




EFR32FG13 Dual Band Radio Board
2.4 GHz / 868 MHz 10 dBm, VDCDC to PAVDD

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<Schematic Path>
SCHEMATIC1

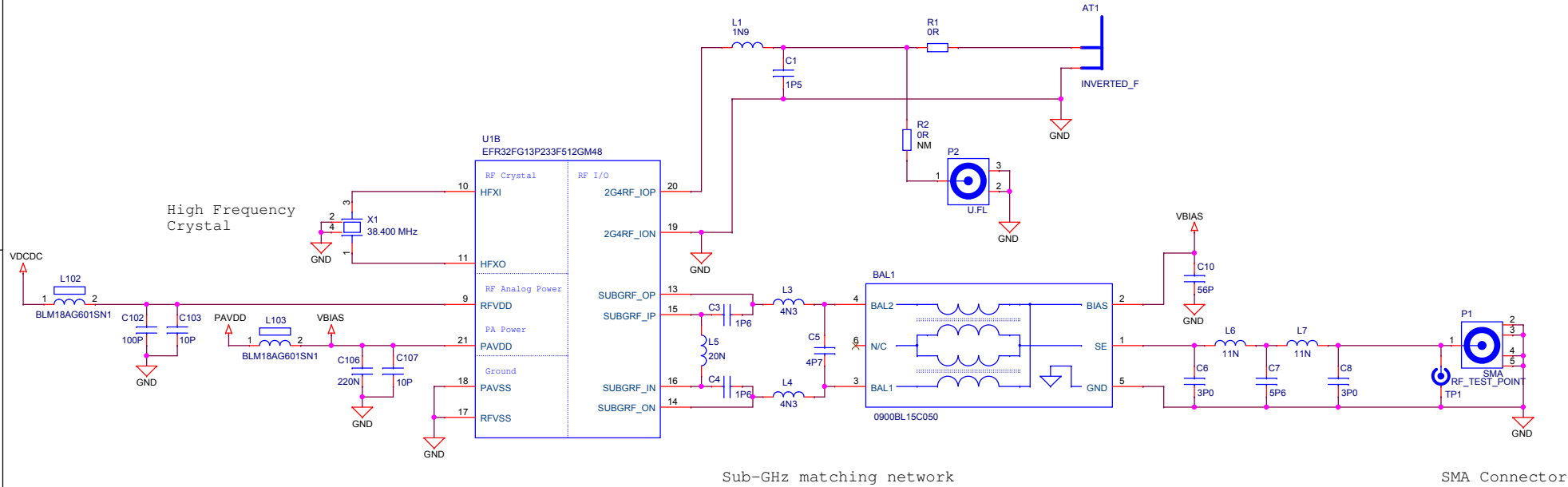
 SILICON LABS		Schematic Title	
		EFR32FG13 Dual Band 2400/868 MHz Radio Bo	
Designed: JSH		Page Title	
Approved: JNO		Title Page	
Size: A3	BOM Doc No: <Cage Code>	Document number	Revision
Design Created Date: Monday, April 02, 2012		BRD4256A	A03
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Antenna & Radio Interface

