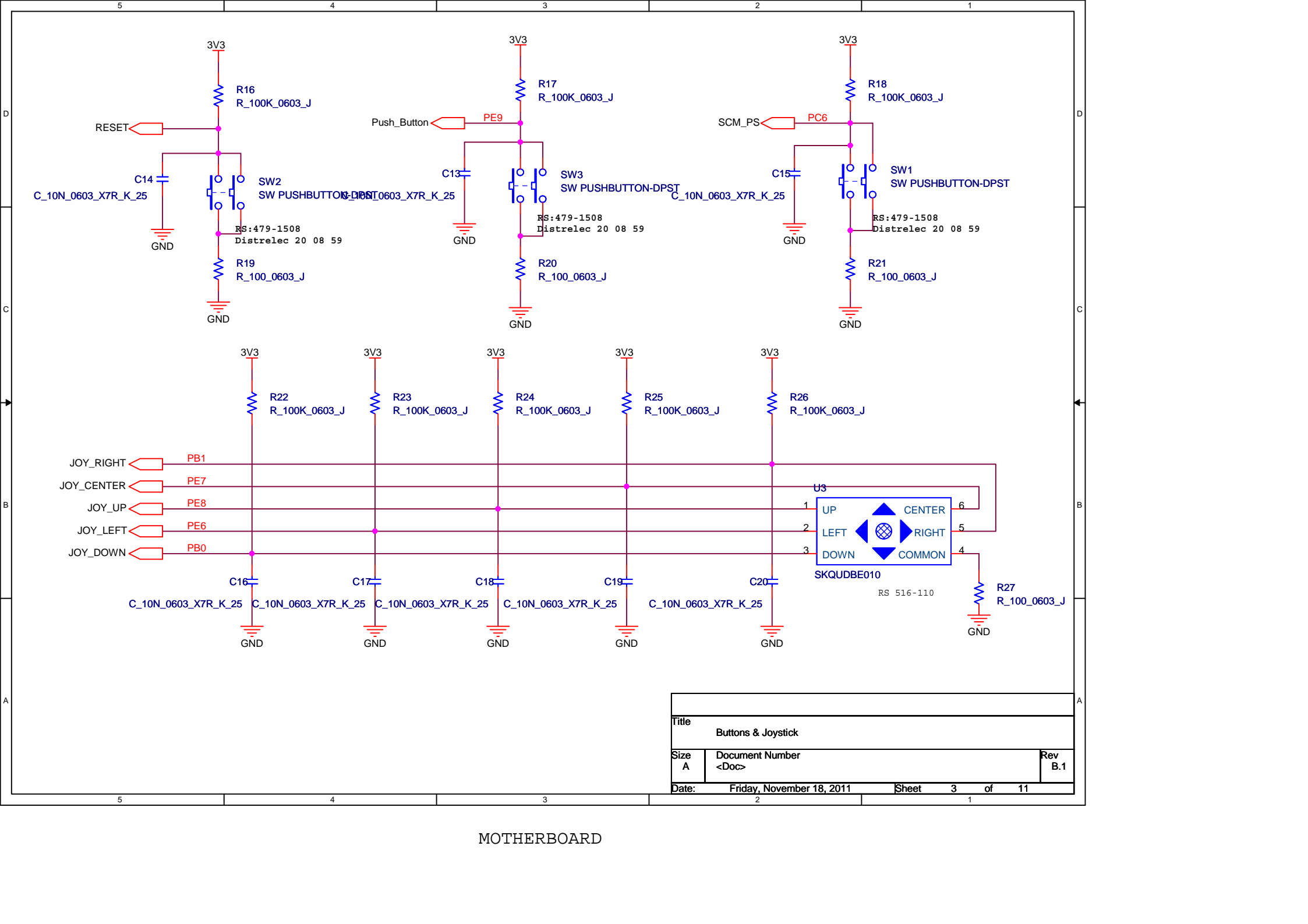


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| STMicroelectronics | | |
| Title: SPIRIT1-Development Kit | | |
| Size: B | Document Number: 01-2011 | Rev: B.1 |
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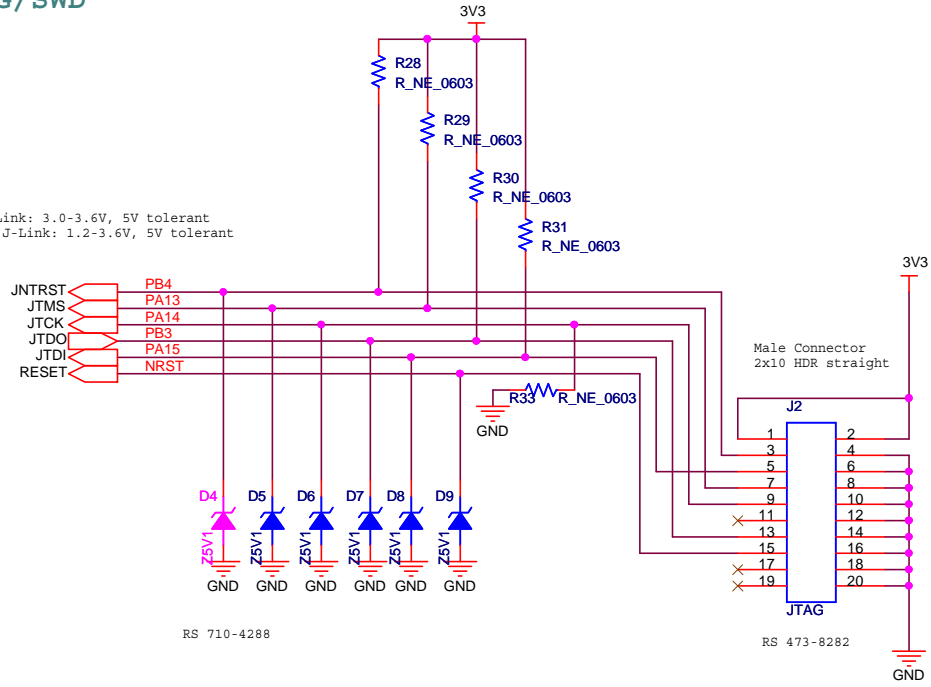


