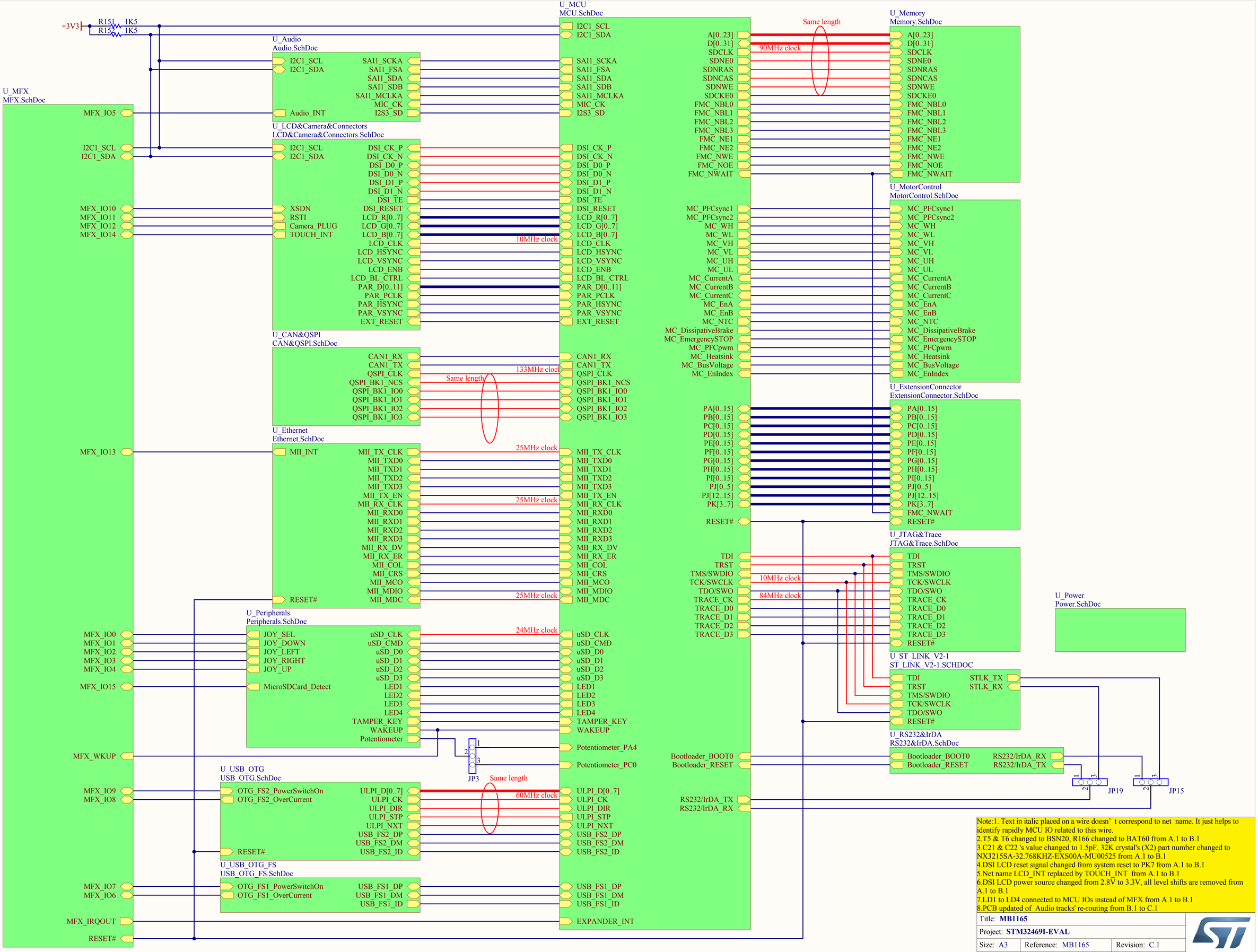


Note:1. Text in italic placed on a wire doesn’ t correspond to net name. It just helps to identify rapidly MCU IO related to this wire.
2.T5 & T6 changed to BSN20, R166 changed to BAT60 from A.1 to B.1
3.C21 & C22 's value changed to 1.5pF, 32K crystal's (X2) part number changed to NX3215SA-32.768KHZ-EXS00A-MU00525 from A.1 to B.1
4.DSI LCD reset signal changed from system reset to PK7 from A.1 to B.1
5.Net name LCD_INT replaced by TOUCH_INT from A.1 to B.1
6.DSI LCD power source changed from 2.8V to 3.3V, all level shifts are removed from A.1 to B.1
7.LD1 to LD4 connected to MCU IOs instead of MFX from A.1 to B.1
8.PCB updated of Audio tracks' re-routing from B.1 to C.1

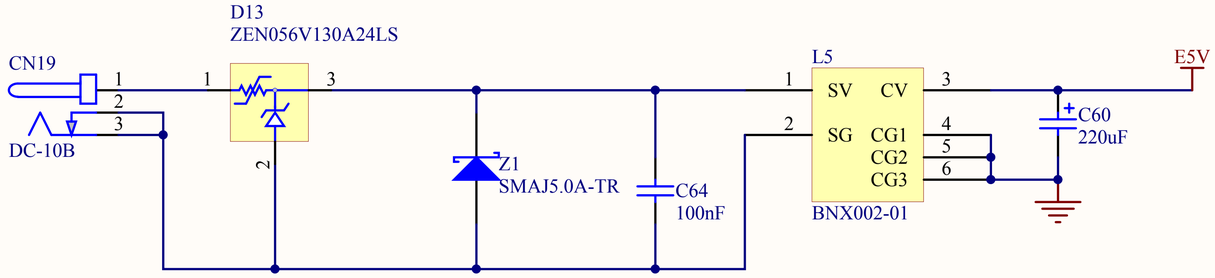
Title: **MB1165**		
Project: **STM32469I-EVAL**		
Size: A3	Reference: MB1165	Revision: C.1
Date: 6/5/2015		Sheet: 1 of 17

