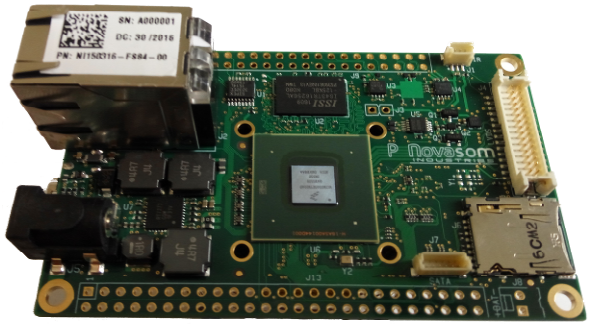
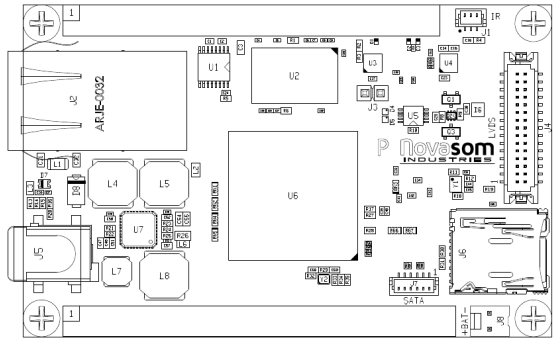
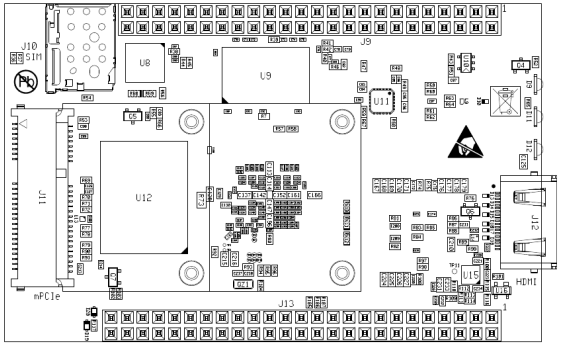
Novasom INDUSTRIES
Creating embedded solutions

NOVAsomP Quick Start Guide

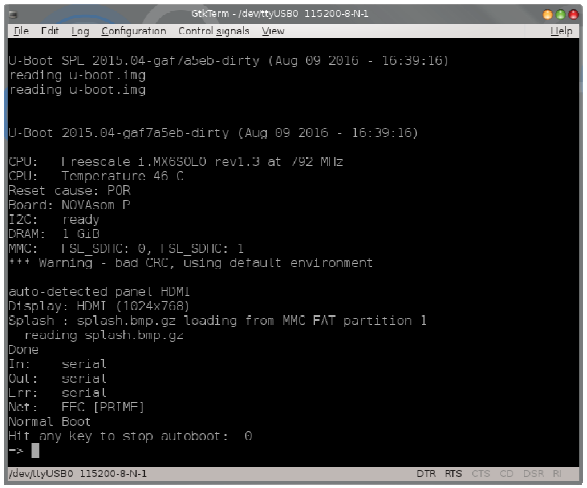






Quick Start Instructions

Download the basic NOVAsom P file system from www.novasomindustries.com and create a uSD with it.
Insert the just written uSD in the J6 slot and connect the serial port to J9 pin 13,14 and 16.
Insert an appropriate power source chord in the J5 connector and power it on.
After just some half a second you should see your terminal with :



You have your NOVAsom P powered up and running.

* All product names, logos, and brands are property of their respective owners.

On board connector placement and function

Connector	Manufacturer	Connector Type	Mating Connector	Function
J1	JST	BM03B-SRSS-TB(LF)(SN)(P)	SHR-03V-S-B	IR Detector
J2	Abracon	ARJE-0032	Std RJ45 + USB	Ethernet+USB
J3	Jumper	-	-	2 pin header
J4	Hirose	DF13A-30DP-1.25V	DF13-30DS-1.25C	LVDS
J5	CUI Inc.	PJ-002AH-SMT-TR	-	POWER
J6	Hirose	uSD card	-	uSD
J7	JST	BM06B-SRSS-TB(LF)(SN)	SHR-06V-S-B	SATA
J8	Molex	22232021	22013027	CMOS Battery
J9	NP	-	-	48 pin header
J10	JAE	SF72S006VBAR2500	-	nanoSIM
J11	JAE	MM60-52B1-E1-R650	-	mPCIe
J12	TE AMP	2-1903015-2	-	HDMI
J13	NP	-	-	50 pin header