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| Title | | |
| Buttons & Joystick | | |
| Size | Document Number | Rev |
| A | <Doc> | B.1 |
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JTAG/SWD

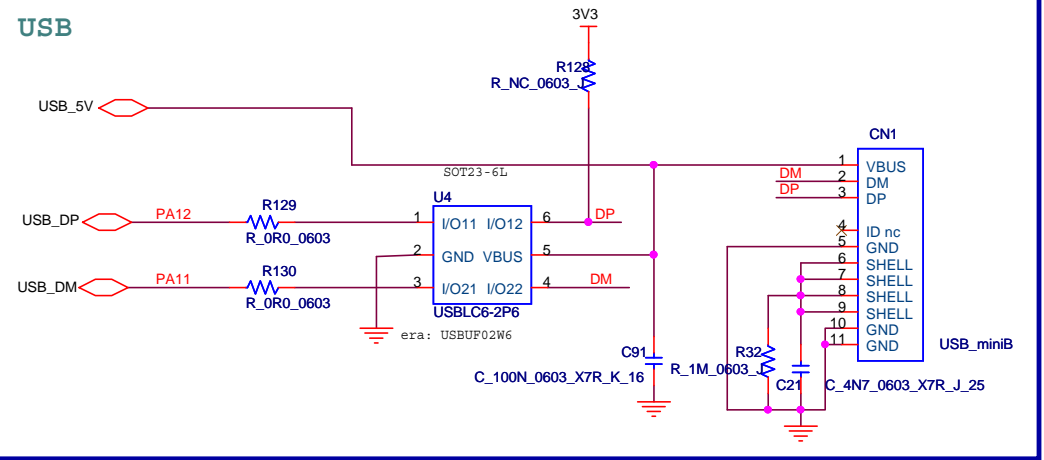
ST Link: 3.0-3.6V, 5V tolerant
IAR J-Link: 1.2-3.6V, 5V tolerant



