

TX Family Computer On Module

- Processor STM32MP1 Series
Dual-Core Arm® Cortex®-A7 650MHz
Cortex-M4 209MHz
- RAM 128MB up to 512MB DDR3L
- ROM 4GB eMMC,
SLC NAND on request
- Grade Industrial
- Temperature -25°C to 85°C (eMMC)
-40°C to 85°C (NAND)
- Display support
- Display Interface 24-bit RGB
MIPI® DSI (2-lanes)
- GPU 3D GPU: Vivante®,
OpenGL® ES 2.0
- Connectivity
 - Ethernet
 - USB2.0
 - eMMC/SD
 - UART
 - I²C
 - SPI
 - PWM
 - SAI
 - CAN

OS Support

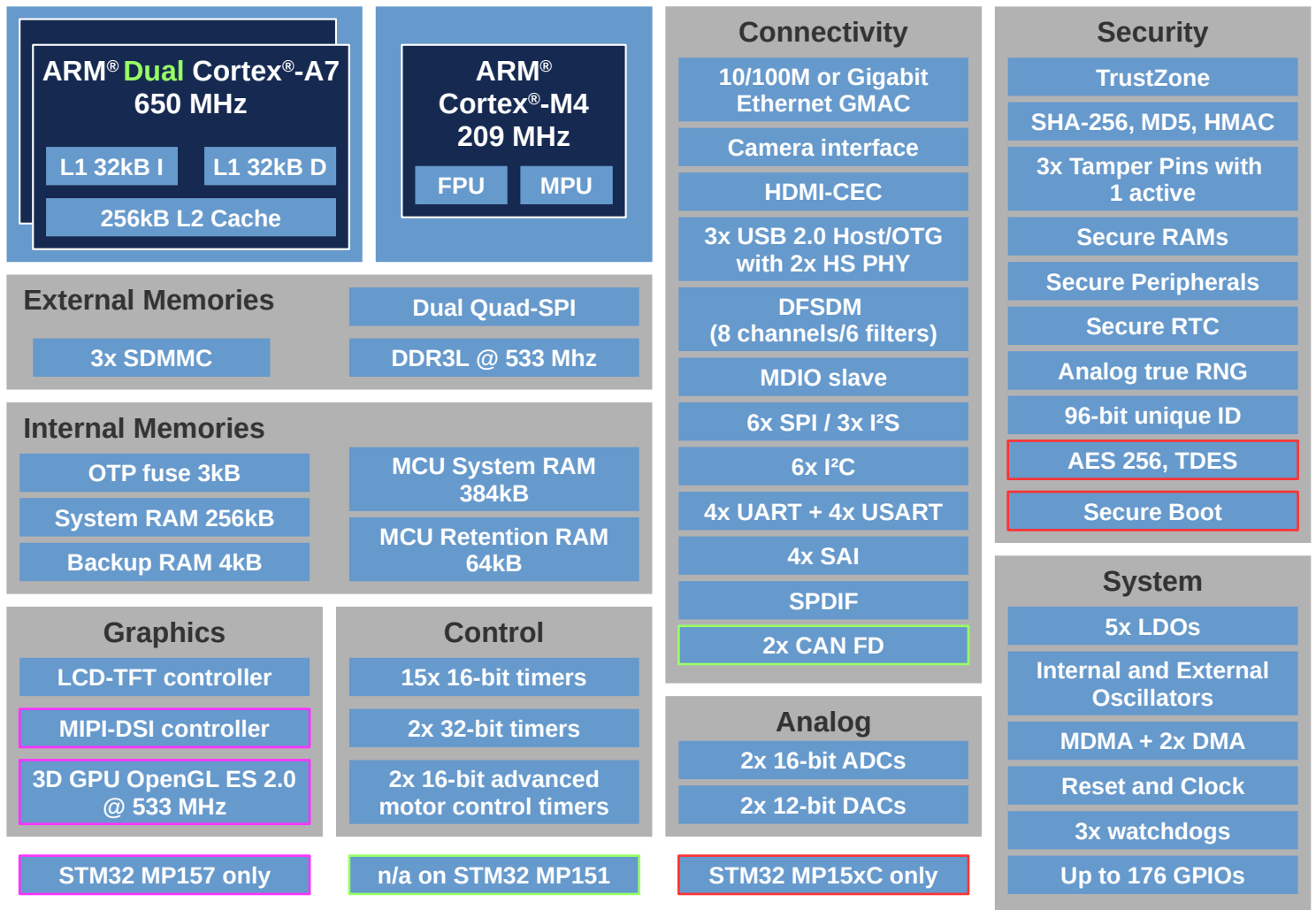
- Linux



**Dual
Cortex®-A7**



STM32MP1 Block Diagram



Ordering Information

	TXMP-1530 STM32MP153A	TXMP-1570 STM32MP157C
Primary Arm® Core	2x Cortex®-A7 up to 650 MHz	2x Cortex®-A7 up to 650 MHz
Secondary Arm® Core	1x Cortex-M4 up to 209 MHz	1x Cortex-M4 up to 209 MHz
RAM	256 MB	512 MB
ROM	4GB eMMC	4GB eMMC
Display Interface	24-bit RGB	24-bit RGB + 2-lane MIPI-DSI
3D GPU	-	Yes
CAN	2x FD-CAN	2x FD-CAN
Security	-	Secure Boot, Cryptography
Grade / Temp.	Industrial / -25°C to 85°C	Industrial / -25°C to 85°C
Order Code	TXMP/153A/256S/4GF/E85	TXMP/157C/256S/4GF/E85

PINOUT

PIN	TXCOM STANDARD	MP1 PAD	Alternate Function 0-3	Alternate Function 4-7	Alternate Function 8-11	Alternate Function 12-15	Remarks	
POWER SUPPLY & RESET								
1-4	VIN						Module power supply input from 3.3V-5V)	
5-7, 9-12	VOOUT						3.3V power supply output. Supplied by PAM2319 (max. 1A)	
8	BOOTMODE	1K-PU					Boot mode select H: Boot from FLASH L: Boot from UART/USB	
13	VBACKUP	VBAT						
14	Not connected							
15	#RESET_OUT	PA8	MCO1 TIM1_CH1 - TIM8_BKIN2	I2C3_SCL SPI3_MOSI/I2S3_SDO - USART1_CK	SDMMC2_CKIN SDMMC2_D4 OTG_FS_SOF/OTG_HS_SOF -	SAI4_SD_B UART7_RX LCD_R6 EVENTOUT	GPIO may be used to reset peripherals.	
16	#POR	1K-PU to VIN					Power On Reset - active low input signal. Leave unconnected if not used. L: Power supply is turned off.	
17	#RESET_IN	NRST					MP1 internal pull-up	
18	GND							
Ethernet								
19	ETN_TXN		Transmit Data Negative: 100Base-TX or 10Base-T differential transmit output to magnetics.					