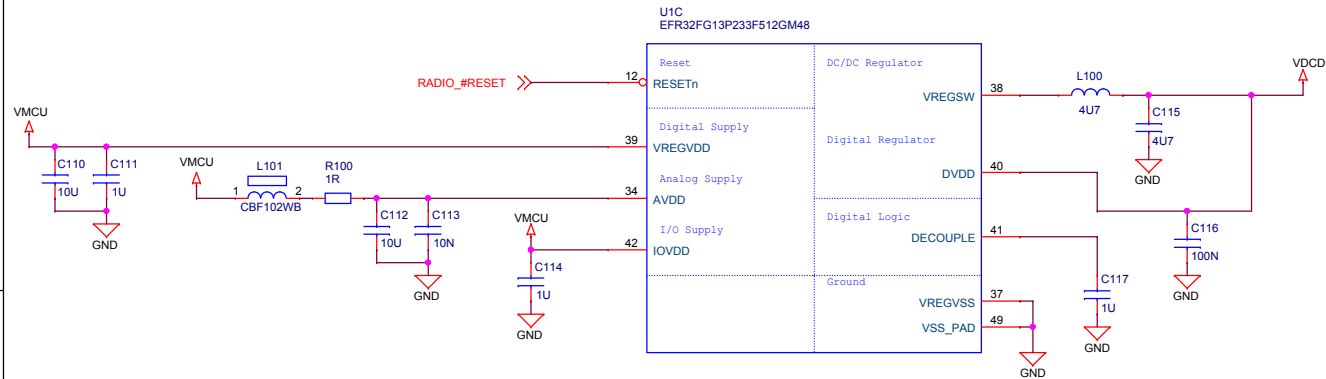
2.4 GHz matching network

PCB Antenna

High Frequency Crystal

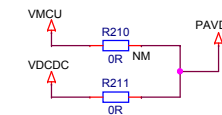


Power & Decoupling

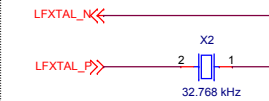


PAVDD Configuration

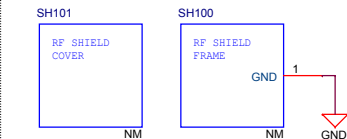
	Power Config 1 VMCU to PAVDD	Power Config 2 DCDC to PAVDD
R210	Mount	Not mount
R211	Not mount	Mount



Low Frequency Crystal



RF Shielding



<Schematic Path>
SCHEMATIC1

		Schematic Title	
SILICON LABS		EFR32FG13 Dual Band 2400/868 MHz Radio Boa	
Designed: JSH Size: A3 Design Created Date: Monday, April 02, 2012		Page Title RF, Antenna & Power Document number BRD4256A Sheet Created Date: Monday, April 02, 2012	
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The diagram illustrates the pin mapping for the EFR32 microcontroller, showing connections between various pins and internal components. The pins are organized into groups: RADIO_PA[5..0], RADIO_PB[15..11], RADIO_PC[11..6], RADIO_PD[15..13], and RADIO_PF[7..0]. The connections are as follows:

- RADIO_PA[5..0]:**
 - RADIO_PA0: US0_TX#0, EXP_HEADER12, WSTK_P9, WSTK_P9, VCOM_TX_MOSI, WSTK_F6, WSTK_F6, TP_VCOM_TX_MOSI
 - RADIO_PA1: US0_RX#0, EXP_HEADER14, WSTK_P11, WSTK_P11, VCOM_RX_MISO, WSTK_F7, WSTK_F7, TP_VCOM_RX_MISO
 - RADIO_PA2: US0_CLK#0, EXP_HEADER3, WSTK_P0, WSTK_P0, VCOM_CTS_SCLK, WSTK_F8, WSTK_F8, TP_VCOM_CTS_SCLK
 - RADIO_PA3: US0_CS#0, EXP_HEADERS, WSTK_P2, WSTK_P2, VCOM_RTS_CS, WSTK_F9, WSTK_F9, TP_VCOM_RTS_CS
 - RADIO_PA4: US1_CS#1, WSTK_P14, WSTK_P14, WSTK_P14, WSTK_P14, WSTK_P14, WSTK_P14, WSTK_P14
 - RADIO_PA5: WSTK_P16, WSTK_P16, WSTK_P16, WSTK_P16, WSTK_P16, WSTK_P16, WSTK_P16, WSTK_P16
- RADIO_PB[15..11]:**
 - RADIO_PB11: FRC_DCLK#6, WSTK_P18, WSTK_P18, PTL_CLK, WSTK_F21, WSTK_F21, WSTK_F21, WSTK_F21
 - RADIO_PB12: FRC_DOUT#6, WSTK_P20, WSTK_P20, PTL_DATA, WSTK_F20, WSTK_F20, WSTK_F20, WSTK_F20
 - RADIO_PB13: FRC_DFRAME#6, WSTK_P22, WSTK_P22, PTL_SYNC, WSTK_F19, WSTK_F19, WSTK_F19, WSTK_F19
 - RADIO_PB14: LFXALT_P, LFXALT_N
 - RADIO_PB15: LFXALT_P, LFXALT_N
- RADIO_PC[11..6]:**
 - RADIO_PC6: US1_TX#11, FLASH_MOSI, FLASH_MISO, FLASH_SCLK
 - RADIO_PC7: US1_RX#11, FLASH_MOSI, FLASH_MISO, FLASH_SCLK
 - RADIO_PC8: US1_CLK#11, FLASH_MOSI, FLASH_MISO, FLASH_SCLK
 - RADIO_PC9: US1_CS#11, EXP_HEADER10, WSTK_P7, WSTK_P7, DISP_SI, WSTK_F16, WSTK_F16, WSTK_F16
 - RADIO_PC10: I2C0_SCL#14, EXP_HEADER15, WSTK_P12, WSTK_P12, DISP_SCLK, WSTK_F15, WSTK_F15, WSTK_F15
 - RADIO_PC11: I2C0_SDA#16, EXP_HEADER16, WSTK_P13, WSTK_P13, DISP_SCLK, WSTK_F15, WSTK_F15, WSTK_F15
- RADIO_PD[15..13]:**
 - RADIO_PD13: LETIM0_OUT0#23, WSTK_P31, WSTK_P31, DISP_EXTCOMIN, WSTK_F18, WSTK_F18, WSTK_F18
 - RADIO_PD14: US1_CS#19, WSTK_P33, WSTK_P33, DISP_SCS, WSTK_F17, WSTK_F17, WSTK_F17
 - RADIO_PD15: WSTK_P35, WSTK_P35, DISP_ENABLE, WSTK_F14, WSTK_F14, WSTK_F14, WSTK_F14
- RADIO_PF[7..0]:**
 - RADIO_PF0: DBG_SWCLK#0, WSTK_P24, WSTK_P24, DEBUG_TCK_SWCLK, WSTK_F1, WSTK_F1, TP_DEBUG_TCK_SWCLK
 - RADIO_PF1: DBG_SWDIOTMS#0, WSTK_P26, WSTK_P26, DEBUG_TMS_SWCLK, WSTK_F0, WSTK_F0, TP_DEBUG_TMS_SWCLK
 - RADIO_PF2: DBG_SWO#0/DBG_TDO#0, WSTK_P28, WSTK_P28, DEBUG_TDO_SWO, WSTK_F2, WSTK_F2, TP_DEBUG_TDO_SWO
 - RADIO_PF3: DBG_TDI#0, EXP_HEADER13, WSTK_P8, WSTK_P8, UIF_LED0, WSTK_F3, WSTK_F3, TP_DEBUG_TDI
 - RADIO_PF4: EXP_HEADER11, WSTK_P8, WSTK_P8, UIF_LED0, WSTK_F3, WSTK_F3, TP_DEBUG_TDI
 - RADIO_PF5: WSTK_P32, WSTK_P32, UIF_LED1, WSTK_F11, WSTK_F11, WSTK_F11, WSTK_F11
 - RADIO_PF6: EXP_HEADER7, WSTK_P4, WSTK_P4, UIF_BUTTON0, WSTK_F12, WSTK_F12, WSTK_F12, WSTK_F12
 - RADIO_PF7: EXP_HEADER9, WSTK_P6, WSTK_P6, UIF_BUTTON1, WSTK_F13, WSTK_F13, WSTK_F13, WSTK_F13

The diagram also shows connections to various components, including a 100R resistor, a 100nF capacitor, and a 100nF capacitor. The connections are color-coded: blue for power, red for ground, and green for signal.

