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Revisions

Rev	Description	Date	Approved
X1	Preliminary SCH design	14-AUG-2019	Amish D.
X2	Preliminary SCH design	19-AUG-2019	Amish D.
X3	Deleted J14 & J15 Added TP matrix	21-AUG-2019	Amish D.
X4	- J20, J21 & J22 Populated - Added TP matrix - Removed redundant caps and resistors - Jumper/DNP table updated	22-AUG-2019	Amish D.
A	Final Schematic and BOM	09-SEP-2019	Amish D.
A1	Jummper table Updated	14-NOV-2019	Amish D.
AX2	- R22 Removed - CAN terminations added - CAN_TXD tied to J9 - CAN_RXD tied to J13 - JP9 description modified. - JP12 Jumper(default):Open - Jumper table updated	09-JAN-2020	Amish D.
B	Final Schematic and BOM	09-JAN-2020	Amish D.
B1	C462, C463, C464 & C465 to DNP	07-FEB-2020	Amish D.

LPC55S16-EVK

This Color is for CAD Notes

This Color is for Silk

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ICAP Classification: CP: IUO: X PUBL

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Drawn by: Fernanda L	Page Title: Title, TOC & Rev		
Approved: Amish D.	Size C	Document Number SCH-46431 PDF: SPF-46431	Rev B1
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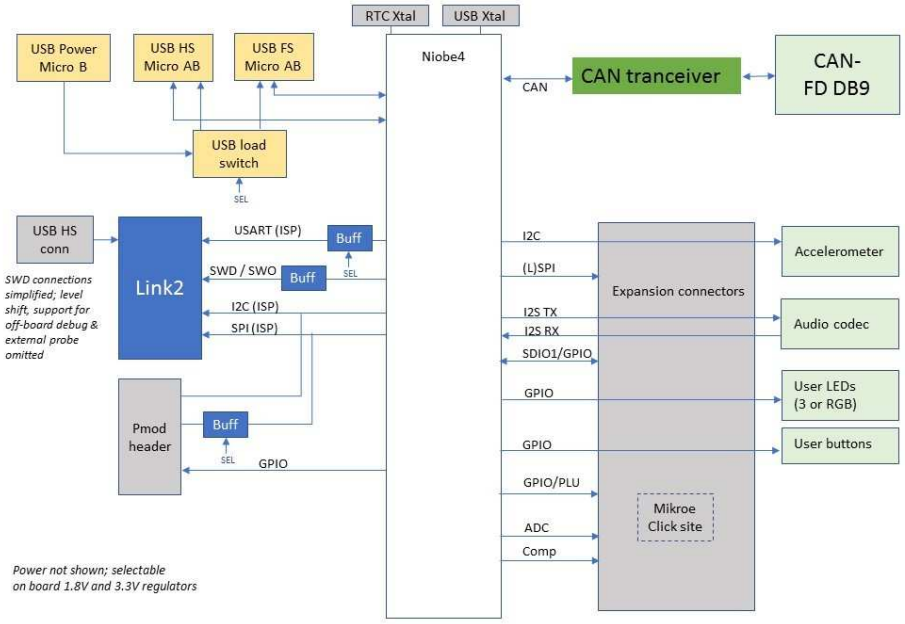
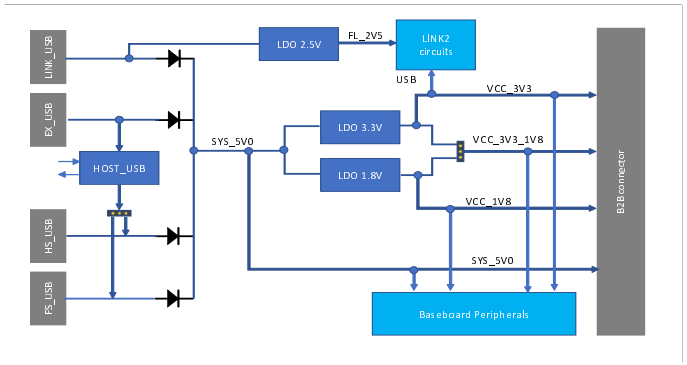
System Block Diagram