20	#ETN_LED2		Active low - output is driven active when the operating speed is 100Mbps. This LED will go inactive when the operating speed is 10Mbps or during line isolation.					
21	ETN_TXP		Transmit Data Positive: 100Base-TX or 10Base-T differential transmit output to magnetics.					
22	ETN_3V3		+3.3V analog power supply output to magnetics					
23	ETN_RXN		Receive Data Negative: 100Base-TX or 10Base-T differential receive input from magnetics.					
24	#ETN_LED1		Active low - output is driven active whenever the device detects a valid link, and blinks indicating activity.					
25	ETN_RXP		Receive Data Positive: 100Base-TX or 10Base-T differential receive input from magnetics.					
26	GND							
USB-HOST								
27	USBH_VBUSEN	PB9	HDP7 TIM17_CH1 TIM4_CH4 DFSDM1_DATIN7	I2C1_SDA SPI2_NSS/I2S2_WS I2C4_SDA SDMMC2_CDIN	UART4_TX FDCAN1_TX SDMMC2_D5 SDMMC1_CDIN	SDMMC1_D5 DCMI_D7 LCD_B7 EVENTOUT	Active high external 5V supply enable. This pin is used to enable the external VBUS power supply.	
28	#USBH_OC	PF6	TIM16_CH1 - -	SPI5_NSS SAI1_SD_B UART7_RX	QUADSPI_BK1_IO3 - -	SAI4_SCK_B - - EVENTOUT	Active low over-current indicator input connected to a GPIO.	
29	USBH_DM	USB_DM1					D- pin of the USB cable	
30	USBH_VBUS	Not connected						
31	USBH_DP	USB_DP1					D+ pin of the USB cable	
32	GND							
USB-OTG								
33	USBOTG_ID	Not connected						
34	USBOTG_VBUSEN	PC0	- - DFSDM1_CKIN0	LPTIM2_IN2 - DFSDM1_DATIN4 -	SAI2_FS_B - QUADSPI_BK2_NCS -	- - LCD_R5 EVENTOUT	Active high external 5V supply enable. This pin is used to enable the external VBUS power supply.	
35	USBOTG_DM	USB_DM2					D- pin of the USB cable	
36	USBOTG_OC	PF7	TIM17_CH1 - -	SPI5_SCK SAI1_MCLK_B UART7_TX	QUADSPI_BK1_IO2 - -	- - - EVENTOUT	Active low over-current indicator input connected to a GPIO.	
37	USBOTG_DP	USB_DP2					D+ pin of the USB cable	
38	USBOTG_VBUS	OTG_VBUS					VBUS pin of the USB cable. This pin is used for the VBUS comparator inputs.	
39	GND							

