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Enclustra GmbH

Mars PM3 Rev. 4

- Sheet 1: Cover
- Sheet 2: Module Connector
- Sheet 3: USB Controller 1
- Sheet 4: USB Controller 2
- Sheet 5: USB Connector
- Sheet 6: Configuration
- Sheet 7: Ethernet Magnetics
- Sheet 8: JTAG
- Sheet 9: I2C I/O
- Sheet 10: PCI Express
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- Sheet 12: User Interface
- Sheet 13: Power Protection
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- Sheet 15: Power 2
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- Sheet 17: Revision History

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Confidential

Parts marked with * are not equipped.

Company		Enclustra GmbH		
Sheet name		1_COVER		
Project		Mars PM3 R4		
Revision	007	Date	Designed PC	Date 04.03.2014
Scale	1:1	Format A3		Sheet/sheets 1 / 17

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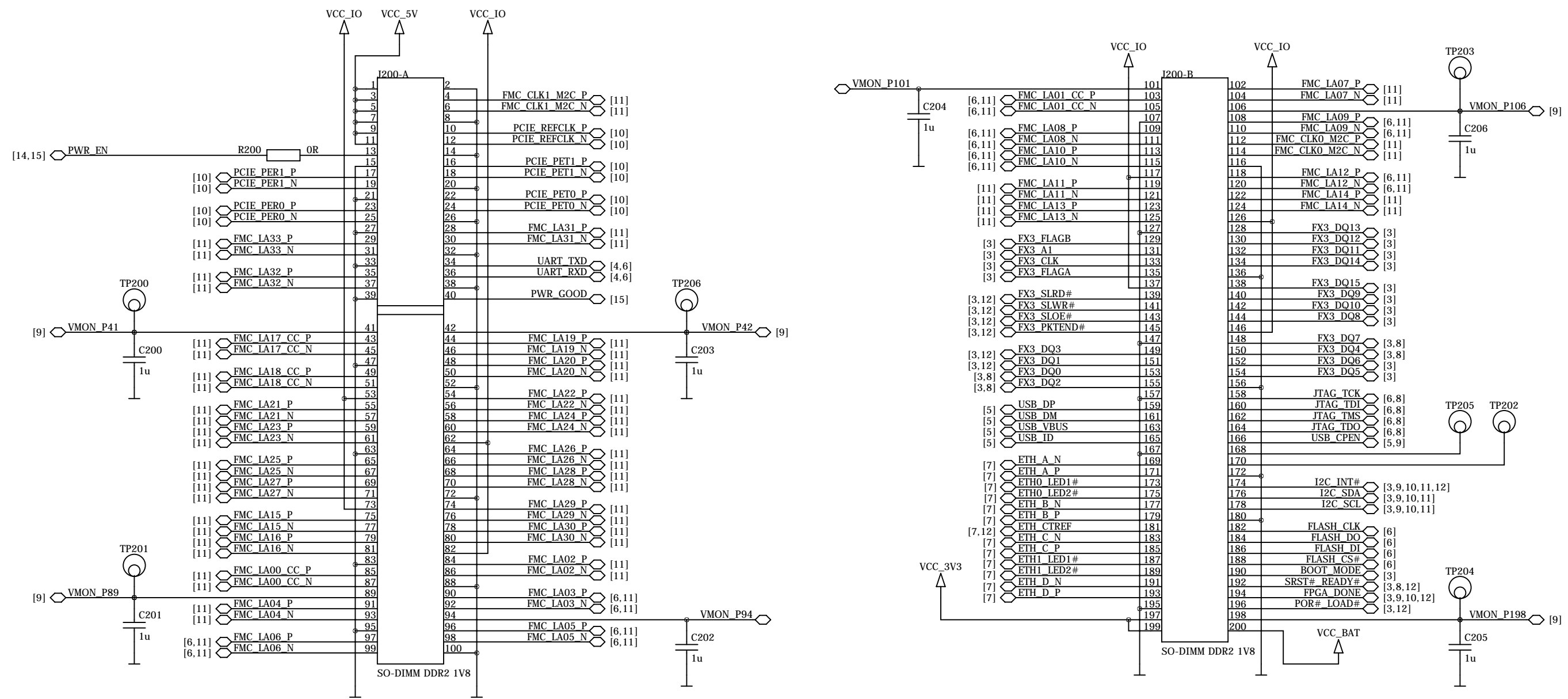
Mars SO-DIMM Connector

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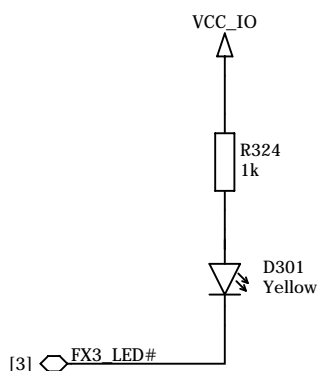
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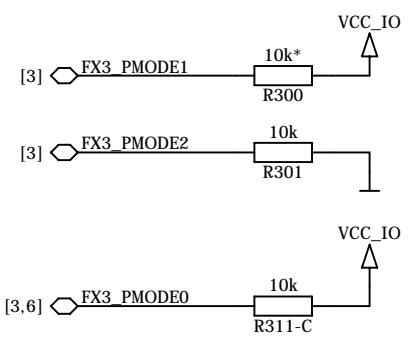
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Sheet name				2_MODULE_CONNECTOR			
Project				Mars PM3 R4			
Revision	007	Date		Designed	PC	Date	04.03.2014
Scale	1:1	Format	A3			Sheet/sheets	2 / 17

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FX3 LED

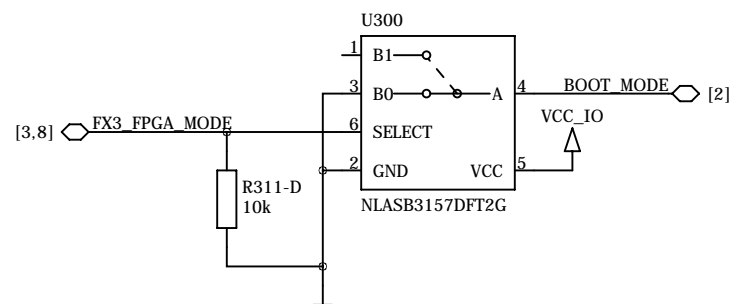


FX3 Boot Mode



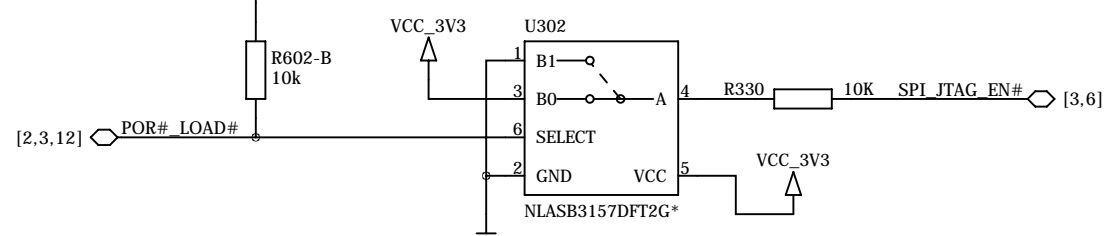
SPI boot mode enabled with USB fall back

FX3 FPGA Mode Select



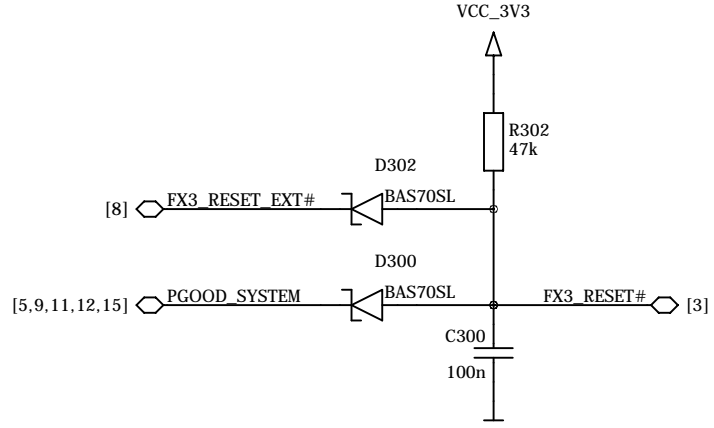
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USB Boot Fallback Enable



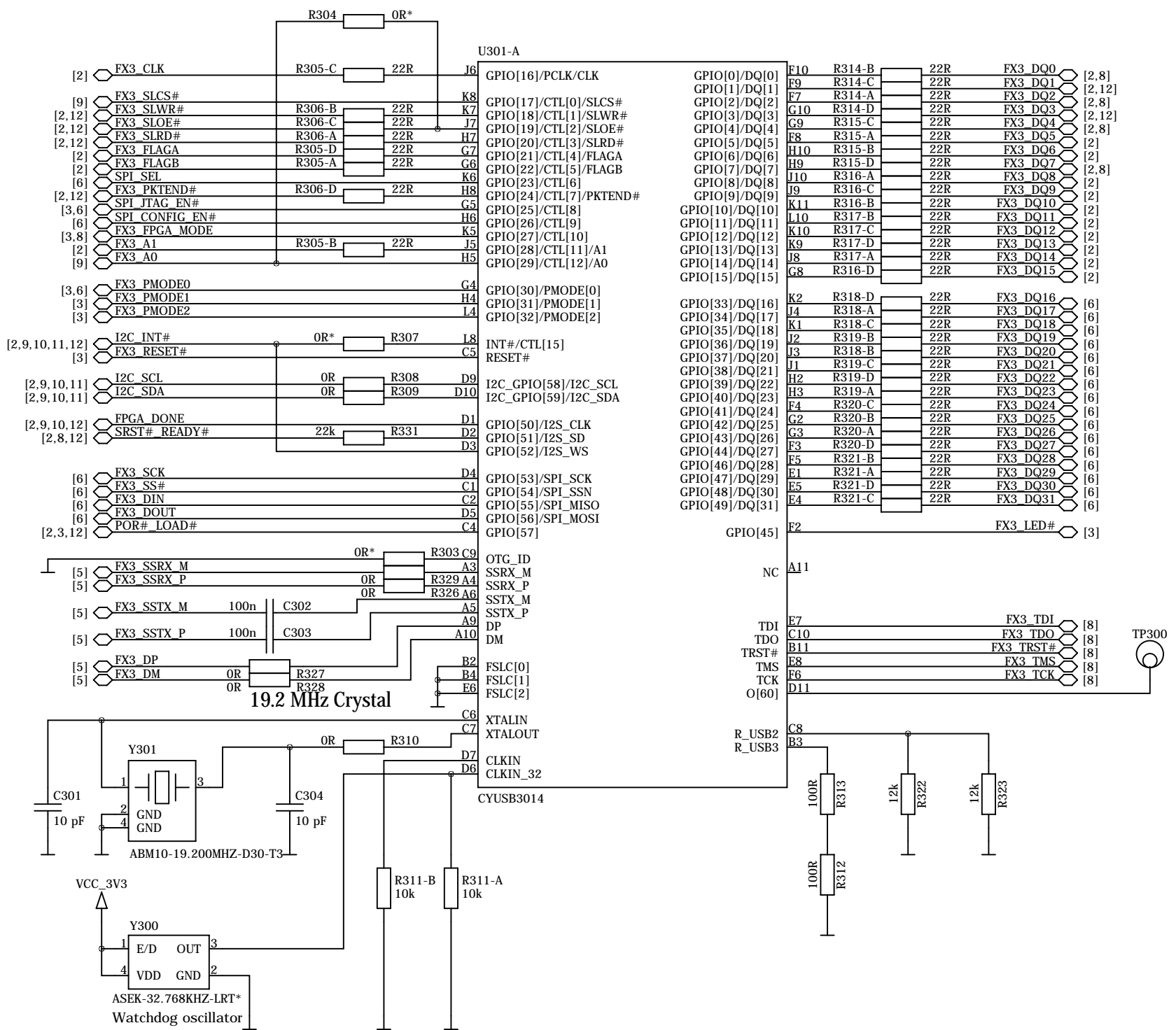
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FX3 Reset



