RK3399 I/O LIST（Open Source Board）

Version	Revision Date	Revision Description	Author
V1.0	2016.07.28	The initial version release	HXS
V1.1	2016.10.20	On the basis of V1.0, the errors were corrected, and the revision record and RK logo were added.	Linus.Lin
V1.2	2017.01.11	Correct the errors in "GPIO Type Voltage Remarks Table": Modify "1.8V/3.3V" to "1.8V or 3.0V"; Modify "1.8V/3.3V auto" to "1.8V or 3.0V auto"; Modify the description of "TYPEC0_ID and TYPEC1_ID" pins to add internal pull-up instructions. Modify the description of "HDMI_HPD" pin to increase the description of withstanding voltage.	Linus.Lin
V1.3	2017.05.12	Correct errors in IOLIST: Modify "AH26 GPIO3_D6/I2S0_SDI3SDO1" pin No. to "AH2". Modify "AL30 GPIO4_C6/PWM1" pin No. to "AL3". Modify "J29 EDP_AVDD_1V8_1" pin No. to "J19". Modify "A10 VSS1" pin No. to "A1". Modify "AG29 VSS21" pin No. to "AG2". Modify "Y19 VSS119" pin No. to "P19". Modify pin name of "GPIO1_A7/SPI1_RXD/PMCU_UART4DBG_TX" to "GPIO1_A7/SPI1_RXD/PMCU_UART4DBG_RX". Modify pin name of "GPIO1_B0/SPI1_TXD/PMCU_UART4DBG_RX" to "GPIO1_B0/SPI1_TXD/PMCU_UART4DBG_TX".	Linus.Lin
V1.4	2017.09.05	Correct errors in IOLIST: Modify the description of "GPIO1_C7/DFTJTAG_TDO/TCPD_VBUS_SOURCE1" to "Adapter insert detect input". Modify the IO supply mode of PMUIO2_VDDPST to VCC_1V8. Modify the IO supply mode of PMUIO2_VDD to VCC_1V8. Modify the IO supply mode of APIO22_VDDPST to VCC_1V8. Modify the IO supply mode of APIO2_VDD to VCC_1V8. Change the description of "GPIO4_C3/UART2DBG_RX" to "Uart2 serial port data input,for AP debug/UART2DBG_RX". Change the description of "GPIO4_C4/UART2DBG_TX" to "Uart2 serial port data output,for AP debug/UART2DBG_TX".	Linus.Lin
V1.5	2019.07.18	Modify pin name of "GPIO4_B4/SDMMC0_CLKOUT/MUCJTAG_TCK" to "GPIO4_B4/SDMMC0_CLKOUT/MCUJTAG_TCK". Publish English Version.	Linus.Lin

GPIO Type Voltage Notice

GPIO Type	IO supply mode
Note:Refer to Section 2.3.3 of <Rockchip_RK3399_Hardware_Design_Guide> for details.	
GPIO Type	IO supply mode
1.8V only	1.8V mode：VDDPST=1.8V，VDDIO=1.8V
3.3V only	3.3V mode：VDDPST=1.8V，VDDIO=3.3V
1.8V or 3.0V	3.0V mode:VDDPST=1.5V，VDDIO=3.0V
	1.8V mode:VDDPST=1.8V，VDDIO=1.8V
1.8V or 3.3V auto	3.0V mode:VDDPST=1.5V，VDDIO=3.0V
	1.8V mode:VDDPST=1.8V，VDDIO=1.8V

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Pin No.	Pin Name	Pin Type	I/O Def	I/O Pull	Pull Resistor	Nom Pull Resistor	Drive Current (mA)	Default Drive (mA)	Description	Tablet/VR REF	Excavator/BOX
PART C	PMUIO1(1.8V only I/O)									VCC_1V8 mode	VCC_1V8 mode
T30	IO_NPOR	I	I	up					System reset input	NPOR	NPOR
Y31	XIN_OSC	I	I	N/A					Oscillator 24MHz clock input	24MXIN_OSC	24MXIN_OSC
Y30	XOUT_OSC	O	O	N/A					Oscillator 24MHz clock output	24MXOUT_OSC	24MXOUT_OSC
Y29	AVSS_48	P	N/A	N/A					Oscillator analog power ground	VSS	VSS
R17	PLL_AVDD_0V9	P	N/A	N/A					PLL analog power supply	PLL_AVDD_0V9	VCCA0V9_S3
P18	PLL_AVDD_1V8	P	N/A	N/A					PLL analog power supply	PLL_AVDD_1V8	VCCA1V8_S3
P17	PLL_AVSS	P	N/A	N/A					PLL analog power ground	VSS	VSS
AD23	EFUSE_VQPS	P	N/A	N/A					EFUSE digital I/O supply,default connect to VSS	VCC_EFUSE	VCC_EFUSE
U31	GPIO0_A0/TESTCLKOUT0/CLK32K_IN	I/O	I	up	54k-120k	80k	5,10,15,20	5	32KHz real time clock input	RTC_CLKO_SOC	RTC_CLKO_SOC
R29	GPIO0_A1/DDRIO_PWROFF/TCPD_CCDB_EN	I/O	I	up	54k-120k	80k	5,10,15,20	5	SDMMC0 power control output	SDMMC0_PWR_H	SDMMC0_PWR_H
N24	GPIO0_A2/WIFI_26MHZ	I/O	I	down	55k-176k	95k	5,10,15,20	5	26MHz clock output	RK3399_26M_OUT	RK3399_26M_OUT
V31	GPIO0_A3/SDIO0_WRPT	I/O	I	down	55k-176k	95k	5,10,15,20	5	WIFI module wake up AP	WIFI_HOST_WAKE_L	WIFI_HOST_WAKE_L
AA25	GPIO0_A4/SDIO0_INTn	I/O	I	down	55k-176k	95k	5,10,15,20	5	BT module wake up AP	BT_HOST_WAKE_L	BT_HOST_WAKE_L
V27	GPIO0_A5/EMMC_PWRON	I/O	I	up	54k-120k	80k	5,10,15,20	5	Power key detect input	PWR_KEY_L	PWR_KEY_L
P25	GPIO0_A6/PWM3A_IR	I/O	I	down	55k-176k	95k	5,10,15,20	5	Power dynamic voltage scaling control for CENTERLOG IR receiver input	CENTERLOG_DVS_PWM	DNP
V28	GPIO0_A7/SDMMC0_DET	I/O	I	up	54k-120k	80k	5,10,15,20	5	SDMMC0 detect input	SDMMC0_DET_L	SDMMC0_DET_L
U28	GPIO0_B0/SDMMC0_WRPT/TEST_CLKOUT2	I/O	I	up	54k-120k	80k	5,10,15,20	5	DVP power enable	DNP	DVP_PWR_H
V30	GPIO0_B1/PMUIO2_1833_VOLSEL	I/O	I	down	55k-176k	95k	5,10,15,20	5	BT module power enable	BT_REG_ON_H	BT_REG_ON_H
W31	GPIO0_B2	I/O	I	down	55k-176k	95k	5,10,15,20	5	WIFI module power enable	WIFI_REG_ON_H	WIFI_REG_ON_H
U30	GPIO0_B3	I/O	I	down	55k-176k	95k	5,10,15,20	5	Speaker PA power enable	SPK_CTL_H	SPK_CTL_H
V26	GPIO0_B4/TCPD_VBUS_BDIS	I/O	I	down	55k-176k	95k	5,10,15,20	5	Type-C0 discharge control	TYPE_C0_DISCHARGE	DNP
P24	GPIO0_B5/TCPD_VBUS_SOURCE3/TCPD_VBUS_FDIS	I/O	I	down	55k-176k	95k	5,10,15,20	5	Type-C1 discharge control Hall Sensor interrupt input	DNP	HALL_INT_L
R24	PMUIO1_VDD_1V8	P	N/A	N/A					PMUIO1 Post-Driver and digital I/O power supply	VCC1V8_PMUPLL	VCC1V8_PMUPLL
T24	PMU_VDD_0V9	P	N/A	N/A					PMU Post-Driver power supply	VCC_0V9	VCC_0V9
U25	PMU_VDD_1V8	P	N/A	N/A					PMU digital I/O power supply	VCC1V8_PMUPLL	VCC1V8_PMUPLL
PART E	PMUIO2(1.8 or 3.0V I/O) note1									VCC_1V8 mode	VCC_3V0 mode
R25	GPIO1_A0/ISP_SHUTTER_EN/TCPD_VBUS_SINK_EN	I/O	I	down	34k-93k	60k	3,6,9,12	3	Hall sensor interrupt input COMP Sensor interrupt	HALL_INT_L	COMP_INT_L
T31	GPIO1_A1/ISP_SHUTTER_TRIG/TCPD_CC0_VCONN_EN	I/O	I	down	34k-93k	60k	3,6,9,12	3	COMP Sensor interrupt Charge ok input	COMP_INT_L	CHG_OK_H
R26	GPIO1_A2/ISP_FLASHTRIGIN/TCPD_CC1_VCONN_EN	I/O	I	down	34k-93k	60k	3,6,9,12	3	Charge and cc controler interrupt input	CHG_CC_INT_L	CHG_CC_INT_L

Pin No.	Pin Name	Pin Type	I/O Def	I/O Pull	Pull Resistor	Nom Pull Resistor	Drive Current (mA)	Default Drive (mA)	Description	Tablet/VR REF	Excavator/BOX
R27	GPIO1_A3/ISP_FLASHTRIGOUT	I/O	I	down	34k-93k	60k	3,6,9,12	3	ISP_FLASHTRIGOUT	DNP	ISP_FLASHTRIGOUT
R28	GPIO1_A4/ISP_PRELIGHT_TRIG	I/O	I	down	34k-93k	60k	3,6,9,12	3	ISP_PRELIGHT_TRIG	DNP	ISP_PRELIGHT_TRIG
R30	GPIO1_A5/AP_PWROFF	I/O	I	down	34k-93k	60k	3,6,9,12	3	PMIC sleep control output	PMIC_SLEEP_H	PMIC_SLEEP_H
P26	GPIO1_A6/TSADC_INT	I/O	I	down	34k-93k	60k	3,6,9,12	3	Over-temperature protection reset power	OTP_OUT_H	OTP_OUT_H
P27	GPIO1_A7/SPI1_RXD/PMCU_UART4DBG_RX	I/O	I	up	33k-88k	58k	3,6,9,12	6	SPI bus port 1, for FW boot Uart4 serial port data input,for PMCU debug	SPI1_RXD	SPI1_RXD
R31	GPIO1_B0/SPI1_TXD/PMCU_UART4DBG_TX	I/O	I	up	33k-88k	58k	3,6,9,12	6	SPI bus port 1, for FW boot Uart4 serial port data output,for PMCU debug	SPI1_TXD	SPI1_TXD
P28	GPIO1_B1/SPI1_CLK/PMCU_JTAG_TCK	I/O	I	up	33k-88k	58k	3,6,9,12	6	SPI bus port 1, for FW boot JTAG TCK for PMCU	SPI1_CLK	SPI1_CLK
P29	GPIO1_B2/SPI1_CSN0/PMCU_JTAG_TMS	I/O	I	up	33k-88k	58k	3,6,9,12	6	SPI bus port 1, for FW boot JTAG TMS for PMCU	SPI1_CSn0	SPI1_CSn0
P31	GPIO1_B3/I2C4_SDA	I/O	I	up	33k-88k	58k	3,6,9,12	3	I2C serial port 4,for MEMS,need external pull-up	I2C4_SDA	I2C_SDA_MEMS
P30	GPIO1_B4/I2C4_SCL	I/O	I	up	33k-88k	58k	3,6,9,12	3	I2C serial port 4,for MEMS,need external pull-up	I2C4_SCL	I2C_SCL_MEMS
M24	GPIO1_B5	I/O	I	down	34k-93k	60k	3,6,9,12	3	LCD panel power enable	LCD_EN_H	LCD_EN_H
M25	GPIO1_B6/PWM3B_IR	I/O	I	down	34k-93k	60k	3,6,9,12	3	GPU Power sleep enable control	GPU_SLEEP	GPU_SLEEP
M26	GPIO1_B7/SPI3_RXD/I2C0_SDA	I/O	I	up	33k-88k	58k	3,6,9,12	3	I2C serial port 0,for PMIC,need external pull-up	I2C_SDA_PMIC	I2C_SDA_PMIC
N30	GPIO1_C0/SPI3_TXD/I2C0_SCL	I/O	I	up	33k-88k	58k	3,6,9,12	3	I2C serial port 0,for PMIC,need external pull-up	I2C_SCL_PMIC	I2C_SCL_PMIC
M27	GPIO1_C1/SPI3_CLK	I/O	I	down	34k-93k	60k	3,6,9,12	3	CPU Power sleep enable control	CPU_B_SLEEP	CPU_B_SLEEP
N31	GPIO1_C2/SPI3_CS0	I/O	I	up	33k-88k	58k	3,6,9,12	3	Gasgauge interruput input Motor power enable CC controler over current flag	ALRT_H	Motor_PWR
M28	GPIO1_C3/PWM2	I/O	I	down	34k-93k	60k	3,6,9,12	3	Power dynamic voltage scaling control for LOGIC/CENTERLOG	LOG_DVS_PWM	LOG_DVS_PWM
M29	GPIO1_C4/I2C8_SDA	I/O	I	up	33k-88k	58k	3,6,9,12	3	Touch pannel interrupt input	DNP	TOUCH_INT_L
M30	GPIO1_C5/I2C8_SCL	I/O	I	up	33k-88k	58k	3,6,9,12	3	PMIC interrupt input	PMIC_INT_L	PMIC_INT_L
L25	GPIO1_C6/DFTJTAG_TDI/TCPD_VBUS_SOURCE0	I/O	I	down	34k-93k	60k	3,6,9,12	6	G-sensor interrupt input	GSENSOR_INT_L	GSENSOR_INT_L
M31	GPIO1_C7/DFTJTAG_TDO/TCPD_VBUS_SOURCE1	I/O	I	down	34k-93k	60k	3,6,9,12	6	Adapter insert detect input	CHARG_OK_H	DC_DET_H
L26	GPIO1_D0/DFTJTAG_CLK/TCPD_VBUS_SOURCE2	I/O	I	down	34k-93k	60k	3,6,9,12	6	Gyroscope interrupt input FUSB302 interrupt input for Type-C1	GYR_INT_L	GYR_INT_L
AA24	DFTJTAG_TMS	I/O	I	up	33k-88k	58k				DNP	DNP
AB24	DFTJTAG_TRSTN	I/O	I	down	34k-93k	60k				DNP	DNP
N23	PMUIO2_VDDPST	P	N/A	N/A					PMUIO2 Post-Driver power supply	VCC_1V8	VCC_1V5
P23	PMUIO2_VDD	P	N/A	N/A					PMUIO2 digital I/O power supply	VCC_1V8	VCC_3V0