PIN	TXCOM STANDARD	MP1 PAD	Alternate Function 0-3	Alternate Function 4-7	Alternate Function 8-11	Alternate Function 12-15	Remarks
I2C							
40	I2C_DATA	PA12	- TIM1_ETR I2C6_SDA -	I2C5_SDA - UART4_TX USART1_RTS/USART1_DE	SAI2_FS_B FDCAN1_TX - -	- LCD_R5 EVENTOUT	
41	I2C_CLK	PA11	- TIM1_CH4 I2C6_SCL -	I2C5_SCL SPI2_NSS/I2S2_WS UART4_RX USART1_CTS/USART1_NSS	- FDCAN1_RX - -	- LCD_R4 EVENTOUT	
PWM							
42	PWM	PA10	- TIM1_CH3 - -	- SPI3_NSS/I2S3_WS - USART1_RX	- - - MDIOS_MDIO	SAI4_FS_B DCMI_D1 LCD_B1 EVENTOUT	
1-WIRE							
43	Not connected						
SPI – Serial Peripheral Interface							
44	CSPI_SS	PB12	- TIM1_BKIN I2C6_SMBA -	I2C2_SMBA SPI2_NSS/I2S2_WS DFSDM1_DATIN1 USART3_CK	USART3_RX FDCAN2_RX - ETH1_R(G)MII_TXD0	- UART5_RX EVENTOUT	
45	Not connected						
46	CSPI_MOSI	PC3	TRACECLK - DFSDM1_DATIN1	- SPI2_MOSI/I2S2_SDO -	- - ETH1_GMII_TX_CLK/ ETH1_MII_TX_CLK	- - EVENTOUT	
47	CSPI_MISO	PC2	- - DFSDM1_CKIN1	- SPI2_MISO/I2S2_SDI DFSDM1_CKOUT -	- - ETH1_RGMII_TXD2	- DCMI_PIXCLK - EVENTOUT	
48	CSPI_SCLK	PD3	HDP5 - DFSDM1_CKOUT	- SPI2_SCK/I2S2_CK DFSDM1_DATIN0 USART2_CTS/ USART2_NSS	SDMMC1_D123DIR SDMMC2_D7 SDMMC2_D123DIR SDMMC1_D7	FMC_CLK DCMI_D5 LCD_G7 EVENTOUT	
49	Not connected						
50	GND						
SD – Secure Digital Interface 1							
51	SD1_CD	PC11	TRACED3 - DFSDM1_DATIN5	- SPI3_MISO/I2S3_SDI USART3_RX	UART4_RX QUADSPI_BK2_NCS SAI4_SCK_B -	SDMMC1_D3 DCMI_D4 - EVENTOUT	
52	SD1_D[0]	PD0	- I2C6_SDA DFSDM1_CKIN6	I2C5_SDA - SAI3_SCK_A -	UART4_RX FDCAN1_RX SDMMC3_CMD DFSDM1_DATIN7	FMC_D2/FMC_DA2 - EVENTOUT	NONE TX STANDARD PIN ASSIGNMENT
53	SD1_D[1]	PD4	- - -	- SAI3_FS_A USART2_RTS/ USART2_DE	- SDMMC3_D1 DFSDM1_CKIN0	FMC_NOE - EVENTOUT	
54	SD1_D[2]	PD5	- - -	- - USART2_TX	- SDMMC3_D2 -	FMC_NWE - EVENTOUT	
55	SD1_D[3]	PD7	TRACED6 - DFSDM1_DATIN4	I2C2_SCL - DFSDM1_CKIN1 USART2_CK	SPDIFRX_IN0 SDMMC3_D3 -	FMC_NE1 - EVENTOUT	
56	SD1_CMD	PD1	- I2C6_SCL DFSDM1_DATIN6	I2C5_SCL - SAI3_SD_A -	UART4_TX FDCAN1_TX SDMMC3_D0 DFSDM1_CKIN7	FMC_D3/FMC_DA3 - EVENTOUT	NONE TX STANDARD PIN ASSIGNMENT
57	SD1_CLK	PG15	TRACED7 - SAI1_D2	I2C2_SDA - SAI1_FS_A USART6_CTS/USART6_NSS	- - SDMMC3_CK -	- DCMI_D13 - EVENTOUT	
58	GND						

