

## TX Family Computer On Module

- Processor Dual 1.2GHz ARM® Cortex®-A55 based RENESAS RZ/G2L
- RAM 512MB/1GB DDR3L SDRAM
- ROM 4GB eMMC
- Power supply 3.3V to 5V
- Size 26mm SO-DIMM
- Grade Industrial
- Temperature -40°C to 85°C

## Key Features

- 1.2GHz Arm® Cortex®-A55 Dual MPCore cores
- 200-MHz Arm® Cortex®-M33 core
- 500-MHz Arm® Mali™-G31
- H.264 Video Codec Processor
- RGB display interface
- MIPI-DSI display interface

## Connectivity

- 10/100Mbps Ethernet
- RGMII Ethernet
- 2x USB
- 4x UART, 4x I<sup>2</sup>C, 3x SPI
- 2x CAN
- 3.3V I/O
- MIPI-CSI camera interface

## OS Support

- Linux



**Dual  
Cortex®-A55**

**Computer on module**

As embedded processors to help build the next generation of advanced products, the RZ family offers features not available elsewhere and brings new value to customer applications.

The utilization of intelligent technology is advancing in all aspects of our lives, including electric household appliances, industrial equipment, building management, power grids, and transportation. The cloud-connected "smart society" is coming ever closer to realization.

Microcontrollers are now expected to provide powerful capabilities not available previously, such as high-performance and energy-efficient control combined with interoperability with IT networks, support for human-machine interfaces, and more. To meet the demands of this new age, Renesas has drawn on its unmatched expertise in microcontrollers to create the RZ family of embedded processors. The lineup of these "next-generation processors that are as easy to use as conventional microcontrollers" to meet different customer requirements.

The TXRZ is a member of the TXCOM module series. TXCOM modules are complete computers, implemented on a board smaller than a credit card, and ready to be designed into your embedded system. With a focus on longevity TXCOM modules includes an processor, power supply and memory.

- RENESAS RZ/G2L, 512MB/1GB DDR3L SDRAM
- 4GB eMMC
- DIMM200-module (67,6mm x 26 mm x 4mm)

**Standard TXCOM pinout:**

Highly scalable design options allow a single platform to cover multiple products. Pin-compatible TX modules allow a single PCB as a platform for different features as product needs dictate.

- 4-wire UARTs (x3)
- I2C / PWM
- Serial Audio Interfaces (x2)
- 4-wire SD-Card/SDIO

High-Speed communication interfaces incl. onboard Ethernet PHY / on-chip USB PHY allows direct use of connectors/magnetics on the baseboard without the need for additional logic:

- 10/100 Mbps Ethernet
- 480 Mbps USB OTG (Host or Device)
- 480 Mbps USB Host

**Read more in our TX-Guide:**

[www.karo-electronics.com/TX-Guide](http://www.karo-electronics.com/TX-Guide)

