CM4 GPIO

File: cm4-gpio.kicad_sch

CM4 High Speed

File: cm4-high-speed.kicad_sch

Author: Martin Mæland

Sheet: /
File: cm4_cb_use_v01.kicad_sch

**Title: Compute Module 4 Carrierboard Utskytningsenhet**

| Size: A4 | Date: 2020-10-31 | Rev: v01 |
| --- | --- | --- |
| KiCad E.D.A.  kicad 5.99.0-unknown-51d445007f117ubuntu20.04.1 | | Id: 1/3 |

# Module1A
# ComputeModule4-CM4
## C597931

| | | |
|---|---|---|
| 2 | GND | GND | 1 |
| 4 | Ethernet_Pair1_P | Ethernet_Pair3_P | 3 |
| 6 | Ethernet_Pair1_N | Ethernet_Pair3_N | 5 |
| 8 | GND | GND | 7 |
| 10 | Ethernet_Pair0_N | Ethernet_Pair2_N | 9 |
| 12 | Ethernet_Pair0_P | Ethernet_Pair2_P | 11 |
| 14 | GND | GND | 13 |
| 16 | Ethernet_SYNC_IN(1.8v) | Ethernet_nLED3(3.3v) | 15 |
| 18 | Ethernet_SYNC_OUT(1.8v) | Ethernet_nLED2(3.3v) | 17 |
| 20 | EEPROM_nWP | Ethernet_nLED1(3.3v) | 19 |
| 22 | GND | PI_nLED_Activity | 21 |
| 24 | GPIO26 | GND | 23 |
| 26 | GPIO19 | GPIO21 | 25 |
| 28 | GPIO13 | GPIO20 | 27 |
| 30 | GPIO6 | GPIO16 | 29 |
| 32 | GND | GPIO12 | 31 |
| 34 | GPIO5 | GND | 33 |
| 36 | ID_SD | ID_SC | 35 |
| 38 | GPIO11 | GPIO7 | 37 |
| 40 | GPIO9 | GPIO8 | 39 |
| 42 | GND | GPIO25 | 41 |
| 44 | GPIO10 | GND | 43 |
| 46 | GPIO22 | GPIO24 | 45 |
| 48 | GPIO27 | GPIO23 | 47 |
| 50 | GPIO17 | GPIO18 | 49 |
| 52 | GND | GPIO15 | 51 |
| 54 | GPIO4 | GND | 53 |
| 56 | GPIO3 | GPIO14 | 55 |
| 58 | GPIO2 | SD_CLK | 57 |
| 60 | SD_CMD | GND | 59 |
| 62 | SD_DAT5 | SD_DAT3 | 61 |
| 64 | GND | SD_DAT0 | 63 |
| 66 | SD_DAT4 | GND | 65 |
| 68 | SD_DAT7 | SD_DAT1 | 67 |
| 70 | SD_DAT6 | SD_DAT2 | 69 |
| 72 | GND | GND | 71 |
| 74 | Reserved | SD_VDD_Override | 73 |
| 76 | GPIO_VREF(1.8v/3.3v_Input) | SD_PWR_ON | 75 |
| 78 | SCL0 | +5v_(Input) | 77 |
| 80 | SDA0 | +5v_(Input) | 79 |
| 82 | +3.3v_(Output) 600mA Max | +5v_(Input) | 81 |
| 84 | +3.3v_(Output) | +5v_(Input) | 83 |
| 86 | +1.8v_(Output) 600mA Max | +5v_(Input) | 85 |
| 88 | +1.8v_(Output) | +5v_(Input) | 87 |
| 90 | RUN_PG | WiFi_nDisable | 89 |
| 92 | AnalogIP0 | BT_nDisable | 91 |
| 94 | AnalogIP1 | nRPIBOOT | 93 |
| 96 | GND | nPI_LED_PWR | 95 |
| 98 | nEXTRST | Camera_GPIO | 97 |
| 100 | | Global_EN | 99 |

### GPIO

Hirose
2x DF40C-100DS-0.4V

NB SD signals are only available
on modules without eMMC

EEPROM_nWP

GPIO11
GPIO9
GPIO10
GPIO3
GPIO2
+3.3V
+3.3V
+1.8V
GND

GND

nLED_Activity
GPIO7
GPIO8
GPIO15
GPIO14
+5V
GND
nRPIBOOT
nPWR_LED

### Activity LED

+3.3V

D1
LED Green
C84260

R2
1k
C269727

nLED_Activity

### PWR LED

+3.3V

D2
LED Red
C72037

R1
1k
C269727

#### U1
#### SN74LVC1G07DCKR
#### C7830

| | |
|---|---|
| 3 | GND |
| 4 | Y |
| 5 | VCC |
| A | 2 |

nPWR_LED

+3.3V

GND

### Close for EEPROM write protection

JP1
SolderJumper_2_Open

EEPROM_nWP

1  2

GND

### GPIO
J1
DNP

+3.3V

GND

| | | |
|---|---|---|
| 1 | | |
| 2 | | |
| GPIO14 | 3 | UART0_TXD |
| GPIO15 | 4 | UART0_RXD |
| GPIO10 | 5 | SPI0_MOSI |
| GPIO9 | 6 | SPI0_MISO |
| GPIO11 | 7 | SPI0_CLK |
| GPIO8 | 8 | SPI0_CE0 |
| GPIO7 | 9 | SPI0_CE1 |
| nRPIBOOT | 10 | nBOOT |