Pin No.	Pin Name	Pin Type	I/O Def	I/O Pull	Pull Resistor	Nom Pull Resistor	Drive Current (mA)	Default Drive (mA)	Description	Tablet/VR REF	Excavator/BOX
PART L	**APIO2(1.8 or 3.0V I/O)**									**VCC_1V8 mode**	**VCC_3V0 mode**
G31	GPIO2_A0/VOP_D0/CIF_D0/I2C2_SDA	I/O	I	up	33k-88k	58k	3,6,9,12	3	Camera data port	CIF_D0	GPIO2_A0/CIF_D0/I2C2_SDA
H25	GPIO2_A1/VOP_D1/CIF_D1/I2C2_SCL	I/O	I	up	33k-88k	58k	3,6,9,12	3	Camera data port	CIF_D1	GPIO2_A1/CIF_D1 /I2C2_SCL
H30	GPIO2_A2/VOP_D2/CIF_D2	I/O	I	down	34k-93k	60k	3,6,9,12	3	Camera data port	CIF_D2	GPIO2_A2/CIF_D2
F28	GPIO2_A3/VOP_D3/CIF_D3	I/O	I	down	34k-93k	60k	3,6,9,12	3	Camera data port	CIF_D3	GPIO2_A3/CIF_D3
H29	GPIO2_A4/VOP_D4/CIF_D4	I/O	I	down	34k-93k	60k	3,6,9,12	3	Camera data port	CIF_D4	GPIO2_A4/CIF_D4
F29	GPIO2_A5/VOP_D5/CIF_D5	I/O	I	down	34k-93k	60k	3,6,9,12	3	Camera data port	CIF_D5	GPIO2_A5/CIF_D5
H27	GPIO2_A6/VOP_D6/CIF_D6	I/O	I	down	34k-93k	60k	3,6,9,12	3	Camera data port	CIF_D6	GPIO2_A6/CIF_D6
G30	GPIO2_A7/VOP_D7/CIF_D7/I2C7_SDA	I/O	I	up	33k-88k	58k	3,6,9,12	3	Camera data port	CIF_D7	GPIO2_A7/CIF_D7/I2C7_SDA
H28	GPIO2_B0/VOP_CLK/CIF_VSYNC/I2C7_SCL	I/O	I	up	33k-88k	58k	3,6,9,12	3	Camera vsync input	CIF_VSYNC	GPIO2_B0/CIF_VSYNC/I2C7_SCL
F30	GPIO2_B1/SPI2_RXD/CIF_HREF/I2C6_SDA	I/O	I	up	33k-88k	58k	3,6,9,12	3	Camera href input I2C serial port 6,for battery,need external pull-up	CIF_HREF	GPIO2_B1/CIF_HREF/ I2C6_SDA/SPI2_RXD
H24	GPIO2_B2/SPI2_TXD/CIF_CLKIN/I2C6_SCL	I/O	I	up	33k-88k	58k	3,6,9,12	3	Camera clock input I2C serial port 6,for battery,need external pull-up	CIF_CLKI	GPIO2_B2/CIF_CLKI / I2C6_SCL/SPI2_TXD
H31	GPIO2_B3/SPI2_CLK/VOP_DEN/CIF_CLKOUT	I/O	I	up	33k-88k	58k	3,6,9,12	3	Camera clock output	CIF_CLKO	GPIO2_B3/CIF_CLKO /SPI2_CLK
F31	GPIO2_B4/SPI2_CSN0	I/O	I	up	33k-88k	58k	3,6,9,12	3	Camera power down control output for front	DVP_PDN0_H	GPIO2_B4/DVP_PDN0_H /SPI2_CSN
J24	APIO2_VDDPST	P	N/A	N/A					APIO2 Post-Driver power supply	VCC_1V8	VCC_1V5
K23	APIO2_VDD	P	N/A	N/A					APIO2 digital I/O power supply	VCC_1V8	VCC_3V0
PART G	**APIO3 (1.8V only I/O)**									**VCC_1V8 mode**	**VCC_1V8 mode**
AE9	GPIO2_C0/UART0_RX	I/O	I	up	54k-120k	80k	5,10,15,20	5	UART0 serial port, for BT module	UART0_RXD	UART0_RXD
AH8	GPIO2_C1/UART0_TX	I/O	I	up	54k-121k	81k	5,10,15,20	5	UART0 serial port, for BT module	UART0_TXD	UART0_TXD
AG8	GPIO2_C2/UART0_CTSN	I/O	I	up	54k-122k	82k	5,10,15,20	5	UART0 serial port, for BT module	UART0_CTS	UART0_CTS
AL5	GPIO2_C3/UART0_RTSN	I/O	I	up	54k-123k	83k	5,10,15,20	5	UART0 serial port, for BT module	UART0_RTS	UART0_RTS
AD8	GPIO2_C4/SDIO0_D0/SPI5_RXD	I/O	I	up	54k-124k	84k	5,10,15,20	5	SDIO0 data port ,for WIFI module	SDIO0_D0	SDIO0_D0
AK5	GPIO2_C5/SDIO0_D1/SPI5_TXD	I/O	I	up	54k-125k	85k	5,10,15,20	5	SDIO0 data port ,for WIFI module	SDIO0_D1	SDIO0_D1
AG7	GPIO2_C6/SDIO0_D2/SPI5_CLK	I/O	I	up	54k-126k	86k	5,10,15,20	5	SDIO0 data port ,for WIFI module	SDIO0_D2	SDIO0_D2
AE8	GPIO2_C7/SDIO0_D3/SPI5_CSN0	I/O	I	up	54k-127k	87k	5,10,15,20	5	SDIO0 data port ,for WIFI module	SDIO0_D3	SDIO0_D3
AH6	GPIO2_D0/SDIO0_CMD	I/O	I	up	54k-128k	88k	5,10,15,20	5	SDIO0 command output,for WIFI module	SDIO0_CMD	SDIO0_CMD
AF7	GPIO2_D1/SDIO0_CLKOUT/TEST_CLKOUT1	I/O	I	up	54k-129k	89k	5,10,15,20	5	SDIO0 clock output,for WIFI module	SDIO0_CLK	SDIO0_CLK
AL4	GPIO2_D2/SDIO0_DETN/PCIE_CLKREQN	I/O	I	up	54k-130k	90k	5,10,15,20	5	AP wake up BT module	BT_WAKE_L	BT_WAKE_L

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Pin No.	Pin Name	Pin Type	I/O Def	I/O Pull	Pull Resistor	Nom Pull Resistor	Drive Current (mA)	Default Drive (mA)	Description	Tablet/VR REF	Excavator/BOX
AD9	GPIO2_D3/SDIO0_PWREN	I/O	I	down	55k-176k	95k	5,10,15,20	5	MIPI camera reset output MEMSl interrupt input	Camera_RST_L	DNP
AF8	GPIO2_D4/SDIO0_BKPWR	I/O	I	down	55k-176k	95k	5,10,15,20	5	Camera power down control output for rear	DVP_PDN1_H	DVP_PDN1_H
AB8	APIO3_VDDPST	P	N/A	N/A					APIO3 Post-Driver power supply	VCC_1V8	VCC_1V8
PART I	APIO1(3.3V only I/O)									VCC_3V3 mode	VCC_3V3 mode
F24	GPIO3_A0/MAC_TXD2/SPI4_RXD	I/O	I	down	27k-102k	48k	4,7,10,13,16,19,22,26	4	MAC transmit data		MAC_TXD2
H23	GPIO3_A1/MAC_TXD3/SPI4_TXD	I/O	I	down	27k-102k	48k	4,7,10,13,16,19,22,26	4	MAC transmit data	CABC_EN	MAC_TXD3
E30	GPIO3_A2/MAC_RXD2/SPI4_CLK	I/O	I	up	26k-71k	46k	4,7,10,13,16,19,22,26	4	MAC receive data		MAC_RXD2
E25	GPIO3_A3/MAC_RXD3/SPI4_CSN0	I/O	I	up	26k-71k	46k	4,7,10,13,16,19,22,26	4	MAC receive data		MAC_RXD3
D26	GPIO3_A4/MAC_TXD0/SPI0_RXD	I/O	I	down	27k-102k	48k	4,7,10,13,16,19,22,26	4	MAC transmit data	LCD_RST	MAC_TXD0
G23	GPIO3_A5/MAC_TXD1/SPI0_TXD	I/O	I	down	27k-102k	48k	4,7,10,13,16,19,22,26	4	MAC transmit data		MAC_TXD1
E26	GPIO3_A6/MAC_RXD0/SPI0_CLK	I/O	I	up	26k-71k	46k	4,7,10,13,16,19,22,26	4	MAC receive data		MAC_RXD0
F27	GPIO3_A7/MAC_RXD1/SPI0_CSN0	I/O	I	up	26k-71k	46k	4,7,10,13,16,19,22,26	4	MAC receive data		MAC_RXD1
E29	GPIO3_B0/MAC_MDC/SPI0_CSN1	I/O	I	up	26k-71k	46k	4,7,10,13,16,19,22,26	4	MAC management clock		MAC_MDC
C27	GPIO3_B1/MAC_RXDV	I/O	I	down	27k-102k	48k	4,7,10,13,16,19,22,26	4	MAC receive data valid		MAC_RXDV
F23	GPIO3_B2/MAC_RXER/I2C5_SDA	I/O	I	up	26k-71k	46k	4,7,10,13,16,19,22,26	4	MAC receive error I2C serial port 4,need external pull-up	I2C_SDA_TP	MAC_RXER
G24	GPIO3_B3/MAC_CLK/I2C5_SCL	I/O	I	up	26k-71k	46k	4,7,10,13,16,19,22,26	4	MAC reference clock output I2C serial port 4,need external pull-up	I2C_SCL_TP	MAC_MCLK
H22	GPIO3_B4/MAC_TXEN/UART1_RX	I/O	I	up	26k-71k	46k	4,7,10,13,16,19,22,26	4	MAC transmit enable AP wake up PCIE	TOUCH_RST_L	MAC_TXEN
G26	GPIO3_B5/MAC_MDIO/UART1_TX	I/O	I	up	26k-71k	46k	4,7,10,13,16,19,22,26	4	MAC management command and data PCIE reset input	TOUCH_INT_L	MAC_MDIO
F25	GPIO3_B6/MAC_RXCLK/UART3_TX	I/O	I	up	26k-71k	46k	4,7,10,13,16,19,22,26	4	MAC receive clock		MAC_RXCLK
B27	GPIO3_B7/MAC_CRS/UART3_RX	I/O	I	up	26k-71k	46k	4,7,10,13,16,19,22,26	4	MAC carrier sense detect		MAC_CRS
D27	GPIO3_C0/MAC_COL/UART3_CTSN	I/O	I	up	26k-71k	46k	4,7,10,13,16,19,22,26	4	MAC collision detect		MAC_COL

Pin No.	Pin Name	Pin Type	I/O Def	I/O Pull	Pull Resistor	Nom Pull Resistor	Drive Current (mA)	Default Drive (mA)	Description	Tablet/VR REF	Excavator/BOX
E28	GPIO3_C1/MAC_TXCLK/UART3_RTSN	I/O	I	up	26k-71k	46k	4,7,10,13,16, 19,22,26	4	MAC transmit clock		MAC_TXCLK
J22	APIO1_VDDPST	P	N/A	N/A					APIO1 Post-Driver power supply	VCC1V8_S3	VCC1V8_S3
J23	APIO1_VDD	P	N/A	N/A					APIO1 digital I/O power supply	VCC3V3_S3	VCC3V3_S3
PART J	**APIO5(1.8 or 3.0V I/O)**									**VCC_1V8 mode**	**VCC_1V8 mode**
AG3	GPIO3_D0/I2S0_SCLK	I/O	I	down	34k-93k	60k	3,6,9,12	3	I2S 0 port, for audio codec	I2S0_SCLK	I2S0_SCLK
AF4	GPIO3_D1/I2S0_LRCK_RX	I/O	I	down	34k-93k	60k	3,6,9,12	3	I2S 0 port, for audio codec	I2S0_LRCK_RX	I2S0_LRCK_RX
AJ2	GPIO3_D2/I2S0_LRCK_TX	I/O	I	down	34k-93k	60k	3,6,9,12	3	I2S 0 port, for audio codec	I2S0_LRCK_TX	I2S0_LRCK_TX
Y7	GPIO3_D3/I2S0_SDI0	I/O	I	down	34k-93k	60k	3,6,9,12	3	I2S 0 port, for audio codec	I2S0_SDI0	I2S0_SDI0
AE5	GPIO3_D4/I2S0_SDI1SDO3	I/O	I	down	34k-93k	60k	3,6,9,12	3	I2S 0 port, for audio codec	I2S0_SDI1	I2S0_SDI1
AA6	GPIO3_D5/I2S0_SDI2SDO2	I/O	I	down	34k-93k	60k	3,6,9,12	3	I2S 0 port, for audio codec	I2S0_SDO2	I2S0_SDI2
AH2	GPIO3_D6/I2S0_SDI3SDO1	I/O	I	down	34k-93k	60k	3,6,9,12	3	I2S 0 port, for audio codec	I2S0_SDO1	I2S0_SDI3
AH1	GPIO3_D7/I2S0_SDO0	I/O	I	down	34k-93k	60k	3,6,9,12	3	I2S 0 port, for audio codec	I2S0_SDO0	I2S0_SDO0
AC7	GPIO4_A0/I2S_CLK	I/O	I	down	34k-93k	60k	3,6,9,12	3	I2S MCLK, for both I2S0 and I2S1	I2S_MCLK	I2S_MCLK
AG1	GPIO4_A1/I2C1_SDA	I/O	I	up	33k-88k	58k	3,6,9,12	3	I2C serial port 1,for Audio,need external pull-up	I2C1_SDA	I2C_SDA_AUDIO
Y6	GPIO4_A2/I2C1_SCL	I/O	I	up	33k-88k	58k	3,6,9,12	3	I2C serial port 1,for Audio,need external pull-up	I2C1_SCL	I2C_SCL_AUDIO
AF3	GPIO4_A3/I2S1_SCLK	I/O	I	down	34k-93k	60k	3,6,9,12	3	HDMI input power enable for VCC1V8 I2S 1 port, for BT module	HDMIIN_PWREN18	I2S1_SCLK_BT_PCM
AA7	GPIO4_A4/I2S1_LRCK_RX	I/O	I	down	34k-93k	60k	3,6,9,12	3	HDMI input reset output I2S 1 port, for BT module	HDMIIN_RST	I2S1_LRCK_RX_BT_PCM
AJ1	GPIO4_A5/I2S1_LRCK_TX	I/O	I	down	34k-93k	60k	3,6,9,12	3	HDMI input interrupt input I2S 1 port, for BT module	HDMIIN_INT	I2S1_LRCK_TX_BT_PCM
AD6	GPIO4_A6/I2S1_SDI0	I/O	I	down	34k-93k	60k	3,6,9,12	3	HDMI input standby enable I2S 1 port, for BT module	HDMIIN_STBY	I2S1_SDI0_BT_PCM
AC6	GPIO4_A7/I2S1_SDO0	I/O	I	down	34k-93k	60k	3,6,9,12	3	I2S 1 port, for BT module	HDMIIN_PWREN33	I2S1_SDO0_BT_PCM
AA8	APIO5_VDDPST	P	N/A	N/A					APIO5 Post-Driver power supply	VCCA1V8_CODEC	VCCA1V8_CODEC
Y8	APIO5_VDD	P	N/A	N/A					APIO5 digital I/O power supply	VCCA1V8_CODEC	VCCA1V8_CODEC
PART F	**SDMMC0 (1.8V/3.0V auto)**									**VCCIO_SD=AUTO**	**VCCIO_SD=AUTO**
Y27	GPIO4_B0/SDMMC0_D0/UART2DBG_RX	I/O	I	up	33k-88k	58k	4,6,8,10,12,1 4,16,18	6	SDMMC0 data port	SDMMC0_D0	SDMMC0_D0
Y26	GPIO4_B1/SDMMC0_D1/UART2DBG_TX	I/O	I	up	33k-88k	58k	4,6,8,10,12,1 4,16,18	6	SDMMC0 data port	SDMMC0_D1	SDMMC0_D1
Y28	GPIO4_B2/SDMMC0_D2/APJTAG_TCK	I/O	I	up	33k-88k	58k	4,6,8,10,12,1 4,16,18	6	SDMMC0 data port JTAG TCK for AP	SDMMC0_D2 APJTAG_TCK	SDMMC0_D2 APJTAG_TCK
U27	GPIO4_B3/SDMMC0_D3/APJTAG_TMS	I/O	I	up	33k-88k	58k	4,6,8,10,12,1 4,16,18	6	SDMMC0 data port JTAG TMS for AP	SDMMC0_D3 APJTAG_TMS	SDMMC0_D3 APJTAG_TMS
V29	GPIO4_B4/SDMMC0_CLKOUT/MCUJTAG_TCK	I/O	I	down	34k-93k	60k	4,6,8,10,12,1 4,16,18	6	SDMMC0 clock output JTAG TCK for MCU	SDMMC0_CLKO MCUJTAG_TCK	SDMMC0_CLKO MCUJTAG_TCK