<b>System</b>	<b>CPU</b>	<b>Interfaces</b>													
Arm Debugger (Coresight) Arm TrustZone 16ch DMAC Interrupt Controller PLL/SSCG Standby (Sleep/Software/Module)	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-size: small;">Cortex®-A55 1.2GHz</td> <td style="font-size: small;">Cortex®-A55<sup>#</sup> 1.2GHz</td> <td rowspan="6" style="font-size: small; vertical-align: middle; text-align: center;">Cortex®-M33 @200MHz</td> </tr> <tr> <td style="font-size: x-small;">NEON/VFP</td> <td style="font-size: x-small;">NEON/VFP</td> </tr> <tr> <td style="font-size: x-small;">I-L1\$: 32KB w/Parity</td> <td style="font-size: x-small;">I-L1\$: 32KB w/Parity</td> </tr> <tr> <td style="font-size: x-small;">D-L1\$: 32KB w/ECC</td> <td style="font-size: x-small;">D-L1\$: 32KB w/ECC</td> </tr> <tr> <td style="font-size: x-small;">L2\$: 0KB</td> <td style="font-size: x-small;">L2\$: 0KB</td> </tr> <tr> <td colspan="2" style="font-size: x-small;">L3\$(Shared) : 256KB w/ECC</td> </tr> </table>	Cortex®-A55 1.2GHz	Cortex®-A55 <sup>#</sup> 1.2GHz	Cortex®-M33 @200MHz	NEON/VFP	NEON/VFP	I-L1\$: 32KB w/Parity	I-L1\$: 32KB w/Parity	D-L1\$: 32KB w/ECC	D-L1\$: 32KB w/ECC	L2\$: 0KB	L2\$: 0KB	L3\$(Shared) : 256KB w/ECC		DDR4/DDR3L (In line ECC) 16-bit x 1.6/1.3Gbps 1 x SPI Multi I/O (8-bit DDR) 2 x SDHI (UHS-I)/MMC 1 x USB2.0 Host 1 x USB2.0 Host / Function 2 x 100/1000Mbps Ether MAC* 2 x I2C, 2 x I2C* 2 x SCI 8/9-bit* 5 x SCIF (UART)* 3 x RSPI* 2 x CAN* GPIO*
Cortex®-A55 1.2GHz	Cortex®-A55 <sup>#</sup> 1.2GHz	Cortex®-M33 @200MHz													
NEON/VFP	NEON/VFP														
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D-L1\$: 32KB w/ECC	D-L1\$: 32KB w/ECC														
L2\$: 0KB	L2\$: 0KB														
L3\$(Shared) : 256KB w/ECC															
<b>Timers</b>	<b>Memory</b>	<b>Audio</b>													
1 x 32-bit MTU3* 8 x 16-bit MTU3* 8 x 32-bit PWM* 3 x WDT*	RAM 128KB w/ECC	4 x SSI (I <sup>2</sup> S)* 1 x SRC													
<b>Analog</b>	<b>Video &amp; Graphics</b>														
8 x 12-bit ADC	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-size: small;">3D GPU Arm Mali-G31</td> <td style="font-size: small;">Camera In (MIPI CSI-2 4lane, Parallel*)</td> </tr> <tr> <td style="font-size: small;">H.264 Enc/Dec 1920 x 1080 @30fps</td> <td style="font-size: small;">Display Out (MIPI DSI 4lane, Parallel*)</td> </tr> <tr> <td colspan="2" style="font-size: small;">Image Scaling Unit</td> </tr> </table>	3D GPU Arm Mali-G31	Camera In (MIPI CSI-2 4lane, Parallel*)	H.264 Enc/Dec 1920 x 1080 @30fps	Display Out (MIPI DSI 4lane, Parallel*)	Image Scaling Unit									
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	<b>Security (Option)</b>														
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Secure Boot	Device Unique ID														
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\*Shared

**Ordering Information**

Order Number	CPU	SDRAM	Flash	Temp.
TXRZ/G2L/1GS/4GF/I	1.2 GHz RZ/G2L Dual	1GB	4GB	-40°C..85°C
TXRZ/G2L/512S/4GF/I	1.2 GHz RZ/G2L Dual	512MB	4GB	-40°C..85°C

PINOUT						
PIN	Type	TX Standard	RZ/G2L Pad Name	Alternate functions	GPIO	Description (refer to RZ/G2L manuals for details)
<b>POWER SUPPLY &amp; RESET</b>						
1-4	power	<b>VIN</b>				Module power supply input.
5-7, 9-12	power	<b>VOUT</b>				3.3V power supply output. Supplied by PCA9450 Buck 4, I <sub>max</sub> : 1A
8	3V3	<b>BOOTMODE</b>			10K-PU	Boot mode select H:eMMC / L: SCIF0 Leave unconnected, if not used.
13		VBACKUP	Not connected			
14		PMIC_PWR_BTN		Connected to PMIC: PMIC_ON_REQ	10K-PU to VIN	
15	3V3	#RESET_OUT	WDOVF_PERROUT			
16	1V8	#POR		Connected to PMIC: PMIC_RST_B	10K-PU to LDO1	PMIC reset input pin. It is internally pulled up with LDO1 power rail. Asserted low, PMIC performs reset. Leave unconnected, if not used.
17	3V3	#RESET_IN	PRST#		10K-PU	Also connected to PMIC POR_B
18	GND	GND				
<b>Ethernet</b>						
19	analog	<b>ETN_TXN</b>				Transmit Data Negative: 100Base-TX or 10Base-T differential transmit output to magnetics.
20	3V3	# <b>ETN_LED2</b>				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	analog	<b>ETN_TXP</b>				Transmit Data Positive: 100Base-TX or 10Base-T differential transmit output to magnetics.
22	power	<b>ETN_3V3</b>				+3.3V analog power supply output to magnetics
23	analog	<b>ETN_RXN</b>				Receive Data Negative: 100Base-TX or 10Base-T differential receive input from magnetics.
24	3V3	# <b>ETN_LED1</b>				Active low - output is driven active whenever the device detects a valid link, and blinks indicating activity.
25	analog	<b>ETN_RXP</b>				Receive Data Positive: 100Base-TX or 10Base-T differential receive input from magnetics.
26	GND	GND				
<b>USB-HOST</b>						
27	3V3	<b>USBH_VBUSEN</b>	P42_0	<b>USB1_VBUSEN_D</b> RSPI2_CK_B CAN_CLK_D SCIF2_TXD_D MTIOC7A_B	P42_0 10K-PU	Active high external 5V supply enable. This pin is used to enable the external VBUS power supply.
28	3V3	# <b>USBH_OC</b>	P42_1	<b>USB1_OVRCUR_D</b> RSPI2_MOSI_B CAN0_TX_D SCIF2_RXD_D MTIOC7B_B	P42_1 10K-PU	Active low over-current indicator input connected to a GPIO.
29	analog	<b>USBH_DM</b>	USB1_DM			D- pin of the USB cable
30	analog	USBH_VBUS	Not connected			
31	analog	<b>USBH_DP</b>	USB1_DP			D+ pin of the USB cable
32	GND	GND				
<b>USB-OTG</b>						
33	3V3	<b>USBOTG_ID</b>	P5_1	<b>USB0_OTG_ID_A</b> SCIF2_CTS#_A MTIOC7D_A SSI2_RCK_A	P5_1	
34	3V3	<b>USBOTG_VBUSEN</b>	P4_0	<b>USB0_VBUSEN_A</b> SCIF2_TXD_A MTIOC7A_A ADC_TRG_B	P4_0 10K-PU	Active high external 5V supply enable. This pin is used to enable the external VBUS power supply.
35	analog	<b>USBOTG_DM</b>	USB0_DM			D- pin of the USB cable
36	3V3	# <b>USBOTG_OC</b>	P5_0	<b>USB0_OVRCUR_A</b> SCIF2_SCK_A MTIOC7C_A SSI2_BCK_A	P5_0 10K-PU	Active low over-current indicator input connected to a GPIO.
37	analog	<b>USBOTG_DP</b>	USB0_DP			D+ pin of the USB cable
38	analog	<b>USBOTG_VBUS</b>	USB0_VBUSIN		30K-PD	10K/20K voltage divider
39	GND	GND				