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USB 3.0 Device Controller (Cypress FX3)



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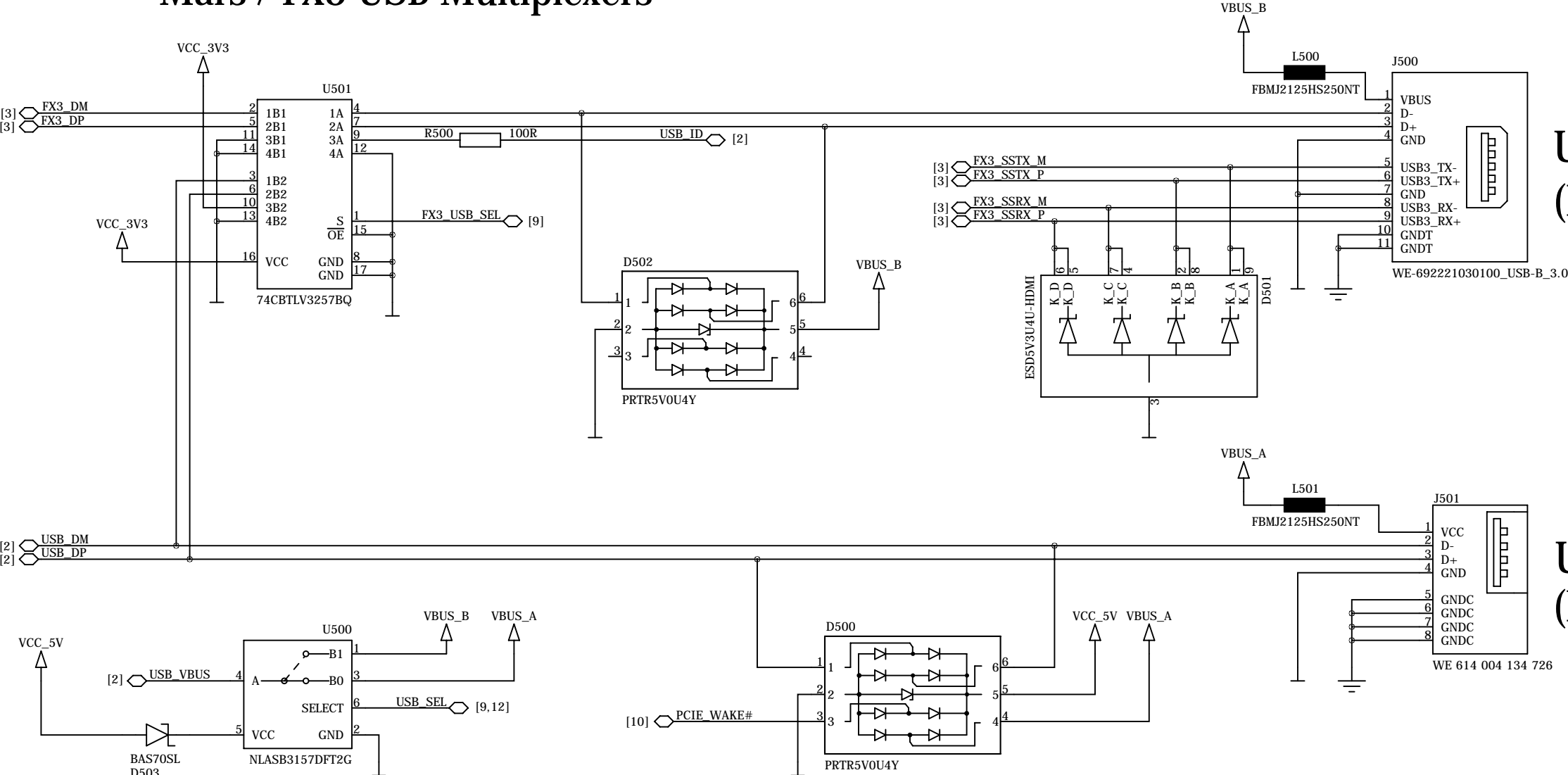
A

PATCH :

- U302 not equipped
- Solder 0R, 0603 between R330 and pins 1&2 of U302

Company		Enclustra GmbH		
Sheet name		3_USB_CTRL1		
Project		Mars PM3 R4		
Revision	007	Date	Designed	PC
Scale	1:1	Format	A3	
		Date	04.03.2014	
		Sheet/sheets	3 / 17	

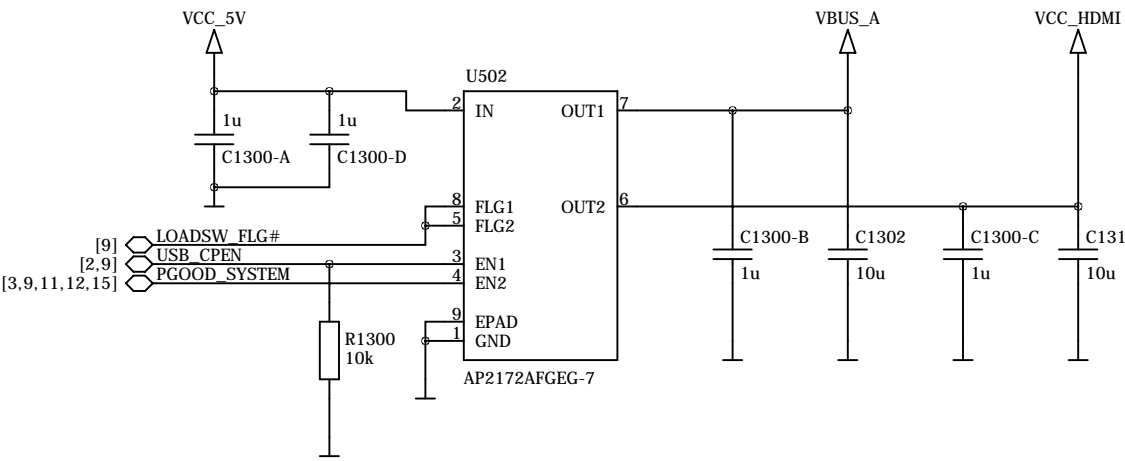
Mars / FX3 USB Multiplexers



USB 3.0 B Connector
(Device)

USB 2.0 A Connector
(Host)

USB / HDMI Load Switch



Company		Enclustra GmbH		
Sheet name		5_USB_CONNECTOR		
Project		Mars PM3 R4		
Revision	007	Date	Designed	Date
Scale	1:1	Format	PC	04.03.2014
		Sheet/sheets		5 / 17