Power Block Diagram



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Drawing Title: LPC55S16-EVK

Page Title: Block Diagram

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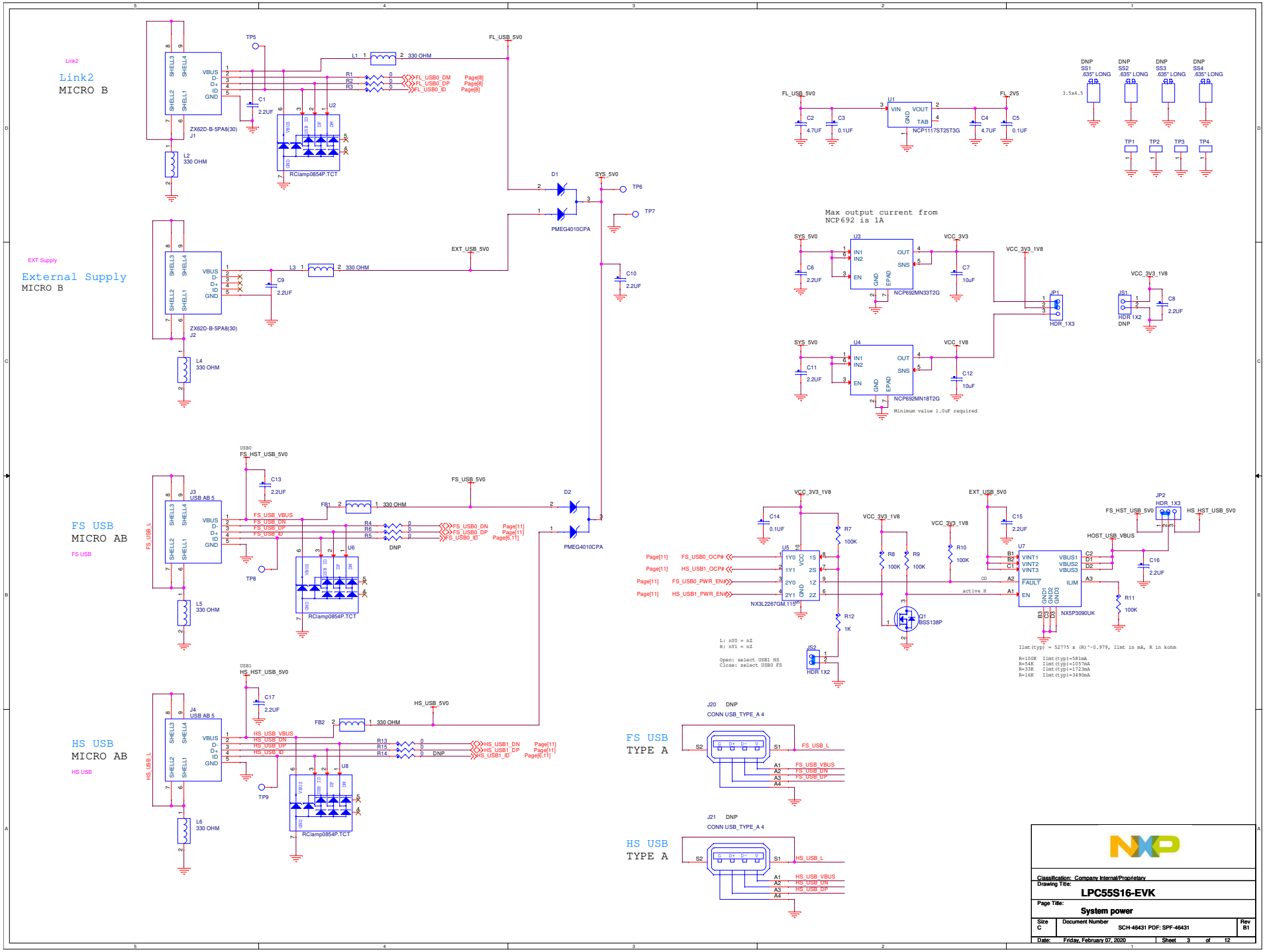
Link2
Link2
MICRO B
EXT Supply
External Supply
MICRO B
FS USB
MICRO AB
FS USB
HS USB
MICRO AB
HS USB
FS USB
TYPE A
HS USB
TYPE A
Max output current from
NCP692 is 1A
Minimum value 1.0uF required
Classification: Company Internal/Proprietary
Drawing Title:
LPC55S16-EVK
Page Title:
System power
Size C
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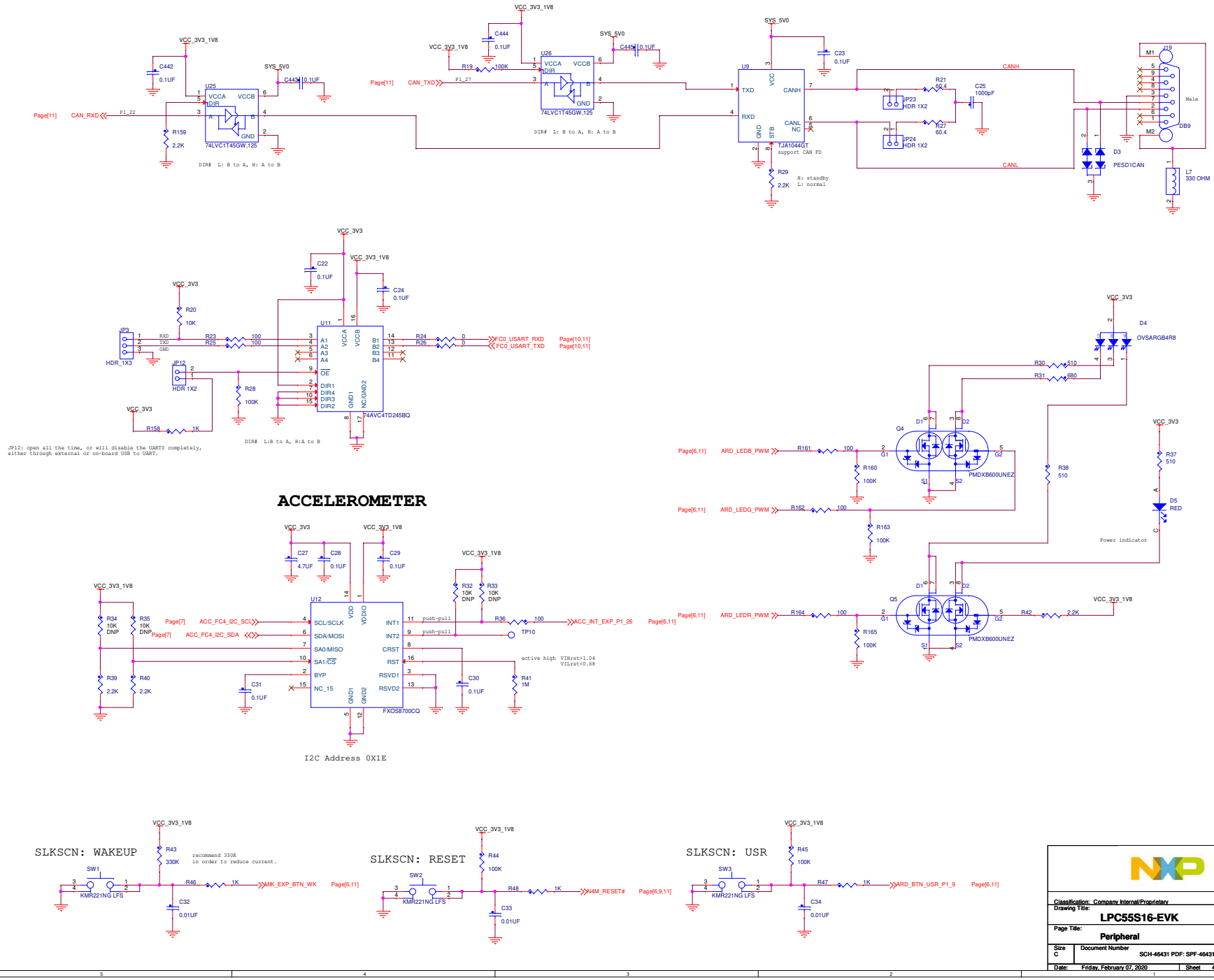
ACCELEROMETER
I2C Address 0X1E
SLKSCN: WAKEUP
SLKSCN: RESET
SLKSCN: USR
LPC55S16-EVK
Peripheral
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Drawing Title:
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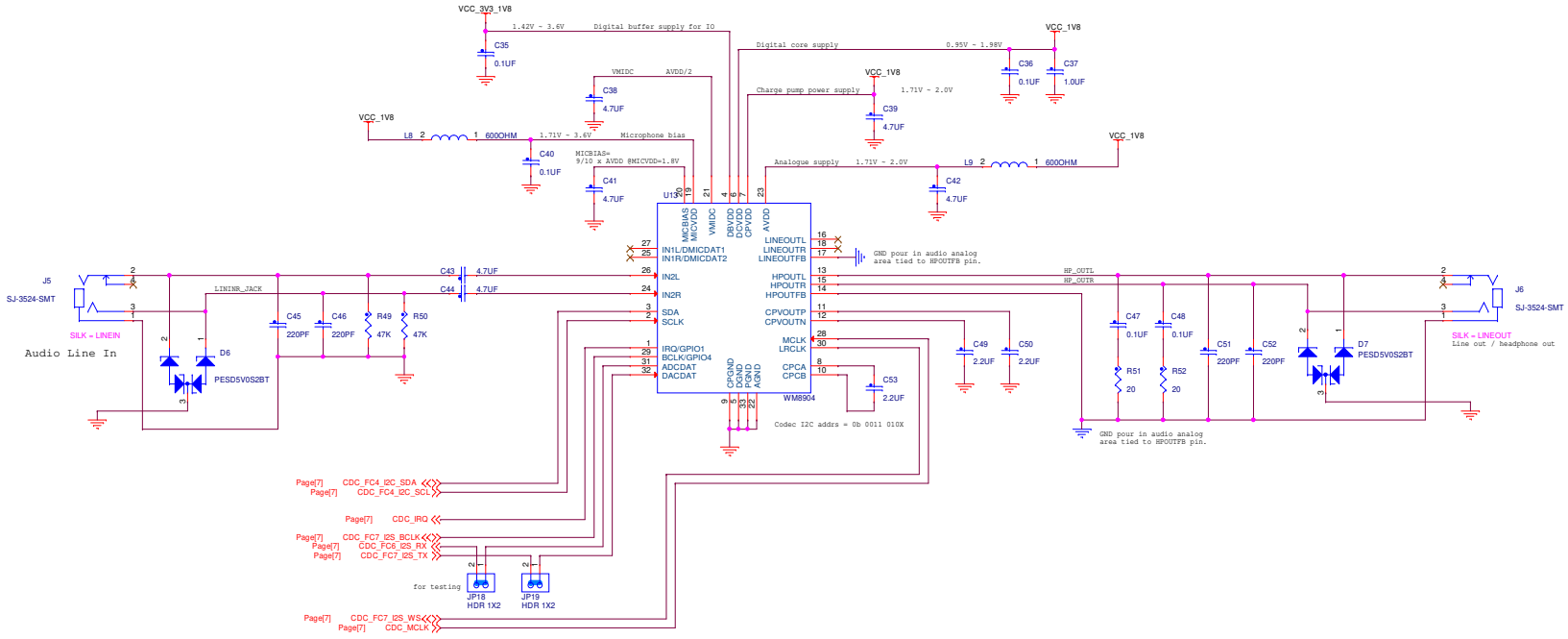

