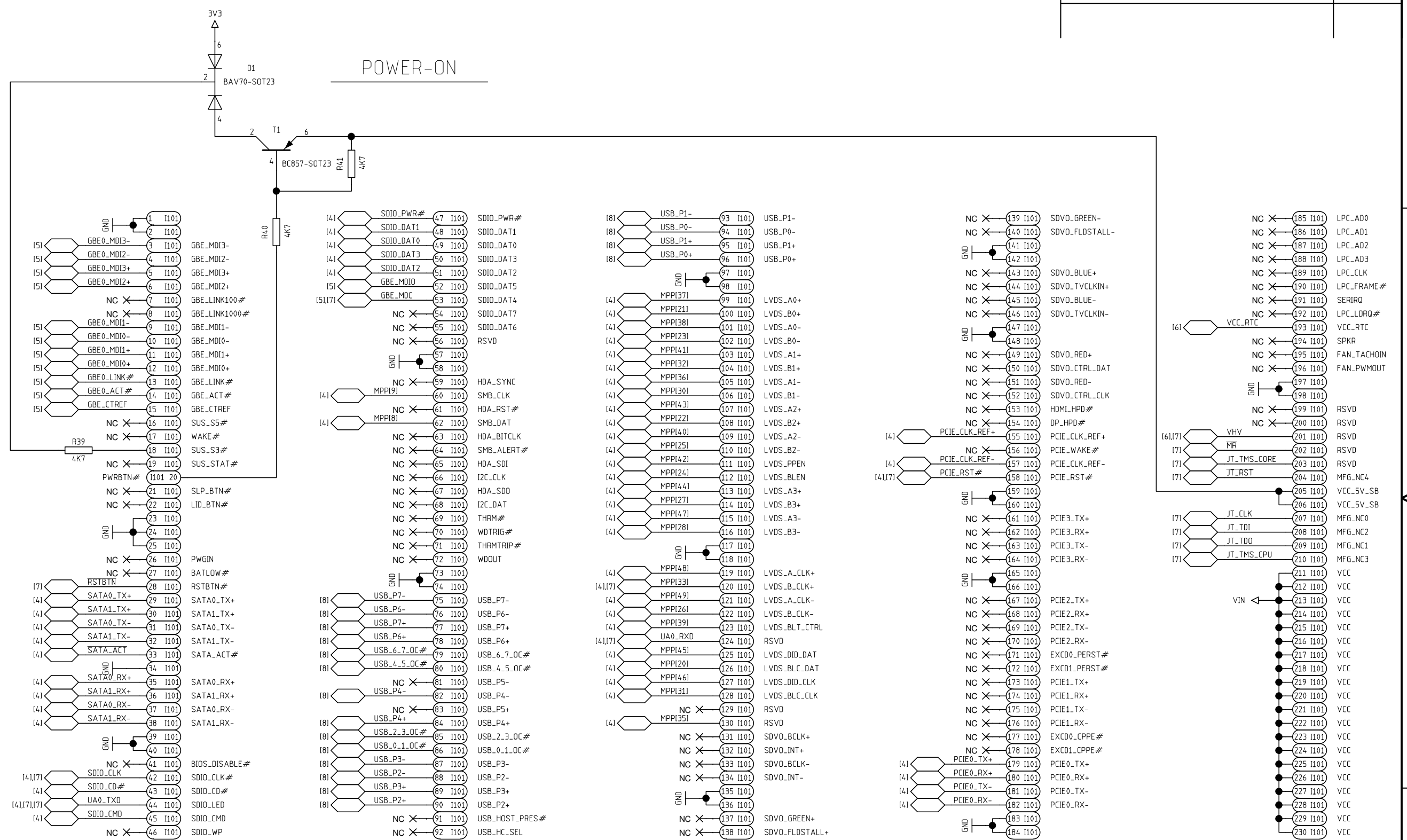


HISTORY

DESCRIPTION	DATE



SHEET LIST

1 Qseven Connector	3 NAND FLASH	5 Gb-Ethernet	7 JTAG / RESET
2 DDR2-SDRAM	4 SATA / PCIe / USB	6 Power Supply	8 USB