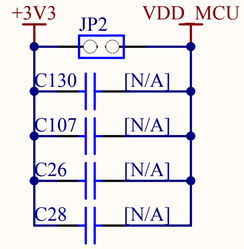
life.augmented

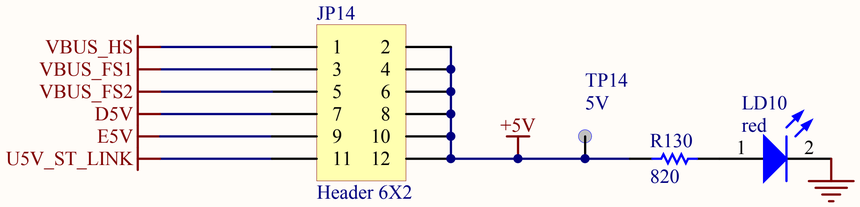
MC_EnA
MII_CRS
WAKEUP
MC_EnB
MII_RX_CLK
MC_EnIndex
MII_MDIO
Potentiometer_PA4
PAR_HSYNC
ULPI_CK
MC_EmergencySTOP
PAR_PCLK
MC_UL
MII_RX_DV
MC_PFCsync1
LCD_BL_CTRL
MII_MCO
RS232/IrDA_TX
VBUS_FS1
RS232/IrDA_RX
USB_FS1_ID
MC_PFCpwm
CAN1_RX
USB_FS1_DM
MC_PFCsync2
CAN1_TX
USB_FS1_DP
SB46 Open PA0
SB48 Open PA0
SB44 Closed PA0
SB33 Open PA1
SB39 Closed PA1
SB42 Open PA2
SB40 Closed PA2
SB47 Closed PA4
SB43 Open PA7
SB45 Closed PA7
SB75 Open PA8
SB80 Open PA8
SB77 Closed PA8
SB72 Closed PA9
R253 10K PA9
SB68 Open PA10
JP9 PA7
SB66 Open PA10
SB67 Closed PA11
SB71 Closed PA12
U4A
PA0-WKUP
PA1
PA2
PA3
PA4
PA5
PA6
PA7
PA8
PA9
PA10
PA11
PA12
PA13
PA14
PA15
PB0
PB1
PB2
PB3
PB4
PB5
PB6
PB7
PB8
PB9
PB10
PB11
PB12
PB13
PB14
PB15
PC0
PC1
PC2
PC3
PC4
PC5
PC6
PC7
PC8
PC9
PC10
PC11
PC12
PC13-ANTI_TAMP
PC14-OSC32_IN
PC15-OSC32_OUT
PH0-OSC_IN
PH1-OSC_OUT
NRST
BOOT0
PDR_ON
PD0
PD1
PD2
PD3
PD4
PD5
PD6
PD7
PD8
PD9
PD10
PD11
PD12
PD13
PD14
PD15
PE0
PE1
PE2
PE3
PE4
PE5
PE6
PE7
PE8
PE9
PE10
PE11
PE12
PE13
PE14
PE15
PF0
PF1
PF2
PF3
PF4
PF5
PF6
PF7
PF8
PF9
PF10
PF11
PF12
PF13
PF14
PF15
PG0
PG1
PG2
PG3
PG4
PG5
PG6
PG7
PG8
PG9
PG10
PG11
PG12
PG13
PG14
PG15
PH0
PH1
PH2
PH3
PH4
PH5
PH6
PH7
PH8
PH9
PH10
PH11
PH12
PH13
PH14
PH15
PI0
PI1
PI2
PI3
PI4
PI5
PI6
PI7
PI8-ANTI_TAMP2
PI9
PI10
PI11
PI12
PI13
PI14
PI15
PJ0
PJ1
PJ2
PJ3
PJ4
PJ5
PJ12
PJ13
PJ14
PJ15
PK3
PK4
PK5
PK6
PK7
DSI_CK_P
DSI_CK_N
DSI_D0_P
DSI_D0_N
DSI_D1_P
DSI_D1_N
STM32F4
TMS/SWDIO
TCK/SWCLK
TDI
TRST
TDO/SWO
QSPI_BK1_NCS
PAR_VSYNC
I2C1_SCL
I2C1_SDA
MII_TXD0
USB_FS2_ID
USB_FS2_DM
MC_VL
USB_FS2_DP
MC_WL
ULPI_D1 SB79 Closed
LCD_G1 SB76 Open
ULPI_D2 SB50 Closed PB0
LCD_G0 SB51 Open PB1
BOOT1 PB2
PB3
PB4
PB5 PB5
PB6 R40 33 B6
PB7
PB8
PB9
ULPI_D5 SB74 PB10
MII_TXD0 SB27 Open R254 33[N/A] PB11
SB70 Open PB12
R255 [N/A] PB13
SB65 Closed PB14
SB64 Open PB15
SB62 Closed PB15
SB61 Open PB15
ULPI_D3 PB10
ULPI_D4 PB11
ULPI_D6 PB13
PC0 Closed SB34 Potentiometer_PC0
PC1 Open SB41 ULPI_STP
PC1 Closed SB31 MC_CurrentA
PC2 Open SB49 MII_MDC
PC2 R233 33 MC_CurrentB
PC3 Open SB59 MII_TXD2
PC3 Closed SB54 MC_CurrentC
PC4 Open SB52 MII_TX_CLK
PC4 Closed SB53 MC_BusVoltage
PC5 Open SB69 MII_RXD0
PC5 Closed SB73 MC_Heatsink
PC6 Open SB82 MII_RXD1
I2S3_CK PC3 MC_UH
PC7 R277 33 MC_VH
PC8 Open SB78 MIC_CK
PC8 Closed SB81 MC_WH
PC9 R252 0 uSD_D0
R278 0 uSD_D1
R277 0 EXT_RESET
uSD_D2
uSD_D3
uSD_CLK
PAR_D0
PAR_D1
PAR_D2
PAR_D3
PAR_D8
PAR_D4
PAR_D9
TAMPER_KEY
PJ0 LCD_R1
PJ1 LCD_R2
PJ2 LCD_R3
PJ3 LCD_R4
PJ4 LCD_R5
PJ5 LCD_R6
PJ12 LCD_B0
PJ13 LCD_G4
PJ14 LCD_B2
PJ15 LCD_B3
PK3 LCD_B4
PK4 LCD_B5
PK5 LCD_B6
PK6 LCD_B7
PK7 LED4
DSI_TE
LED1
LED2
LED3
DSI_RESET
LCD_ENB
DSI_CK_P
DSI_CK_N
DSI_D0_P
DSI_D0_N
DSI_D1_P
DSI_D1_N
uSD_CMD SB83 Closed
FMC_NOE
FMC_NWE
FMC_NWAIT
FMC_NE1
I2S3_SD
JP6
D2 PD0 R262 33 B12
D3 PD1 R27 33 C12
PAR_D11 PD2 D12
PAR_D5 PD3 C11
PD4 D11
PD5 C10
PAR_D10 PD6 B11
PD7 A11
D13 PD8 R56 33 L15
D14 PD9 R65 33 L14
D15 PD10 R66 33 K15
A16 PD11 R26 33 N10
A17 PD12 R27 33 M10
A18 PD13 R25 33 M11
D0 PD14 R26 33 L12
D1 PD15 R25 33 K13
PE0 A6
PE1 A5
A3
A2
A1
B2
D4 PE7 R58 33 R8
D5 PE8 R50 33 N9
D6 PE9 R49 33 P9
D7 PE10 R59 33 R9
D8 PE11 R51 33 P10
D9 PE12 R60 33 R10
D10 PE13 R62 33 R12
D11 PE14 R52 33 P11
D12 PE15 R61 33 R11
A0 PF0 R236 33 D2
A1 PF1 R23 33 E2
A2 PF2 R23 33 G2
A3 PF3 R220 33 H2
A4 PF4 R22 33 J2
A5 PF5 R22 33 K3
PF6 R25 33 K2
PF7 R23 33 K1
PF8 R23 33 L3
PF9 R27 33 L2
PF10 R22 33 L1
PF11 R48 33 P8
A6 PF12 R24 33 M6
A7 PF13 R24 33 N6
A8 PF14 R24 33 P6
A9 PF15 R26 33 M8
U4B
PG0 N7 R251 33 PG0 A10
PG1 M7 R250 33 PG1 A11
PG2 M13 R26 33 PG2 A12
PG3 M12 R25 33 PG3 A13
PG4 N12 R27 33 PG4 A14
PG5 N11 R259 33 PG5 A15
PG6 J15 LCD_R7
PG7 J14
PG8 H14 R267 33 PG8 MII_PPS_OUT SAI1_MCLKA
PG9 D9 SDCLK
PG10 C8 LCD_G3 SB60 Open FMC_NE2
PG11 B8 R242 33 MC_NTC
PG12 C7 LCD_B1 R36 33 MII_TXD0 MII_TX_EN
PG13 B3 SB8 Closed LCD_R0
PG14 A4 R235 33 MII_TXD1
PG15 B7 R41 33 PG15 SDNCAS
PH2 K4 SDCKE0
PH3 J4
PH4 H4
PH5 J3 R246 33 PH5 SDNWE
PH6 P13
PH7 N13
PH8 P14 R53 33 PH8 D16
PH9 N14 R54 33 PH9 D17
PH10 P15 R63 33 PH10 D18
PH11 N15 R64 33 PH11 D19
PH12 M15 R55 33 PH12 D20
PH13 E12 R26 33 PH13 D21
PH14 E13 R27 33 PH14 D22
PH15 D13 R27 33 PH15 D23
PI0 E14 R265 33 PI0 D24
PI1 D14 R264 33 PI1 D25
PI2 C14 R263 33 PI2 D26
PI3 C13 R27 33 PI3 D27
PI4 C3
PI5 D3
PI6 D6 R247 33 PI6 D28
PI7 D4 R24 33 PI7 D29
PI8 C2
PI9 E4 R24 33 PI9 D30
PI10 D5
PI11 F3
PI12 E3
PI13 G3
PI14 H3 R214 0 PI14
PI15 G4 PI15 LCD_G2
PH3 R243 33 PH3 SDNE0
PH3 SB63 Open MII_COL
SB57 LCD_G5
Open
SB56 Closed ULPI_NXT
SB55 Closed MII_RXD2
SB58 Open MC_DissipativeBrake
MII_RXD3
FMC_NBL2
FMC_NBL3
EXPANDER_INT
SB12 Open MII_RX_ER
R244 33 PI10 D31
SB32 Closed ULPI_DIR
SB30 Open LCD_G6
LCD_HSYNC
LCD_VSYNC
LCD_CLK
FMC_NBL0 PE0
FMC_NBL1 PE1
R231 220K
R234 220K
R39 220K
TRACE_CK
MII_TXD3
TRACE_D0
SAI1_SDB
TRACE_D1
SAI1_FSA
TRACE_D2
SAI1_SCKA
TRACE_D3
SAI1_SDA
Closed SB11
R238 33
A23 PE2 R38 33[N/A] PE2
Closed SB10
Closed SB9
A19 PE3 R37 33
Closed SB6
Closed SB7
A20 PE4 R35 33 PE5
PAR_D6 Closed SB4
Closed SB3
Closed SB5
A21 PE5 R32 33
PAR_D7 Closed SB17 PE6
Closed SB18 PE6
Closed SB19 PE6
A22 PE6 R34 33 PE6
R229 220K
R24 220K
QSPI_BK1_IO3
QSPI_BK1_IO2
QSPI_BK1_IO0
QSPI_BK1_IO1
QSPI_CLK
SDNRAS
PI8-ANTI_TAMP2
STM32F4
X2
NX3215SA-32.768KHZ-EXS00A-MU00525
C22 1.5pF
C21 1.5pF
R19 0
R18 0
R20 0
C20 20pF
C23 20pF
X1
25MHz(with socket)
R3 10K
SW1 09.03290.01
JP1
R21 10K
R22 [N/A]
B1
TD-0341 [RESET/Black]
C102 100nF
D1
BAT60JFILM
Bootloader_BOOT0
D2
BAT60JFILM
JP4
Bootloader_RESET
RESET#
+3V3
SW2
R6 10K
09.03290.01
JP5
TP9
TP6
R33 0
C108 1uF
C113 100nF
C109 4.7uF
C115 4.7uF
C114 1uF
C116 100nF
C118 100nF
C119 100nF
C112 100nF
C131 100nF
C128 100nF
C120 100nF
C124 100nF
C135 100nF
C133 100nF
C132 100nF
C111 100nF
C129 100nF
C117 100nF
C125 100nF
C126 100nF
C127 100nF
C136 100nF
C121 100nF
C134 100nF
U4C
VDD1
VDD2
VDD3
VDD4
VDD5
VDD6
VDD7
VDD8
VDD_USB33
VDD10
VDD11
VDD12
VDD13
VDD14
VDD15
VDD17
VDD18
VDD19
VDDA
VREF+
VDD_VREGDSI
DSI_VDD12
DSI_VCAP
DSI_VSS
VSS1
VSS2
VSS3
VSS4
VSS5
VSS6
VSS7
VSS8
VSS9
VSS10
VSS11
VSS12
VSS13_VSS18
VSS14
VSS15
VSS17
VSS19
VSS20
VSSA
VREF-
VBAT
BYPASS-REG
VCAP1
VCAP2
STM32F4
L7 BEAD(FCM1608KF-601T03)
R239 10K
JP10
BT1 +3V3
CR1220 holder
C141 100nF
C140 2.2uF
C31 2.2uF[N/A]
C32 2.2uF
C143 2.2uF
Ceramic capacitor (Low ESR 25m ohm)
Only one 2.2uF required on board
Ceramic capacitor (Low ESR)
D[0..31]
A[0..23]
LCD_R[0..7]
LCD_G[0..7]
LCD_B[0..7]
PA[0..15]
PB[0..15]
PC[0..15]
PD[0..15]
PE[0..15]
PF[0..15]
PG[0..15]
PH[0..15]
PI[0..15]
PJ[0..5]
PJ[12..15]
PK[3..7]
ULPI_D[0..7]
PAR_D[0..11]

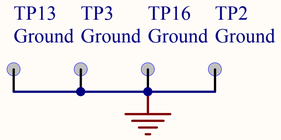
Title: **MCU**		
Project: **STM32469I-EVAL**		
Size: A3	Reference: MB1165	Revision: C.1
Date: 6/5/2015		Sheet: 2 of 17

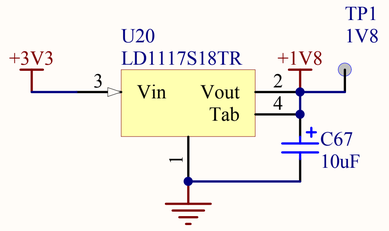
life.augmented

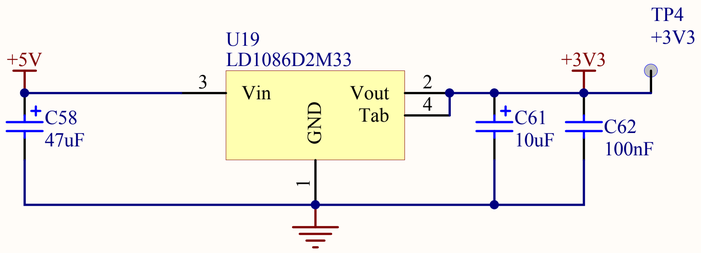


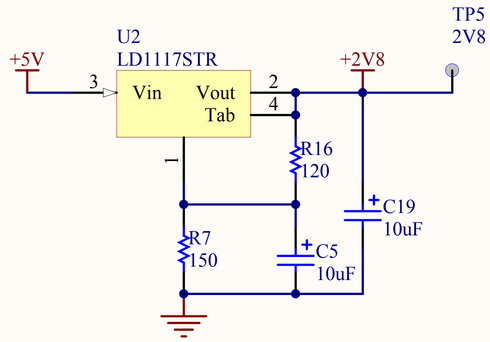












Title: **Power**		
Project: **STM32469I-EVAL**		
Size: A4	Reference: MB1165	Revision: C.1
Date: 6/5/2015		Sheet: 3 of 17

life.augmented

D[0..31]