PIN	TXCOM STANDARD	MP1 PAD	Alternate Function 0-3	Alternate Function 4-7	Alternate Function 8-11	Alternate Function 12-15	Remarks	
1st UART								
59	TXD	PG11	TRACED11 - -	USART1_TX - UART4_TX -	SPDIFRX_IN0 - ETH1_RGMII_TX_CTL/ ETH1_RMII_TX_EN	- DCMI_D3 LCD_B3 EVENTOUT		
60	RXD	PB2	TRACED4 RTC_OUT2 SAI1_D1 DFSDM1_CKIN1	USART1_RX I2S_CKIN SAI1_SD_A SPI3_MOSI/I2S3_SDO	UART4_RX QUADSPI_CLK - -	- - - EVENTOUT		
61	RTS/CTS IN		Not connected					
62	CTS/RTS OUT	PA15	DBTRGI TIM2_CH1/TIM2_ETR SAI4_D2 SDMMC1_CDIR	CEC SPI1_NSS/I2S1_WS SPI3_NSS/I2S3_WS SPI6_NSS	UART4_RTS/UART4_DE SDMMC2_D5 SDMMC2_CDIR SDMMC1_D5	SAI4_FS_A UART7_TX LCD_R1 EVENTOUT		
2nd UART								
63	TXD	PE8	- TIM1_CH1N - DFSDM1_CKIN2	- - UART7_TX -	- - QUADSPI_BK2_IO1 -	FMC_D5/FMC_DA5 - - EVENTOUT		
64	RXD	PE7	TIM1_ETR TIM3_ETR DFSDM1_DATIN2	- - UART7_RX -	- - QUADSPI_BK2_IO0 -	FMC_D4/FMC_DA4 - - EVENTOUT		
65	RTS/CTS IN	PE10	TIM1_CH2N - DFSDM1_DATIN4	- - UART7_CTS -	- - QUADSPI_BK2_IO3 -	FMC_D7/FMC_DA7 - - EVENTOUT		
66	CTS/RTS OUT	PE9	TIM1_CH1 - DFSDM1_CKOUT	- - UART7_RTS/UART7_DE -	- - QUADSPI_BK2_IO2 -	FMC_D6/FMC_DA6 - - EVENTOUT		
3rd UART								
67	TXD	PC12	TRACECLK MCO2 SAI4_D3 -	- SPI3_MOSI/I2S3_SDO USART3_CK I2C5_SMBA	UART5_TX - SAI4_SD_B -	SDMMC1_CK DCMI_D9 - EVENTOUT		
68	RXD	PD2	- TIM3_ETR -	UART4_RX -	UART5_RX - -	SDMMC1_CMD DCMI_D11 - EVENTOUT		
69	RTS/CTS IN	PC9	TRACED1 - TIM3_CH4 TIM8_CH4	I2C3_SDA I2S_CKIN -	UART5_CTS QUADSPI_BK1_IO0 -	SDMMC1_D1 DCMI_D3 LCD_B2 EVENTOUT		
70	CTS/RTS OUT	PC8	TRACED0 - TIM3_CH3 TIM8_CH3	- - UART4_TX USART6_CK	UART5_RTS/UART5_DE - -	SDMMC1_D0 DCMI_D2 - EVENTOUT		
71	GND							
KEYPAD / CAN								
72	KP_COL[0]		Not connected					
73	KP_COL[1]		Not connected					
74	KP_COL[2]		Not connected					
75	KP_COL[3]		Not connected					
76	TXCAN	PB13	- TIM1_CH1N - DFSDM1_CKOUT	LPTIM2_OUT SPI2_SCK/I2S2_CK DFSDM1_CKIN1 USART3_CTS/USART3_NSS	- FDCAN2_TX - ETH1_RGMII_TXD1	- - UART5_TX EVENTOUT		
77	KP_ROW[0]		Not connected					
78	KP_ROW[1]		Not connected					
79	KP_ROW[2]		Not connected					
80	KP_ROW[3]		Not connected					
81	RXCAN	PB5	ETH_CLK TIM17_BKIN TIM3_CH2 SAI4_D1	I2C1_SMBA SPI1_MOSI/I2S1_SDO I2C4_SMBA SPI3_MOSI/I2S3_SDO	SPI6_MOSI FDCAN2_RX SAI4_SD_A ETH1_PPS_OUT	UART5_RX DCMI_D10 LCD_G7 EVENTOUT		
82	GND							