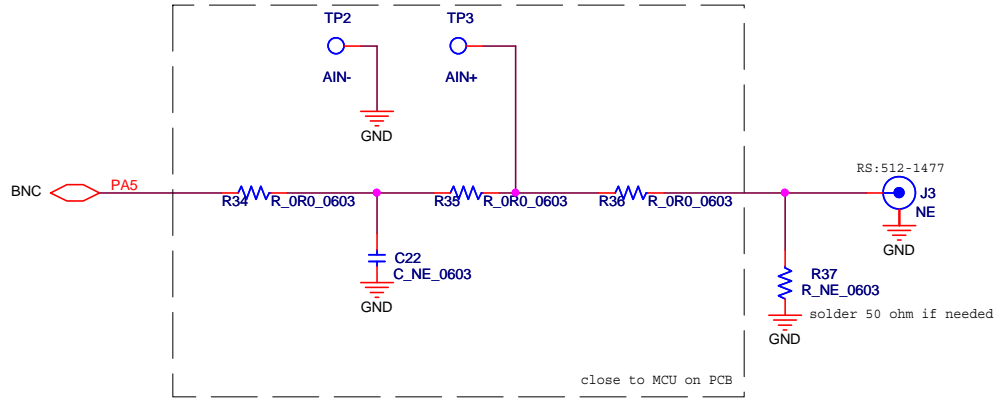
RS 710-4288

RS 473-8282

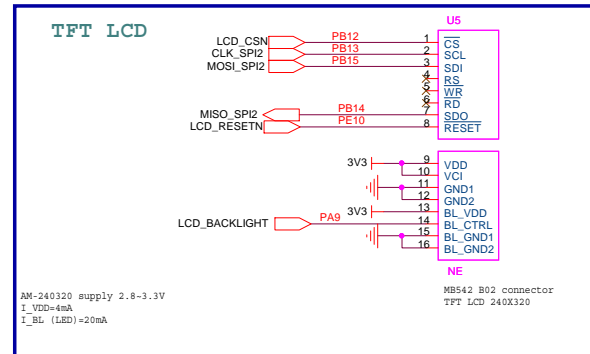
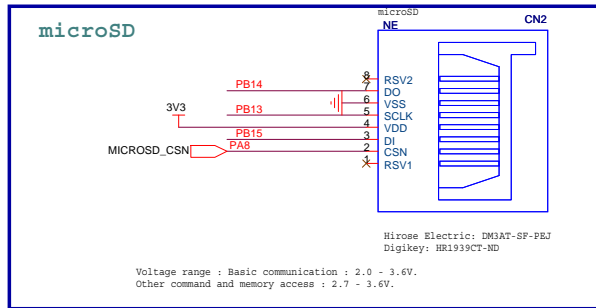
USB