A[0..23]

U16

IS61WV102416BLL-10MLI

CY7C1071DV33-12BAXI

SRAM

U9

PC28F128M29EWLA

S29GL128S90FHI02

Nor Flash

U15

IS42S32800G-6BLI

MT48LC4M32B2B5-7

SDRAM

+3V3

R134 10K

R135 0

FMC_NE2 PG9

FMC_NBL0 PE0

FMC_NBL1 PE1

R84 10K

R86 10K

R282 10K

FMC_NE1 PD7 R85 0

FMC_NWE PD5 R99 0

FMC_NOE PD4

FMC_NWAIT PD6

R79 10K

R106 10K

C41 100nF

Default setting: Open

JP11

SDNWE PH5

SDNCAS PG15

SDNRAS PF11

SDNE0 PH3

SDCKE0 PH2 R285 0

SDCLK PG8

FMC_NBL3 PI5

FMC_NBL2 PI4

FMC_NBL1

FMC_NBL0

C162 C169 100nF 100nF

Place close SRAM

C170 C158 C165 100nF 100nF 100nF

Place close Nor Flash

C154 C159 C160 C163 C164 C161 C153 C150 C168 C172 C171 C157 C166 C167 100nF

Place close SDRAM

Title: **SRAM & FLASH & SDRAM**		
Project: **STM32469I-EVAL**		
Size: A4	Reference: MB1165	Revision: C.1
Date: 6/5/2015		Sheet: 4 of 17

life.augmented

Default I2C Address:0011010

U23
WM8994ECS/R

LDO1VDD E9
AVDD1 D9
SPKVDD1 B2
SPKVDD2 C2
AVDD2 D8
CPVDD G9
DCVDD F1
DBVDD D2
LDO2VDD D1
LDO1ENA D4
LDO2ENA D5
VREFC E6
DMICCLK C6
BCLK1 G1
LRCLK1 E3
DACDAT1 E4
ADCDAT1 F2
ADCLRCLK1/GPIO1 G3
GPIO3/BCLK2 H2
GPIO4/LRCLK2 F4
GPIO5/DACDAT2 H3
GPIO7/ADCDAT2 E5
GPIO6/ADCLRCLK2 G4
GPIO11/BCLK3 F6
GPIO10/LRCLK3 H5
GPIO8/DACDAT3 H4
GPIO9/ADCDAT3 F5
IN1LP C8
IN1LN D7
IN2LP/VRXN B8
IN2LN/DMICDAT1 B9
IN1RP C7
IN1RN B7
IN2RP/VRXP A8
IN2RN/DMICDAT2 A9
AGND D6
AGND E7
AGND E8
AGND A1
SPKGND1 C1
SPKGND2 H9
CPGND E2
DGND F7
HP2GND F7
SDA F3
SCLK H1
CS/ADDR G2
CIFMODE A4
MCLK1 D3
GPIO2/MCLK2 E1
SPKMODE A3
REFGND A5
MICBIAS1 A7
MICBIAS2 B6
VMIDC C9
HPOUT2N F9
HPOUT2P F8
HPOUT1FB G5
HPOUT1R G6
HPOUT1L H6
LINEOUT1N C5
LINEOUT1P B5
LINEOUT2N C4
LINEOUT2P B4
LINEOUTFB A6
SPKOUTLN B1
SPKOUTLP A2
SPKOUTRN C3
SPKOUTRP B3
CPCA G8
CPCB H8
CPVOUTN H7
CPVOUTP G7

+3V3
+1V8
C87 100nF
C89 4.7uF
C88 100nF
C72 1uF
C73 100nF
C71 4.7uF
C90 100nF
C70 4.7uF
C91 1uF
R171 4K7
C74 1uF

SAI1_SCKA PE5
SAI1_FSA PE4
SAI1_SDA PE6
SAI1_SDB PE3
Audio_INT MFX_GPIO5
To MFX

MIC_CK PC7
JP18
MIC_CLK
R186 10K
U25 RIGHT
U26 LEFT
VDD LR CLK GND DOUT
MP34DT01TR
C93 100nF
C104 100nF
SB25 Closed
SB26 Closed
MIC_DATA
JP17
PD6
I2S3_SD
time slot1 of SAI
time slot0 of SAI
C69 1uF
MIC_VDD
JP16
MICBIAS1
+3V3

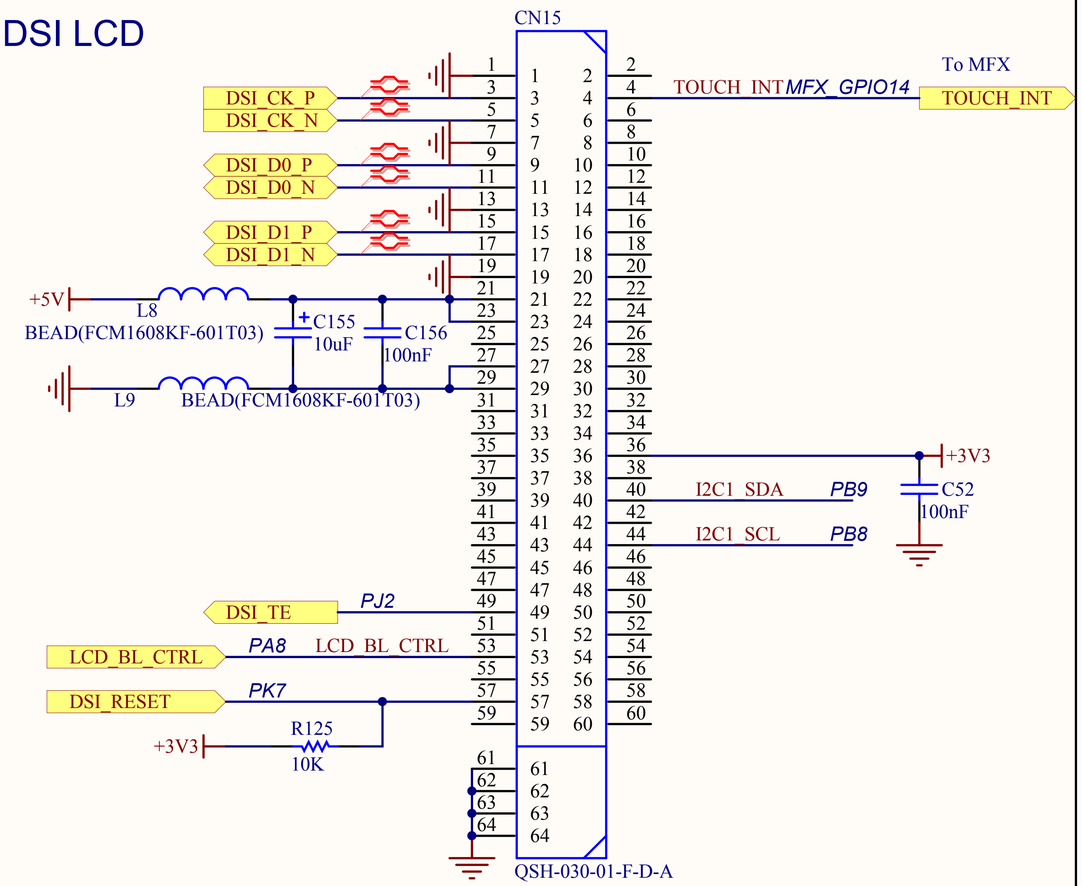
R172 0 PB9 I2C1_SDA
R173 0 PB8 I2C1_SCL
R178 [N/A]
PG7 SAI1_MCLKA
R160 2K2
C68 4.7uF
C76 4.7uF
C78 4.7uF
C80 100nF
C81 100nF
R161 20
R162 20
C92 4.7uF
C101 4.7uF
R184 1K
R183 180
R209 180
R208 1K
C75 2.2uF
C79 2.2uF
C77 2.2uF
CN27
PJ3028B-3
R212 [N/A]
R210 0
CN26
R211 0
GND

Coupon connectors
RIGHT
CN25
LEFT
CN28
MIC_CLK
MIC_DATA
CLK GND DATA
NC LR VDD
R185 10K
MIC_VDD
Coupon Connectors

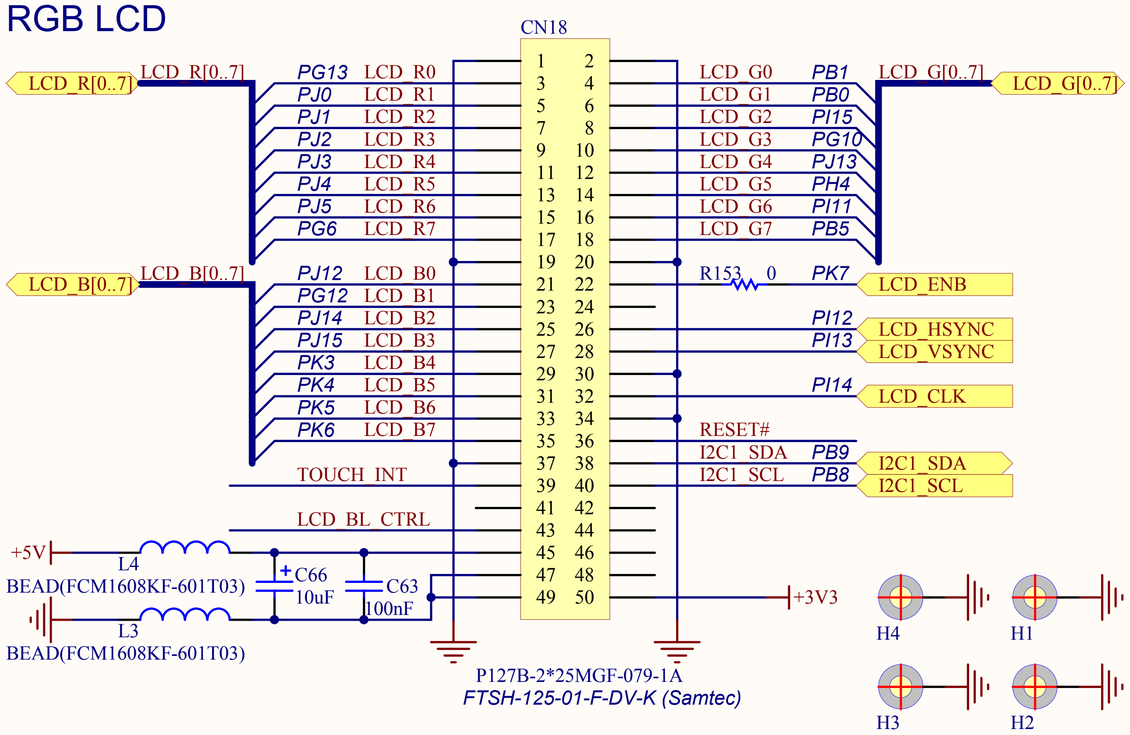
Title: **Audio**		
Project: **STM32469I-EVAL**		
Size: A4	Reference: MB1165	Revision: C.1
Date: 6/5/2015		Sheet: 5 of 17

