
G3SBERRY Hardwaremanual

Release 09.09.2024

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ABOUT THIS MANUAL

1.1 Imprint

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1.5 Care and Maintenance

- Keep the device dry. Precipitation, humidity, and all types of liquids or moisture can contain minerals that will corrode electronic circuits. If your device does get wet, allow it to dry completely.
- Do not use or store the device in dusty, dirty areas. Its moving parts and electronic components can be damaged.
- Do not store the device in hot areas. High temperatures can shorten the life of electronic devices, damage batteries, and warp or melt certain plastics.
- Do not store the device in cold areas. When the device returns to its normal temperature, moisture can form inside the device and damage electronic circuit boards.
- Do not attempt to open the device.
- Do not drop, knock, or shake the device. Rough handling can break internal circuit boards and fine mechanics.
- Do not use harsh chemicals, cleaning solvents, or strong detergents to clean the device.
- Do not paint the device. Paint can clog the moving parts and prevent proper operation.
- Unauthorized modifications or attachments could damage the device and may violate regulations governing radio devices.

1.6 Change Log

Revision	Date	Revised	Comment
1.0	09.09.2024	fn	Initial creation

OVERVIEW

2.1 G3SBERRY Evaluation Kit

The G3Sberry baseboard is build around the MSRZG3S System on Module. The G3Sberry supports users to have a smooth start-up with the new CPU architecture RZ/G3S by Renesas. It supports all necessary features to make first steps with the CortexA55 CPU architecture, develop and debug drivers and the bootloader and even to use it in prototype setups.

2.2 Feature Set

- **MSRZG3S-A0A System on Module**
 - Renesas RZ/G3S
 - 512MB LPDDR4 RAM
 - no eMMC NAND Flash
 - 128MBit SPI-NOR
 - -25°...+85°C
- two Ethernet ports 10/100/1000MBit/s on RJ45
- PCIe on M.2 connector
- console via USB to UART
- USB2.0 Host
- USB2.0 OTG
- 2xI2C; GPIO
- SD-card interface
- 5V single voltage supply via USB

2.3 Order Codes

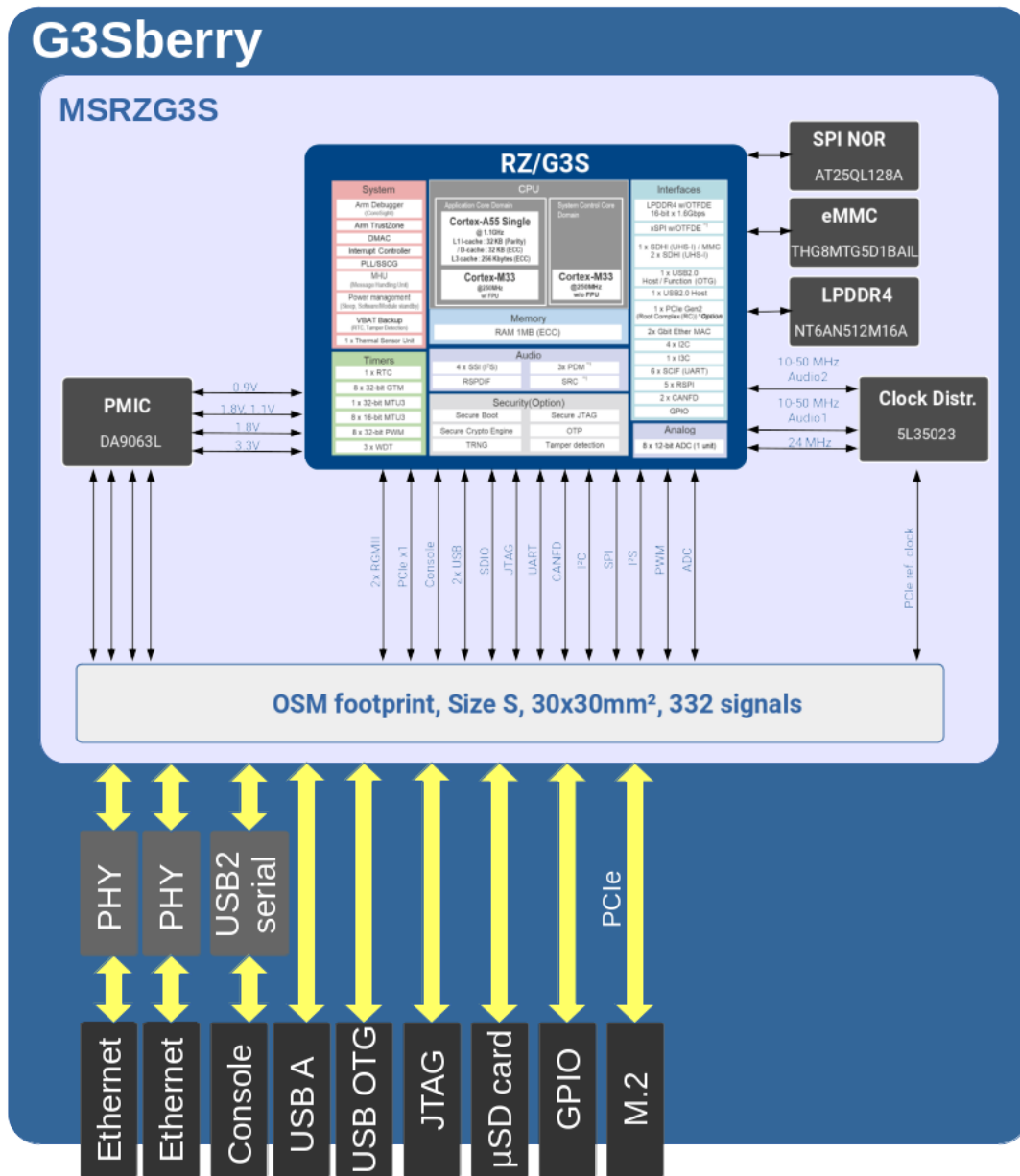
The G3SBERRY is available in the following standard configurations:

G3Sberry-A0A

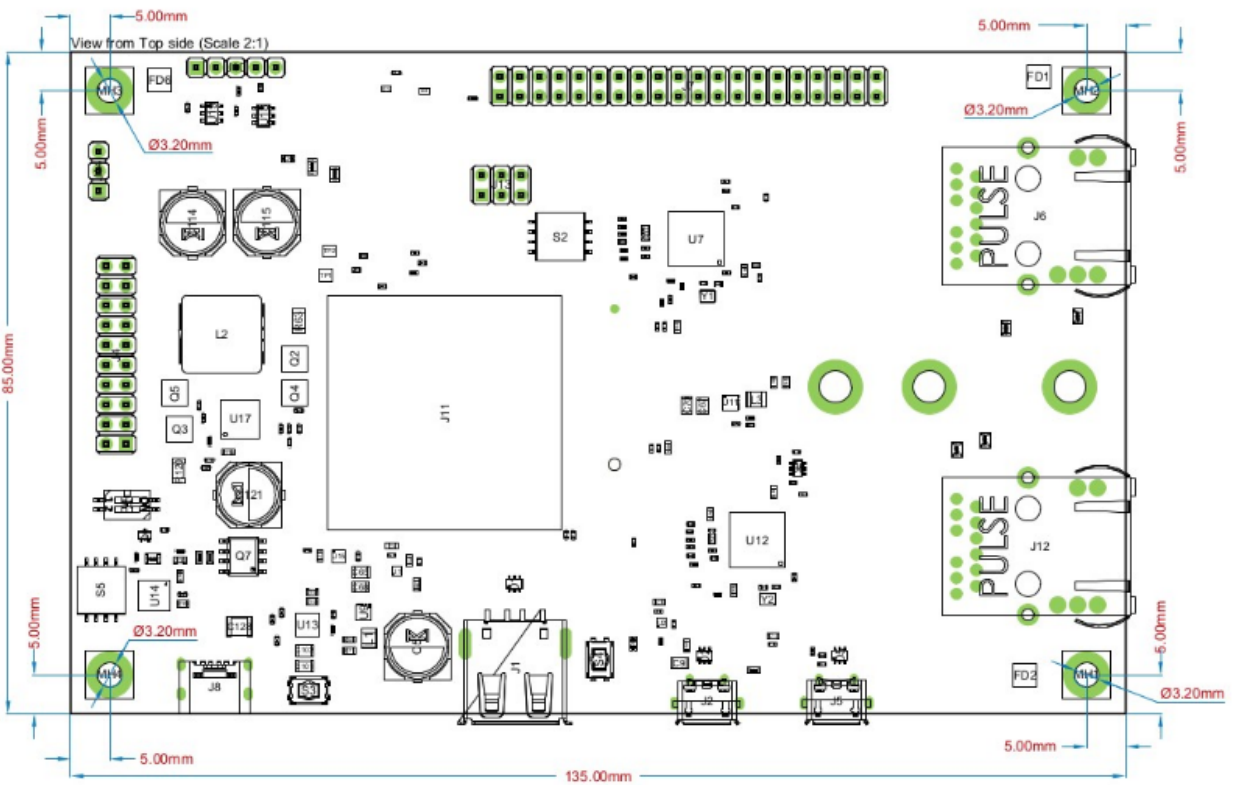
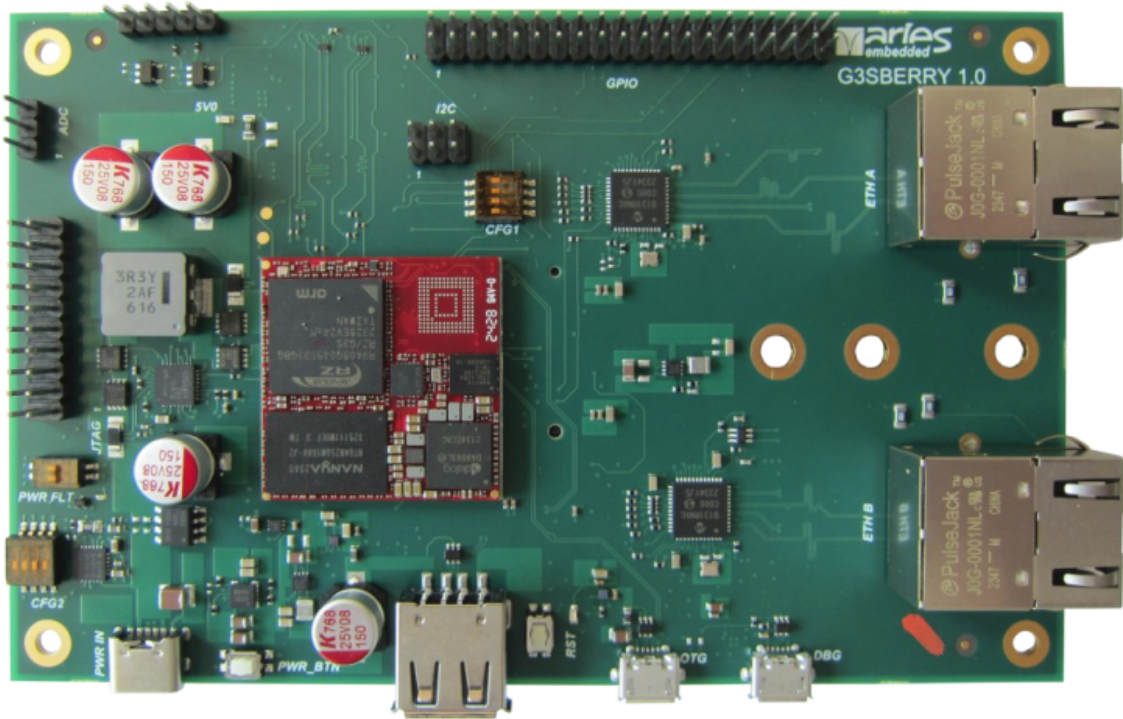
- **MSRZG3S-A0A System on Module**
 - Renesas RZ/G3S
 - 512MB LPDDR4 RAM
 - no eMMC NAND Flash
 - 128MBit SPI-NOR
 - -25°...+85°C
- two Ethernet ports 10/100/1000MBit/s on RJ45
- PCIe on M.2 connector
- console via USB to UART
- USB2.0 Host
- USB2.0 OTG
- 2xI2C; GPIO
- SD-card interface
- 5V single voltage supply via USB

Please contact ARIES Embedded for more information about the availability of other standard products of MSRZFive or custom configurations.