BNC

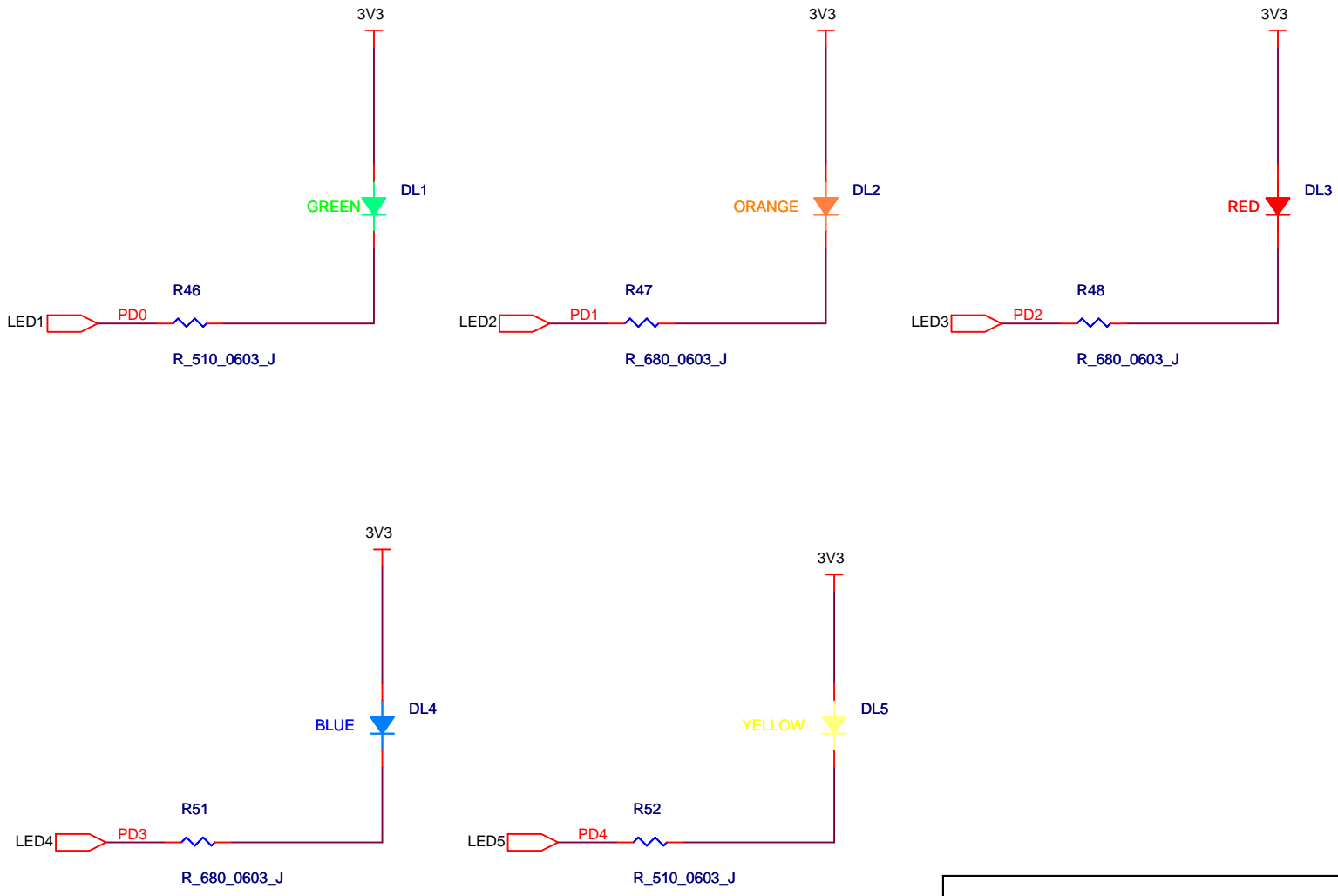


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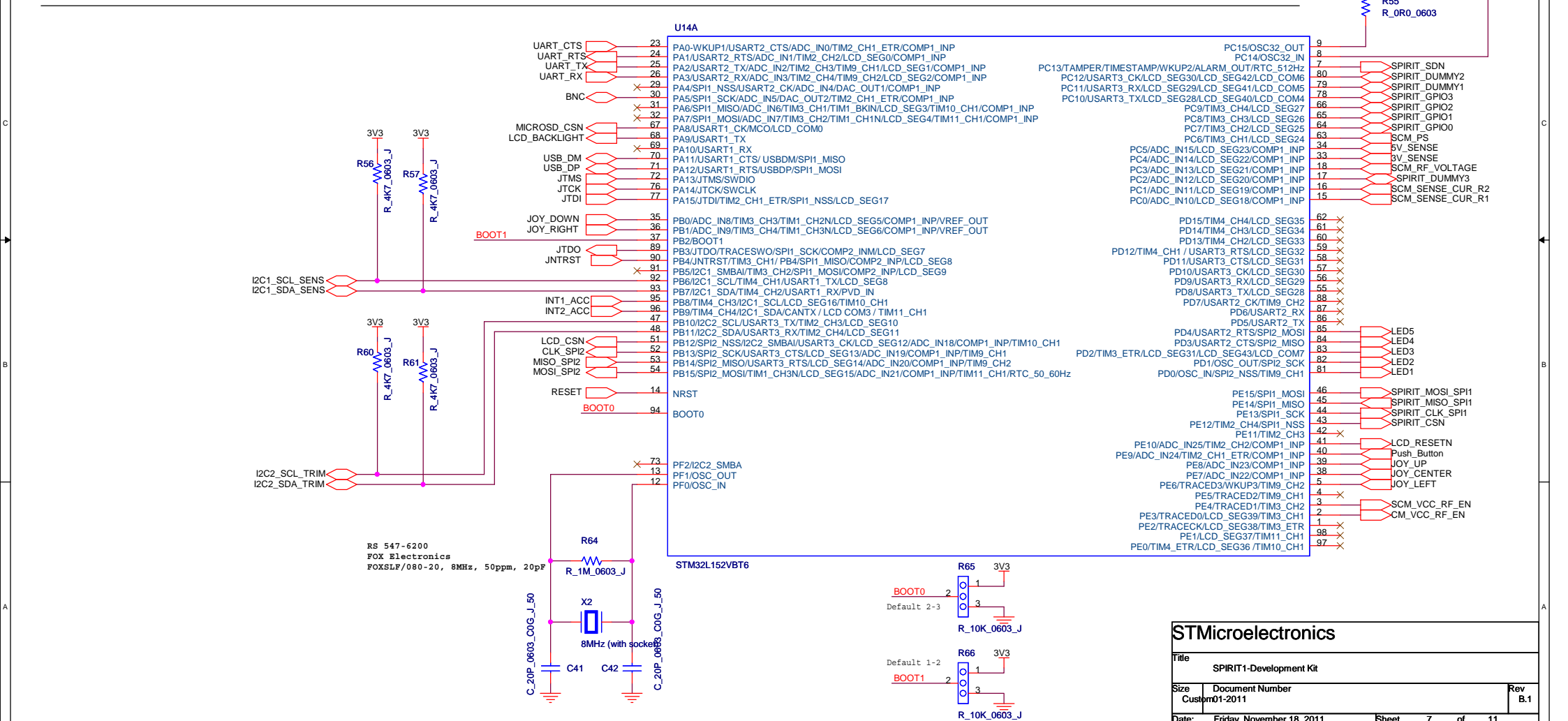
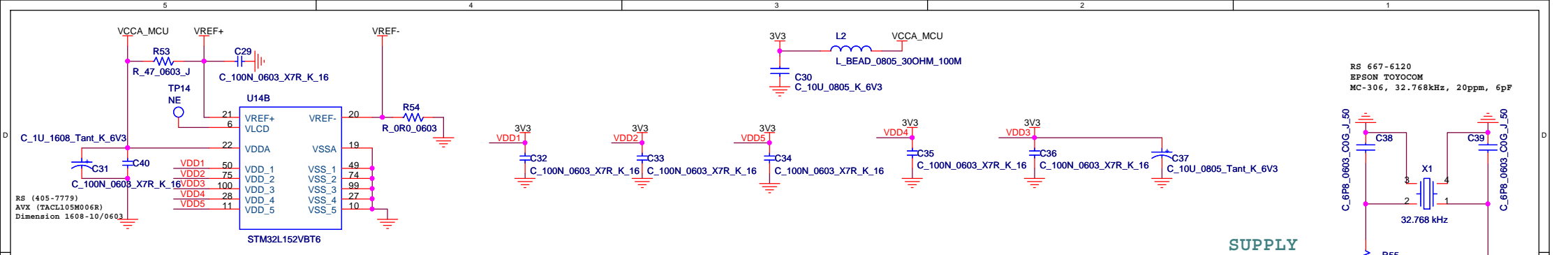
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|-------|---------------------------|--------------|---------|
| Title | | LCD-SDA_Card | |
| Size | Document Number | Rev | |
| B | <Doc> | <Rev Code> | |
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|-------|---------------------------|---------------|
| Title | | |
| LEDS | | |
