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Revisions			
Rev	Description	Date	Approved
C	Formal Release(added C151)	26-Jun-18	Didier Pagnoux

KITFS85FRDMEVM

		Analog Sensor Product Group 6501 William Cannon Drive West Austin, TX 78725-8550	
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Designer: Didier Pagnoux		Drawing Title: KITFS85FRDMEVM	
Drawn by: Didier Pagnoux		Page Title: TITLE, TOC & REV	
Approved: Didier Pagnoux		Size C	Document Number SCH-29838 PDF: SPF-29838
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Board Configuration - Main Target
 (Other configuration possible thanks to OTP)

Vpre : 450K / 3A / 4.1V
 BUCK1 : 2.5A / 1.25V
 BUCK2 : 2.5A / 3.3V (Standalone or Multiphase)
 BUCK3 : 2.5A / 2.3V
 VBOOST : 5.74V In = VPRE
 LDO1 : 3.3V / 400mA / In = Vpre
 LDO2 : 5V / 150mA
 VDDIO : Assigned on VDDI2C (set to 3.3V) by default)

LPRE Coil Proposal (Primary)

VPRE	LPRE
455KHz	SFM7054VT-4R7M-D Isat 10.9 / Itemp@40 6.4A (7.5mm x 7mm)
2.2MHz	SFM6545VT-1R5M-D 6A / 2.2MHz Isat 13.4A / Itemp@40 9.2A (7mm x 6.5mm) 8x2mm

LPRE Coil Proposal (Alternate)

VPRE	LPRE
455KHz	MAL6060-6S2ME SFM7054VT-6R8M-D 6A / 455KHz Isat 9.9A / Itemp@40 5.3A (7.5mm x 7mm)
2.2MHz	SFM7054VT-1R5M-D Isat 13.9A / Itemp@40 10.9A (7.5mm x 7mm)

Vpre Frequency Configuration :

- 450KHz :
 - * Vpre Coil set to 4.7nH or 6.8nH
 - * Comp Network : C5=150pF / C4=6.8nF / R3=3.57K
- 2.2MHz :
 - * Vpre coil set to 1.5nH or 4.7nH
 - * Comp. Network : C5=22pF / C4=1.5nF / R3=16.9K

