



EFM32 Giant Gecko 11 STK	
Board Function	Page
Title Page	1
User Interface	2
EFM32 Signal Assignments 1	3
EFM32 Signal Assignments 2	4
External memory	5
Ethernet	6
EFM32 Power & USB	7
EFM32 I/O	8
Microphones	9
Sensors	10
Advanced Energy Monitor Sense	11
Advanced Energy Monitor Gain	12
Debug Interface	13
Power & Misc	14
Board Controller MCU	15
Board Controller Misc	16

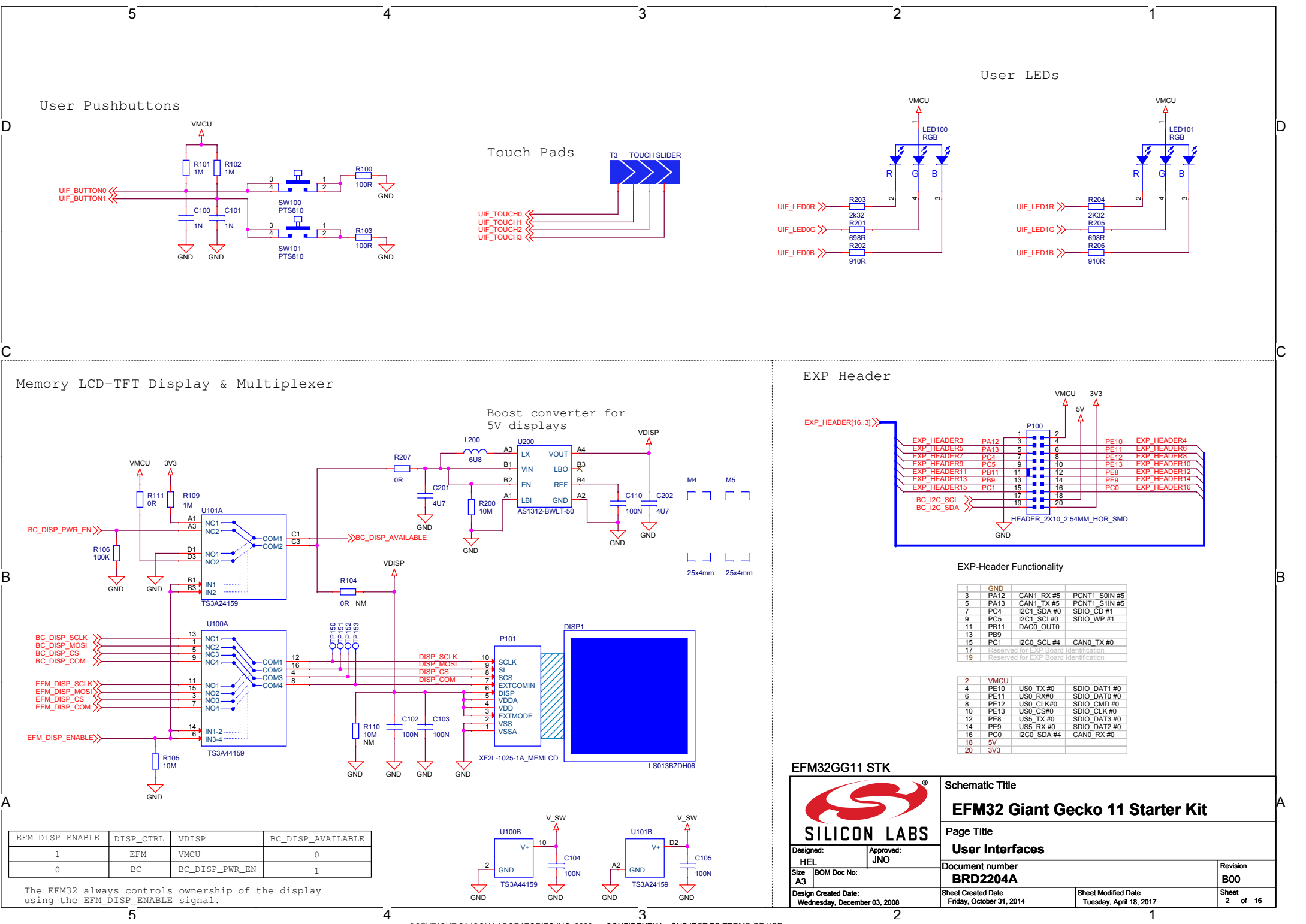
LEGAL NOTICE:
SILICON LABORATORIES INC. ("SILICON LABS") AND/OR ITS LICENSORS DO NOT WARRANT THE ACCURACY OR COMPLETENESS OF THIS SCHEMATIC OR ANY INFORMATION CONTAINED WITHIN THIS SCHEMATIC. IT IS PROVIDED "AS-IS" FOR REFERENCE ONLY. SILICON LABS DOES NOT WARRANT THAT THIS DESIGN WILL MEET THE SPECIFICATIONS, BE SUITABLE FOR YOUR APPLICATION OR FIT FOR ANY PARTICULAR PURPOSE, OR WILL OPERATE IN YOUR IMPLEMENTATION. SILICON LABS AND ITS LICENSORS DO NOT WARRANT THAT THE DESIGN IMPLIED IN THIS SCHEMATIC IS PRODUCTION-WORTHY. YOU SHOULD COMPLETELY VALIDATE AND TEST YOUR DESIGN IMPLEMENTATION TO CONFIRM SYSTEM FUNCTIONALITY FOR YOUR APPLICATION.



Revision History	
Rev.	Description
B00	Production release.

EFM32GG11 STK

 SILICON LABS		Schematic Title EFM32 Giant Gecko 11 Starter Kit	
Designed: HEL		Page Title Title Page	
Approved: JNO		Document number BRD2204A	
Size A3	BOM Doc No: <Cage Code>	Sheet Created Date Saturday, March 21, 2009	Revision B00
Design Created Date: Wednesday, December 03, 2008		Sheet Modified Date Tuesday, April 18, 2017	Sheet 1 of 16



The diagram illustrates the pin connections for the EFM8L85 microcontroller, divided into two main sections: PA Connections and Breakout Connections.

PA Connections: This section shows the connections for pins PA0 through PA15. The connections are as follows:

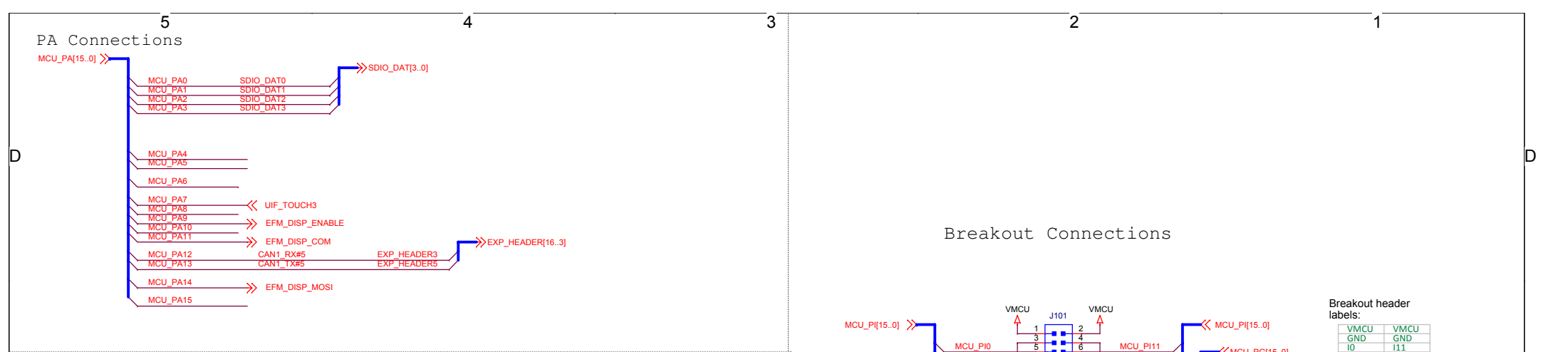
- MCU_PA0: SDIO_DAT0
- MCU_PA1: SDIO_DAT1
- MCU_PA2: SDIO_DAT2
- MCU_PA3: SDIO_DAT3
- MCU_PA4: (unconnected)
- MCU_PA5: (unconnected)
- MCU_PA6: (unconnected)
- MCU_PA7: UIF_TOUCH3
- MCU_PA8: EFM_DISP_ENABLE
- MCU_PA9: EFM_DISP_ENABLE
- MCU_PA10: EFM_DISP_COM
- MCU_PA11: EXP_HEADER3
- MCU_PA12: CAN1_RX#5
- MCU_PA13: CAN1_TX#5
- MCU_PA14: EFM_DISP_MOSI
- MCU_PA15: (unconnected)