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Drawing Title: **LPC55S16-EVK**

Page Title: **Codec**

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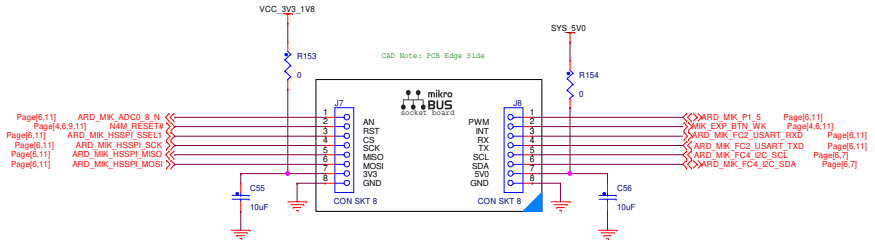
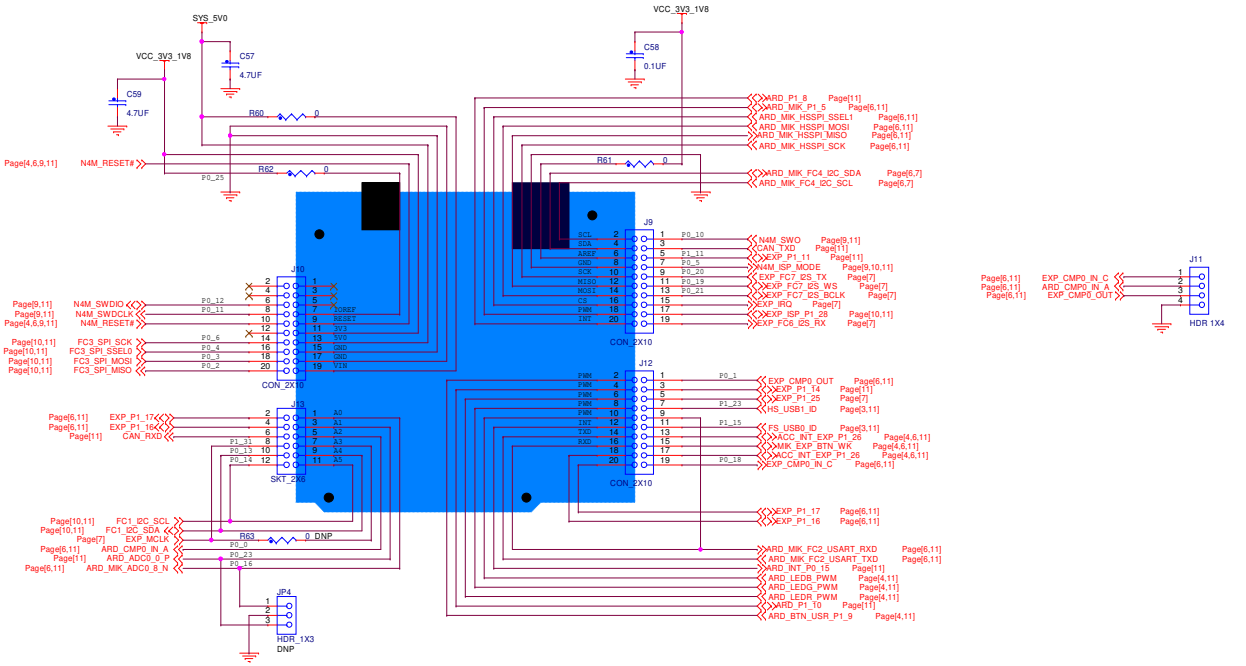