2.4 Block Diagram

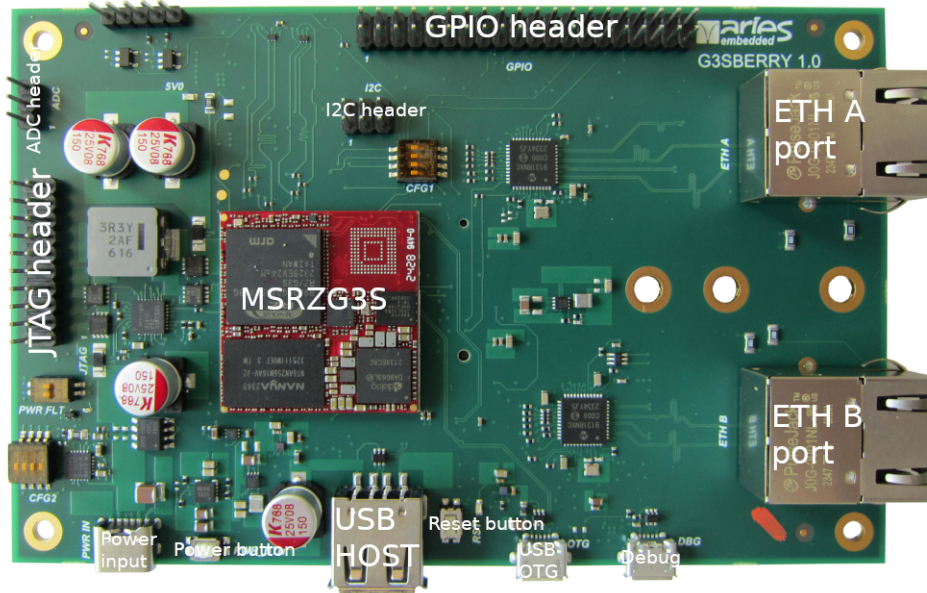


2.5 Dimensions

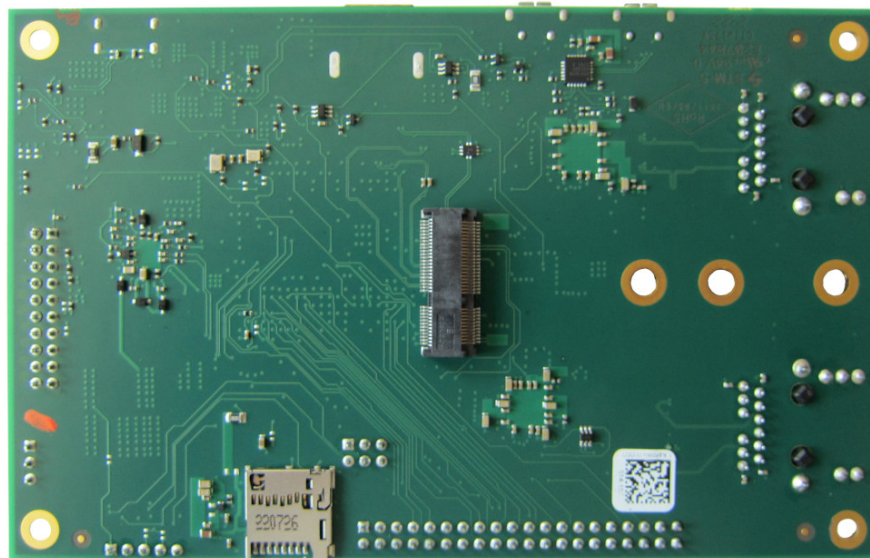


2.6 Part Overview

Assembly Top

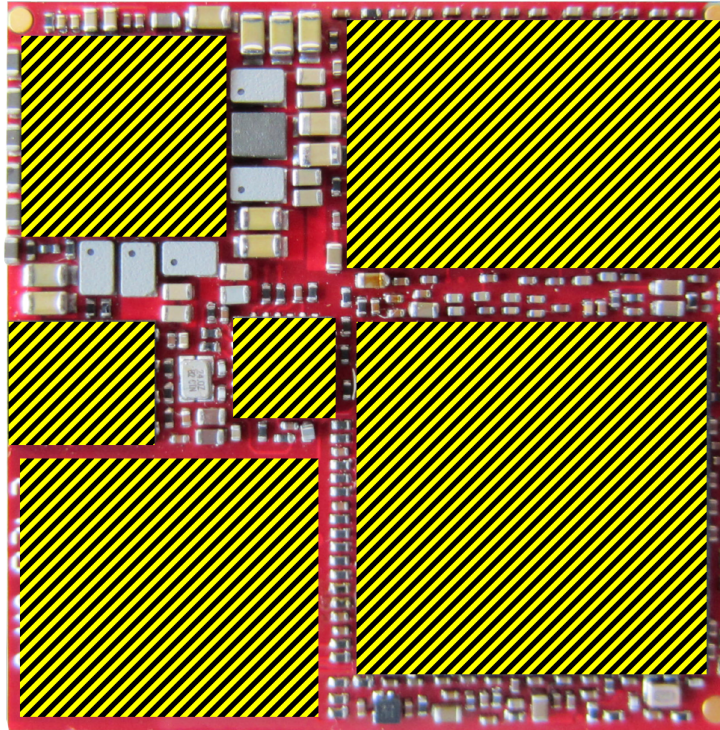


Assembly Bottom



2.7 Handling Recommendations

To avoid mechanical damage to the components populated on MSRZG3S it is strongly recommended not to apply mechanical force on the Ball Grid Array (BGA) components. The BGA components are marked as shaded in the figure below:

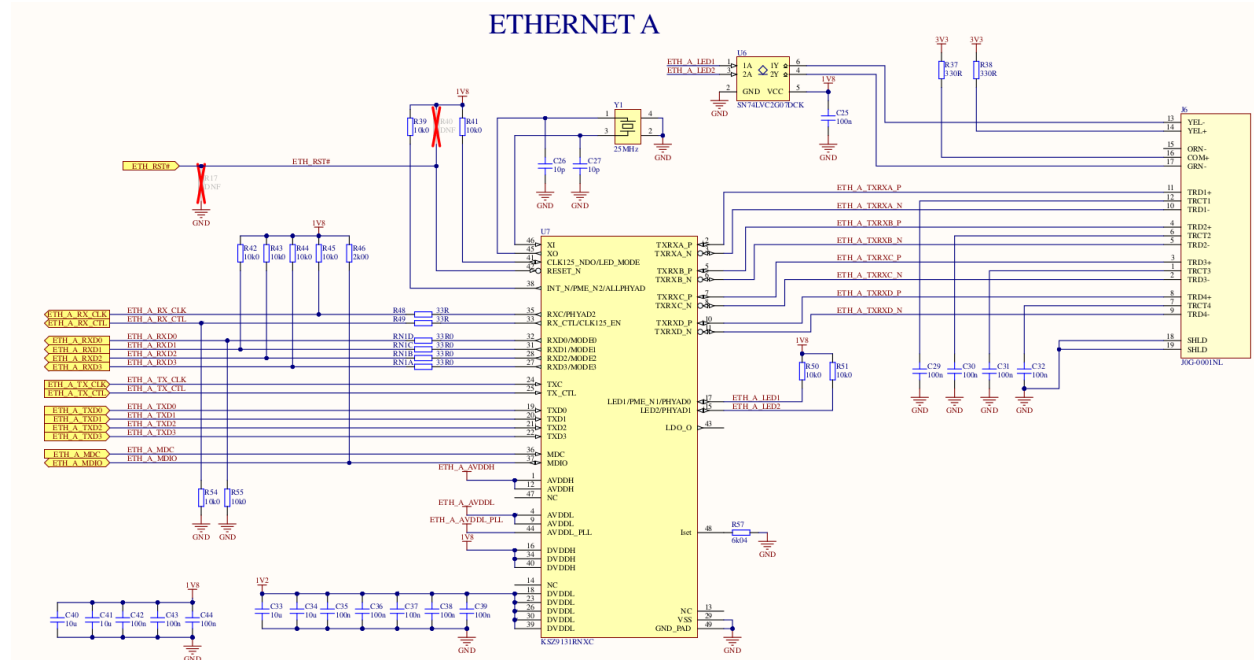


RESOURCES

3.1 Ethernet

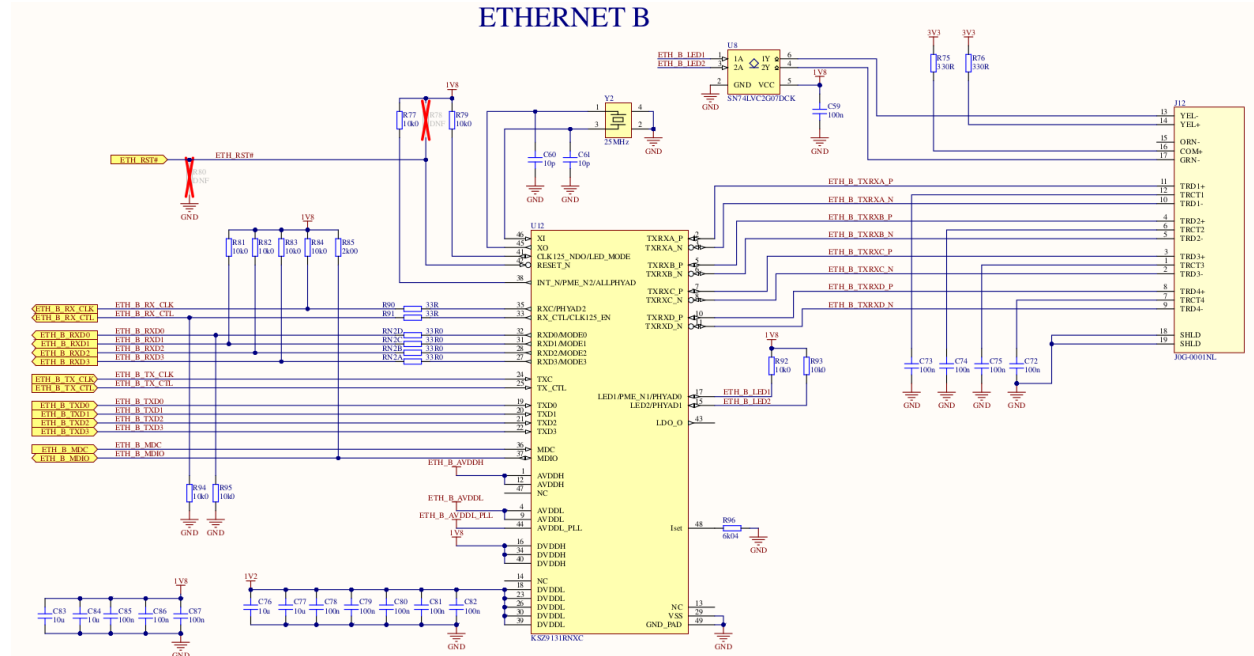
G3SBERRY offers the ETH1 and ETH2 Ethernet Ports. These ports can be accessed via the RJ45 connectors J6 and J12 supported by Microchip KSZ9131RNXC Ethernet physical-layer transceivers.

