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Pin layout for Board Rev. 1.0

J1	Function	Device	GPIO	Mode	/sys/class/gpio/gpio#	efus-SINTF V1.50
1	V5					
2	V5					
3	V5					
4	V5					
5	V5					
6	V5					
7	GND					
8	GND					
9	VBAT					
10	V33_OUT					
11	-					
12	/RESET_IN	RESET	-	I	-	J22_10
13	-					
14	/RESET_OUT	GPIO	GPIO1_IO13	IO	13	J22_8
15	UART_C_RXD	UART2	GPIO4_IO31	IO	127	(J16_5 / J16_6)
16	SD_A_WP	SD2	GPIO2_IO20	IO	52	-
17	UART_C_TXD	UART2	GPIO5_IO00	IO	128	(J16_5 / J16_6)
18	SD_A_CD	SD2	GPIO2_IO12	IO	44	Micro-SD J28
19	UART_C_RTS	UART2	GPIO5_IO29	IO	157	-
20	SD_A_DAT2	SD2	GPIO4_IO27	IO		Micro-SD J28_1
21	UART_C_CTS	UART2	GPIO5_IO28	IO	156	J27
22	SD_A_DAT3	SD2	GPIO2_IO18	IO	50	Micro-SD J28_2
23	PWM_B	PWM1	GPIO5_IO05	IO	133	J22_30
24	SD_A_CMD	SD2	GPIO2_IO14	IO	46	Micro-SD J28_3
25	PWM_A	PWM4	GPIO5_IO02	IO	130	J22_32
26	SD_A_VCC	V33	-	O	-	Micro-SD J28_4
27	GND					
28	SD_A_CLK	SD2	GPIO2_IO13	IO	45	Micro-SD J28_5
29	CAN_A_TX	FLEXCAN1	GPIO5_IO03	IO	131	(J13_3 / J13_4)
30	GND					
31	CAN_A_RX	FLEXCAN1	GPIO5_IO04	IO	132	(J13_3 / J13_4)
32	SD_A_DAT0	SD2	GPIO2_IO15	IO	47	Micro-SD J28_7
33	GND					
34	SD_A_DAT1	SD2	GPIO2_IO16	IO	48	Micro-SD J28_8
35	CAN_B_TX	FLEXCAN2	GPIO5_IO26	IO	154	J22_55 / (J22_56)
36	RESERVED1	SD2	GPIO2_IO19	IO	51	J22_15
37	CAN_B_RX	FLEXCAN2	GPIO5_IO27	IO	155	J22_56 / (J22_55)
38	RESERVED2	ADC	-	-	-	J22_18
39	GND					
40	RESERVED3	ADC	-	-	-	J22_17
41	MPCIE_CTX_P	-	-	-	-	J17_33
42	RESERVED4	ADC	-	-	-	J22_20
43	MPCIE_CTX_N	-	-	-	-	J17_31
44	RESERVED5	ADC	-	-	-	J22_19
45	GND					
46	GND					
47	MPCIE_CRX_P	-	-	-	-	J17_25
48	/EXT_PROG	BOOT_MODE0	-	-	-	J22_57
49	MPCIE_CRX_N	-	-	-	-	J17_23
50	SPI_B_MISO	SPI2	GPIO5_IO12	IO	140	J22_23
51	GND					
52	SPI_B_MOSI	SPI2	GPIO5_IO11	IO	139	J22_24
53	MPCIE_CLK_P	-	-	-	-	J17_13
54	SPI_B_CLK	SPI2	GPIO5_IO10	IO	138	J22_25
55	MPCIE_CLK_N	-	-	-	-	J17_11
56	SPI_B_CS1	SPI2	GPIO5_IO13	IO	141	J22_26
57	GND					
58	SPI_B_CS2	GPIO	GPIO3_IO16	-	80	J22_27
59	MPCIE_PERST	-	-	-	-	J17_22
60	SPI_B_IRQ1	GPIO	GPIO3_IO04	IO	68	J22_28
61	MPCIE_WAKE	-	-	-	-	J17_1
62	SPI_B_IRQ2	GPIO	GPIO3_IO02	IO	66	J22_29
63	GND					
64	GND					
65	SD_B_DAT2(1)	SD3	GPIO3_IO12	IO	76	SD J23_9
66	SPI_A_MISO	SPI3	GPIO5_IO24	IO	152	J22_33
67	SD_B_DAT3(1)	SD3	GPIO3_IO13	IO	77	SD J23_1
68	SPI_A_MOSI	SPI3	GPIO5_IO23	IO	151	J22_34
69	SD_B_CMD(2)	SD3	GPIO3_IO18	IO	82	SD J23_2
70	SPI_A_CLK	SPI3	GPIO5_IO22	IO	150	J22_35
71	SD_B_VCC	-				SD J23_4
72	SPI_A_CS1	SPI3	GPIO5_IO25	IO	153	J22_36
73	SD_B_CLK(2)	SD3	GPIO3_IO17	IO	81	SD J23_5
74	SPI_A_CS2	GPIO	GPIO3_IO01	IO	65	J22_37
75	GND					
76	SPI_A_IRQ1	GPIO	GPIO3_IO14	IO	78	J22_38
77	SD_B_DAT0(1)	SD3	GPIO3_IO10	IO	74	SD J23_7
78	SPI_A_IRQ2	GPIO	GPIO3_IO00	IO	64	J22_39
79	SD_B_DAT1(1)	SD3	GPIO3_IO11	IO	75	SD J23_8
80	GND					
81	SD_B_WP(2)	SD3	GPIO3_IO09	IO	73	SD J23_11
82	I2C_B_SDA	I2C4	GPIO5_IO21	IO	149	J22_45
83	SD_B_CD(2)	SD3	GPIO3_IO08	IO	72	SD J23_12
84	I2C_B_SCL	I2C4	GPIO5_IO20	IO	148	J22_46
85	GND					