Breakout Connections: This section shows the connections for pins P0 through P15. The connections are as follows:

- MCU_P0: (unconnected)
- MCU_P1: (unconnected)
- MCU_P2: (unconnected)
- MCU_P3: (unconnected)
- MCU_P4: (unconnected)
- MCU_P5: (unconnected)
- MCU_P6: (unconnected)
- MCU_P7: (unconnected)
- MCU_P8: (unconnected)
- MCU_P9: (unconnected)
- MCU_P10: (unconnected)
- MCU_P11: (unconnected)
- MCU_P12: (unconnected)
- MCU_P13: (unconnected)
- MCU_P14: (unconnected)
- MCU_P15: (unconnected)

Breakout header labels:

VMCU	VMCU
GND	GND
I0	I11



(a) PB Connections

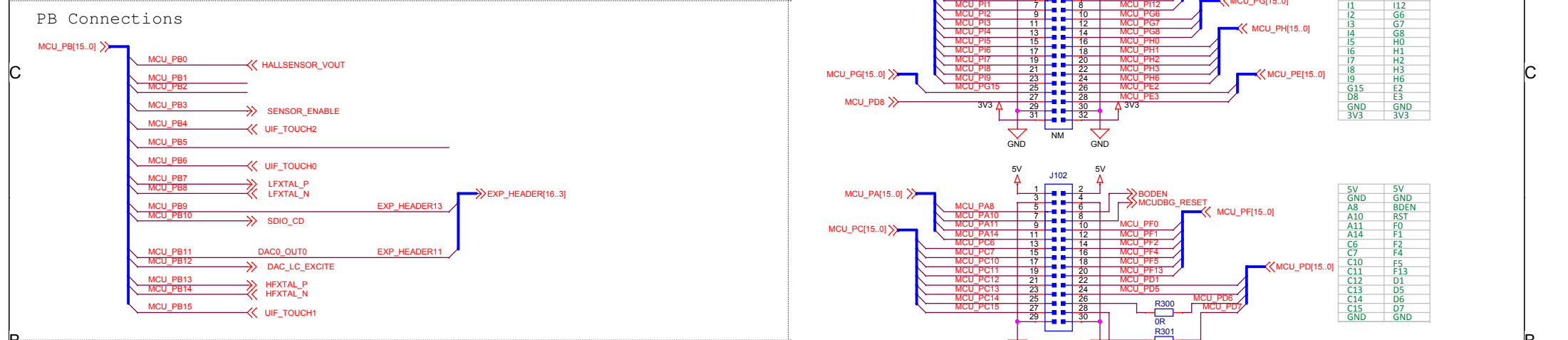
MCU Pin	Peripheral Function	Header
MCU_PB0	HALLSENSOR_VOUT	
MCU_PB1		
MCU_PB2		
MCU_PB3	SENSOR_ENABLE	
MCU_PB4	UIF_TOUCH2	
MCU_PB5		
MCU_PB6	UIF_TOUCH0	
MCU_PB7	LFXTAL_P	
MCU_PB8	LFXTAL_N	
MCU_PB9	SDIO_CD	EXP_HEADER13
MCU_PB10		
MCU_PB11	DAC0_OUT0	EXP_HEADER11
MCU_PB12	DAC_IC_EXCITE	
MCU_PB13	HFXTAL_P	
MCU_PB14	HFXTAL_N	
MCU_PB15	UIF_TOUCH1	

(b) PA/PC Connections

MCU Pin	Peripheral Function	Header
MCU_PA8		
MCU_PA10		
MCU_PA11		
MCU_PA14		
MCU_PC6		
MCU_PC7		
MCU_PC10		
MCU_PC11		
MCU_PC12		
MCU_PC13		
MCU_PC14		
MCU_PC15		
MCU_PC15.0		

(c) PF Connections

MCU Pin	Peripheral Function	Header
MCU_PF0		
MCU_PF1		
MCU_PF2		
MCU_PF4		
MCU_PPF5		
MCU_PF13		
MCU_PD1		
MCU_PD5		
MCU_PD6		
MCU_PD7		
MCU_PD15.0		



PC Connections

MCU_PC[15..0]

MCU_PC0
MCU_PC1

CAN0_RX#0
CAN0_TX#0

EXP_HEADER16
EXP_HEADER15

EXP_HEADER[16..3]

MCU_PC2
MCU_PC3

LES_LC_SENSE

MCU_PC4
MCU_PC5

I2C1_SDA#0
I2C1_SCL#0

EXP_HEADER7
EXP_HEADER9

EXP_HEADER[16..3]

MCU_PC6
MCU_PC7

MCUDBG_TRACECLK
MCUDBG_TRACED0

MCU_PC8
MCU_PC9

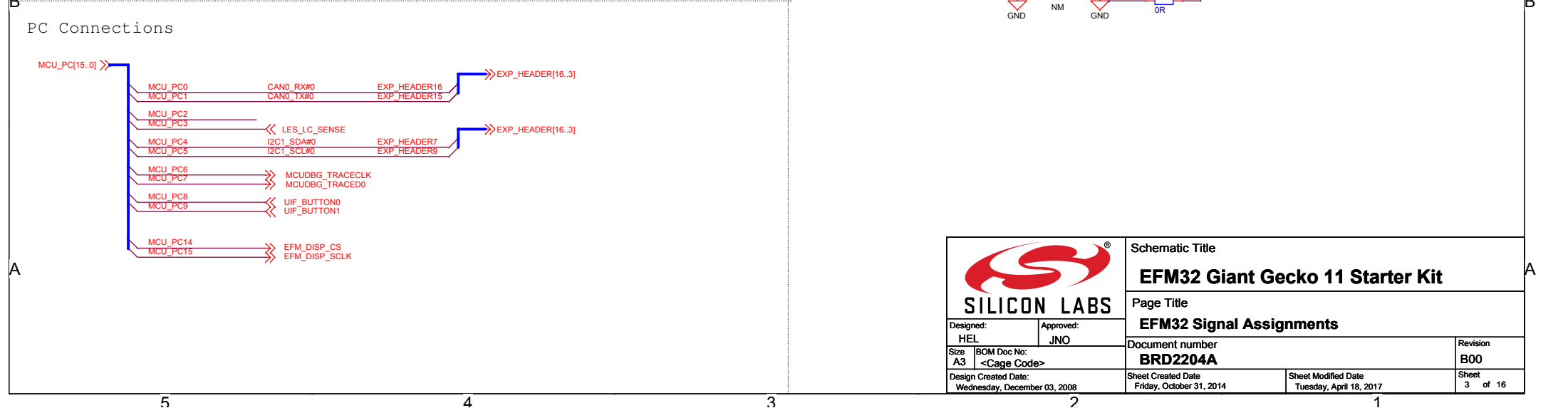
UIF_BUTTON0
UIF_BUTTON1

MCU_PC14
MCU_PC15

EFM_DISP_CS
EFM_DISP_SCLK

GND NM GND OR

 SILICON LABS		Schematic Title	
		EFM32 Giant Gecko 11 Starter Kit	
Designed: HEL		Approved: JNO	
Size A3	BOM Doc No: <Cage Code>	Document number BRD2204A	
Design Created Date: Wednesday, December 03, 2008		Sheet Created Date Friday, October 31, 2014	Sheet Modified Date Tuesday, April 18, 2017
		Revision B00	Sheet 3 of 16



Breakout header labels:

VMCU	VMCU
GND	GND
I0	I11
I1	I12
I2	G6
I3	G7
I4	G8
I5	H0
I6	H1
I7	H2
I8	H3
I9	H6
G15	E2
D8	E3
GND	GND
3V3	3V3

5V	5V
GND	GND
A8	B0EN
A10	RST
A11	F0
A14	F1
C6	F2
C7	F4
C10	F5
C11	F13
C12	D1
C13	D5
C14	D6
C15	D7
GND	GND

Breakout header labels:

VMCU	VMCU
GND	GND
I0	I11
I1	I12
I2	G6
I3	G7
I4	G8
I5	H0
I6	H1
I7	H2
I8	H3
I9	H6
G15	E2
D8	E3
GND	GND
3V3	3V3

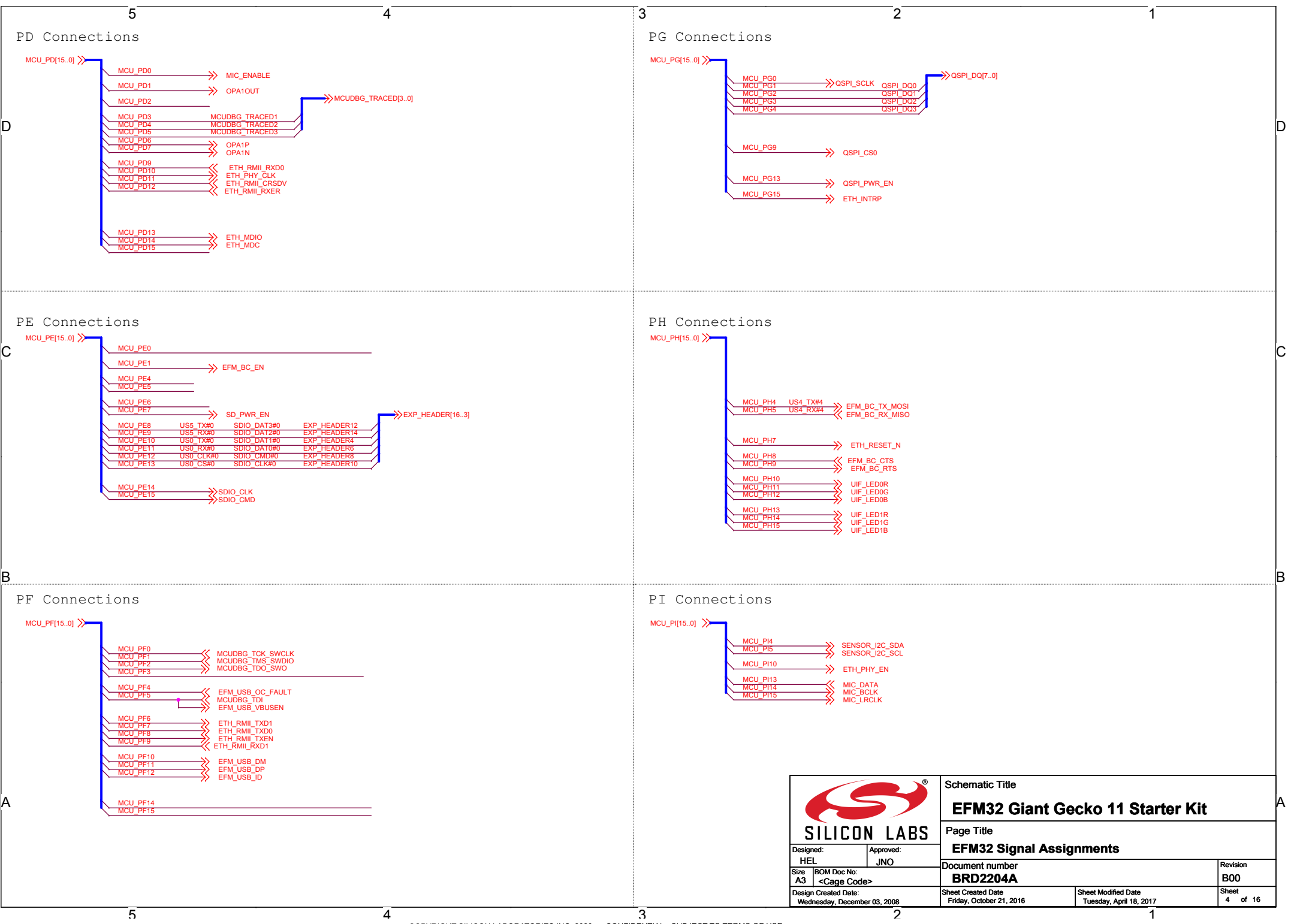
5V	5V
GND	GND
A8	BODEN
A10	RST
A11	F0
A14	F1
C6	F2
C7	F4
A10	F5
C11	F13
C12	D1
C13	D5
C14	D6
C15	D7
GND	GND

Breakout header labels:

VMCU	VMCU
GND	GND
I0	I11
I1	I12
I2	G6
I3	G7
I4	G8
I5	H0
I6	H1
I7	H2
I8	H3
I9	H6
G15	E2
D8	E3
GND	GND
3V3	3V3

5V	5V
GND	GND
A8	BODEN
A10	RST
A11	F0
A14	F1
C6	F2
C7	F4
A10	F5
C11	F13
C12	D1
C13	D5
C14	D6
C15	D7
GND	GND

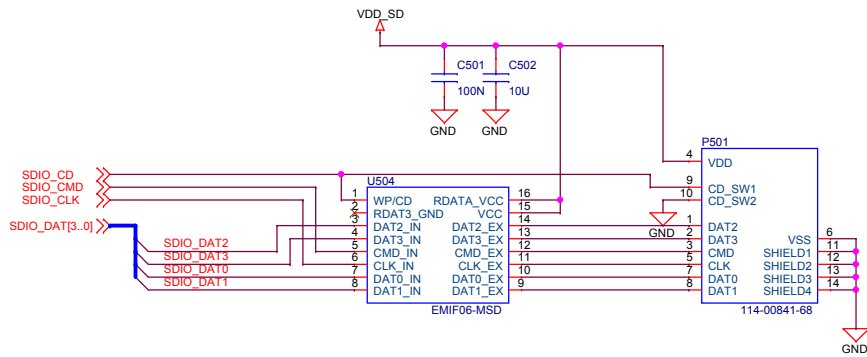
 SILICON LABS		Schematic Title	
		EFM32 Giant Gecko 11 Starter Kit	
Designed: HEL		Approved: JNO	
Size: A3		BOM Doc No: <Cage Code>	
Design Created Date: Wednesday, December 03, 2008		Sheet Created Date Friday, October 31, 2014	Sheet Modified Date Tuesday, April 18, 2017
		Document number BRD2204A	Revision B00
		Sheet 3 of 16	



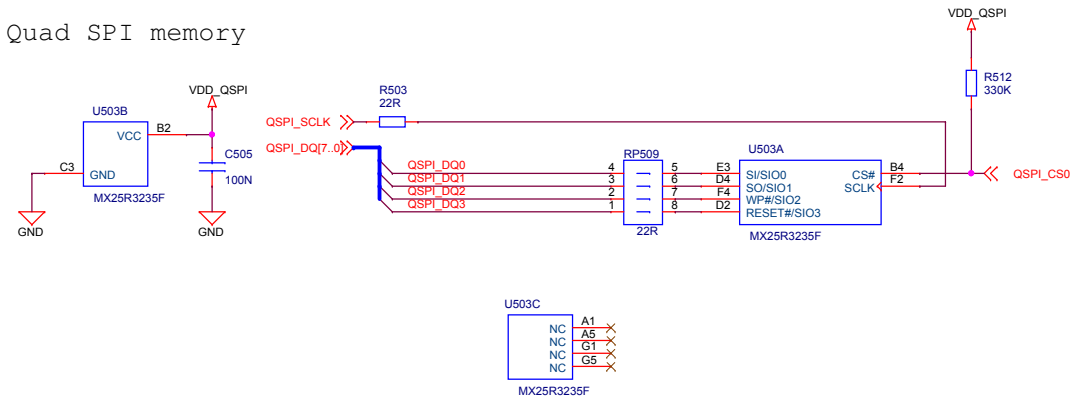
 SILICON LABS		Schematic Title	
		EFM32 Giant Gecko 11 Starter Kit	
Designed: HEL		Page Title	
Approved: JNO		EFM32 Signal Assignments	
Size A3	BOM Doc No: <Cage Code>	Document number BRD2204A	Revision B00
Design Created Date: Wednesday, December 03, 2008		Sheet Created Date Friday, October 21, 2016	Sheet Modified Date Tuesday, April 18, 2017
		Sheet 4 of 16	