3.1.1 ETH 1



G3SBERRY Function	U7 Pin	J1A Connector Pads	MSRZG3S Pin
ETH_RST#	42	—	—
ETH_A_RX_CLK	35	R15	C12
ETH_A_RX_CTL	33	M15	B16
ETH_A_RXD0	32	K15	B15
ETH_A_RXD1	31	L15	A15
ETH_A_RXD2	28	N15	A14
ETH_A_RXD3	27	P15	B14
ETH_A_TX_CLK	24	J15	D16
ETH_A_TX_CTL	25	K16	A19
ETH_A_TXD0	19	H15	B19
ETH_A_TXD1	20	G15	A18
ETH_A_TXD2	21	H16	B18
ETH_A_TXD3	22	G16	A17
ETH_A_MDC	36	T16	A13
ETH_A_MDIO	37	T15	A12

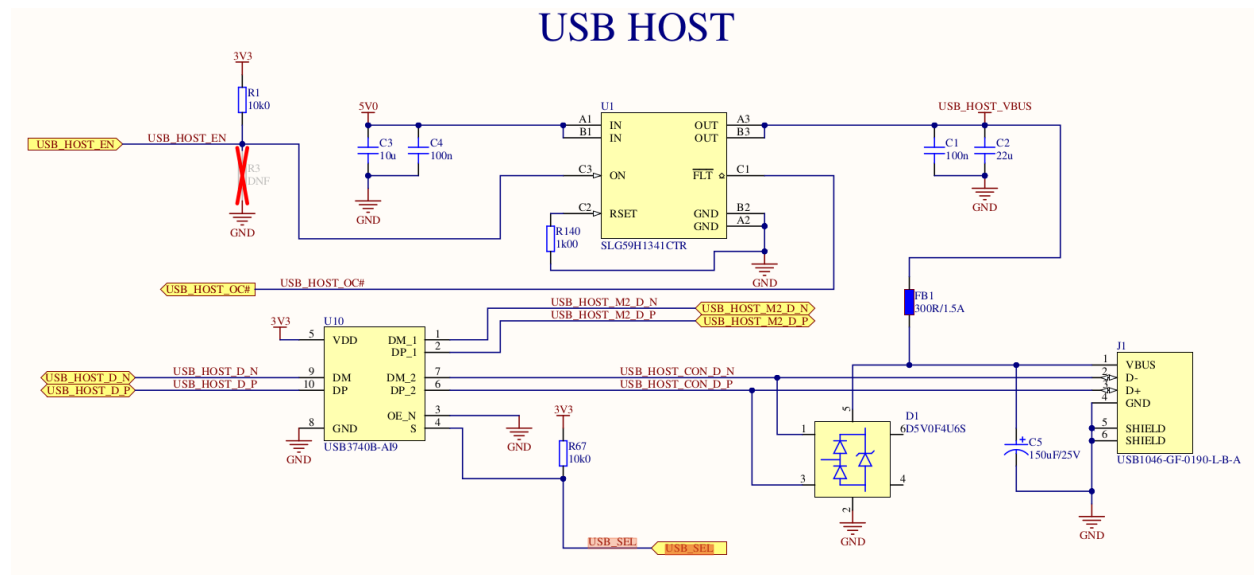
3.1.2 ETH 2



G3SBERRY Function	U12 Pin	J1A Connector Pads	MSRZG3S Pin
ETH_RST#	42	-	-
ETH_B_RX_CLK	35	P1	E7
ETH_B_RX_CTL	33	L1	D7
ETH_B_RXD0	32	J1	E8
ETH_B_RXD1	31	K1	D8
ETH_B_RXD2	28	M1	A7
ETH_B_RXD3	27	N1	B7
ETH_B_TX_CLK	21	H1	F8
ETH_B_TX_CTL	25	J2	B11
ETH_B_TXD0	19	G1	A10
ETH_B_TXD1	20	F1	A9
ETH_B_TXD2	21	G2	B10
ETH_B_TXD3	22	F2	B9
ETH_B_MDC	36	C6	A6
ETH_B_MDIO	37	C7	B6

3.2 USB Host

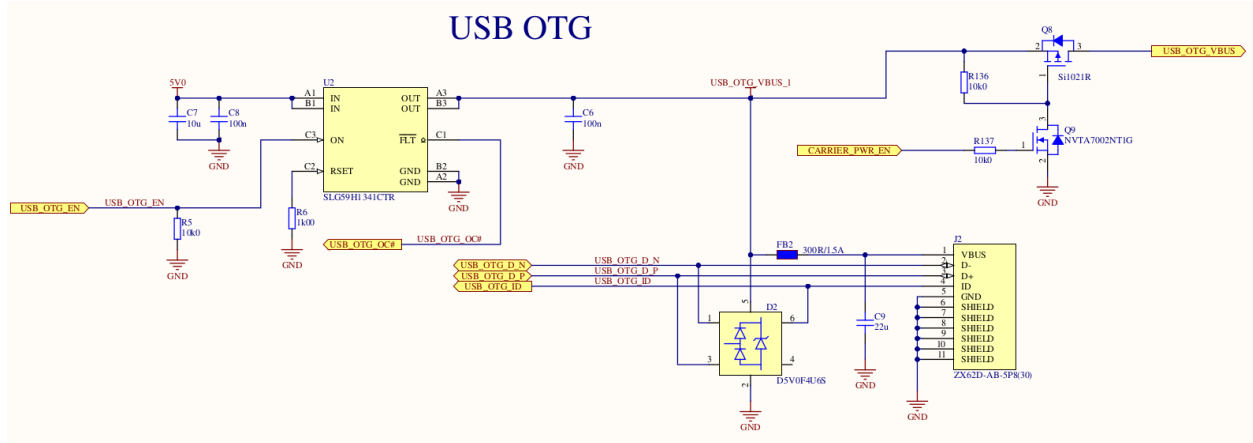
G3SBERRY offers one USB A 2.0 Host-interface on a J1 connector.



G3SBERRY Function	J1 Pin	J1B Connector Pads	MSRZG3S Pin
USB_HOST_EN	–	AC20	AA1
USB_HOST_OC#	–	AC21	AD2
USB_HOST_M2_D_N	–	–	–
USB_HOST_M2_D_P	–	–	–
USB_HOST_D_N	2	AB23	AG8
USB_HOST_D_P	3	AC22	AF8
USB_SEL	–	–	–

3.3 USB OTG

G3SBERRY offers one micro USB-OTG AB 2.0 interface on a J2 connector

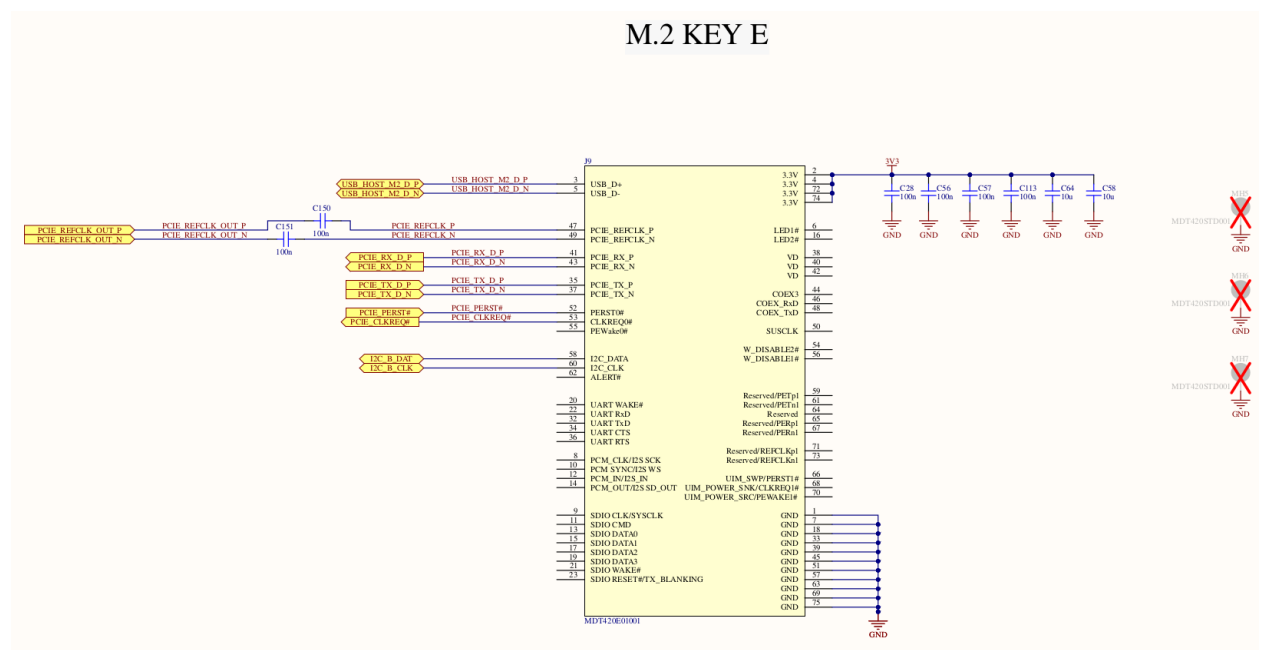


G3SBERRY Function	J2 Pin	J1B Connector Pads	J1N Connector Pads	MSRZG3S Pin
USB_OTG_EN	–	AC16	–	AA3
USB_OTG_OC#	–	AC15	–	AA4
CARRIER_PWR_EN	–	–	V17	E9 (PMIC)
USB_OTG_VBUS	1	AB16	–	AF4
USB_OTG_D_N	2	AB13	–	AG10
USB_OTG_D_P	3	AC14	–	AF10
USB_OTG_ID	4	AB14	–	AD1

3.4 M.2 KEY E

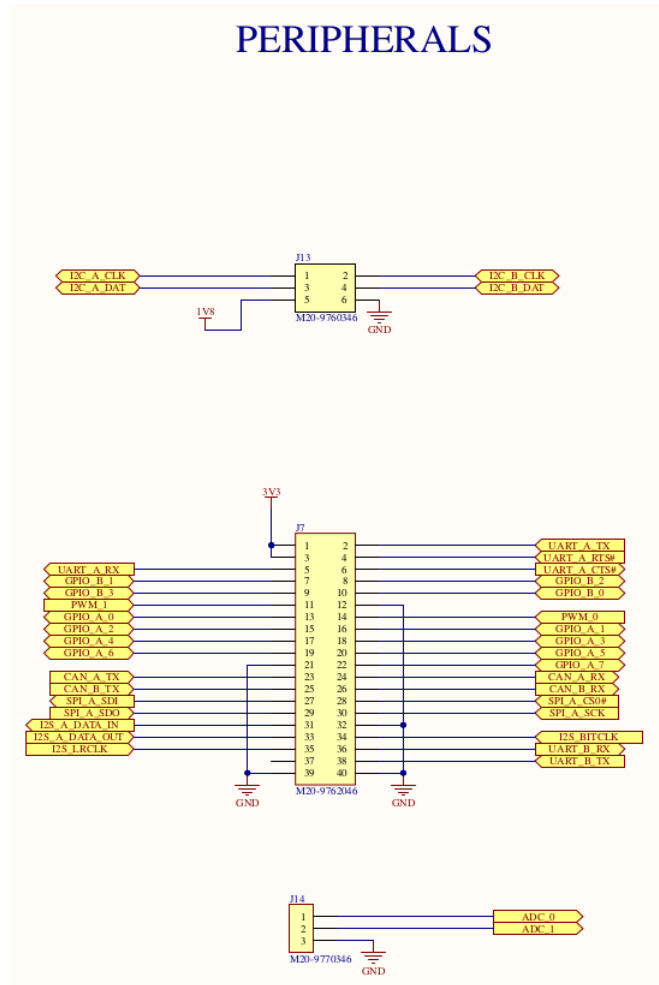
G3SBERRY offers the MDT420E01001 PCIe M.2 Card Edge connector, which provides 67 contacts on 0.50mm pitch. It occupies less board space, offers more connector height options and supports higher data rates compared to PCIe Mini Card connector.

The principle of “Key E” in the context of M.2 computer expansion cards refers to a specific type of connector and slot configuration. It distinguishes itself from other M.2 keys (such as Key M or Key B) by its pin layout and electrical interface, enabling proper connectivity for devices requiring those specific protocols.