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J1	Function	Device	GPIO	Mode	/sys/class/gpio/gpio#	efus-SINTF V1.50
86	I2C_B_IRQ	GPIO	GPIO4_IO29	IO	125	J22_48
87	BL_CTRL	PWM3	GPIO1_IO10	IO	10	J3_10
88	/I2C_B_RST	GPIO	GPIO4_IO28	IO	124	J22_47
89	BL_VBL_ON	GPIO	GPIO1_IO01	IO	1	J3_9 / (J3_7 / J3_8) / J29_2
90	GND					
91	GND					
92	UART_A_RXD	UART1	GPIO4_IO22	IO	118	(J14_3)
93	LCD_CLK	-	-	-	-	J2X_4
94	UART_A_TXD	UART1	GPIO4_IO21	IO	117	(J14_5)
95	GND					
96	UART_D_RXD	UART4	GPIO3_IO06	IO	70	J22_14
97	LCD_HSYNC	-	-	-	-	J2X_5
98	UART_D_TXD	UART4	GPIO3_IO07	IO	71	J22_16
99	LCD_VSYNC	-	-	-	-	J2X_6
100	GND					
101	GND					
102	UART_B_RXD	UART3	GPIO5_IO06	IO	134	(J15_3)
103	LCD_R0	-	-	-	-	J2X_8
104	UART_B_TXD	UART3	GPIO5_IO07	IO	135	(J15_5)
105	LCD_R1	-	-	-	-	J2X_9
106	UART_B_RTS	UART3	GPIO5_IO08	IO	136	(J15_4)
107	LCD_R2	-	-	-	-	J2X_10
108	UART_B_CTS	UART3	GPIO5_IO09	IO	137	(J15_6)
109	LCD_R3	-	-	-	-	J2X_11
110	GND					
111	LCD_R4	-	-	-	-	J2X_12
112	I2S_MCLK	SAI2	GPIO4_IO27	IO	123	-
113	LCD_R5	-	-	-	-	J2X_13
114	GND					
115	GND					
116	I2S_LRCLK	SAI2	GPIO4_IO24	IO	120	-
117	LCD_G0	-	-	-	-	J2X_15
118	GND					
119	LCD_G1	-	-	-	-	J2X_16
120	I2S_SCLK	SAI2	GPIO4_IO25	IO	121	-
121	LCD_G2	-	-	-	-	J2X_17
122	GND					
123	LCD_G3	-	-	-	-	J2X_18
124	I2S_DOUT	SAI2	GPIO4_IO23	IO	119	-
125	LCD_G4	-	-	-	-	J2X_19
126	I2S_DIN	SAI2	GPIO4_IO26	IO	122	-
127	LCD_G5	-	-	-	-	J2X_20