PROJECT NO.  
**K700-047**

Ka-Ro electronics  
Fertigungsgesellschaft mbH

Pascalstr. 22  
D-52076 Aachen

www.karo-electronics.de

**TK71 v2**

**Qseven Connector**

DRAWN BY: MV DATE: 26.1.2010

K700-047 TOP SHEET 01/08

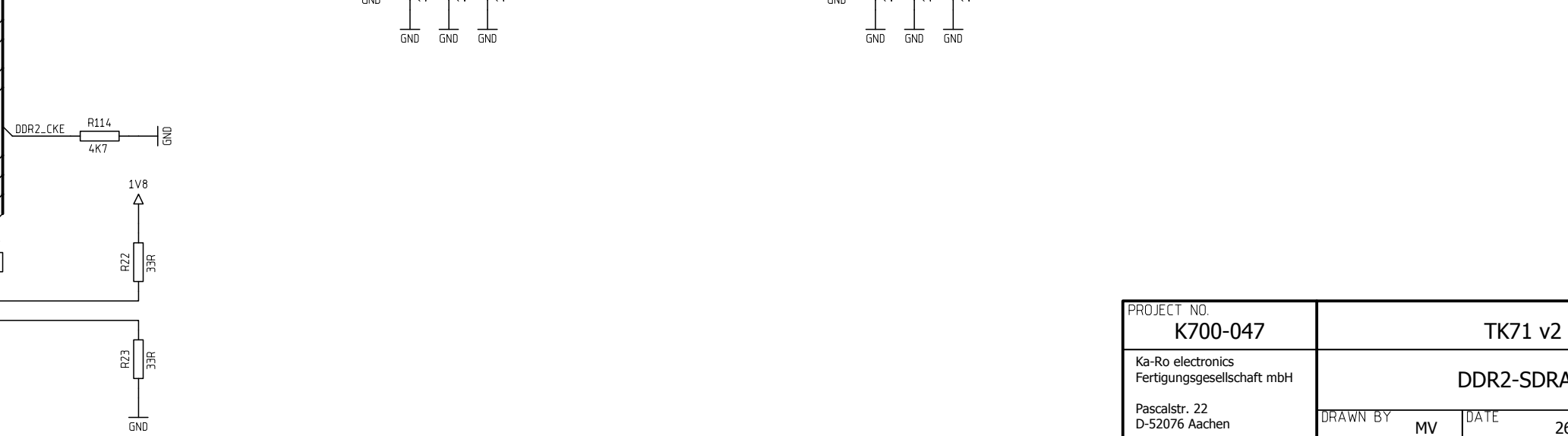
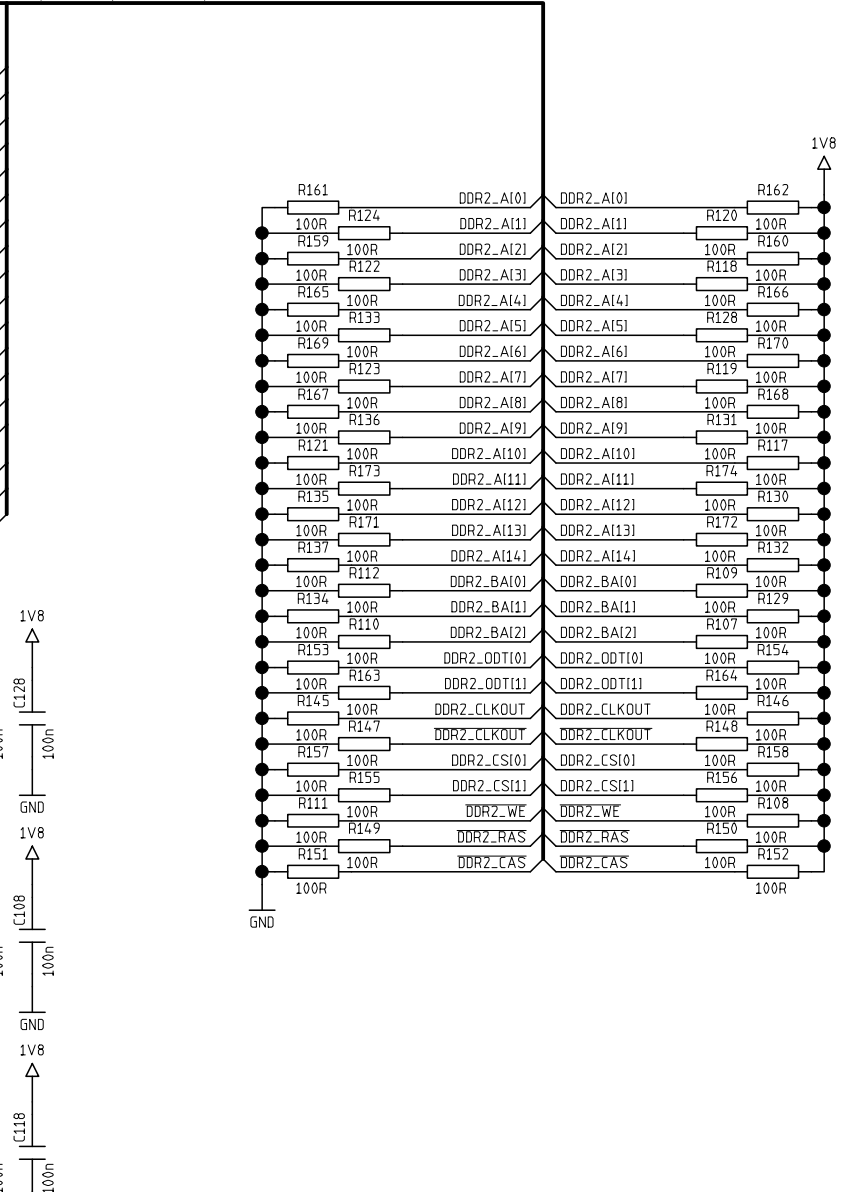
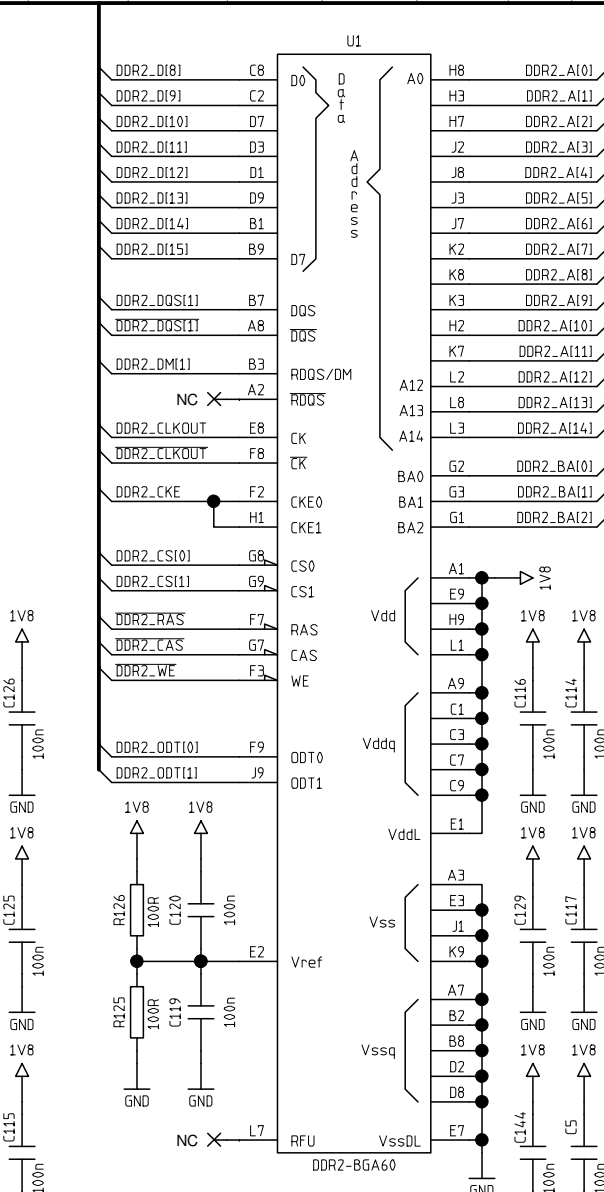
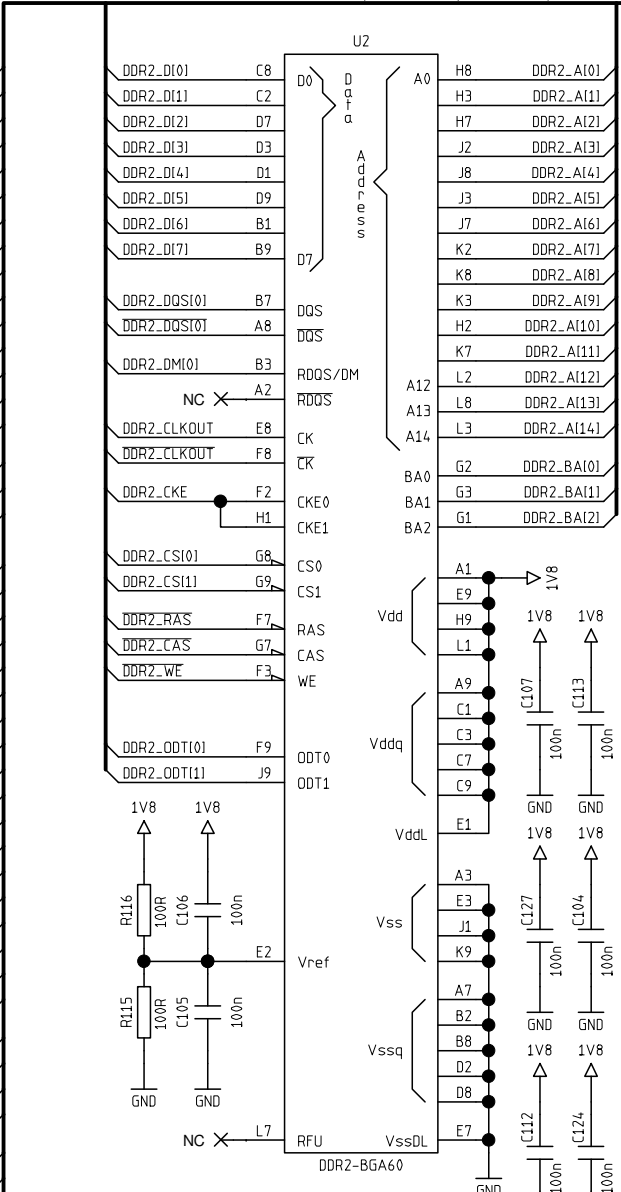