PIN	TXCOM STANDARD	MP1 PAD	Alternate Function 0-3	Alternate Function 4-7	Alternate Function 8-11	Alternate Function 12-15	Remarks
SSI 1 - Serial Audio Port 1							
83	SSI1_INT	PE0	- LPTIM1_ETR TIM4_ETR -	LPTIM2_ETR SPI3_SCK/I2S3_CK SAI4_MCLK_B -	UART8_RX - SAI2_MCLK_A -	FMC_NBL0 DCMI_D2 - EVENTOUT	
84	SSI1_RXD	PA0	- TIM2_CH1/TIM2_ETR TIM5_CH1 TIM8_ETR -	TIM15_BKIN - - USART2_CTS/USART2_NSS	UART4_TX SDMMC2_CMD SAI2_SD_B CRS/ETH1_MII_CRS	- - - EVENTOUT	
85	SSI1_TXD	PD11	- - - LPTIM2_IN2 -	I2C4_SMBA I2C1_SMBA - USART3_CTS/USART3_NSS	- QUADSPI_BK1_IO0 SAI2_SD_A -	FMC_CLE/FMC_A16 - - EVENTOUT	
86	SSI1_CLK	PD13	- LPTIM1_OUT TIM4_CH2 -	I2C4_SDA I2C1_SDA I2S3_MCK -	- QUADSPI_BK1_IO3 SAI2_SCK_A -	FMC_A18 DSI_TE - EVENTOUT	
87	SSI1_FS	PD12	- LPTIM1_IN1 TIM4_CH1 LPTIM2_IN1	I2C4_SCL I2C1_SCL - USART3_RTS/USART3_DE	- QUADSPI_BK1_IO1 SAI2_FS_A -	FMC_ALE/FMC_A17 - - EVENTOUT	
88	GND						
SSI 2 - Serial Audio Port 2							
89	SSI2_INT				Not connected		
90	SSI2_RXD				Not connected		
91	SSI2_TXD				Not connected		
92	SSI2_CLK				Not connected		
93	SSI2_FS				Not connected		
94	GND						
Secure Digital Interface 2							
95	SD2_CD				Not connected		
96	SD2_D[0]				Not connected		
97	SD2_D[1]				Not connected		
98	SD2_D[2]				Not connected		
99	SD2_D[3]				Not connected		
100	SD2_CMD				Not connected		
101	SD2_CLK				Not connected		
102	GND						
CMOS Sensor Interface							
103	CSI0_DAT12				Not connected		
104	CSI0_DAT13				Not connected		
105	CSI0_DAT14				Not connected		
106	CSI0_DAT15				Not connected		
107	CSI0_DAT16				Not connected		
108	CSI0_DAT17				Not connected		
109	CSI0_DAT18				Not connected		
110	CSI0_DAT19				Not connected		
111	GND						
112	CSI0_HSYNC				Not connected		
113	CSI0_VSYNC				Not connected		
114	CSI0_PIXCLK				Not connected		
115	CSI0_MCLK				Not connected		
116	GND						