life.augmented

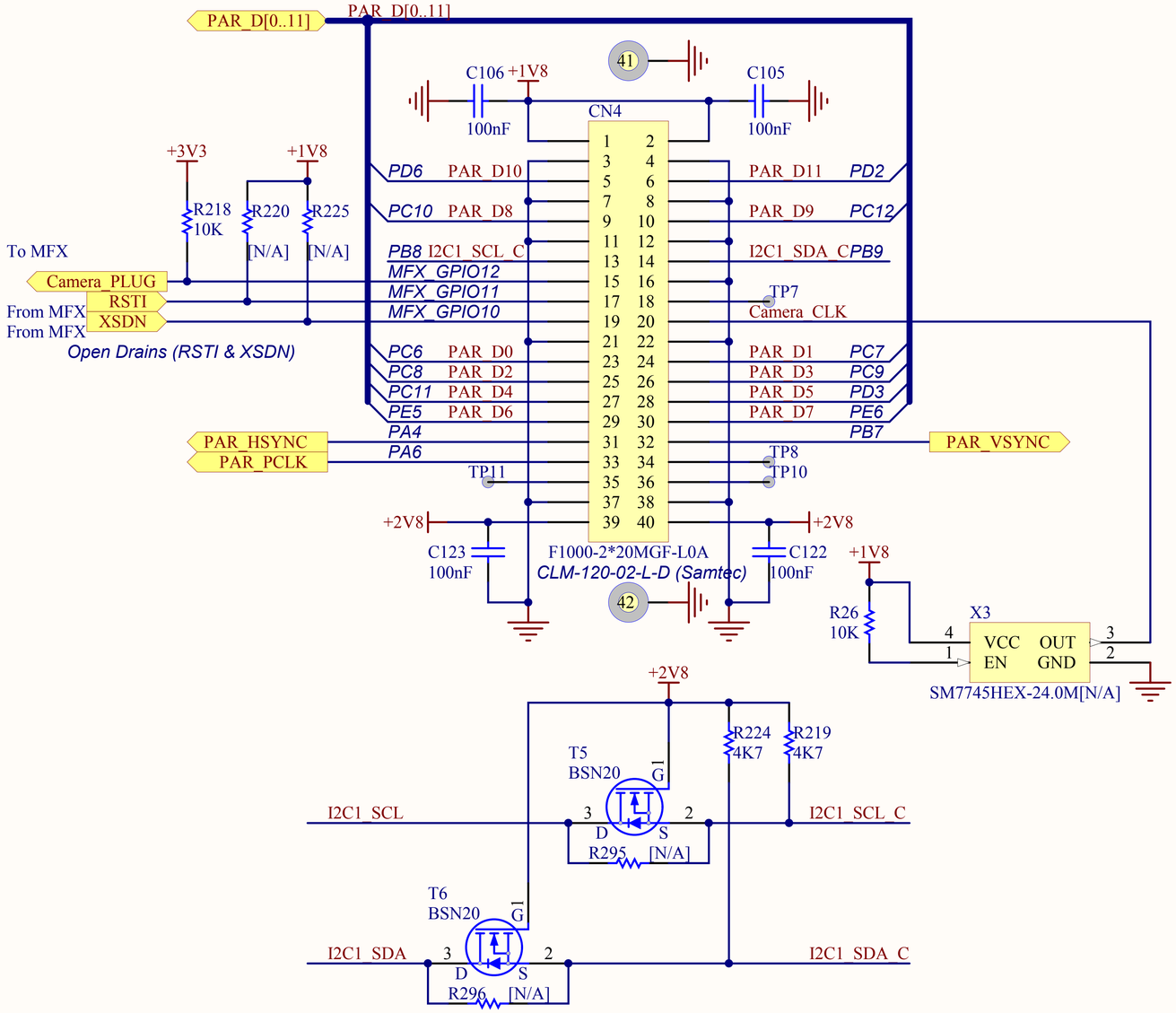
DSI LCD



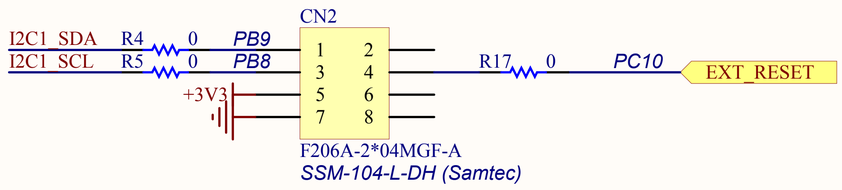
RGB LCD



Camera

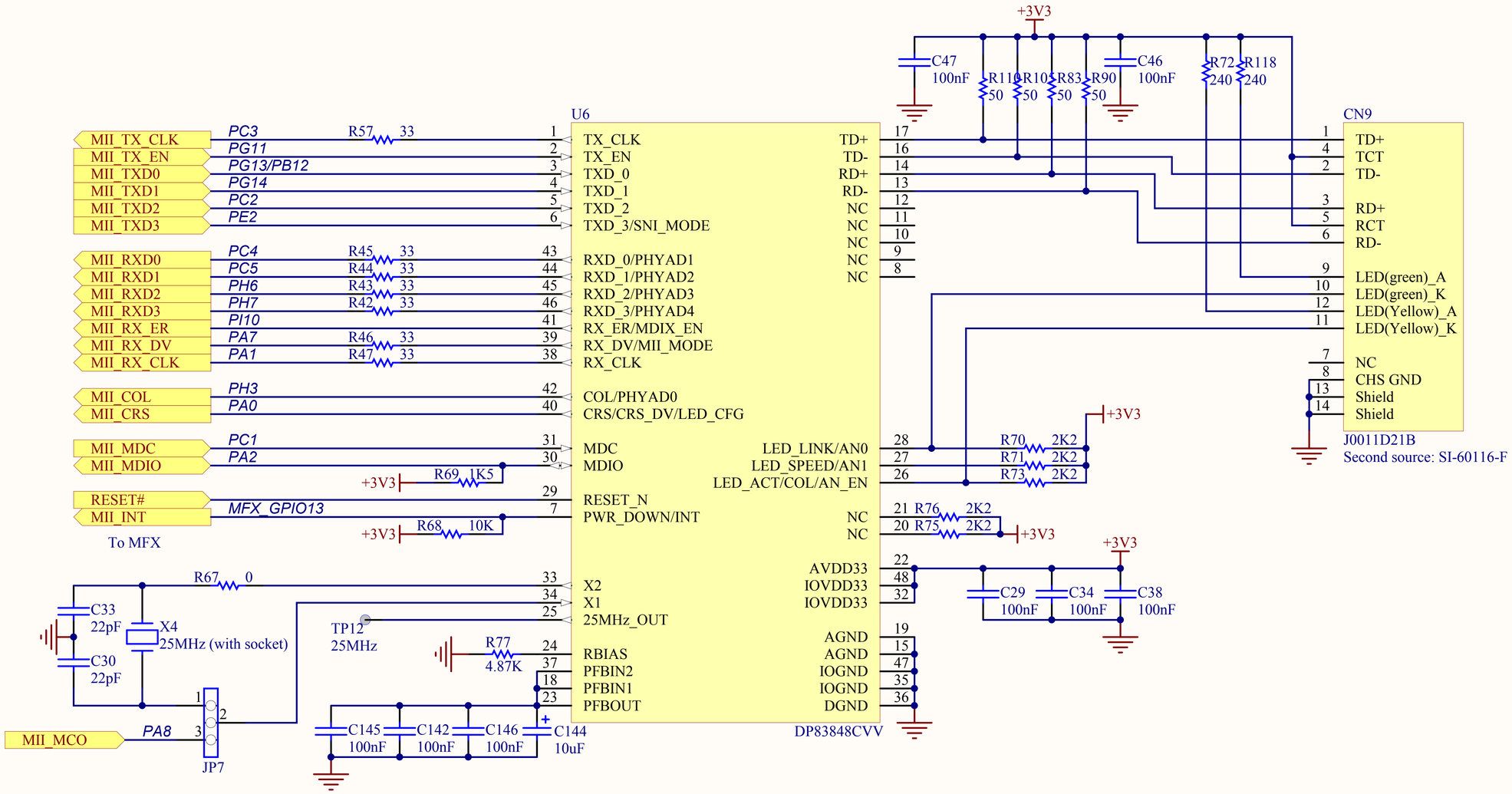


EXT/RF E2P Connector



Title: **LCD & Camera & Connector**		
Project: **STM32469I-EVAL**		
Size: A4	Reference: MB1165	Revision: C.1
Date: 6/5/2015		Sheet: 6 of 17

