMIC_D0 PWM6 Pwwer GND GPI0 TWI MIPI_DSI RGB_LCD	LVDS0_V3P	DSI_D3P RGB_G2	PD8 0 0) 🔘 O—PD9	RGB_G3 DSI_D3N	LVDS0-V3N PWM6
LVDS0_VIP DSI_DIP RGB_B2 PD2 O PD3 RGB_B3 DSI_DIN LVDS0-V0N LVDS0_V0P DSI_D0P RGB_B0 PD0 O PD1 RGB_B1 DSI_D0N LVDS0-V1N PWM6 DMIC_D1 RGB_INT0 PE13 O PE13 RGB_INT2 DMIC_D0 PWM6 Pwmre O O O TWI MIP1_DSI RGB_LCD	LVDS0_CKP	DSI_D2P RGB_G0	PD6 0) 🔘 O— PD7	RGB_G1 DSI_D2N	LVDS0-CKN
LVDS0_V0P DSI_D0P RGB_B0 PD0 0 PD1 RGB_B1 DSI_D0N LVDS0-V1N PWM6 DMIC_D1 RGB_INT0 PE15 0 PE12 RGB_INT1 TWI2_SCL GND GND GND FE16 RGB_INT2 DMIC_D0 PWM6 Power GND GPI0 TWI MIPI_DSI RGB_LCD	LVDS0_V2P	DSI_CKP RGB_B4	PD4 0) 🔘 O— PD5	RGB_B5 DSI_CKN	LVDS0-V2N
PWM6 DMIC_D1 RGB_INT0 PE15 0 PE12 RGB_INT1 TWI2_SCL GND GND O PE16 RGB_INT2 DMIC_D0 PWM6 Power GND GPI0 TWI MIPI_DSI RGB_LCD	LVDS0_V1P	DSI_D1P RGB_B2	PD2 0) 🔘 O—PD3	RGB_B3 DSI_D1N	LVDS0-V0N
GND PWM6 Power GND GPIO TWI MIPI_DSI RGB_LCD	LVDS0_V0P	DSI_DOP RGB_B0	PD0 0) 🔿 O—PD1	RGB_B1 DSI_DON	LVDS0-V1N
	PWM6 DMIC_D1	RGB_INT) PE15 0 [) () (O	RGB_INT1	TWI2_SCL
) 🔘 🔍 PE16	RGB_INT2	DMIC_D0 PWM6
	Power	GND	GPI0	TWI	MIPI_DSI	RGB_LCD
Touch Panel UART PWM SPI DMIC LVDS_DSI	Touch Panel	UART	PWM	SPI	DMIC	LVDS_DSI



Dimension information		
Length	65.0mm	
Thickness	40.0mm	
Thickness	Please check the 3D drawing	





	Notice
ESD protection	Please pay attention to avoid static electricity hitting PCBA;
	Please discharge the human static electricity before touching PCBA
CDIO voltago	Please do not let the actual working voltage of GPIO exceed the
GPIO voltage	rated value, otherwise it will cause permanent damage to PCBA
FDC connector	When connecting the FPC cable, make sure that the cable is
FPC connector	completely inserted into the connector
	Please disconnect the power completely before removing the core
Plug/unplug	board
	Please avoid any liquid or metal touching the pads of components
Avoid short circuit	on PCBA during power on, otherwise it will cause short circuit and
	damage the PCBA
	• GPIO : PC4,PC5
Special GPIO	Don't use them for GPIO as better, or please refer to
	<d1_datasheet_v0.1></d1_datasheet_v0.1>

Resources		
Official website	www.sipeed.com	
BBS	http://bbs.sipeed.com OR https://occ.t-head.cn/	
E-mail	support@sipeed.com	
Allwinner Tech SDK	https://open.allwinnertech.com/	
Allwinner Tech Development docs	https://d1.docs.allwinnertech.com	
Waft UI Document	https://occ.t-head.cn/	
E-mail (for business cooperation)	support@sipeed.com	



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