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Pin layout for Board Rev. 1.0x/1.1x

J1	Function	Device	GPIO	Mode	/sys/class/gpio/gpio#	efus-SINTF V1.20
1	V5					
2	V5					
3	V5					
4	V5					
5	V5					
6	V5					
7	GND					
8	GND					
9	VBAT					
10	V33_OUT					
11	USBD_CHD	USB DEVICE	-	I	-	J22_9
12	/RESET_IN	RESET	-	I	-	(J22_10)
13	-					
14	/RESET_OUT	GPIO	GPIO1_IO26	IO	26	J22_8
15	UART_C_RXD	UART1	GPIO5_IO29	IO	157	(J16_5 / J16_6)
16	SD_A_WP	SD1	GPIO4_IO20	IO	116	-
17	UART_C_TXD	UART1	GPIO5_IO28	IO	156	(J16_5 / J16_6)
18	SD_A_CD	SD1	GPIO1_IO01	IO	1	Micro-SD J24
19	UART_C_RTS	UART1	GPIO3_IO19	IO	83	(J16_5 / J16_6)
20	SD_A_DAT2	SD1	GPIO1_IO19	IO	19	Micro-SD J24_1
21	UART_C_CTS	UART1	GPIO3_IO20	IO	84	-
22	SD_A_DAT3	SD1	GPIO1_IO21	IO	21	Micro-SD J24_2
23	PWM_B	PWM	(not available)	-	-	J22_30
24	SD_A_CMD	SD1	GPIO1_IO18	IO	18	Micro-SD J24_3
25	PWM_A	PWM4	GPIO2_IO10	IO	42	J22_32
26	SD_A_VCC	V33	-	O	-	Micro-SD J24_4
27	GND					
28	SD_A_CLK	SD1	GPIO1_IO20	IO	20	Micro-SD J24_5
29	CAN_A_TX	FLEXCAN2	GPIO4_IO14	IO	110	(J13_3 / J13_4)
30	GND					
31	CAN_A_RX	FLEXCAN2	GPIO4_IO15	IO	111	(J13_3 / J13_4)
32	SD_A_DAT0	SD1	GPIO1_IO16	IO	16	Micro-SD J24_7
33	GND					
34	SD_A_DAT1	SD1	GPIO1_IO17	IO	17	Micro-SD J24_8
35	CAN_B_TX	FLEXCAN1	GPIO4_IO10	IO	106	J13_55 / (J13_56)
36	TAMPER	-	(not available)	-	-	J22_15
37	CAN_B_RX	FLEXCAN1	GPIO4_IO11	IO	107	J13_56 / (J13_55)
38	ADC_D	ADC	(not available)	-	-	J22_18
39	GND					
40	ADC_C	ADC	(not available)	-	-	J22_17