SDIO micro

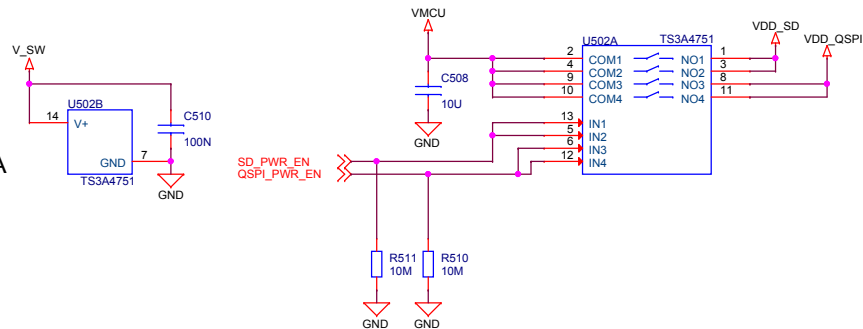
SDIO slot is connected to
SDIO location #0



Quad SPI memory



External memory power switch

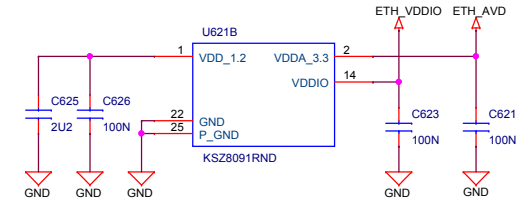
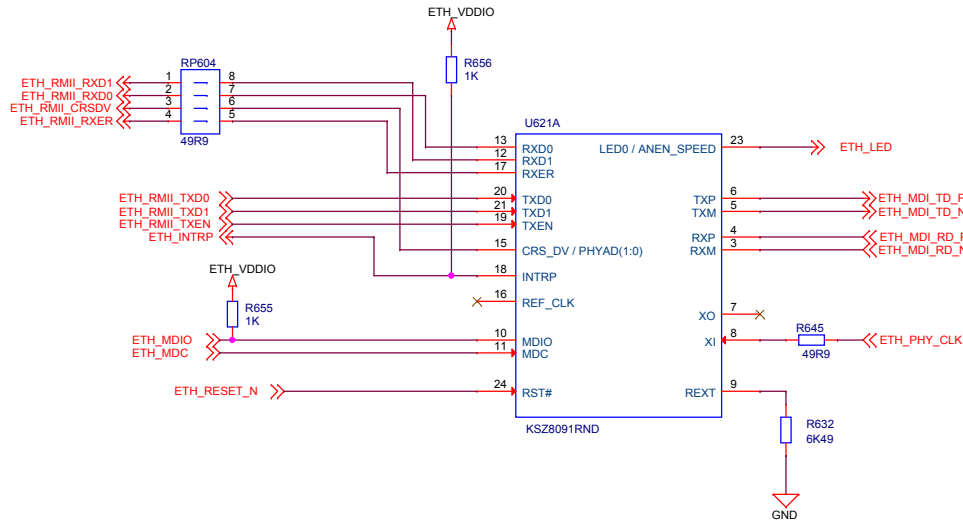


EFM32GG11 STK

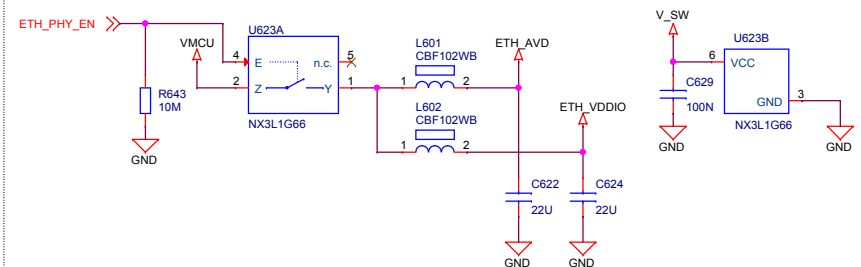
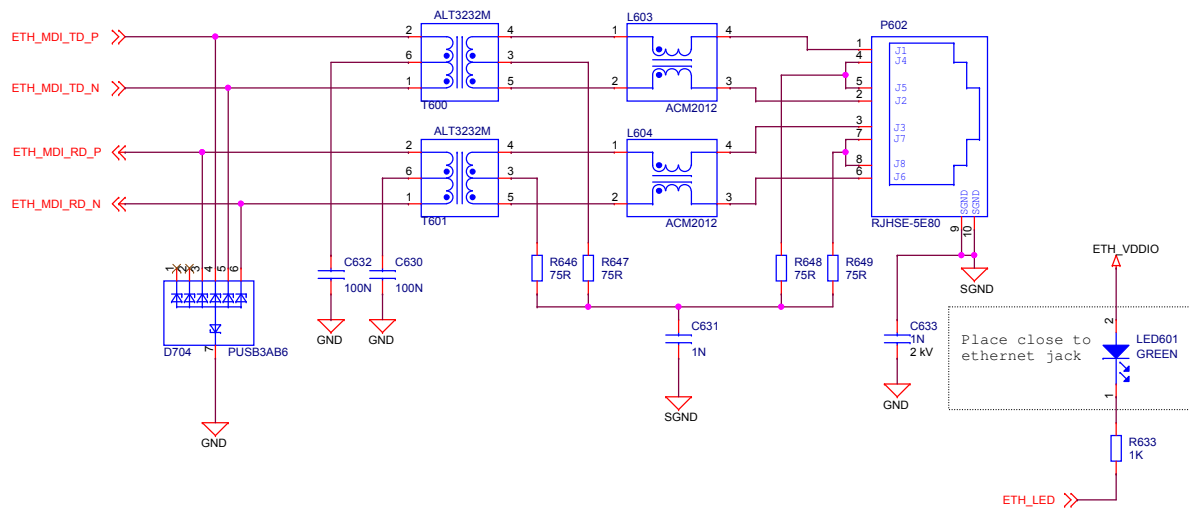
		Schematic Title	
		EFM32 Giant Gecko 11 Starter Kit	
Designed: HEL		Page Title	
Size A3		External memory interfaces	
BOM Doc No:		Document number	Revision
Design Created Date:		BRD2204A	B00
Wednesday, December 03, 2008		Sheet Created Date	Sheet Modified Date
		Monday, October 24, 2016	Tuesday, April 18, 2017
		Sheet	5 of 16

