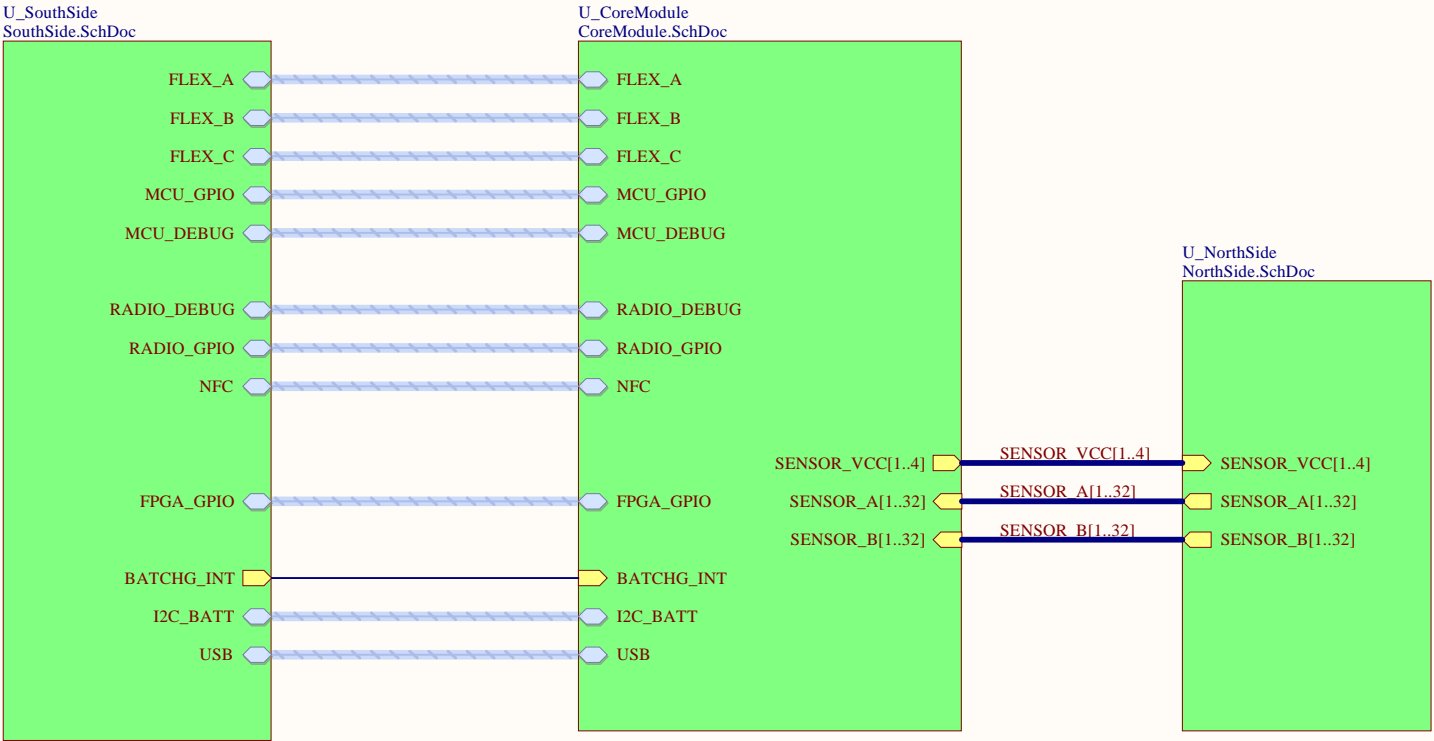
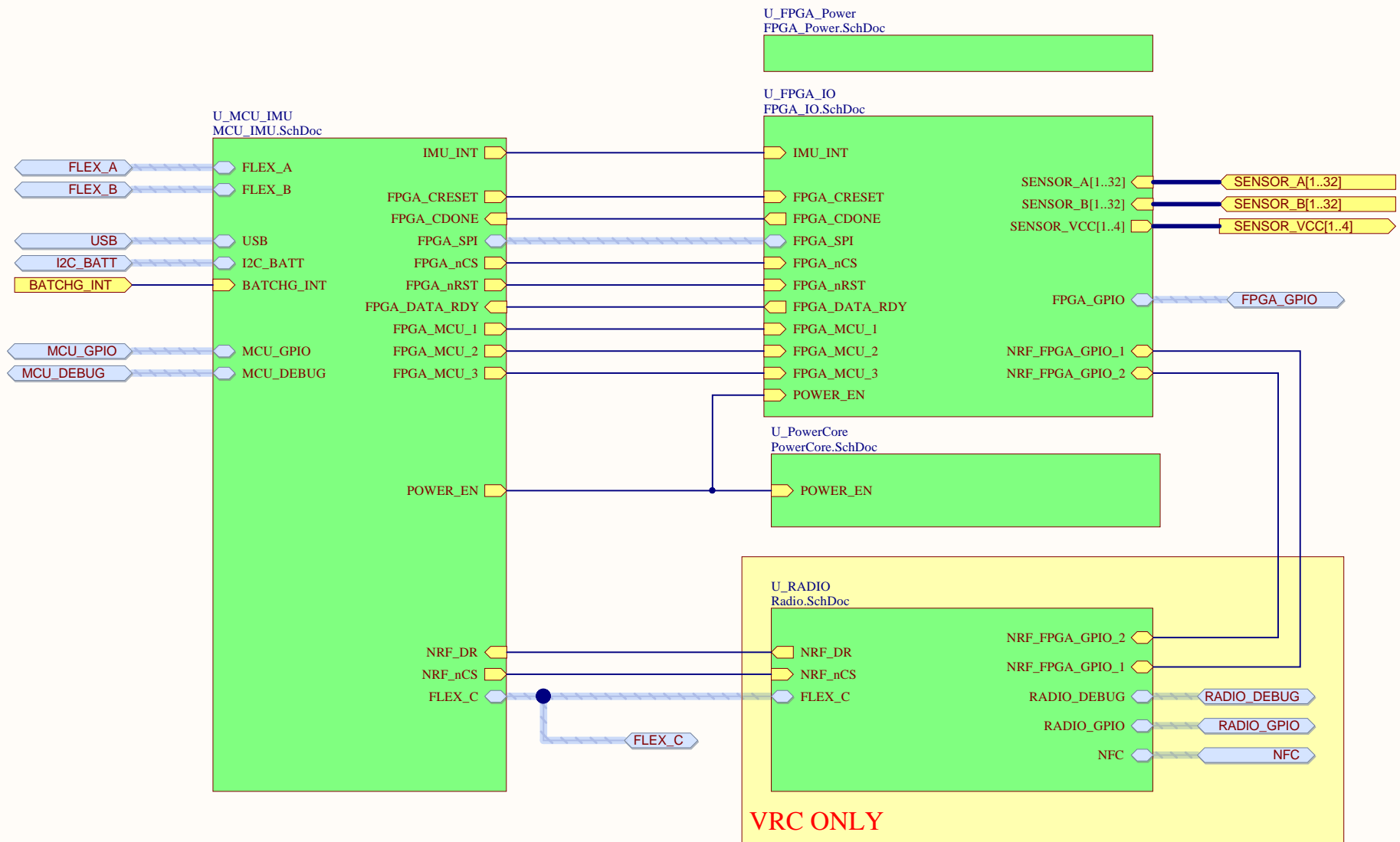