J1	Function	Device	GPIO	Mode	/sys/class/gpio/gpio#	efus-SINTF V1.20
41	MPCIE_CTX_P	PCIe	-	O	-	J17_33
42	ADC_B	ADC	(not available)	-	-	J22_20
43	MPCIE_CTX_N	PCIe	-	O	-	J17_31
44	ADC_A	ADC	(not available)	-	-	J22_19
45	GND					
46	GND					
47	MPCIE_CRX_P	PCIe	-	I	-	J17_25
48	/EXT_PROG	BOOT_MODE0	-	I	-	J22_57
49	MPCIE_CRX_N	PCIe	-	I	-	J17_23
50	SPI_B_MISO	SPI1	GPIO3_IO17	IO	81	J22_23
51	GND					
52	SPI_B_MOSI	SPI1	GPIO3_IO18	IO	82	J22_24
53	MPCIE_CLK_P	PCIe	-	O	-	J17_13
54	SPI_B_CLK	SPI1	GPIO3_IO16	IO	80	J22_25
55	MPCIE_CLK_N	PCIe	-	O	-	J17_11
56	SPI_B_CS1	SPI1	GPIO3_IO24	IO	88	J22_26
57	GND					
58	SPI_B_CS2	SPI1	GPIO3_IO25	IO	89	J22_27
59	MPCIE_PERST	GPIO	GPIO6_IO14	IO	174	J17_22
60	SPI_B_IRQ1	GPIO	GPIO1_IO05	IO	5	J22_28
61	MPCIE_WAKE	GPIO	GPIO6_IO16	IO	176	J17_1
62	SPI_B_IRQ2	GPIO	GPIO1_IO06	IO	6	J22_29
63	GND					
64	GND					
65	SD_B_DAT2	SD2	GPIO1_IO13	IO	13	SD J23_9
66	SPI_A_MISO	SPI2	GPIO2_IO25	IO	57	J22_33
67	SD_B_DAT3	SD2	GPIO1_IO12	IO	12	SD J23_1
68	SPI_A_MOSI	SPI2	GPIO2_IO24	IO	56	J22_34
69	SD_B_CMD	SD2	GPIO1_IO11	IO	11	SD J23_2
70	SPI_A_CLK	SPI2	GPIO2_IO23	IO	55	J22_35
71	SD_B_VCC	V33	-	O	-	SD J23_4
72	SPI_A_CS1	SPI2	GPIO2_IO26	IO	58	J22_36
73	SD_B_CLK	SD2	GPIO1_IO10	IO	10	SD J23_5
74	SPI_A_CS2	SPI2	GPIO2_IO27	IO	59	J22_37
75	GND					
76	SPI_A_IRQ1	GPIO	GPIO1_IO07	IO	7	J22_38
77	SD_B_DAT0	SD2	GPIO1_IO15	IO	15	SD J23_7
78	SPI_A_IRQ2	GPIO	GPIO1_IO08	IO	8	J22_39
79	SD_B_DAT1	SD2	GPIO1_IO14	IO	14	SD J23_8
80	GND					
81	SD_B_WP	SD2	GPIO1_IO02	IO	2	SD J23_11

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J1	Function	Device	GPIO	Mode	/sys/class/gpio/gpio#	efus-SINTF V1.20
82	I2C_B_SDA	I2C3	GPIO7_IO11	IO	203	J22_45
83	SD_B_CD	SD2	GPIO1_IO04	IO	4	SD J23_12
84	I2C_B_SCL	I2C3	GPIO1_IO03	IO	3	J22_46
85	GND					
86	I2C_B_IRQ	GPIO	GPIO2_IO12	IO	44	J22_48
87	BL_CTRL	PWM3	GPIO2_IO09	IO	41	J3_10
88	/I2C_B_RST	GPIO	GPIO2_IO13	IO	45	J22_47
89	BL_VBL_ON	GPIO	GPIO2_IO08	IO	40	J3_9 / (J3_7 / J3_8)
90	GND					
91	GND					
92	UART_A_RXD	UART4	GPIO4_IO07	IO	103	(J14_3)
93	LCD_CLK	IPU1_DISP0	GPIO4_IO16	IO	112	J2X_4
94	UART_A_TXD	UART4	GPIO4_IO06	IO	102	(J14_5)
95	GND					
96	UART_D_RXD	UART5	GPIO4_IO09	IO	105	J22_14
97	LCD_HSYNC	IPU1_DISP0	GPIO4_IO18	IO	114	J2X_5
98	UART_D_TXD	UART5	GPIO4_IO08	IO	104	J22_16
99	LCD_VSYNC	IPU1_DISP0	GPIO4_IO19	IO	115	J2X_6
100	GND					
101	GND					
102	UART_B_RXD	UART2	GPIO3_IO27	IO	91	(J15_3)
103	LCD_R2	IPU1_DISP0	GPIO4_IO21	IO	117	J2X_8
104	UART_B_TXD	UART2	GPIO3_IO26	IO	90	(J15_5)
105	LCD_R3	IPU1_DISP0	GPIO4_IO22	IO	118	J2X_9
106	UART_B_RTS	UART2	GPIO3_IO28	IO	92	(J15_4)
107	LCD_R4	IPU1_DISP0	GPIO4_IO23	IO	119	J2X_10
108	UART_B_CTS	UART2	GPIO3_IO29	IO	93	(J15_6)
109	LCD_R5	IPU1_DISP0	GPIO4_IO24	IO	120	J2X_11
110	GND					
111	LCD_R6	IPU1_DISP0	GPIO4_IO25	IO	121	J2X_12
112	I2S_MCLK	CLKO1	GPIO1_IO00	IO	0	-
113	LCD_R7	IPU1_DISP0	GPIO4_IO26	IO	122	J2X_13
114	GND					
115	GND					
116	I2S_LRCLK	AUD4	GPIO5_IO16	IO	144	-
117	LCD_G2	IPU1_DISP0	GPIO4_IO27	IO	123	J2X_15
118	GND					
119	LCD_G3	IPU1_DISP0	GPIO4_IO28	IO	124	J2X_16
120	I2S_SCLK	AUD4	GPIO5_IO14	IO	142	-
121	LCD_G4	IPU1_DISP0	GPIO4_IO29	IO	125	J2X_17
122	GND					