Ethernet PHY

ETH_RMII is connected to
EFM32 Ethernet location #1

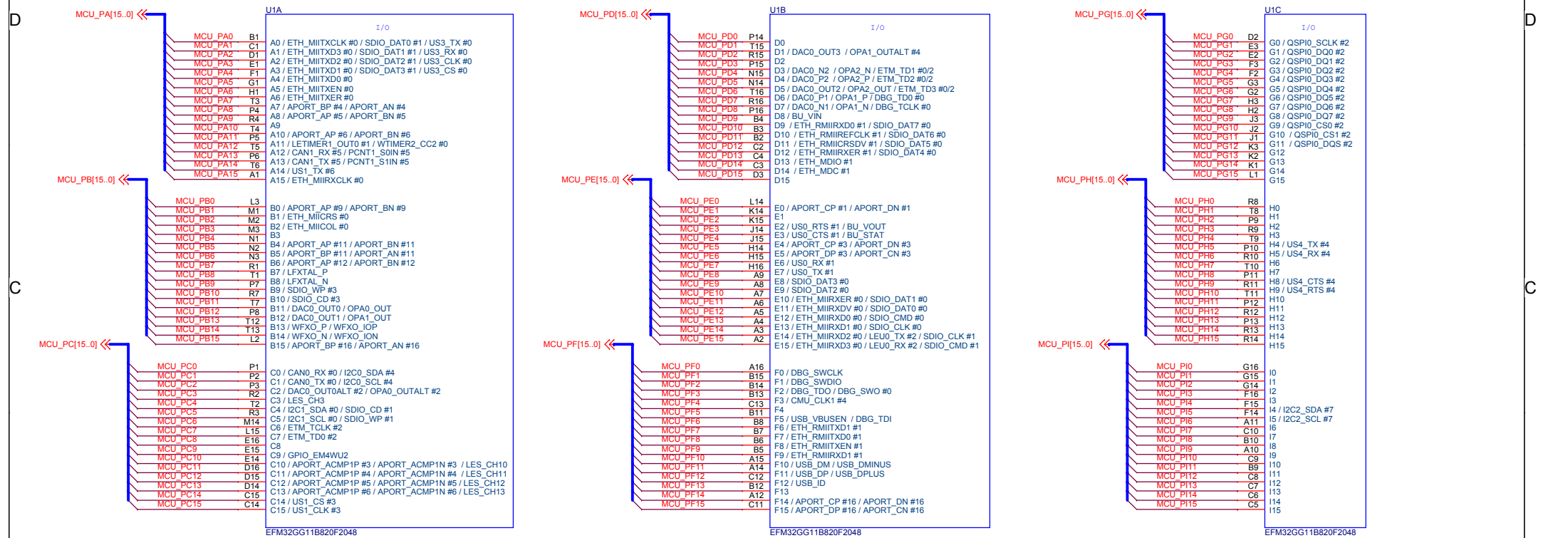


Ethernet jack



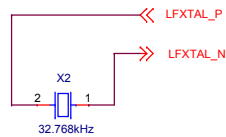
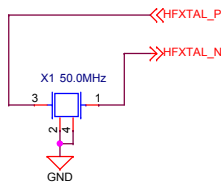
EFM32GG11 STK

		Schematic Title	
		EFM32 Giant Gecko 11 Starter Kit	
Designed: HEL		Page Title	
Size A3		Ethernet PHY	
BOM Doc No:		Document number	
Design Created Date: Wednesday, December 03, 2008		BRD2204A	
Approved: JNO		Revision	
Sheet Created Date: Tuesday, October 25, 2016		B00	
Sheet Modified Date: Tuesday, April 18, 2017		Sheet 6 of 16	



High Frequency Clock

Low Frequency Clock



Schematic Title

EFM32 Giant Gecko 11 Starter Kit

Page Title

EFM32 I/O

Designed:

Approved:

Size

BOM Doc No:

<Cage Code>

Design Created Date:

Document number

BRD2204A

Sheet Created Date

Monday, November 17, 2014

Sheet Modified Date

Tuesday, April 18, 2017

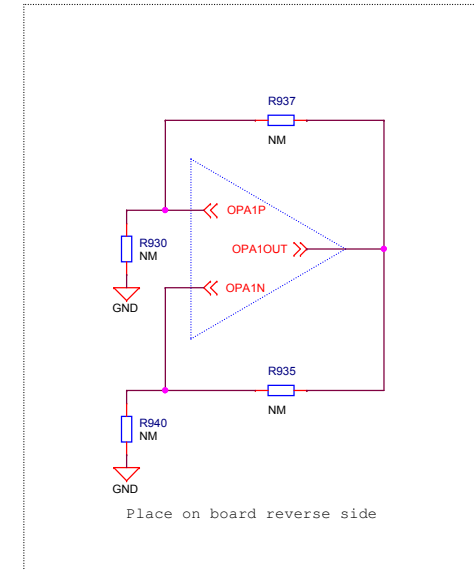
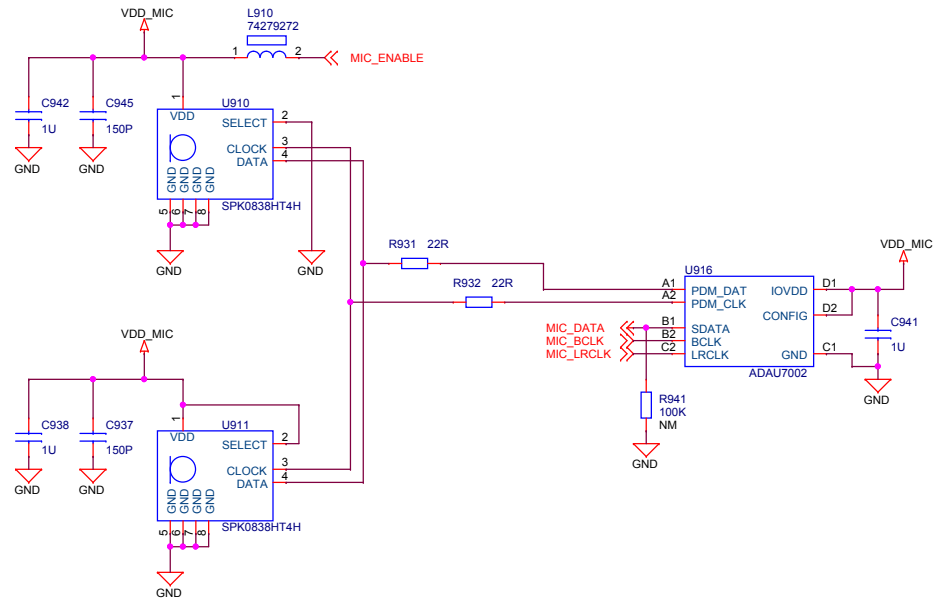
Revision