| Size | Document Number | Rev |
| A | <Doc> | <RevCode> |
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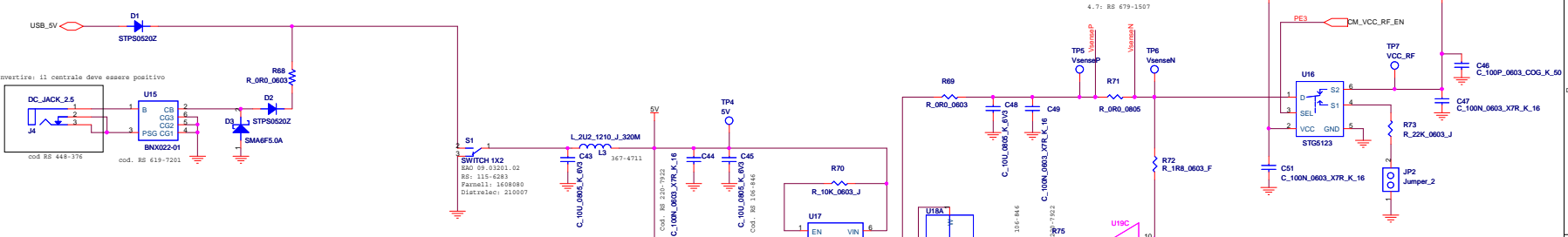
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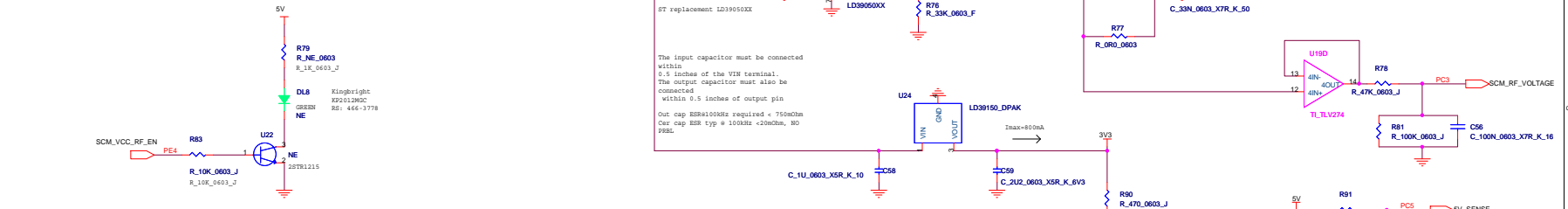
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| STMicroelectronics | | |
| Title | | |
| SPIRIT1-Development Kit | | |
| Size | Document Number | Rev |
| Custom | 01-2011 | B.1 |
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1.8V - 3.6V Power Management with 110dB current range measurement