PIN	Type	TX Standard	RZ/G2L Pad Name	Alternate functions	GPIO	Description (refer to RZ/G2L manuals for details)
<b>I2C</b>						
40	3V3	I2C_DATA	RIIC1_SDA	RIIC1_SDA	N/A	I2C Data
41	3V3	I2C_CLK	RIIC1_SCL	RIIC1_SCL	N/A	I2C Clock
<b>PWM</b>						
42	3V3	PWM	P19_1	SD1_WP_B GTIOC3B_B MTIOC1B_C RIIC2_SCL_B	P19_1	PWM Output
<b>1-WIRE</b>						
43	3V3 LDO5	OWDAT	P37_1	ET1_MDIO CAM_DATA13 SCIF2_CTS#_C GTETRGD_B	P37_1	
<b>CSPI – Configurable Serial Peripheral Interface</b>						
44	3V3	CSPI_SS	P43_3	RSPIO_SSL_B GTIOC5B_B IRQ7_D / MTIOC8D_B	P43_3	Slave Select (Selectable polarity) signal
45	3V3 LDO5	CSPI_SS	P37_0	ET1_MDC CAM_DATA12 SCIF2_SCK_C GTETRGC_B	P37_0	Slave Select (Selectable polarity) signal
46	3V3	CSPI_MOSI	P43_1	RSPIO_MOSI_B GTIOC4B_B GTIOC6B_C IRQ5_C / MTIOC8B_B	P43_1	Master Out/Slave In signal
47	3V3	CSPI_MISO	P43_2	RSPIO_MISO_B GTIOC5A_B IRQ6_C / MTIOC8C_B	P43_2	Master In/Slave Out signal
48	3V3	CSPI_SCLK	P43_0	RSPIO_CK_B GTIOC4A_B GTIOC6A_C IRQ4_C / MTIOC8A_B	P43_0	Serial Clock signal
49	3V3 LDO5		P32_1	ET1_TX_COL CAM_DATA3 SC11_CTS# RTS#_A / MTIOC3B_A SSI3_RXD	P32_1	
50	GND	GND				
<b>1<sup>st</sup> SD – Secure Digital Interface</b>						
51	3V3	SD1_CD	P19_0	SD1_CD_B GTIOC3A_B MTIOC1A_C RIIC2_SDA_B	P19_0	SD Card Detect
52	3V3	SD1_D[0]	SD1_DATA0	SD1_DATA0	N/A	SD Data bidirectional signals, external pull up resistors must be added.
53	3V3	SD1_D[1]	SD1_DATA1	SD1_DATA1	N/A	
54	3V3	SD1_D[2]	SD1_DATA2	SD1_DATA2	N/A	
55	3V3	SD1_D[3]	SD1_DATA3	SD1_DATA3	N/A	
56	3V3	SD1_CMD	SD1_CMD	SD1_CMD	N/A	SD Command bidirectional signal, external pull up resistor must be added.
57	3V3	SD1_CLK	SD1_CLK	SD1_CLK	N/A	SD Output Clock.
58	GND	GND				
<b>1<sup>st</sup> UART</b>						
59	3V3	TXD	P38_0	SCIF0_TXD GTETRGA_C CAN_CLK_C MTIOC4A USB1_VBUSEN_C	P38_0	1 <sup>st</sup> application UART Transmit Data output signal
60	3V3	RXD	P38_1	SCIF0_RXD GTETRGB_C CAN0_TX_C MTIOC4B USB1_OVRCUR_C	P38_1	1 <sup>st</sup> application UART Receive Data input signal
61	3V3	RTS	P39_1	SCIF0_CTS# GTETRGD_C CAN0_TX_DATARATE_EN_C MTIOC4D	P39_1	1 <sup>st</sup> application UART Clear to Send <b>input</b> signal
62	3V3	CTS	P39_2	SCIF0_RTS# CAN0_RX_DATARATE_EN_C	P39_2	1 <sup>st</sup> application UART Request to Send <b>output</b> signal