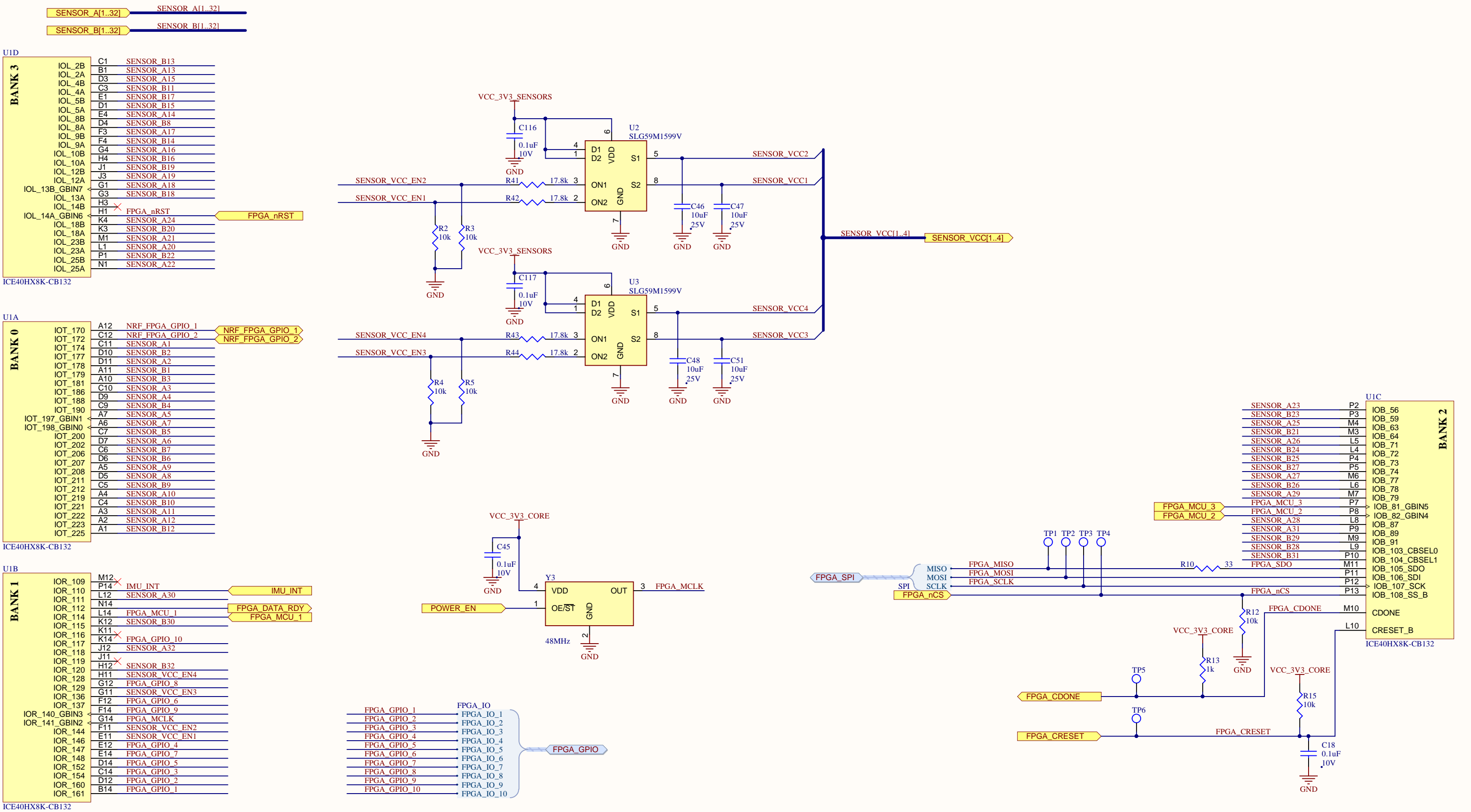
CHANGE HISTORY			
REV	PAGE/ZONE	DESCRIPTION OF CHANGE	DATE
R01	Alpha Release		6/3/2016
R02	Initial Build		6/6/2016
R03	Antenna match and test points		7/13/2016
R03B	USB series resistors		9/22/2016