TP4=4.7 Ohm
 I_{max}=100mA
 P_{DSB}, max=47 mW
 0805>> 100 nM
 4.7: RS 679-1507

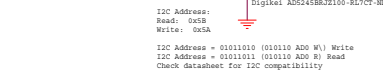
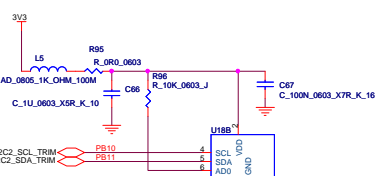
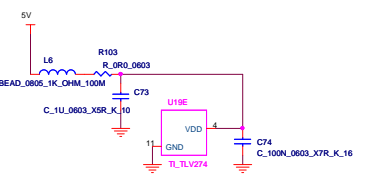


Power On/Off

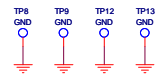


SPIRIT Current Measurement (SCM)

design hint: the circuit gain is selected so that V_{OS} translates to about 1LSB (least signif. bit) in the analog-to-digital (ADC) acquisition system.
 target: measure current ranging from 100nA to 100mA (114 dB dyn range).
 switch between the two occurs at 200uA.
 To reduce noise, averaging of the samples is performed before the meas is presented to the GSI/DCI.
 During startup and when V_{suppl} is changed, a calibration is performed (to compensate offset errors in the sense amplifier (no load during cal)).
 Accuracy: 100nA above 200uA, 1uA below 200uA (absolute accuracy is 1uA, resolution is 100nA, this is NOT a voltmeter, just a DMM).
 V_{suppl}>>3.0V to work properly (not available using batteries)
 NOTE: remove most 000 in final version



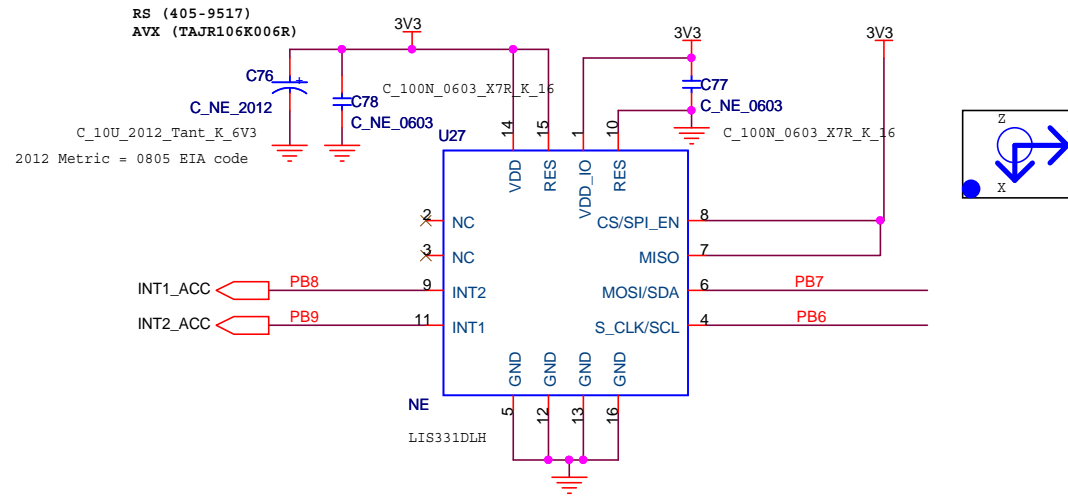
I2C Address: Digital AD5245B8J2100-RL7CT-ND
 Read: 0x38
 Write: 0x3A
 I2C Address = 0101010 (010110 ADD W) Write
 I2C Address = 0101011 (010110 ADD R) Read
 Check datasheet for I2C compatibility



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| Title | | Power & SCM |
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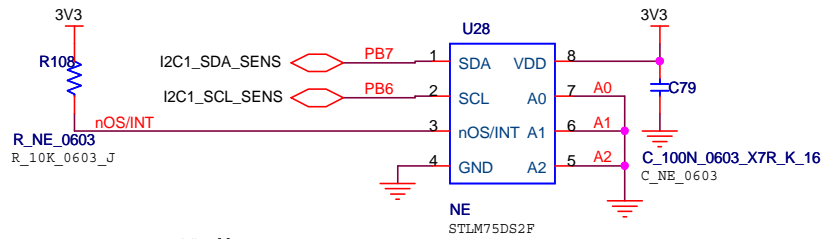
Tantalum AVX ESR max at 100 kHz = 6 Ohm
 Ceramic Cap 0805 10uF 6V3 ESR typ at 100 kHz=0.1 Ohm!!!

