

RK3399 I/O LIST for EVB&REF&Excavator ( Open Source Board )

Editor: LX

Ver: 1.2

Date: 2017-01-11

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
<b>PART C</b>	<b>PMUIO1(1.8V only I/O)</b>									<b>VCC_1V8</b>	<b>VCC_1V8</b>
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_E	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	Reserved
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	Reserved	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	Reserved
P24	GPIO0_B5/TCPD_VBUS_SOURCE3/TCPD_VBUS_FDIS	I/O	I	down	55k-176k	95k	5,10,15,20	5	Hall Sersor interrupt input Type-C1 discharge control	Reserved	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
<b>PART E</b>	<b>PMUIO2(1.8 or 3.0V I/O) note1</b>									<b>VCC_1V8</b>	<b>VCC_3V0</b>
R25	GPIO1_A0/ISP_SHUTTER_EN/TCPD_VBUS_SINK_EN	I/O	I	down	34k-93k	60k	3,6,9,12	3	COMP Sersor interrupt Hall sensor interrupt input	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 Sersor interrupt Charge ok input	COMP_INT_L	CHG_OK_H

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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
R27	GPIO1_A3/ISP_FLASHTRIGOUT	I/O	I	down	34k-93k	60k	3,6,9,12	3	ISP_FLASHTRIGOUT	Reserved	ISP_FLASHTRIGOUT
R28	GPIO1_A4/ISP_PRELIGHT_TRIG	I/O	I	down	34k-93k	60k	3,6,9,12	3	ISP_PRELIGHT_TRIG	Reserved	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_TX	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_RX	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 interrupt 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	Reserved	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	BD99955 AC adapter insert detect input	CHARG_OK_H	DC_DET_H

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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_1V5	VCC_1V5
P23	PMUIO2_VDD	P	N/A	N/A					PMUIO2 digital I/O power supply	VCC_3V0	VCC_3V0
<b>PART L</b>	<b>APIO2(1.8 or 3.0V I/O)</b>									<b>VCC_1V8</b>	<b>VCC_3V0</b>
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_1V5	VCC_1V5
K23	APIO2_VDD	P	N/A	N/A					APIO2 digital I/O power supply	VCC_3V0	VCC_3V0
<b>PART G</b>	<b>APIO3 (1.8V only I/O)</b>									<b>VCC_1V8</b>	<b>VCC_1V8</b>
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

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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_DET/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
AD9	GPIO2_D3/SDIO0_PWREN	I/O	I	down	55k-176k	95k	5,10,15,20	5	MIPI camera reset output MEMSI interrupt input	Camera_RST_L	Reserved
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	VCC1V8_S3	VCC1V8_S3
PART I	APIO1(3.3V only I/O)									VCC_3V3	VCC_3V3
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	Reserved	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	Reserved	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	Reserved	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	Reserved	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	Reserved	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	Reserved	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	Reserved	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	Reserved	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

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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	Reserved	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	Reserved	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	Reserved	MAC_COL
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	Reserved	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
<b>PART J</b>	<b>APIO5(1.8 or 3.0V I/O)</b>									<b>VCC_1V8</b>	<b>VCC_1V8</b>
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_SDO2
AH26	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_SDO1
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



# RK3399 I/O LIST for EVB&REF&Excavator ( Open Source Board )

Editor: LX

Ver: 1.2

Date: 2017-01-11

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
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
<b>PART F</b>	<b>SDMMC0 (1.8V/3.0V auto)</b>									<b>VCCIO_SD=AUTO</b>	<b>VCCIO_SD=AUTO</b>
Y27	GPIO4_B0/SDMMC0_D0/UART2DBG_RX	I/O	I	up	33k-88k	58k	4,6,8,10,12,14,16,18	6	SDMMC0 data port	SDMMC0_D0	SDMMC0_D0
Y26	GPIO4_B1/SDMMC0_D1/UART2DBG_TX	I/O	I	up	33k-88k	58k	4,6,8,10,12,14,16,18	6	SDMMC0 data port	SDMMC0_D1	SDMMC0_D1
Y28	GPIO4_B2/SDMMC0_D2/APJTAG_TCK	I/O	I	up	33k-88k	58k	4,6,8,10,12,14,16,18	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	4,6,8,10,12,14,16,18	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	4,6,8,10,12,14,16,18	6	SDMMC0 clock output JTAG TCK for MCU	SDMMC0_CLKO MCUJTAG_TCK	SDMMC0_CLKO MCUJTAG_TCK
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
<b>PART K</b>	<b>APIO4(1.8 or 3.0V IO)</b>									<b>VCC_3V0</b>	<b>VCC_3V0</b>
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 output,for AP debug	UART2DBG_TX	UART2DBG_TX
AJ4	GPIO4_C4/UART2DBG_TX	I/O	I	up	33k-89k	59k	3,6,9,12	3	Uart2 serial port data input,for AP debug	UART2DBG_RX	UART2DBG_RX
AK1	GPIO4_C5/SPDIF_TX	I/O	I	down	34k-95k	61k	3,6,9,12	3	HDMI digital audio potical output	Reserved	SPDIF_TX
AL30	GPIO4_C6/PWM1	I/O	I	down	34k-95k	61k	3,6,9,12	3	Touch panel reset input	Reserved	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	Reserved	CABC_EN