HISTORY

DESCRIPTION DATE

DDR2\_A[0..14]DDR2\_BA[0..2]DDR2\_D[0..15]DDR2\_DQS[0..1]DDR2\_DQS[10..1]DDR2\_ODT[0..1]DDR2\_CLKOUT\_DDR2\_CLKOUT\_DDR2\_CS[0..1]DDR2\_WE\_DDR2\_RAS\_DDR2\_CAS\_DDR2\_DM[0..1]DDR2\_CKE

M_A[0]	C13	DDR2_A[0]
M_A[1]	A6	DDR2_A[1]
M_A[2]	B15	DDR2_A[2]
M_A[3]	D9	DDR2_A[3]
M_A[4]	A14	DDR2_A[4]
M_A[5]	B7	DDR2_A[5]
M_A[6]	A15	DDR2_A[6]
M_A[7]	C8	DDR2_A[7]
M_A[8]	B3	DDR2_A[8]
M_A[9]	A7	DDR2_A[9]
M_A[10]	B6	DDR2_A[10]
M_A[11]	D12	DDR2_A[11]
M_A[12]	C10	DDR2_A[12]
M_A[13]	B14	DDR2_A[13]
M_A[14]	E9	DDR2_A[14]
M_BA[0]	C5	DDR2_BA[0]
M_BA[1]	A5	DDR2_BA[1]
M_BA[2]	C6	DDR2_BA[2]
M_DQ[0]	B12	DDR2_D[0]
M_DQ[1]	B9	DDR2_D[1]
M_DQ[2]	A12	DDR2_D[2]
M_DQ[3]	A8	DDR2_D[3]
M_DQ[4]	B8	DDR2_D[4]
M_DQ[5]	A13	DDR2_D[5]
M_DQ[6]	A9	DDR2_D[6]
M_DQ[7]	B11	DDR2_D[7]
M_DQ[8]	D1	DDR2_D[8]
M_DQ[9]	A2	DDR2_D[9]
M_DQ[10]	D2	DDR2_D[10]
M_DQ[11]	A4	DDR2_D[11]
M_DQ[12]	A3	DDR2_D[12]
M_DQ[13]	B3	DDR2_D[13]
M_DQ[14]	C1	DDR2_D[14]
M_DQ[15]	C1	DDR2_D[15]
M_DM[0]	B10	DDR2_DM[0]
M_DM[1]	B2	DDR2_DM[1]
M_DQS[0]	A11	DDR2_DQS[0]
M_DQS[1]	A10	DDR2_DQS[1]
M_DQS[10]	A1	DDR2_DQS[10]
M_DQS[11]	B1	DDR2_DQS[11]
M_ODT[0]	B16	DDR2_ODT[0]
M_ODT[1]	A17	DDR2_ODT[1]
M_CLKOUT	D14	DDR2_CLKOUT
M_CLKOUT	D15	DDR2_CLKOUT
M_CS[0]	A16	DDR2_CS[0]
M_CS[1]	A18	DDR2_CS[1]
M_CS[2]	C12	NC
M_CS[3]	B4	NC
M_WE	B5	DDR2_WE
M_RAS	B17	DDR2_RAS
M_CAS	D13	DDR2_CAS
M_CKE	D8	DDR2_CKE
M_STARTBURST	B18	DDR2_STARTBURST
M_STARTBURST_IN	C17	
M_NCAL	C18	DDR2_NCAL
M_PCAL	D16	DDR2_PCAL



PROJECT NO. <b>K700-047</b>	TK71 v2	
Ka-Ro electronics Fertigungsgesellschaft mbH	DDR2-SDRAM	
Pascalstr. 22 D-52076 Aachen	DRAWN BY MV	DATE 26.1.2010
www.karo-electronics.de	K700-047 TOP	SHEET 02/08