J1	Function	Device	GPIO	Mode	/sys/class/gpio/gpio#	efus-SINTF V1.50
128	GND					
129	GND					
130	I2C_C_SDA(3)	I2C5	GPIO3_IO027	IO	91	J18_3 / J20_14 / (J6_16)
131	LCD_B0	-	-	-	-	J2X_22
132	I2C_C_SCL(3)	I2C5	GPIO3_IO026	IO	90	J18_5 / J20_13 / (J6_15)
133	LCD_B1	-	-	-	-	J2X_23
134	LVDS_DDC_VOUT	V33	-	-	-	
135	LCD_B2	-	-	-	-	J2X_24
136	GND					
137	LCD_B3	-	-	-	-	J2X_25
138	LVDS_DATA2_P(4)	LVDS(HDMI)	-	-	-	J6_1 / J24_19
139	LCD_B4	-	-	-	-	J2X_26
140	LVDS_DATA2_N(4)	LVDS(HDMI)	-	-	-	J6_3 / J24_18
141	LCD_B5	-	-	-	-	J2X_27
142	LVDS_DATA1_P(4)	LVDS(HDMI)	-	-	-	J6_4 / J24_16
143	GND					
144	LVDS_DATA1_N(4)	LVDS(HDMI)	-	-	-	J6_6 / J24_17
145	LCD_DE	-	-	-	-	J2X_29
146	LVDS_DATA0_P(4)	LVDS(HDMI)	-	-	-	J6_7 / J24_13
147	GND					
148	LVDS_DATA0_N(4)	LVDS(HDMI)	-	-	-	J6_9 / J24_12
149	VLCD_ON	GPIO	GPIO1_IO05	IO	5	J2X_30 / J2X_31
150	LVDS_CLK_P(4)	LVDS(HDMI)	-	-	-	J6_10 / J24_21
151	I2C_A_SDA	I2C3	GPIO5_IO19	IO	147	J22_41 / J2X_32
152	LVDS_CLK_N(4)	LVDS(HDMI)	-	-	-	J6_12 / J24_20
153	I2C_A_IRQ	GPIO	GPIO1_IO09	IO	9	J22_44 / J2X_33
154	LVDS_DATA3_P(3)	LVDS(HDMI)	-	-	-	J24_23
155	I2C_A_SCL	I2C3	GPIO5_IO18	IO	146	J22_42 / J2X_34
156	LVDS_DATA3_N(3)	LVDS(HDMI)	-	-	-	J24_23
157	/I2C_A_RST	GPIO	GPIO1_IO08	IO	8	J22_43
158	-	-	-	-	-	-
159	GND					
160	GND					
161	CAM_YDATA0	MIPI_CSI1	-	-	-	J18_24 / (J20_2)
162	ETH_B_D4-	RGMII2 (PHY)	-	-	-	J10A_9
163	CAM_YDATA1	MIPI_CSI1	-	-	-	J18_23 / (J20_3)
164	ETH_B_D4+	RGMII2 (PHY)	-	-	-	J10A_8
165	CAM_YDATA4	MIPI_CSI1	-	-	-	J18_22 / (J20_5)
166	ETH_B_LED_ACT	RGMII2 (PHY)	-	-	-	(J10_LED2)
167	CAM_YDATA3	MIPI_CSI1	-	-	-	J18_21 / (J20_6)
168	ETH_B_D3-	RGMII2 (PHY)	-	-	-	J10A_7