U\_RevisionLog  
Revision\_Log.SchDoc





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			Sheet Title: Core Module			
			Drawn by: D. Bruey, M.Ciuffo			
			Schematic Part Number: 602-100835		Schematic Revision: 03B	
			Date: 9/22/2016		Sheet: 2 / 10	



Design Notes:

From iCE40 Programming and Configuration appnote  
Set for maximum SPI frequency  
CDONE Pullup =  $1/(2 * \text{configFrequency} * \text{CDONETraceCap})$   
CDONE Pullup =  $1/(2 * 40\text{MHz} * 10\text{pF})$   
CDONE Pullup = 1.25k

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Project: Watchman

PCBA: Core Module iCE40

Sheet Title: FPGA IO

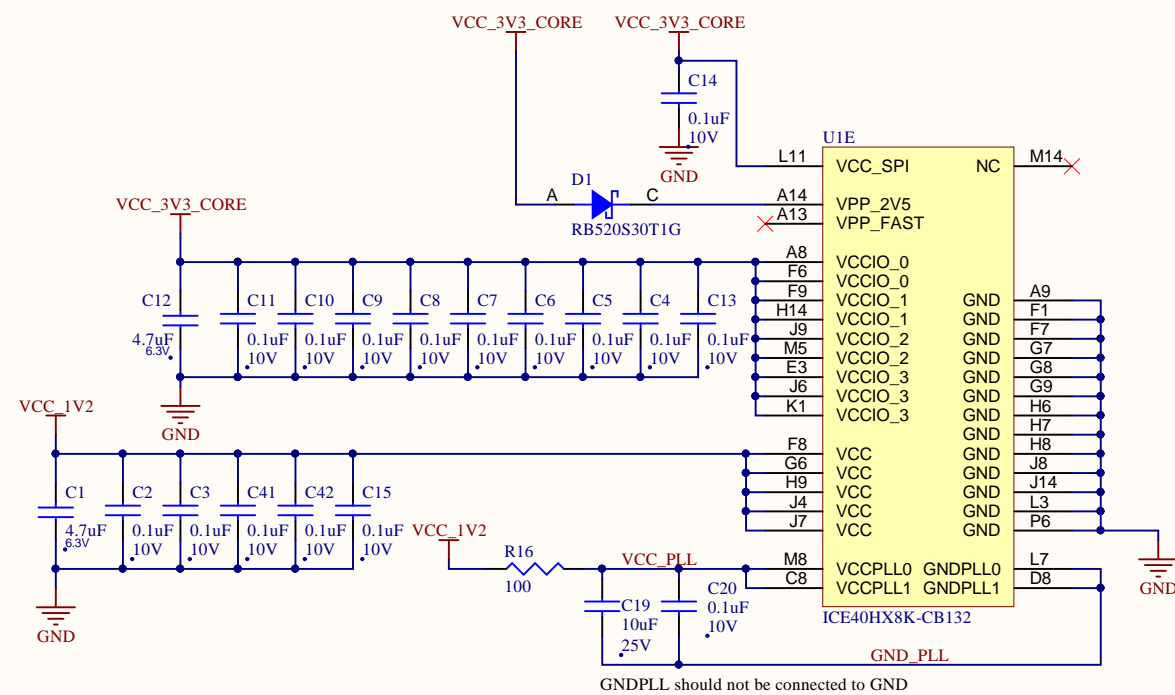
Drawn by: D. Bruey, M.Ciuffo

Schematic Part Number: 602-100835

Schematic Revision: 03B

Date: 9/22/2016

Sheet: 3 / 10