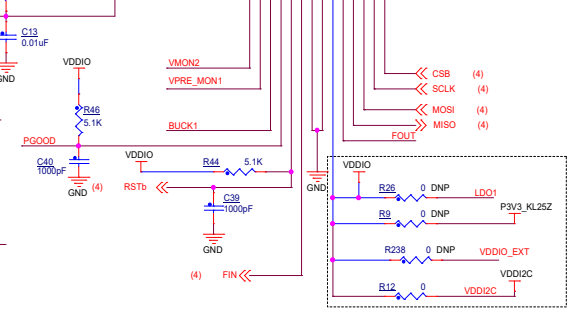
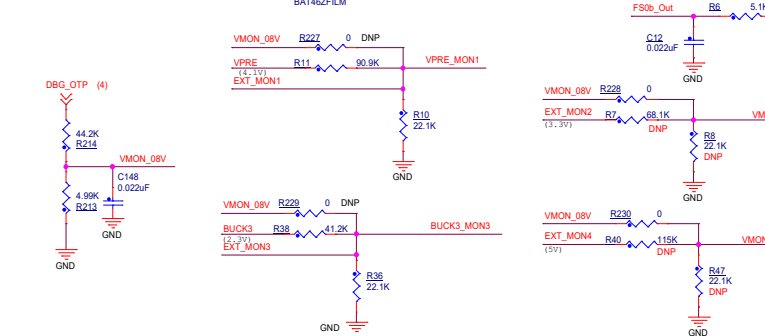
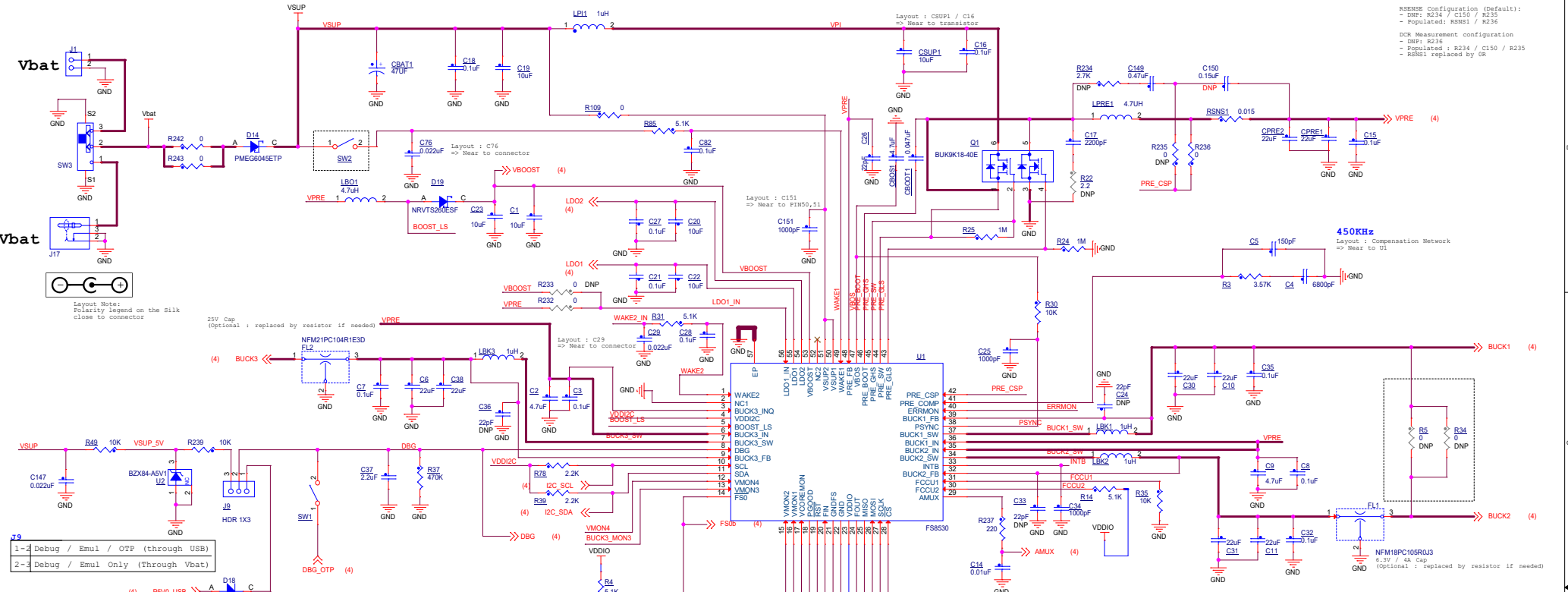
Default coil on this board is 4.7nH to allow evaluation at both frequencies.
 Recommended values are 1.5nH to minimize size at 2.2MHz, and 6.8nH to minimize ripple at 450KHz

3-Terminal Capacitors

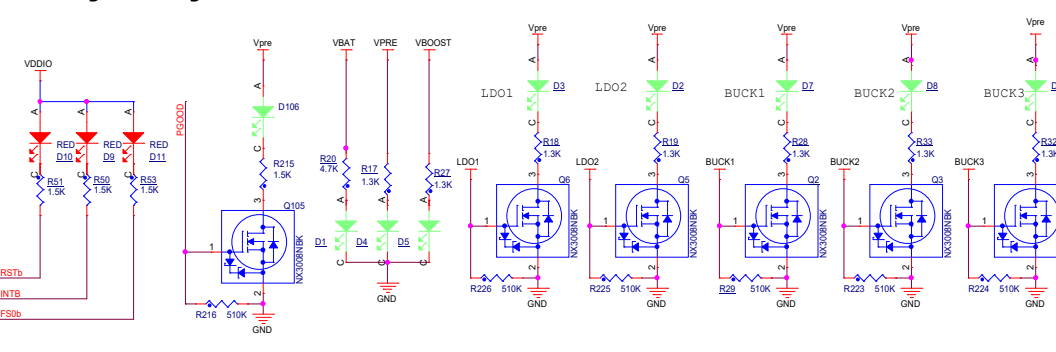
Mounted for evaluation purpose only.
 Optional feature. Can be replace by a 0603 0 ohm resistors.