FX3 SPI Multiplexers

FX3 DQ Multiplexers

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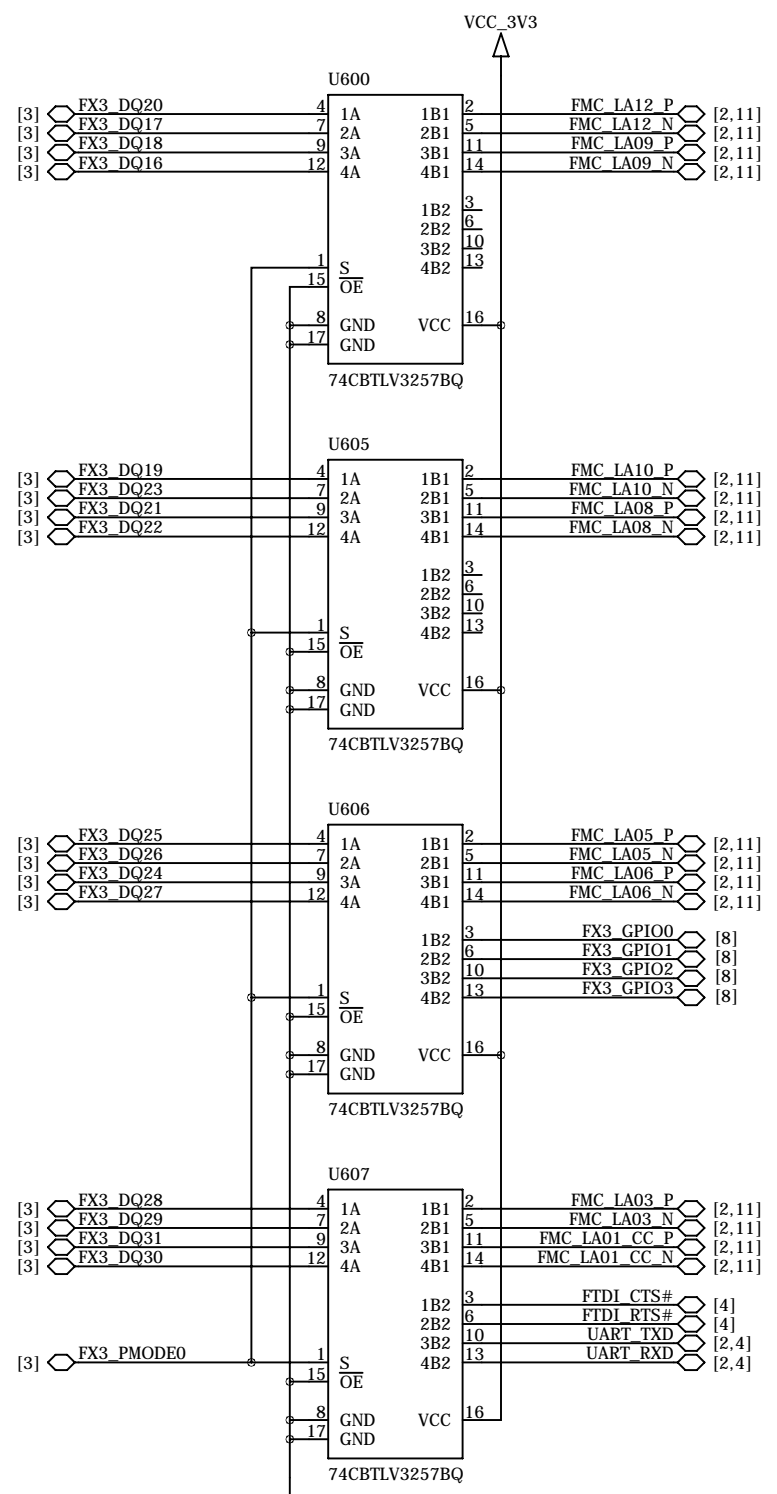
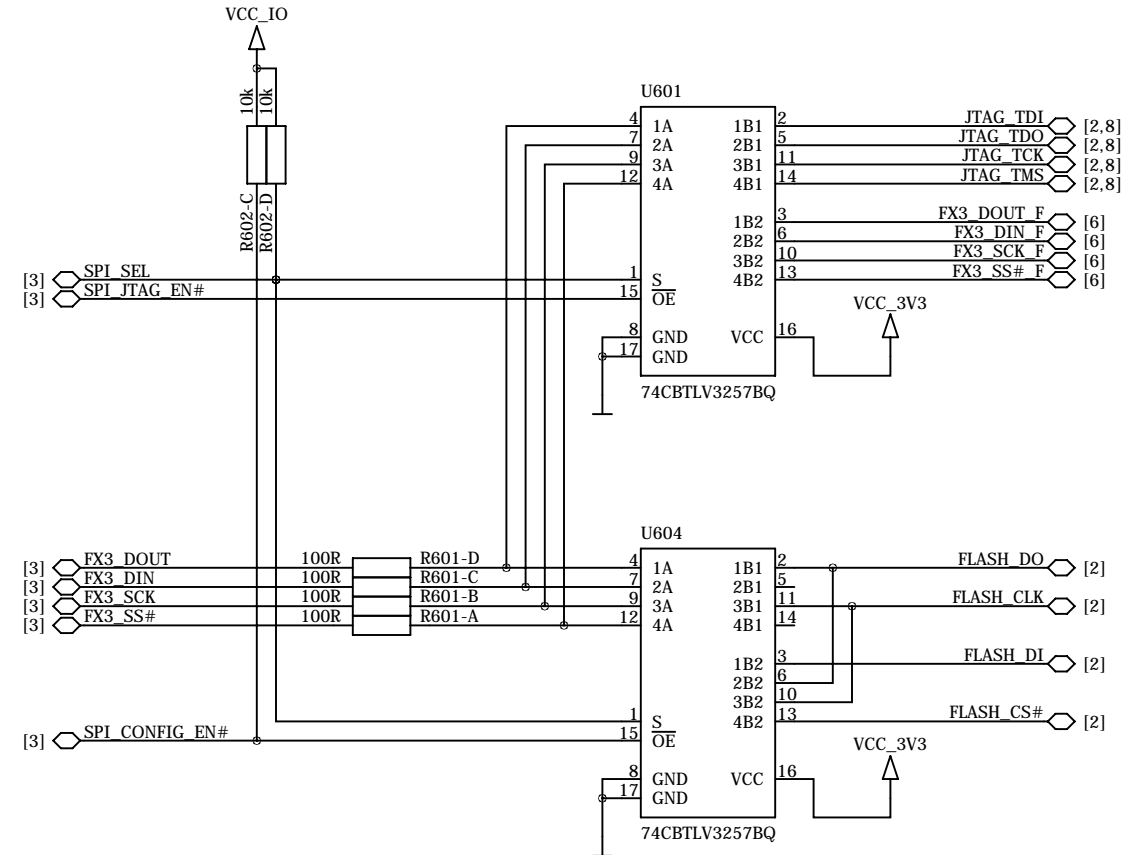
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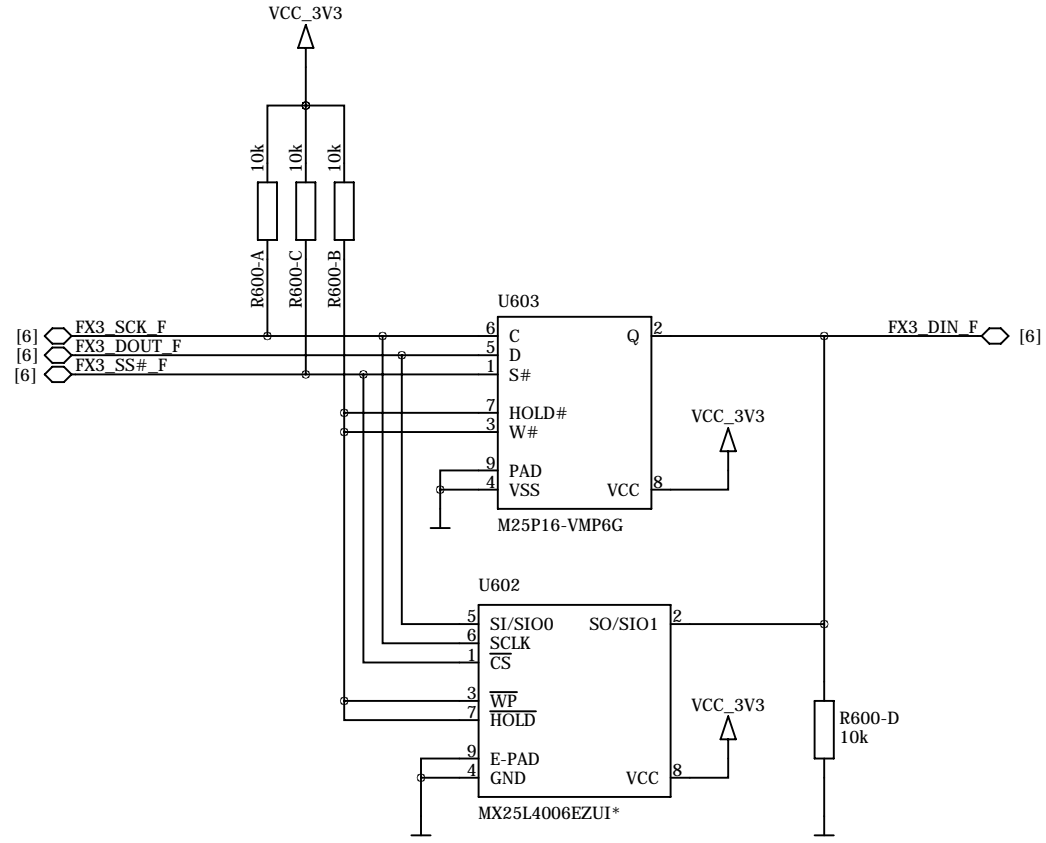
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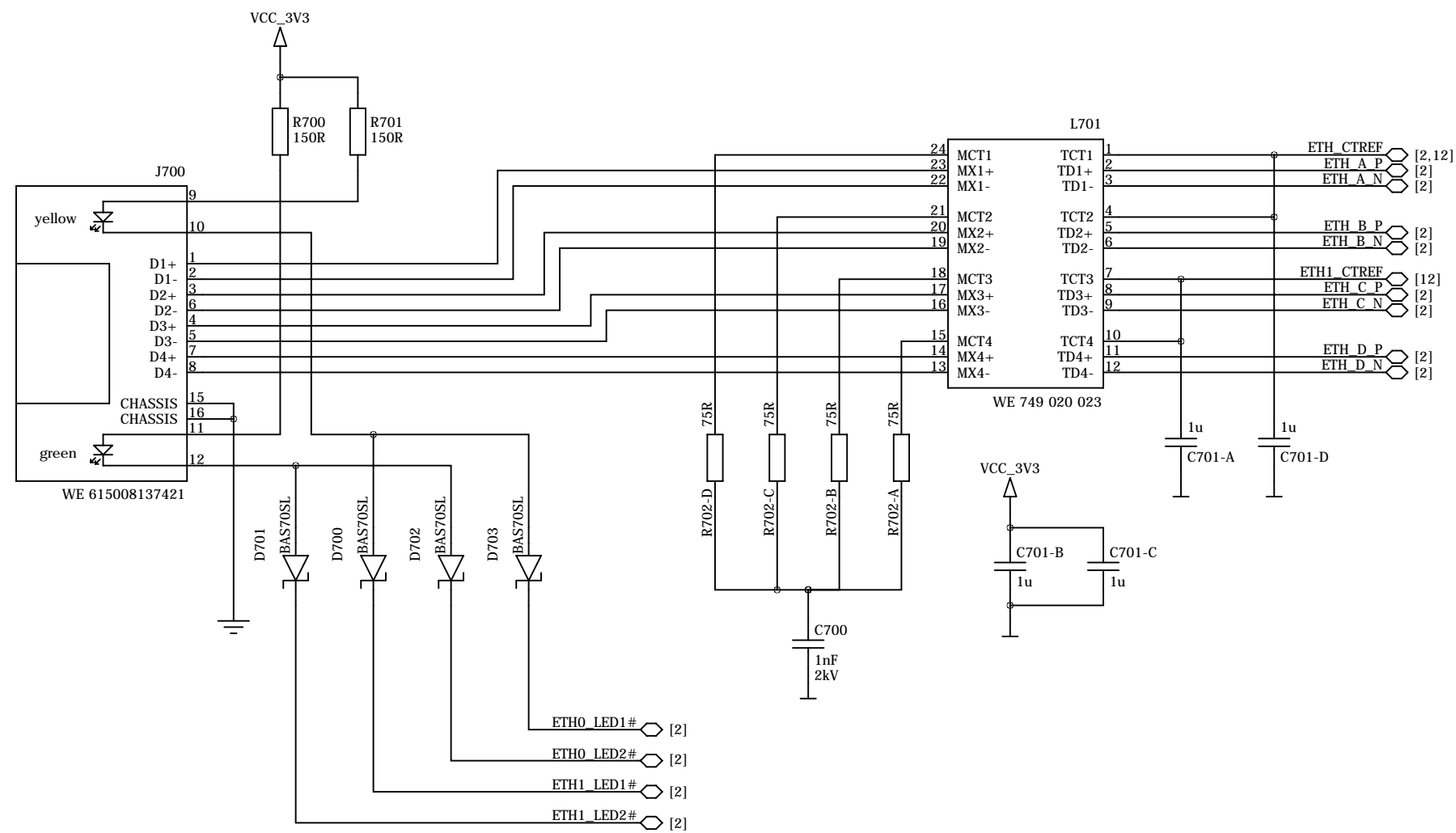