G3SBERRY Function	J9 Pin	J1M Connector Pads	J1E Connector Pads	MSRZG3S Pin
USB_HOST_M2_D_P	3	–	–	–
USB_HOST_M2_D_N	5	–	–	–
PCIE_REFCLK_OUT_P	47	W1	–	24 (CG)
PCIE_REFCLK_OUT_N	49	Y1	–	23 (CG)
PCIE_RX_D_P	41	AB1	–	AF13
PCIE_RX_D_N	43	AB2	–	AG13
PCIE_TX_D_P	35	AC2	–	AF15
PCIE_TX_D_N	37	AC3	–	AG15
PCIE_PERST#	52	V2	–	E2
PCIE_CLKREQ#	53	W2	–	E1
I2C_B_DAT	58	–	AA21	H5
I2C_B_CLK	60	–	AA20	H4

3.5 PERIPHERALS



3.5.1 I2C/I2S/SPI

G3SBERRY Function	J13 Pin	J1E Connector Pads	MSRZG3S Pin
I2C_A_CLK	1	AA15	G4, 3 (CG)
I2C_A_DAT	3	AA16	G5, 2 (CG)
I2C_B_CLK	2	AA20	H4
I2C_B_DAT	4	AA21	H5

G3SBERRY Function	J7 Pin	J1E Connector Pads	MSRZG3S Pin
SPI_A_SDI	27	U15	AG23
SPI_A_SDO	29	V15	AC20
I2S_A_DATA_IN	31	V21	B2
I2S_A_DATA_OUT	33	W21	A2
I2S_LRCLK	35	W18	A3
SPI_A_CS0#	28	Y15	AF23
SPI_A_SCK	30	U16	AF22
I2S_BITCLK	34	W20	B3

3.5.2 UART

G3SBERRY Function	J7 Pin	J1D Connector Pads	MSRZG3S Pin
UART_A_RX	5	A14	D1
UART_A_TX	2	B13	F2
UART_A_RTS#	4	C13	AC21
UART_A_CTS#	6	C14	AD21
UART_B_RX	36	D14	AD20
UART_B_TX	38	D13	AG25

3.5.3 ADC/PWM/GPIO

G3SBERRY Function	J7 Pin	J1F Connector Pads	MSRZG3S Pin
GPIO_B_1	7	E19	AF26
GPIO_B_3	9	G19	AF27
PWM_1	11	F18	D2
GPIO_A_0	13	D17	AE24
GPIO_A_2	15	F17	AA5
GPIO_A_4	17	H17	F1
GPIO_A_6	19	K17	B1
GPIO_B_2	8	F19	AD25
GPIO_B_0	10	D19	AG26
PWM_0	14	E18	C1
GPIO_A_1	16	E17	AF25
GPIO_A_3	18	G17	D3
GPIO_A_5	20	J17	B5
GPIO_A_7	22	L17	C2

G3SBERRY Function	J14 Pin	J1F Connector Pads	MSRZG3S Pin
ADC_0	1	M18	T4
ADC_1	2	N18	U1

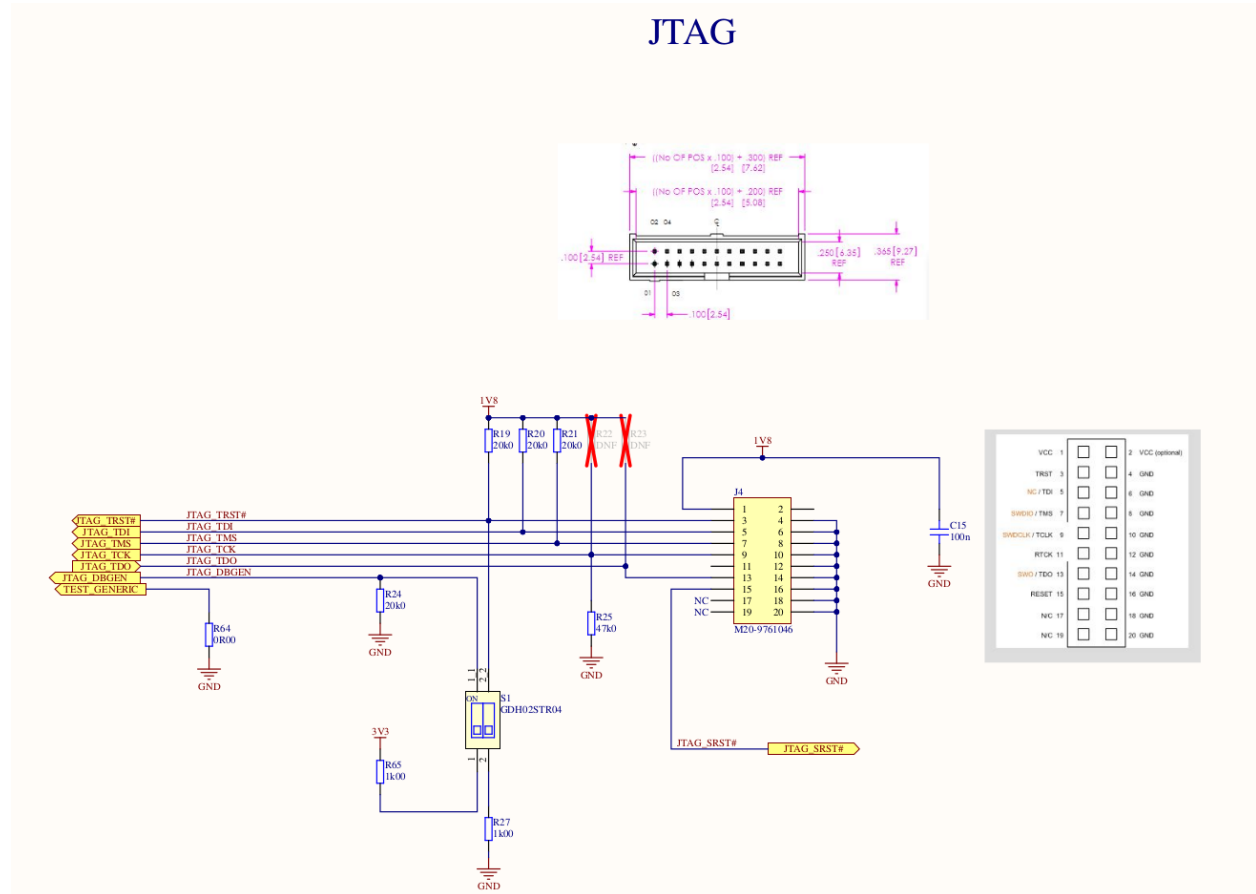
3.5.4 CAN

G3SBERRY Function	J7 Pin	J1B Connector Pads	MSRZG3S Pin
CAN_A_TX	23	AC17	AA2
CAN_B_TX	25	AC19	AG24
CAN_A_RX	24	AB17	Y3
CAN_B_RX	26	AB19	AF24

3.6 JTAG

G3SBERRY includes one JTAG interface on a J4 2x10 pin header .

JTAG

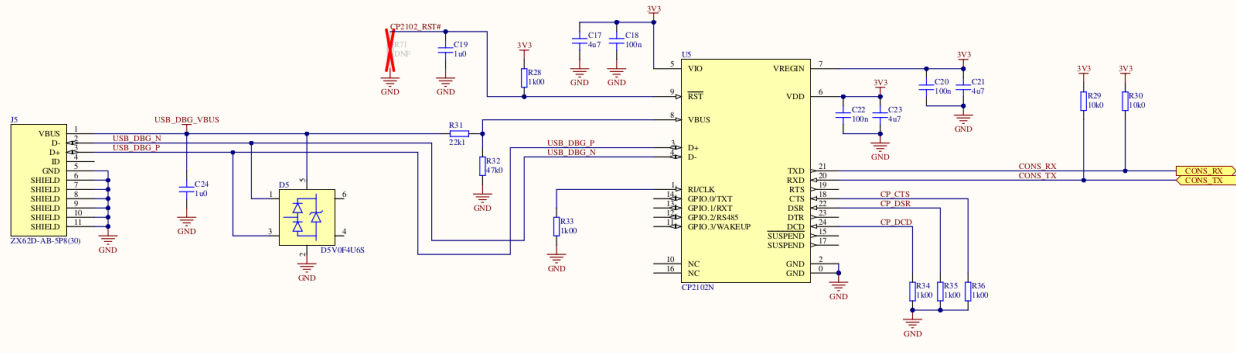


G3SBERRY Function	J4 Pin	J11 Connector Pads	MSRZG3S Pin
JTAG_TRST#	3	R19	W1
JTAG_TDI	5	P17	V2
JTAG_TMS	7	N19	W2
JTAG_TCK	9	N17	Y1
JTAG_TDO	13	R17	Y2
JTAG_DBGEN	–	AC18	AF21
TEST_GENERIC	–	C18	AG21
JTAG_SRST#	15	–	–

3.7 USB-to-UART converter

These highly-integrated USB-to-UART bridge controllers provide a simple solution for updating RS-232 designs to USB using a minimum of components and PCB space. CP2102N includes a USB 2.0 full-speed function controller, USB transceiver, oscillator, and Universal Asynchronous Receiver/Transmitter (UART) in packages as small as 3mm x 3mm.

USB to UART converter (console)

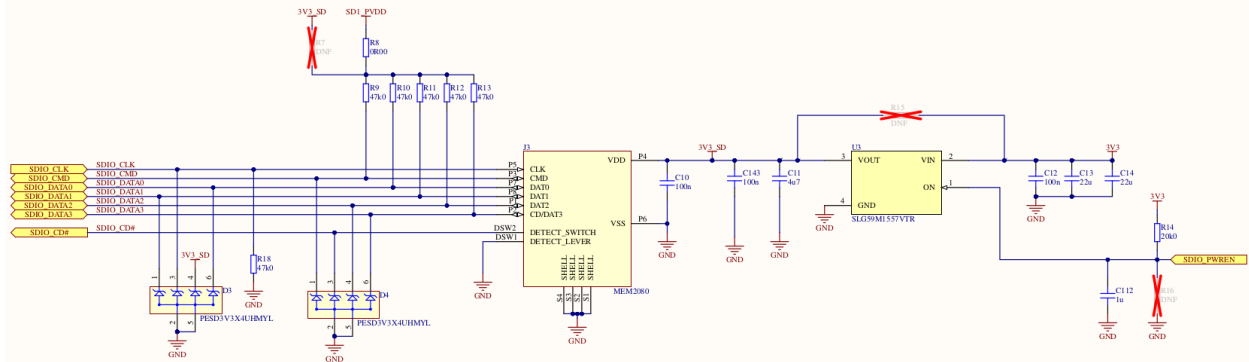


G3SBERRY Function	U5 Pin	J1D Connector Pads	MSRZG3S Pin
CONS_RX	21	D22	AB1
CONS_TX	20	D23	Y4

3.8 SD Card

G3SBERRY offers the MEM2080, which is the slimmest MicroSD memory card connector on the market making it ideal for applications where space it at a premium.

SD CARD



G3SBERRY Function	J3 Pin	J1C Connector Pads	MSRZG3S Pin
SDIO_CLK	P5	F21	D21
SDIO_CMD	P3	E20	C21
SDIO_DATA0	P7	G20	E20
SDIO_DATA1	P8	G21	D20
SDIO_DATA2	P1	H20	C20
SDIO_DATA3	P2	H21	B20
SDIO_CD#	DSW2	J21	B4
SDIO_PWREN	-	D21	A4