RK3399 I/O LIST（Open Source Board）

Pin No.	Pin Name	Pin Type	I/O Def	I/O Pull	Pull Resistor	Nom Pull Resistor	Drive Current (mA)	Default Drive (mA)	Description	Tablet/VR REF	Excavator/BOX
V25	GPIO4_B5/SDMMC0_CMD/MCUJTAG_TMS	I/O	I	up	33k-88k	58k	4,6,8,10,12,14,16,18	6	SDMMC0 command output JTAG TMS for MCU	SDMMC0_CMD MCUJTAG_TMS	SDMMC0_CMD MCUJTAG_TMS
U26	SDMMC0_VDDPST	P	N/A	N/A					SDMMC0 Post-Driver power supply	SDMMC0_VDDPST	SDMMC0_VDDPST
T23	SDMMC0_VDD	P	N/A	N/A					SDMMC0 digital I/O power supply	SDMMC0_VDD	VCC_SDIO
PART K	**APIO4(1.8 or 3.0V IO)**									**VCC_3V0 mode**	**VCC_3V0 mode**
AG6	GPIO4_C0/I2C3_SDA_HDMI/UART2DBG_RX	I/O	I	up	33k-89k	59k	3,6,9,12	3	I2C serial port 3,for HDMI,need external pull-up	I2C_SDA_HDMI	I2C_SDA_HDMI
AL2	GPIO4_C1/I2C3_SCL_HDMI/UART2DBG_TX	I/O	I	up	33k-89k	59k	3,6,9,12	3	I2C serial port 3,for HDMI,need external pull-up	I2C_SCL_HDMI	I2C_SCL_HDMI
AF5	GPIO4_C2/PWM0/VOP1_PWM_CABC	I/O	I	down	34k-95k	61k	3,6,9,12	3	LCD panel backlight brightness control output	LCD_BL_PWM	LCD_BL_PWM
AK2	GPIO4_C3/UART2DBG_RX	I/O	I	up	33k-89k	59k	3,6,9,12	3	Uart2 serial port data input,for AP debug	UART2_RXD	UART2_RXD
AJ4	GPIO4_C4/UART2DBG_TX	I/O	I	up	33k-89k	59k	3,6,9,12	3	Uart2 serial port data output,for AP debug	UART2_TXD	UART2_TXD
AK1	GPIO4_C5/SPDIF_TX	I/O	I	down	34k-95k	61k	3,6,9,12	3	HDMI digital audio potical output		SPDIF_TX
AL3	GPIO4_C6/PWM1	I/O	I	down	34k-95k	61k	3,6,9,12	3	Touch panel reset input		TOUCH_RST_L
AD7	GPIO4_C7/HDMI_CECINOUT/EDP_HOTPLUG	I/O	I	up	33k-89k	59k	3,6,9,12	3	HDMI CEC communication	HDMI_CEC	HDMI_CEC
AE6	GPIO4_D0/PCIE_CLKREQN	I/O	I	up	33k-89k	59k	3,6,9,12	3	ALS sensor interrupt input	LIGHT_INT_L	LIGHT_INT_L
AK4	GPIO4_D1/DP_HOTPLUG	I/O	I	down	34k-95k	61k	3,6,9,12	3	USB HOST power control output	VCC5V0_HOST_EN	VCC5V0_HOST_EN
AH3	GPIO4_D2	I/O	I	down	34k-95k	61k	3,6,9,12	3	Camera power down control output for rear		
AK3	GPIO4_D3	I/O	I	down	34k-95k	61k	3,6,9,12	3	EFUSE VPQS power control output	EFUSE_VQPS_EN_H	EFUSE_VQPS_EN_H
AH5	GPIO4_D4	I/O	I	down	34k-95k	61k	3,6,9,12	3	Headphone insert detect input	HP_DET_H	HP_DET_H
AJ3	GPIO4_D5	I/O	I	down	34k-95k	61k	3,6,9,12	3	LCD panel CABC enable LCD panel reset output		CABC_EN
AG4	GPIO4_D6	I/O	I	down	34k-95k	61k	3,6,9,12	3	LCD panel reset output PCIE PRSNT		LCD_RST_H
AC8	APIO4_VDDPST	P	N/A	N/A					APIO4 Post-Driver power supply	VCC_1V5	VCC_1V5
AC9	APIO4_VDD	P	N/A	N/A					APIO4 digital I/O power supply	VCC_3V0	VCC_3V0
PART V	**SAR ADC**										
AG26	ADC_IN0	A	N/A	N/A			N/A		Battery voltage input Board ID detect input	BATT_TC_L	BOARD_ID
AH26	ADC_IN1	A	N/A	N/A			N/A		AD keyboard input	ADKEY_IN	ADKEY_IN
AG25	ADC_IN2	A	N/A	N/A			N/A		Headphone	HP_HOOK	HP_HOOK
AG28	ADC_IN3	A	N/A	N/A			N/A		DRAM ID detect input		RAM_ID
AH27	ADC_IN4	A	N/A	N/A			N/A		VDD_GPU voltage detect input		BATT_TC_L
AC24	ADC_AVDD_1V8	AP	N/A	N/A			N/A		SAR-ADC analog power supply	VCCA1V8_S3	VCCA1V8_S3
PART M	**eDP PHY**										
B29	EDP_TX0P	A	N/A	N/A			N/A		eDP differential lane 0 positive output	EDP_TX0P	EDP_TX0P
A29	EDP_TX0N	A	N/A	N/A			N/A		eDP differential lane 0 negative output	EDP_TX0N	EDP_TX0N
B30	EDP_TX1P	A	N/A	N/A			N/A		eDP differential lane 1 positive output	EDP_TX1P	EDP_TX1P
A30	EDP_TX1N	A	N/A	N/A			N/A		eDP differential lane 1 negative output	EDP_TX1N	EDP_TX1N

Pin No.	Pin Name	Pin Type	I/O Def	I/O Pull	Pull Resistor	Nom Pull Resistor	Drive Current (mA)	Default Drive (mA)	Description	Tablet/VR REF	Excavator/BOX
C30	EDP_TX2P	A	N/A	N/A			N/A		eDP differential lane 2 positive output	EDP_TX2P	EDP_TX2P
C31	EDP_TX2N	A	N/A	N/A			N/A		eDP differential lane 2 negative output	EDP_TX2N	EDP_TX2N
D30	EDP_TX3P	A	N/A	N/A			N/A		eDP differential lane 3 positive output	EDP_TX3P	EDP_TX3P
D31	EDP_TX3N	A	N/A	N/A			N/A		eDP differential lane 3 negative output	EDP_TX3N	EDP_TX3N
B28	EDP_AUXP	A	N/A	N/A			N/A		eDP differential AUX channel negative output	EDP_AUXP	EDP_AUXP
A28	EDP_AUXN	A	N/A	N/A			N/A		eDP differential AUX channel positive output	EDP_AUXN	EDP_AUXN
G20	EDP_TP_OUT	A	N/A	N/A			N/A		eDP dc test point	EDP_TP_OUT	EDP_TP_OUT
H21	EDP_CLK24M_IN	A	N/A	N/A			N/A		eDP 24M input reference clock	EDP_CLK24M_IN	EDP_CLK24M_IN
G21	EDP_REXT	A	N/A	N/A			N/A		eDP reference current generate,floating and it connect a 12K%1 resistor to VSS internal.	EDP_REXT	EDP_REXT
H20	EDP_AVDD_0V9	P	N/A	N/A			N/A		eDP analog power supply	EDP_AVDD_0V9	VCC0V9_S3
J19	EDP_AVDD_1V8_1	P	N/A	N/A			N/A		eDP analog power supply	EDP_AVDD_1V8	VCC1V8_S3
J20	EDP_AVDD_1V8_2	P	N/A	N/A			N/A		eDP analog power supply	EDP_AVDD_1V8	VCC1V8_S3
B31	EDP_AVSS_1	G	N/A	N/A					eDP analog power ground	EDP_AVSS	EDP_AVSS
C28	EDP_AVSS_2	G	N/A	N/A					eDP analog power ground	EDP_AVSS	EDP_AVSS
C29	EDP_AVSS_3	G	N/A	N/A					eDP analog power ground	EDP_AVSS	EDP_AVSS
D29	EDP_AVSS_4	G	N/A	N/A					eDP analog power ground	EDP_AVSS	EDP_AVSS
H19	EDP_AVSS_5	G	N/A	N/A					eDP analog power ground	EDP_AVSS	EDP_AVSS
J21	EDP_AVSS_6	G	N/A	N/A					eDP analog power ground	EDP_AVSS	EDP_AVSS
PART N	HDMI PHY										
AK17	HDMI_TX0P	A	N/A	N/A			N/A		HDMI channel 0 differential serial data positive	HDMI_TX0P	HDMI_TX0P
AL17	HDMI_TX0N	A	N/A	N/A			N/A		HDMI channel 0 differential serial data negative	HDMI_TX0N	HDMI_TX0N
AK18	HDMI_TX1P	A	N/A	N/A			N/A		HDMI channel 1 differential serial data positive	HDMI_TX1P	HDMI_TX1P
AL18	HDMI_TX1N	A	N/A	N/A			N/A		HDMI channel 1 differential serial data negative	HDMI_TX1N	HDMI_TX1N
AK19	HDMI_TX2P	A	N/A	N/A			N/A		HDMI channel 2 differential serial data positive	HDMI_TX2P	HDMI_TX2P
AL19	HDMI_TX2N	A	N/A	N/A			N/A		HDMI channel 2 differential serial data negative	HDMI_TX2N	HDMI_TX2N
AK16	HDMI_TCP	A	N/A	N/A			N/A		HDMI differential pixel clock positive	HDMI_TCP	HDMI_TCP
AL16	HDMI_TCN	A	N/A	N/A			N/A		HDMI differential pixel clock negative	HDMI_TCN	HDMI_TCN
AE15	HDMI_HPD	A	N/A	N/A			N/A		HDMI Hot Plug Detection interrupt with 5V tolerance	HDMI_HPD	HDMI_HPD
AF15	HDMI_REXT	A	N/A	N/A			N/A		HDMI reference current generate,connect a 1.62K%1 resistor to VSS.	HDMI_REXT	HDMI_REXT
AA16	HDMI_AVDD_0V9_1	A	N/A	N/A			N/A		HDMI analog power supply	HDMI_AVDD_0V9	VCCA0V9_S3
AA17	HDMI_AVDD_0V9_2	P	N/A	N/A			N/A		HDMI analog power supply	HDMI_AVDD_0V9	VCCA0V9_S3

Pin No.	Pin Name	Pin Type	I/O Def	I/O Pull	Pull Resistor	Nom Pull Resistor	Drive Current (mA)	Default Drive (mA)	Description	Tablet/VR REF	Excavator/BOX
AD16	HDMI_AVDD_1V8	P	N/A	N/A			N/A		HDMI analog power supply	HDMI_AVDD_1V8	VCCA1V8_S3
PART O	**PCIE PHY**										
AE30	PCIE_TX_0P	A	N/A	N/A			N/A		PCIE differential lane 0 positive output	PCIE_TX_0P	PCIE_TX_0P
AE31	PCIE_TX_0N	A	N/A	N/A			N/A		PCIE differential lane 0 negative output	PCIE_TX_0N	PCIE_TX_0N
AF30	PCIE_RX_0P	A	N/A	N/A			N/A		PCIE differential lane 0 positive input	PCIE_RX_0P	PCIE_RX_0P
AF31	PCIE_RX_0N	A	N/A	N/A			N/A		PCIE differential lane 0 negative input	PCIE_RX_0N	PCIE_RX_0N
AG30	PCIE_TX_1P	A	N/A	N/A			N/A		PCIE differential lane 1 positive output	PCIE_TX_1P	PCIE_TX_1P
AG31	PCIE_TX_1N	A	N/A	N/A			N/A		PCIE differential lane 1 negative output	PCIE_TX_1N	PCIE_TX_1N
AH30	PCIE_RX_1P	A	N/A	N/A			N/A		PCIE differential lane 1 positive input	PCIE_RX_1P	PCIE_RX_1P
AH31	PCIE_RX_1N	A	N/A	N/A			N/A		PCIE differential lane 1 negative input	PCIE_RX_1N	PCIE_RX_1N
AA27	PCIE_TX_2P	A	N/A	N/A			N/A		PCIE differential lane 2 positive output	PCIE_TX_2P	PCIE_TX_2P
AA28	PCIE_TX_2N	A	N/A	N/A			N/A		PCIE differential lane 2 negative output	PCIE_TX_2N	PCIE_TX_2N
AC27	PCIE_RX_2P	A	N/A	N/A			N/A		PCIE differential lane 2 positive input	PCIE_RX_2P	PCIE_RX_2P
AC28	PCIE_RX_2N	A	N/A	N/A			N/A		PCIE differential lane 2 negative input	PCIE_RX_2N	PCIE_RX_2N
AD27	PCIE_TX_3P	A	N/A	N/A			N/A		PCIE differential lane 3 positive output	PCIE_TX_3P	PCIE_TX_3P
AD28	PCIE_TX_3N	A	N/A	N/A			N/A		PCIE differential lane 3 negative output	PCIE_TX_3N	PCIE_TX_3N
AF27	PCIE_RX_3P	A	N/A	N/A			N/A		PCIE differential lane 3 positive input	PCIE_RX_3P	PCIE_RX_3P
AF28	PCIE_RX_3N	A	N/A	N/A			N/A		PCIE differential lane 3 negative input	PCIE_RX_3N	PCIE_RX_3N
AD31	PCIE_RCLK_100M_P	A	N/A	N/A			N/A		PCIE 100MHz reference clock as input to PLL	PCIE_RCLK_100M_P	PCIE_RCLK_100M_P
AD30	PCIE_RCLK_100M_N	A	N/A	N/A			N/A		PCIE 100MHz reference clock as input to PLL	PCIE_RCLK_100M_N	PCIE_RCLK_100M_N
W24	PCIE_AVDD_0V9	P	N/A	N/A					PCIE analog power supply	PCIE_AVDD_0V9	VCCA0V9_S3
Y24	PCIE_AVDD_1V8	P	N/A	N/A					PCIE analog power supply	PCIE_AVDD_1V8	VCCA1V8_S3
PART P	**MIPI TX/RX PHY**										
AK6	MIPI_TX1/RX1_D0P	P	N/A	N/A			N/A		MIPI-DSI1/CSI1 differential lane 0 positive	MIPI_TX1/RX1_D0P	MIPI_TX1/RX1_D0P
AL6	MIPI_TX1/RX1_D0N	A	N/A	N/A			N/A		MIPI-DSI1/CSI1 differential lane 0 negative	MIPI_TX1/RX1_D0N	MIPI_TX1/RX1_D0N
AK7	MIPI_TX1/RX1_D1P	A	N/A	N/A			N/A		MIPI-DSI1/CSI1 differential lane 1 positive	MIPI_TX1/RX1_D1P	MIPI_TX1/RX1_D1P
AL7	MIPI_TX1/RX1_D1N	A	N/A	N/A			N/A		MIPI-DSI1/CSI1 differential lane 1 negative	MIPI_TX1/RX1_D1N	MIPI_TX1/RX1_D1N
AK8	MIPI_TX1/RX1_CLKP	A	N/A	N/A			N/A		MIPI-DSI1/CSI1 differential clock lane positive	MIPI_TX1/RX1_CLKP	MIPI_TX1/RX1_CLKP
AL8	MIPI_TX1/RX1_CLKN	A	N/A	N/A			N/A		MIPI-DSI1/CSI1 differential clock lane negative	MIPI_TX1/RX1_CLKN	MIPI_TX1/RX1_CLKN
AK9	MIPI_TX1/RX1_D2P	A	N/A	N/A			N/A		MIPI-DSI1/CSI1 differential lane 2 positive	MIPI_TX1/RX1_D2P	MIPI_TX1/RX1_D2P
AL9	MIPI_TX1/RX1_D2N	A	N/A	N/A			N/A		MIPI-DSI1/CSI1 differential lane 2 negative	MIPI_TX1/RX1_D2N	MIPI_TX1/RX1_D2N
AK10	MIPI_TX1/RX1_D3P	A	N/A	N/A			N/A		MIPI-DSI1/CSI1 differential lane 3 positive	MIPI_TX1/RX1_D3P	MIPI_TX1/RX1_D3P
AL10	MIPI_TX1/RX1_D3N	A	N/A	N/A			N/A		MIPI-DSI1/CSI1 differential lane 3 negative	MIPI_TX1/RX1_D3N	MIPI_TX1/RX1_D3N
AF11	MIPI_TX1/RX1_REXT	A	N/A	N/A			N/A		MIPI-DSI1/CSI1 reference current generate,connect a 4.02K%1 resistor to VSS	MIPI_TX1/RX1_REXT	MIPI_TX1/RX1_REXT