PIN	Type	TX Standard	RZ/G2L Pad Name	Alternate functions	GPIO	Description (refer to RZ/G2L manuals for details)
<b>2<sup>nd</sup> UART</b>						
63	3V3	<b>TXD</b>	P40_0	<b>SCIF1_TXD</b> GTIOC6A_B CAN1_TX_C MTIC5U_B SCIO_RXD_B	P40_0	2 <sup>nd</sup> application UART Transmit Data output signal
64	3V3	<b>RXD</b>	P40_1	<b>SCIF1_RXD</b> GTIOC6B_B CAN1_RX_C MTIC5V_B SCIO_TXD_B	P40_1	2 <sup>nd</sup> application UART Receive Data input signal
65	3V3	<b>RTS</b>	P41_0	<b>SCIF1_CTS#</b> GTIOC7A_B CAN1_RX_DATARATE_EN_C GTIOC3A_D SCIO_CTS# RTS#_B	P41_0	2 <sup>nd</sup> application UART Clear to Send <b>input</b> signal
66	3V3	<b>CTS</b>	P41_1	<b>SCIF1_RTS#</b> GTIOC7B_B GTIOC3B_D	P41_1	2 <sup>nd</sup> application UART Request to Send <b>output</b> signal
<b>3<sup>rd</sup> UART</b>						
67	3V3	<b>TXD</b>	P48_0	<b>SCIF2_TXD_E</b> RSPI1_CK_C RIIC2_SDA_E MTCLKA_C	P48_0	3 <sup>rd</sup> application UART Transmit Data output signal
68	3V3	<b>RXD</b>	P48_1	<b>SCIF2_RXD_E</b> RSPI1_MOSI_C RIIC2_SCL_E MTCLKB_C	P48_1	3 <sup>rd</sup> application UART Receive Data input signal
69	3V3	<b>RTS</b>	P48_3	<b>SCIF2_CTS#_E</b> RSPI1_SSL_C RIIC3_SCL_D MTCLKD_C	P48_3	3 <sup>rd</sup> application UART Clear to Send <b>input</b> signal
70	3V3	<b>CTS</b>	P48_4	<b>SCIF2_RTS#_E</b> ADC_TRG_E	P48_4	3 <sup>rd</sup> application UART Request to Send <b>output</b> signal
71	GND	GND				
<b>Module Specific Signals</b>						
72	3V3		P0_0	IRQ0_A / SCIO_RXD_A GTIOC0A_A MTIOC0A_A SCIF3_TXD	P0_0	
73	3V3		P0_1	IRQ1_A / SCIO_TXD_A GTIOC0B_A MTIOC0B_A SCIF3_RXD	P0_1	
74	3V3		P1_0	IRQ2_A / SCIO_SCK_A GTIOC1A_A MTIOC0C_A SCIF3_SCK	P1_0	
75	3V3		P1_1	IRQ3_A / SCIO_CTS# RTS#_A GTIOC1B_A MTIOC0D_A	P1_1	
76	3V3		P46_1	SSI1_RCK_D GTETRGB_D <b>CAN1_RX_E</b> RIIC2_SCL_D	P46_1	
77	3V3		P2_0	IRQ4_A / ADC_TRG_A GTIOC2A_A MTIOC1A_A SCIF4_TXD	P2_0	
78	3V3		P2_1	IRQ5_A / GTIOC2B_A MTIOC1B_A SCIF4_RXD	P2_1	
79	3V3		P3_0	IRQ6_A / RIIC2_SDA_A GTIOC3A_A MTIOC2A_A SCIF4_SCK	P3_0	
80	3V3		P3_1	IRQ7_A / RIIC2_SCL_A GTIOC3B_A MTIOC2B_A CAM_FIELD_A	P3_1	
81	3V3		P46_0	SSI1_BCK_D GTETRGA_D <b>CAN1_TX_E</b> RIIC2_SDA_D	P46_0	
82	GND	GND				