FX3 SPI Flash



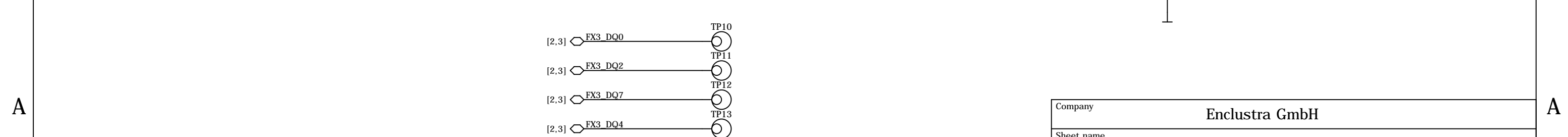
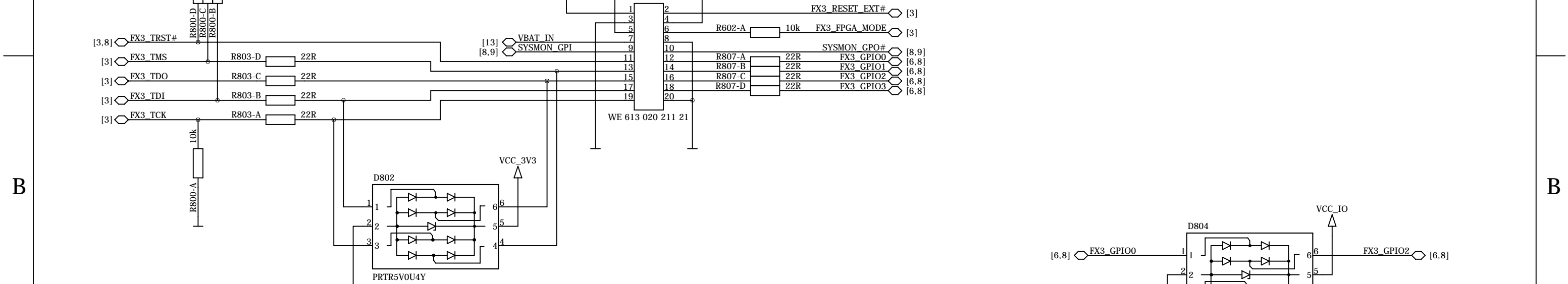
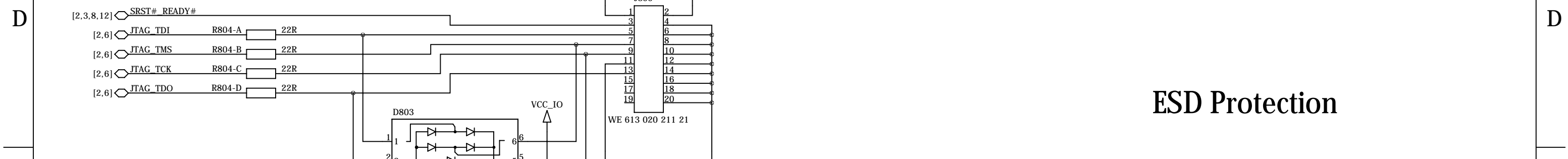
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Sheet name		6_CONFIGURATION				
Project		Mars PM3 R4				
Revision	007	Date	Designed	PC	Date	04.03.2014
Scale	1:1	Format	A3		Sheet/sheets	6 / 17

Gigabit Ethernet Port



Company		Enclustra GmbH	
Sheet name		7_ETH-MAGNETICS	
Project		Mars PM3 R4	
Revision	007	Date	04.03.2014
Scale	1:1	Designed	PC
	Format A3		Sheet/sheets 7 / 17

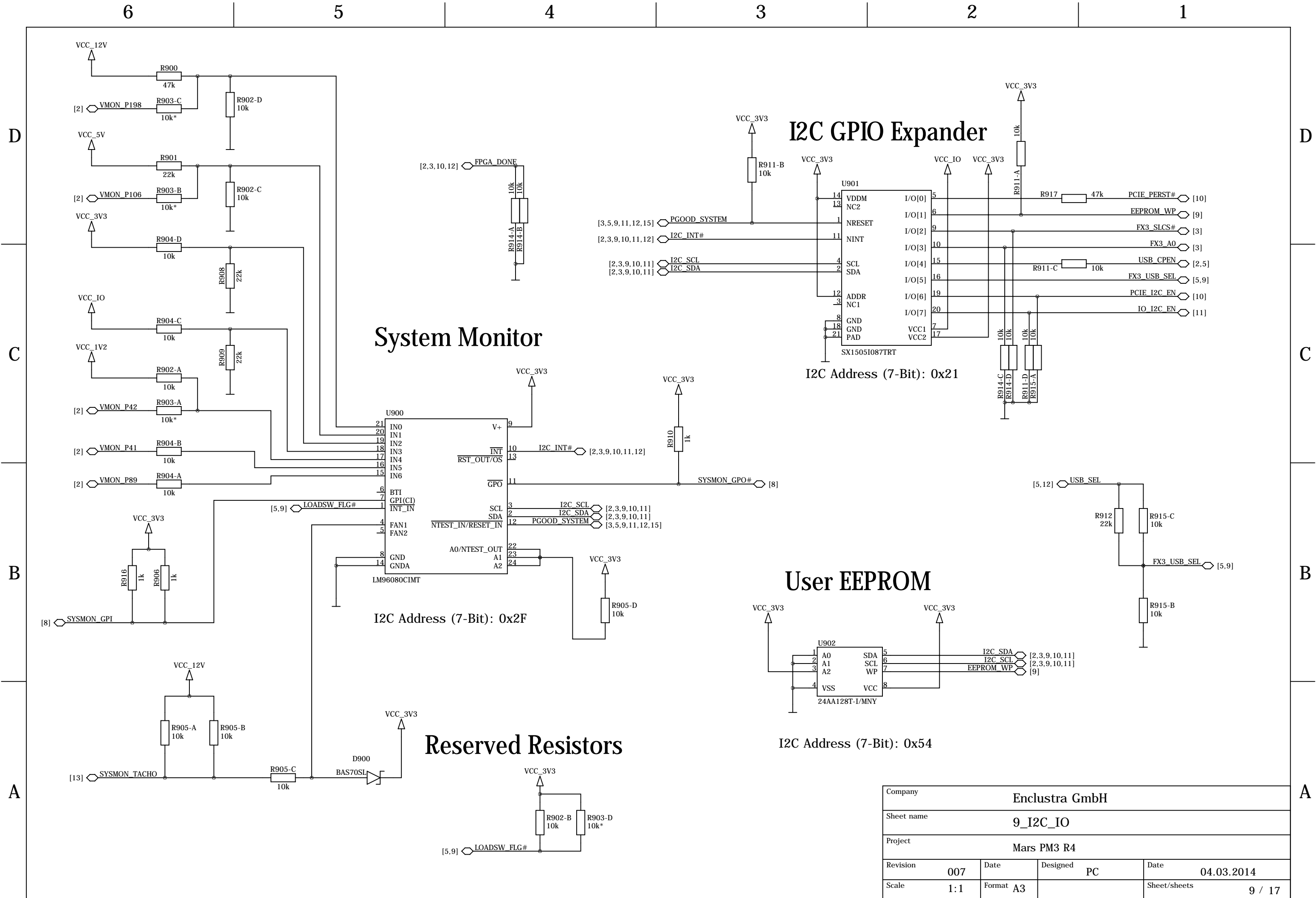
6 | 5 | 4 | 3 | 2 | 1



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Technical drawing of a mechanical part. It shows a side view of a component with a central hole. Dimensions include a total width of 100, a central hole diameter of 10, and a distance of 50 from the center to the right edge. There are also dimensions for a 20x20 section and a 10x10 section. Labels include 'FX3_DQ7', 'FX3_DQ4', and 'TP13'.