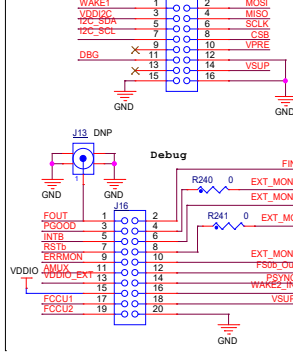
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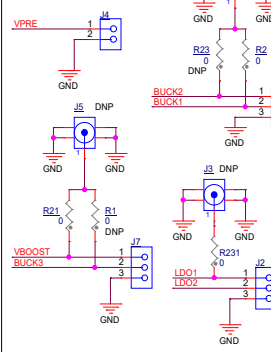
LED Signalling



FS8530 Signals



POWER



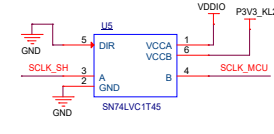
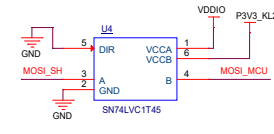
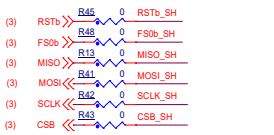
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Drawing Title: KITFS85FRDMEVM

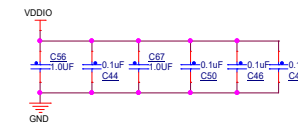
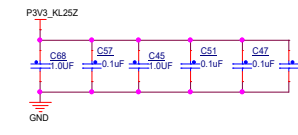
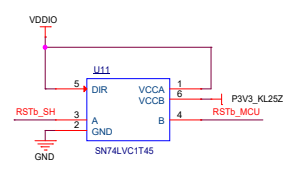
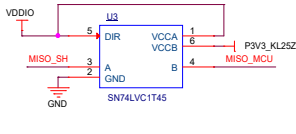
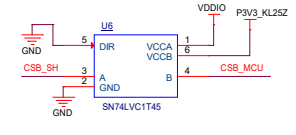
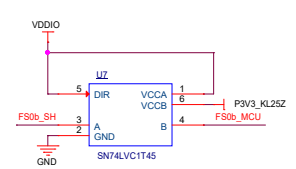
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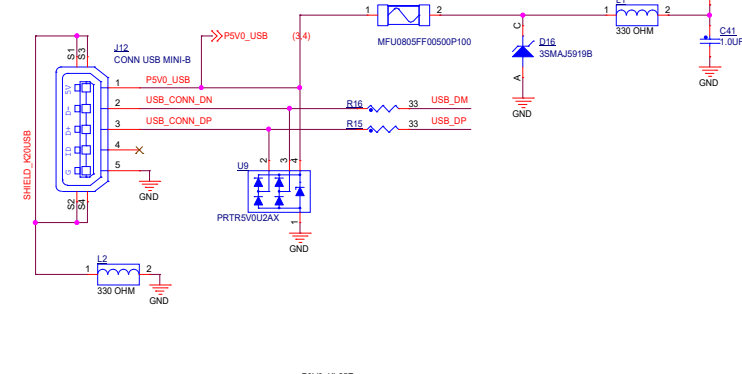
SPI / Reset / Fai Safe 0