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**Project:** Watchman

**PCBA:** Core Module iCE40

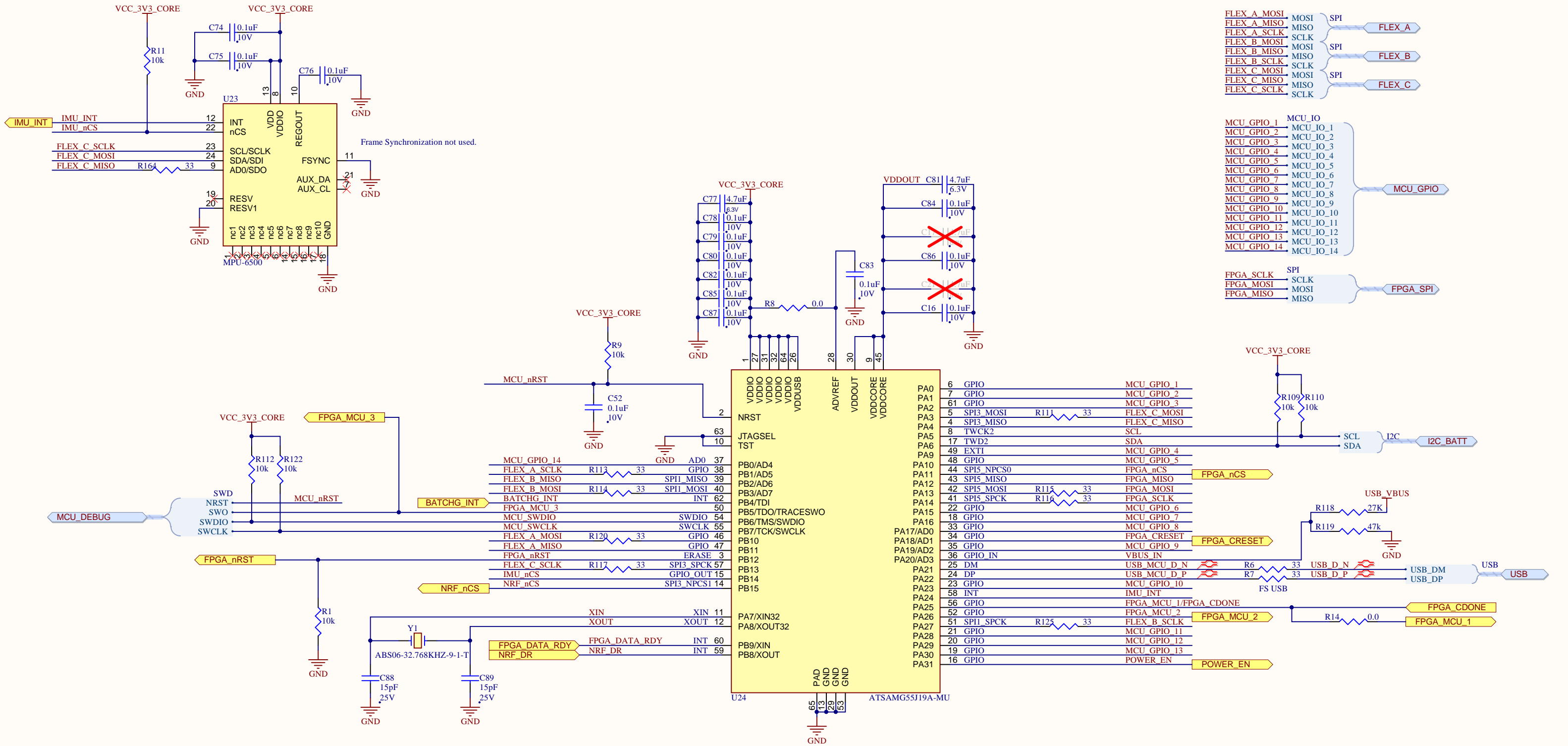
**Sheet Title:** FPGA Power

Schematic Part Number: 602-100835

Schematic Revision: 03B

Date: 9/22/2016

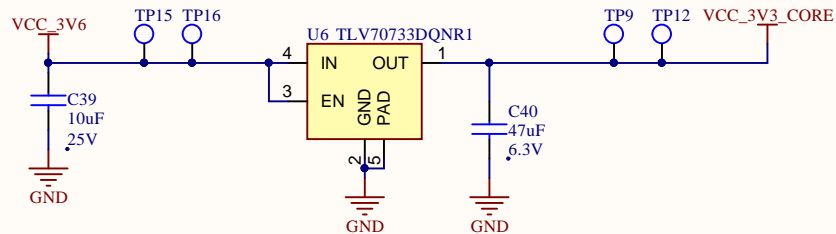
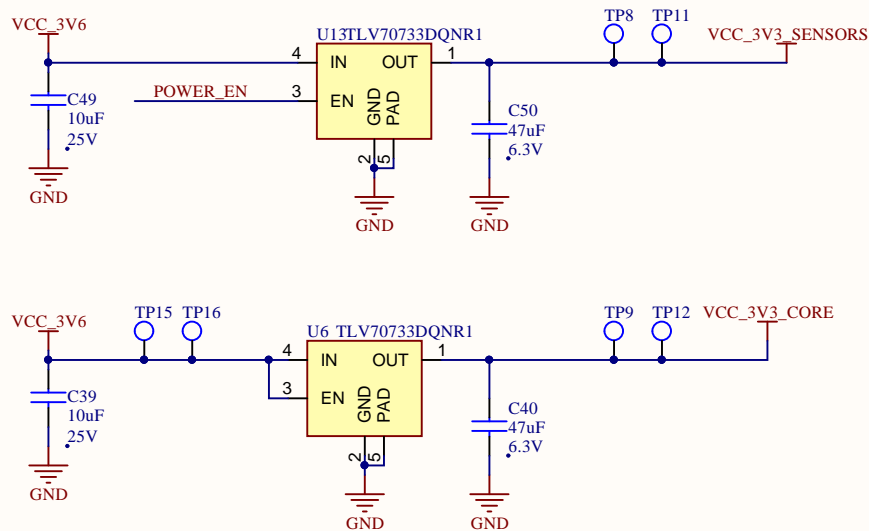
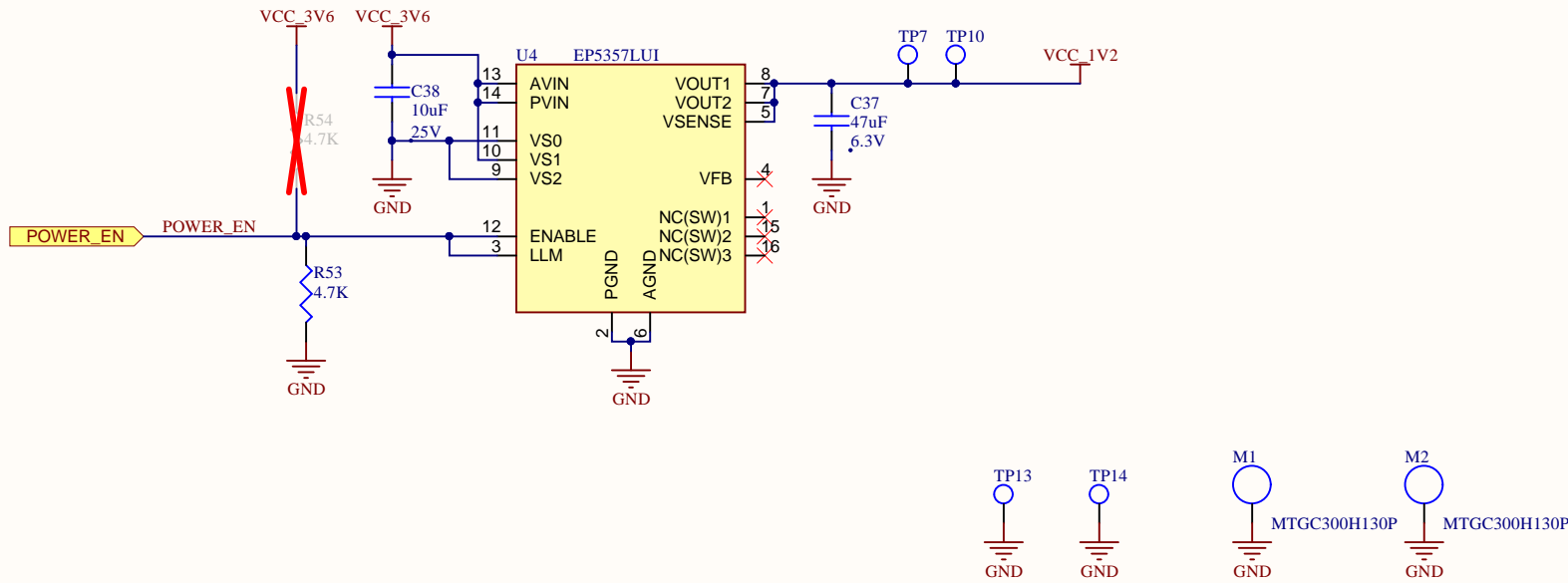
Sheet: 4 / 10