Company		Enclustra GmbH	
Sheet name		8_JTAG	
Project		Mars PM3 R4	
Revision	007	Date	04.03.2014
Scale	1:1	Designed	PC
		Format	A3
		Sheet/sheets	8 / 17

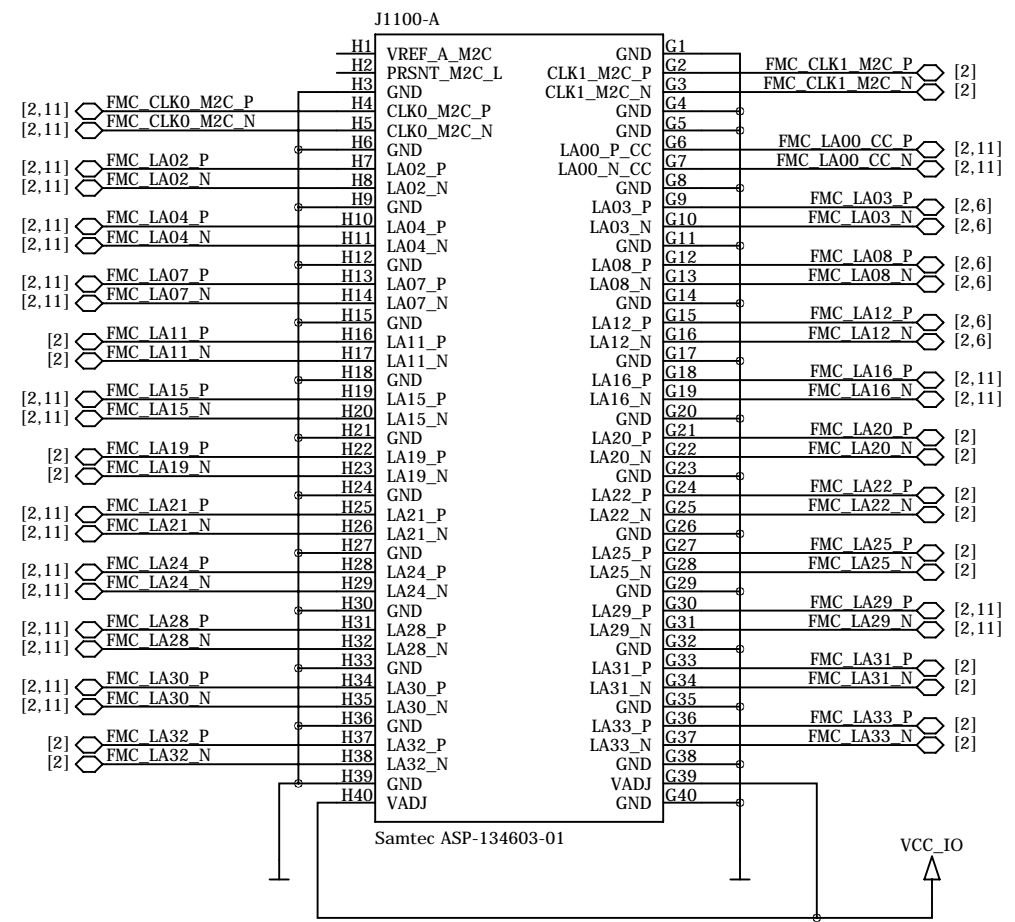


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FMC LPC Connector

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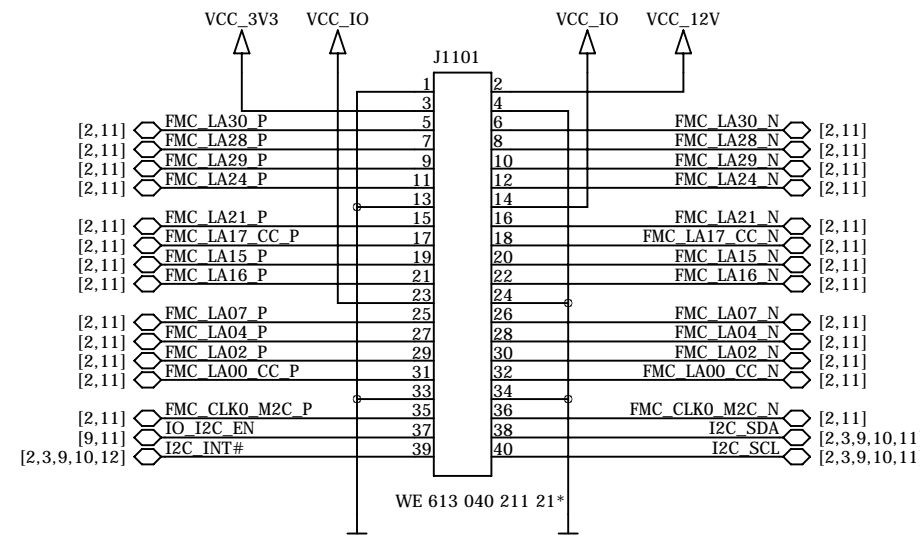


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IO Connector

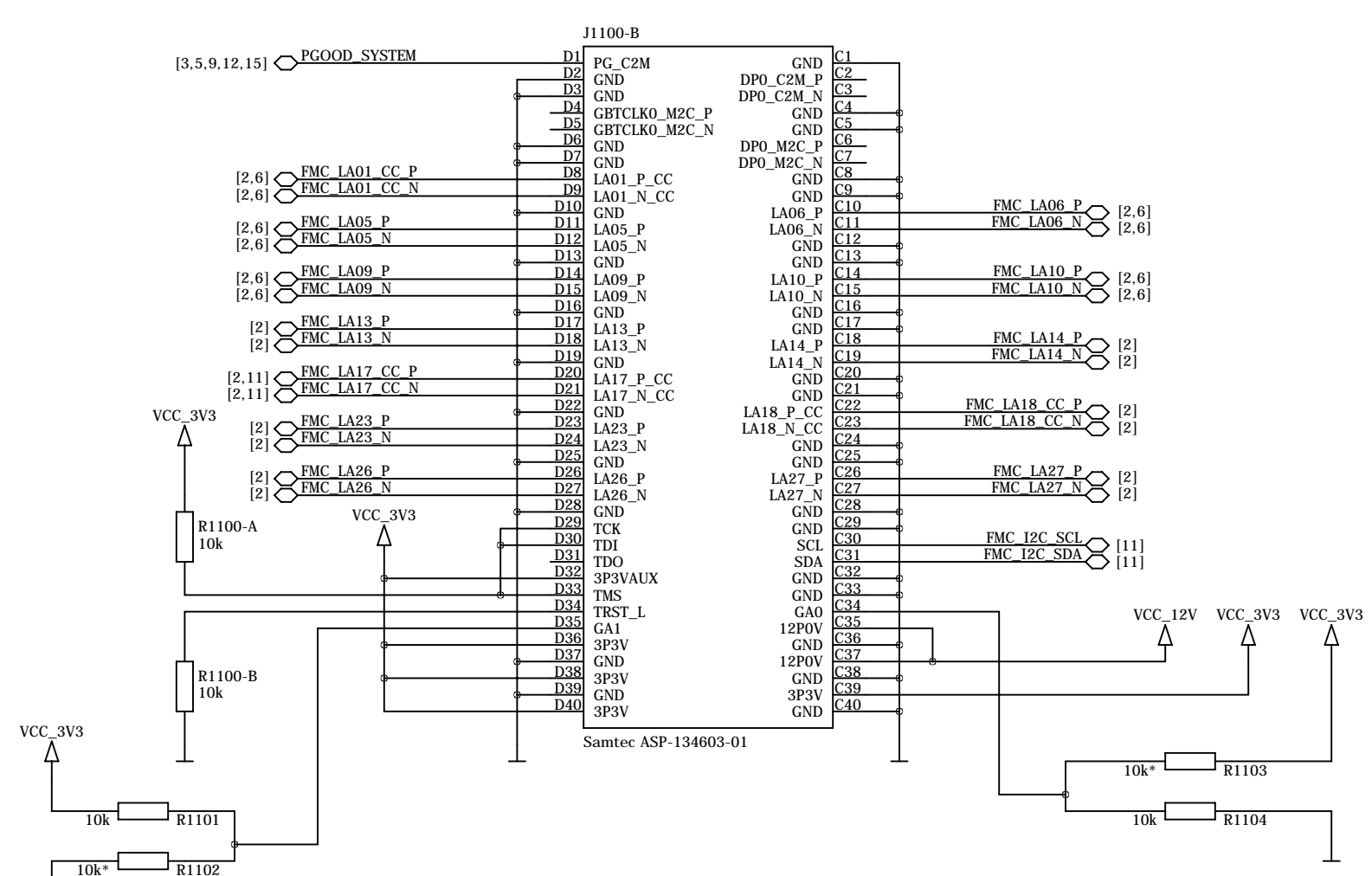


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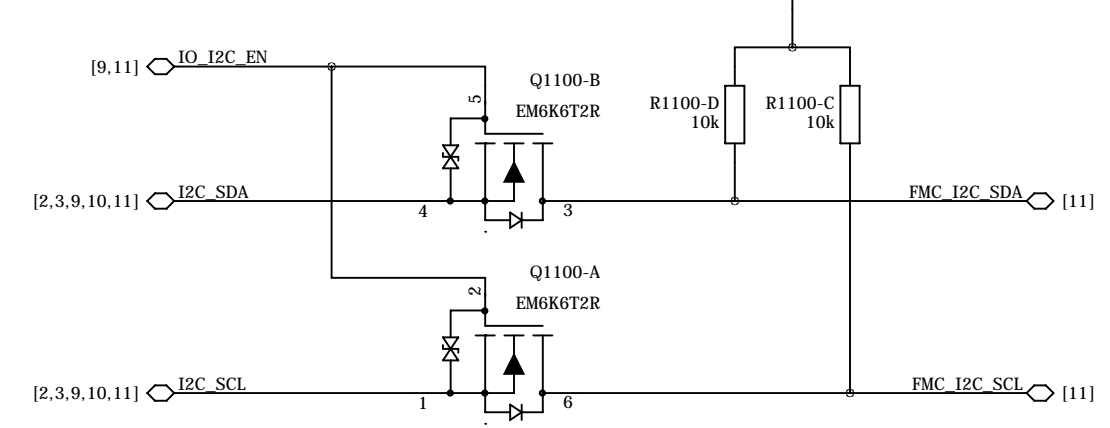
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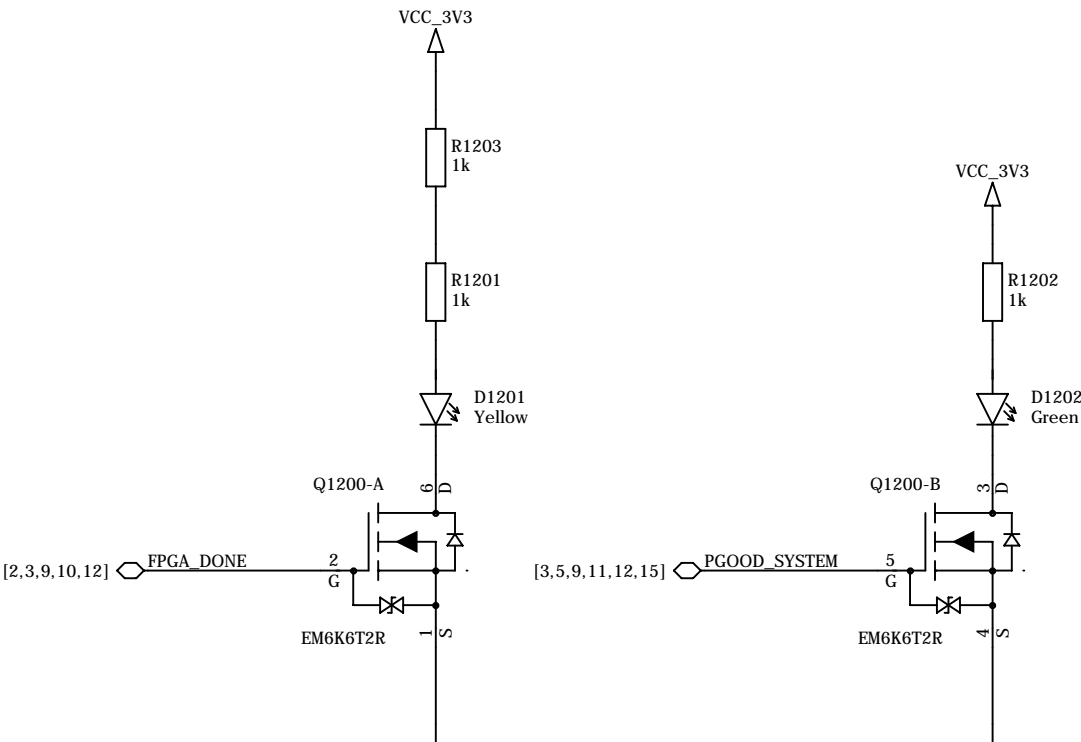
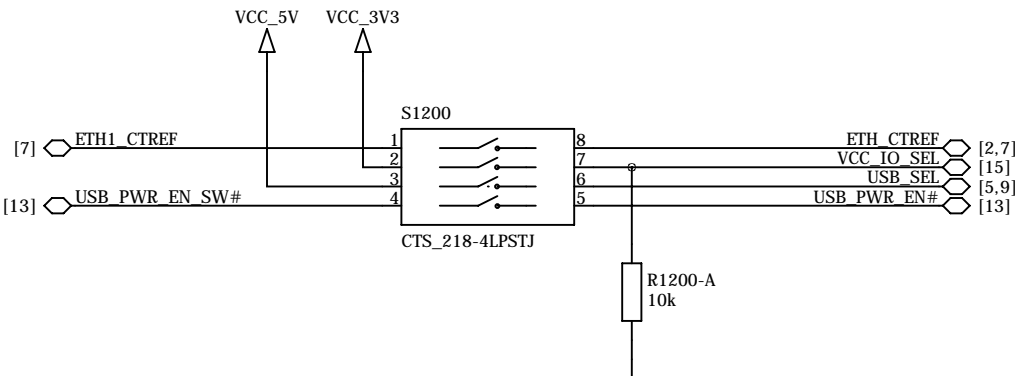
FMC I2C Bus