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J1	Function	Device	GPIO	Mode	/sys/class/gpio/gpio#	efus-SINTF V1.50
169	CAM_YDATA5	MIPI_CSI1	-	-	-	J18_20
170	ETH_B_D3+	RGMII2 (PHY)	-	-	-	J10A_6
171	CAM_YDATA2	MIPI_CSI1	-	-	-	J18_19
172	GND					
173	CAM_YDATA6	MIPI_CSI1	-	-	-	J18_18
174	ETH_B_D2-	RGMII2 (PHY)	-	-	-	J10A_5
175	CAM_PCLK	MIPI_CSI1	-	-	-	J18_17
176	ETH_B_D2+	RGMII2 (PHY)	-	-	-	J10A_4
177	CAM_YDATA7	MIPI_CSI1	-	-	-	J18_16 / (J20_8)
178	ETH_B_LED_LINK	RGMII2 (PHY)	-	-	-	(J10_LED1)
179	CAM_YDATA8	MIPI_CSI1	-	-	-	J18_14 / (J20_9)
180	ETH_B_D1-	RGMII2 (PHY)	-	-	-	J10A_3
181	GND					
182	ETH_B_D1+	RGMII2 (PHY)	-	-	-	J10A_2
183	CAM_MCLK	-	-	-	-	J18_13 / J20_12
184	GND					
185	GND					
186	ETH_CTREF	-	-	-	-	J10A_1 / J11A_1
187	CAM_YDATA9	-	-	-	-	J18_12
188	ETH_A_D4-	RGMII1 (PHY)	-	-	-	J11A_9
189	CAM_VCAM	-	-	-	-	J18_4+11 / J20_15
190	ETH_A_D4+	RGMII1 (PHY)	-	-	-	J11A_8
191	CAM_HREF	-	-	-	-	J18_9
192	ETH_A_LED_ACT	RGMII1 (PHY)	-	-	-	(J11_LED2)
193	CAM_PWDN	-	-	-	-	J18_8 / J20_11
194	ETH_A_D3-	RGMII1 (PHY)	-	-	-	J11A_7
195	CAM_VSYNC	-	-	-	-	J18_7
196	ETH_A_D3+	RGMII1 (PHY)	-	-	-	J11A_6
197	/CAM_RST	-	-	-	-	J18_6
198	ETH_VLED_OUT	V33	-	O	-	-
199	GND					
200	ETH_A_D2-	RGMII1 (PHY)	-	-	-	J11A_5
201	SATA_RX_P	-	-	-	-	SATA J21_6
202	ETH_A_D2+	RGMII1 (PHY)	-	-	-	J11A_4
203	SATA_RX_N	-	-	-	-	SATA J21_5
204	ETH_A_LED_LINK	RGMII1 (PHY)	-	-	-	(J11_LED1)
205	SATA_TX_N	-	-	-	-	SATA J21_3
206	ETH_A_D1-	RGMII1 (PHY)	-	-	-	J11A_3
207	SATA_TX_P	-	-	-	-	SATA J21_2
208	ETH_A_D1+	RGMII1 (PHY)	-	-	-	J11A_2
209	GND					
210	GND					
211	CAM_A_IN	-	-	-	-	J19_2

J1	Function	Device	GPIO	Mode	/sys/class/gpio/gpio#	efus-SINTF V1.50
212	USBH_A_PWR	USB_OTG1 (HUB)	GPIO1_IO12	IO	12	(USB J7_1)
213	CAM_A_GND	-	-	-	-	J19_1
214	USBH_A_DN	USB_OTG1 (HUB)	-	-	-	(USB J7_2)
215	GND					
216	USBH_A_DP	USB_OTG1 (HUB)	-	-	-	(USB J7_3)
217	USBD_VBUS	USB_OTG2	-	-	-	Mini-USB J9_1
218	GND					
219	USBD_PWR	USB_OTG1	GPIO1_IO14	IO	14	(Mini-USB J9_1)
220	USBH_A_SSRX_N	USB_SS3 (HUB)	-	-	-	-
221	USBD_OC	USB_OTG2	GPIO1_IO15	IO	15	-
222	USBH_A_SSRX_P	USB_SS3 (HUB)	-	-	-	-
223	USBD_ID	USB_OTG2	-	-	-	Mini-USB J9_4
224	GND					
225	USBD_DN	USB_OTG2	-	-	-	Mini-USB J9_2
226	USBH_A_SSTX_N	USB_SS3 (HUB)	-	-	-	-
227	USBD_DP	USB_OTG2	-	-	-	Mini-USB J9_3
228	USBH_A_SSTX_P	USB_SS3 (HUB)	-	-	-	-
229	GND					
230	GND					

(1) On efusMX8MP SD_B is only available if not used for QSPI. This is a hardware option.

(2) On efusMX8MP SD_B_(CMD, CLK, CD, WP) pins can be used as GPIO if not used for SD_B. This is a hardware option.

(3) On efusMX8MP I2C_C is only available if not used for HDMI. This is a hardware option.

(4) LVDS is available on the goldfinger connector if not used for HDMI. This is a hardware option. The regular output is on the LVDS (LVDS1) connector on the module itself.

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 efusMX8MP Hardware Documentation for hardware development.