3.9 MSRZG3S MPU

3.9.1 Connector J1

MSRZG3S Pin	MSRZG3S Function	Sip Pads	G3SBERRY Function
J1A			
D16	ETH_A_TX_CLK	J15	ETH_A_TX_CLK
19	ETH_A_TXD0	H15	ETH_A_TXD0
A18	ETH_A_TXD1	G15	ETH_A_TXD1
B18	ETH_A_TXD2	H16	ETH_A_TXD2
A17	ETH_A_TXD3	G16	ETH_A_TXD3
A19	ETH_A_TX_CTL	K16	ETH_A_TX_CTL
C12	ETH_A_RX_CLK	R15	ETH_A_RX_CLK
B15	ETH_A_RXD0	K15	ETH_A_RXD0
A15	ETH_A_RXD1	L15	ETH_A_RXD1
A14	ETH_A_RXD2	N15	ETH_A_RXD2
B14	ETH_A_RXD3	P15	ETH_A_RXD3
B13	ETH_A_RX_ER	L16	–
B16	ETH_A_RX_CTL	M15	ETH_A_RX_CTL
C16	ETH_A_CRS	E16	–
A16	ETH_A_COL	F15	–
–	–	N16	–
A13	ETH_A_MDC	T16	ETH_A_MDC
A12	ETH_A_MDIO	T15	ETH_A_MDIO
–	PVDD182533_0	M17	PVDD182533_0
F8	ETH_B_TX_CLK	H1	ETH_B_TX_CLK
A10	ETH_B_TXD0	G1	ETH_B_TXD0
A9	ETH_B_TXD1	F1	ETH_B_TXD1
B10	ETH_B_TXD2	G2	ETH_B_TXD2
B9	ETH_B_TXD3	F2	ETH_B_TXD3
B11	ETH_B_TX_CTL	J2	ETH_B_TX_CTL
E7	ETH_B_RX_CLK	P1	ETH_B_RX_CLK
E8	ETH_B_RXD0	J1	ETH_B_RXD0
D8	ETH_B_RXD1	K1	ETH_B_RXD1
A7	ETH_B_RXD2	M1	ETH_B_RXD2
B7	ETH_B_RXD3	N1	ETH_B_RXD3
C8	ETH_B_RX_ER	K2	–
D7	ETH_B_RX_CTL	L1	ETH_B_RX_CTL
A8	ETH_B_CRS	D2	–
D8	ETH_B_COL	E1	–
–	–	M2	–
A6	ETH_B_MDC	C6	ETH_B_MDC
B6	ETH_B_MDIO	C7	ETH_B_MDIO
–	–	–	–
J1B			
AA2	CAN_A_TX	AC17	CAN_A_TX
Y3	CAN_A_RX	AB17	CAN_A_RX
AG24	CAN_B_TX	AC19	CAN_B_TX
AF24	CAN_B_RX	AB19	CAN_B_RX
AF10	USB_OTG_D_P	AC14	USB_OTG_D_P
AG10	USB_OTG_D_N	AB13	USB_OTG_D_N

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Table 1 – continued from previous page

MSRZG3S Pin	MSRZG3S Function	Sip Pads	G3SBERRY Function
AA3	USB_OTG_EN	AC16	USB_OTG_EN
AD1	USB_OTG_ID	AB14	USB_OTG_ID
AA4	USB_OTG_OC#	AC15	USB_OTG_OC#
AF4	USB_OTG_VBUS	AB16	USB_OTG_VBUS
AF8	USB_HOST_D_P	AC22	USB_HOST_D_P
AG8	USB_HOST_D_N	AB23	USB_HOST_D_N
AA1	USB_HOST_EN	AC20	USB_HOST_EN
–	–	AB22	–
AD2	USB_HOST_OC#	AC21	USB_HOST_OC#
–	–	AB20	–
–	–	D10	–
–	–	D11	–
–	–	C10	–
–	–	D9	–
–	–	C8	–
–	–	C9	–
–	–	A9	–
–	–	A8	–
–	–	B11	–
–	–	B10	–
–	–	–	–
J1C			
D21	SDIO_CLK	F21	SDIO_CLK
C21	SDIO_CMD	E20	SDIO_CMD
B4	SDIO_CD#	J21	SDIO_CD#
C4	SDIO_WP	D20	SDIO_WP
E20	SDIO_DATA0	G20	SDIO_DATA0
D20	SDIO_DATA1	G21	SDIO_DATA1
C20	SDIO_DATA2	H20	SDIO_DATA2
B20	SDIO_DATA3	H21	SDIO_DATA3
A4	SDIO_PWREN	D21	SDIO_PWREN
F20	SD1_PVDD	C20	SD1_PVDD
–	–	K20	–
–	–	K21	–
–	–	T21	–
–	–	U20	–
–	–	L20	–
–	–	L21	–
–	–	M21	–
–	–	N20	–
–	–	N21	–
–	–	P20	–
–	–	P21	–
–	–	R21	–
–	–	U21	–
–	–	T20	–
–	–	–	–
J1D			
AB1	CONS_RX	D22	CONS_RX
Y4	CONS_TX	D23	CONS_TX

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Table 1 – continued from previous page

MSRZG3S Pin	MSRZG3S Function	Sip Pads	G3SBERRY Function
D1	UART_A_RX	A14	UART_A_RX
F2	UART_A_TX	B13	UART_A_TX
AC21	UART_A_RTS#	C13	UART_A_RTS#
AD21	UART_A_CTS#	C14	UART_A_CTS#
AD20	UART_B_RX	D14	UART_B_RX
AG25	UART_B_TX	D13	UART_B_TX
–	–	D15	–
–	–	D16	–
–	–	A22	–
–	–	B23	–
–	–	C22	–
–	–	C23	–
–	–	–	–
J1E			
G4	I2C_A_CLK	AA15	I2C_A_CLK
G5	I2C_A_DAT	AA16	I2C_A_DAT
H4	I2C_B_CLK	AA20	I2C_B_CLK
H5	I2C_B_DAT	AA21	I2C_B_DAT
B2	I2S_A_DATA_IN	V21	I2S_A_DATA_IN
A2	I2S_A_DATA_OUT	W21	I2S_A_DATA_OUT
–	–	V19	–
–	–	W19	–
–	–	V18	–
A3	I2S_LRCLK	W18	I2S_LRCLK
B3	I2S_BITCLK	W20	I2S_BITCLK
AG23	SPI_A_SDI	U15	SPI_A_SDI
AC20	SPI_A_SDO	V15	SPI_A_SDO
–	–	W16	–
–	–	W15	–
AF23	SPI_A_CS0#	Y15	SPI_A_SC0#
AF22	SPI_A_SCK	U16	SPI_A_SCK
–	–	Y22	–
–	–	Y23	–
–	–	AA23	–
–	–	Y21	–
–	–	–	–
J1F			
T4	ADC_0	M18	ADC_0
U1	ADC_1	N18	ADC_1
C1	PWM_0	E18	PWM_0
D2	PWM_1	F18	PWM_1
–	–	G18	–
–	–	H18	–
–	–	J18	–
–	–	K18	–
AE24	GPIO_A_0	D17	GPIO_A_0
AF25	GPIO_A_1	E17	GPIO_A_1
AA5	GPIO_A_2	F17	GPIO_A_2
D3	GPIO_A_3	G17	GPIO_A_3
F1	GPIO_A_4	H17	GPIO_A_4

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Table 1 – continued from previous page

MSRZG3S Pin	MSRZG3S Function	Sip Pads	G3SBERRY Function
B5	GPIO_A_5	J17	GPIO_A_5
B1	GPIO_A_6	K17	GPIO_A_6
C2	GPIO_A_7	L17	GPIO_A_7
AG26	GPIO_B_0	D19	GPIO_B_0
AF26	GPIO_B_1	E19	GPIO_B_1
AD25	GPIO_B_2	F19	GPIO_B_2
AF27	GPIO_B_3	G19	GPIO_B_3
–	–	H19	–
–	–	J19	–
–	–	K19	–
–	–	L19	–
–	–	D3	–
–	–	D4	–
AF2	RZ_AUDIO_CLK1	E3	AUDIO_CLK1
AG2	RZ_AUDIO_CLK2	E4	AUDIO_CLK2
–	–	F3	–
–	–	F4	–
–	–	G3	–
–	–	G4	–
–	–	–	–
J1G			
AD8	VBATTRESET#	B22	VBATTRESET#
–	PMIC_SCL	C16	PMIC_SCL
–	PMIC_SDA	P16	PMIC_SDA
–	PMIC_TP	D6	PMIC_TP
AF20	BOOTCPUSEL	D7	BOOTCPUSEL
–	–	–	–
J1H			
–	–	A15	–
–	–	A16	–
–	–	A17	–
–	–	A18	–
–	–	A19	–
–	–	A20	–
–	–	A21	–
–	–	B15	–
–	–	B16	–
–	–	B17	–
–	–	B18	–
–	–	B19	–
–	–	B20	–
–	–	B21	–
–	–	C15	–
–	–	C17	–
–	–	C19	–
–	–	C21	–
J1I			
Y1	JTAG_TCK	N17	JTAG_TCK
–	–	P19	–
W2	JTAG_TMS	N19	JTAG_TMS

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Table 1 – continued from previous page

MSRZG3S Pin	MSRZG3S Function	Sip Pads	G3SBERRY Function
V2	JTAG_TDI	P17	JTAG_TDI
Y2	JTAG_TDO	R17	JTAG_TDO
W1	JTAG_TRST#	R19	JTAG_TRST#
AF21	JTAG_DBGEN	AC18	JTAG_DBGEN
–	–	C18	TEST_GENERIC
–	–	–	–
J1J			
–	–	Y7	–
–	–	AA6	–
–	–	Y6	–
–	–	AA5	–
–	–	Y5	–
–	–	Y4	–
–	–	W4	–
–	–	V3	–
–	–	V4	–
–	–	U3	–
–	–	T3	–
–	–	T4	–
–	–	R4	–
–	–	R3	–
–	–	P3	–
–	–	N3	–
–	–	N4	–
–	–	M3	–
–	–	M4	–
–	–	L3	–
–	–	K3	–
–	–	K4	–
–	–	J4	–
–	–	J3	–
–	–	H3	–
–	–	–	–
J1K			
–	–	AB11	–
–	–	AB10	–
–	–	AC9	–
–	–	AC8	–
–	–	AC6	–
–	–	AC5	–
–	–	AB5	–
–	–	AB4	–
–	–	AB8	–
–	–	AB7	–
–	–	AA3	–
–	–	–	–
J1L			
–	–	C1	–
–	–	B1	–
–	–	A2	–

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Table 1 – continued from previous page

MSRZG3S Pin	MSRZG3S Function	Sip Pads	G3SBERRY Function
–	–	A3	–
–	–	A5	–
–	–	A6	–
–	–	B6	–
–	–	B7	–
–	–	B3	–
–	–	B4	–
–	–	C2	–
–	–	C3	–
–	–	C4	–
–	–	–	–
J1M			
AF13	PCIE_RX_D_P	AB1	PCIE_RX_D_P
AG13	PCIE_RX_D_N	AB2	PCIE_RX_D_N
AF15	PCIE_TX_D_P	AC2	PCIE_TX_D_P
AG15	PCIE_TX_D_N	AC3	PCIE_TX_D_N
E2	PCIE_PERST#	V2	PCIE_PERST#
E1	PCIE_CLKREQ#	W2	PCIE_CLKREQ#
–	PCIE_REFCLK_OUT_P	W1	PCIE_REFCLK_OUT_P
–	PCIE_REFCLK_OUT_N	Y1	PCIE_REFCLK_OUT_N
–	–	T2	–
–	–	U1	–
–	–	T1	–
–	–	R2	–
–	–	–	–
J1N			
–	5V0	Y17	5V0
–	–	Y19	–
AB8	RTC_PWR	W17	RTC_PWR
–	–	U18	–
–	–	AA18	–
–	–	AB18	–
AG4	SYS_RST#	U17	SYS_RST#
–	CARRIER_PWR_EN	V17	CARRIER_PWR_EN
AF19	BOOT_SEL0#	U19	BOOT_SEL0#
AE20	BOOT_SEL1#	R18	BOOT_SEL1#
–	–	T17	–
–	–	M19	–
–	–	Y16	–
–	–	Y20	–
–	5V0	Y8	5V0
–	5V0	Y9	5V0
–	5V0	Y10	5V0
–	5V0	Y11	5V0
–	–	Y3	–
–	–	C5	–
–	–	AA9	PWR_BTN#
–	–	–	–
J1O			
–	GND	R16	GND