Pin No.	Pin Name	Pin Type	I/O Def	I/O Pull	Pull Resistor	Nom Pull Resistor	Drive Current (mA)	Default Drive (mA)	Description	Tablet/VR REF	Excavator/BOX
AC10	MIPI_TX1/RX1_AVDD_1V8	P	N/A	N/A			N/A		MIPI-DSI1/CSI1 analog power supply	MIPI_TX1/RX1_AVDD_1V8	VCC1V8_S3
PART Q	**MIPI TX PHY**										
AG15	MIPI_TX0_D0P	P	N/A	N/A			N/A		MIPI-DSI0 differential lane 0 positive	MIPI_TX0_D0P	MIPI_TX0_D0P
AH15	MIPI_TX0_D0N	A	N/A	N/A			N/A		MIPI-DSI0 differential lane 0 negative	MIPI_TX0_D0N	MIPI_TX0_D0N
AG14	MIPI_TX0_D1P	A	N/A	N/A			N/A		MIPI-DSI0 differential lane 1 positive	MIPI_TX0_D1P	MIPI_TX0_D1P
AH14	MIPI_TX0_D1N	A	N/A	N/A			N/A		MIPI-DSI0 differential lane 1 negative	MIPI_TX0_D1N	MIPI_TX0_D1N
AG12	MIPI_TX0_CLKP	A	N/A	N/A			N/A		MIPI-DSI0 differential clock lane positive	MIPI_TX0_CLKP	MIPI_TX0_CLKP
AH12	MIPI_TX0_CLKN	A	N/A	N/A			N/A		MIPI-DSI0 differential clock lane negative	MIPI_TX0_CLKN	MIPI_TX0_CLKN
AG11	MIPI_TX0_D2P	A	N/A	N/A			N/A		MIPI-DSI0 differential lane 2 positive	MIPI_TX0_D2P	MIPI_TX0_D2P
AH11	MIPI_TX0_D2N	A	N/A	N/A			N/A		MIPI-DSI0 differential lane 2 negative	MIPI_TX0_D2N	MIPI_TX0_D2N
AG9	MIPI_TX0_D3P	A	N/A	N/A			N/A		MIPI-DSI0 differential lane 3 positive	MIPI_TX0_D3P	MIPI_TX0_D3P
AH9	MIPI_TX0_D3N	A	N/A	N/A			N/A		MIPI-DSI0 differential lane 3 negative	MIPI_TX0_D3N	MIPI_TX0_D3N
AF12	MIPI_TX0_REXT	A	N/A	N/A			N/A		MIPI-DSI0 reference current generate,connect a 4.02K%1 resistor to VSS	MIPI_TX0_REXT	MIPI_TX0_REXT
AB12	MIPI_TX0_AVDD_1V8	P	N/A	N/A			N/A		MIPI-DSI0 analog power supply	MIPI_TX0_AVDD_1V8	VCC1V8_S3
PART R	**MIPI RX PHY**										
AK15	MIPI_RX0_D0P	A	N/A	N/A			N/A		MIPI-CSI0 differential lane 0 positive	MIPI_RX0_D0P	MIPI_RX0_D0P
AL15	MIPI_RX0_D0N	P	N/A	N/A			N/A		MIPI-CSI0 differential lane 0 negative	MIPI_RX0_D0N	MIPI_RX0_D0N
AK14	MIPI_RX0_D1P	A	N/A	N/A			N/A		MIPI-CSI0 differential lane 1 positive	MIPI_RX0_D1P	MIPI_RX0_D1P
AL14	MIPI_RX0_D1N	A	N/A	N/A			N/A		MIPI-CSI0 differential lane 1 negative	MIPI_RX0_D1N	MIPI_RX0_D1N
AK13	MIPI_RX0_CLKP	A	N/A	N/A			N/A		MIPI-CSI0 differential clock lane positive	MIPI_RX0_CLKP	MIPI_RX0_CLKP
AL13	MIPI_RX0_CLKN	A	N/A	N/A			N/A		MIPI-CSI0 differential clock lane negative	MIPI_RX0_CLKN	MIPI_RX0_CLKN
AK12	MIPI_RX0_D2P	A	N/A	N/A			N/A		MIPI-CSI0 differential lane 2 positive	MIPI_RX0_D2P	MIPI_RX0_D2P
AL12	MIPI_RX0_D2N	A	N/A	N/A			N/A		MIPI-CSI0 differential lane 2 negative	MIPI_RX0_D2N	MIPI_RX0_D2N
AK11	MIPI_RX0_D3P	A	N/A	N/A			N/A		MIPI-CSI0 differential lane 3 positive	MIPI_RX0_D3P	MIPI_RX0_D3P
AL11	MIPI_RX0_D3N	A	N/A	N/A			N/A		MIPI-CSI0 differential lane 3 negative	MIPI_RX0_D3N	MIPI_RX0_D3N
AF14	MIPI_RX0_REXT	A	N/A	N/A			N/A		MIPI-CSI0 reference current generate,connect a 4.02K%1 resistor to VSS	MIPI_RX0_REXT	MIPI_RX0_REXT
AB14	MIPI_RX0_AVDD_1V8	P	N/A	N/A			N/A		MIPI-CSI0 analog power supply	MIPI_RX0_AVDD_1V8	VCC1V8_S3
PART U	**USIC PHY**										
AJ30	USIC_STROBE	A	N/A	N/A			N/A		USIC data strobe signal	USIC_STROBE	USIC_STROBE
AJ31	USIC_DATA	A	N/A	N/A			N/A		USIC DDR data signal	USIC_DATA	USIC_DATA
AD25	USIC_AVDD_0V9	P	N/A	N/A			N/A		USIC analog power supply	USIC_AVDD_0V9	USIC_AVDD_0V9
AD24	USIC_AVDD_1V2	P	N/A	N/A			N/A		USIC analog power supply	USIC_AVDD_1V2	USIC_AVDD_1V2
PART D	**USB 2.0 PHY**										
AB30	HOST0_DP	A	N/A	N/A			N/A		USB HOST0 Data Plus port	HOST0_DP	HOST0_DP
AB31	HOST0_DM	A	N/A	N/A			N/A		USB HOST0 Data Minus port	HOST0_DM	HOST0_DM
AG23	TYPEC0_DP	A	N/A	N/A			N/A		TYPEC0 Data Plus port	TYPEC0_DP	TYPEC0_DP
AH23	TYPEC0_DM	A	N/A	N/A			N/A		TYPEC0 Data Minus port	TYPEC0_DM	TYPEC0_DM

Pin No.	Pin Name	Pin Type	I/O Def	I/O Pull	Pull Resistor	Nom Pull Resistor	Drive Current (mA)	Default Drive (mA)	Description	Tablet/VR REF	Excavator/BOX
AL30	TYPEC0_ID	A	N/A	N/A			N/A		TYPEC0 ID detect input,200kohm internal pull-up to USB_AVDD_1V8	TYPEC0_ID	TYPEC0_ID
AK30	TYPEC0_U2VBUSDET	A	N/A	N/A			N/A		TYPEC0 connected/vbus power detect for USB2.0	TYPEC0_U2VBUSDET	TYPEC0_U2VBUSDET
AC31	USB0_RBIAS	A	N/A	N/A			N/A		USB PHY0(include HOST0&TYPEC0) reference current generate,connect a 133ohm resistor to VSS.	USB0_RBIAS	USB0_RBIAS
AA30	HOST1_DP	A	N/A	N/A			N/A		USB HOST1 Data Plus port	HOST1_DP	HOST1_DP
AA31	HOST1_DM	A	N/A	N/A			N/A		USB HOST1 Data Minus port	HOST1_DM	HOST1_DM
AG24	TYPEC1_DP	A	N/A	N/A			N/A		TYPEC1 Data Plus port	TYPEC1_DP	TYPEC1_DP
AH24	TYPEC1_DM	A	N/A	N/A			N/A		TYPEC1 Data Minus port	TYPEC1_DM	TYPEC1_DM
AE26	TYPEC1_ID	A	N/A	N/A			N/A		TYPEC1 ID detect input,200kohm internal pull-up to USB_AVDD_1V8	TYPEC1_ID	TYPEC1_ID
AK31	TYPEC1_U2VBUSDET	A	N/A	N/A			N/A		TYPEC1 connected/vbus power detect for USB2.0	TYPEC1_U2VBUSDET	TYPEC1_U2VBUSDET
AC30	USB1_RBIAS	A	N/A	N/A			N/A		USB PHY1(include HOST1&TYPEC1) reference current generate,connect a 133ohm resistor to VSS.	USB1_RBIAS	USB1_RBIAS
V24	USB_AVDD_0V9	P	N/A	N/A			N/A		USB analog power supply	USB_AVDD_0V9	USB_AVDD_0V9
U24	USB_AVDD_1V8	P	N/A	N/A			N/A		USB analog power supply	USB_AVDD_1V8	USB_AVDD_1V8
Y25	USB_AVDD_3V3	P	N/A	N/A			N/A		USB analog power supply	USB_AVDD_3V3	USB_AVDD_3V3
PART S	USB TYPEC0 PHY										
AL22	TYPEC0_TX1P	A	N/A	N/A			N/A		TYPEC0 positive half of first SuperSpeed TX differential pair.	TYPEC0_TX1P	TYPEC0_TX1P
AK22	TYPEC0_TX1M	A	N/A	N/A			N/A		TYPEC0 negative half of first SuperSpeed TX differential pair.	TYPEC0_TX1M	TYPEC0_TX1M
AK21	TYPEC0_RX1P	A	N/A	N/A			N/A		TYPEC0 positive half of first SuperSpeed RX differential pair.	TYPEC0_RX1P	TYPEC0_RX1P
AL21	TYPEC0_RX1M	A	N/A	N/A			N/A		TYPEC0 negative half of first SuperSpeed RX differential pair.	TYPEC0_RX1M	TYPEC0_RX1M
AL24	TYPEC0_TX2P	A	N/A	N/A			N/A		TYPEC0 positive half of second SuperSpeed TX differential pair.	TYPEC0_TX2P	TYPEC0_TX2P
AK24	TYPEC0_TX2M	A	N/A	N/A			N/A		TYPEC0 negative half of second SuperSpeed TX differential pair.	TYPEC0_TX2M	TYPEC0_TX2M
AK23	TYPEC0_RX2P	A	N/A	N/A			N/A		TYPEC0 positive half of second SuperSpeed RX differential pair.	TYPEC0_RX2P	TYPEC0_RX2P
AL23	TYPEC0_RX2M	A	N/A	N/A			N/A		TYPEC0 negative half of second SuperSpeed RX differential pair.	TYPEC0_RX2M	TYPEC0_RX2M
AE18	TYPEC0_REFCLK_P	A	N/A	N/A			N/A		TYPEC0 external reference clock positive.	TYPEC0_REFCLK_P	TYPEC0_REFCLK_P
AD18	TYPEC0_REFCLK_M	A	N/A	N/A			N/A		TYPEC0 external reference clock negative.	TYPEC0_REFCLK_M	TYPEC0_REFCLK_M

Pin No.	Pin Name	Pin Type	I/O Def	I/O Pull	Pull Resistor	Nom Pull Resistor	Drive Current (mA)	Default Drive (mA)	Description	Tablet/VR REF	Excavator/BOX
AH18	TYPEC0_CC1	A	N/A	N/A			N/A		TYPEC0 configuration channel1 pin used for connection detect interface configuration and VCONN.	TYPEC0_CC1	TYPEC0_CC1
AH20	TYPEC0_CC2	A	N/A	N/A			N/A		TYPEC0 configuration channel2 pin used for connection detect interface configuration and VCONN.	TYPEC0_CC2	TYPEC0_CC2
AK20	TYPEC0_AUXP	A	N/A	N/A			N/A		TYPEC0 AUX differential TX/RX serial data.	TYPEC0_AUXP	TYPEC0_AUXP
AL20	TYPEC0_AUXM	A	N/A	N/A			N/A		TYPEC0 AUX differential TX/RX serial data.	TYPEC0_AUXM	TYPEC0_AUXM
AH17	TYPEC0_AUXP_PD_PU	A	N/A	N/A			N/A		TYPEC0 AUX pull-up/pull-down polarity reversal pins.	TYPEC0_AUXP_PD_PU	TYPEC0_AUXP_PD_PU
AG17	TYPEC0_AUXM_PU_PD	A	N/A	N/A			N/A		TYPEC0 AUX pull-up/pull-down polarity reversal pins.	TYPEC0_AUXM_PU_PD	TYPEC0_AUXM_PU_PD
AD19	TYPEC0_U3VBUSDET	A	N/A	N/A			N/A		TYPEC0 connected/vbus power detect for USB3.0	TYPEC0_U3VBUSDET	TYPEC0_U3VBUSDET
AG18	TYPEC0_REXT	A	N/A	N/A			N/A		USB TYPEC0 reference current generate,connect a 499ohm resistor to VSS.	TYPEC0_REXT	TYPEC0_REXT
AG20	TYPEC0_REXT_CC	A	N/A	N/A			N/A		USB TYPEC0 CC internal calibration circuits,connect a 499ohm resistor to VSS.	TYPEC0_REXT_CC	TYPEC0_REXT_CC
Y19	TYPEC0_AVDD_0V9_1	P	N/A	N/A					TYPEC0 analog power supply	TYPEC0_AVDD_0V9_1	TYPEC0_AVDD_0V9_1
Y18	TYPEC0_AVDD_0V9_2	P	N/A	N/A					TYPEC0 analog power supply	TYPEC0_AVDD_0V9_2	TYPEC0_AVDD_0V9_2
AA18	TYPEC0_AVDD_1V8	P	N/A	N/A					TYPEC0 analog power supply	TYPEC0_AVDD_1V8	TYPEC0_AVDD_1V8
AB18	TYPEC0_AVDD_3V3	P	N/A	N/A					TYPEC0 analog power supply	TYPEC0_AVDD_3V3	TYPEC0_AVDD_3V3
PART T	USB TYPEC1 PHY										
AL26	TYPEC1_TX1P	A	N/A	N/A			N/A		TYPEC1 positive half of first SuperSpeed TX differential pair.	TYPEC1_TX1P	TYPEC1_TX1P
AK26	TYPEC1_TX1M	A	N/A	N/A			N/A		TYPEC1 negative half of first SuperSpeed TX differential pair.	TYPEC1_TX1M	TYPEC1_TX1M
AK25	TYPEC1_RX1P	A	N/A	N/A			N/A		TYPEC1 positive half of first SuperSpeed RX differential pair.	TYPEC1_RX1P	TYPEC1_RX1P
AL25	TYPEC1_RX1M	A	N/A	N/A			N/A		TYPEC1 negative half of first SuperSpeed RX differential pair.	TYPEC1_RX1M	TYPEC1_RX1M
AL28	TYPEC1_TX2P	A	N/A	N/A			N/A		TYPEC1 positive half of second SuperSpeed TX differential pair.	TYPEC1_TX2P	TYPEC1_TX2P
AK28	TYPEC1_TX2M	A	N/A	N/A			N/A		TYPEC1 negative half of second SuperSpeed TX differential pair.	TYPEC1_TX2M	TYPEC1_TX2M
AK27	TYPEC1_RX2P	A	N/A	N/A			N/A		TYPEC1 positive half of second SuperSpeed RX differential pair.	TYPEC1_RX2P	TYPEC1_RX2P
AL27	TYPEC1_RX2M	A	N/A	N/A			N/A		TYPEC1 negative half of second SuperSpeed RX differential pair.	TYPEC1_RX2M	TYPEC1_RX2M
AE20	TYPEC1_REFCLK_P	A	N/A	N/A			N/A		TYPEC1 external reference clock positive.	TYPEC1_REFCLK_P	TYPEC1_REFCLK_P