PIN	Type	TX Standard	RZ/G2L Pad Name	Alternate functions	GPIO	Description (refer to RZ/G2L manuals for details)
<b>1<sup>st</sup> SSI - Serial Audio Port</b>						
83	3V3	<b>SSI1_INT</b>	AUDIO_CLK1	AUDIO_CLK1	N/A	
84	3V3	SSI1_RXD	P45_3	<b>SSI0_RXD_D</b> POE10#_C SCI1_CTS# RTS#_B	P45_3	Serial Audio Interface serial data line 1
85	3V3	SSI1_TXD	P45_2	<b>SSI0_TXD_D</b> POE8#_C SCI1_SCK_B	P45_2	Serial Audio Interface serial data line 0
86	3V3	<b>SSI1_CLK</b>	P45_0	SSI0_BCK_D POE0#_C SCI1_RXD_B	P45_0	Serial Audio Interface serial bit clock
87	3V3	<b>SSI1_FS</b>	P45_1	SSI0_RCK_D POE4#_C SCI1_TXD_B	P45_1	Serial Audio Interface left/right clock
88	GND	GND				
<b>2<sup>nd</sup> SSI - Serial Audio Port</b>						
89	3V3	<b>SSI2_INT</b>	AUDIO_CLK2	AUDIO_CLK2	N/A	
90	3V3	SSI2_RXD	P46_3	<b>SSI1_RXD_D</b> GTETRGD_D CAN1_RX_DATARATE_EN_E RIIC3_SCL_C	P46_3	Serial Audio Interface serial data line 1
91	3V3	SSI2_TXD	P46_2	<b>SSI1_TXD_D</b> GTETRGC_D CAN1_TX_DATARATE_EN_E RIIC3_SDA_C	P46_2	Serial Audio Interface serial data line 0
92	3V3	<b>SSI2_CLK</b>	P47_0	SD0_CD_B / IRQ0_C SSI1_BCK_E RSPI0_CK_C	P47_0	Serial Audio Interface serial bit clock
93	3V3	<b>SSI2_FS</b>	P47_1	SD0_WP_B / IRQ1_C SSI1_RCK_E RSPI0_MOSI_C	P47_1	Serial Audio Interface left/right clock
94	GND	GND				
<b>2<sup>nd</sup> SD – Secure Digital Interface</b>						
95	3V3 LDO5	<b>SD2_CD</b>	P36_1	ET1_RX_ERR CAM_DATA11 SSI0_RXD_C MTIIOC3D_A GTETRGB_B	P36_1	
96	3V3 LDO5	<b>SD2_D[0]</b>	P32_0	ET1_TX_ERR CAM_DATA2 SCI1_SCK_A MTIIOC3A_A SSI3_TXD	P32_0	
97	3V3 LDO5	<b>SD2_D[1]</b>	P33_0	ET1_TX_CRD CAM_DATA4 GTIOC2A_B SCIF2_TXD_C GTIOC0A_C	P33_0	
98	3V3	<b>SD2_D[2]</b>	P44_1	RSPI1_MOSI_B SSI1_RCK_C CAN1_RX_D MTIIOC3B_B GTIOC6B_D	P44_1	
99	3V3	<b>SD2_D[3]</b>	P44_2	RSPI1_MISO_B SSI1_TXD_C CAN1_TX_DATARATE_EN_D MTIIOC3C_B GTIOC7A_C	P44_2	
100	3V3	<b>SD2_CMD</b>	P44_3	RSPI1_SSL_B SSI1_RXD_C CAN1_RX_DATARATE_EN_D MTIIOC3D_B GTIOC7B_C	P44_3	
101	3V3	<b>SD2_CLK</b>	P44_0	RSPI1_CK_B SSI1_BCK_C CAN1_TX_D MTIIOC3A_B GTIOC6A_D	P44_0	
102	GND	GND				