J1	Function	Device	GPIO	Mode	/sys/class/gpio/gpio#	efus-SINTF V1.20
123	LCD_G5	IPU1_DISP0	GPIO4_IO30	IO	126	J2X_18
124	I2S_DOUT	AUD4	GPIO5_IO17	IO	145	-
125	LCD_G6	IPU1_DISP0	GPIO4_IO31	IO	127	J2X_19
126	I2S_DIN	AUD4	GPIO5_IO15	IO	143	-
127	LCD_G7	IPU1_DISP0	GPIO5_IO05	IO	133	J2X_20
128	GND					
129	GND					
130	I2C_C_SDA	I2C1	(also used internally)	-	-	J18_3 / J20_14
131	LCD_B2	IPU1_DISP0	GPIO5_IO06	IO	134	J2X_22
132	I2C_C_SCL	I2C1	(also used internally)	-	-	J18_5 / J20_13
133	LCD_B3	IPU1_DISP0	GPIO5_IO07	IO	135	J2X_23
134	DVI_DDC_VOUT	V33	-	O	-	-
135	LCD_B4	IPU1_DISP0	GPIO5_IO08	IO	136	J2X_24
136	GND					
137	LCD_B5	IPU1_DISP0	GPIO5_IO09	IO	137	J2X_25
138	DVI_DATA2_P	HDMI/LVDS/DP	-	O	-	HDMI J6_1
139	LCD_B6	IPU1_DISP0	GPIO5_IO10	IO	138	J2X_26
140	DVI_DATA2_N	HDMI/LVDS/DP	-	O	-	HDMI J6_3
141	LCD_B7	IPU1_DISP0	GPIO5_IO11	IO	139	J2X_27
142	DVI_DATA1_P	HDMI/LVDS/DP	-	O	-	HDMI J6_4
143	GND					
144	DVI_DATA1_N	HDMI/LVDS/DP	-	O	-	HDMI J6_6
145	LCD_DE	IPU1_DISP0	GPIO4_IO17	IO	113	J2X_29
146	DVI_DATA0_P	HDMI/LVDS/DP	-	O	-	HDMI J6_7
147	GND					
148	DVI_DATA0_N	HDMI/LVDS/DP	-	O	-	HDMI J6_9
149	LCD_VLCD_ON	GPIO	GPIO2_IO11	IO		J2X_30 / J2X_31
150	DVI_CLK_P	HDMI/LVDS/DP	-	O	-	HDMI J6_10
151	I2C_A_SDA	I2C2	GPIO4_IO13	IO		J22_41 / J2X_32
152	DVI_CLK_N	HDMI/LVDS/DP	-	O	-	HDMI J6_12
153	I2C_A_IRQ	GPIO	GPIO1_IO30	IO		J22_44 / J2X_33
154	DP_AUX_P	LVDS/DP	(not available)			
155	I2C_A_SCL	I2C2	GPIO4_IO12	IO		J22_42 / J2X_34
156	DVI_DDCCEC/DP_AUX_N	HDMI/LVDS/DP	GPIO5_IO02	IO	130	HDMI J6_13
157	/I2C_A_RST	GPIO	GPIO1_IO29	IO		J22_43
158	DVI_HPD	HDMI/DP	-	I	-	HDMI J6_19
159	GND					
160	GND					
161	CAM_YDATA0 (1) MIPI_CSI_D0_N (1)	IPU1_CSI0 MIPI-CSI	(not available) -	- O	- -	J18_24 / (J20_2) J20_2 / (J18_24)
162	ETH_B_D4-	-	(not available)	-	-	J10A_9