Pin No.	Pin Name	Pin Type	I/O Def	I/O Pull	Pull Resistor	Nom Pull Resistor	Drive Current (mA)	Default Drive (mA)	Description	Tablet/VR REF	Excavator/BOX
AD20	TYPEC1_REFCLK_M	A	N/A	N/A			N/A		TYPEC1 external reference clock negative.	TYPEC1_REFCLK_M	TYPEC1_REFCLK_M
AH21	TYPEC1_CC1	A	N/A	N/A			N/A		TYPEC1 configuration channel1 pin used for connection detect interface configuration and VCONN.	TYPEC1_CC1	TYPEC1_CC1
AF21	TYPEC1_CC2	A	N/A	N/A			N/A		TYPEC1 configuration channel2 pin used for connection detect interface configuration and VCONN.	TYPEC1_CC2	TYPEC1_CC2
AK29	TYPEC1_AUXP	A	N/A	N/A			N/A		TYPEC1 AUX differential TX/RX serial data.	TYPEC1_AUXP	TYPEC1_AUXP
AL29	TYPEC1_AUXM	A	N/A	N/A			N/A		TYPEC1 AUX differential TX/RX serial data.	TYPEC1_AUXM	TYPEC1_AUXM
AE24	TYPEC1_AUXP_PD_PU	A	N/A	N/A			N/A		TYPEC1 AUX pull-up/pull-down polarity reversal pins.	TYPEC1_AUXP_PD_PU	TYPEC1_AUXP_PD_PU
AF25	TYPEC1_AUXM_PU_PD	A	N/A	N/A			N/A		TYPEC1 AUX pull-up/pull-down polarity reversal pins.	TYPEC1_AUXM_PU_PD	TYPEC1_AUXM_PU_PD
AC19	TYPEC1_U3VBUSDET	A	N/A	N/A			N/A		TYPEC1 connected/vbus power detect for USB3.0	TYPEC1_U3VBUSDET	TYPEC1_U3VBUSDET
AE21	TYPEC1_REXT	A	N/A	N/A			N/A		TYPEC1 external calibration circuits,connect a 499ohm resistor to VSS.	TYPEC1_REXT	TYPEC1_REXT
AG21	TYPEC1_REXT_CC	A	N/A	N/A			N/A		TYPEC1 CC internal calibration circuits,connect a 499ohm resistor to VSS.	TYPEC1_REXT_CC	TYPEC1_REXT_CC
Y21	TYPEC1_PHY_0V9_1	P	N/A	N/A					TYPEC1 analog power supply	TYPEC1_PHY_0V9_1	TYPEC1_PHY_0V9_1
Y22	TYPEC1_PHY_0V9_2	P	N/A	N/A					TYPEC1 analog power supply	TYPEC1_PHY_0V9_2	TYPEC1_PHY_0V9_2
AA21	TYPEC1_AVDD_1V8	P	N/A	N/A					TYPEC1 analog power supply	TYPEC1_AVDD_1V8	TYPEC1_AVDD_1V8
AB21	TYPEC1_AVDD_3V3	P	N/A	N/A					TYPEC1 analog power supply	TYPEC1_AVDD_3V3	TYPEC1_AVDD_3V3
PART H	EMMC PHY										
J28	EMMC_D0	I/O	N/A	N/A			N/A		EMMC data port	EMMC_D0	EMMC_D0
J29	EMMC_D1	I/O	N/A	N/A			N/A		eMMC data port	EMMC_D1	EMMC_D1
J30	EMMC_D2	I/O	N/A	N/A			N/A		eMMC data port	EMMC_D2	EMMC_D2
J25	EMMC_D3	I/O	N/A	N/A			N/A		eMMC data port	EMMC_D3	EMMC_D3
J26	EMMC_D4	I/O	N/A	N/A			N/A		eMMC data port	EMMC_D4	EMMC_D4
J27	EMMC_D5	I/O	N/A	N/A			N/A		eMMC data port	EMMC_D5	EMMC_D5
L31	EMMC_D6	I/O	N/A	N/A			N/A		eMMC data port	EMMC_D6	EMMC_D6
K30	EMMC_D7	I/O	N/A	N/A			N/A		eMMC data port	EMMC_D7	EMMC_D7
L28	EMMC_CLK	I/O	O	N/A			N/A		eMMC clock out	EMMC_CLK	EMMC_CLK
J31	EMMC_CMD	I/O	N/A	N/A			N/A		eMMC command port	EMMC_CMD	EMMC_CMD
K31	EMMC_STRB	I/O	N/A	N/A			N/A		eMMC strobe port	EMMC_STRB	EMMC_STRB
L29	EMMC_CALIO	I/O							CALIO pad,connect a 10kohm resistor to VSS.		
L30	EMMC_TP	I/O							Analog DLL charge pump Test pad		
L24	EMMC_COREDLL_0V9	P	N/A	N/A					Analog DLL dedicated VCORE power supply	EMMC_COREDLL_0V9	EMMC_COREDLL_0V9
K24	EMMC_VDD_1V8	P	N/A	N/A					eMMC I/O power supply	EMMC_VDD_1V8	EMMC_VDD_1V8

Pin No.	Pin Name	Pin Type	I/O Def	I/O Pull	Pull Resistor	Nom Pull Resistor	Drive Current (mA)	Default Drive (mA)	Description	Tablet/VR REF	Excavator/BOX
PART B	DDRC0										
AB2	DDR0_DQ0	A	N/A	N/A			N/A		DRAM0 data port	DDR0_DQ0	DDR0_DQ0
AB1	DDR0_DQ1	A	N/A	N/A			N/A		DRAM0 data port	DDR0_DQ1	DDR0_DQ1
AA2	DDR0_DQ2	A	N/A	N/A			N/A		DRAM0 data port	DDR0_DQ2	DDR0_DQ2
AA1	DDR0_DQ3	A	N/A	N/A			N/A		DRAM0 data port	DDR0_DQ3	DDR0_DQ3
Y2	DDR0_DQ4	A	N/A	N/A			N/A		DRAM0 data port	DDR0_DQ4	DDR0_DQ4
Y1	DDR0_DQ5	A	N/A	N/A			N/A		DRAM0 data port	DDR0_DQ5	DDR0_DQ5
W1	DDR0_DQ6	A	N/A	N/A			N/A		DRAM0 data port	DDR0_DQ6	DDR0_DQ6
W2	DDR0_DQ7	A	N/A	N/A			N/A		DRAM0 data port	DDR0_DQ7	DDR0_DQ7
AF2	DDR0_DQ8	A	N/A	N/A			N/A		DRAM0 data port	DDR0_DQ8	DDR0_DQ8
AE2	DDR0_DQ9	A	N/A	N/A			N/A		DRAM0 data port	DDR0_DQ9	DDR0_DQ9
AF1	DDR0_DQ10	A	N/A	N/A			N/A		DRAM0 data port	DDR0_DQ10	DDR0_DQ10
AD2	DDR0_DQ11	A	N/A	N/A			N/A		DRAM0 data port	DDR0_DQ11	DDR0_DQ11
AE1	DDR0_DQ12	A	N/A	N/A			N/A		DRAM0 data port	DDR0_DQ12	DDR0_DQ12
AD1	DDR0_DQ13	A	N/A	N/A			N/A		DRAM0 data port	DDR0_DQ13	DDR0_DQ13
AC1	DDR0_DQ14	A	N/A	N/A			N/A		DRAM0 data port	DDR0_DQ14	DDR0_DQ14
AC2	DDR0_DQ15	A	N/A	N/A			N/A		DRAM0 data port	DDR0_DQ15	DDR0_DQ15
V1	DDR0_DQ16	A	N/A	N/A			N/A		DRAM0 data port	DDR0_DQ16	DDR0_DQ16
V2	DDR0_DQ17	A	N/A	N/A			N/A		DRAM0 data port	DDR0_DQ17	DDR0_DQ17
U1	DDR0_DQ18	A	N/A	N/A			N/A		DRAM0 data port	DDR0_DQ18	DDR0_DQ18
U2	DDR0_DQ19	A	N/A	N/A			N/A		DRAM0 data port	DDR0_DQ19	DDR0_DQ19
T1	DDR0_DQ20	A	N/A	N/A			N/A		DRAM0 data port	DDR0_DQ20	DDR0_DQ20
T2	DDR0_DQ21	A	N/A	N/A			N/A		DRAM0 data port	DDR0_DQ21	DDR0_DQ21
R2	DDR0_DQ22	A	N/A	N/A			N/A		DRAM0 data port	DDR0_DQ22	DDR0_DQ22
R1	DDR0_DQ23	A	N/A	N/A			N/A		DRAM0 data port	DDR0_DQ23	DDR0_DQ23
P1	DDR0_DQ24	A	N/A	N/A			N/A		DRAM0 data port	DDR0_DQ24	DDR0_DQ24
P2	DDR0_DQ25	A	N/A	N/A			N/A		DRAM0 data port	DDR0_DQ25	DDR0_DQ25
N1	DDR0_DQ26	A	N/A	N/A			N/A		DRAM0 data port	DDR0_DQ26	DDR0_DQ26
M1	DDR0_DQ27	A	N/A	N/A			N/A		DRAM0 data port	DDR0_DQ27	DDR0_DQ27
N2	DDR0_DQ28	A	N/A	N/A			N/A		DRAM0 data port	DDR0_DQ28	DDR0_DQ28
L1	DDR0_DQ29	A	N/A	N/A			N/A		DRAM0 data port	DDR0_DQ29	DDR0_DQ29
M2	DDR0_DQ30	A	N/A	N/A			N/A		DRAM0 data port	DDR0_DQ30	DDR0_DQ30
L2	DDR0_DQ31	A	N/A	N/A			N/A		DRAM0 data port	DDR0_DQ31	DDR0_DQ31
Y5	DDR0_DM0	A	N/A	N/A			N/A		DRAM0 data mask 0	DDR0_DM0	DDR0_DM0
AC5	DDR0_DM1	A	N/A	N/A			N/A		DRAM0 data mask 1	DDR0_DM1	DDR0_DM1
U5	DDR0_DM2	A	N/A	N/A			N/A		DRAM0 data mask 2	DDR0_DM2	DDR0_DM2
P5	DDR0_DM3	A	N/A	N/A			N/A		DRAM0 data mask 3	DDR0_DM3	DDR0_DM3
Y4	DDR0_DQS0P	A	N/A	N/A			N/A		DRAM0 data strobe 0	DDR0_DQS0P	DDR0_DQS0P
AA4	DDR0_DQS0N	A	N/A	N/A			N/A		DRAM0 data strobe 0	DDR0_DQS0N	DDR0_DQS0N
AC4	DDR0_DQS1P	A	N/A	N/A			N/A		DRAM0 data strobe 1	DDR0_DQS1P	DDR0_DQS1P

Pin No.	Pin Name	Pin Type	I/O Def	I/O Pull	Pull Resistor	Nom Pull Resistor	Drive Current (mA)	Default Drive (mA)	Description	Tablet/VR REF	Excavator/BOX
AD4	DDR0_DQS1N	A	N/A	N/A			N/A		DRAM0 data strobe 1	DDR0_DQS1N	DDR0_DQS1N
U4	DDR0_DQS2P	A	N/A	N/A			N/A		DRAM0 data strobe 2	DDR0_DQS2P	DDR0_DQS2P
V4	DDR0_DQS2N	A	N/A	N/A			N/A		DRAM0 data strobe 2	DDR0_DQS2N	DDR0_DQS2N
P4	DDR0_DQS3P	A	N/A	N/A			N/A		DRAM0 data strobe 3	DDR0_DQS3P	DDR0_DQS3P
R4	DDR0_DQS3N	A	N/A	N/A			N/A		DRAM0 data strobe 3	DDR0_DQS3N	DDR0_DQS3N
U6	DDR0_ATB0	A	N/A	N/A			N/A		DRAM0 analog test bus signals 0	DDR0_ATB0	DDR0_ATB0
U7	DDR0_ATB1	A	N/A	N/A			N/A		DRAM0 analog test bus signals 1	DDR0_ATB1	DDR0_ATB1
V6	DDR0_PLL_TESTOUT_P	A	N/A	N/A			N/A		DRAM0 test clock port of the PLL for abservability	DDR0_PLL_TESTOUT_P	DDR0_PLL_TESTOUT_P
V7	DDR0_PLL_TESTOUT_N	A	N/A	N/A			N/A		DRAM0 test clock port of the PLL for abservability	DDR0_PLL_TESTOUT_N	DDR0_PLL_TESTOUT_N
R7	DDR0_PZQ	A	N/A	N/A			N/A		DRAM0 reference pin for ZQ calibration,,connect a 240R%1 resistor to VSS	DDR0_PZQ	DDR0_PZQ
F2	DDR0_A0	A	N/A	N/A			N/A		DRAM0 address port	DDR0_A0	DDR0_A0
F1	DDR0_A1	A	N/A	N/A			N/A		DRAM0 address port	DDR0_A1	DDR0_A1
G1	DDR0_A2	A	N/A	N/A			N/A		DRAM0 address port	DDR0_A2	DDR0_A2
G2	DDR0_A3	A	N/A	N/A			N/A		DRAM0 address port	DDR0_A3	DDR0_A3
H2	DDR0_A4	A	N/A	N/A			N/A		DRAM0 address port	DDR0_A4	DDR0_A4
H1	DDR0_A5	A	N/A	N/A			N/A		DRAM0 address port	DDR0_A5	DDR0_A5
J1	DDR0_A6	A	N/A	N/A			N/A		DRAM0 address port	DDR0_A6	DDR0_A6
J2	DDR0_A7	A	N/A	N/A			N/A		DRAM0 address port	DDR0_A7	DDR0_A7
K2	DDR0_A8	A	N/A	N/A			N/A		DRAM0 address port	DDR0_A8	DDR0_A8
K1	DDR0_A9	A	N/A	N/A			N/A		DRAM0 address port	DDR0_A9	DDR0_A9
D1	DDR0_A10	A	N/A	N/A			N/A		DRAM0 address port	DDR0_A10	DDR0_A10
E3	DDR0_A11	A	N/A	N/A			N/A		DRAM0 address port	DDR0_A11	DDR0_A11
C1	DDR0_A12	A	N/A	N/A			N/A		DRAM0 address port	DDR0_A12	DDR0_A12
D2	DDR0_A13	A	N/A	N/A			N/A		DRAM0 address port	DDR0_A13	DDR0_A13
D3	DDR0_A14	A	N/A	N/A			N/A		DRAM0 address port	DDR0_A14	DDR0_A14
H7	DDR0_A15	A	N/A	N/A			N/A		DRAM0 address port	DDR0_A15	DDR0_A15
H4	DDR0_CK0P	A	N/A	N/A			N/A		DRAM0 differential clock output	DDR0_CK0P	DDR0_CK0P
J4	DDR0_CK0N	A	N/A	N/A			N/A		DRAM0 differential clock output	DDR0_CK0N	DDR0_CK0N
H5	DDR0_CK1P	A	N/A	N/A			N/A		DRAM0 differential clock output	DDR0_CK1P	DDR0_CK1P
J5	DDR0_CK1N	A	N/A	N/A			N/A		DRAM0 differential clock output	DDR0_CK1N	DDR0_CK1N
E1	DDR0_CKE0	A	N/A	N/A			N/A		DRAM0 clock enable 0	DDR0_CKE0	DDR0_CKE0
F5	DDR0_CKE1	A	N/A	N/A			N/A		DRAM0 clock enable 1	DDR0_CKE1	DDR0_CKE1
M6	DDR0_CSN0	A	N/A	N/A			N/A		DRAM0 chip select 0	DDR0_CSN0	DDR0_CSN0
B1	DDR0_CSN1	A	N/A	N/A			N/A		DRAM0 chip select 1	DDR0_CSN1	DDR0_CSN1
M5	DDR0_CSN2	A	N/A	N/A			N/A		DRAM0 chip select 2	DDR0_CSN2	DDR0_CSN2
C2	DDR0_CSN3	A	N/A	N/A			N/A		DRAM0 chip select 3	DDR0_CSN3	DDR0_CSN3
C3	DDR0_BA0	A	N/A	N/A			N/A		DRAM0 bank select 0	DDR0_BA0	DDR0_BA0
F4	DDR0_BA1	A	N/A	N/A			N/A		DRAM0 bank select 1	DDR0_BA1	DDR0_BA1
M4	DDR0_BA2	A	N/A	N/A			N/A		DRAM0 bank select 2	DDR0_BA2	DDR0_BA2
L4	DDR0_ODT0	A	N/A	N/A			N/A		DRAM0 on die termination control 0	DDR0_ODT0	DDR0_ODT0