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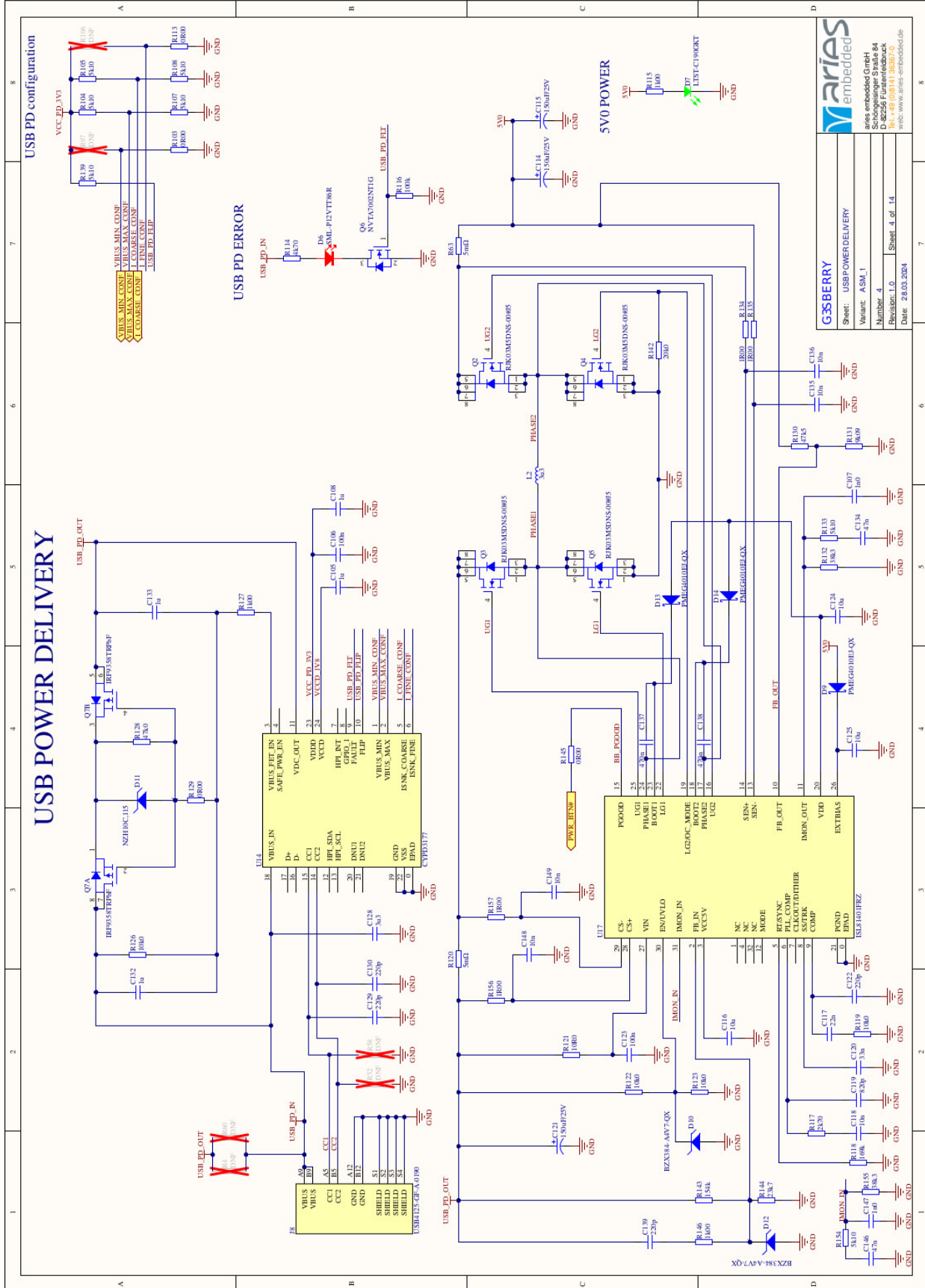
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MSRZG3S Pin	MSRZG3S Function	Sip Pads	G3SBERRY Function
–	GND	R20	GND
–	GND	V16	GND
–	GND	V20	GND
–	GND	Y18	GND
–	GND	AA14	GND
–	GND	AA17	GND
–	GND	AA19	GND
–	GND	AA22	GND
–	GND	AB15	GND
–	GND	AB21	GND
–	GND	R1	GND
–	GND	U2	GND
–	GND	U4	GND
–	GND	V1	GND
–	GND	W3	GND
–	GND	Y2	GND
–	GND	AA1	GND
–	GND	AA4	GND
–	GND	AA7	GND
–	GND	AA8	GND
–	GND	AA10	GND
–	GND	AA11	GND
–	GND	AB3	GND
–	GND	AB6	GND
–	GND	AB9	GND
–	GND	AC4	GND
–	GND	AC7	GND
–	GND	AC10	GND
–	GND	D18	GND
–	GND	E15	GND
–	GND	E21	GND
–	GND	F16	GND
–	GND	F20	GND
–	GND	J16	GND
–	GND	J20	GND
–	GND	L18	GND
–	GND	M16	GND
–	GND	M20	GND
–	GND	P18	GND
–	GND	A4	GND
–	GND	A7	GND
–	GND	A10	GND
–	GND	B2	GND
–	GND	B5	GND
–	GND	B8	GND
–	GND	B9	GND
–	GND	C11	GND
–	GND	D1	GND
–	GND	D5	GND
–	GND	D8	GND

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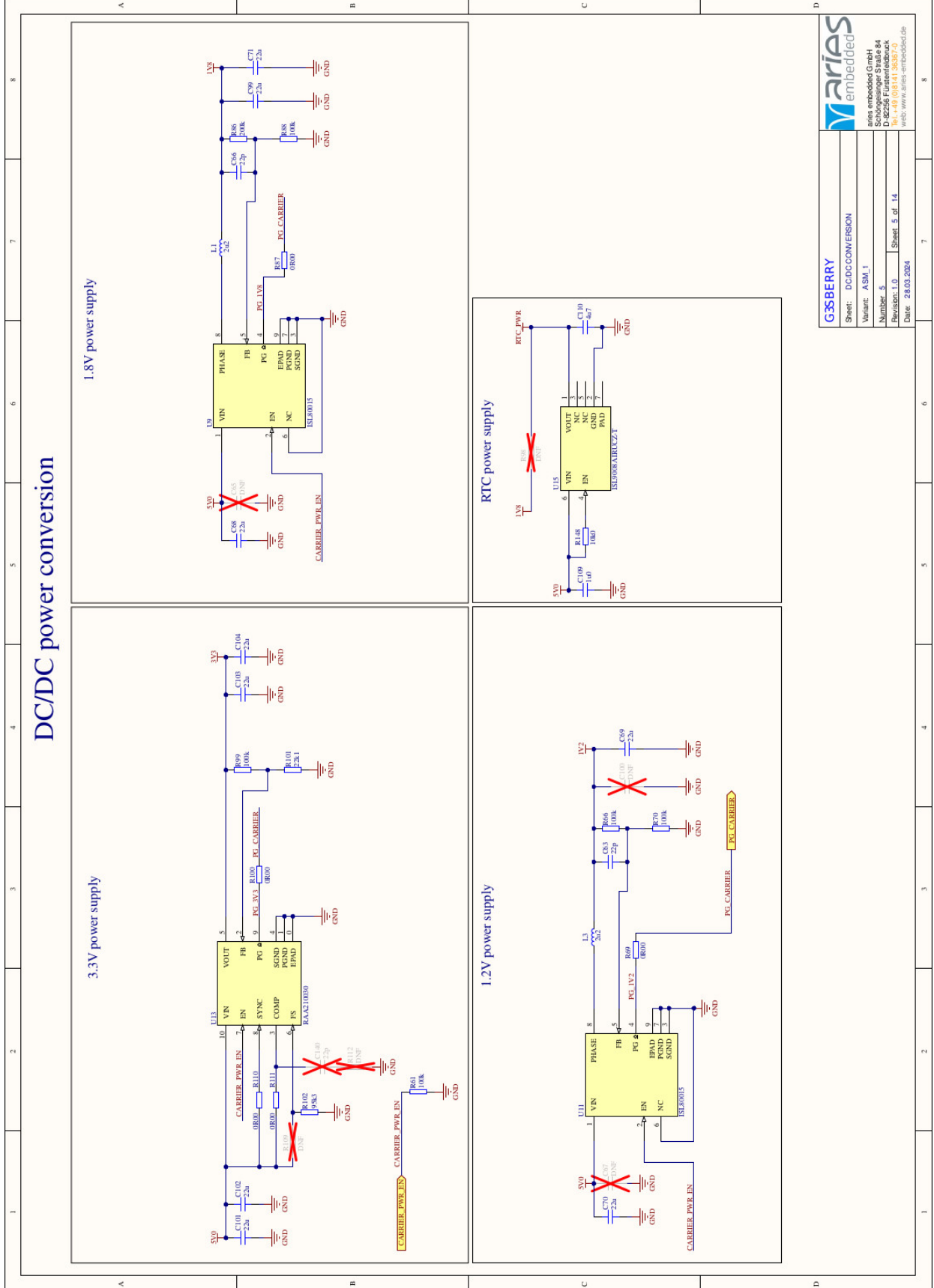
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MSRZG3S Pin	MSRZG3S Function	Sip Pads	G3SBERRY Function
–	GND	E2	GND
–	GND	H2	GND
–	GND	H4	GND
–	GND	L2	GND
–	GND	L4	GND
–	GND	P2	GND
–	GND	P4	GND
–	–	–	–
J1P			
–	–	T18	–
–	–	T19	–
–	–	Y13	–
–	–	Y14	–
–	–	AA13	–
–	–	N2	–
–	–	AA2	–

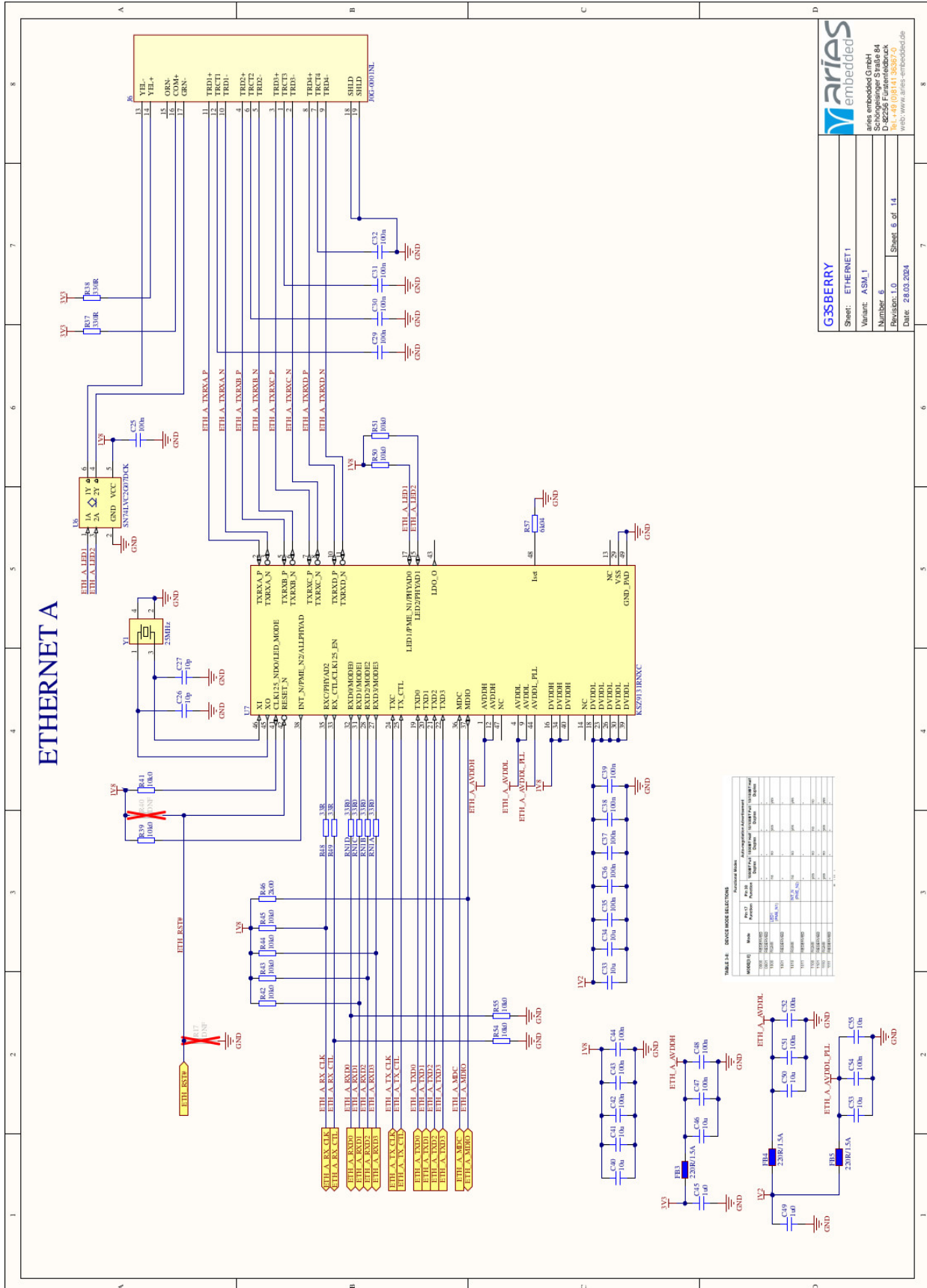


G3SBERRY embedded
 aries embedded GmbH
 aries embedded GmbH
 D-82099 Gräfelfing, Germany
 Tel.: +49 (0)89 141 83367-0
 Web: www.aries-embedded.de

