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Revisions			
Rev	Description	Date	Approved
X1	Initial Release	March 27th, 2020	Lucie Hernandez
A	A085 release	May 20th, 2020	Lucie Hernandez
B	A085 release	July 10th, 2020	Lucie Hernandez

# KITFS84SKTEVM

## Socketed Board

		<b>Analog Sensor Product Group</b> 6501 William Cannon Drive West Austin, TX 78725-8598	
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<b>© NXP SEMICONDUCTORS</b>		Classification: <FCP> <PUO> <PUB>	
Designer: Lucie Hernandez	Drawing Title: <b>KITFS84SKTEVM</b>		
Drawn by: Lucie Hernandez	Page Title: <b>TITLE, TOC &amp; REV</b>		
Approved: Didier Pagnoux	Size C	Document Number SCH-47344 PDF: SPF-47344	Rev B
Date: Friday, July 10, 2020		Sheet 1 of 4	

Board Configuration

Vpre : 450KHz / 4.1V / 10A / VMON1  
Buck1: 2.2MHz / 1.25V / 2.6A / In = Vpre / VCOREMON  
Buck3: 2.2MHz / 3.3V / 2.1A / VMON3  
VBoost: 2.2MHz / 5.74V / 400mA / In = Vpre  
LDO1 : - / 3.3V / 400mA / In = VPRE/ VMON4  
LDO2 : - / 5V / 200mA / VMON2

Vpre & Pi Filter Coil Selection :

For Vpre 6 Amps :  
- Vpre : XAL6060-682ME  
  
For Vpre 10 Amps :  
- PiFilter : SPM6545VT-1R0M-D Isat 22.9A / Itemp 10.9A (7x6.5mm)  
- Vpre 450K : SPM10065VT-4R7M-D Isat 22.9 / Itemp@40°C 11.7A (10 x 10.5mm)  
- Vpre 2.25M : XAL6030-182ME Isat 18.2A / Itemp@20C 10A  
  
Alternate Parts for Vpre 10 Amps :  
- Vpre 450K : XAL1010-682 Isat 21.8A / Itemp 14A (10x11.3mm)

Vpre Compensation Network


- \* Vpre Voltage : 4.1V
- \* Vpre Frequency : 455 kHz
- \* Vpre coil set 4.7µH / Rshunt : 10mOhms / Cout : 44µF
- \* Comp. Network : C12=390pF / C16=22nF / R9=1.8KOhm
  
- \* Vpre Voltage : 4.1V
- \* Vpre Frequency : 2.22MHz
- \* Vpre coil set 2.2µH- 4.7µH/ Rshunt : 10mOhms / Cout : 44µF
- \* Comp. Network : C25=47pF / C21=2200pF / R14=5.6KOhm

Jumper & Switch Table

REF DES	JUMPER_DEFAULT	PAGE NAME
J3	Default: Open	03-FS8416
J1	Short: 1-2 & 3-4	03-FS8416
J21,J18,J20,J5,J7,J19,J14,J6, SW1	Short: 1-2	03-FS8416
J8,J9,J11,J10	Short: 2-3	03-FS8416
J15	Short: 5-6	03-FS8416
J23	Short: 1-2; 3-4; 5-6; 7-8; 9-10 ; 11-12	04-USB-Interface

DNP Table

REF DES	ASSY_OPT	PAGE NAME
R57,R5,CSUP2,CPRE3,R7,C2,R2, C6	DNP	03-FS8416
R86	DNP	04-USB-Interface



Classification:

<CP><FUD><PUB>

Drawing Title:

KITFS84SKTEVM

Page Title:

NOTES

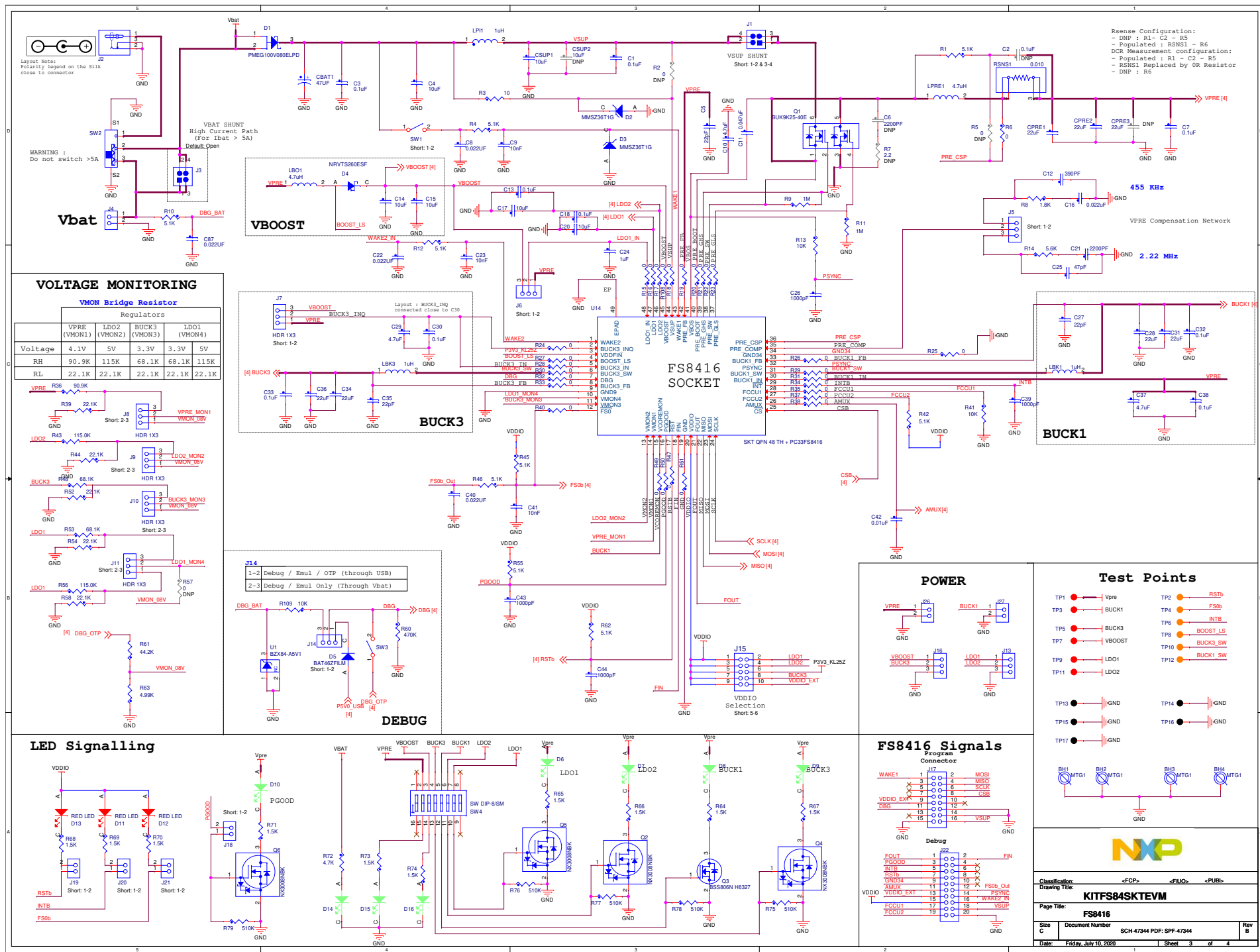
Size C

Document Number SCH-47344 PDF: SPF-47344

Rev B

Date: Thursday, July 09, 2020

Sheet 2 of 4



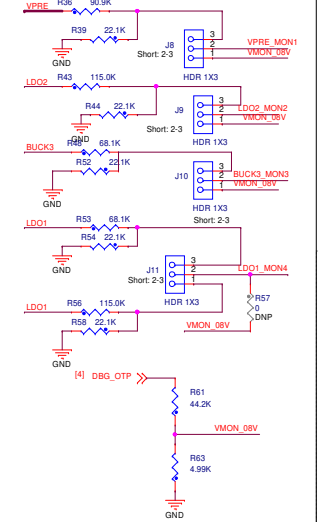
Resense Configuration:  
- DNP : R1- C2 - R5  
- Populated : R5NS1 - R6  
DCR Measurement configuration:  
- Populated : R1 - C2 - R5  
- R5NS1 Replaced by 0R Resistor  
- DNP : R6

Layout Note:  
Polarity legend on the Silk  
close to connector

WARNING :  
Do not switch >5A

### VOLTAGE MONITORING

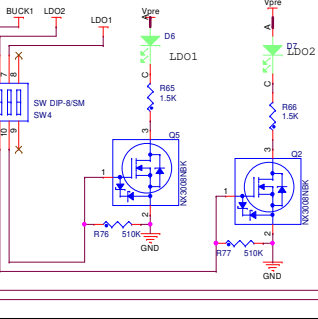
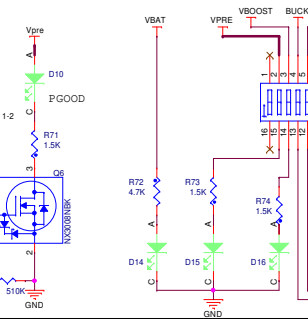
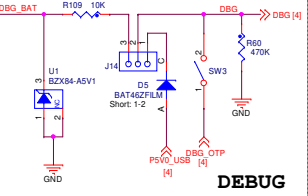
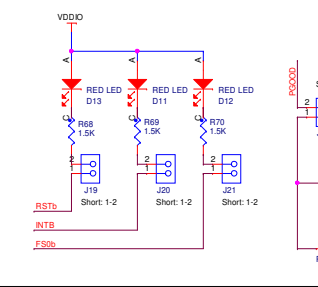
VMON Bridge Resistor					
	Regulators				
	VPRE (VMON1)	LDO2 (VMON2)	BUCK3 (VMON3)	LDO1 (VMON4)	
Voltage	4.1V	5V	3.3V	3.3V	5V
RH	90.9K	115K	68.1K	68.1K	115K
RL	22.1K	22.1K	22.1K	22.1K	22.1K