Pin No.	Pin Name	Pin Type	I/O Def	I/O Pull	Pull Resistor	Nom Pull Resistor	Drive Current (mA)	Default Drive (mA)	Description	Tablet/VR REF	Excavator/BOX
L5	DDR0_ODT1	A	N/A	N/A			N/A		DRAM0 on die termination control 1	DDR0_ODT1	DDR0_ODT1
H6	DDR0_CASN	A	N/A	N/A			N/A		DRAM0 column address strobe output	DDR0_CASN	DDR0_CASN
F3	DDR0_RASN	A	N/A	N/A			N/A		DRAM0 row address strobe output	DDR0_RASN	DDR0_RASN
G6	DDR0_WEN	A	N/A	N/A			N/A		DRAM0 write enable strobe output	DDR0_WEN	DDR0_WEN
L7	DDR0_RESETN	A	N/A	N/A			N/A		DRAM0 reset output	DDR0_RESETN	DDR0_RESETN
R8	DDR0PLL_AVDD_0V9	P	N/A	N/A					Analog power supply for DRAM0 PLL	DDR0PLL_AVDD_0V9	DDR0PLL_AVDD_0V9
M7	DDR0_CLK_VDD	P	N/A	N/A					Analog power supply for DRAM0 CLK	DDR0_CLK_VDD	DDR0_CLK_VDD
L9	DDR0_VDD_1	P	N/A	N/A					DRAM0 Digital power supply	DDR0_VDD	DDR0_VDD
L10	DDR0_VDD_2	P	N/A	N/A					DRAM0 Digital power supply	DDR0_VDD	DDR0_VDD
M9	DDR0_VDD_3	P	N/A	N/A					DRAM0 Digital power supply	DDR0_VDD	DDR0_VDD
N9	DDR0_VDD_4	P	N/A	N/A					DRAM0 Digital power supply	DDR0_VDD	DDR0_VDD
N10	DDR0_VDD_5	P	N/A	N/A					DRAM0 Digital power supply	DDR0_VDD	DDR0_VDD
P9	DDR0_VDD_6	P	N/A	N/A					DRAM0 Digital power supply	DDR0_VDD	DDR0_VDD
R9	DDR0_VDD_7	P	N/A	N/A					DRAM0 Digital power supply	DDR0_VDD	DDR0_VDD
R10	DDR0_VDD_8	P	N/A	N/A					DRAM0 Digital power supply	DDR0_VDD	DDR0_VDD
T9	DDR0_VDD_9	P	N/A	N/A					DRAM0 Digital power supply	DDR0_VDD	DDR0_VDD
U9	DDR0_VDD_10	P	N/A	N/A					DRAM0 Digital power supply	DDR0_VDD	DDR0_VDD
U10	DDR0_VDD_11	P	N/A	N/A					DRAM0 Digital power supply	DDR0_VDD	DDR0_VDD
V9	DDR0_VDD_12	P	N/A	N/A					DRAM0 Digital power supply	DDR0_VDD	DDR0_VDD
PART A	**DDRC 1**										
B15	DDR1_DQ0	A	N/A	N/A			N/A		DRAM1 data port	DDR1_DQ0	DDR1_DQ0
A15	DDR1_DQ1	A	N/A	N/A			N/A		DRAM1 data port	DDR1_DQ1	DDR1_DQ1
B16	DDR1_DQ2	A	N/A	N/A			N/A		DRAM1 data port	DDR1_DQ2	DDR1_DQ2
A16	DDR1_DQ3	A	N/A	N/A			N/A		DRAM1 data port	DDR1_DQ3	DDR1_DQ3
B17	DDR1_DQ4	A	N/A	N/A			N/A		DRAM1 data port	DDR1_DQ4	DDR1_DQ4
A17	DDR1_DQ5	A	N/A	N/A			N/A		DRAM1 data port	DDR1_DQ5	DDR1_DQ5
A18	DDR1_DQ6	A	N/A	N/A			N/A		DRAM1 data port	DDR1_DQ6	DDR1_DQ6
B18	DDR1_DQ7	A	N/A	N/A			N/A		DRAM1 data port	DDR1_DQ7	DDR1_DQ7
B11	DDR1_DQ8	A	N/A	N/A			N/A		DRAM1 data port	DDR1_DQ8	DDR1_DQ8
B12	DDR1_DQ9	A	N/A	N/A			N/A		DRAM1 data port	DDR1_DQ9	DDR1_DQ9
A11	DDR1_DQ10	A	N/A	N/A			N/A		DRAM1 data port	DDR1_DQ10	DDR1_DQ10
B13	DDR1_DQ11	A	N/A	N/A			N/A		DRAM1 data port	DDR1_DQ11	DDR1_DQ11
A12	DDR1_DQ12	A	N/A	N/A			N/A		DRAM1 data port	DDR1_DQ12	DDR1_DQ12
A13	DDR1_DQ13	A	N/A	N/A			N/A		DRAM1 data port	DDR1_DQ13	DDR1_DQ13
A14	DDR1_DQ14	A	N/A	N/A			N/A		DRAM1 data port	DDR1_DQ14	DDR1_DQ14
B14	DDR1_DQ15	A	N/A	N/A			N/A		DRAM1 data port	DDR1_DQ15	DDR1_DQ15
A19	DDR1_DQ16	A	N/A	N/A			N/A		DRAM1 data port	DDR1_DQ16	DDR1_DQ16
B19	DDR1_DQ17	A	N/A	N/A			N/A		DRAM1 data port	DDR1_DQ17	DDR1_DQ17
A20	DDR1_DQ18	A	N/A	N/A			N/A		DRAM1 data port	DDR1_DQ18	DDR1_DQ18
B20	DDR1_DQ19	A	N/A	N/A			N/A		DRAM1 data port	DDR1_DQ19	DDR1_DQ19

Pin No.	Pin Name	Pin Type	I/O Def	I/O Pull	Pull Resistor	Nom Pull Resistor	Drive Current (mA)	Default Drive (mA)	Description	Tablet/VR REF	Excavator/BOX
A21	DDR1_DQ20	A	N/A	N/A			N/A		DRAM1 data port	DDR1_DQ20	DDR1_DQ20
B21	DDR1_DQ21	A	N/A	N/A			N/A		DRAM1 data port	DDR1_DQ21	DDR1_DQ21
B22	DDR1_DQ22	A	N/A	N/A			N/A		DRAM1 data port	DDR1_DQ22	DDR1_DQ22
A22	DDR1_DQ23	A	N/A	N/A			N/A		DRAM1 data port	DDR1_DQ23	DDR1_DQ23
A23	DDR1_DQ24	A	N/A	N/A			N/A		DRAM1 data port	DDR1_DQ24	DDR1_DQ24
B23	DDR1_DQ25	A	N/A	N/A			N/A		DRAM1 data port	DDR1_DQ25	DDR1_DQ25
A24	DDR1_DQ26	A	N/A	N/A			N/A		DRAM1 data port	DDR1_DQ26	DDR1_DQ26
A25	DDR1_DQ27	A	N/A	N/A			N/A		DRAM1 data port	DDR1_DQ27	DDR1_DQ27
B24	DDR1_DQ28	A	N/A	N/A			N/A		DRAM1 data port	DDR1_DQ28	DDR1_DQ28
A26	DDR1_DQ29	A	N/A	N/A			N/A		DRAM1 data port	DDR1_DQ29	DDR1_DQ29
B25	DDR1_DQ30	A	N/A	N/A			N/A		DRAM1 data port	DDR1_DQ30	DDR1_DQ30
B26	DDR1_DQ31	A	N/A	N/A			N/A		DRAM1 data port	DDR1_DQ31	DDR1_DQ31
E17	DDR1_DM0	A	N/A	N/A			N/A		DRAM1 data mask 0	DDR1_DM0	DDR1_DM0
E14	DDR1_DM1	A	N/A	N/A			N/A		DRAM1 data mask 1	DDR1_DM1	DDR1_DM1
E20	DDR1_DM2	A	N/A	N/A			N/A		DRAM1 data mask 2	DDR1_DM2	DDR1_DM2
E23	DDR1_DM3	A	N/A	N/A			N/A		DRAM1 data mask 3	DDR1_DM3	DDR1_DM3
D18	DDR1_DQS0P	A	N/A	N/A			N/A		DRAM1 data strobe 0	DDR1_DQS0P	DDR1_DQS0P
D17	DDR1_DQS0N	A	N/A	N/A			N/A		DRAM1 data strobe 0	DDR1_DQS0N	DDR1_DQS0N
D15	DDR1_DQS1P	A	N/A	N/A			N/A		DRAM1 data strobe 1	DDR1_DQS1P	DDR1_DQS1P
D14	DDR1_DQS1N	A	N/A	N/A			N/A		DRAM1 data strobe 1	DDR1_DQS1N	DDR1_DQS1N
D21	DDR1_DQS2P	A	N/A	N/A			N/A		DRAM1 data strobe 2	DDR1_DQS2P	DDR1_DQS2P
D20	DDR1_DQS2N	A	N/A	N/A			N/A		DRAM1 data strobe 2	DDR1_DQS2N	DDR1_DQS2N
D24	DDR1_DQS3P	A	N/A	N/A			N/A		DRAM1 data strobe 3	DDR1_DQS3P	DDR1_DQS3P
D23	DDR1_DQS3N	A	N/A	N/A			N/A		DRAM1 data strobe 3	DDR1_DQS3N	DDR1_DQS3N
F17	DDR1_ATB0	A	N/A	N/A			N/A		DRAM1 analog test bus signals 0	DDR1_ATB0	DDR1_ATB0
G17	DDR1_ATB1	A	N/A	N/A			N/A		DRAM1 analog test bus signals 1	DDR1_ATB1	DDR1_ATB1
F14	DDR1_PLL_TESTOUT_P	A	N/A	N/A			N/A		DRAM1 test clock port of the PLL for observability	DDR1_PLL_TESTOUT_P	DDR1_PLL_TESTOUT_P
G14	DDR1_PLL_TESTOUT_N	A	N/A	N/A			N/A		DRAM1 test clock port of the PLL for observability	DDR1_PLL_TESTOUT_N	DDR1_PLL_TESTOUT_N
G15	DDR1_PZQ	A	N/A	N/A			N/A		DRAM1 reference pin for ZQ calibration,,connect a 240R%1 resistor to VSS	DDR1_PZQ	DDR1_PZQ
B10	DDR1_A0	A	N/A	N/A			N/A		DRAM1 address port	DDR1_A0	DDR1_A0
A10	DDR1_A1	A	N/A	N/A			N/A		DRAM1 address port	DDR1_A1	DDR1_A1
B9	DDR1_A2	A	N/A	N/A			N/A		DRAM1 address port	DDR1_A2	DDR1_A2
A9	DDR1_A3	A	N/A	N/A			N/A		DRAM1 address port	DDR1_A3	DDR1_A3
B8	DDR1_A4	A	N/A	N/A			N/A		DRAM1 address port	DDR1_A4	DDR1_A4
A8	DDR1_A5	A	N/A	N/A			N/A		DRAM1 address port	DDR1_A5	DDR1_A5
B7	DDR1_A6	A	N/A	N/A			N/A		DRAM1 address port	DDR1_A6	DDR1_A6
A7	DDR1_A7	A	N/A	N/A			N/A		DRAM1 address port	DDR1_A7	DDR1_A7
B6	DDR1_A8	A	N/A	N/A			N/A		DRAM1 address port	DDR1_A8	DDR1_A8
A6	DDR1_A9	A	N/A	N/A			N/A		DRAM1 address port	DDR1_A9	DDR1_A9
A4	DDR1_A10	A	N/A	N/A			N/A		DRAM1 address port	DDR1_A10	DDR1_A10

Pin No.	Pin Name	Pin Type	I/O Def	I/O Pull	Pull Resistor	Nom Pull Resistor	Drive Current (mA)	Default Drive (mA)	Description	Tablet/VR REF	Excavator/BOX
C5	DDR1_A11	A	N/A	N/A			N/A		DRAM1 address port	DDR1_A11	DDR1_A11
A3	DDR1_A12	A	N/A	N/A			N/A		DRAM1 address port	DDR1_A12	DDR1_A12
B4	DDR1_A13	A	N/A	N/A			N/A		DRAM1 address port	DDR1_A13	DDR1_A13
C4	DDR1_A14	A	N/A	N/A			N/A		DRAM1 address port	DDR1_A14	DDR1_A14
G8	DDR1_A15	A	N/A	N/A			N/A		DRAM1 address port	DDR1_A15	DDR1_A15
D9	DDR1_CK0P	A	N/A	N/A			N/A		DRAM1 differential clock output	DDR1_CK0P	DDR1_CK0P
D8	DDR1_CK0N	A	N/A	N/A			N/A		DRAM1 differential clock output	DDR1_CK0N	DDR1_CK0N
E9	DDR1_CK1P	A	N/A	N/A			N/A		DRAM1 differential clock output	DDR1_CK1P	DDR1_CK1P
E8	DDR1_CK1N	A	N/A	N/A			N/A		DRAM1 differential clock output	DDR1_CK1N	DDR1_CK1N
A5	DDR1_CKE0	A	N/A	N/A			N/A		DRAM1 clock enable 0	DDR1_CKE0	DDR1_CKE0
E6	DDR1_CKE1	A	N/A	N/A			N/A		DRAM1 clock enable 1	DDR1_CKE1	DDR1_CKE1
F12	DDR1_CSN0	A	N/A	N/A			N/A		DRAM1 chip select 0	DDR1_CSN0	DDR1_CSN0
A2	DDR1_CSN1	A	N/A	N/A			N/A		DRAM1 chip select 1	DDR1_CSN1	DDR1_CSN1
F11	DDR1_CSN2	A	N/A	N/A			N/A		DRAM1 chip select 2	DDR1_CSN2	DDR1_CSN2
B3	DDR1_CSN3	A	N/A	N/A			N/A		DRAM1 chip select 3	DDR1_CSN3	DDR1_CSN3
B2	DDR1_BA0	A	N/A	N/A			N/A		DRAM1 bank select 0	DDR1_BA0	DDR1_BA0
D6	DDR1_BA1	A	N/A	N/A			N/A		DRAM1 bank select 1	DDR1_BA1	DDR1_BA1
D12	DDR1_BA2	A	N/A	N/A			N/A		DRAM1 bank select 2	DDR1_BA2	DDR1_BA2
D11	DDR1_ODT0	A	N/A	N/A			N/A		DRAM1 on die termination control 0	DDR1_ODT0	DDR1_ODT0
E11	DDR1_ODT1	A	N/A	N/A			N/A		DRAM1 on die termination control 1	DDR1_ODT1	DDR1_ODT1
F9	DDR1_CASN	A	N/A	N/A			N/A		DRAM1 column address strobe output	DDR1_CASN	DDR1_CASN
C6	DDR1_RASN	A	N/A	N/A			N/A		DRAM1 row address strobe output	DDR1_RASN	DDR1_RASN
F7	DDR1_WEN	A	N/A	N/A			N/A		DRAM1 write enable strobe output	DDR1_WEN	DDR1_WEN
G11	DDR1_RESETN	A	N/A	N/A			N/A		DRAM1 reset output	DDR1_RESETN	DDR1_RESETN
H14	DDR1PLL_AVDD_0V9	A	N/A	N/A			N/A		Analog power supply for DRAM1 PLL	DDR1PLL_AVDD_0V9	DDR1PLL_AVDD_0V9
G12	DDR1_CLK_VDD	A	N/A	N/A			N/A		Analog power supply for DRAM1 CLK	DDR1_CLK_VDD	DDR1_CLK_VDD
J11	DDR1_VDD_1	P	N/A	N/A					DRAM1 Digital power supply	DDR1_VDD	DDR1_VDD
J12	DDR1_VDD_2	P	N/A	N/A					DRAM1 Digital power supply	DDR1_VDD	DDR1_VDD
J13	DDR1_VDD_3	P	N/A	N/A					DRAM1 Digital power supply	DDR1_VDD	DDR1_VDD
J14	DDR1_VDD_4	P	N/A	N/A					DRAM1 Digital power supply	DDR1_VDD	DDR1_VDD
J15	DDR1_VDD_5	P	N/A	N/A					DRAM1 Digital power supply	DDR1_VDD	DDR1_VDD
J16	DDR1_VDD_6	P	N/A	N/A					DRAM1 Digital power supply	DDR1_VDD	DDR1_VDD
J17	DDR1_VDD_7	P	N/A	N/A					DRAM1 Digital power supply	DDR1_VDD	DDR1_VDD
J18	DDR1_VDD_8	P	N/A	N/A					DRAM1 Digital power supply	DDR1_VDD	DDR1_VDD
K11	DDR1_VDD_9	P	N/A	N/A					DRAM1 Digital power supply	DDR1_VDD	DDR1_VDD
K13	DDR1_VDD_10	P	N/A	N/A					DRAM1 Digital power supply	DDR1_VDD	DDR1_VDD
K15	DDR1_VDD_11	P	N/A	N/A					DRAM1 Digital power supply	DDR1_VDD	DDR1_VDD
K17	DDR1_VDD_12	P	N/A	N/A					DRAM1 Digital power supply	DDR1_VDD	DDR1_VDD
PART M	POWER										
P20	LITCPU_VDD_1	P	N/A	N/A					ARM little core(Quad-A53) power supply	VDD_CPU_L	VDD_CPU_L