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	<b>Sheet Title:</b> MCU and IMU			
	Drawn by: D. Bruey, M.Ciuffo			
	Schematic Part Number: 602-100835		Schematic Revision: 03B	
	Date: 9/22/2016		Sheet: 5 / 10	



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Project: Watchman

PCBA: Core Module iCE40

Sheet Title: Power Core

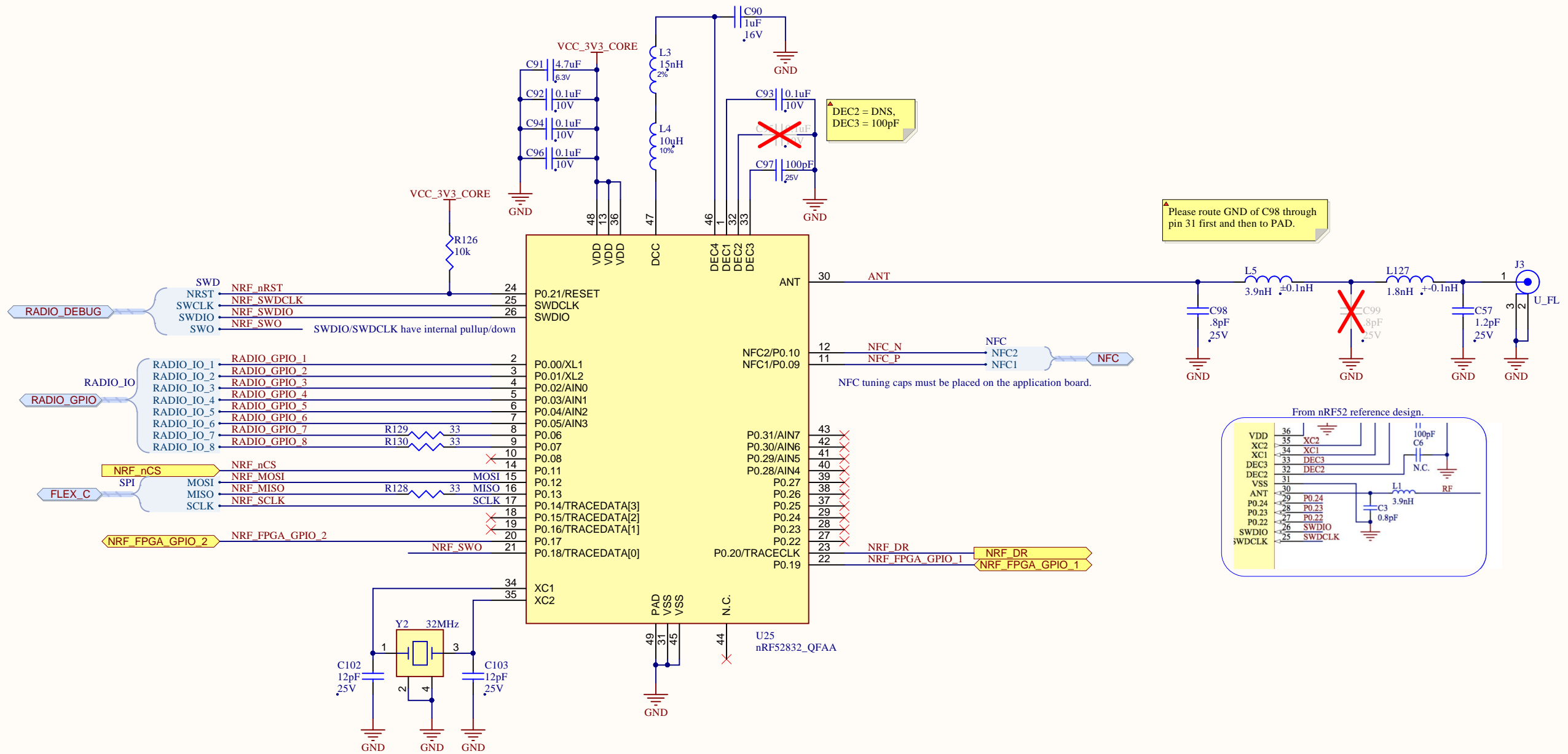
Drawn by: D. Bruey, M.Ciuffo

Schematic Part Number: 602-100835

Schematic Revision: 03B

Date: 9/22/2016