1. mikroBUS™ logo positioned above the socket
2. Pin names corresponding to the routing of the mainboard
3. A line that encloses the socket on all sides except the top.
4. A diagonal notch below the right-hand side pinout (serves as a guideline for add-on board insertion)



Classification: Company Internal/Proprietary
Drawing Title: LPC55S16-EVK
Page Title: Interface
Size C | Document Number SCH-46431 PDF: SPF-46431 | Rev B1
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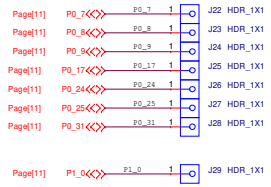
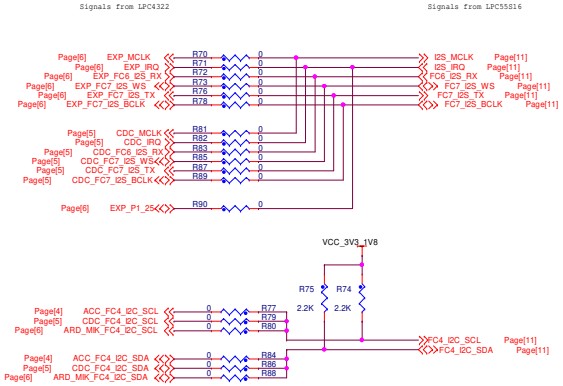
LPC55S16 - GPIO





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Page Title: **B2B Interface**