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4

3

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1

D

D

C

C

B

A

A

A

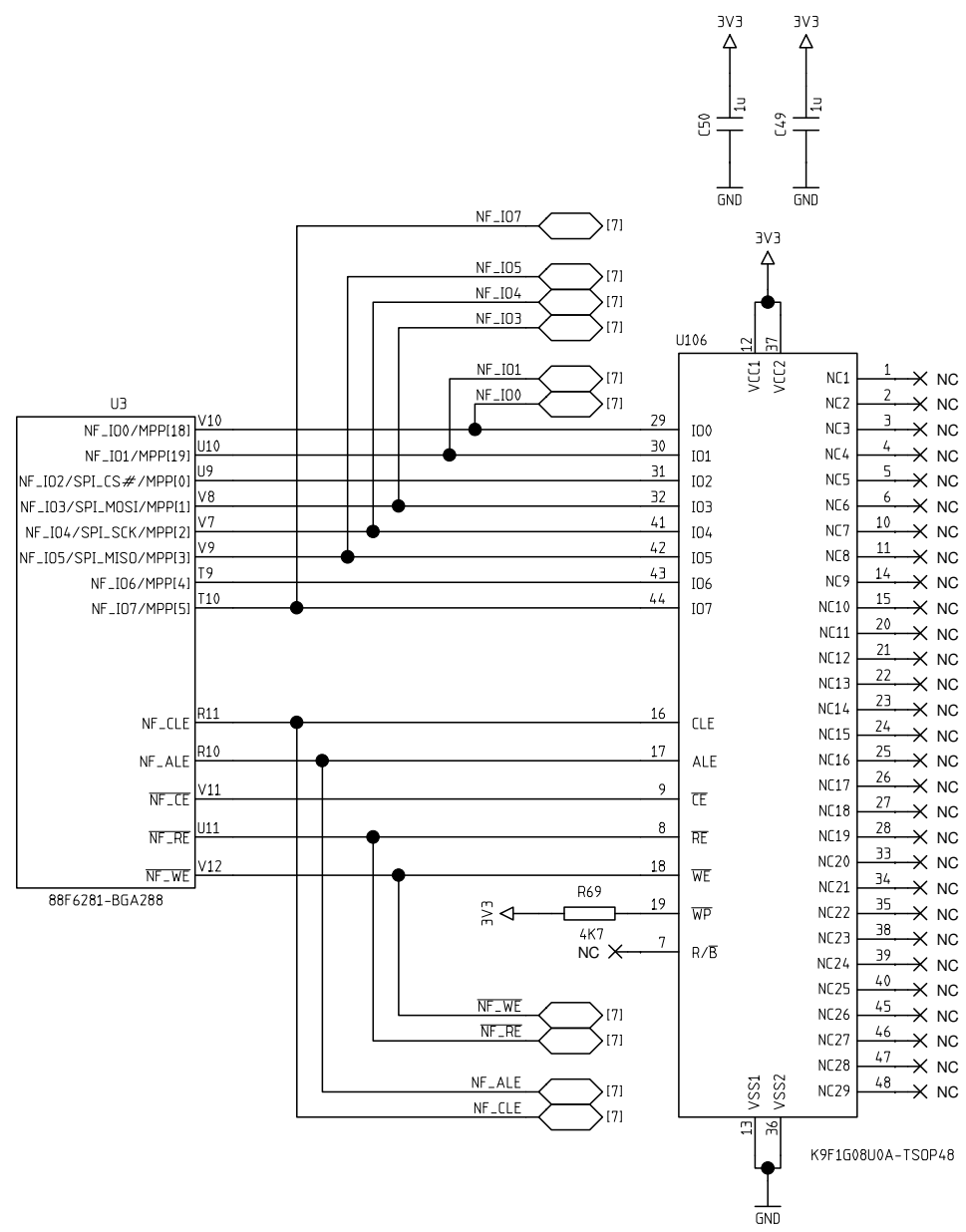
4

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HISTORY	
DESCRIPTION	DATE



PROJECT NO. <b>K700-047</b>	<b>TK71 v2</b>	
Ka-Ro electronics Fertigungsgesellschaft mbH	<b>NAND FLASH</b>	
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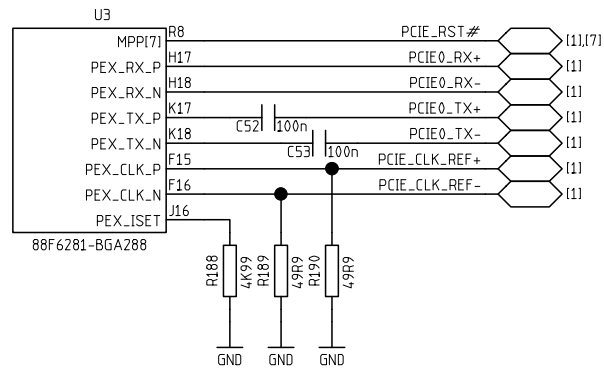
A

A

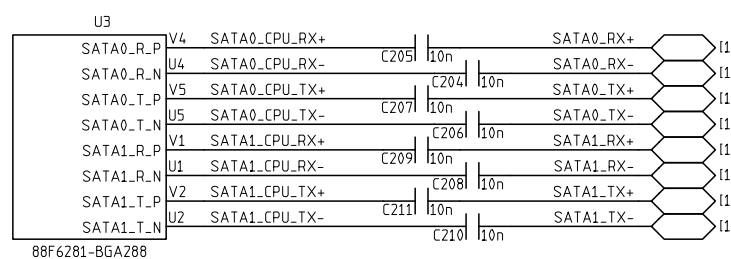
HISTORY

DESCRIPTION DATE

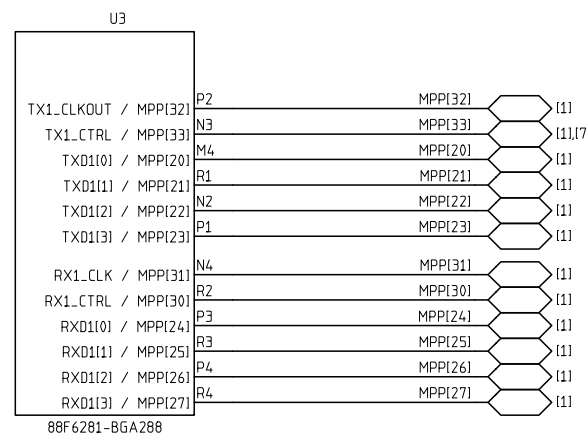
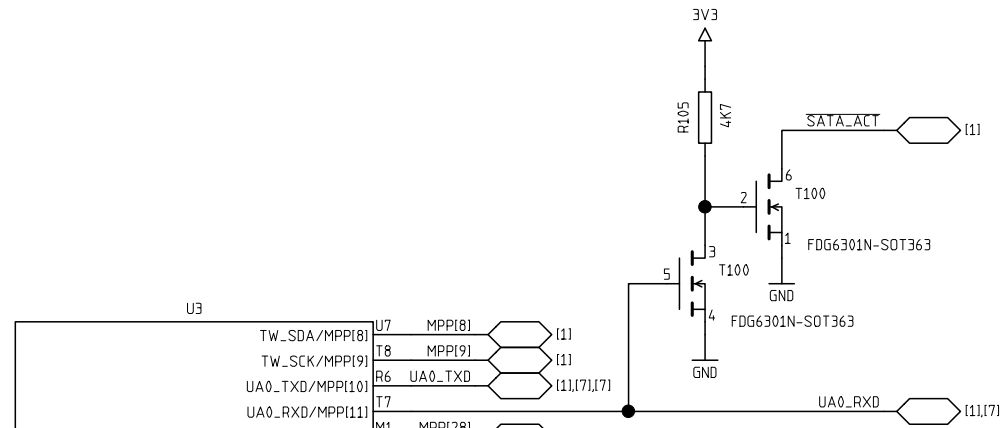
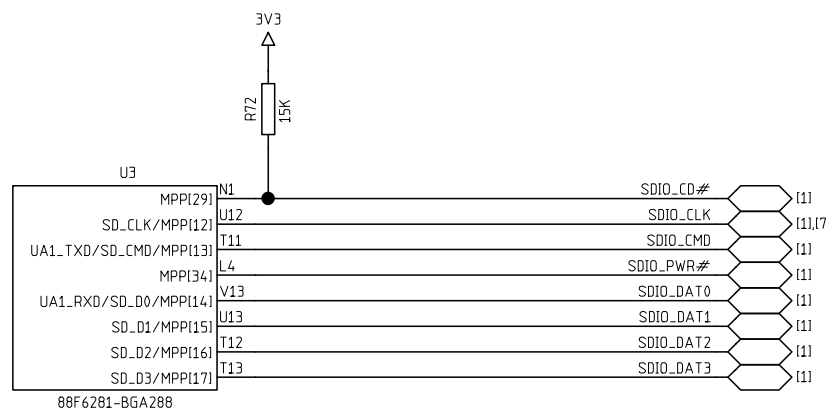
PCIe