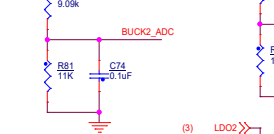
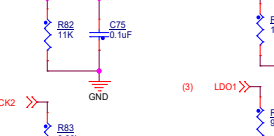
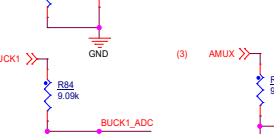
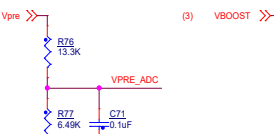
Level Shifter (1.65V / 5.5V)



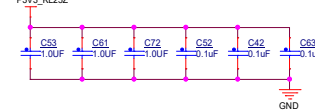
KL25Z USB CONNECTOR



Analog Inputs



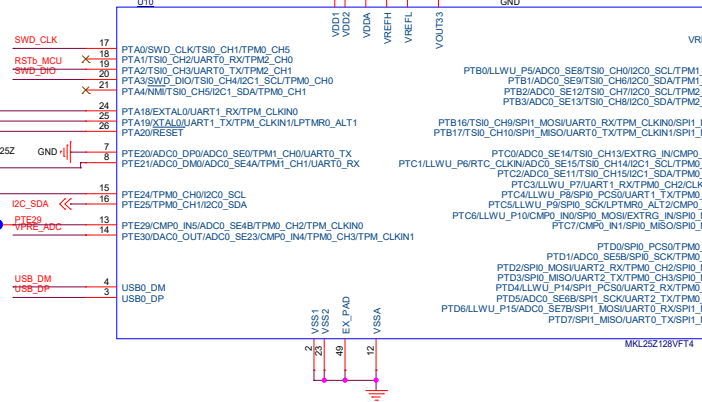
KL25Z Decoupling Caps



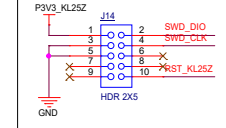
CAD NOTE: Please place these capacitors near their respective CPU pin (VREFH to VREFL and VDDA to VSSA). Decoupling capacitors shall be used for these pins: VDD1, VDD2, VDDA.

Board ID	Board Type
0	0
0	1
1	0
1	1

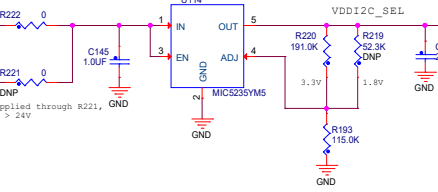
Programming



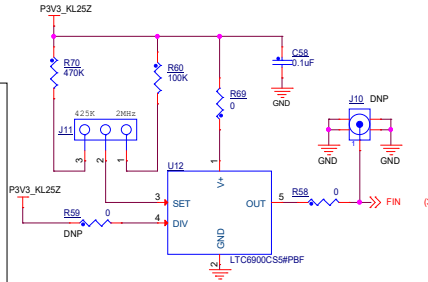
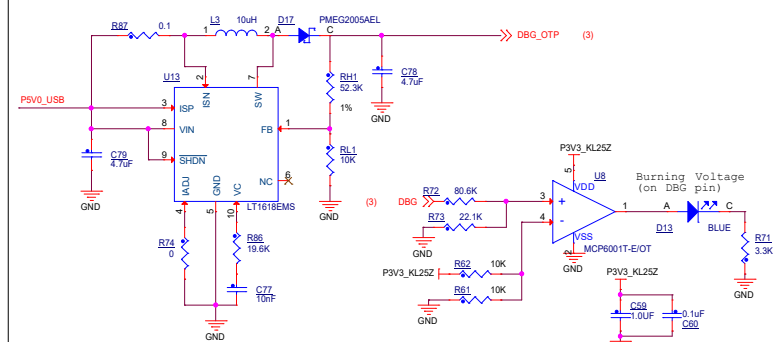
SWD CONNECTOR



VDDI2C



DEBUG & Programming Mode Voltage



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