PIN	Type	TX Standard	RZ/G2L Pad Name	Alternate functions	GPIO	Description (refer to RZ/G2L manuals for details)
<b>Module Specific Signals</b>						
103	3V3 LDO5	<b>CSI0_DAT12</b>	P33_1	ET1_RXC RX_CLK CAM_DATA5 GTIOC2B_B SCIF2_RXD_C GTIOC0B_C	P33_1	
104	3V3 LDO5	<b>CSI0_DAT13</b>	P34_0	ET1_RX_CTL RX_DV CAM_DATA6 GTIOC3A_C MTIOC0A_B GTIOC1A_B	P34_0	
105	3V3 LDO5	<b>CSI0_DAT14</b>	P34_1	ET1_RXD0 CAM_DATA7 GTIOC3B_C MTIOC0B_B GTIOC1B_B	P34_1	
106	3V3 LDO5	<b>CSI0_DAT15</b>	P35_0	ET1_RXD1 CAM_DATA8 SSI0_BCK_C MTIOC0C_B GTIOC2A_C	P35_0	
107	3V3 LDO5	<b>CSI0_DAT16</b>	P35_1	ET1_RXD2 CAM_DATA9 SSI0_RCK_C MTIOC0D_B GTIOC2B_C	P35_1	
108	3V3 LDO5	<b>CSI0_DAT17</b>	P36_0	ET1_RXD3 CAM_DATA10 SSI0_TXD_C MTIOC3C_A GTETRGA_B	P36_0	
109	3V3 LDO5	<b>CSI0_DAT18</b>	P29_1	ET1_TX_CTL TX_EN CAM_HREF USB1_OVRCUR_B SSI2_RCK_B	P29_1	
110	3V3 LDO5	<b>CSI0_DAT19</b>	P29_0	ET1_TXC TX_CLK CAM_PCLK USB1_VBUSEN_B SSI2_BCK_B	P29_0	
111	GND	GND				
112	3V3 LDO5	<b>CSI0_HSYNC</b>	P31_1	ET1_TXD3 CAM_DATA1 SCI1_TXD_A SSI3_RCK	P31_1	
113	3V3 LDO5	<b>CSI0_VSYNC</b>	P31_0	ET1_TXD2 CAM_DATA0 SCI1_RXD_A SSI3_BCK	P31_0	
114	3V3 LDO5	<b>CSI0_PIXCLK</b>	P30_1	ET1_TXD1 CAM_DATA15	P30_1	
115	3V3 LDO5	<b>CSI0_MCLK</b>	P30_0	ET1_TXD0 CAM_VSYNC SSI2_DATA_B	P30_0	
116	GND	GND				
<b>Camera/Display</b>						
117	3V3	LD0	P7_2	DISP_DATA0 USB0_OTG_EXICEN_B MTIC5W_A	P7_2	
118	3V3	LD1	P8_0	DISP_DATA1 USB1_VBUSEN_A RSPI2_CK_A RIIC3_SCL_A	P8_0	
119	3V3	LD2	P8_1	DISP_DATA2 USB1_OVRCUR_A RSPI2_MOSI_A RIIC3_SDA_A	P8_1	
120	3V3	LD3	P8_2	DISP_DATA3 RSPI2_MISO_A	P8_2	
121	3V3	LD4	P9_0	DISP_DATA4 ADC_TRG_C RSPI2_SSL_A MTIOC2A_B	P9_0	
122	3V3	LD5	P9_1	DISP_DATA5 MTIOC2B_B	P9_1	

PIN	Type	TX Standard	RZ/G2L Pad Name	Alternate functions	GPIO	Description (refer to RZ/G2L manuals for details)
123	3V3	LD6	P10_0	DISP_DATA6 CAN_CLK_A MTIOC6A GTETRG_A	P10_0	
124	3V3	LD7	P10_1	DISP_DATA7 CAN0_TX_A MTIOC6B GTETRG_B	P10_1	
125	3V3	LD8	P11_0	DISP_DATA8 CAN0_RX_A MTIOC6C GTETRG_C	P11_0	
126	3V3	LD9	P11_1	DISP_DATA9 CAN0_TX_DATARATE_EN_A MTIOC6D GTETRG_D	P11_1	
127	3V3	LD10	P12_0	DISP_DATA10 CAN0_RX_DATARATE_EN_A POE0#_A GTIOC7A_A	P12_0	
128	3V3	LD11	P12_1	DISP_DATA11 CAN1_TX_A POE4#_A GTIOC7B_A	P12_1	
129	GND	GND				
130	3V3	LD12	P13_0	DISP_DATA12 CAN1_RX_A POE8#_A IRQ0_B	P13_0	
131	3V3	LD13	P13_1	DISP_DATA13 CAN1_TX_DATARATE_EN_A POE10#_A IRQ1_B	P13_1	
132	3V3	LD14	P13_2	DISP_DATA14 CAN1_RX_DATARATE_EN_A IRQ7_B IRQ2_B	P13_2	
133	3V3	LD15	P14_0	DISP_DATA15 SSI1_BCK_A SD1_CD_A MTCLKA_A	P14_0	
134	3V3	LD16	P14_1	DISP_DATA16 SSI1_RCK_A SD1_WP_A MTCLKB_A	P14_1	
135	3V3	LD17	P15_0	DISP_DATA17 SSI1_TXD_A GTIOC4A_A MTCLKC_A	P15_0	
136	3V3	LD18	P15_1	DISP_DATA18 SSI1_RXD_A GTIOC4B_A MTCLKD_A	P15_1	
137	3V3	LD19	P16_0	DISP_DATA19 SCIF2_TXD_B GTIOC5A_A IRQ3_B	P16_0	
138	3V3	LD20	P16_1	DISP_DATA20 SCIF2_RXD_B GTIOC5B_A IRQ4_B	P16_1	
139	3V3	LD21	P17_0	DISP_DATA21 SCIF2_SCK_B GTIOC6A_A IRQ5_B	P17_0	
140	3V3	LD22	P17_1	DISP_DATA22 SCIF2_CTS#_B GTIOC6B_A IRQ6_B	P17_1	
141	3V3	LD23	P17_2	DISP_DATA23 SCIF2_RTS#_B IRQ7_C	P17_2	
142	GND	GND				
143	3V3	HSYNC	P6_1	DISP_HSYNC SSI0_RCK_A MTIOC1B_B	P6_1	
144	3V3	VSYNC	P7_0	DISP_VSYNC SSI0_TXD_A USB0_OVRCUR_B MTICSU_A	P7_0	