# RK3399 I/O LIST for EVB&REF&Excavator ( Open Source Board )

Editor: LX

Ver: 1.2

Date: 2017-01-11

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
AG4	GPIO4_D6	I/O	I	down	34k-95k	61k	3,6,9,12	3	LCD panel reset output PCIE PRSNT	Reserved	LCD_RST_H
AC8	APIO4_VDDPST	P	N/A	N/A					APIO4 Post-Driver power supply	APIO4_VDDPST	VCC_1V5
AC9	APIO4_VDD	P	N/A	N/A					APIO4 digital I/O power supply	APIO4_VDD	VCC_3V0
<b>PART V SAR ADC</b>											
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	Reserved	RAM_ID
AH27	ADC_IN4	A	N/A	N/A			N/A		VDD_GPU voltage detect input	Reserved	BATT_TC_L
AC24	ADC_AVDD_1V8	AP	N/A	N/A			N/A		SAR-ADC analog power supply	VCCA1V8_S3	VCCA1V8_S3
<b>PART M eDP PHY</b>											
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
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
J29	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

RK3399 I/O LIST for EVB&REF&Excavator ( Open Source Board )

Editor: LX

Ver: 1.2

Date: 2017-01-11

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
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
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



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Editor: LX

Ver: 1.2

Date: 2017-01-11

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
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
<b>PART P MIPI TX/RX PHY</b>											
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
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
<b>PART Q MIPI TX PHY</b>											
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

# RK3399 I/O LIST for EVB&REF&Excavator ( Open Source Board )

Editor: LX

Ver: 1.2

Date: 2017-01-11

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
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
<b>PART R MIPI RX PHY</b>											
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
<b>PART U USIC PHY</b>											
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
<b>PART D USB 2.0 PHY</b>											
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
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

# RK3399 I/O LIST for EVB&REF&Excavator ( Open Source Board )

Editor: LX

Ver: 1.2

Date: 2017-01-11

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
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
<b>PART S</b>	<b>USB TYPEC0 PHY</b>										
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
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

# RK3399 I/O LIST for EVB&REF&Excavator ( Open Source Board )

Editor: LX

Ver: 1.2

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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
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
<b>PART T</b>	<b>USB TYPEC1 PHY</b>										
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

# RK3399 I/O LIST for EVB&REF&Excavator ( Open Source Board )

Editor: LX

Ver: 1.2

Date: 2017-01-11

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	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	TYPEC1_AUXM_PU_PD	TYPEC1_AUXM_PU_PD
AC19	TYPEC1_U3VBUSDET	A	N/A	N/A			N/A		TYPEC1 connected/vbus power detect for	TYPEC1_U3VBUSDET	TYPEC1_U3VBUSDET
AE21	TYPEC1_REXT	A	N/A	N/A			N/A		TYPEC1 external calibration circuits,connect a	TYPEC1_REXT	TYPEC1_REXT
AG21	TYPEC1_REXT_CC	A	N/A	N/A			N/A		TYPEC1 CC internal calibration	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
<b>PART H EMMC PHY</b>											
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.	EMMC_CALIO	EMMC_CALIO
L30	EMMC_TP	I/O							Analog DLL charge pump Test pad	EMMC_TP	EMMC_TP
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
<b>PART B DDR0</b>											
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



# RK3399 I/O LIST for EVB&REF&Excavator ( Open Source Board )

Editor: LX

Ver: 1.2

Date: 2017-01-11

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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
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	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	DDR0 PLL TESTOUT N	DDR0 PLL TESTOUT N
R7	DDR0 PZQ	A	N/A	N/A			N/A		DRAM0 reference pin for ZQ	DDR0 PZQ	DDR0 PZQ

RK3399 I/O LIST for EVB&REF&Excavator ( Open Source Board )

Editor: LX

Ver: 1.2

Date: 2017-01-11

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
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
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						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

RK3399 I/O LIST for EVB&REF&Excavator ( Open Source Board )

Editor: LX

Ver: 1.2

Date: 2017-01-11

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
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
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

RK3399 I/O LIST for EVB&REF&Excavator ( Open Source Board )

Editor: LX

Ver: 1.2

Date: 2017-01-11

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
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	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	DDR1 PLL TESTOUT N	DDR1 PLL TESTOUT N
G15	DDR1 PZQ	A	N/A	N/A			N/A		DRAM1 reference pin for ZQ	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
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

RK3399 I/O LIST for EVB&REF&Excavator ( Open Source Board )

Editor: LX

Ver: 1.2

Date: 2017-01-11

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
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			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
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_CPU_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 output	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



RK3399 I/O LIST for EVB&REF&Excavator ( Open Source Board )

Editor: LX

Ver: 1.2

Date: 2017-01-11

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
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
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

RK3399 I/O LIST for EVB&REF&Excavator ( Open Source Board )

Editor: LX

Ver: 1.2

Date: 2017-01-11

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
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
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

RK3399 I/O LIST for EVB&REF&Excavator ( Open Source Board )

Editor: LX

Ver: 1.2

Date: 2017-01-11

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
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
A10	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
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
AG29	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

RK3399 I/O LIST for EVB&REF&Excavator ( Open Source Board )

Editor: LX

Ver: 1.2

Date: 2017-01-11

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
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
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

RK3399 I/O LIST for EVB&REF&Excavator ( Open Source Board )

Editor: LX

Ver: 1.2

Date: 2017-01-11

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
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
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
Y19	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



RK3399 I/O LIST for EVB&REF&Excavator ( Open Source Board )

Editor: LX

Ver: 1.2

Date: 2017-01-11

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
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
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

RK3399 I/O LIST for EVB&REF&Excavator ( Open Source Board )

Editor: LX

Ver: 1.2

Date: 2017-01-11

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;  
2.0V mode:33k-89k pull-up resistor,59k nom pull-up resistor;34k-95k pull-down resistor,61k nom pull-down resistor;  
3.The IO functional definition of the red font can be changed for demand, and others could not be changed.