Pin No.	Pin Name	Pin Type	I/O Def	I/O Pull	Pull Resistor	Nom Pull Resistor	Drive Current (mA)	Default Drive (mA)	Description	Tablet/VR REF	Excavator/BOX
R19	LITCPU_VDD_2	P	N/A	N/A					ARM little core(Quad-A53) power supply	VDD_CPU_L	VDD_CPU_L
R20	LITCPU_VDD_3	P	N/A	N/A					ARM little core(Quad-A53) power supply	VDD_CPU_L	VDD_CPU_L
P22	LITCPU_VDD_4	P	N/A	N/A					ARM little core(Quad-A53) power supply	VDD_CPU_L	VDD_CPU_L
T22	LITCPU_VDD_5	P	N/A	N/A					ARM little core(Quad-A53) power supply	VDD_CPU_L	VDD_CPU_L
T20	LITCPU_VDD_6	P	N/A	N/A					ARM little core(Quad-A53) power supply	VDD_CPU_L	VDD_CPU_L
R22	LITCPU_VDD_7	P	N/A	N/A					ARM little core(Quad-A53) power supply	VDD_CPU_L	VDD_CPU_L
L19	BIGCPU_VDD_1	P	N/A	N/A					ARM big core(Dual-A72) power supply	VDD_CPU_B	VDD_BIGCPU_B
L21	BIGCPU_VDD_2	P	N/A	N/A					ARM big core(Dual-A72) power supply	VDD_CPU_B	VDD_CPU_B
M18	BIGCPU_VDD_3	P	N/A	N/A					ARM big core(Dual-A72) power supply	VDD_CPU_B	VDD_CPU_B
M19	BIGCPU_VDD_4	P	N/A	N/A					ARM big core(Dual-A72) power supply	VDD_CPU_B	VDD_CPU_B
M20	BIGCPU_VDD_5	P	N/A	N/A					ARM big core(Dual-A72) power supply	VDD_CPU_B	VDD_CPU_B
M21	BIGCPU_VDD_6	P	N/A	N/A					ARM big core(Dual-A72) power supply	VDD_CPU_B	VDD_CPU_B
M22	BIGCPU_VDD_7	P	N/A	N/A					ARM big core(Dual-A72) power supply	VDD_CPU_B	VDD_CPU_B
L18	BIGCPU_VDD_8	P	N/A	N/A					ARM big core(Dual-A72) power supply	VDD_CPU_B	VDD_CPU_B
N22	BIGCPU_VDD_9	P	N/A	N/A					ARM big core(Dual-A72) power supply	VDD_CPU_B	VDD_CPU_B
N20	BIGCPU_VDD_10	P	N/A	N/A					ARM big core(Dual-A72) power supply	VDD_CPU_B	VDD_CPU_B
L23	BIGCPU_VDD_11	P	N/A	N/A					ARM big core(Dual-A72) power supply	VDD_CPU_B	VDD_CPU_B
K19	BIGCPU_VDD_12	P	N/A	N/A					ARM big core(Dual-A72) power supply	VDD_CPU_B	VDD_CPU_B
K21	BIGCPU_VDD_13	P	N/A	N/A					ARM big core(Dual-A72) power supply	VDD_CPU_B	VDD_CPU_B
N18	BIGCPU_VDD_FB	P	N/A	N/A					ARM big core(Dual-A72) power feedback ouput	VDD_CPU_B_FB	VDD_CPU_B_FB
V22	LOGIC_VDD_1	P	N/A	N/A					Logic power supply	VDD_LOG	VDD_LOG
V21	LOGIC_VDD_2	P	N/A	N/A					Logic power supply	VDD_LOG	VDD_LOG
V20	LOGIC_VDD_3	P	N/A	N/A					Logic power supply	VDD_LOG	VDD_LOG
V19	LOGIC_VDD_4	P	N/A	N/A					Logic power supply	VDD_LOG	VDD_LOG
V18	LOGIC_VDD_5	P	N/A	N/A					Logic power supply	VDD_LOG	VDD_LOG
W20	LOGIC_VDD_6	P	N/A	N/A					Logic power supply	VDD_LOG	VDD_LOG
U18	LOGIC_VDD_7	P	N/A	N/A					Logic power supply	VDD_LOG	VDD_LOG
U17	LOGIC_VDD_8	P	N/A	N/A					Logic power supply	VDD_LOG	VDD_LOG
M17	LOGIC_VDD_9	P	N/A	N/A					Logic power supply	VDD_LOG	VDD_LOG
L17	LOGIC_VDD_10	P	N/A	N/A					Logic power supply	VDD_LOG	VDD_LOG
T17	LOGIC_VDD_11	P	N/A	N/A					Logic power supply	VDD_LOG	VDD_LOG
U20	LOGIC_VDD_12	P	N/A	N/A					Logic power supply	VDD_LOG	VDD_LOG
M11	CENTERLOGIC_VDD_1	P	N/A	N/A					Center logic power supply	VDD_CENTER	VDD_CENTER
M12	CENTERLOGIC_VDD_2	P	N/A	N/A					Center logic power supply	VDD_CENTER	VDD_CENTER
M13	CENTERLOGIC_VDD_3	P	N/A	N/A					Center logic power supply	VDD_CENTER	VDD_CENTER
M14	CENTERLOGIC_VDD_4	P	N/A	N/A					Center logic power supply	VDD_CENTER	VDD_CENTER
M15	CENTERLOGIC_VDD_5	P	N/A	N/A					Center logic power supply	VDD_CENTER	VDD_CENTER
N11	CENTERLOGIC_VDD_6	P	N/A	N/A					Center logic power supply	VDD_CENTER	VDD_CENTER
N12	CENTERLOGIC_VDD_7	P	N/A	N/A					Center logic power supply	VDD_CENTER	VDD_CENTER
P13	CENTERLOGIC_VDD_8	P	N/A	N/A					Center logic power supply	VDD_CENTER	VDD_CENTER

Pin No.	Pin Name	Pin Type	I/O Def	I/O Pull	Pull Resistor	Nom Pull Resistor	Drive Current (mA)	Default Drive (mA)	Description	Tablet/VR REF	Excavator/BOX
P14	CENTERLOGIC_VDD_9	P	N/A	N/A					Center logic power supply	VDD_CENTER	VDD_CENTER
P15	CENTERLOGIC_VDD_10	P	N/A	N/A					Center logic power supply	VDD_CENTER	VDD_CENTER
W11	GPU_VDD_1	P	N/A	N/A					GPU core power supply	VDD_GPU	VDD_GPU
W12	GPU_VDD_2	P	N/A	N/A					GPU core power supply	VDD_GPU	VDD_GPU
W14	GPU_VDD_3	P	N/A	N/A					GPU core power supply	VDD_GPU	VDD_GPU
V15	GPU_VDD_4	P	N/A	N/A					GPU core power supply	VDD_GPU	VDD_GPU
V14	GPU_VDD_5	P	N/A	N/A					GPU core power supply	VDD_GPU	VDD_GPU
V13	GPU_VDD_6	P	N/A	N/A					GPU core power supply	VDD_GPU	VDD_GPU
U13	GPU_VDD_7	P	N/A	N/A					GPU core power supply	VDD_GPU	VDD_GPU
R11	GPU_VDD_8	P	N/A	N/A					GPU core power supply	VDD_GPU	VDD_GPU
R12	GPU_VDD_9	P	N/A	N/A					GPU core power supply	VDD_GPU	VDD_GPU
T11	GPU_VDD_10	P	N/A	N/A					GPU core power supply	VDD_GPU	VDD_GPU
T12	GPU_VDD_11	P	N/A	N/A					GPU core power supply	VDD_GPU	VDD_GPU
T13	GPU_VDD_12	P	N/A	N/A					GPU core power supply	VDD_GPU	VDD_GPU
R13	GPU_VDD_13	P	N/A	N/A					GPU core power supply	VDD_GPU	VDD_GPU
T14	GPU_VDD_14	P	N/A	N/A					GPU core power supply	VDD_GPU	VDD_GPU
V11	GPU_VDD_15	P	N/A	N/A					GPU core power supply	VDD_GPU	VDD_GPU
V12	GPU_VDD_16	P	N/A	N/A					GPU core power supply	VDD_GPU	VDD_GPU
V16	GPU_VDD_17	P	N/A	N/A					GPU core power supply	VDD_GPU	VDD_GPU
W16	GPU_VDD_18	P	N/A	N/A					GPU core power supply	VDD_GPU	VDD_GPU
W15	GPU_VDD_19	P	N/A	N/A					GPU core power supply	VDD_GPU	VDD_GPU
W10	GPU_VDD_20	P	N/A	N/A					GPU core power supply	VDD_GPU	VDD_GPU
T15	GPU_VDD_COM	P	N/A	N/A					GPU core power feedback ouput	VDD_GPU_FB	VDD_GPU_FB
PART X	**GROUND**										
Y23	AVSS_1	G	N/A	N/A					Analog power ground	VSS	VSS
AF23	AVSS_2	G	N/A	N/A					Analog power ground	VSS	VSS
AF24	AVSS_3	G	N/A	N/A					Analog power ground	VSS	VSS
AA23	AVSS_4	G	N/A	N/A					Analog power ground	VSS	VSS
AB23	AVSS_5	G	N/A	N/A					Analog power ground	VSS	VSS
AA26	AVSS_6	G	N/A	N/A					Analog power ground	VSS	VSS
AA29	AVSS_7	G	N/A	N/A					Analog power ground	VSS	VSS
AB11	AVSS_8	G	N/A	N/A					Analog power ground	VSS	VSS
AB13	AVSS_9	G	N/A	N/A					Analog power ground	VSS	VSS
AC15	AVSS_10	G	N/A	N/A					Analog power ground	VSS	VSS
AD13	AVSS_11	G	N/A	N/A					Analog power ground	VSS	VSS
AB10	AVSS_12	G	N/A	N/A					Analog power ground	VSS	VSS
AA11	AVSS_13	G	N/A	N/A					Analog power ground	VSS	VSS
AC26	AVSS_14	G	N/A	N/A					Analog power ground	VSS	VSS
AC29	AVSS_15	G	N/A	N/A					Analog power ground	VSS	VSS
AD17	AVSS_16	G	N/A	N/A					Analog power ground	VSS	VSS

Pin No.	Pin Name	Pin Type	I/O Def	I/O Pull	Pull Resistor	Nom Pull Resistor	Drive Current (mA)	Default Drive (mA)	Description	Tablet/VR REF	Excavator/BOX
AA12	AVSS_17	G	N/A	N/A					Analog power ground	VSS	VSS
AC16	AVSS_18	G	N/A	N/A					Analog power ground	VSS	VSS
AC23	AVSS_19	G	N/A	N/A					Analog power ground	VSS	VSS
AD29	AVSS_20	G	N/A	N/A					Analog power ground	VSS	VSS
AE11	AVSS_21	G	N/A	N/A					Analog power ground	VSS	VSS
AE12	AVSS_22	G	N/A	N/A					Analog power ground	VSS	VSS
AE14	AVSS_23	G	N/A	N/A					Analog power ground	VSS	VSS
AE17	AVSS_24	G	N/A	N/A					Analog power ground	VSS	VSS
AE27	AVSS_25	G	N/A	N/A					Analog power ground	VSS	VSS
AA14	AVSS_26	G	N/A	N/A					Analog power ground	VSS	VSS
AF17	AVSS_27	G	N/A	N/A					Analog power ground	VSS	VSS
AF29	AVSS_28	G	N/A	N/A					Analog power ground	VSS	VSS
AG29	AVSS_29	G	N/A	N/A					Analog power ground	VSS	VSS
AH29	AVSS_30	G	N/A	N/A					Analog power ground	VSS	VSS
AJ6	AVSS_31	G	N/A	N/A					Analog power ground	VSS	VSS
AJ8	AVSS_32	G	N/A	N/A					Analog power ground	VSS	VSS
AJ9	AVSS_33	G	N/A	N/A					Analog power ground	VSS	VSS
AJ11	AVSS_34	G	N/A	N/A					Analog power ground	VSS	VSS
AJ12	AVSS_35	G	N/A	N/A					Analog power ground	VSS	VSS
AJ14	AVSS_36	G	N/A	N/A					Analog power ground	VSS	VSS
AJ15	AVSS_37	G	N/A	N/A					Analog power ground	VSS	VSS
AJ17	AVSS_38	G	N/A	N/A					Analog power ground	VSS	VSS
AJ18	AVSS_39	G	N/A	N/A					Analog power ground	VSS	VSS
AD26	AVSS_40	G	N/A	N/A					Analog power ground	VSS	VSS
AB16	AVSS_41	G	N/A	N/A					Analog power ground	VSS	VSS
AB15	AVSS_42	G	N/A	N/A					Analog power ground	VSS	VSS
AC17	AVSS_43	G	N/A	N/A					Analog power ground	VSS	VSS
AC11	AVSS_44	G	N/A	N/A					Analog power ground	VSS	VSS
AC13	AVSS_45	G	N/A	N/A					Analog power ground	VSS	VSS
W23	AVSS_46	G	N/A	N/A					Analog power ground	VSS	VSS
AJ29	AVSS_47	G	N/A	N/A					Analog power ground	VSS	VSS
U23	AVSS_49	G	N/A	N/A					Analog power ground	VSS	VSS
V23	AVSS_50	G	N/A	N/A					Analog power ground	VSS	VSS
AC25	AVSS_51	G	N/A	N/A					Analog power ground	VSS	VSS
AB17	AVSS_52	G	N/A	N/A					Analog power ground	VSS	VSS
AA15	AVSS_53	G	N/A	N/A					Analog power ground	VSS	VSS
A1	VSS_1	G	N/A	N/A					Digital power ground	VSS	VSS
A27	VSS_2	G	N/A	N/A					Digital power ground	VSS	VSS
A31	VSS_3	G	N/A	N/A					Digital power ground	VSS	VSS
AA3	VSS_4	G	N/A	N/A					Digital power ground	VSS	VSS