PIN	Type	TX Standard	RZ/G2L Pad Name	Alternate functions	GPIO	Description (refer to RZ/G2L manuals for details)
145	3V3	OE_ACD	P7_1	DISP_DE SSI0_RXD_A USB0_OTG_ID_B MTIC5V_A	P7_1	
146	3V3	LSCLK	P6_0	DISP_CLK SSI0_BCK_A USB0_VBUSEN_B MTIOC1A_B	P6_0	
147	GND	GND				
Module Specific Signals						
148	3V3		P42_2	ADC_TRG_D RSPI2_MISO_B CAN0_RX_D SCIF2_SCK_D MTIOC7C_B	P42_2	
149	3V3		P42_3	RIIC2_SDA_C RSPI2_SSL_B CAN0_TX_DATARATE_EN_D SCIF2_CTS#_D MTIOC7D_B	P42_3	
150	3V3		P42_4	RIIC2_SCL_C CAM_FIELD_B CAN0_RX_DATARATE_EN_D SCIF2_RTS#_D	P42_4	
151	3V3		P47_2	SCIO_SCK_C SD1_CD_C IRQ2_C SSI1_TXD_E RSPI0_MISO_C	P47_2	
152	3V3		P47_3	SCIO_CTS# RTS#_C SD1_WP_C IRQ3_C SSI1_RXD_E RSPI0_SSL_C	P47_3	
153	3V3		P48_2	SCIF2_SCK_E RSPI1_MISO_C RIIC3_SDA_D MTCLKC_C	P48_2	
154	3V3		P4_1	SCIF2_RXD_A MTIOC7B_A	P4_1	
155	3V3 LDO5		P37_2	ET1_LINKSTA CAM_DATA14 SCIF2_RTS#_C	P37_2	
156	3V3		P39_0	SCIF0_SCK GTETRG_C CAN0_RX_C MTIOC4C	P39_0	
157	3V3		P40_2	SCIF1_SCK CAN1_TX_DATARATE_EN_C MTIC5W_B SCIO_SCK_B	P40_2	
158	3V3		P5_2	USB0_OTG_EXICEN_A SCIF2_RTS#_A SSI2_DATA_A	P5_2	
159	<b>1V8</b>		P18_0	SD0_CD / GTIOC0A RIIC3_SDA / MTIOC2A	P18_0	
160	GND	GND				
161	<b>1V8</b>		ADC_CH0	ADC_CH0	<b>N/A</b>	
162	<b>1V8</b>		ADC_CH1	ADC_CH1	<b>N/A</b>	
163	<b>1V8</b>		ADC_CH2	ADC_CH2	<b>N/A</b>	
164	<b>1V8</b>		ADC_CH3	ADC_CH3	<b>N/A</b>	
165	<b>1V8</b>		ADC_CH4	ADC_CH4	<b>N/A</b>	
166	MIPI		CSI_CLKN	CSI_CLKN	<b>N/A</b>	
167	MIPI		CSI_DATA1_N	CSI_DATA1_N	<b>N/A</b>	
168	MIPI		CSI_CLKP	CSI_CLKP	<b>N/A</b>	
169	MIPI		CSI_DATA1_P	CSI_DATA1_P	<b>N/A</b>	
170	MIPI		CSI_DATA0_N	CSI_DATA0_N	<b>N/A</b>	
171	GND	GND				