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J1	Function	Device	GPIO	Mode	/sys/class/gpio/gpio#	efus-SINTF V1.20
163	CAM_YDATA1 (1) MIPI_CSI_D0_P (1)	IPU1_CSI0 MIPI-CSI	(not available) -	- O	- -	J18_23 / (J20_3) J20_3 / (J18_23)
164	ETH_B_D4+	-	(not available)	-	-	J10A_8
165	CAM_YDATA4 (1) MIPI_CSI_D1_N (1)	IPU1_CSI0 MIPI-CSI	GPIO6_IO00 -	IO O	160 -	J18_22 / (J20_5) J20_5 / (J18_22)
166	ETH_B_LED_ACT	-	(not available)	-	-	(J10_LED2)
167	CAM_YDATA3 (1) MIPI_CSI_D1_P (1)	IPU1_CSI0 MIPI-CSI	GPIO5_IO31 -	IO O	159 -	J18_21 / (J20_6) J20_6 / (J18_21)
168	ETH_B_D3-	-	(not available)	-	-	J10A_7
169	CAM_YDATA5 (1) MIPI_CSI_D2_N (1)	IPU1_CSI0 MIPI-CSI	GPIO6_IO01 - (Dual/Quad only)	IO O	161 -	J18_20 (J18_20)
170	ETH_B_D3+	-	(not available)	-	-	J10A_6
171	CAM_YDATA2 (1) MIPI_CSI_D2_P (1)	IPU1_CSI0 MIPI-CSI	GPIO5_IO30 - (Dual/Quad only)	IO O	158 -	J18_19 (J18_19)
172	GND					
173	CAM_YDATA6 (1) MIPI_CSI_D3_N (1)	IPU1_CSI0 MIPI-CSI	GPIO6_IO02 - (Dual/Quad only)	IO O	162 -	J18_18 (J18_18)
174	ETH_B_D2-	-	(not available)	-	-	J10A_5
175	CAM_PCLK (1) MIPI_CSI_D3_P (1)	IPU1_CSI0 MIPI-CSI	GPIO5_IO18 - (Dual/Quad only)	IO O	146 -	J18_17 (J18_17)
176	ETH_B_D2+	-	(not available)	-	-	J10A_4
177	CAM_YDATA7 (1) MIPI_CSI_CLK_N (1)	IPU1_CSI0 MIPI-CSI	GPIO6_IO03 -	IO O	163 -	J18_16 / (J20_8) J20_8 / (J18_16)
178	ETH_B_LED_LINK	-	(not available)	-	-	(J10_LED1)
179	CAM_YDATA8 (1) MIPI_CSI_CLK_P (1)	IPU1_CSI0 MIPI-CSI	GPIO6_IO04 -	IO O	164 -	J18_14 / (J20_9) J20_9 / (J18_14)
180	ETH_B_D1-	-	(not available)	-	-	J10A_3
181	GND					
182	ETH_B_D1+	-	(not available)	-	-	J10A_2
183	CAM_MCLK	CLKO2	GPIO6_IO15	IO	175	J18_13 / J20_12
184	GND					
185	GND					
186	ETH_CTREF	-	(not available)	-	-	J10A_1 / J11A_1
187	CAM_YDATA9 (1) - (1)	IPU1_CSI0 MIPI-CSI	GPIO6_IO05 (not available)	IO -	165 -	J18_12 -
188	ETH_A_D4-	RGMII / PHY	-	IO	-	J11A_9
189	CAM_VCAM	V28	-	O	-	J18_4+11 / J20_15
190	ETH_A_D4+	RGMII / PHY	-	IO	-	J11A_8
191	CAM_HREF (1) - (1)	IPU1_CSI0 GPIO	GPIO5_IO19 GPIO5_IO19	IO IO	147 147	J18_9 J18_9
192	ETH_A_LED_ACT	PHY	-	O	-	(J11_LED2)
193	CAM_PWDN	GPIO	GPIO5_IO24	IO	152	J18_8 / J20_11
194	ETH_A_D3-	RGMII / PHY	-	IO	-	J11A_7
195	CAM_VSYNC (1) - (1)	IPU1_CSI0 GPIO	GPIO5_IO21 GPIO5_IO21	IO IO	149 149	J18_7 J18_7
196	ETH_A_D3+	RGMII / PHY	-	IO	-	J11A_6