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Title: **Compute Module 4 Carrierboard Utskytningsenhet**

| Size: A4 | Date: 2021-03-05 | | Rev: v01 |
|---|---|---|---|
| KiCad E.D.A.  kicad 5.99.0-unknown-51d445007f117ubuntu20.04.1 | | | Id: 3/3 |

Module1B
ComputeModule4-CM4
Hirose
2x DF40C-100DS-0.4V

High Speed Serial

**Module1B pins (left column):**
102 PCIe_CLK_nREQ
104 Reserved
106 Reserved
108 GND
110 PCIe_CLK_P
112 PCIe_CLK_N
114 GND
116 PCIe_RX_P
118 PCIe_RX_N
120 GND
122 PCIe_TX_P
124 PCIe_TX_N
126 GND
128 CAM0_D0_N
130 CAM0_D0_P
132 GND
134 CAM0_D1_N
136 CAM0_D1_P
138 GND
140 CAM0_C_N
142 CAM0_C_P
144 GND
146 HDMI1_TX2_P
148 HDMI1_TX2_N
150 GND
152 HDMI1_TX1_P
154 HDMI1_TX1_N
156 GND
158 HDMI1_TX0_P
160 HDMI1_TX0_N
162 GND
164 HDMI1_CLK_P
166 HDMI1_CLK_N
168 GND
170 HDMI0_TX2_P
172 HDMI0_TX2_N
174 GND
176 HDMI0_TX1_P
178 HDMI0_TX1_N
180 GND
182 HDMI0_TX0_P
184 HDMI0_TX0_N
186 GND
188 HDMI0_CLK_P
190 HDMI0_CLK_N
192 GND
194 DSI1_D3_N
196 DSI1_D3_P
198 GND
200 HDMI0_SCL

**Module1B pins (right column):**
101 USB_OTG_ID
103 USB2_N
105 USB2_P
107 GND
109 PCIe_nRST
111 VDAC_COMP
113 GND
115 CAM1_D0_N
117 CAM1_D0_P
119 GND
121 CAM1_D1_N
123 CAM1_D1_P
125 GND
127 CAM1_C_N
129 CAM1_C_P
131 GND
133 CAM1_D2_N
135 CAM1_D2_P
137 GND
139 CAM1_D3_N
141 CAM1_D3_P
143 HDMI1_HOTPLUG
145 HDMI1_SDA
147 HDMI1_SCL
149 HDMI1_CEC
151 HDMI0_CEC
153 HDMI0_HOTPLUG
155 GND
157 DSI0_D0_N
159 DSI0_D0_P
161 GND
163 DSI0_D1_N
165 DSI0_D1_P
167 GND
169 DSI0_C_N
171 DSI0_C_P
173 GND
175 DSI1_D0_N
177 DSI1_D0_P
179 GND
181 DSI1_D1_N
183 DSI1_D1_P
185 GND
187 DSI1_C_N
189 DSI1_C_P
191 GND
193 DSI1_D2_N
195 DSI1_D2_P
197 GND
199 HDMI0_SDA

USB_OTG_ID
USB2_N
USB2_P

HDMI0_CEC
HDMI0_HOTPLUG

HDMI0_TX2_P
HDMI0_TX2_N
HDMI0_TX1_P
HDMI0_TX1_N
HDMI0_TX0_P
HDMI0_TX0_N
HDMI0_CLK_P
HDMI0_CLK_N
HDMI0_SCL

HDMI0_SDA

GND

**J2 HDMI_A:**
+5V  18  +5V
HDMI0_TX2_P  1  D2+
HDMI0_TX2_N  3  D2-
HDMI0_TX1_P  4  D1+
HDMI0_TX1_N  6  D1-
HDMI0_TX0_P  7  D0+
HDMI0_TX0_N  9  D0-
HDMI0_CLK_P  10  CK+
HDMI0_CLK_N  12  CK-
HDMI0_CEC  13  CEC
HDMI0_SCL  15  SCL
HDMI0_SDA  16  SDA
14  UTILITY
HDMI0_HOTPLUG  19  HPD
J2
HDMI_A

D2S 2
D1S 5
D0S 8
CKS 11
GND 17
SH

GND

**U2 TPD2EUSB30 C97502:**
USB2_P  D+ 1
D- 2  USB2_N
GND 3
GND

**J3A 1054500101 C134092:**
GND  A12
RX2+  A11
RX2-  A10
VBUS  A9
SBU1  A8
D-  A7  USB2_N
D+  A6  USB2_P
CC2  A5
VBUS  A4
TX1-  A3
TX1+  A2
GND  A1

2.2K 1%  R3
USB_OTG_ID
2.2K 1%  R4
GND

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