SATA



SD-CARD



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Ka-Ro electronics Fertigungsgesellschaft mbH	SATA / PCIe / USB	
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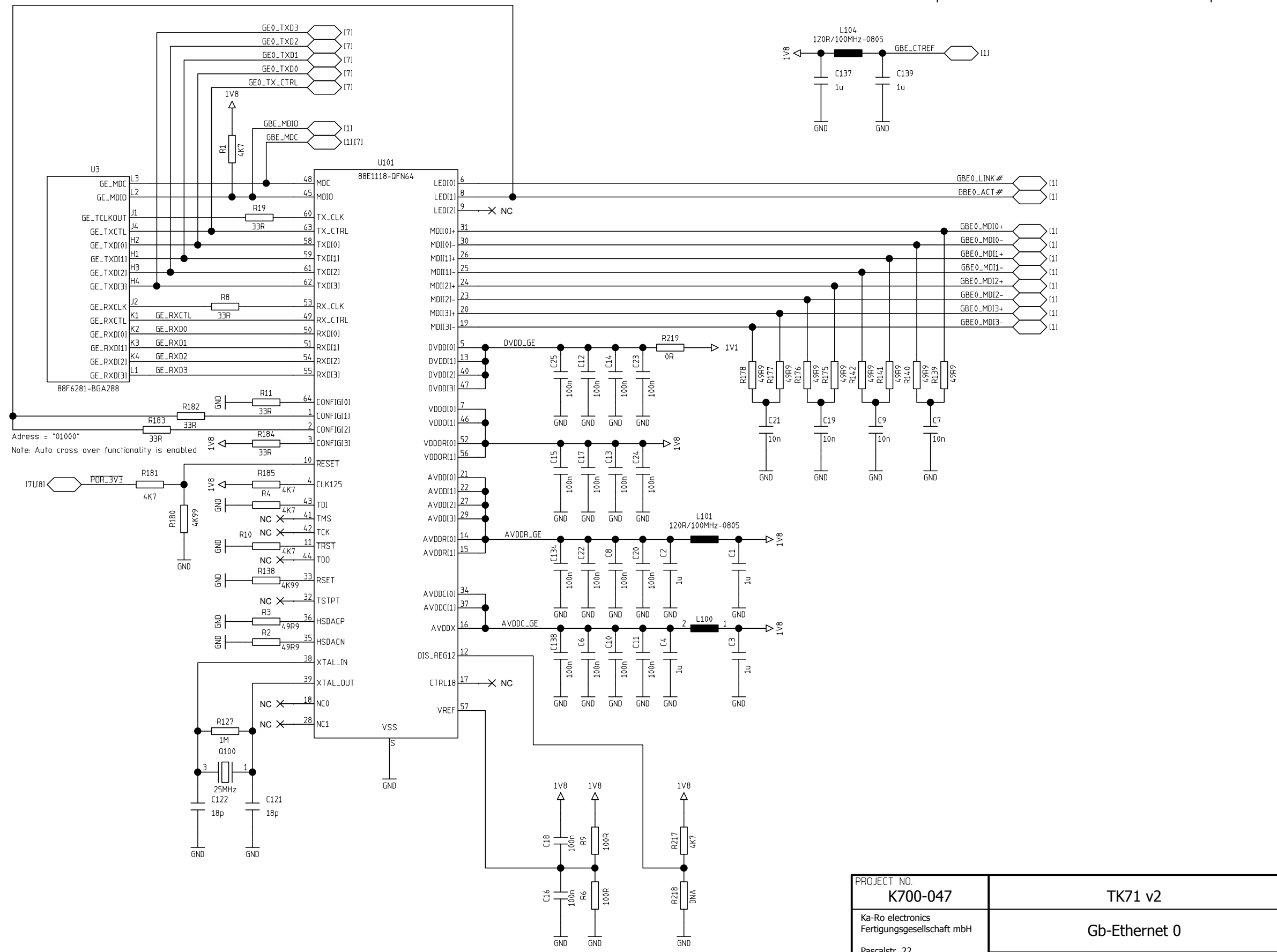
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HISTORY