Company				Enclustra GmbH			
Sheet name				11_I/O_CONNECTOR			
Project				Mars PM3 R4			
Revision		Date		Designed		Date	
007				PC		04.03.2014	
Scale		Format				Sheet/sheets	
1: 1		A3				11/ 17	

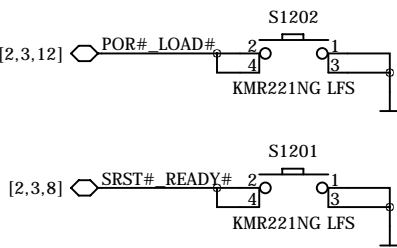
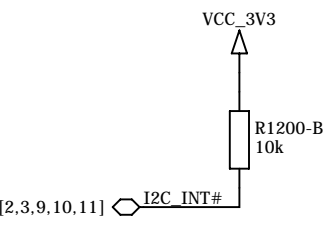
Board Configuration

Status LEDs



Pull Resistors

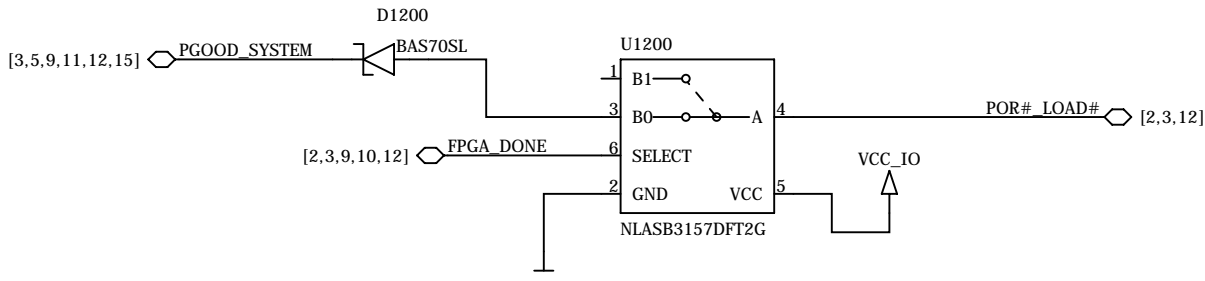
Buttons



Hard Reset

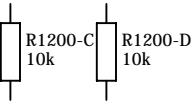
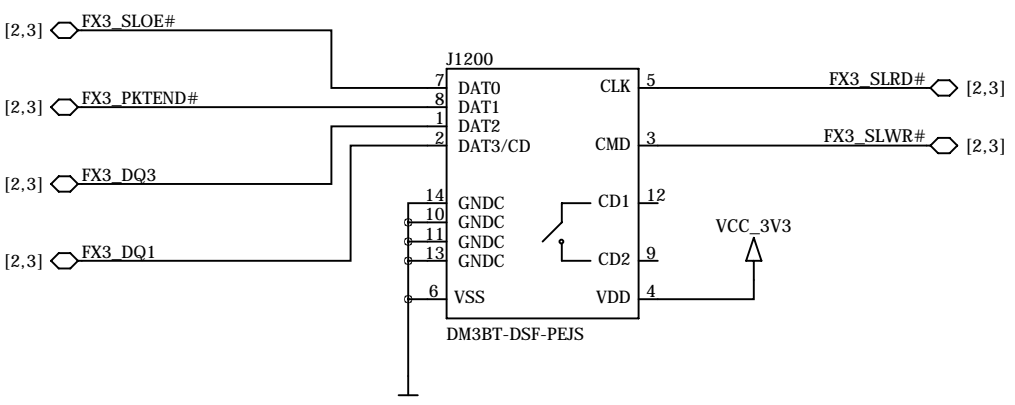
Soft Reset

Reset Circuit



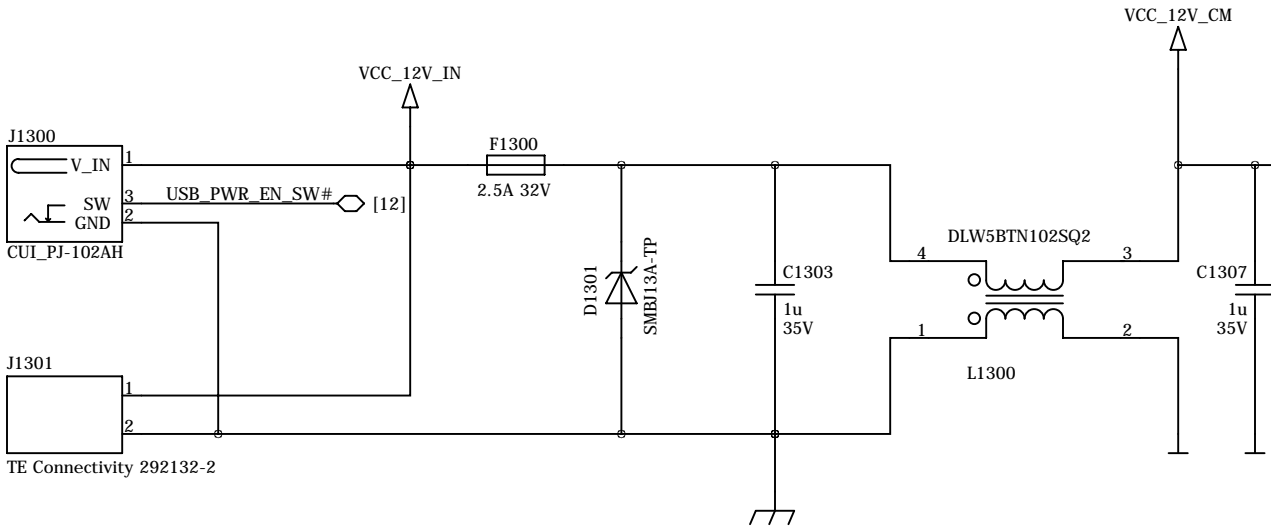
(Prevents FPGA startup until power is stable)

SD-CARD Holder

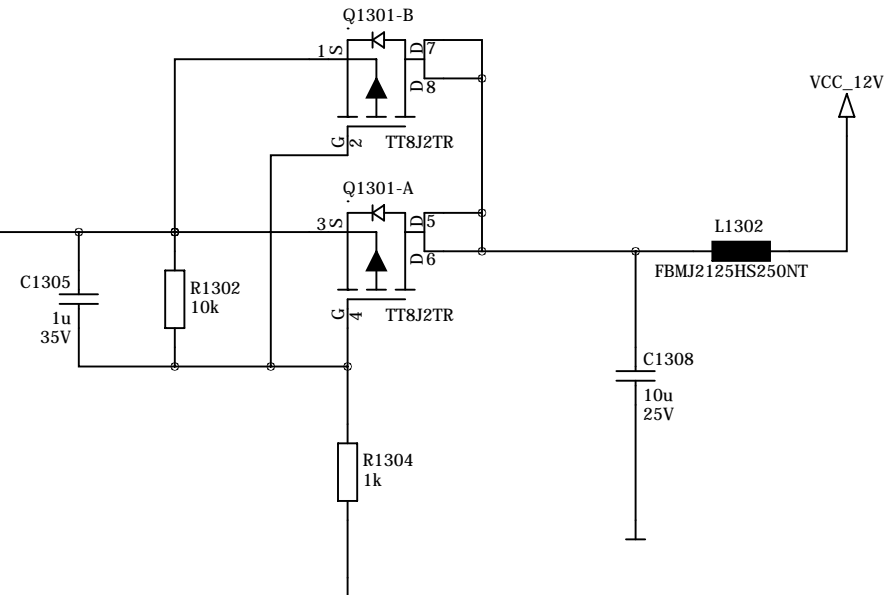


Company				Enclustra GmbH			
Sheet name				12_USER_INTERFACE			
Project				Mars PM3 R4			
Revision		Date		Designed		Date	
007				PC		04.03.2014	
Scale		Format				Sheet/sheets	
1:1		A3				12/ 17	