PIN	TXCOM STANDARD	MP1 PAD	Alternate Function 0-3	Alternate Function 4-7	Alternate Function 8-11	Alternate Function 12-15	Remarks
LCD Controller							
117	LD0	PD9	- - DFSDM1_DATIN3	- - SAI3_SD_B USART3_RX	- - - -	FMC_D14/FMC_DA14 DCMI_HSYNC LCD_B0 EVENTOUT	
118	LD1	PG12	- LPTIM1_IN1 - -	- SPI6_MISO SAI4_CK2 USART6_RTS/USART6_DE	SPDIFRX_IN1 LCD_B4 SAI4_SCK_A ETH1_PHY_INTN	FMC_NE4 - LCD_B1 EVENTOUT	
119	LD2	PG10	TRACED10 - - -	- - - -	UART8_CTS LCD_G3 SAI2_SD_B QUADSPI_BK2_IO2	FMC_NE3 DCMI_D2 LCD_B2 EVENTOUT	
120	LD3	PD10	RTC_REFIN TIM16_BKIN - DFSDM1_CKOUT	I2C5_SMBA SPI3_MISO/I2S3_SDI SAI3_FS_B USART3_CK	- - - -	FMC_D15/FMC_DA15 - LCD_B3 EVENTOUT	
121	LD4	PE12	TIM1_CH3N - DFSDM1_DATIN5	- SPI4_SCK - -	SDMMC1_D0DIR - SAI2_SCK_B -	FMC_D9/FMC_DA9 - LCD_B4 EVENTOUT	
122	LD5	PA3	- TIM2_CH4 TIM5_CH4 LPTIM5_OUT	TIM15_CH2 - - USART2_RX	- LCD_B2 - ETH1_GMII_COL/ ETH1_MII_COL	- - LCD_B5 EVENTOUT	
123	LD6	PB8	HDP6 TIM16_CH1 TIM4_CH3 DFSDM1_CKIN7	I2C1_SCL SDMMC1_CKIN I2C4_SCL SDMMC2_CKIN	UART4_RX FDCAN1_RX SDMMC2_D4 ETH1_RGMII_TXD3	SDMMC1_D4 DCMI_D6 LCD_B6 EVENTOUT	
124	LD7	PD8	- - DFSDM1_CKIN3	- - SAI3_SCK_B USART3_TX	SPDIFRX_IN1 - -	FMC_D13/FMC_DA13 - LCD_B7 EVENTOUT	
125	LD8	PE14	TIM1_CH4 - -	- SPI4_MOSI - -	UART8_RTS/UART8_DE - SAI2_MCLK_B SDMMC1_D123DIR	FMC_D11/FMC_DA11 LCD_G0 LCD_CLK EVENTOUT	
126	LD9	PE6	TRACED2 TIM1_BKIN2 SAI1_D1 - -	TIM15_CH2 SPI4_MOSI SAI1_SD_A SDMMC2_D0 - SAI4_CK2	SDMMC1_D2 - SAI2_MCLK_B -	FMC_A22 DCMI_D7 LCD_G1 EVENTOUT	
127	LD10	PA6	TIM1_BKIN TIM3_CH1 TIM8_BKIN -	SPI1_MISO/I2S1_SDI - - -	SPI6_MISO TIM13_CH1 - MDIOS_MDC	SAI4_SCK_A DCMI_PIXCLK LCD_G2 EVENTOUT	
128	LD11	PE11	- TIM1_CH2 - DFSDM1_CKIN4	- SPI4_NSS - USART6_CK	- - SAI2_SD_B -	FMC_D8/FMC_DA8 DCMI_D4 LCD_G3 EVENTOUT	
129	GND						
130	LD12	PB10	- TIM2_CH3 - LPTIM2_IN1	I2C2_SCL SPI2_SCK/I2S2_CK DFSDM1_DATIN7 USART3_TX	- QUADSPI_BK1_NCS - ETH1_(G)MII_RX_ER	- - LCD_G4 EVENTOUT	
131	LD13	PF11	- - -	- SPI5_MOSI - -	- - SAI2_SD_B -	DCMI_D12 LCD_G5 EVENTOUT	
132	LD14	PC7	HDP4 - TIM3_CH2 TIM8_CH2	DFSDM1_DATIN3 - I2S3_MCK USART6_RX	SDMMC1_D123DIR SDMMC2_D123DIR SDMMC2_D7 -	SDMMC1_D7 DCMI_D1 LCD_G6 EVENTOUT	
133	LD15	PG8	TRACED15 TIM2_CH1/TIM2_ETR ETH_CLK TIM8_ETR	- SPI6_NSS SAI4_D2 USART6_RTS/USART6_DE	USART3_RTS/USART3_DE SPDIFRX_IN2 SAI4_FS_A ETH1_PPS_OUT	- - LCD_G7 EVENTOUT	
134	LD16	PC13	- - -	- - -	- - -	- - EVENTOUT	Alternate function LCD_R0 not available Supplied by internal VSW supply with automatic switch between VBAT and VDD
135	LD17	PG9	DBTRGO - -	- - USART6_RX	SPDIFRX_IN3 QUADSPI_BK2_IO2 SAI2_FS_B -	FMC_NCE/FMC_NE2 DCMI_VSYNC LCD_R1 EVENTOUT	
136	LD18	PC10	TRACED2 - DFSDM1_CKIN5	- - SPI3_SCK/I2S3_CK USART3_TX	UART4_TX QUADSPI_BK1_IO1 SAI4_MCLK_B -	SDMMC1_D2 DCMI_D8 LCD_R2 EVENTOUT	