DESCRIPTION

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Address = "01000"  
 Note: Auto cross over functionality is enabled

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D

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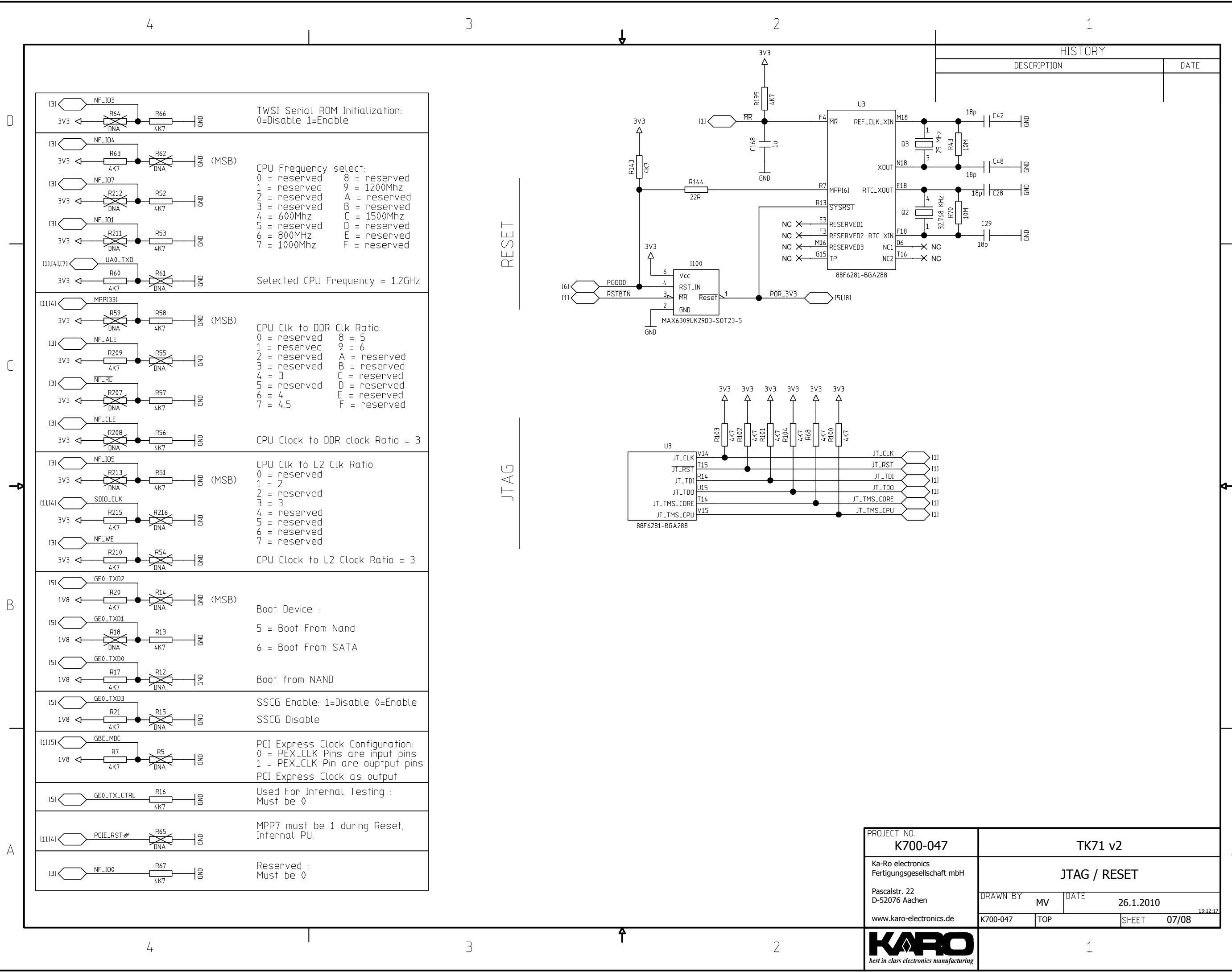
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HISTORY

DESCRIPTION	DATE

TwSI Serial ROM Initialization:  
0=Disable 1=Enable

CPU Frequency select:  
 0 = reserved    8 = reserved  
 1 = reserved    9 = 1200Mhz  
 2 = reserved    A = reserved  
 3 = reserved    B = reserved  
 4 = 600Mhz    C = 1500Mhz  
 5 = reserved    D = reserved  
 6 = 800Mhz    E = reserved  
 7 = 1000Mhz    F = reserved

Selected CPU Frequency = 1.2GHz

CPU Clk to DDR Clk Ratio:  
 0 = reserved    8 = 5  
 1 = reserved    9 = 6  
 2 = reserved    A = reserved  
 3 = reserved    B = reserved  
 4 = 3            C = reserved  
 5 = reserved    D = reserved  
 6 = 4            E = reserved  
 7 = 4.5         F = reserved