B00

Sheet

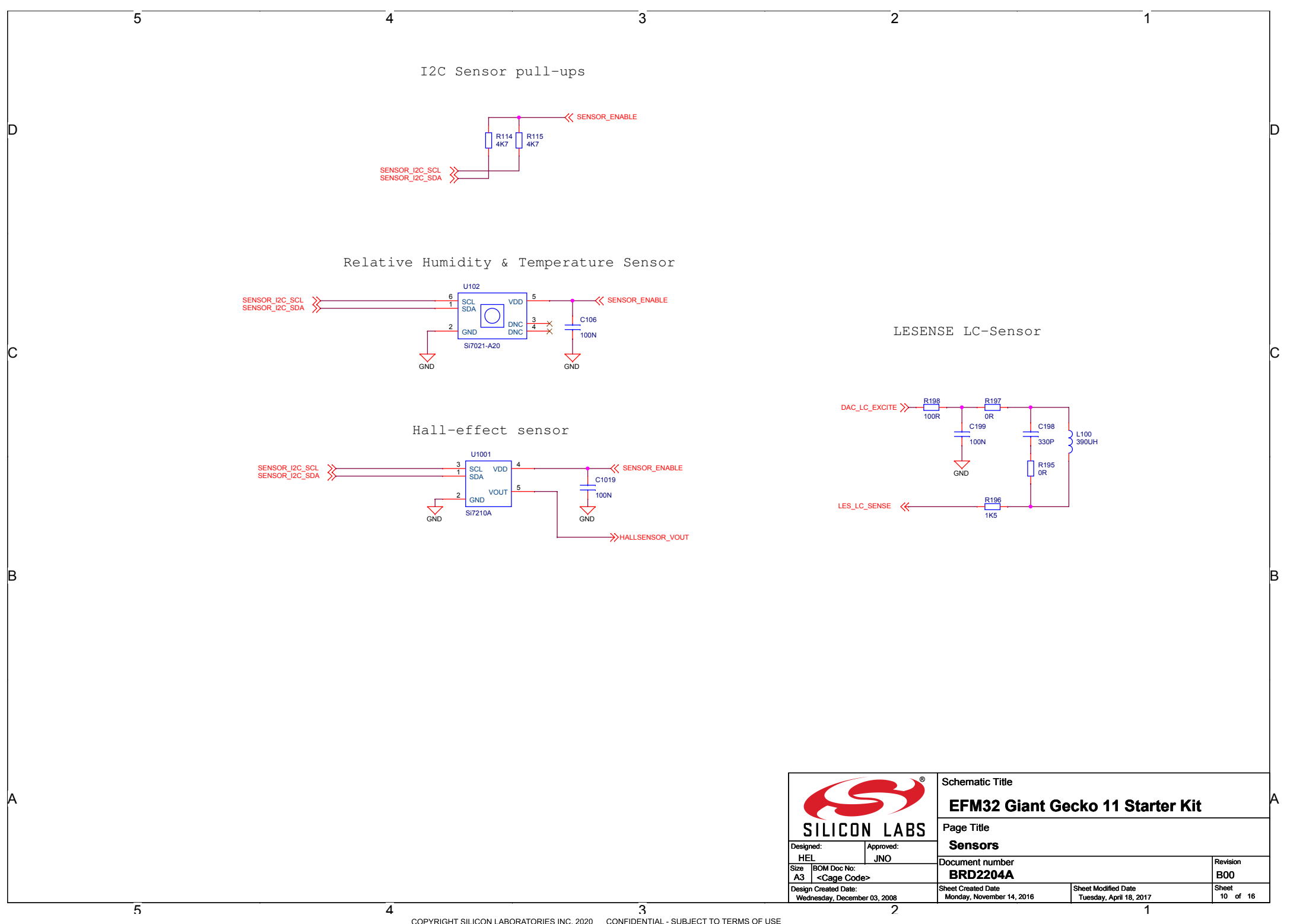
8 of 16

Stereo microphones

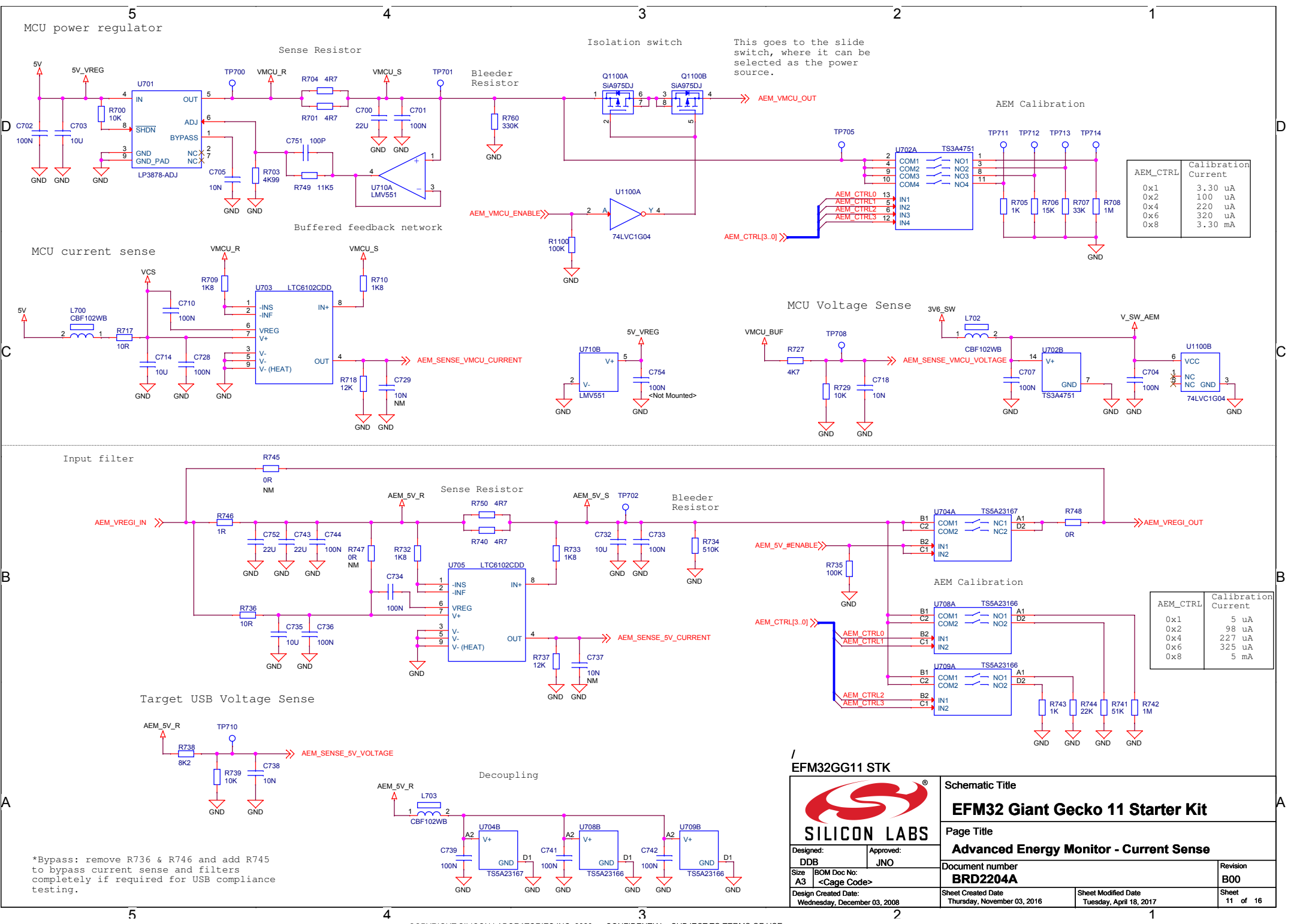


Place on board reverse side

		Schematic Title	
		EFM32 Giant Gecko 11 Starter Kit	
Designed: HEL		Page Title	
Approved: JNO		Stereo Microphones	
Size: A3		Document number	
BOM Doc No: <Cage Code>		BRD2204A	
Design Created Date: Wednesday, December 03, 2008		Sheet Created Date: Monday, October 31, 2016	Revision: B00
		Sheet Modified Date: Tuesday, April 18, 2017	Sheet 9 of 16



 SILICON LABS		Schematic Title	
		EFM32 Giant Gecko 11 Starter Kit	
Designed: HEL		Page Title	
Size A3		Sensors	
BOM Doc No: <Cage Code>		Document number	
Design Created Date: Wednesday, December 03, 2008		BRD2204A	
Approved: JNO		Revision	
Sheet Created Date: Monday, November 14, 2016		B00	
Sheet Modified Date: Tuesday, April 18, 2017		Sheet 10 of 16	



*Bypass: remove R736 & R746 and add R745 to bypass current sense and filters completely if required for USB compliance testing.