PIN	Type	TX Standard	RZ/G2L Pad Name	Alternate functions	GPIO	Description (refer to RZ/G2L manuals for details)
172	MIPI		CSI_DATA0_P	CSI_DATA0_P	N/A	
173	1V8		ADC_CH5	ADC_CH5	N/A	
174	1V8		ADC_CH6	ADC_CH6	N/A	
175	MIPI		CSI_DATA2_P	CSI_DATA2_P	N/A	
176	MIPI		DSI_DATA3_N	DSI_DATA3_N	N/A	
177	MIPI		CSI_DATA2_N	CSI_DATA2_N	N/A	
178	MIPI		DSI_DATA3_P	DSI_DATA3_P	N/A	
179	MIPI		CSI_DATA3_P	CSI_DATA3_P	N/A	
180	MIPI		DSI_DATA2_N	DSI_DATA2_N	N/A	
181	MIPI		CSI_DATA3_N	CSI_DATA3_N	N/A	
182	MIPI		DSI_DATA2_P	DSI_DATA2_P	N/A	
183	GND	GND				
184	1V8		ADC_CH7	ADC_CH7	N/A	
185	3V3		QSPI_WP#	QSPI_WP#	N/A	
186	MIPI		DSI_CLKN	DSI_CLKN	N/A	
187	3V3		QSPI_INT#	QSPI_INT#	N/A	
188	MIPI		DSI_CLKP	DSI_CLKP	N/A	
189	3V3		QSPI0_SSL	QSPI0_SSL	N/A	
190	3V3		QSPI_RESET#	QSPI_RESET#	N/A	
191	3V3		QSPI0_IO0	QSPI0_IO0	N/A	
192	MIPI		DSI_DATA1_N	DSI_DATA1_N	N/A	
193	3V3		QSPI0_IO1	QSPI0_IO1	N/A	
194	MIPI		DSI_DATA1_P	DSI_DATA1_P	N/A	
195	3V3		QSPI0_IO2	QSPI0_IO2	N/A	
196	MIPI		DSI_DATA0_N	DSI_DATA0_N	N/A	
197	3V3		QSPI0_IO3	QSPI0_IO3	N/A	
198	MIPI		DSI_DATA0_P	DSI_DATA0_P	N/A	
199	3V3		QSPI0_SPCLK	QSPI0_SPCLK	N/A	
200	GND	GND				

**TX6 compatibility with standard pin assignment**

	No Problems to be expected
	Note marked differences
	Incompatible

LAN8710A/LAN8741A PAD	RZ/G2L Pad Name	Alternate functions	GPIO	Description (refer to RZ/G2L manuals for details)
<b>Onboard Ethernet PHY MII wiring</b>				
MDC	P27_1	ET0_MDC RSPI1_SSL_A MTIOC8D_A	P27_1	
MDIO	P28_0	ET0_MDIO	P28_0	
RXCLK/PHYAD1	P24_0	ET0_RXC RX_CLK SSI1_BCK_B POE0#_B	P24_0	
RXDV	P24_1	ET0_RX_CTL RX_DV SSI1_RCK_B POE4#_B	P24_1	
RXD0/MODE0	P25_0	ET0_RXD0 SSI1_TXD_B POE8#_B	P25_0	
RXD1/MODE1	P25_1	ET0_RXD1 SSI1_RXD_B POE10#_B	P25_1	
RXD2/RMIISEL	P26_0	ET0_RXD2 RSPI1_CK_A MTIOC8A_A	P26_0	
RXD3/PHYAD2	P26_1	ET0_RXD3 RSPI1_MOSI_A MTIOC8B_A	P26_1	
RXER/RXD4/PHYAD0	P27_0	ET0_RX_ERR RSPI1_MISO_A MTIOC8C_A	P27_0	
TXCLK	P20_0	ET0_TXC TX_CLK RSPI0_CK_A CAN_CLK_B	P20_0	
TXEN	P20_1	ET0_TX_CTL TX_EN RSPI0_MOSI_A CAN0_TX_B	P20_1	
TXD0	P20_2	ET0_TXD0 RSPI0_MISO_A CAN0_RX_B	P20_2	
TXD1	P21_0	ET0_TXD1 RSPI0_SSL_A CAN0_TX_DATARATE_EN_B	P21_0	
TXD2	P21_1	ET0_TXD2 CAN0_RX_DATARATE_EN_B	P21_1	
TXD3	P22_0	ET0_TXD3 SSI0_BCK_B CAN1_TX_B MTCLKA_B	P22_0	
COL/CRS_DV/MODE2	P23_0	ET0_TX_COL SSI0_TXD_B CAN1_TX_DATARATE_EN_B MTCLKC_B	P23_0	
CRS	P23_1	ET0_TX_CRS SSI0_RXD_B CAN1_RX_DATARATE_EN_B MTCLKD_B	P23_1	
nINT/TXER/TXD4	P22_1	ET0_TX_ERR SSI0_RCK_B CAN1_RX_B MTCLKB_B	P22_1	
nRST	P28_1	ET0_LINKSTA	P28_1	