Accelerometer LIS331DLH



The Slave Address (SAD) associated to the LIS331DLH is 001100xb. SDO/SA0 pad can be used to modify less significant bit of the device address. If SA0 pad is connected to voltage supply, LSB is '1' (address 0011001b) else if SA0 pad is connected to ground, LSB value is '0' (address 0011000b). This solution permits to connect and address two different accelerometers to the same I2C lines.

Temperature Sensor

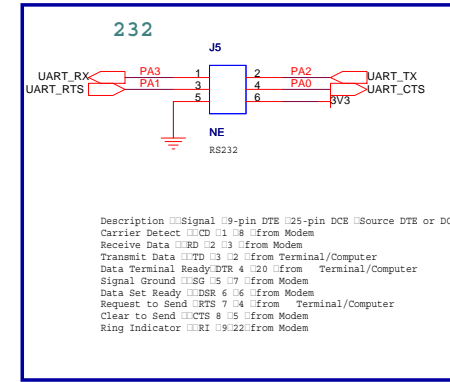
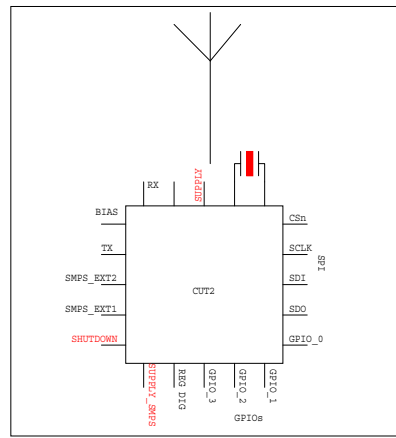


I2C Address:
 Read: 0x91
 Write: 0x90

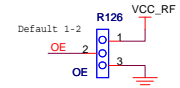
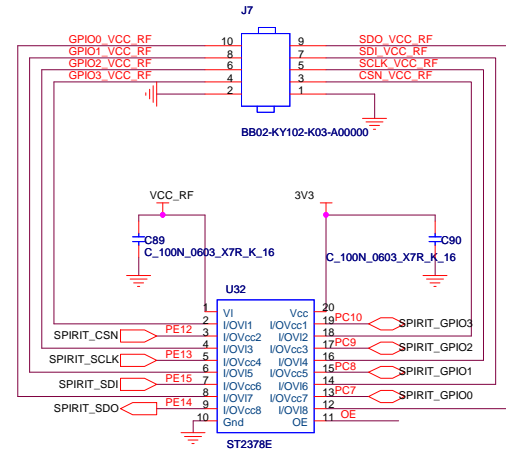
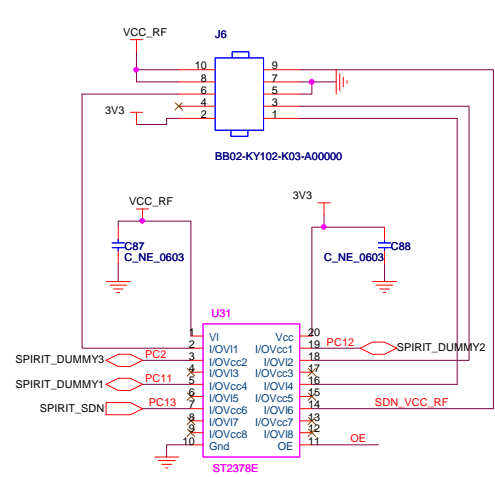
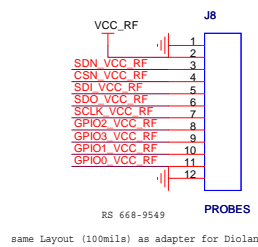
I2C Address = 10010000 (1001A2A1A0W) Write
 I2C Address = 10010001 (1001A2A1A0R) Read

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| Title | | |
| Sensing | | |
| Size | Document Number | Rev |
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| Date: | Friday, November 18, 2011 | Sheet 10 of 11 |