Sheet: USB POWER DELIVERY
 Variant: ASM_1
 Number: 4
 Revision: 1.0
 Sheet: 4 of 14
 Date: 28.03.2024



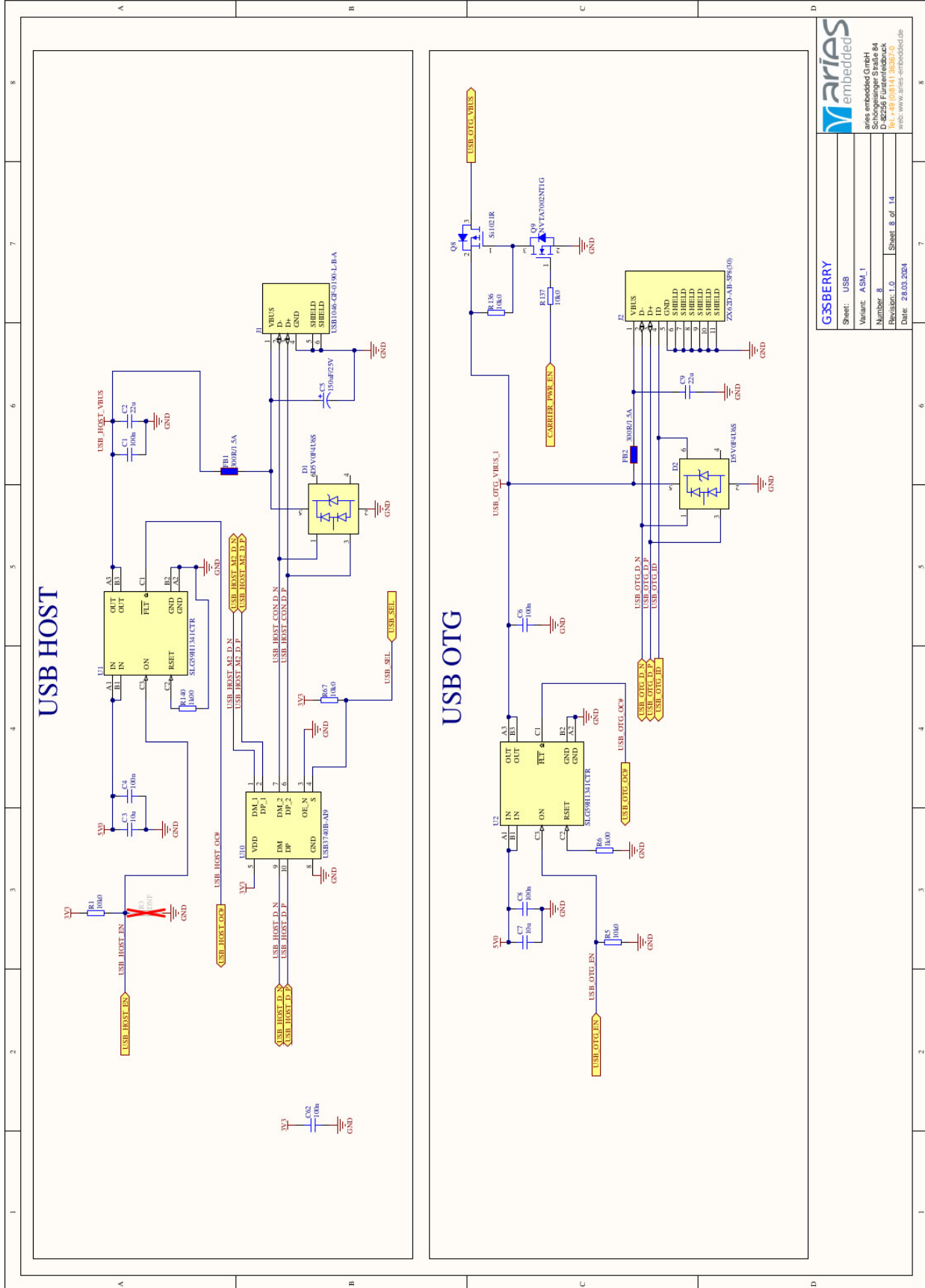
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ARIAS embedded	Version: ASM_1
arias embedded GmbH	Number: 5
Am Altensteiner Straße 54	Revision: 1.0
D-82206 Pfaffing	Page: 5 of 14
Telefon: +49 (0)141 83367-0	Date: 28.03.2024
Web: www.arias-embedded.de	



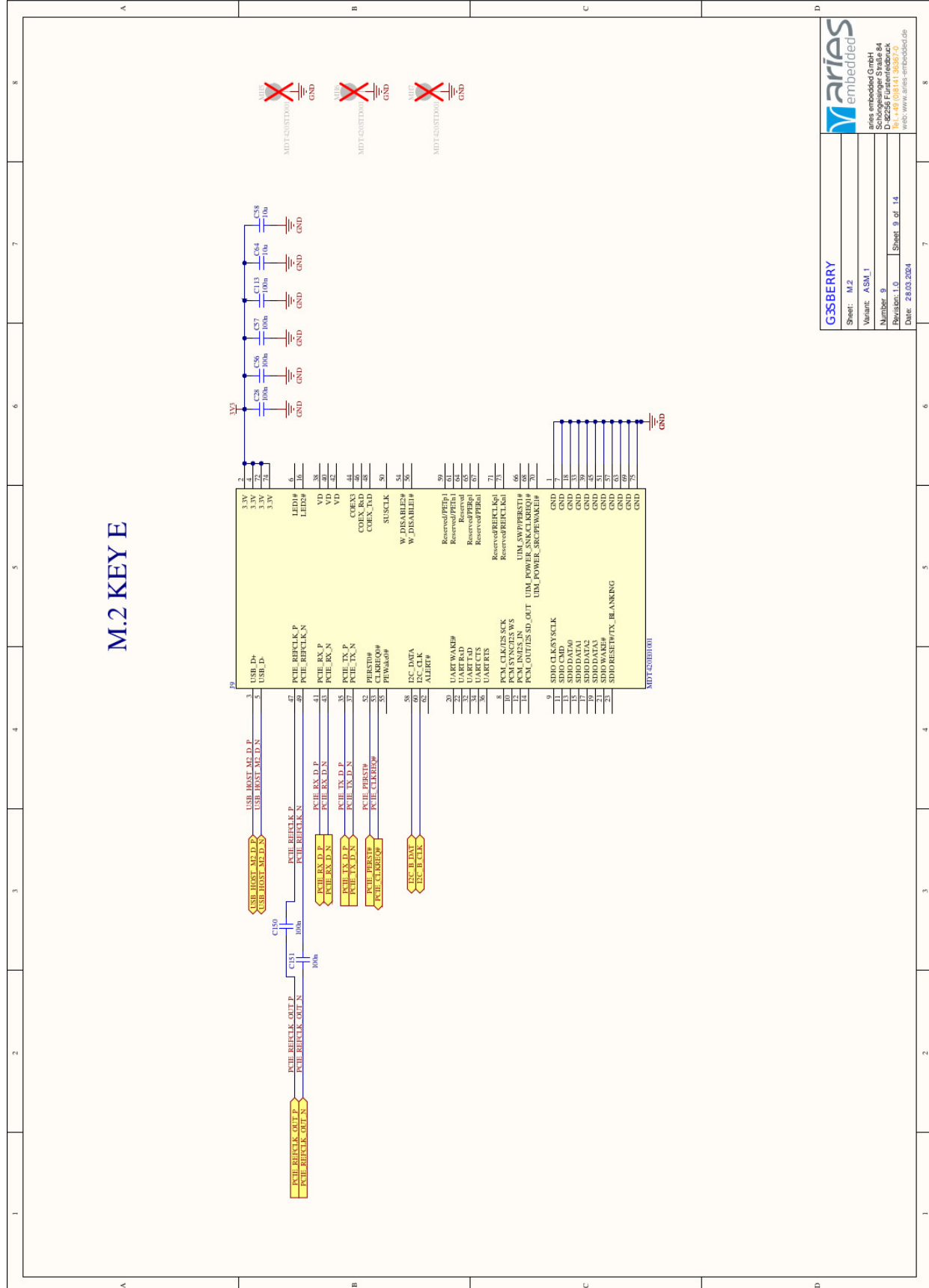
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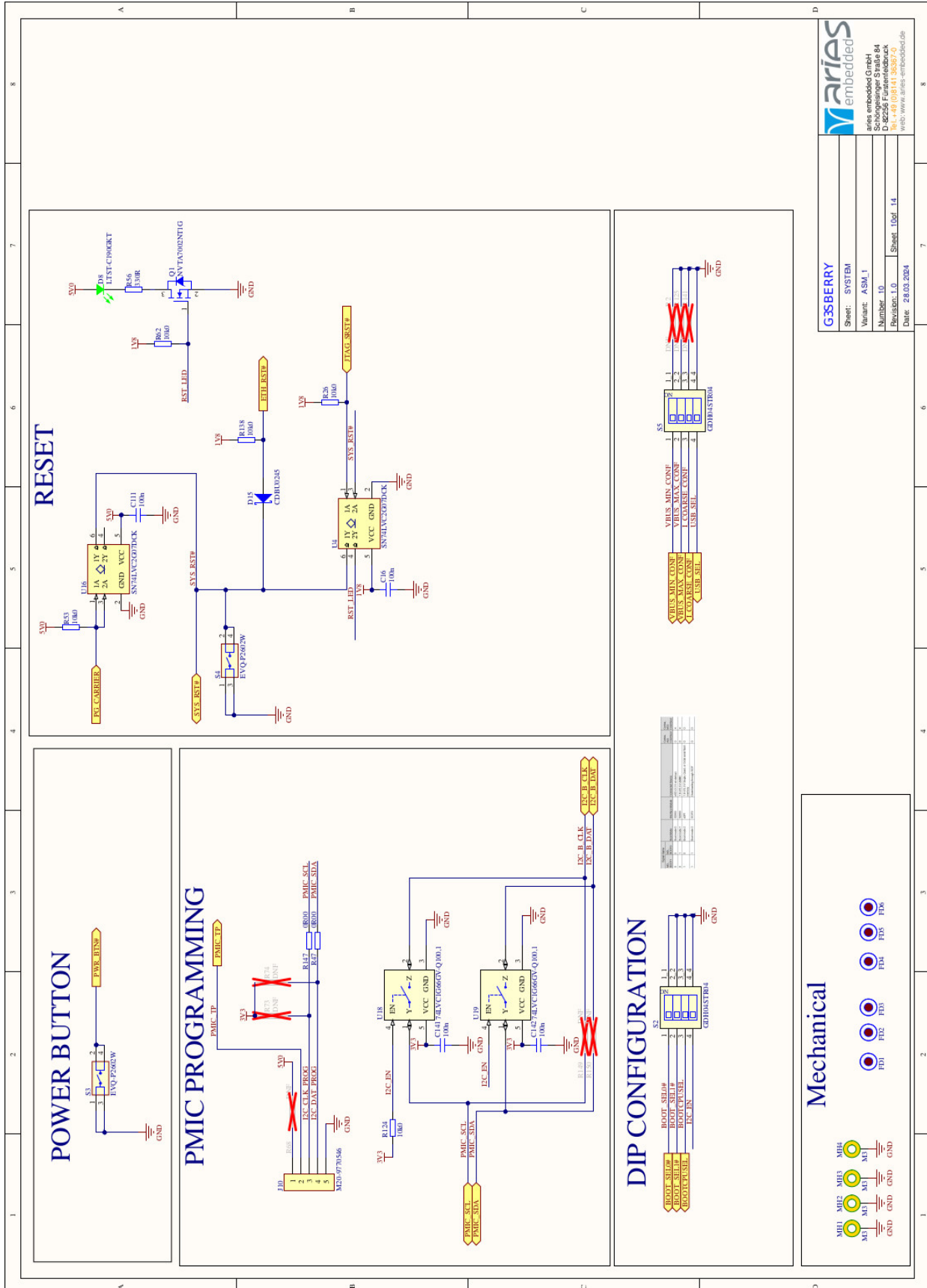
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 Variant: ASM_1
 Number: 6
 Revision: 1.0
 Date: 28.03.2024