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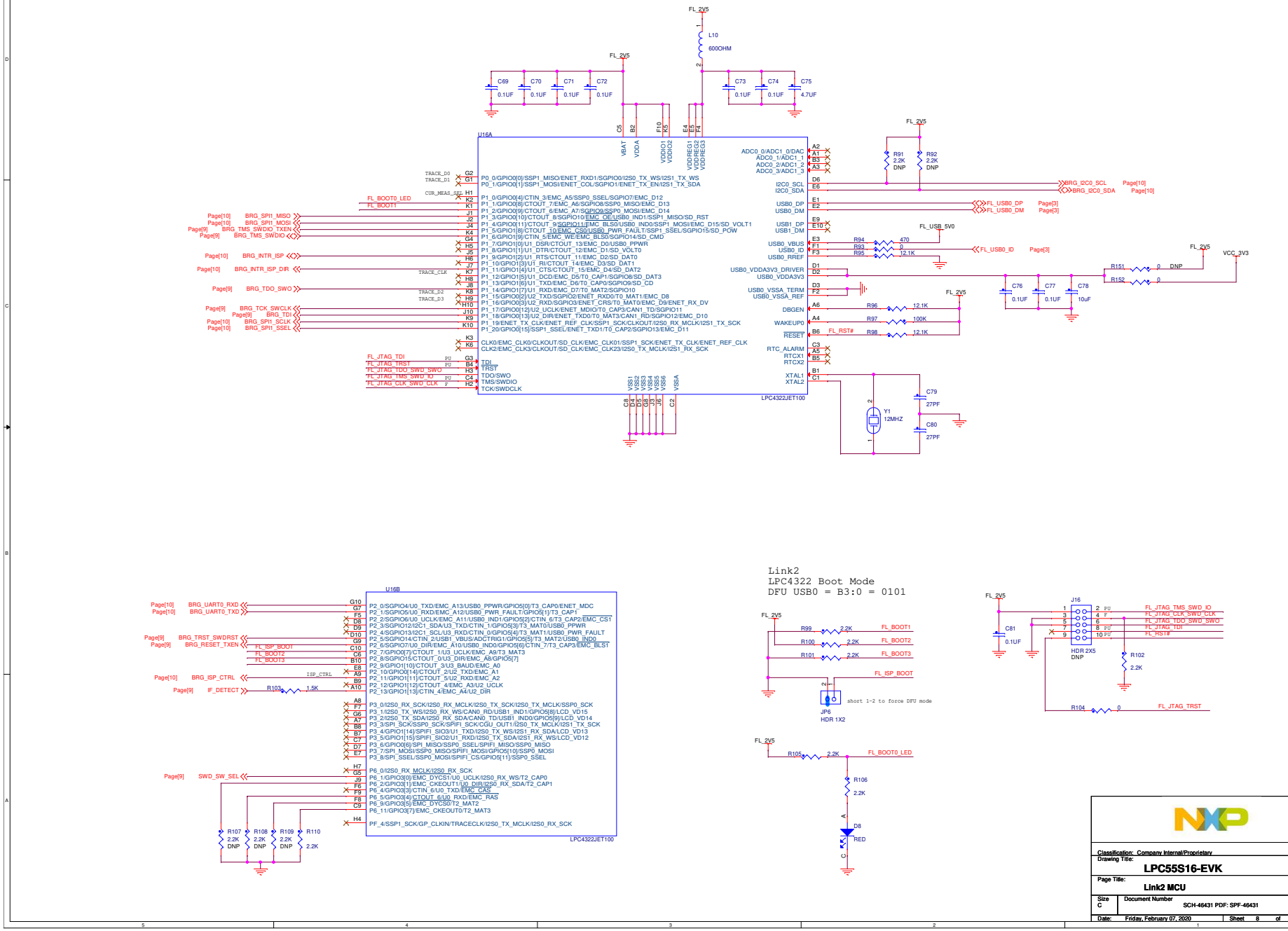
FL_2V5
L10
600OHM
C69 0.1UF
C70 0.1UF
C71 0.1UF
C72 0.1UF
C73 0.1UF
C74 0.1UF
C75 4.7UF
U16A
LPC4322JET100
P0_0/GPIO0[0]/SSP1_MISO/ENET_RXD1/SGPIO0/I2S0_TX_WS/I2S1_TX_WS
P0_1/GPIO0[1]/SSP1_MOSI/ENET_COL/SGPIO1/ENET_TX_EN/I2S1_TX_SDA
P1_0/GPIO0[4]/CTIN_3/EMC_A5/SSP0_SSEL/SGPIO7/EMC_D12
P1_1/GPIO0[8]/CTOUT_7/EMC_A6/SGPIO8/SSP0_MISO/EMC_D13
P1_2/GPIO0[9]/CTOUT_6/EMC_A7/SGPIO9/SSP0_MOSI/EMC_D14
P1_3/GPIO0[10]/CTOUT_8/SGPIO10/EMC_OE/USB0_IND1/SSP1_MISO/SD_RST
P1_4/GPIO0[11]/CTOUT_9/SGPIO11/EMC_BLS0/USB0_IND0/SSP1_MOSI/EMC_D15/SD_VOLT1
P1_5/GPIO1[8]/CTOUT_10/EMC_CS0/USB0_PWR_FAULT/SSP1_SSEL/SGPIO15/SD_POW
P1_6/GPIO1[9]/CTIN_5/EMC_WE/EMC_BLS0/SGPIO14/SD_CMD
P1_7/GPIO1[0]/U1_DSR/CTOUT_13/EMC_D0/USB0_PPWR
P1_8/GPIO1[1]/U1_DTR/CTOUT_12/EMC_D1/SD_VOLT0
P1_9/GPIO1[2]/U1_RTS/CTOUT_11/EMC_D2/SD_DAT0
P1_10/GPIO1[3]/U1_RI/CTOUT_14/EMC_D3/SD_DAT1
P1_11/GPIO1[4]/U1_CTS/CTOUT_15/EMC_D4/SD_DAT2
P1_12/GPIO1[5]/U1_DCD/EMC_D5/T0_CAP1/SGPIO6/SD_DAT3
P1_13/GPIO1[6]/U1_TXD/EMC_D6/T0_CAP0/SGPIO9/SD_CD
P1_14/GPIO1[7]/U1_RXD/EMC_D7/T0_MAT2/SGPIO10
P1_15/GPIO0[2]/U2_TXD/SGPIO2/ENET_RXD0/T0_MAT1/EMC_D8
P1_16/GPIO0[3]/U2_RXD/SGPIO3/ENET_CRS/T0_MAT0/EMC_D9/ENET_RX_DV
P1_17/GPIO0[12]/U2_UCLK/ENET_MDIO/T0_CAP3/CAN1_TD/SGPIO11
P1_18/GPIO0[13]/U2_DIR/ENET_TXD0/T0_MAT3/CAN1_RD/SGPIO12/EMC_D10
P1_19/ENET_TX_CLK/ENET_REF_CLK/SSP1_SCK/CLKOUT/I2S0_RX_MCLK/I2S1_TX_SCK
P1_20/GPIO0[15]/SSP1_SSEL/ENET_TXD1/T0_CAP2/SGPIO13/EMC_D11
CLK0/EMC_CLK0/CLKOUT/SD_CLK/EMC_CLK01/SSP1_SCK/ENET_TX_CLK/ENET_REF_CLK
CLK2/EMC_CLK3/CLKOUT/SD_CLK/EMC_CLK23/I2S0_TX_MCLK/I2S1_RX_SCK
TDI
TRST
TDO/SWO
TMS/SWDIO
TCK/SWDCLK
FL_BOOT0_LED
FL_BOOT1
FL_JTAG_TDI
FL_JTAG_TRST
FL_JTAG_TDO_SWO_SWO
FL_JTAG_TMS_SWD_IO
FL_JTAG_CLK_SWD_CLK
BRG_SPI1_MISO
BRG_SPI1_MOSI
BRG_TMS_SWDIO_TXEN
BRG_TMS_SWDIO
BRG_INTR_ISP
BRG_INTR_ISP_DIR
BRG_TDO_SWO
BRG_TCK_SWCLK
BRG_TDI
BRG_SPI1_SCLK
BRG_SPI1_SSEL
TRACE_D0
TRACE_D1
TRACE_CLK
TRACE_D2
TRACE_D3
CUR_MEAS_SEL
ADC0_0/ADC1_0/DAC
ADC0_1/ADC1_1
ADC0_2/ADC1_2
ADC0_3/ADC1_3
I2C0_SCL
I2C0_SDA
USB0_DP
USB0_DM
USB1_DP
USB1_DM
USB0_VBUS
USB0_ID
USB0_IREF
USB0_VDDA3V3_DRIVER
USB0_VDDA3V3
USB0_VSSA_TERM
USB0_VSSA_REF
DBGEN
WAKEUP0
RESET
RTC_ALARM
RTCX1
RTCX2
XTAL1
XTAL2
VBAT
VDDA
VDDIO1
VDDIO2
VDDREG1
VDDREG2
VDDREG3
VSS1
VSS2
VSS3
VSS4
VSS5
VSS6
VSSA
R91 2.2K DNP
R92 2.2K DNP
R94 470
R93 0
R95 12.1K
R96 12.1K