SPIRIT AND EXTENSION CONNECTORS



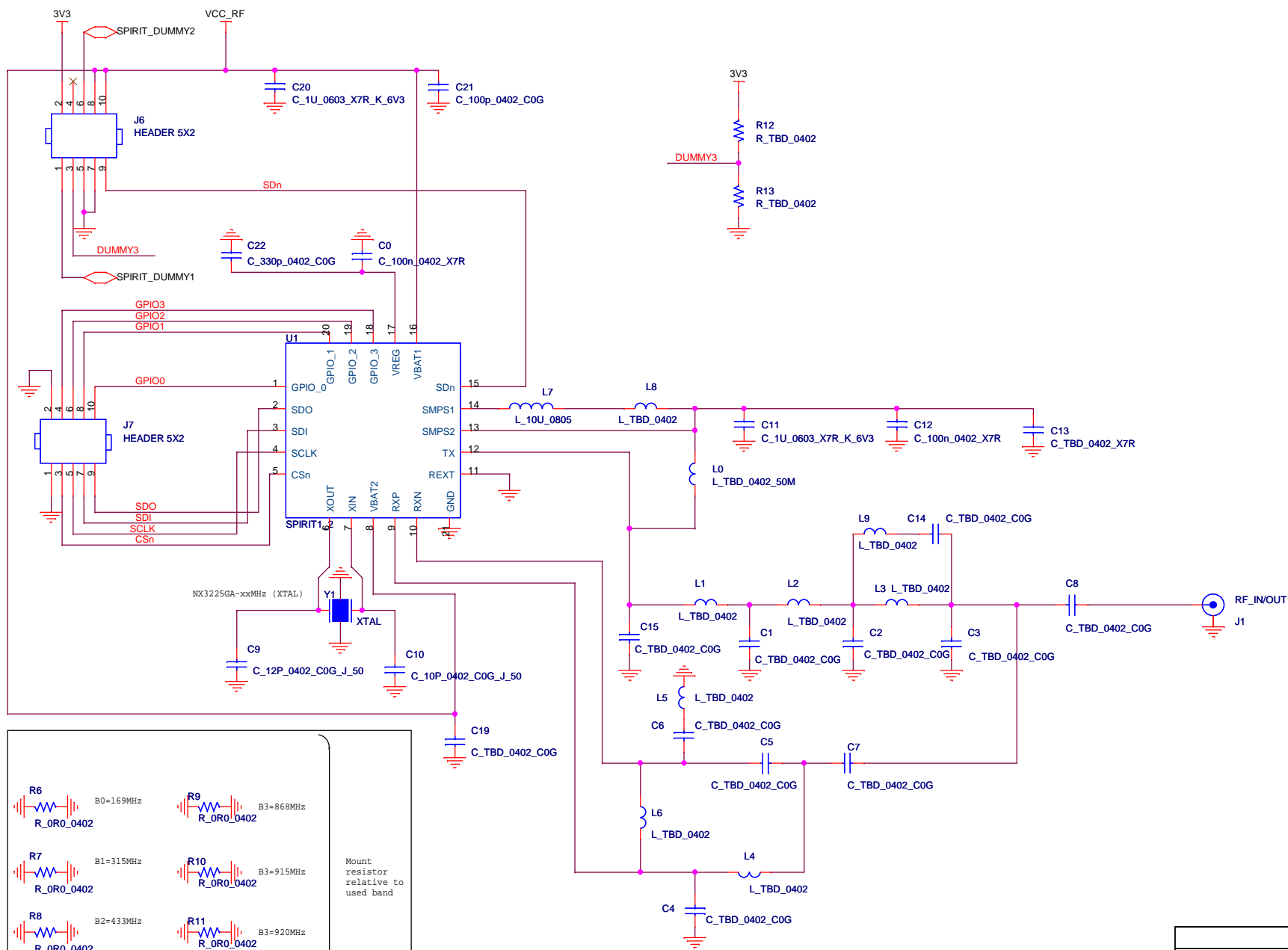
Gradconn BB02-KY102-K03-A00000



LEVEL TRASLATOR

| | | |
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| Title | | |
| SPIRIT AND EXTENSION CONNECTORS | | |
| Size | Document Number | Rev |
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|-------------------------------|--------------------------------|--------------------------------------|
| R6 B0=169MHz R_0R0_0402 | R9 B3=868MHz R_0R0_0402 | Mount resistor relative to used band |
| R7 B1=315MHz R_0R0_0402 | R10 B3=915MHz R_0R0_0402 | |
| R8 B2=433MHz R_0R0_0402 | R11 B3=920MHz R_0R0_0402 | |

| | | |
|----------------|----------------------|--------------|
| Title | | |
| SPIRIT1 RF PCB | | |
| Size | Document Number | Rev |
| B | 1.0 | 1.0 |
| Date: | Monday, May 07, 2012 | Sheet 1 of 1 |

DAUGHTER BOARD