life.augmented



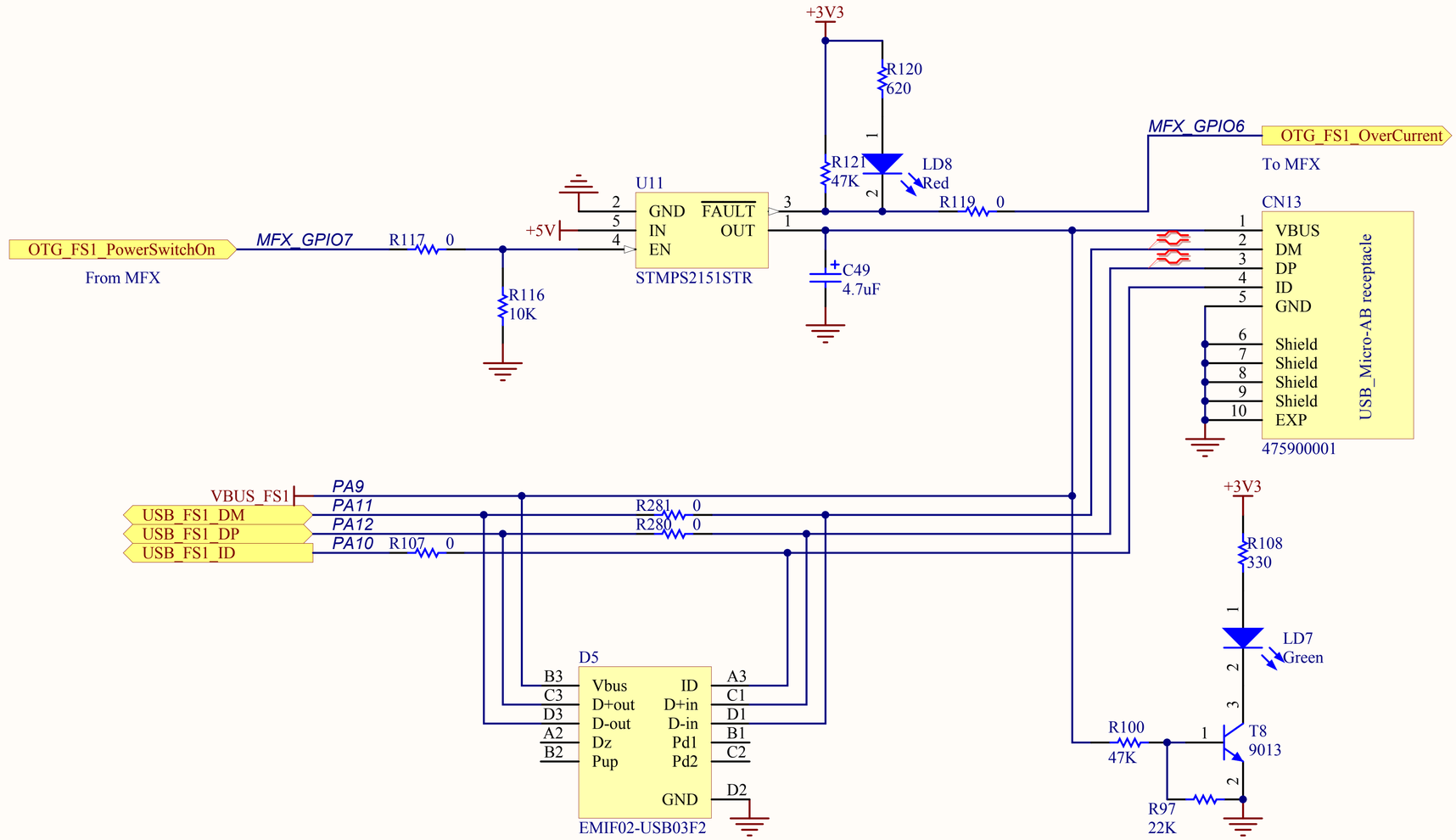
Title: **Ethernet**		
Project: **STM32469I-EVAL**		
Size: A4	Reference: MB1165	Revision: C.1
Date: 6/5/2015		Sheet: 7 of 17

life.augmented

VBUS_FS2
USB_FS2_DM
USB_FS2_DP
USB_FS2_ID
PB13
PB14
PB15
PB12
R284 22
R283 22
D6
EMIF02-USB03F2
CN14
USB_Micro-AB receptacle
475900001
+3V3
R122 330
LD9 Green
R126 47K
T2 9013
R127 22K
OTG_FS2_PowerSwitchOn
From MFX
MFX_GPIO9
SB15 Open
R88 10K
SB16 Closed
U7
STMPS2151STR
+5V
C37 4.7uF
SB14 Open
R111 0
MFX_GPIO8
OTG_FS2_OverCurrent
To MFX
R112 3K3
LD6 Red
R279 620
SB13 Closed
R89 330
LD5 Green
R78 47K
T7 9013
R74 22K
U8
USB3300-EZK
ULPI_NXT
ULPI_DIR
ULPI_STP
ULPI_CK
ULPI_D[0..7]
R113 33
R109 0
R98 0
R94 0
R82 0
R91 12K[1%]
R95 820
L2 EXC-3BP121H[BEAD]
VBUS_HS
CN8
C151 C149 C152 C148 100nF
D4 USBULC6-2F
D3 ESDA14V2-2BF3
C42 C147 4.7uF
C43 C48 4.7uF
C36 C45 C35 C44 100nF
L1 EXC-3BP121H[BEAD]
R81 1M
X5 24MHz
C40 33pF
C39 33pF
Soldered if reset is controlled by hardware
RESET#
R114 1K
R115 4K7
T1 9012
R101 4K7

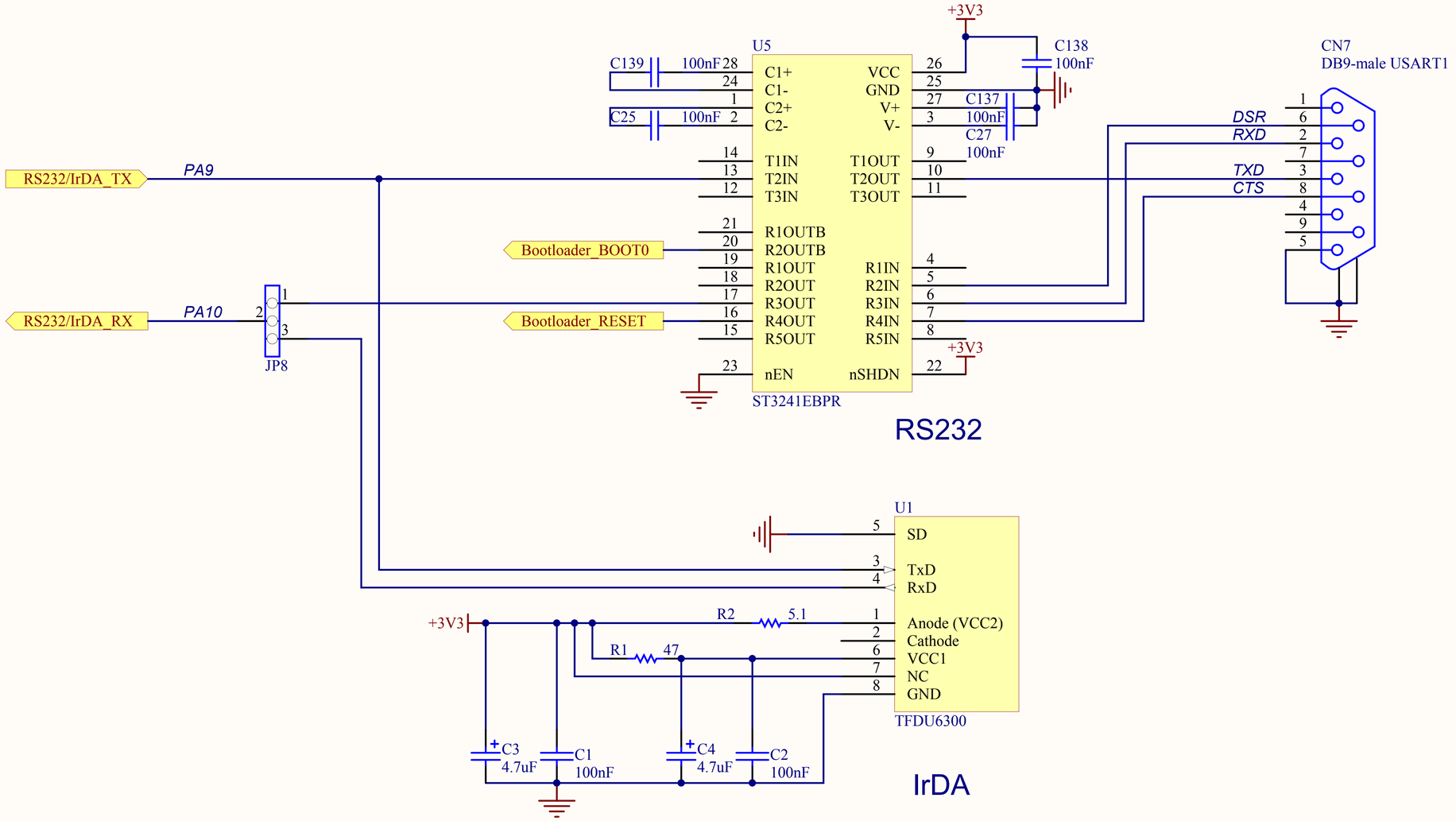
Title: **USB_OTG_HS**		
Project: **STM32469I-EVAL**		
Size: A4	Reference: MB1165	Revision: C.1
Date: 6/5/2015		Sheet: 8 of 17

life.augmented



Title: **USB_OTG_FS**		
Project: **STM32469I-EVAL**		
Size: A4	Reference: MB1165	Revision: C.1
Date: 6/5/2015		Sheet: 9 of 17