R97 100K
R98 12.1K
FL_USB_5V0
FL_USB0_ID
FL_USB0_DP
FL_USB0_DM
FL_RST#
C76 0.1UF
C77 0.1UF
C78 10uF
R151 0 DNP
R152 0
VCC_3V3
C79 27PF
C80 27PF
Y1 12MHZ
C81 0.1UF
J16
HDR 2X5 DNP
R102 2.2K
R104 0
Link2
LPC4322 Boot Mode
DFU USB0 = B3:0 = 0101
R99 2.2K
R100 2.2K
R101 2.2K
FL_BOOT1
FL_BOOT2
FL_BOOT3
FL_ISP_BOOT
JP6
HDR 1X2
short 1-2 to force DFU mode
R105 2.2K
R106 2.2K
FL_BOOT0_LED
D8
RED
U16B
LPC4322JET100
P2_0/SGPIO4/U0_TXD/EMC_A13/USB0_PPWR/GPIO5[0]/T3_CAP0/ENET_MDC
P2_1/SGPIO5/U0_RXD/EMC_A12/USB0_PWR_FAULT/GPIO5[1]/T3_CAP1
P2_2/SGPIO6/U0_UCLK/EMC_A11/USB0_IND1/GPIO5[2]/CTIN_6/T3_CAP2/EMC_CST
P2_3/SGPIO12/I2C1_SDA/U3_TXD/CTIN_1/GPIO5[3]/T3_MAT0/USB0_PPWR
P2_4/SGPIO13/I2C1_SCL/U3_RXD/CTIN_0/GPIO5[4]/T3_MAT1/USB0_PWR_FAULT
P2_5/SGPIO14/CTIN_2/USB1_VBUS/ADCTRIG1/GPIO5[5]/T3_MAT2/USB0_IND0
P2_6/SGPIO7/U0_DIR/EMC_A10/USB0_IND0/GPIO5[6]/CTIN_7/T3_CAP3/EMC_BLS1
P2_7/GPIO5[7]/CTOUT_1/U3_UCLK/EMC_A9/T3_MAT3
P2_8/SGPIO15/CTOUT_0/U3_DIR/EMC_A8/GPIO5[7]
P2_9/GPIO1[10]/CTOUT_3/U3_BAUD/EMC_A0
P2_10/GPIO0[14]/CTOUT_2/U2_TXD/EMC_A1
P2_11/GPIO1[11]/CTOUT_5/U2_RXD/EMC_A2
P2_12/GPIO1[12]/CTOUT_4/EMC_A3/U2_UCLK
P2_13/GPIO1[13]/CTIN_4/EMC_A4/U2_DIR
P3_0/I2S0_RX_SCK/I2S0_RX_MCLK/I2S0_TX_SCK/I2S0_TX_MCLK/SSP0_SCK
P3_1/I2S0_TX_WS/I2S0_RX_WS/CAN0_RD/USB1_IND1/GPIO5[8]/LCD_VD15
P3_2/I2S0_TX_SDA/I2S0_RX_SDA/CAN0_TD/USB1_IND0/GPIO5[9]/LCD_VD14
P3_3/SPI_SCK/SSP0_SCK/SPIFI_SCK/CGU_OUT1/I2S0_TX_MCLK/I2S1_TX_SCK
P3_4/GPIO1[14]/SPIFI_SIO3/U1_TXD/I2S0_TX_WS/I2S1_RX_SDA/LCD_VD13
P3_5/GPIO1[15]/SPIFI_SIO2/U1_RXD/I2S0_TX_SDA/I2ST_RX_WS/LCD_VD12
P3_6/GPIO0[6]/SPI_MISO/SSP0_SSEL/SPIFI_MISO/SSP0_MISO
P3_7/SPI_MOSI/SSP0_MISO/SPIFI_MOSI/GPIO5[10]/SSP0_MOSI
P3_8/SPI_SSEL/SSP0_MOSI/SPIFI_CS/GPIO5[11]/SSP0_SSEL
P6_0/I2S0_RX_MCLK/I2S0_RX_SCK
P6_1/GPIO3[0]/EMC_DYCS1/U0_UCLK/I2S0_RX_WS/T2_CAP0
P6_2/GPIO3[1]/EMC_CKEOUT1/U0_DIR/I2S0_RX_SDA/T2_CAP1
P6_4/GPIO3[3]/CTIN_6/U0_TXD/EMC_CAS
P6_5/GPIO3[4]/CTOUT_6/U0_RXD/EMC_RAS
P6_9/GPIO3[5]/EMC_DYCS0/T2_MAT2
P6_11/GPIO3[7]/EMC_CKEOUT0/T2_MAT3
PF_4/SSP1_SCK/GP_CLKIN/TRACECLK/I2S0_TX_MCLK/I2S0_RX_SCK
BRG_UART0_RXD
BRG_UART0_TXD
BRG_TRST_SWDRST
BRG_RESET_TXEN
FL_ISP_BOOT
FL_BOOT2
FL_BOOT3
BRG_ISP_CTRL
ISP_CTRL
IF_DETECT
R103 1.5K
SWD_SW_SEL
R107 2.2K DNP
R108 2.2K DNP
R109 2.2K DNP
R110 2.2K
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Link2 MCU
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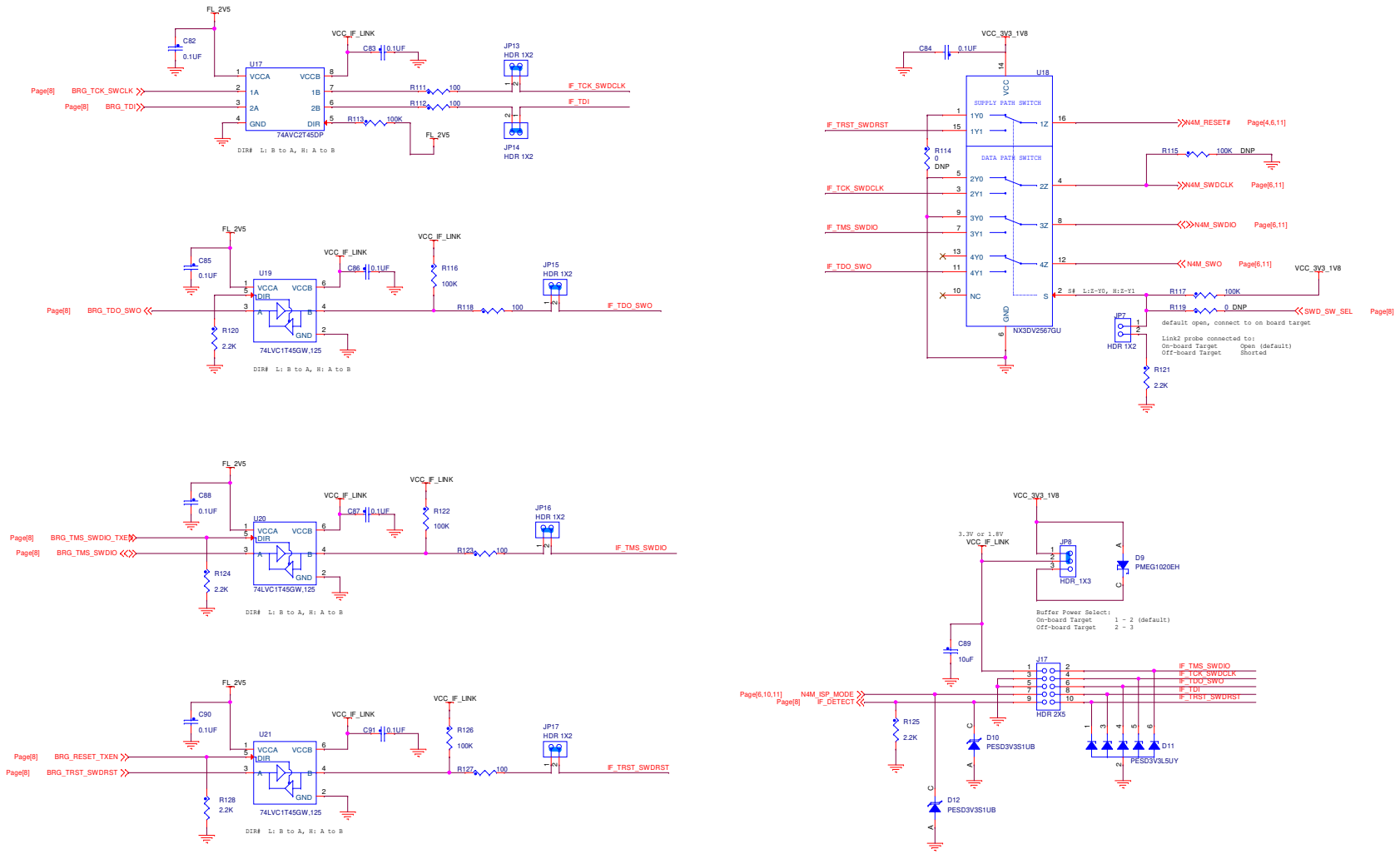