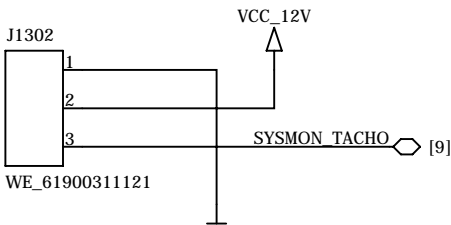
12V DC Power Input



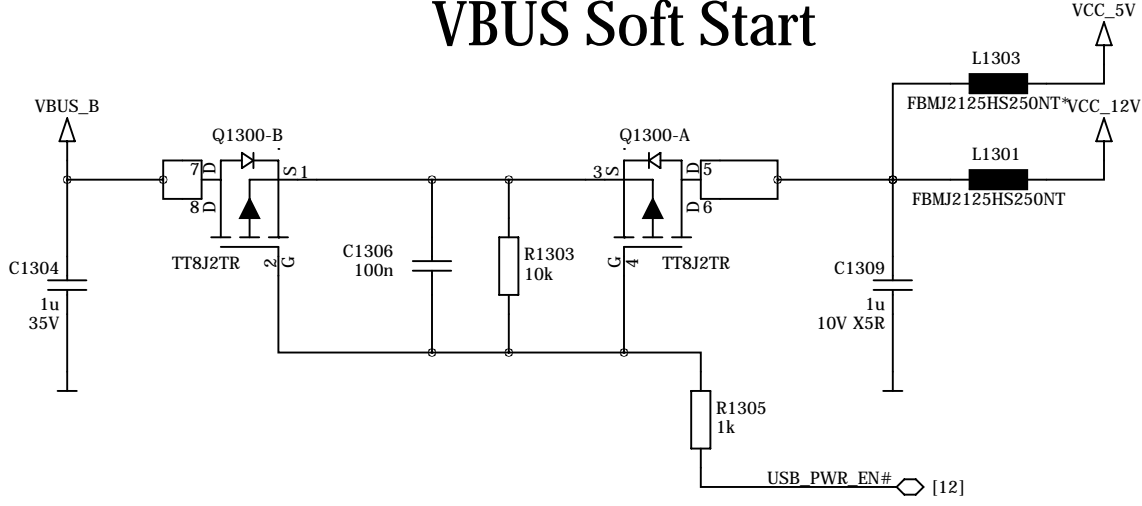
12V Soft Start



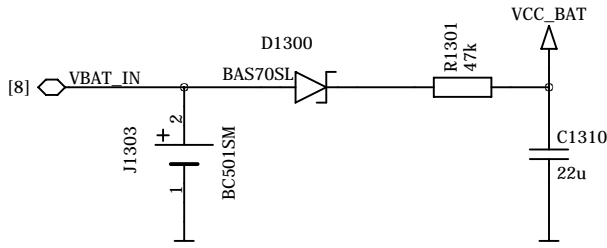
Fan Connector



VBUS Soft Start



Battery Holder



Company		Enclustra GmbH		
Sheet name		13_POWER_PROTECTION		
Project		Mars PM3 R4		
Revision	007	Date	Designed PC	Date 04.03.2014
Scale	1:1	Format A3		Sheet/sheets 13/ 17

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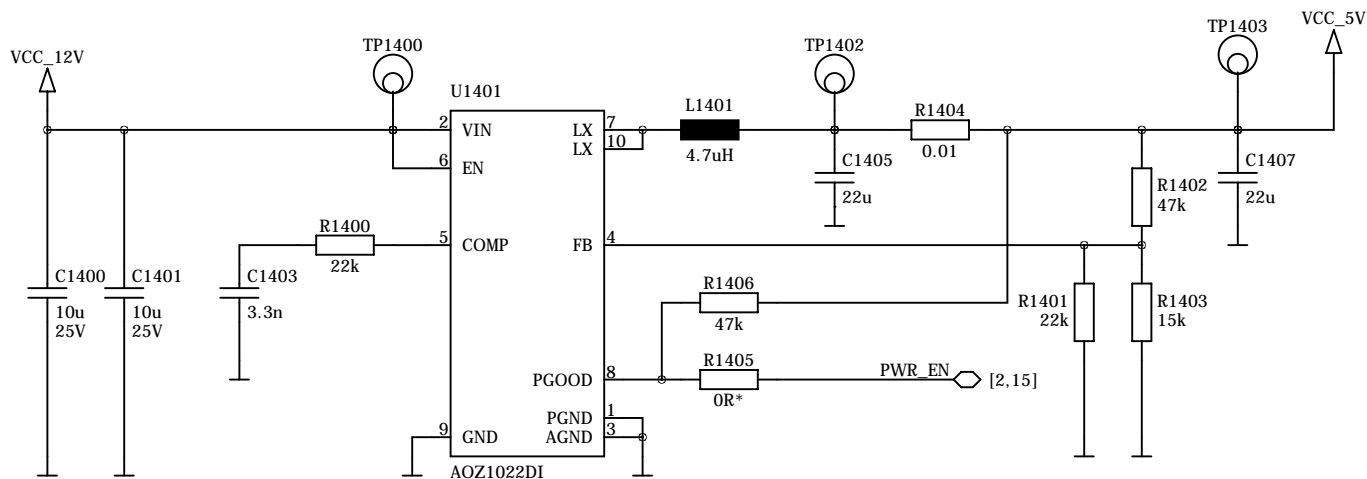
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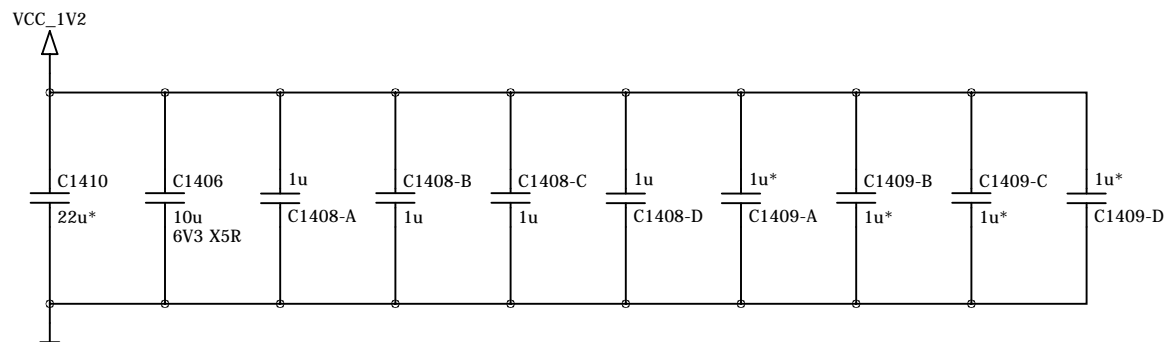
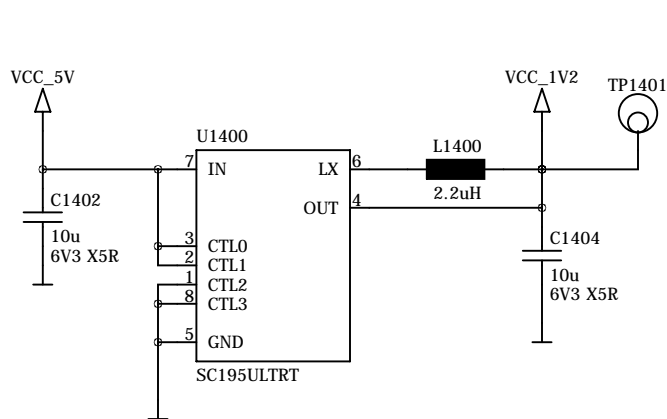
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DC/DC Converter
12V to 5V, 3A, 500kHz



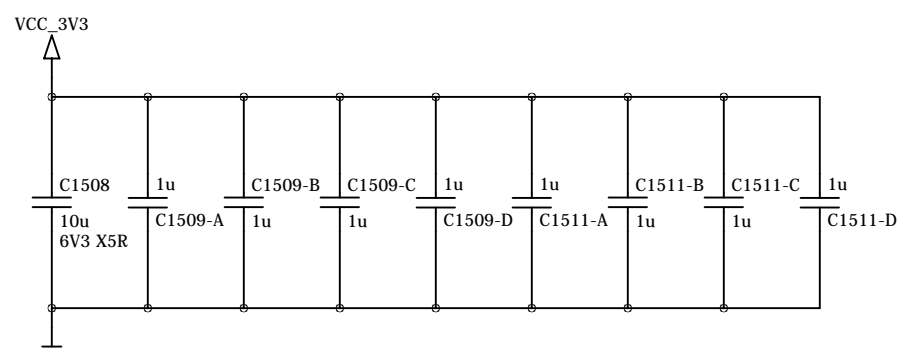
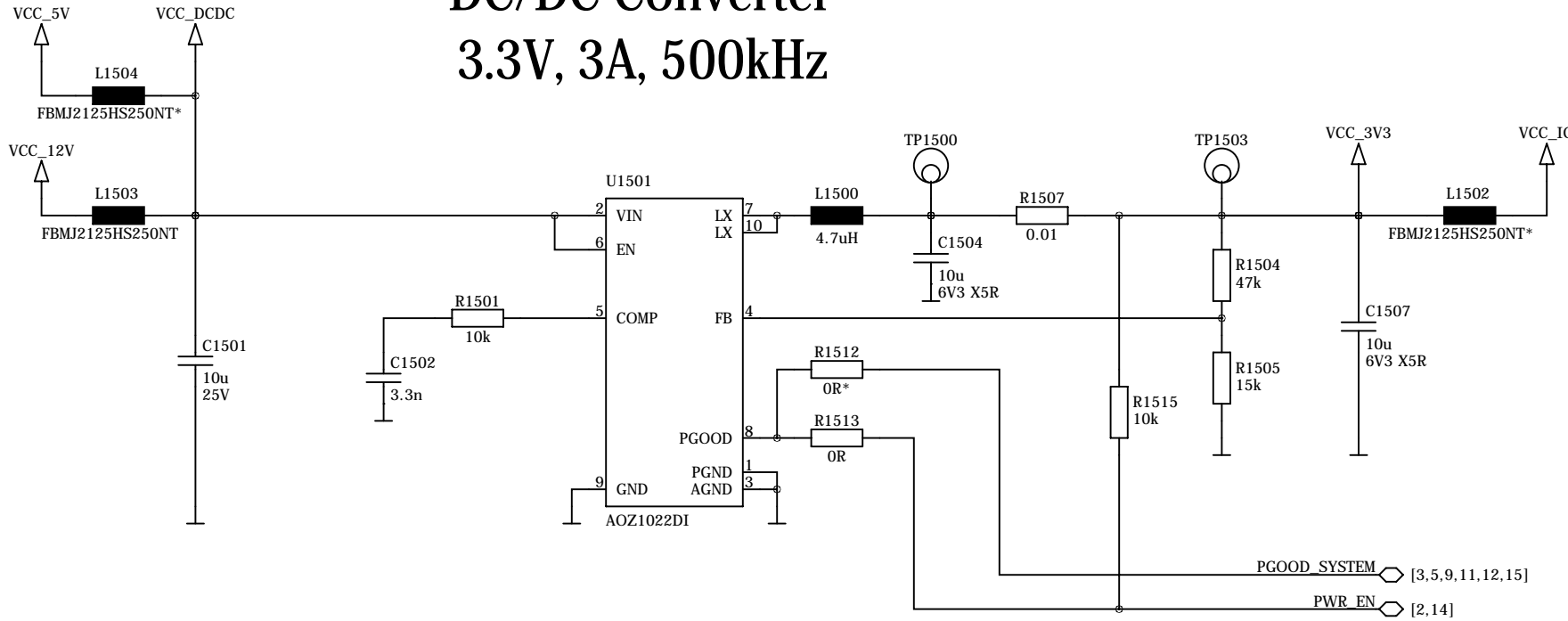
DC/DC Converter
5V to 1.2V, 0.5A, 3.5MHz