PIN	TXCOM STANDARD	MP1 PAD	Alternate Function 0-3	Alternate Function 4-7	Alternate Function 8-11	Alternate Function 12-15	Remarks
137	LD19	PB0	- TIM1_CH2N TIM3_CH3 TIM8_CH2N	- DFSDM1_CKOUT	UART4_CTS LCD_R3 - ETH1_RGMII_RXD2	MDIOS_MDIO - LCD_G1 EVENTOUT	
138	LD20	PA5	- TIM2_CH1/TIM2_ETR - TIM8_CH1N	SAI4_CK1 SPI1_SCK/I2S1_CK - -	SPI6_SCK - -	SAI4_MCLK_A - LCD_R4 EVENTOUT	
139	LD21	PA9	- TIM1_CH2 - -	I2C3_SMBA SPI2_SCK/I2S2_CK - USART1_TX	SDMMC2_CDIR - SDMMC2_D5 -	DCMI_D0 LCD_R5 EVENTOUT	
140	LD22	PB1	TIM1_CH3N TIM3_CH4 TIM8_CH3N	- DFSDM1_DATIN1	- LCD_R6 - ETH1_RGMII_RXD3	MDIOS_MDC - LCD_G0 EVENTOUT	
141	LD23	PE15	HDP3 TIM1_BKIN - -	TIM15_BKIN - USART2_CTS/USART2_NSS	UART8_CTS - FMC_NCE2 -	FMC_D12/FMC_DA12 - LCD_R7 EVENTOUT	
142	GND						
143	HSYNC	PC6	HDP1 - TIM3_CH1 TIM8_CH1	DFSDM1_CKIN3 I2S2_MCK - USART6_TX	SDMMC1_D0DIR SDMMC2_D0DIR SDMMC2_D6 DSL_TE	SDMMC1_D6 DCMI_D0 LCD_HSYNC EVENTOUT	
144	VSYNC	PA4	HDP0 - TIM5_ETR -	SAI4_D2 SPI1_NSS/I2S1_WS SPI3_NSS/I2S3_WS USART2_CK	SPI6_NSS - -	SAI4_FS_A DCMI_HSYNC LCD_VSYNC EVENTOUT	
145	OE_ACD	PE13	HDP2 TIM1_CH3 - DFSDM1_CKIN5	SPI4_MISO - -	- - SAI2_FS_B -	FMC_D10/FMC_DA10 DCMI_D6 LCD_DE EVENTOUT	
146	LSCLK	PG7	TRACED5 - - -	- SAI1_MCLK_A USART6_CK	UART8_RTS/UART8_DE QUADSPI_CLK - QUADSPI_BK2_IO3	- DCMI_D13 LCD_CLK EVENTOUT	
147	GND						
General Purpose IOs / Module Specific Signals							
148		PD6	- TIM16_CH1N SAI1_D1 DFSDM1_CKIN4	DFSDM1_DATIN1 SPI3_MOSI/I2S3_SDO SAI1_SD_A USART2_RX	- - - -	FMC_NWAIT DCMI_D10 LCD_B2 EVENTOUT	
149		PD14	- TIM4_CH3 -	- SAI3_MCLK_B -	UART8_CTS - -	FMC_D0/FMC_DA0 - - EVENTOUT	
150		PD15	- TIM4_CH4 -	- SAI3_MCLK_A -	UART8_CTS - -	FMC_D1/FMC_DA1 - LCD_R1 EVENTOUT	
151		PE1	LPTIM1_IN2 - -	I2S2_MCK SAI3_SD_B -	UART8_TX - -	FMC_NBL1 DCMI_D3 - EVENTOUT	
152		PE2	TRACECLK - SAI1_CK1 -	I2C4_SCL SPI4_SCK SAI1_MCLK_A -	- QUADSPI_BK1_IO2 - ETH1_RGMII_TXD3	FMC_A23 - - EVENTOUT	
153		PE4	TRACED1 - SAI1_D2 DFSDM1_DATIN3	TIM15_CH1N SPI4_NSS SAI1_FS_A SDMMC2_CKIN	SDMMC1_CKIN SDMMC2_D4 -	FMC_A20 DCMI_D4 LCD_B0 EVENTOUT	
154		PE5	TRACED3 - SAI1_CK2 DFSDM1_CKIN3	TIM15_CH1 SPI4_MISO SAI1_SCK_A SDMMC2_D0DIR	SDMMC1_D0DIR SDMMC2_D6 -	FMC_A21 DCMI_D6 LCD_G0 EVENTOUT	
155		PB7	- TIM17_CH1N TIM4_CH2 -	I2C1_SDA - I2C4_SDA USART1_RX	- - SDMMC2_D1 DFSDM1_CKIN5	FMC_NL DCMI_VSYNC - EVENTOUT	
156	Not connected						
157	Not connected						
158	Not connected						
159	Not connected						
160	GND						