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G3SBERRY	Sheet: USB
Variant: ASM_1	
Number: 8	
Revision: 1.0	
Date: 28.03.2024	
ariass embedded GmbH Industriestraße 54 D-82069 Pfaffing Tel: +49 (0)141 88367-0 Web: www.ariass-embedded.de	





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Sheet:	SYSTEM
Version:	ASM_1
Number:	10
Revision:	1.0
Date:	28.03.2024

Sheet:	14
Version:	1.0
Number:	10
Revision:	1.0
Date:	28.03.2024

Sheet:	14
Version:	1.0
Number:	10
Revision:	1.0
Date:	28.03.2024

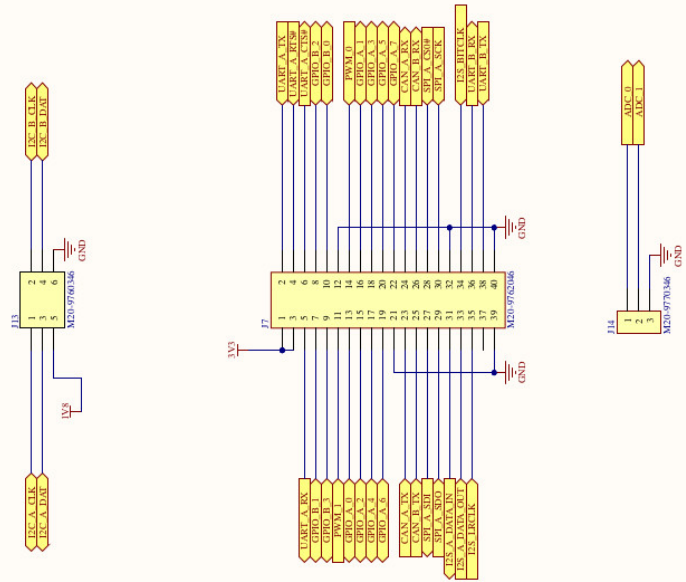
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Number:	10
Revision:	1.0
Date:	28.03.2024

Sheet:	14
Version:	1.0
Number:	10
Revision:	1.0
Date:	28.03.2024

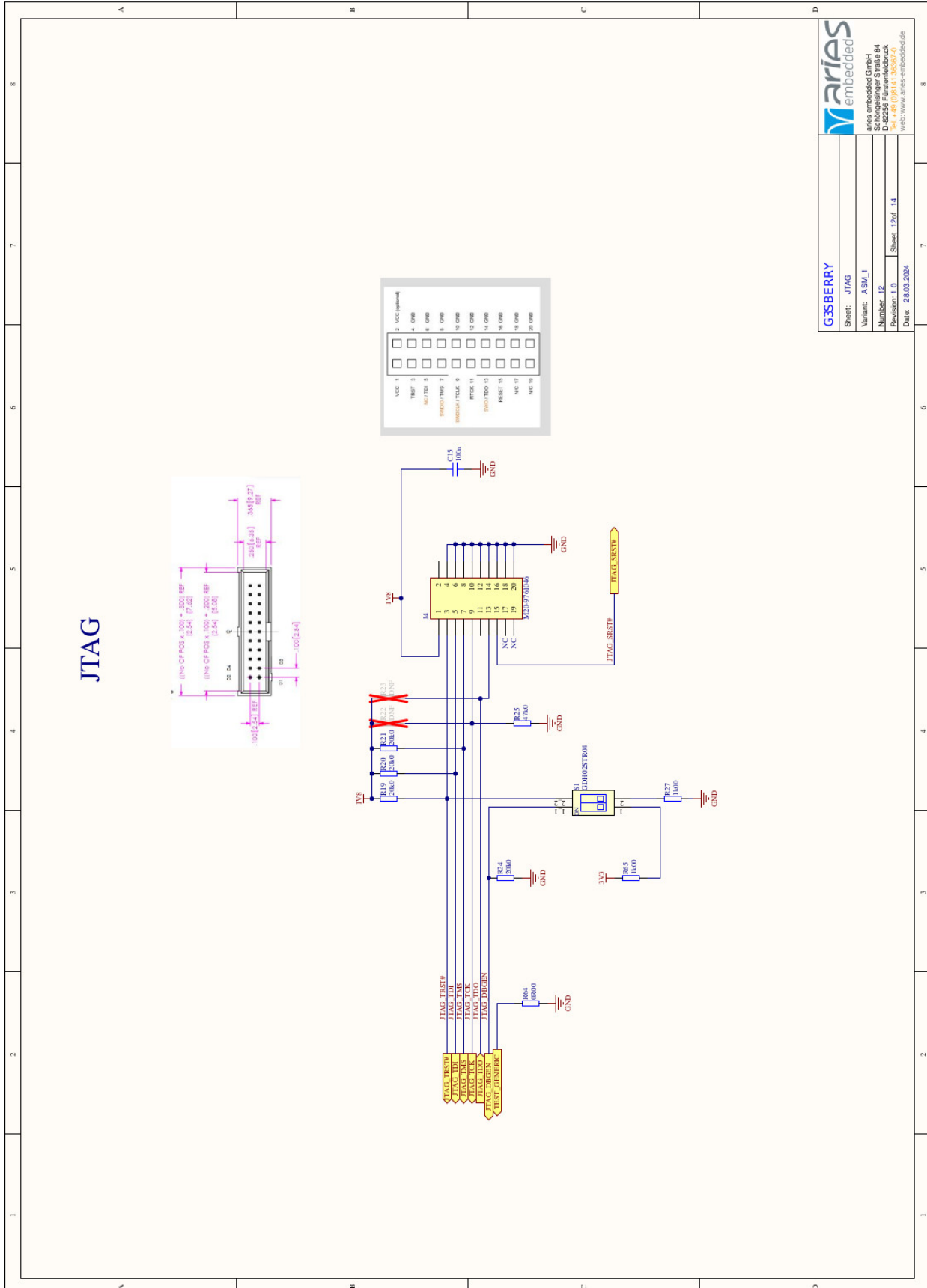
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Number:	10
Revision:	1.0
Date:	28.03.2024

Sheet:	14
Version:	1.0
Number:	10
Revision:	1.0
Date:	28.03.2024

PERIPHERALS



G3SBERRY		arias embedded	
Sheet:	GPIO	arias embedded GmbH	arias embedded GmbH
Version:	ASM_1	Amberg-Weiden, Germany	Amberg-Weiden, Germany
Number:	11	Industriepark Ditzingen	Industriepark Ditzingen
Revision:	1.0	Le + AG (01814) 83367-0	Le + AG (01814) 83367-0
Date:	28.03.2024	Web: www.arias-embedded.de	Web: www.arias-embedded.de



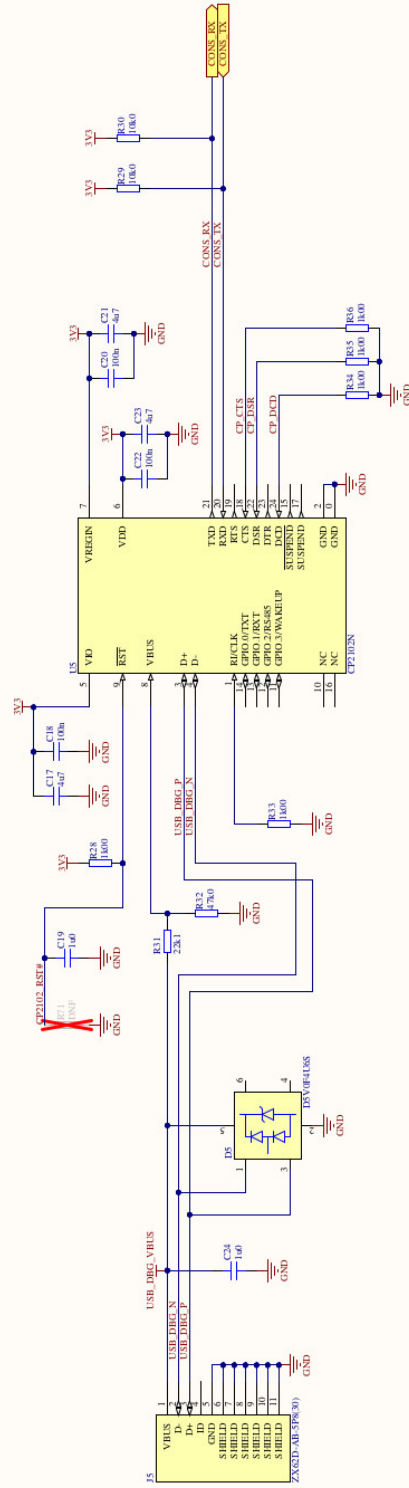
G3SBERRY

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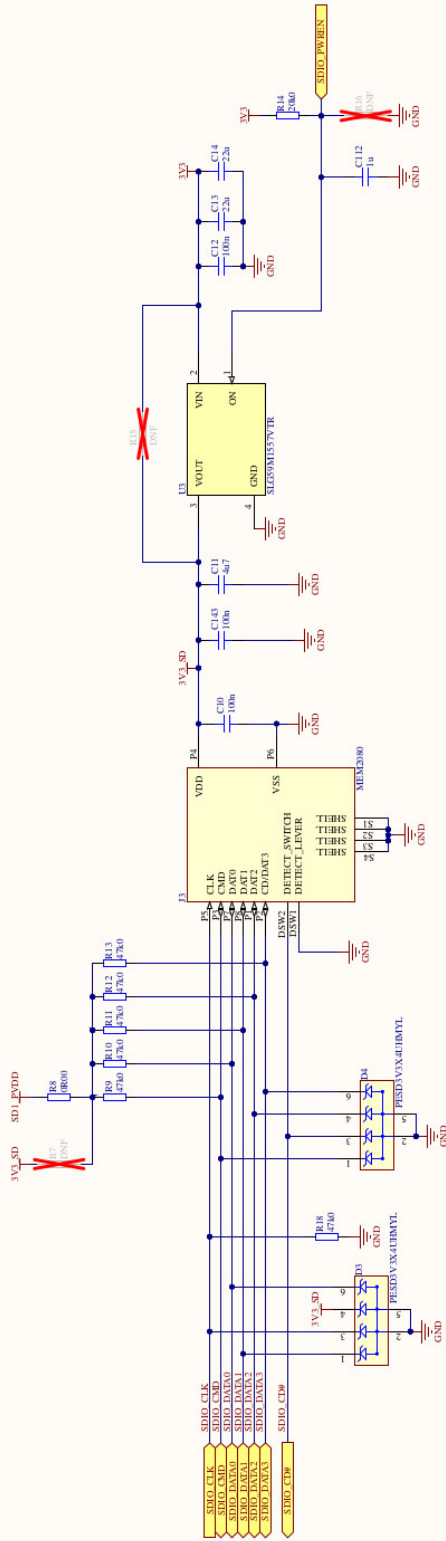
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Version: ASM_1
Number: 12
Revision: 1.0
Date: 28.03.2024

USB to UART converter (console)



G3SBERRY	
Sheet: CONSOLE	
Version: ASM_1	
Number: 13	
Revision: 1.0	
Date: 28.03.2024	
ariase embedded GmbH Göttinger Straße 64 D 38226 Springe Tel: +49 (0)5141 83367-0 Web: www.ariase-embedded.de	

SD CARD



Sheet:	SOCARD
Version:	ASM_1
Number:	14
Revision:	1.0
Date:	28.03.2024
arias embedded GmbH Industriestrasse 54 D-82256 Prien am Chiemsee Tel: +49 (0)8141 83367-0 Web: www.arias-embedded.de	