EFM32GG11 STK

Schematic Title

EFM32 Giant Gecko 11 Starter Kit

Page Title

Advanced Energy Monitor - Current Sense

Document number

BRD2204A

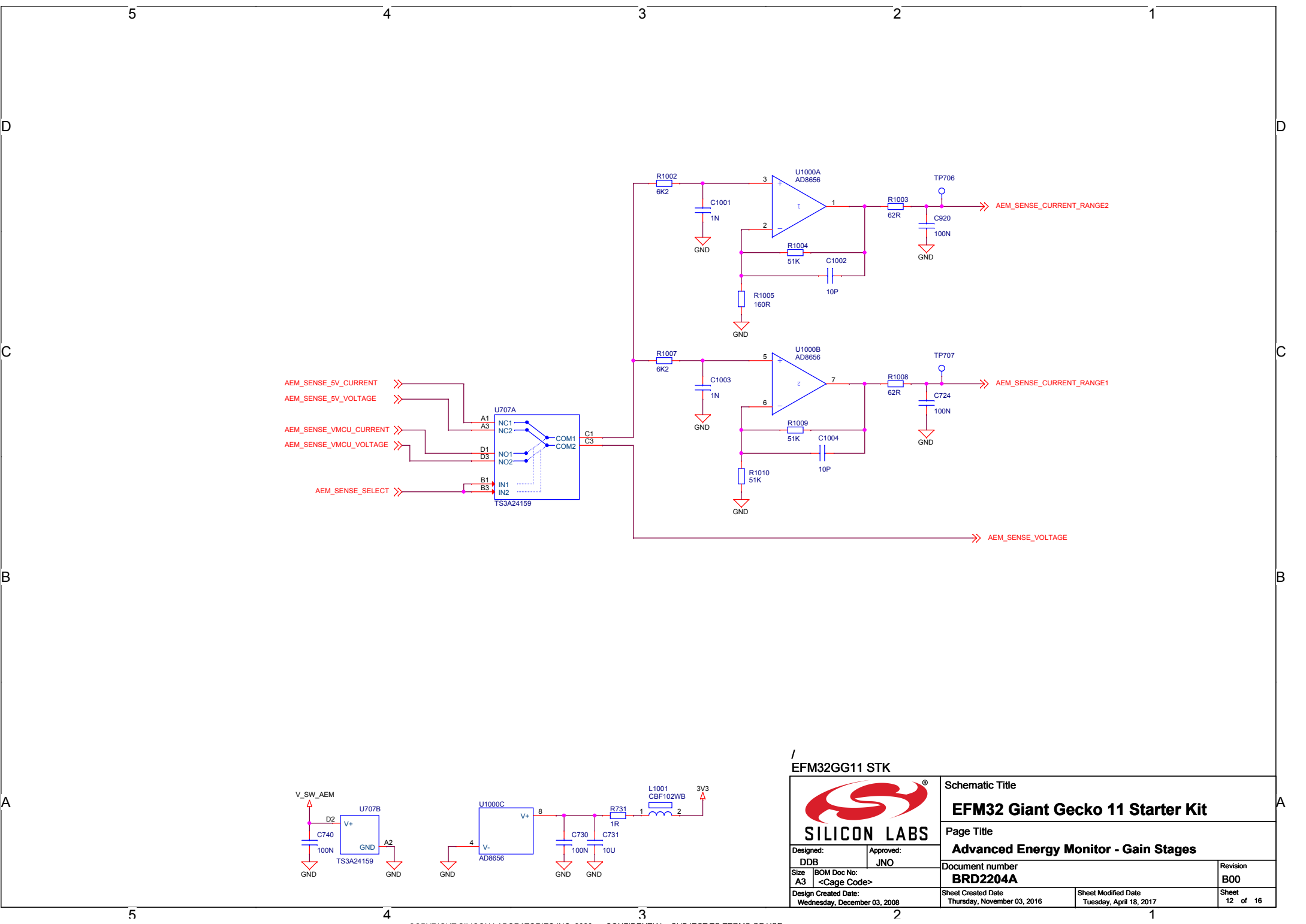
Revision

B00

Design: DDB **Approved:** JNO

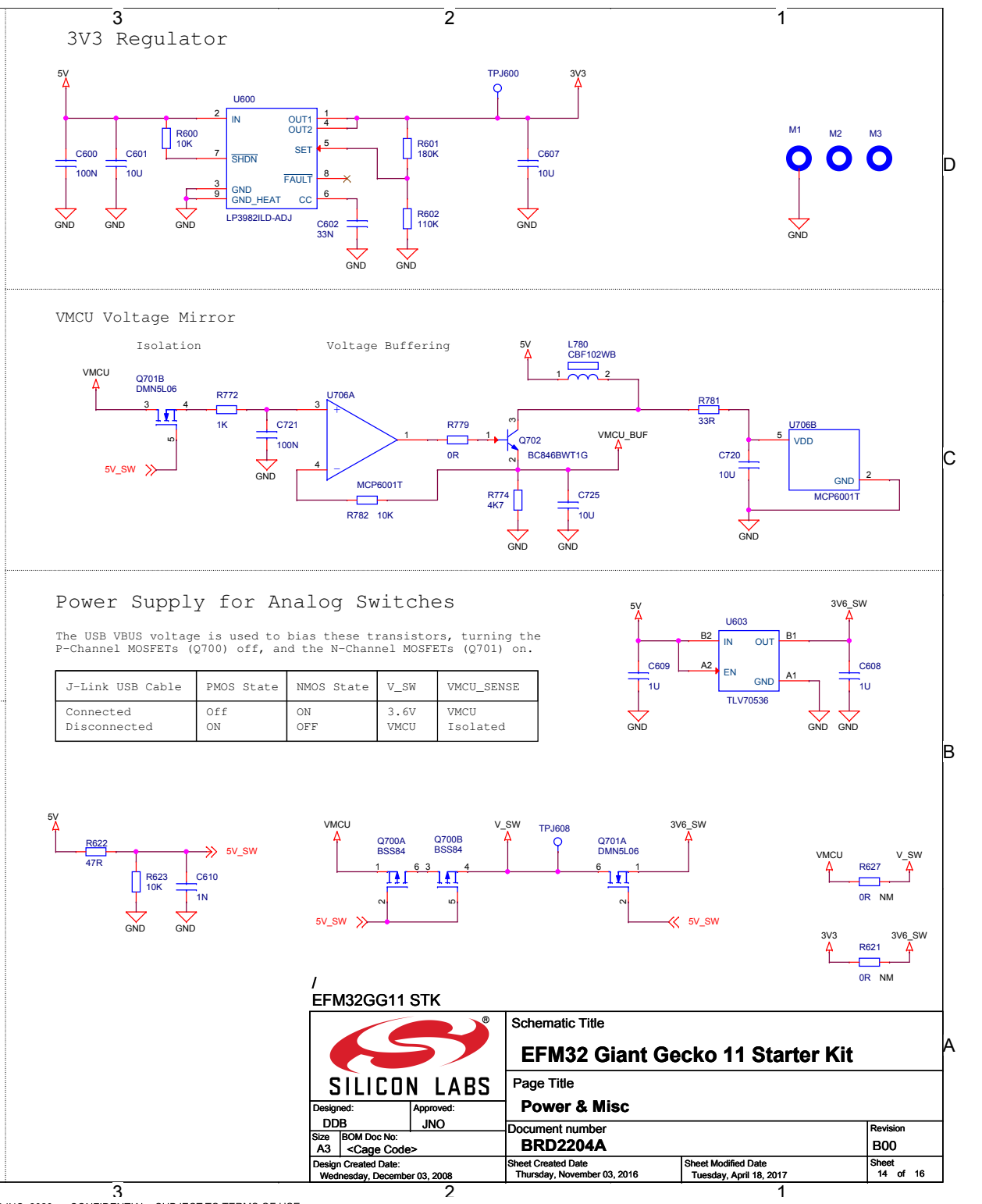
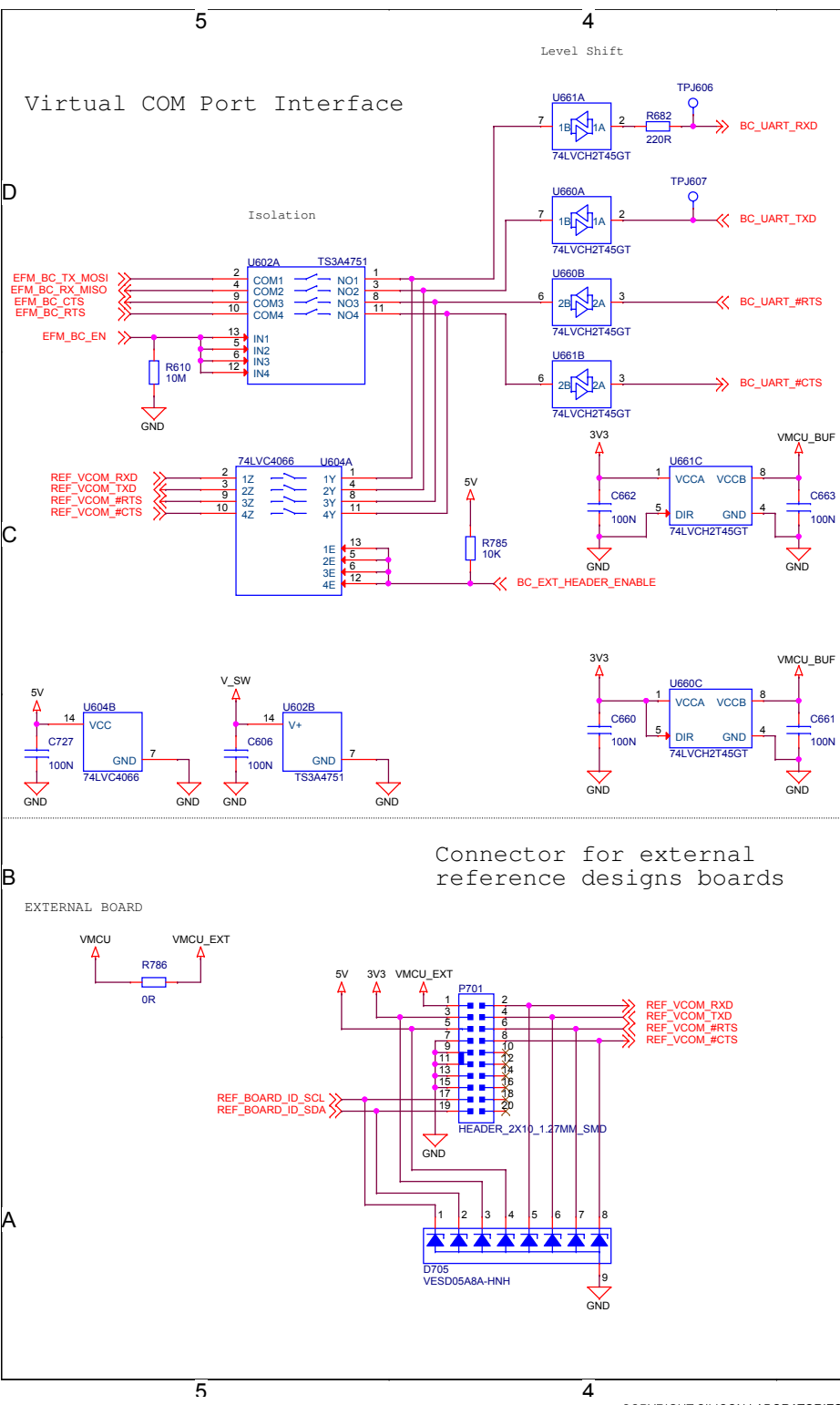
Size: A3 **BOM Doc No:** <Cage Code>