Company		Enclustra GmbH		
Sheet name		14_POWER		
Project		Mars PM3 R4		
Revision	007	Date	Designed PC	Date 04.03.2014
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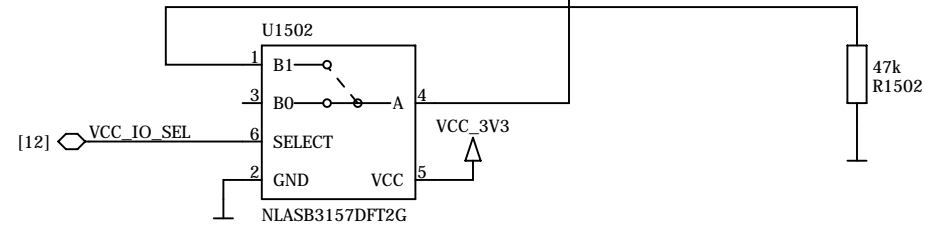
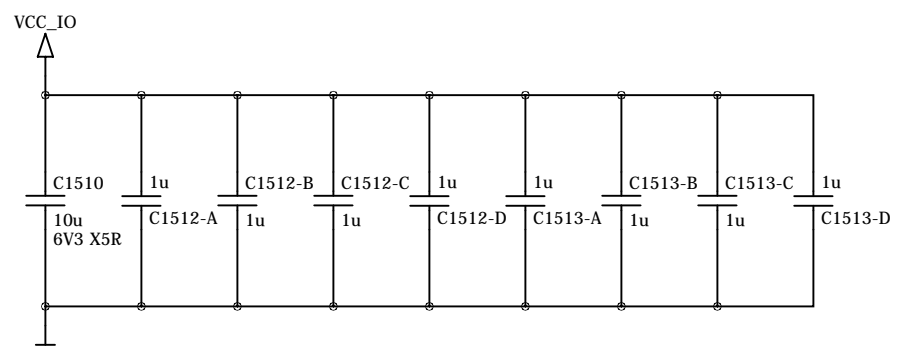
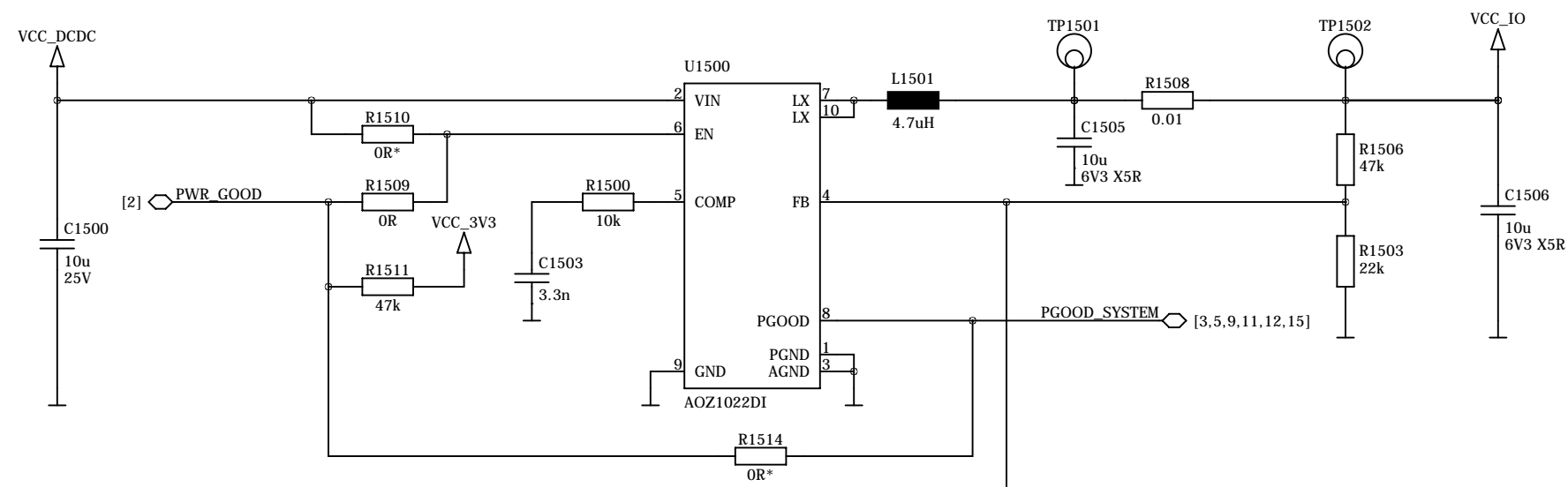
DC/DC Converter

3.3V, 3A, 500kHz

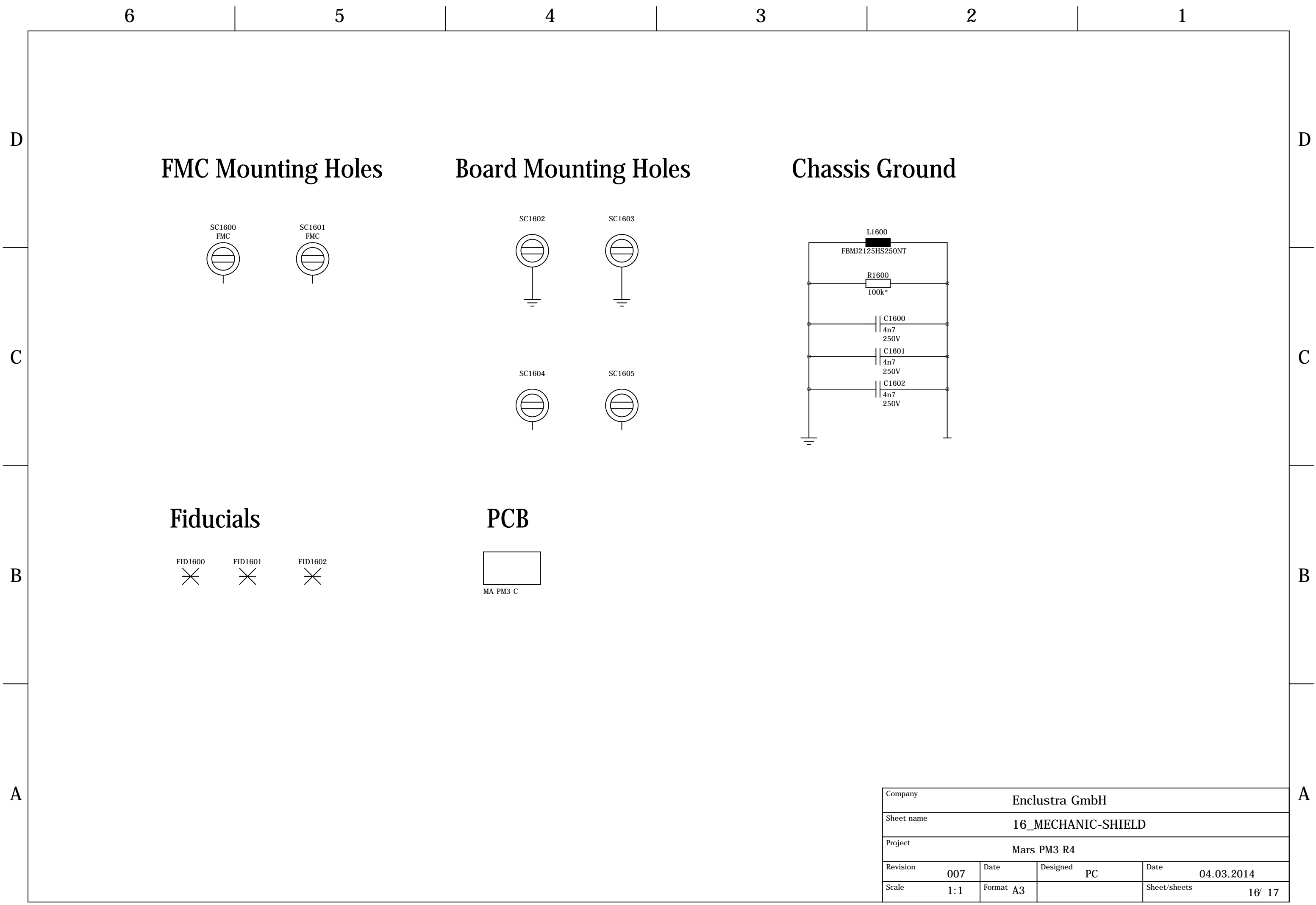


DC/DC Converter

VCC_IO, 3A, 500kHz



Company				Enclustra GmbH			
Sheet name				15_POWER2			
Project				Mars PM3 R4			
Revision	007	Date		Designed	PC	Date	04.03.2014
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Company		Enclustra GmbH		
Sheet name		16_MECHANIC-SHIELD		
Project		Mars PM3 R4		
Revision	007	Date	Designed PC	Date 04.03.2014
Scale	1:1	Format A3		Sheet/sheets 16/ 17

6	5	4	3	2	1																														
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