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Project: Watchman

PCBA: Core Module iCE40

Sheet Title: Radio

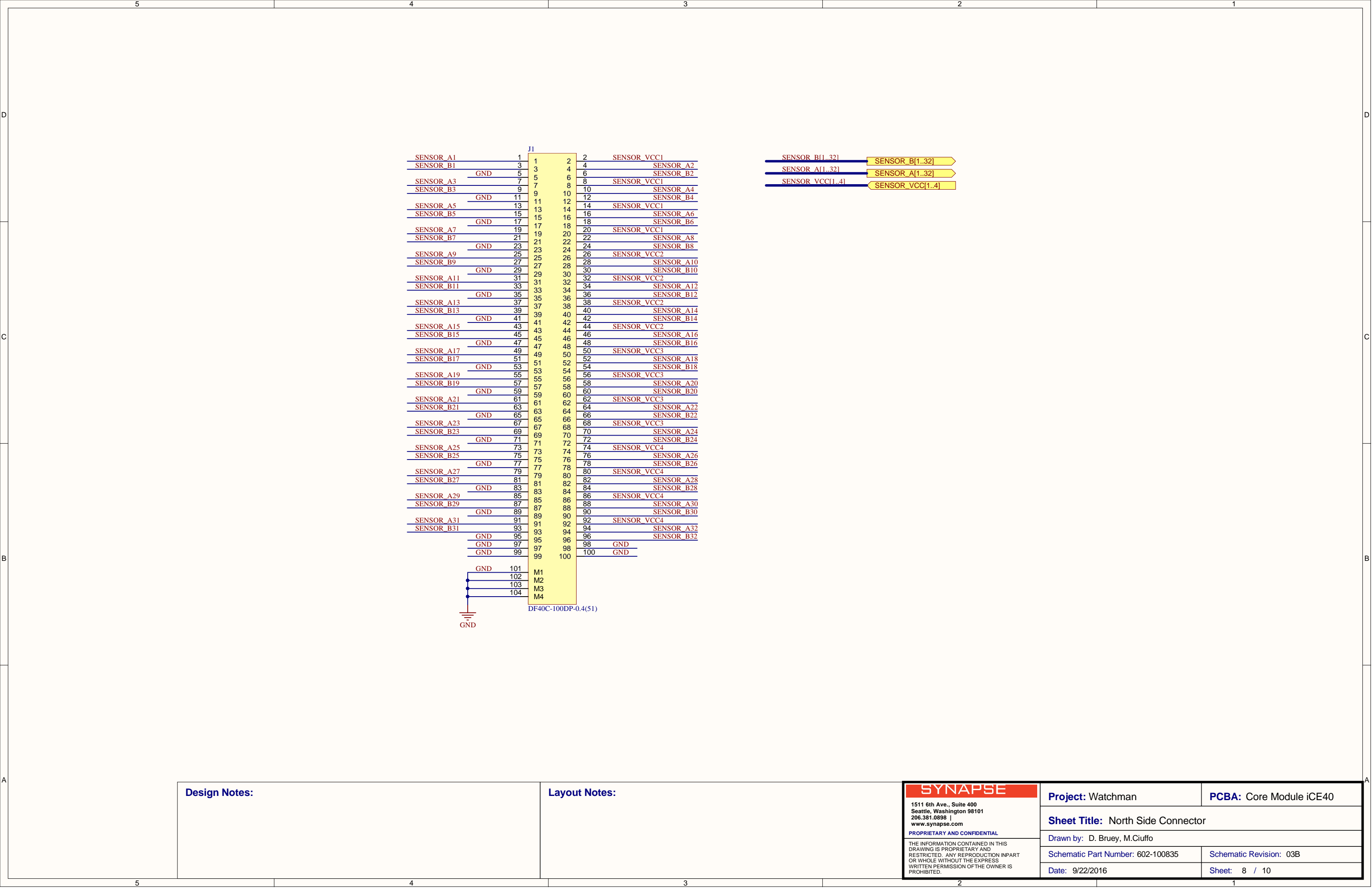
Drawn by: D. Bruey, M.Ciuffo

Schematic Part Number: 602-100835

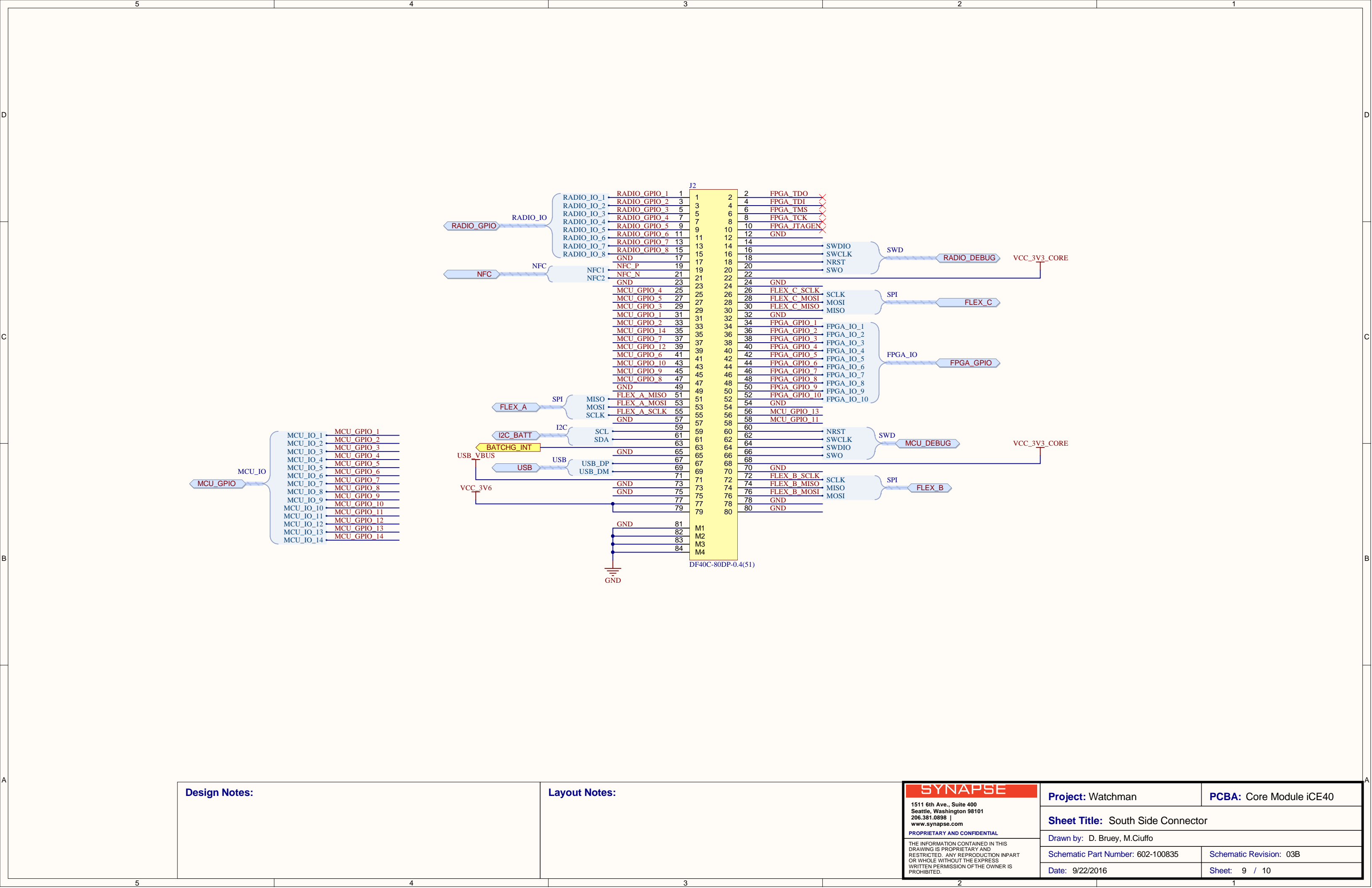
Schematic Revision: 03B

Date: 9/22/2016

Sheet: 7 / 10







CHANGE HISTORY		
REV	DESCRIPTION OF CHANGE	DATE
R01	Alpha Release	6/3/2016
R02	Added 0.1uF capacitor for pin 9 of MCU Changed C81 to 1.0uF Added DNS options C17, C21	6/6/2016
R03	Changed C81 to 4.7uF Updated antenna matching network Added test points to power rails Tuned load caps C88 and C89 to 15pF Tuned load caps C102 and C103 to 12pF	7/13/2016
R03B	Changed R6, R7 to 33R	9/22/2016

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Project: Watchman

PCBA: Core Module iCE40

Sheet Title: Revision Log

Drawn by: D. Bruey, M.Ciuffo

Schematic Part Number: 602-100835

Schematic Revision: 03B

Date: 9/22/2016

Sheet: 10 / 10