J9 Connector pinout

Pin	Signal Name	Primary Function	i.MX6 Ball Location	Power	Color
1	VINHIGH	Input Power	-	-	
2	NVCC_3V3	3.3V Power	-	-	
3	GPIO3_IO19		G21	3.3V	
4	NVCC_SD3_FROM_EXP	Power	-	-	
5	GPIO4_IO26		R25	3.3V	
6	GPIO3_IO20		G20	3.3V	
7	GPIO4_IO28		R24	3.3V	
8	GPIO4_IO27		R23	3.3V	
9	GPIO1_IO00		T5	3.3V	
10	GPIO4_IO29		R22	3.3V	
11	GPIO6_IO05		L6	3.3V/1.8V ext	
12	GPIO4_IO14		T6	3.3V	
13	CONSOLE_RS232_TXD		-	-	
14	CONSOLE_RS232_RXD		-	-	
15	GEN_5V	5V Power	-	-	
16	GND	Power	-	-	
17	AUX_RS232_TXD		-	-	
18	AUX_RS232_RXD		-	-	
19	AUD6_TXD		N25	3.3V	
20	AUD6_RXD		P25	3.3V	
21	AUD6_TXFS		N20	3.3V	
22	AUD6_TXC		N21	3.3V	
23	I2C0_SDA		N6	3.3V/1.8V ext	
24	I2C0_SCL		N5	3.3V/1.8V ext	
25	UART1_TXD		M1	3.3V/1.8V ext	
26	UART1_RXD		M3	3.3V/1.8V ext	
27	SPDIF_OUT		R1	3.3V	
28	UART4_RTS_L		L4	3.3V/1.8V ext	
29	UART4_TXD		M2	3.3V/1.8V ext	
30	UART4_RXD		L1	3.3V/1.8V ext	
31	CANH		-	-	
32	UART4_CTS_L		L3	3.3V/1.8V ext	
33	CANL		-	-	
34	RS485_RX+		-	-	
35	RS485_TX-		-	-	
36	RS485_RX-		-	-	
37	RS485_TX+		-	-	
38	USB_OTG_VBUS		-	-	
39	USB_OTG_DP		-	-	
40	USB_OTG_DN		-	-	
41	USB_PWR3		-	-	
42	USB_PWR2		-	-	
43	USBDN_DP2		-	-	
44	USBDN_DM2		-	-	
45	USBDN_DP3		-	-	
46	USBDN_DM3		-	-	
47	GND	Power	-	-	
48	GND	Power	-	-	

J13 Connector pinout

Pin	Signal Name	Function	i.MX6 Ball	Power	
1	VINHIGH	Input Power	-	-	
2	NVCC_3V3	3.3V Power	-	-	
3	EXT_RESET	System Reset	-	3.3V	
4	ONOFF_IMX6	Power On Signal	-	3.3V	
5	ECSPI1_MISO	SPI1 MISO	V24	3.3V	
6	ECSPI1_MOSI	SPI1 MOSI	T20	3.3V	
7	ECSPI1_SS0	SPI1 SS0	W24	3.3V	
8	ECSPI1_SCK	SPI1 CLOCK	U22	3.3V	
9	ECSPI2_SS0	SPI2 SS0	V25	3.3V	
10	ECSPI2_SS1	SPI2 SS1	T22	3.3V	
11	ECSPI2_MISO	SPI2 MISO	U24	3.3V	
12	ECSPI2_MOSI	SPI2 MOSI	T21	3.3V	
13	ECSPI2_SCK	SPI2 CLOCK	U23	3.3V	
14	ECSPI3_SCK	SPI3 CLOCK	P24	3.3V	
15	ECSPI3_MISO	SPI3 MISO	P23	3.3V	
16	ECSPI3_MOSI	SPI3 MOSI	P22	3.3V	
17	ECSPI3_SS0	SPI3 SS0	P21	3.3V	
18	ECSPI3_SS1	SPI3 SS1	P20	3.3V	
19	ECSPI4_MISO	SPI4 MISO	E23	3.3V	
20	ECSPI4_MOSI	SPI4 MOSI	G23	3.3V	
21	ECSPI4_SS0	SPI4 SS0	J19	3.3V	
22	ECSPI4_SCK	SPI4 CLOCK	H20	3.3V	
23	I2C3_SCL	I2C3 SCL	F21	3.3V	
24	I2C3_SDA	I2C3 SDA	D24	3.3V	
25	SD3_CMD	uSD 3 CMD	B13	3.3V/1.8V ext	
26	32KHZ_CLK_OUT	32KHz Ref Out	R5	3.3V	
27	SD3_CLK	uSD 3 CLK	D14	3.3V/1.8V ext	
28	GND	Power	-	-	
29	SD3_DATA0	uSD3 DATA 0	E14	3.3V/1.8V ext	
30	SD3_DATA1	uSD3 DATA 1	F14	3.3V/1.8V ext	
31	SD3_DATA2	uSD3 DATA 2	A15	3.3V/1.8V ext	
32	SD3_DATA3	uSD3 DATA 3	B15	3.3V/1.8V ext	
33	SD3_DATA4	uSD3 DATA 4	D13	3.3V/1.8V ext	
34	SD3_DATA5	uSD3 DATA 5	C13	3.3V/1.8V ext	
35	SD3_DATA6	uSD3 DATA 6	E13	3.3V/1.8V ext	
36	SD3_DATA7	uSD3 DATA 7	F13	3.3V/1.8V ext	
37	CSI_D1M	CSI D1 Negative	-	-	
38	CSI_D1P	CSI D1 Positive	-	-	
39	CSI_D0M	CSI D0 Negative	-	-	
40	CSI_D0P	CSI D0 Positive	-	-	
41	CSI_CLK0M	CSI CLK Negative	-	-	
42	CSI_CLK0P	CSI CLK Positive	-	-	
43	CSI_D1M	CSI D1 Negative	-	-	
44	CSI_D1P	CSI D1 Positive	-	-	
45	CSI_D0M	CSI D0 Negative	-	-	
46	CSI_D0P	CSI D0 Positive	-	-	
47	CSI_CLK0M	CSI CLK Negative	-	-	
48	CSI_CLK0P	CSI CLK Positive	-	-	
49	NVCC_3V3	3.3V Power	-	-	
50	GND	Power	-	-	