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Page Title: **Link2 SWD**

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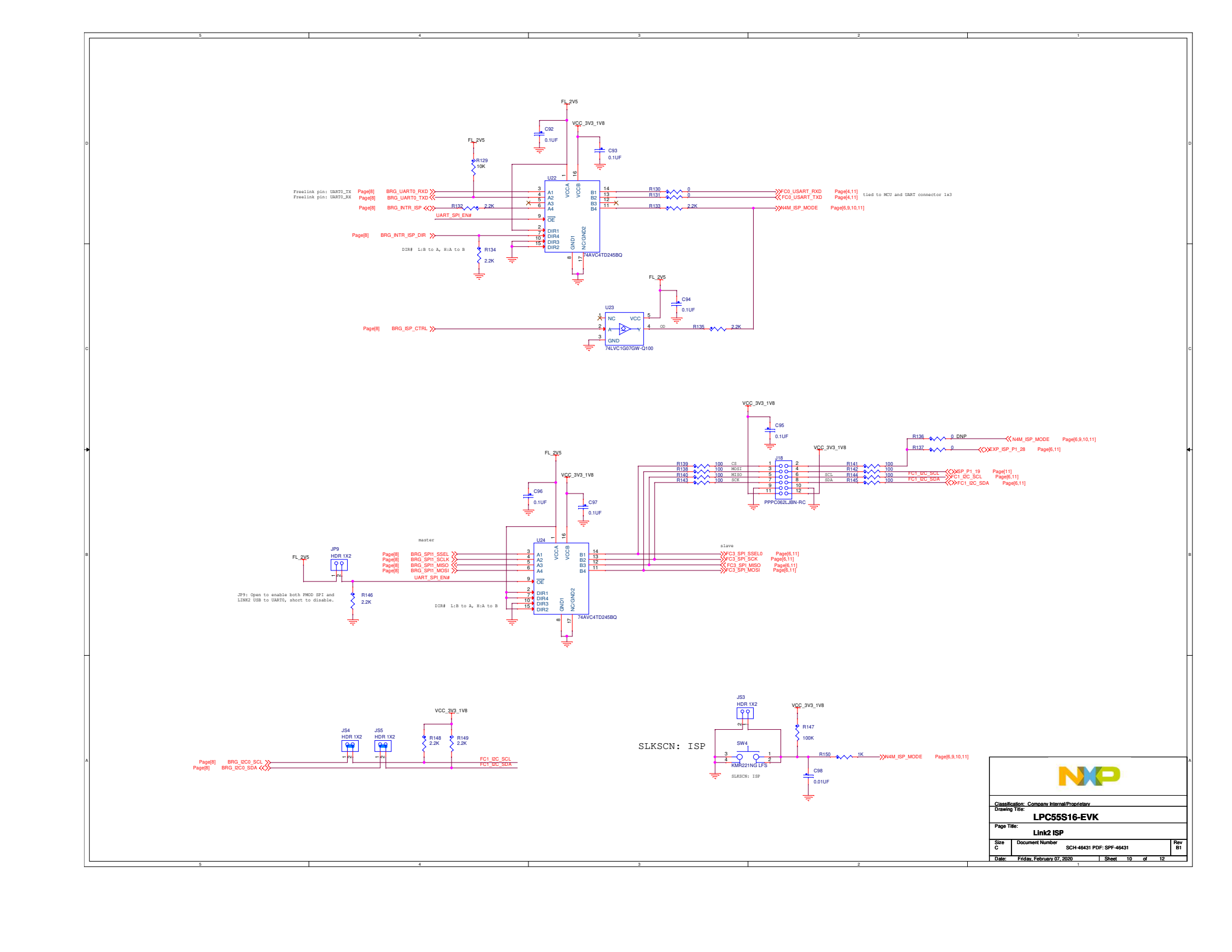