Design Created Date: Wednesday, December 03, 2008 **Sheet Created Date:** Thursday, November 03, 2016 **Sheet Modified Date:** Tuesday, April 18, 2017 **Sheet** 11 of 16

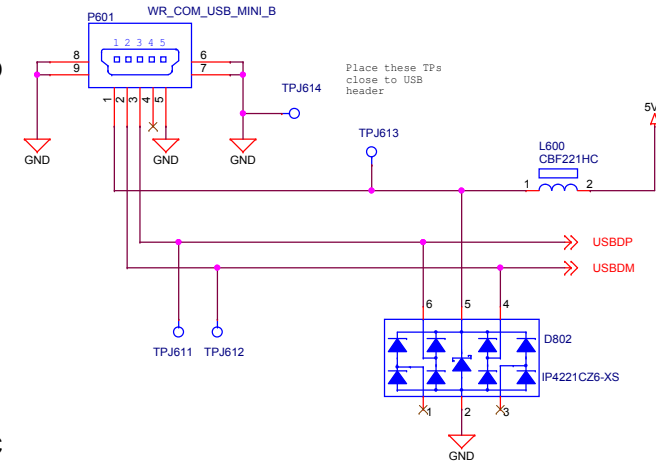


EFM32GG11 STK

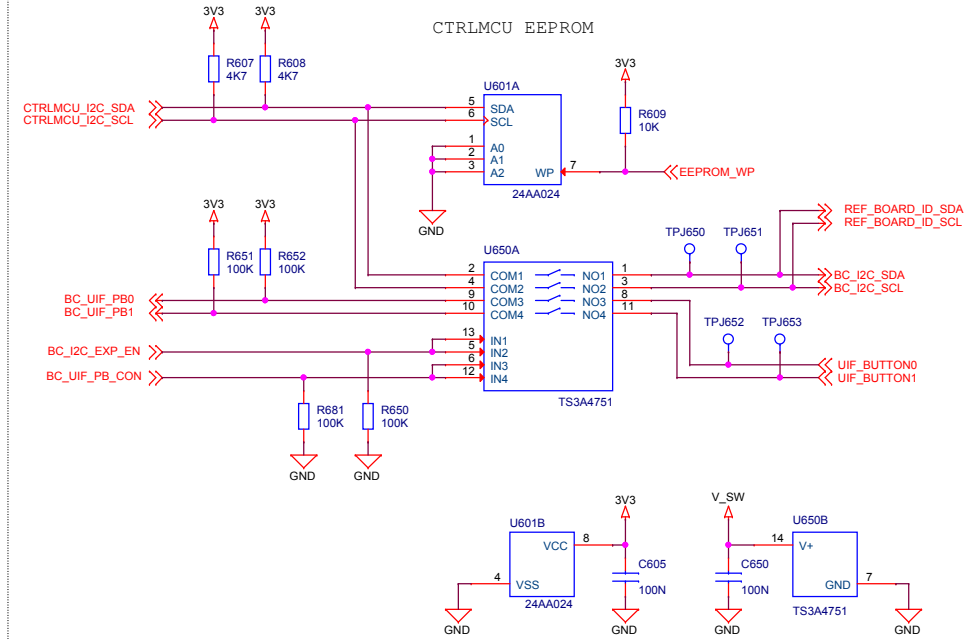
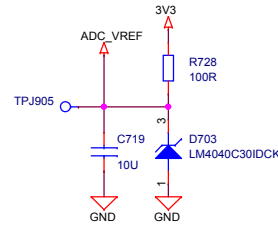
 SILICON LABS		Schematic Title	
		EFM32 Giant Gecko 11 Starter Kit	
Designed: DDB		Page Title	
Approved: JNO		Advanced Energy Monitor - Gain Stages	
Size: A3	BOM Doc No: <Cage Code>	Document number	Revision
Design Created Date: Wednesday, December 03, 2008		BRD2204A	B00
	Sheet Created Date: Thursday, November 03, 2016	Sheet Modified Date: Tuesday, April 18, 2017	Sheet 12 of 16



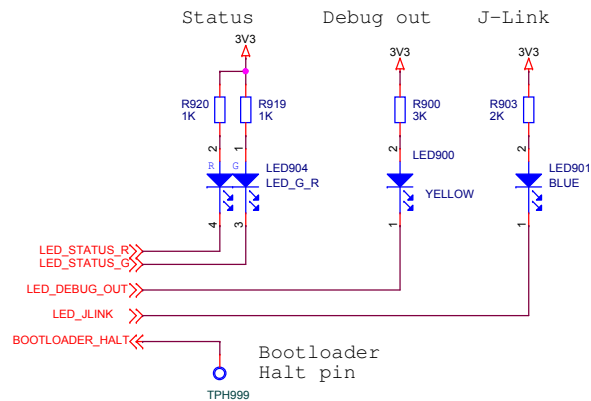
J-Link USB Port



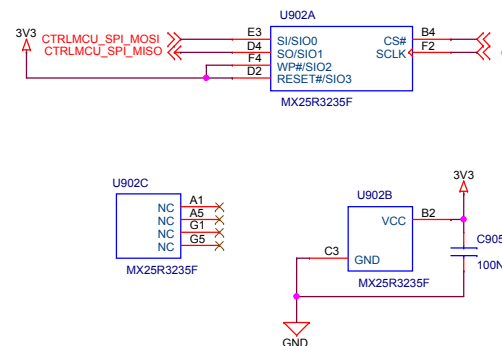
ADC reference voltage



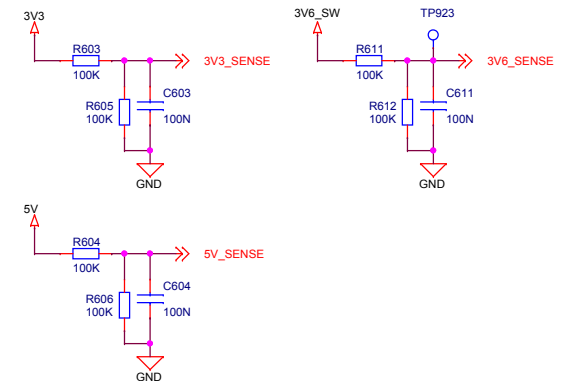
Indicators:



CTRLMCU SERIAL FLASH



POWER SENSE



EFM32GG11 STK

		Schematic Title	
		EFM32 Giant Gecko 11 Starter Kit	
Designed: ANB Size: A3 BOM Doc No: <Cage Code> Design Created Date: Wednesday, December 03, 2008		Page Title	
		Board Controller Misc	
		Document number	Revision
		BRD2204A	B00
		Sheet Created Date	Sheet Modified Date
		Thursday, November 03, 2016	Tuesday, April 18, 2017
		Sheet	16 of 16