On board connectors and pinout

Connector	Mfg	Connector P/N	Function	Pinout	Signal Name		
J1	JST	BM03B-series	IR Detector	4	IR_DETECT		
				3	3.3V		
				2	GND		
				1	IR FEEDBACK		
J2	Abracon	ARJE-0032	Ethernet+USB				
J3	Jumper						
J4	Hirose	DF13A-30DP-1.25V	LVDS	1	LVDS_BL_POWER	LVDS_BL_POWER	2
				3	LVDS0_TX2_P	LVDS0_TX0_P	4
				5	LVDS0_TX2_N	LVDS0_TX0_N	6
				7	LVDS0_TX3_P	LVDS0_TX1_P	8
				9	LVDS0_TX3_N	LVDS0_TX1_N	10
				11	LVDS1_TX0_N	LVDS0_CLK_P	12
				13	LVDS1_TX0_P	LVDS0_CLK_N	14
				15	LVDS1_TX1_P	LVDS1_CLK_P	16
				17	LVDS1_TX1_N	LVDS1_CLK_N	18
				19	LVDS1_TX2_N	LVDS1_TX3_N	20
				21	LVDS1_TX2_P	LVDS1_TX3_P	22
				23	LVDS_POWER	LVDS_POWER	24
				25	GND	GND	26
				27	BL_PWM	I2C3_SCL	28
				29	TOUCH_IRQ	I2C3_SDA	30
J5	CUI Inc.	PJ-002AH-SMT-TR	POWER	1	VIN		
				2	GND		
J6	Hirose	uSD card	uSD	1	DATA2		
				2	DATA3		
				3	CMD		
				4	VDD		
				5	CLK		
				6	VSS		
				7	DATA0		
				8	DATA1		
J7	JST	BM06B-series	SATA	1	VCC		
				2	RXP		
				3	RXN		
				4	TXN		
				5	TXP		
				6	GND		
J8	Molex	22232021	Battery	1	VBAT+		
				2	GND		
J9	NP		48 pin header				
J10	JAE	SF72S006VBAR2500	nanoSIM	1	SIM VCC		
				2	SIM RST		
				3	SIM CLK		
				5	GND		
				6	SIM VPP		
				7	SIM I/O		
J11	JAE	MM60-52B1-E1-R650	miPCIe	1	WAKE#	3.3V	2
				3	Reserved	GND	4
				5	Reserved	1.5V	6
				7	Reserved	SIM VCC	8
				9	GND	SIM I/O	10
				11	REFCLK-	SIM CLK	12
				13	REFCLK+	SIM RST	14
				15	GND	SIM VPP	16
				17	Reserved	GND	18
				19	Reserved	W_DISABLE#	20
				21	GND	PERST#	22
				23	PERn0	+3.3Vaux	24
				25	PERp0	GND	26
				27	GND	+1.5V	28
				29	GND	SMB_CLK	30
				31	PETn0	SMB_DATA	32
				33	PETp0	GND	34
				35	GND	USB_D-	36
				37	GND	USB_D+	38
				39	3.3V	GND	40
				41	3.3V	LED_WWAN#	42
				43	GND	LED_WLAN#	44
				45	AUD3_TXC (**)	LED_WPAN#	46
				47	AUD3_RXD(**)	+1.5V	48
				49	AUD3_TXD(**)	GND	50
				51	AUD3_TXFS(**)	+3.3V	52
J12	TE AMP	2-1903015-2	HDMI	1	TMDS Data2+		
				2	GND		
				3	TMDS Data2-		
				4	TMDS Data1+		
				5	GND		
				6	TMDS Data1-		
				7	TMDS Data0+		
				8	GND		
				9	TMDS Data0-		
				10	TMDS Clock+		
				11	GND		
				12	TMDS Clock-		
				13	CEC		
				14	Reserved		
				15	DDC SCL		
				16	DDC SDA		
				17	GND		
				18	+5V		
				19	HPG		
J13	NP		50 pin header				

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