Pin No.	Pin Name	Pin Type	I/O Def	I/O Pull	Pull Resistor	Nom Pull Resistor	Drive Current (mA)	Default Drive (mA)	Description	Tablet/VR REF	Excavator/BOX
AA5	VSS_5	G	N/A	N/A					Digital power ground	VSS	VSS
AA9	VSS_6	G	N/A	N/A					Digital power ground	VSS	VSS
AF18	VSS_7	G	N/A	N/A					Digital power ground	VSS	VSS
Y3	VSS_8	G	N/A	N/A					Digital power ground	VSS	VSS
AB9	VSS_9	G	N/A	N/A					Digital power ground	VSS	VSS
AF20	VSS_10	G	N/A	N/A					Digital power ground	VSS	VSS
AD22	VSS_11	G	N/A	N/A					Digital power ground	VSS	VSS
AC22	VSS_12	G	N/A	N/A					Digital power ground	VSS	VSS
AC20	VSS_13	G	N/A	N/A					Digital power ground	VSS	VSS
AE23	VSS_14	G	N/A	N/A					Digital power ground	VSS	VSS
Y10	VSS_15	G	N/A	N/A					Digital power ground	VSS	VSS
AC3	VSS_16	G	N/A	N/A					Digital power ground	VSS	VSS
AD3	VSS_17	G	N/A	N/A					Digital power ground	VSS	VSS
AD5	VSS_18	G	N/A	N/A					Digital power ground	VSS	VSS
AD10	VSS_19	G	N/A	N/A					Digital power ground	VSS	VSS
AF9	VSS_20	G	N/A	N/A					Digital power ground	VSS	VSS
AG2	VSS_21	G	N/A	N/A					Digital power ground	VSS	VSS
AJ5	VSS_22	G	N/A	N/A					Digital power ground	VSS	VSS
AL1	VSS_23	G	N/A	N/A					Digital power ground	VSS	VSS
B5	VSS_24	G	N/A	N/A					Digital power ground	VSS	VSS
C8	VSS_25	G	N/A	N/A					Digital power ground	VSS	VSS
C9	VSS_26	G	N/A	N/A					Digital power ground	VSS	VSS
C11	VSS_27	G	N/A	N/A					Digital power ground	VSS	VSS
C12	VSS_28	G	N/A	N/A					Digital power ground	VSS	VSS
C14	VSS_29	G	N/A	N/A					Digital power ground	VSS	VSS
C15	VSS_30	G	N/A	N/A					Digital power ground	VSS	VSS
C17	VSS_31	G	N/A	N/A					Digital power ground	VSS	VSS
C18	VSS_32	G	N/A	N/A					Digital power ground	VSS	VSS
C20	VSS_33	G	N/A	N/A					Digital power ground	VSS	VSS
C21	VSS_34	G	N/A	N/A					Digital power ground	VSS	VSS
C23	VSS_35	G	N/A	N/A					Digital power ground	VSS	VSS
C24	VSS_36	G	N/A	N/A					Digital power ground	VSS	VSS
C26	VSS_37	G	N/A	N/A					Digital power ground	VSS	VSS
D5	VSS_38	G	N/A	N/A					Digital power ground	VSS	VSS
E2	VSS_39	G	N/A	N/A					Digital power ground	VSS	VSS
E4	VSS_40	G	N/A	N/A					Digital power ground	VSS	VSS
E7	VSS_41	G	N/A	N/A					Digital power ground	VSS	VSS
E12	VSS_42	G	N/A	N/A					Digital power ground	VSS	VSS
E15	VSS_43	G	N/A	N/A					Digital power ground	VSS	VSS
E18	VSS_44	G	N/A	N/A					Digital power ground	VSS	VSS

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RK3399 I/O LIST（Open Source Board）

Pin No.	Pin Name	Pin Type	I/O Def	I/O Pull	Pull Resistor	Nom Pull Resistor	Drive Current (mA)	Default Drive (mA)	Description	Tablet/VR REF	Excavator/BOX
E21	VSS_45	G	N/A	N/A					Digital power ground	VSS	VSS
E24	VSS_46	G	N/A	N/A					Digital power ground	VSS	VSS
E31	VSS_47	G	N/A	N/A					Digital power ground	VSS	VSS
F8	VSS_48	G	N/A	N/A					Digital power ground	VSS	VSS
F15	VSS_49	G	N/A	N/A					Digital power ground	VSS	VSS
F18	VSS_50	G	N/A	N/A					Digital power ground	VSS	VSS
F20	VSS_51	G	N/A	N/A					Digital power ground	VSS	VSS
F21	VSS_52	G	N/A	N/A					Digital power ground	VSS	VSS
G5	VSS_53	G	N/A	N/A					Digital power ground	VSS	VSS
G9	VSS_54	G	N/A	N/A					Digital power ground	VSS	VSS
G18	VSS_55	G	N/A	N/A					Digital power ground	VSS	VSS
G27	VSS_56	G	N/A	N/A					Digital power ground	VSS	VSS
H3	VSS_57	G	N/A	N/A					Digital power ground	VSS	VSS
H9	VSS_58	G	N/A	N/A					Digital power ground	VSS	VSS
H10	VSS_59	G	N/A	N/A					Digital power ground	VSS	VSS
H11	VSS_60	G	N/A	N/A					Digital power ground	VSS	VSS
H12	VSS_61	G	N/A	N/A					Digital power ground	VSS	VSS
H13	VSS_62	G	N/A	N/A					Digital power ground	VSS	VSS
H15	VSS_63	G	N/A	N/A					Digital power ground	VSS	VSS
H16	VSS_64	G	N/A	N/A					Digital power ground	VSS	VSS
H17	VSS_65	G	N/A	N/A					Digital power ground	VSS	VSS
H18	VSS_66	G	N/A	N/A					Digital power ground	VSS	VSS
H26	VSS_67	G	N/A	N/A					Digital power ground	VSS	VSS
J3	VSS_68	G	N/A	N/A					Digital power ground	VSS	VSS
J6	VSS_69	G	N/A	N/A					Digital power ground	VSS	VSS
J7	VSS_70	G	N/A	N/A					Digital power ground	VSS	VSS
J8	VSS_71	G	N/A	N/A					Digital power ground	VSS	VSS
J9	VSS_72	G	N/A	N/A					Digital power ground	VSS	VSS
J10	VSS_73	G	N/A	N/A					Digital power ground	VSS	VSS
K8	VSS_74	G	N/A	N/A					Digital power ground	VSS	VSS
K9	VSS_75	G	N/A	N/A					Digital power ground	VSS	VSS
K10	VSS_76	G	N/A	N/A					Digital power ground	VSS	VSS
K12	VSS_77	G	N/A	N/A					Digital power ground	VSS	VSS
K14	VSS_78	G	N/A	N/A					Digital power ground	VSS	VSS
K16	VSS_79	G	N/A	N/A					Digital power ground	VSS	VSS
K18	VSS_80	G	N/A	N/A					Digital power ground	VSS	VSS
W21	VSS_81	G	N/A	N/A					Digital power ground	VSS	VSS
K20	VSS_82	G	N/A	N/A					Digital power ground	VSS	VSS
N19	VSS_83	G	N/A	N/A					Digital power ground	VSS	VSS
K22	VSS_84	G	N/A	N/A					Digital power ground	VSS	VSS

Pin No.	Pin Name	Pin Type	I/O Def	I/O Pull	Pull Resistor	Nom Pull Resistor	Drive Current (mA)	Default Drive (mA)	Description	Tablet/VR REF	Excavator/BOX
L3	VSS_85	G	N/A	N/A					Digital power ground	VSS	VSS
L6	VSS_86	G	N/A	N/A					Digital power ground	VSS	VSS
L8	VSS_87	G	N/A	N/A					Digital power ground	VSS	VSS
L11	VSS_88	G	N/A	N/A					Digital power ground	VSS	VSS
L12	VSS_89	G	N/A	N/A					Digital power ground	VSS	VSS
L13	VSS_90	G	N/A	N/A					Digital power ground	VSS	VSS
L14	VSS_91	G	N/A	N/A					Digital power ground	VSS	VSS
L15	VSS_92	G	N/A	N/A					Digital power ground	VSS	VSS
L16	VSS_93	G	N/A	N/A					Digital power ground	VSS	VSS
N17	VSS_94	G	N/A	N/A					Digital power ground	VSS	VSS
Y17	VSS_95	G	N/A	N/A					Digital power ground	VSS	VSS
L20	VSS_96	G	N/A	N/A					Digital power ground	VSS	VSS
L22	VSS_97	G	N/A	N/A					Digital power ground	VSS	VSS
N21	VSS_98	G	N/A	N/A					Digital power ground	VSS	VSS
L27	VSS_99	G	N/A	N/A					Digital power ground	VSS	VSS
M3	VSS_100	G	N/A	N/A					Digital power ground	VSS	VSS
M8	VSS_101	G	N/A	N/A					Digital power ground	VSS	VSS
M10	VSS_102	G	N/A	N/A					Digital power ground	VSS	VSS
M16	VSS_103	G	N/A	N/A					Digital power ground	VSS	VSS
M23	VSS_104	G	N/A	N/A					Digital power ground	VSS	VSS
N8	VSS_105	G	N/A	N/A					Digital power ground	VSS	VSS
P11	VSS_106	G	N/A	N/A					Digital power ground	VSS	VSS
P12	VSS_107	G	N/A	N/A					Digital power ground	VSS	VSS
N13	VSS_108	G	N/A	N/A					Digital power ground	VSS	VSS
N14	VSS_109	G	N/A	N/A					Digital power ground	VSS	VSS
N15	VSS_110	G	N/A	N/A					Digital power ground	VSS	VSS
N16	VSS_111	G	N/A	N/A					Digital power ground	VSS	VSS
P3	VSS_112	G	N/A	N/A					Digital power ground	VSS	VSS
P6	VSS_113	G	N/A	N/A					Digital power ground	VSS	VSS
P7	VSS_114	G	N/A	N/A					Digital power ground	VSS	VSS
P8	VSS_115	G	N/A	N/A					Digital power ground	VSS	VSS
P10	VSS_116	G	N/A	N/A					Digital power ground	VSS	VSS
P16	VSS_117	G	N/A	N/A					Digital power ground	VSS	VSS
Y16	VSS_118	G	N/A	N/A					Digital power ground	VSS	VSS
P19	VSS_119	G	N/A	N/A					Digital power ground	VSS	VSS
R21	VSS_120	G	N/A	N/A					Digital power ground	VSS	VSS
P21	VSS_121	G	N/A	N/A					Digital power ground	VSS	VSS
T19	VSS_122	G	N/A	N/A					Digital power ground	VSS	VSS
R3	VSS_123	G	N/A	N/A					Digital power ground	VSS	VSS
R5	VSS_124	G	N/A	N/A					Digital power ground	VSS	VSS

Pin No.	Pin Name	Pin Type	I/O Def	I/O Pull	Pull Resistor	Nom Pull Resistor	Drive Current (mA)	Default Drive (mA)	Description	Tablet/VR REF	Excavator/BOX
R6	VSS_125	G	N/A	N/A					Digital power ground	VSS	VSS
U11	VSS_126	G	N/A	N/A					Digital power ground	VSS	VSS
U12	VSS_127	G	N/A	N/A					Digital power ground	VSS	VSS
W13	VSS_128	G	N/A	N/A					Digital power ground	VSS	VSS
R14	VSS_129	G	N/A	N/A					Digital power ground	VSS	VSS
R15	VSS_130	G	N/A	N/A					Digital power ground	VSS	VSS
R16	VSS_131	G	N/A	N/A					Digital power ground	VSS	VSS
AC21	VSS_132	G	N/A	N/A					Digital power ground	VSS	VSS
R23	VSS_133	G	N/A	N/A					Digital power ground	VSS	VSS
T8	VSS_134	G	N/A	N/A					Digital power ground	VSS	VSS
T10	VSS_135	G	N/A	N/A					Digital power ground	VSS	VSS
Y12	VSS_136	G	N/A	N/A					Digital power ground	VSS	VSS
U14	VSS_137	G	N/A	N/A					Digital power ground	VSS	VSS
T16	VSS_138	G	N/A	N/A					Digital power ground	VSS	VSS
T21	VSS_139	G	N/A	N/A					Digital power ground	VSS	VSS
AB19	VSS_140	G	N/A	N/A					Digital power ground	VSS	VSS
U3	VSS_141	G	N/A	N/A					Digital power ground	VSS	VSS
U8	VSS_142	G	N/A	N/A					Digital power ground	VSS	VSS
U15	VSS_143	G	N/A	N/A					Digital power ground	VSS	VSS
U16	VSS_144	G	N/A	N/A					Digital power ground	VSS	VSS
AC18	VSS_145	G	N/A	N/A					Digital power ground	VSS	VSS
U19	VSS_146	G	N/A	N/A					Digital power ground	VSS	VSS
U21	VSS_147	G	N/A	N/A					Digital power ground	VSS	VSS
V17	VSS_148	G	N/A	N/A					Digital power ground	VSS	VSS
U22	VSS_149	G	N/A	N/A					Digital power ground	VSS	VSS
U29	VSS_150	G	N/A	N/A					Digital power ground	VSS	VSS
V3	VSS_151	G	N/A	N/A					Digital power ground	VSS	VSS
V5	VSS_152	G	N/A	N/A					Digital power ground	VSS	VSS
V8	VSS_153	G	N/A	N/A					Digital power ground	VSS	VSS
V10	VSS_154	G	N/A	N/A					Digital power ground	VSS	VSS
Y11	VSS_155	G	N/A	N/A					Digital power ground	VSS	VSS
Y14	VSS_156	G	N/A	N/A					Digital power ground	VSS	VSS
Y15	VSS_157	G	N/A	N/A					Digital power ground	VSS	VSS
W22	VSS_158	G	N/A	N/A					Digital power ground	VSS	VSS
W17	VSS_159	G	N/A	N/A					Digital power ground	VSS	VSS
W30	VSS_160	G	N/A	N/A					Digital power ground	VSS	VSS
W8	VSS_161	G	N/A	N/A					Digital power ground	VSS	VSS
W9	VSS_162	G	N/A	N/A					Digital power ground	VSS	VSS
AD21	VSS_163	G	N/A	N/A					Digital power ground	VSS	VSS
Y13	VSS_164	G	N/A	N/A					Digital power ground	VSS	VSS

Pin No.	Pin Name	Pin Type	I/O Def	I/O Pull	Pull Resistor	Nom Pull Resistor	Drive Current (mA)	Default Drive (mA)	Description	Tablet/VR REF	Excavator/BOX
R18	VSS_165	G	N/A	N/A					Digital power ground	VSS	VSS
Y9	VSS_166	G	N/A	N/A					Digital power ground	VSS	VSS
W19	VSS_167	G	N/A	N/A					Digital power ground	VSS	VSS
T18	VSS_168	G	N/A	N/A					Digital power ground	VSS	VSS
W18	VSS_169	G	N/A	N/A					Digital power ground	VSS	VSS
Y20	VSS_170	G	N/A	N/A					Digital power ground	VSS	VSS
AJ28	VSS_171	G	N/A	N/A					Digital power ground	VSS	VSS
AJ21	VSS_172	G	N/A	N/A					Digital power ground	VSS	VSS
AJ23	VSS_173	G	N/A	N/A					Digital power ground	VSS	VSS
AJ24	VSS_174	G	N/A	N/A					Digital power ground	VSS	VSS
AJ26	VSS_175	G	N/A	N/A					Digital power ground	VSS	VSS
AJ27	VSS_176	G	N/A	N/A					Digital power ground	VSS	VSS
AA13	VSS_177	G	N/A	N/A					Digital power ground	VSS	VSS
AL31	VSS_178	G	N/A	N/A					Digital power ground	VSS	VSS
AA10	VSS_179	G	N/A	N/A					Digital power ground	VSS	VSS
AJ20	VSS_180	G	N/A	N/A					Digital power ground	VSS	VSS
PART Y	RESERVE										
AB22	NC_1	N/A	N/A	N/A					Reserve.	NC	NC
AD11	NC_2	N/A	N/A	N/A					Reserve.	NC	NC
AD12	NC_3	N/A	N/A	N/A					Reserve.	NC	NC
AC14	NC_4	N/A	N/A	N/A					Reserve.	NC	NC
AD14	NC_5	N/A	N/A	N/A					Reserve.	NC	NC
AD15	NC_6	N/A	N/A	N/A					Reserve.	NC	NC
AC12	NC_7	N/A	N/A	N/A					Reserve.	NC	NC
AA19	NC_8	N/A	N/A	N/A					Reserve.	NC	NC
AA20	NC_9	N/A	N/A	N/A					Reserve.	NC	NC
AB20	NC_10	N/A	N/A	N/A					Reserve.	NC	NC
AA22	NC_11	N/A	N/A	N/A					Reserve.	NC	NC

note1:

for 1.8 or 3.0V I/O type,

1.8V mode:33k-88k pull-up resistor,58k nom pull-up resistor;34k-93k pull-down resistor,60k nom pull-down resistor;

3.0V mode:33k-89k pull-up resistor,59k nom pull-up resistor;34k-95k pull-down resistor,61k nom pull-down resistor;