J1	Function	Device	GPIO	Mode	/sys/class/gpio/gpio#	efus-SINTF V1.20
197	/CAM_RST	GPIO	GPIO5_IO23	IO	151	J18_6
198	ETH_VLED_OUT	V33	-	O	-	-
199	GND					
200	ETH_A_D2-	RGMII / PHY	-	IO	-	J11A_5
201	SATA_RX_P	SATA	-	I	-	SATA J21_6
202	ETH_A_D2+	RGMII / PHY	-	IO	-	J11A_4
203	SATA_RX_N	SATA	-	I	-	SATA J21_5
204	ETH_A_LED_LINK	PHY	-	O	-	(J11_LED1)
205	SATA_TX_N	SATA	-	O	-	SATA J21_3
206	ETH_A_D1-	RGMII / PHY	-	IO	-	J11A_3
207	SATA_TX_P	SATA	-	O	-	SATA J21_2
208	ETH_A_D1+	RGMII / PHY	-	IO	-	J11A_2
209	GND					
210	GND					
211	CAM_A_IN	-	(not available)	-	-	J19_2
212	USBH_A_PWR	USB_H1	GPIO3_IO31	IO	95	(USB J7_1)
213	CAM_A_GND	-	(not available)	-	-	J19_1
214	USBH_A_DN	USB_H1	-	IO	-	(USB J7_2)
215	GND					
216	USBH_A_DP	USB_H1	-	IO	-	(USB J7_3)
217	USBD_VBUS	USB _OTG	-	I	-	Mini-USB J9_1
218	GND					
219	USBD_PWR	USB_OTG	GPIO3_IO22	IO	86	(Mini-USB J9_1)
220	USBH_A_SSRX_N	USB HOST	(not available)	-	-	-
221	USBD_OC	USB_OTG	GPIO3_IO21	IO	85	-
222	USBH_A_SSRX_P	USB HOST	(not available)	-	-	-
223	USBD_ID	USB_OTG	GPIO1_IO24	IO	24	Mini-USB J9_4
224	GND					
225	USBD_DN	USB_OTG	-	IO	-	Mini-USB J9_2
226	USBH_A_SSTX_N	USB HOST	(not available)	-	-	-
227	USBD_DP	USB_OTG	-	IO	-	Mini-USB J9_3
228	USBH_A_SSTX_P	USB HOST	(not available)	-	-	-
229	GND					
230	GND					

(1) Camera signals depend on board configuration, either parallel CSI (upper row) or serial CSI (lower row).

Remark

The GPIO Reference Card is a software development tool. It lists the numbers needed for accessing GPIO ports in Linux under `/sys/class/gpio`. Pin names are given from the software point of view. For example the names of the LCD color signals indicate that the least significant two bits 0 and 1 are missing and only bits 2 to 7 are available. This differs from the Hardware Documentation where the bits are numbered from 0 to 5. Please refer to the efusA9r2 Hardware Documentation for hardware development.