SLKSCN: ISP

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Page Title: **Link2 ISP**

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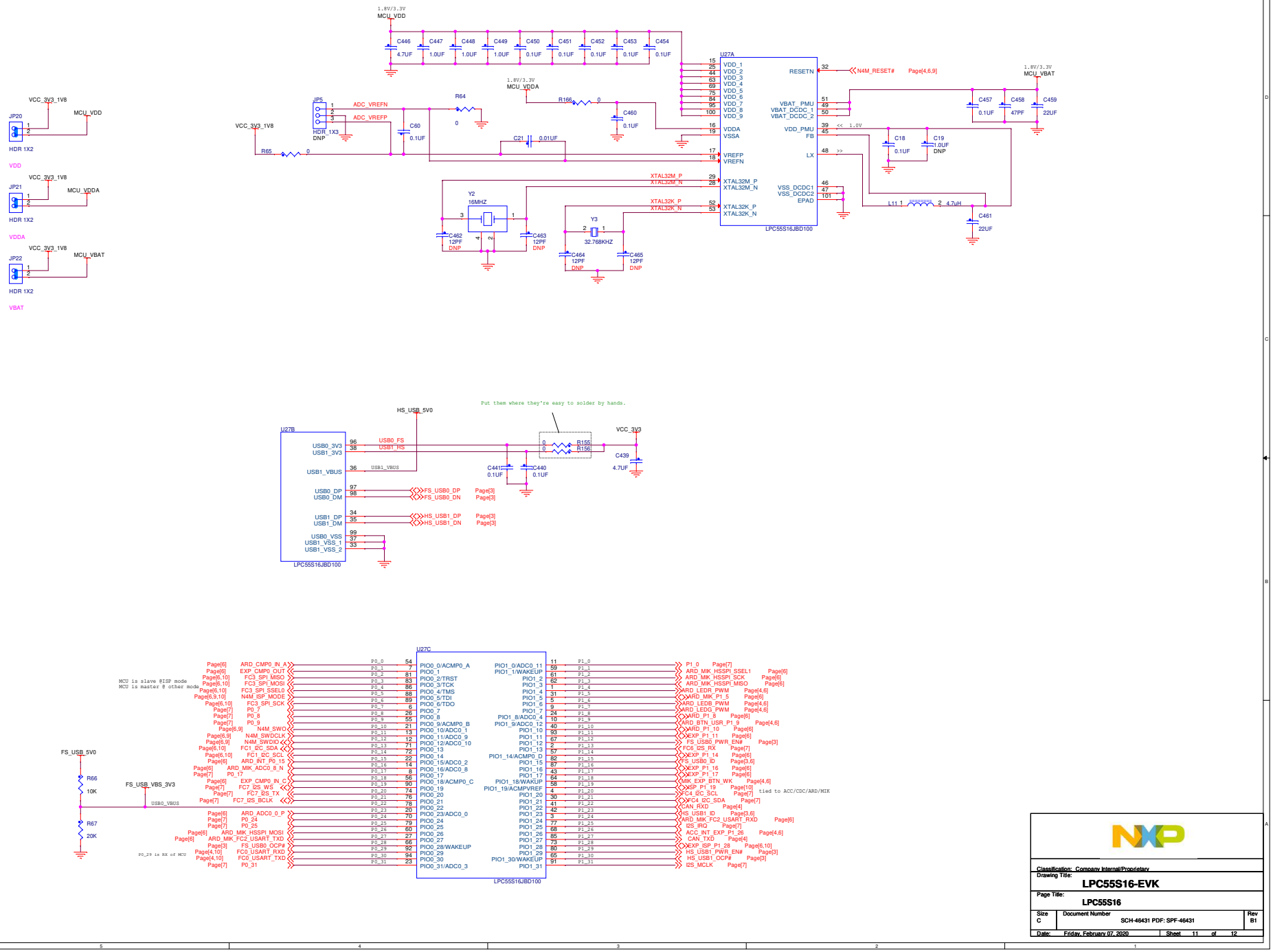

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Jumper Table

REF DES	*JUMPER(DEFAULT)*	*PAGE NAME*
JP1,JS2,JP2	1-2	03 - System Power
JP24,JP23,JP3,JP12	OPEN	04 - Peripheral
JP19,JP18	1-2	05 - Codec
J11	OPEN	06 - Other Interface
JP6	2	08 - Link2 MCU
JP17,JP14,JP16,JP8,JP13,JP15	1-2	09 - Link2 SWD
J17,JP7	OPEN	09 - Link2 SWD
JS4,JS5	1-2	10 - Link2 ISP
J18,JS3,JP9	OPEN	10 - Link2 ISP
JP20,JP22,JP21	1-2	11 - LPC55S16

DNP Table

REF DES	*ASSY_OPT*	*PAGE NAME*
J21,R5,R14,JS1,J20,SS4,SS3, SS2,SS1	DNP	03 - System Power
R34,R35,R32,R33	DNP	04 - Peripheral
JP4,R63	DNP	06 - Other Interface
R107,R108,R109,R91,R92,J16, R151	DNP	08 - Link2 MCU
R115,R119,R114	DNP	09 - Link2 SWD
R136	DNP	10 - Link2 ISP
C464,C462,C465,C463,C19,JP5	DNP	11 - LPC55S16

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Page Title: Jumper & DNP Tables
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