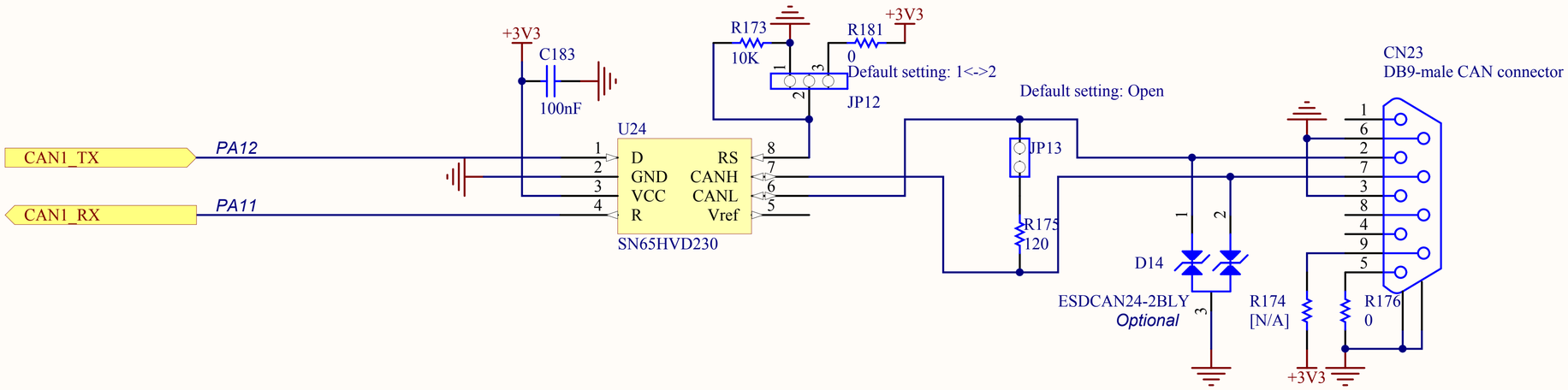
life.augmented



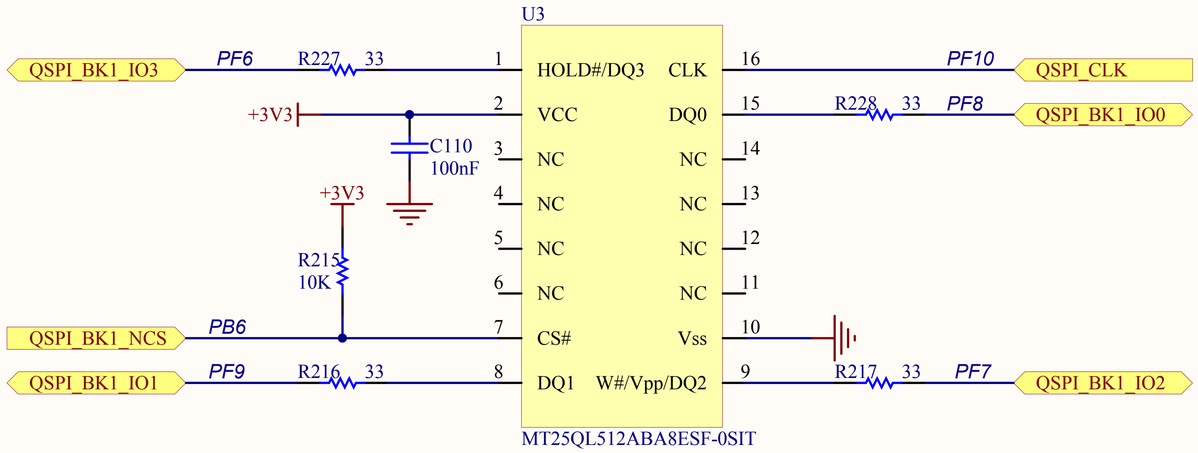
Title: **RS232 & IrDA**		
Project: **STM32469I-EVAL**		
Size: A4	Reference: MB1165	Revision: C.1
Date: 6/5/2015		Sheet: 10 of 17

life.augmented

CAN



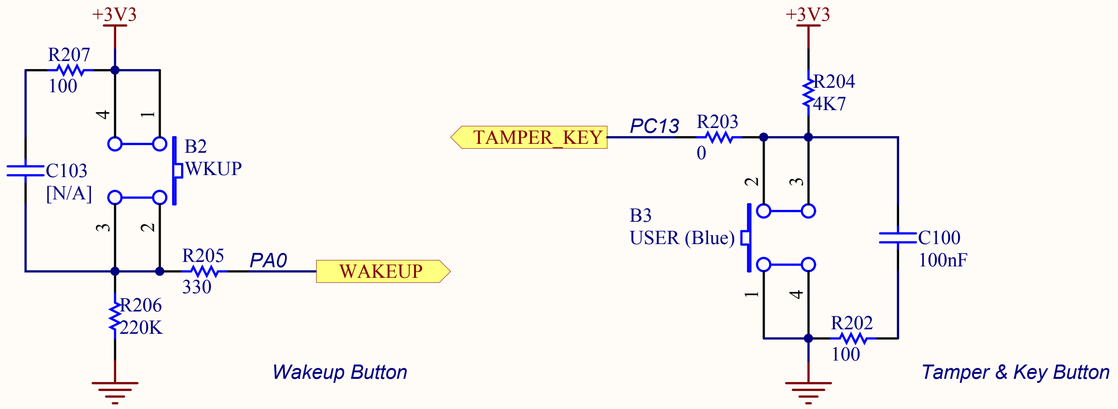
Quad SPI Flash



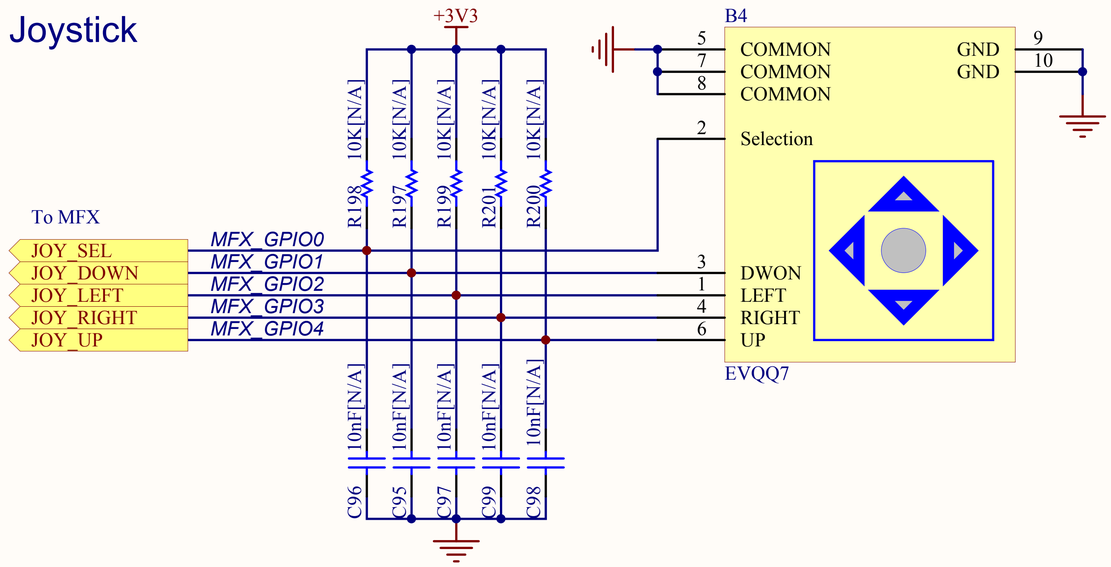
Title: **CAN & QSPI**		
Project: **STM32469I-EVAL**		
Size: A4	Reference: MB1165	Revision: C.1
Date: 6/5/2015		Sheet: 11 of 17