2 1

EFR32 I/O Port Pins

U1A
EFR32FG13P233F512GM48

RADIO_PA[5..0] <<< PA0 / 25
RADIO_PA1 / 26
RADIO_PA2 / 27
RADIO_PA3 / 28
RADIO_PA4 / 29
RADIO_PA5 / 30

RADIO_PB[15..11] <<< PB11 / 31
RADIO_PB12 / 32
RADIO_PB13 / 33
RADIO_PB14 / 34
RADIO_PB15 / 35

RADIO_PC[11..6] <<< PC6 / 43
RADIO_PC7 / 44
RADIO_PC8 / 45
RADIO_PC9 / 46
RADIO_PC10 / 47
RADIO_PC11 / 48

RADIO_PD[15..13] <<< PD13 / 22
RADIO_PD14 / 23
RADIO_PD15 / 24

RADIO_PF[7..0] <<< PF0 / 1
RADIO_PF1 / 2
RADIO_PF2 / 3
RADIO_PF3 / 4
RADIO_PF4 / 5
RADIO_PF5 / 6
RADIO_PF6 / 7
RADIO_PF7 / 8

Serial Flash

FLASH_MOSI >>> D2
FLASH_SCLK >>> E1
FLASH_SCS >>> A3

VMCU
U100A
SI / SIO0 SO / SIO1
SCLK
CS#
WP# / SIO2
RESET# / SIO3
MX25R8035F


VMCU
U100B
VCC
GND
MX25R8035F

R103
330K

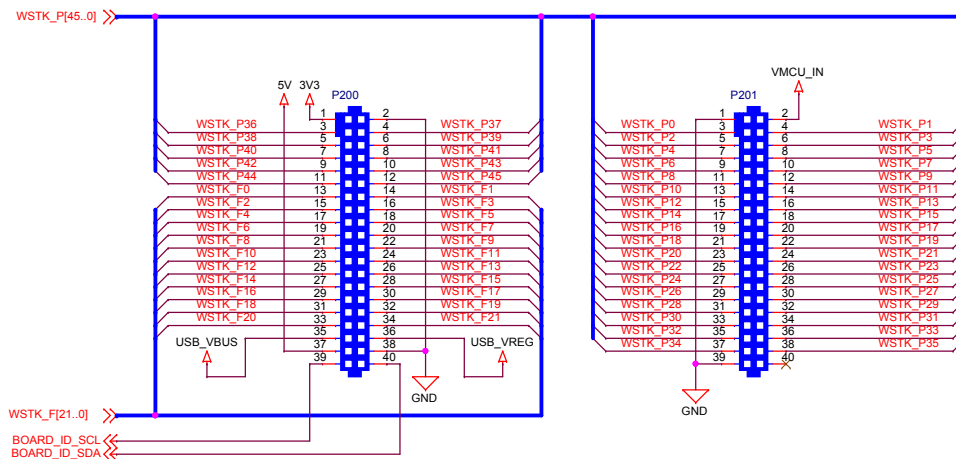
C3
C124
100N

GND

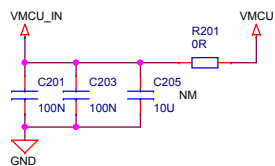
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Page Title EFR32 I/O Port Connections		Document number BRD4256A	
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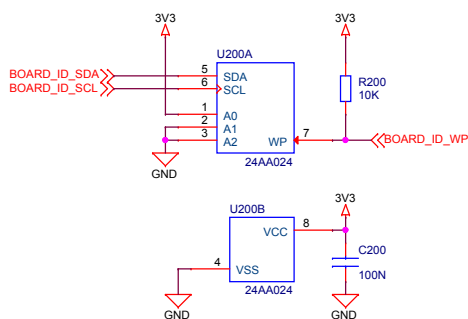
WSTK Connectors



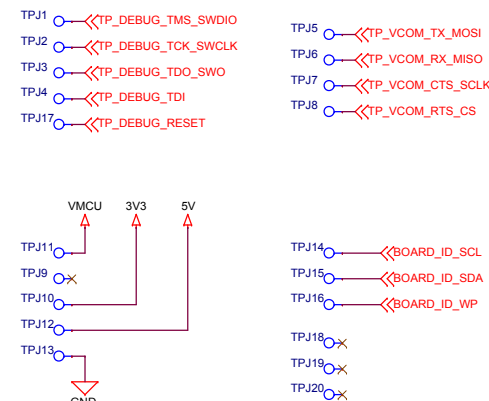
WSTK Power Decoupling




Board Identification



Test Points



<Schematic Path>
SCHEMATIC1

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		Page Title WSTK Connectors & Board ID	
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