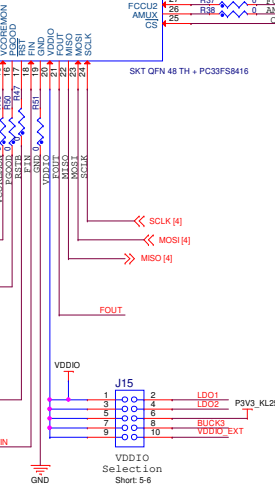
J14  
1-2 Debug / Emul / OTP (through USB)  
2-3 Debug / Emul Only (Through Vbat)

### DEBUG

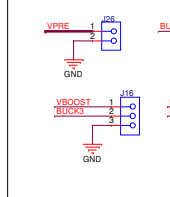
### LED Signalling



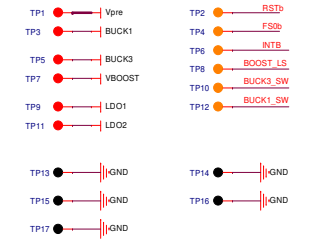
### FS8416 SOCKET



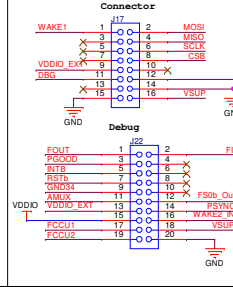
### POWER



### Test Points

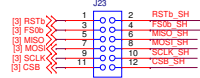


### FS8416 Signals

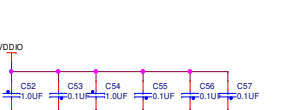
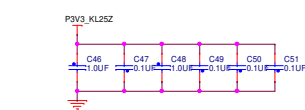
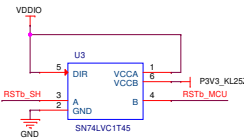
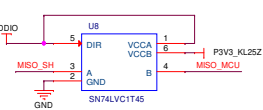
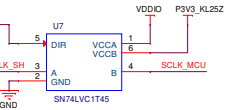
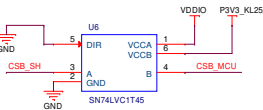
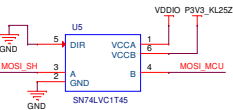


## Level Shifter (1.65V / 5.5V)

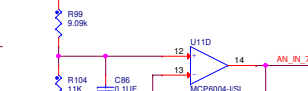
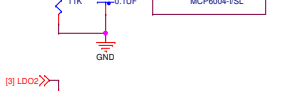
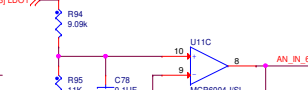
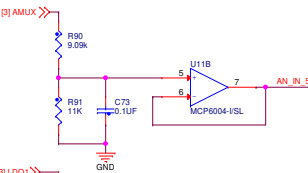
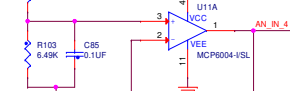
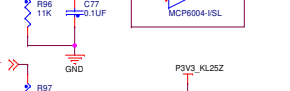
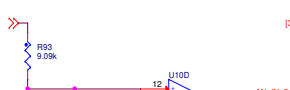
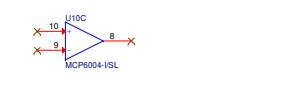
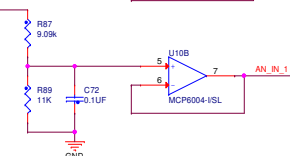
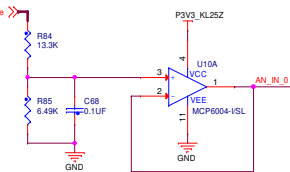
### SPI / Reset / Fail Safe 0



Short 1-2, 3-4, 5-6, 7-8, 9-10, 11-12



## Analog Inputs



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Board ID	Board Type
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Board ID	Board Type
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Board ID	Board Type
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Board ID	Board Type
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