life.augmented

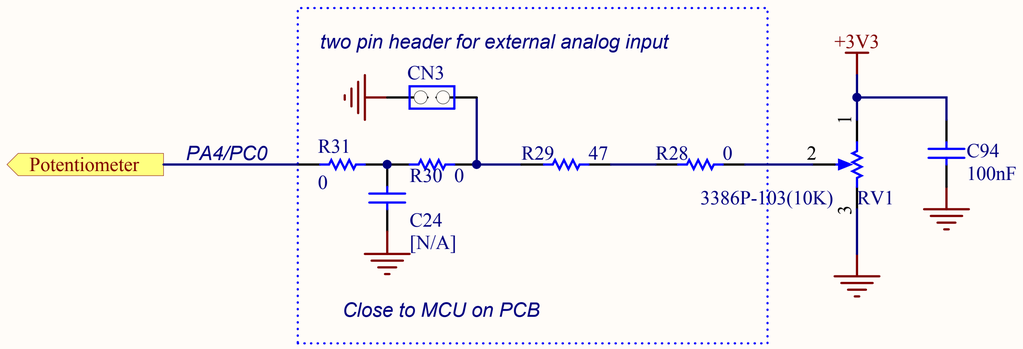
Buttons



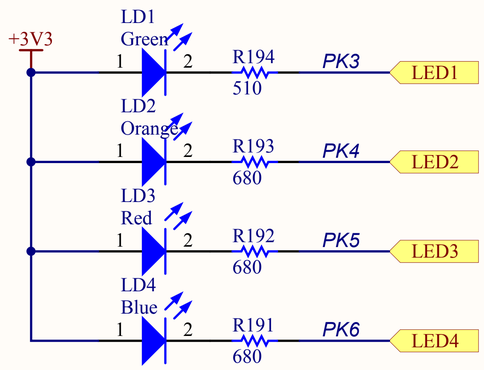
Joystick



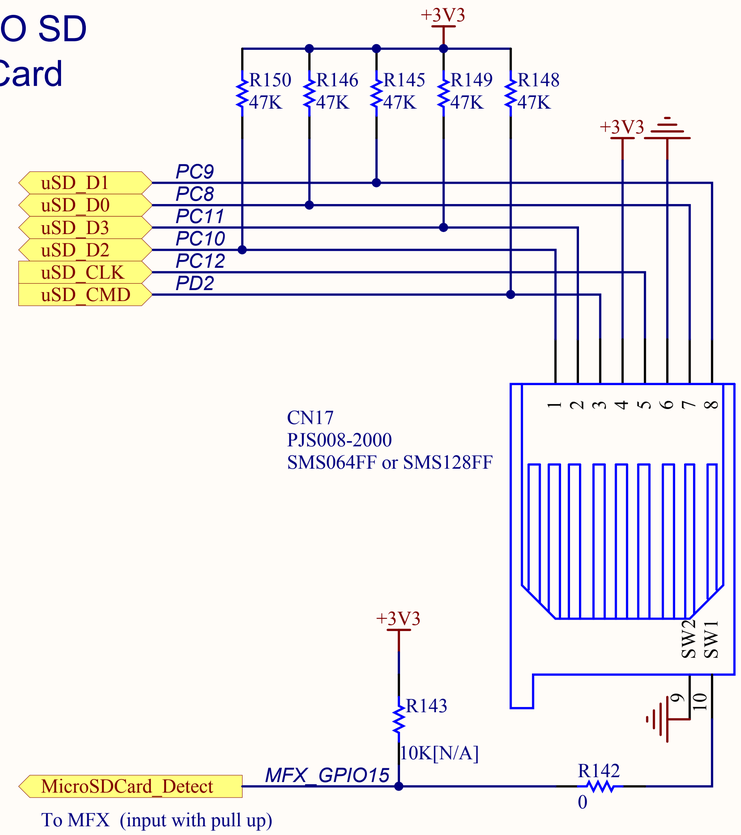
Potentiometer



LEDs



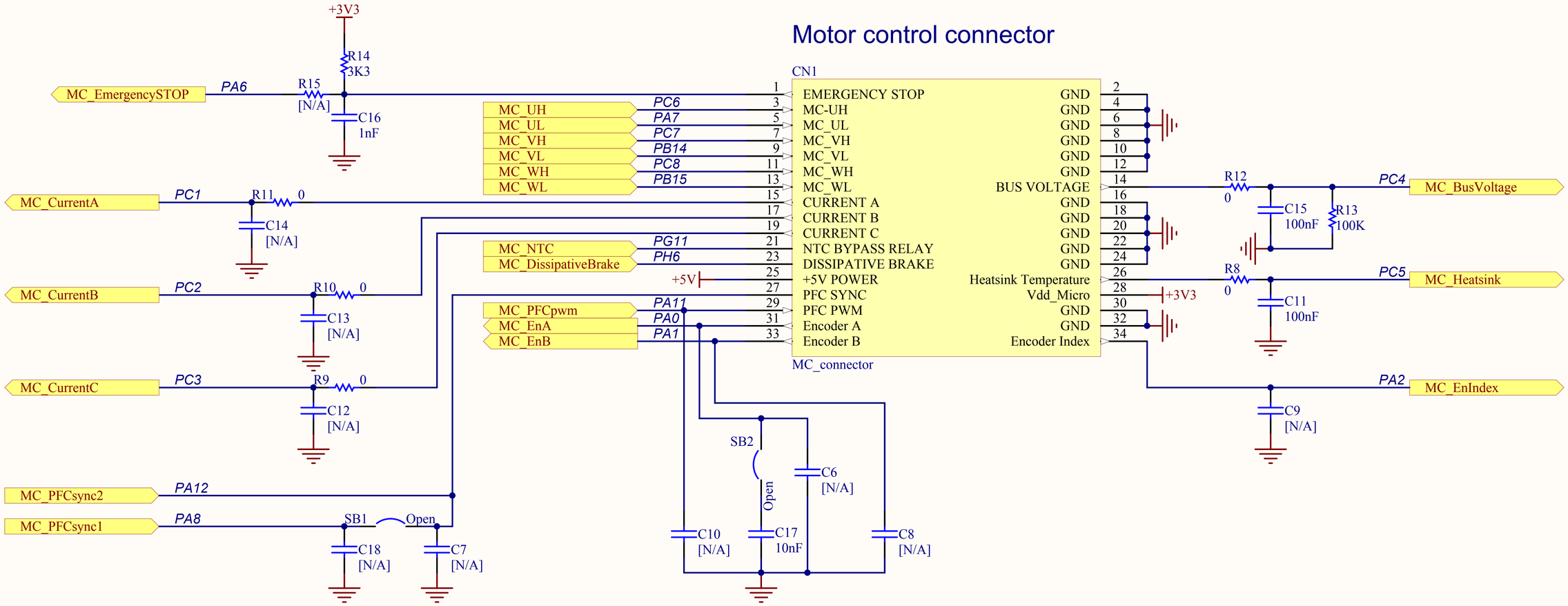
MICRO SD (TF) Card



Title: **Peripherals**		
Project: **STM32469I-EVAL**		
Size: A4	Reference: MB1165	Revision: C.1
Date: 6/5/2015		Sheet: 12 of 17

life.augmented

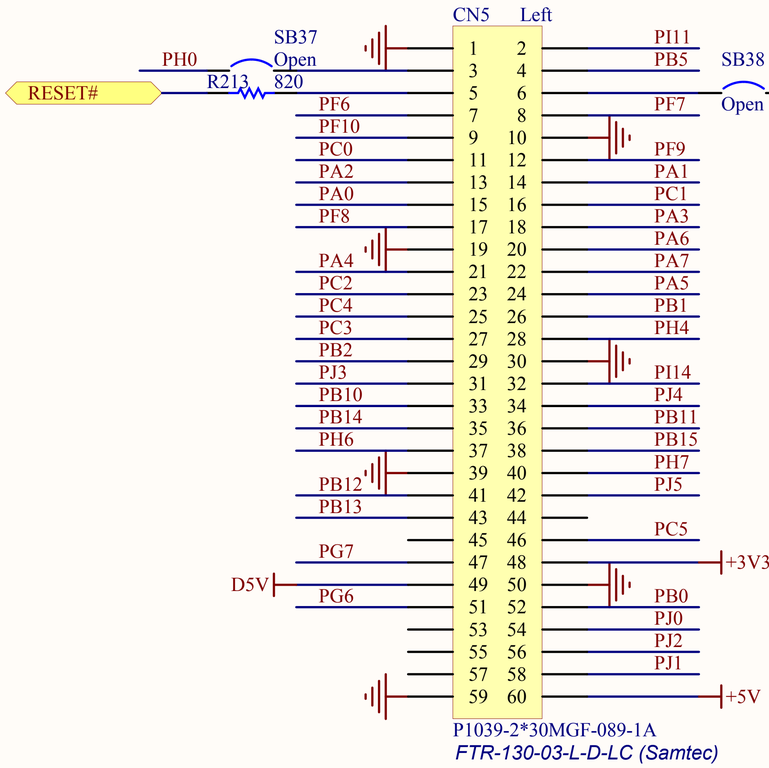
Motor control connector

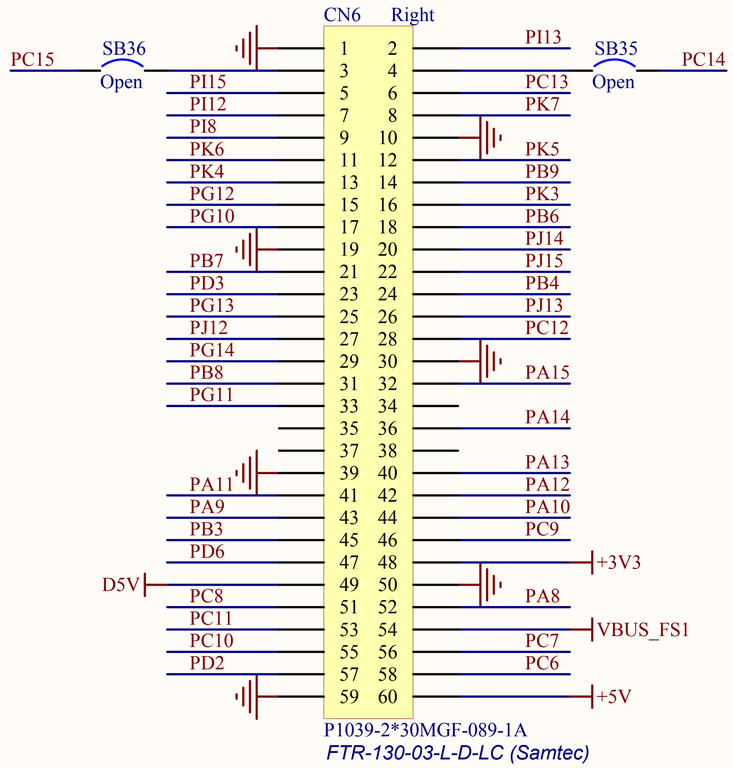


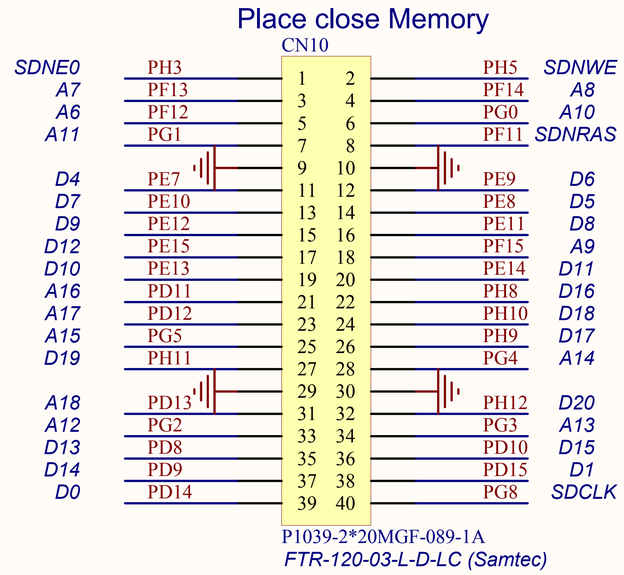
MC_connector

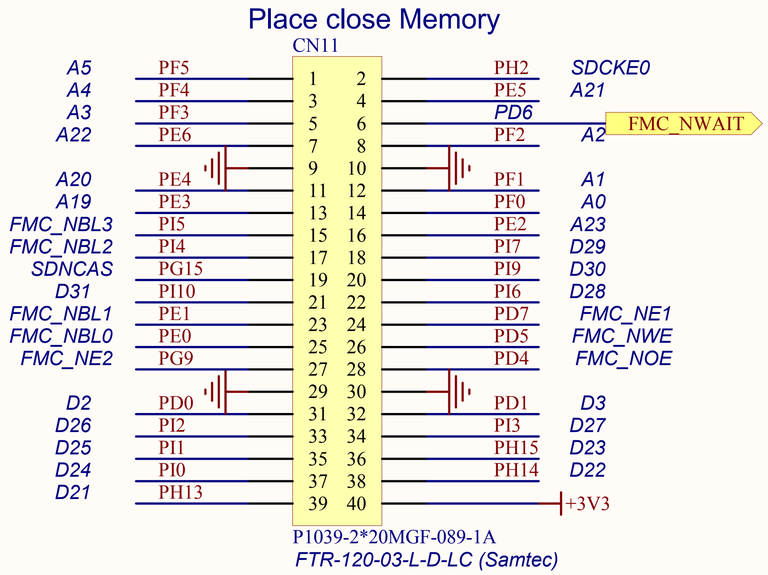
Title: **Motor Control**		
Project: **STM32469I-EVAL**		
Size: A4	Reference: MB1165	Revision: C.1
Date: 6/5/2015		Sheet: 13 of 17