CPU Clock to DDR clock Ratio = 3

CPU Clk to L2 Clk Ratio:  
 0 = reserved  
 1 = 2  
 2 = reserved  
 3 = 3  
 4 = reserved  
 5 = reserved  
 6 = reserved  
 7 = reserved

CPU Clock to L2 Clock Ratio = 3

Boot Device :  
 5 = Boot From Nand  
 6 = Boot From SATA

Boot from NAND

SSCG Enable: 1=Disable 0=Enable  
 SSCG Disable

PCI Express Clock Configuration:  
 0 = PEX\_CLK Pins are input pins  
 1 = PEX\_CLK Pin are output pins  
 PCI Express Clock as output

Used For Internal Testing :  
 Must be 0

MPP7 must be 1 during Reset,  
 Internal PU.

Reserved :  
 Must be 0

RESET

JTAG

PROJECT NO. <b>K700-047</b>	<b>TK71 v2</b>	
Ka-Ro electronics Fertigungsgesellschaft mbH	<b>JTAG / RESET</b>	
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	SHEET	07/08



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B

A

A

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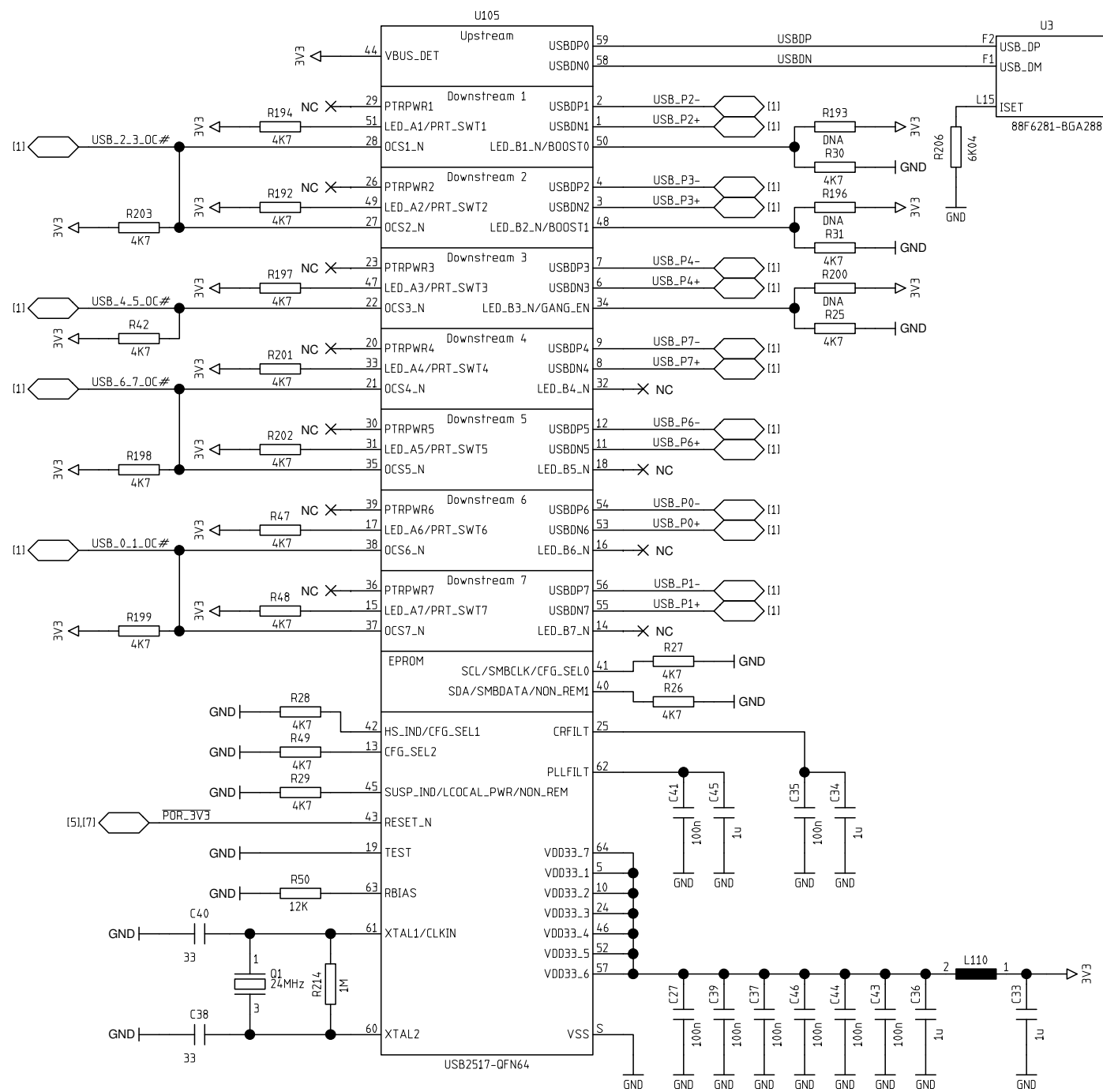
2

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HISTORY

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PROJECT NO. <b>K700-047</b>	<b>TK71 v2</b>	
Ka-Ro electronics Fertigungsgesellschaft mbH	<b>USB</b>	
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