PIN	TXCOM STANDARD	MP1 PAD	Alternate Function 0-3	Alternate Function 4-7	Alternate Function 8-11	Alternate Function 12-15	Remarks
161							Not connected
162							Not connected
163							Not connected
164							Not connected
165							
MIPI-DSI							
166		DSI_CKP					
167		DSI_DN0					
168		DSI_CKN					
169		DSI_DP0					
170		DSI_DN1					
171	GND						
172		DSI_DP1					
Module Specific Signals							
173							Not connected
174							Not connected
175							Not connected
176							Not connected
177							Not connected
178							Not connected
179							Not connected
180							Not connected
181							Not connected
182							Not connected
183	GND						
184							Not connected
185							Not connected
186							Not connected
187							Not connected
188							Not connected
189							Not connected
190							Not connected
191							Not connected
192							Not connected
193							Not connected
194							Not connected
195							Not connected
196							Not connected
197							Not connected
198							Not connected
199							Not connected
200	GND						

PIN	LAN8710A PAD	MP1 PAD	Alternate Function 0-3	Alternate Function 4-7	Alternate Function 8-11	Alternate Function 12-15	Remarks
Onboard LAN8710A Ethernet PHY RMII wiring							
5	CLKIN	PA1	ETH_CLK TIM2_CH2 TIM5_CH2 LPTIM3_OUT	TIM15_CH1N - - USART2_RTS/USART2_DE	UART4_RX QUADSPI_BK1_IO3 SAI2_MCLK_B ETH1_RGMII_RX_CLK/ ETH1_RMII_REF_CLK	- - LCD_R2 EVENTOUT	
17	MDC	PC1	TRACED0 - SAI1_D1 DFSDM1_DATIN0	DFSDM1_CKIN4 SPI2_MOSI/I2S2_SDO SAI1_SD_A - -	- SDMMC2_CK - ETH1_MDC	MDIOS_MDC - - EVENTOUT	
16	MDIO	PA2 1K-PU	- TIM2_CH3 TIM5_CH3 LPTIM4_OUT	TIM15_CH1 - - USART2_TX	SAI2_SCK_B - SDMMC2_D0DIR ETH1_MDIO	MDIOS_MDIO - LCD_R1 EVENTOUT	
11	RXD0	PC4	- - DFSDM1_CKIN2	- I2S1_MCK - -	SPDIFRX_IN2 - ETH1_RGMII_RXD0/ ETH1_RMII_RXD0	- - - EVENTOUT	
10	RXD1	PC5	- SAI1_D3 DFSDM1_DATIN2	SAI4_D4 - SAI1_D4 -	- SPDIFRX_IN3 - ETH1_RGMII_RXD1/ ETH1_RMII_RXD1	SAI4_D3 - - EVENTOUT	
15	COL/CRS_DV	PA7 10K-PU	- TIM1_CH1N TIM3_CH2 TIM8_CH1N	SAI4_D1 SPI1_MOSI/I2S1_SDO - -	SPI6_MOSI TIM14_CH1 QUADSPI_CLK ETH1_RGMII_RX_CTL/ ETH1_RMII_CRD_DV	SAI4_SD_A - - EVENTOUT	
21	TXEN	PB11	- TIM2_CH4 - LPTIM2_ETR	I2C2_SDA - DFSDM1_CKIN7 USART3_RX	- - ETH1_RGMII_TX_CTL/ ETH1_RMII_TX_EN	- - DSI_TE LCD_G5 EVENTOUT	
22	TXD0	PG13	TRACED0 LPTIM1_OUT SAI1_CK2 -	SAI4_CK1 SPI6_SCK SAI1_SCK_A USART6_CTS/USART6_NSS	- SAI4_MCLK_A ETH1_RGMII_TXD0/ ETH1_RMII_TXD0	FMC_A24 - LCD_R0 EVENTOUT	
23	TXD1	PG14	TRACED1 LPTIM1_ETR - -	- SPI6_MOSI SAI4_D1 USART6_TX	- QUADSPI_BK2_IO3 SAI4_SD_A ETH1_RGMII_TXD1/ ETH1_RMII_TXD1	FMC_A25 - LCD_B0 EVENTOUT	
18	nINT	PA13 10K-PU	DBTRGO DBTRGI MCO1 -	- - - -	UART4_TX - - -	- - - EVENTOUT	
19	nRST	PA14 10K-PU	DBTRGO DBTRGI MCO2 -	- - - -	- - - -	- - - EVENTOUT	