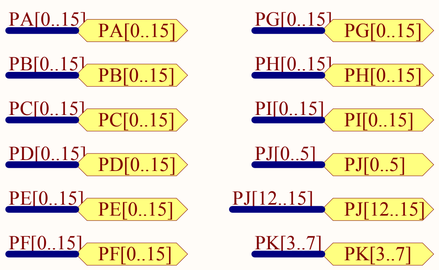
life.augmented





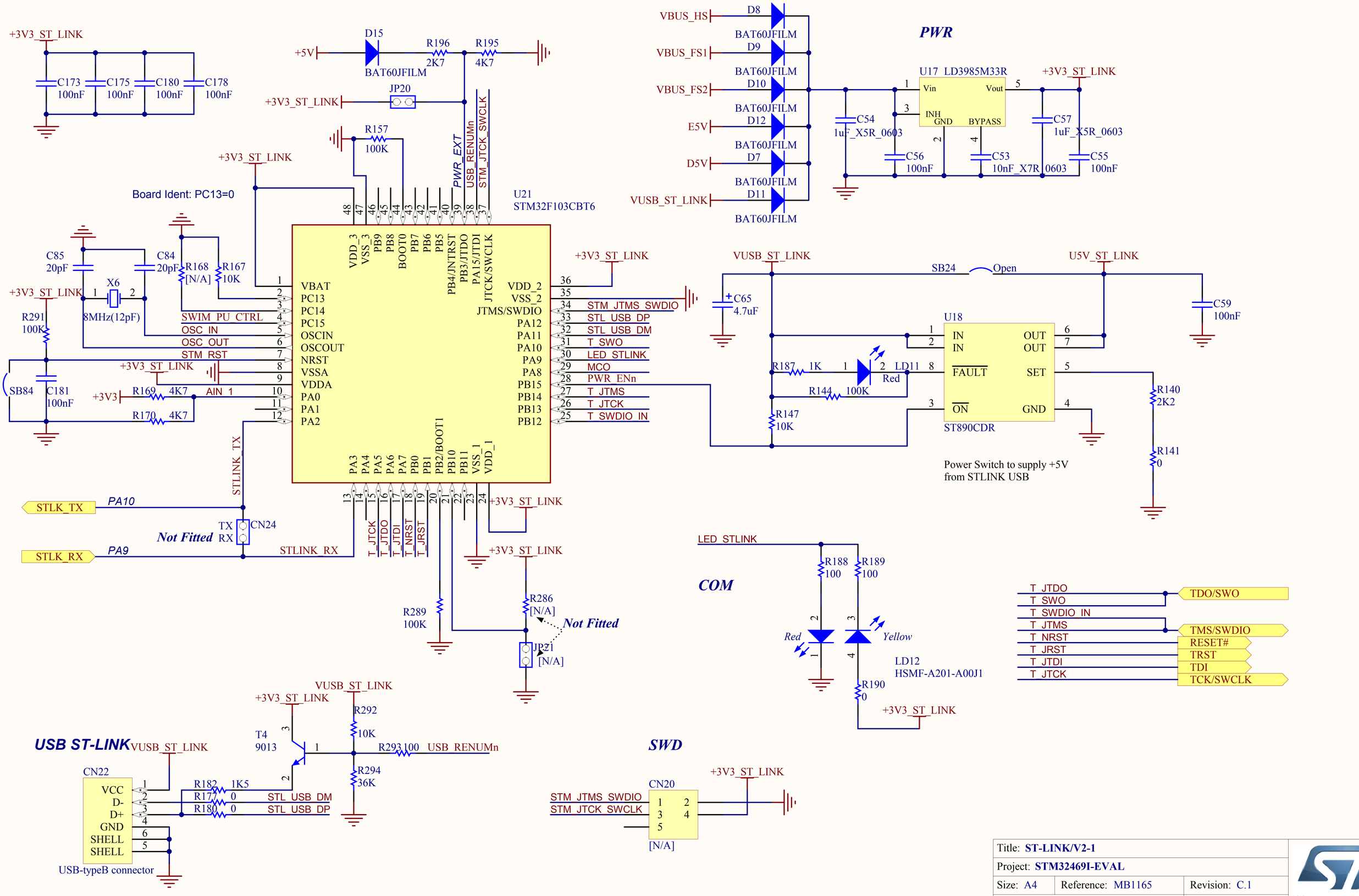






Title: **Extension Connectors**		
Project: **STM32469I-EVAL**		
Size: A4	Reference: MB1165	Revision: C.1
Date: 6/5/2015		Sheet: 14 of 17

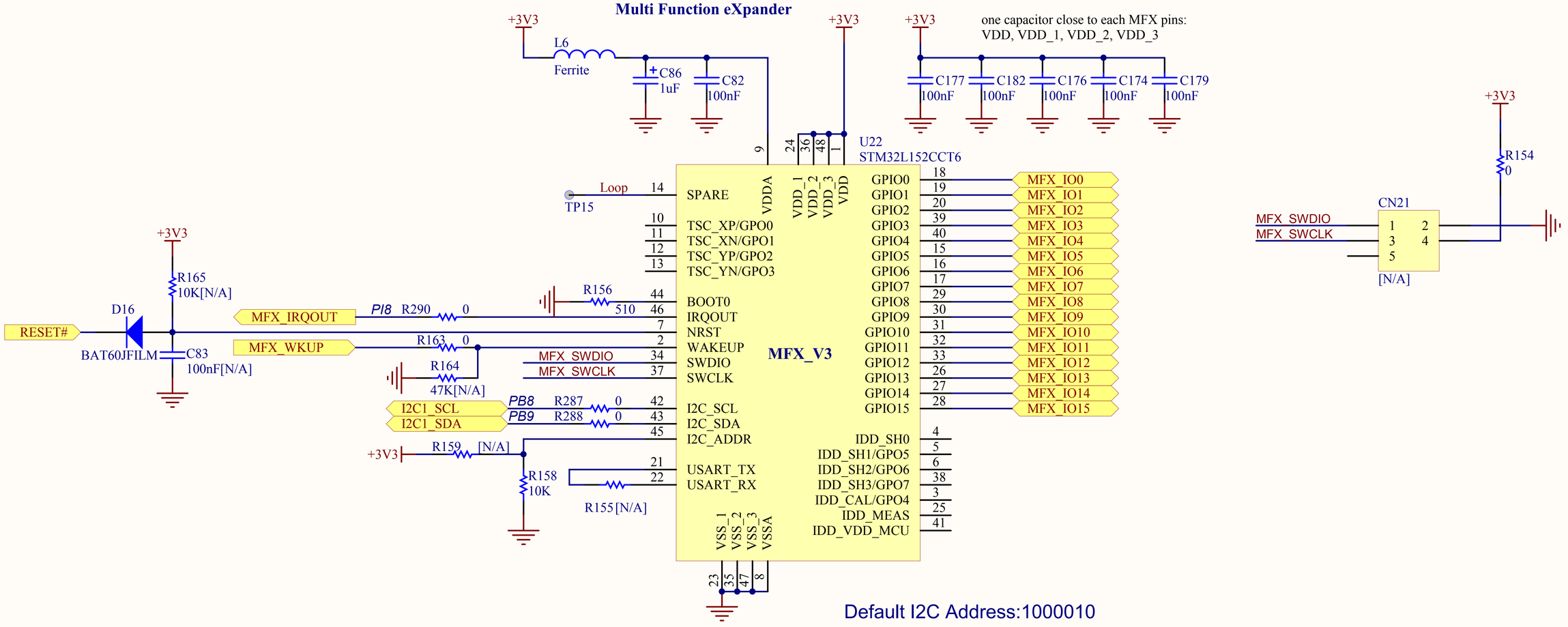
life.augmented



Title: **ST-LINK/V2-1**		
Project: **STM32469I-EVAL**		
Size: A4	Reference: MB1165	Revision: C.1
Date: 6/5/2015		Sheet: 15 of 17

life.augmented

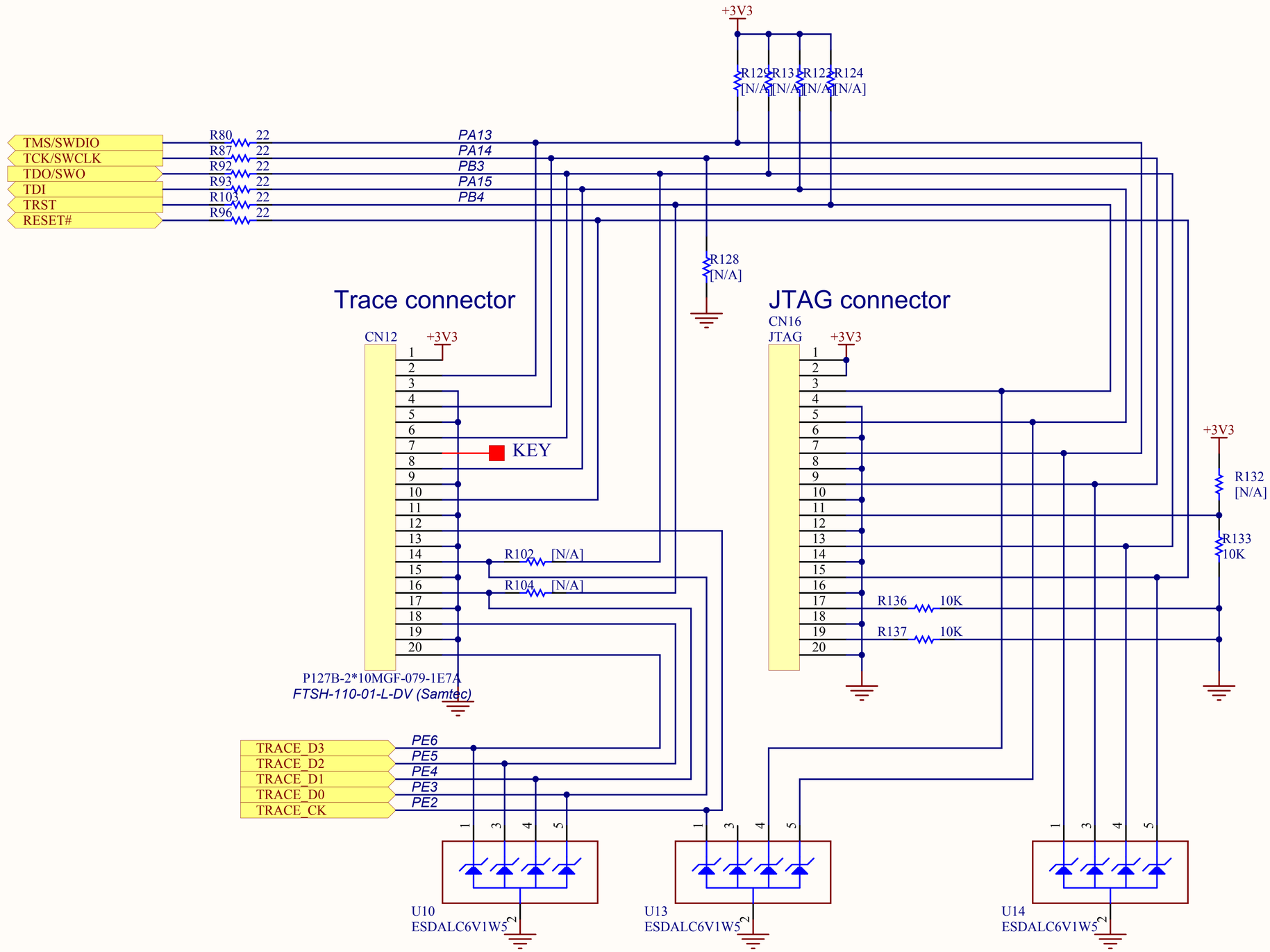
MFX
Multi Function eXpander



Default I2C Address:1000010

Title: **MFX**		
Project: **STM32469I-EVAL**		
Size: A4	Reference: MB1165	Revision: C.1
Date: 6/5/2015		Sheet: 16 of 17

life.augmented



Title: **JTAG & Trace**		
Project: **STM32469I-EVAL**		
Size: A4	Reference: MB1165	Revision: C.1
Date: 6/5/2015		Sheet: 17 of 17

life.augmented