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EFR32xG28 Radio Board	
868/915 MHz 20 dBm + 2.4 GHz 10 dBm	
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Revision History	
Rev.	Description
A00	New board variant with passive switch
A01	Updated L9 OPN.



Designed

SZL

Approved

RGU

Size

A3

Sheet Modified Date

Wednesday, June 21, 2023

Board Name

xG28 Dual Band +20 dBm Radio Board

Page Title

Title Page

Board Number

BRD4401C

Revision

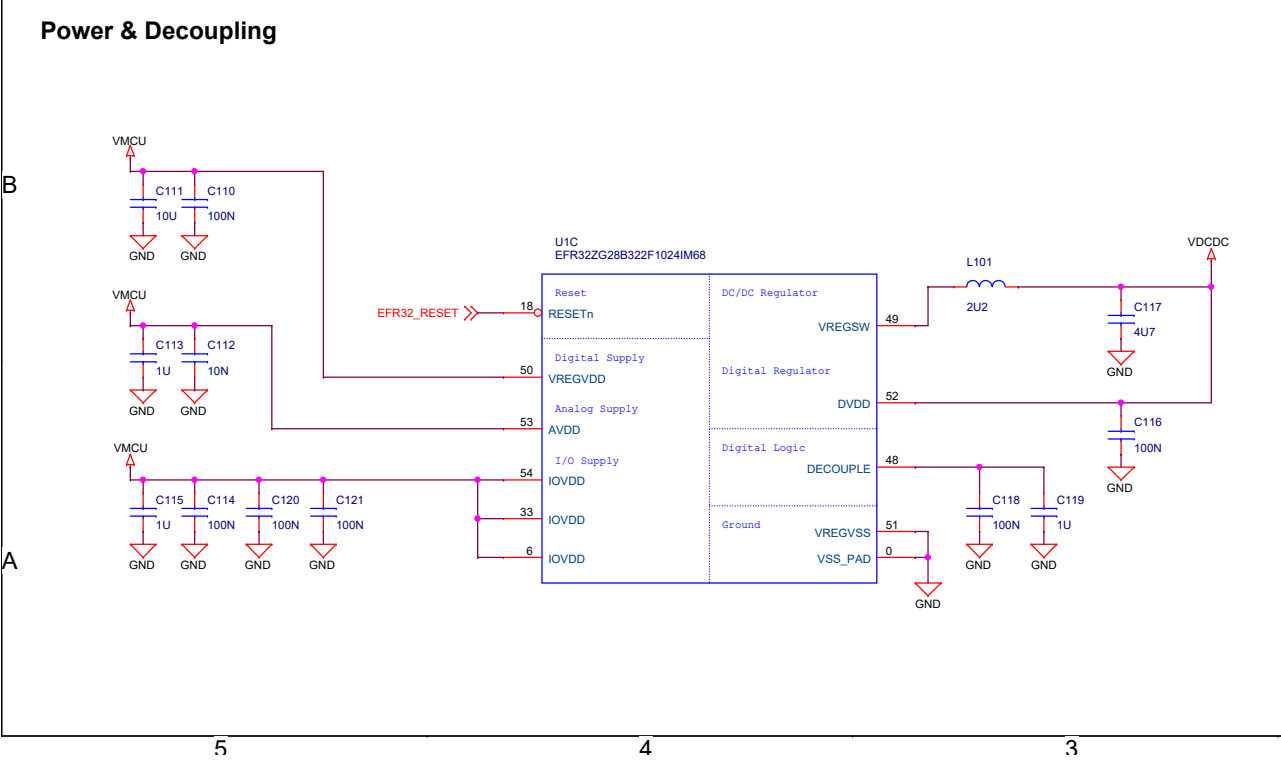
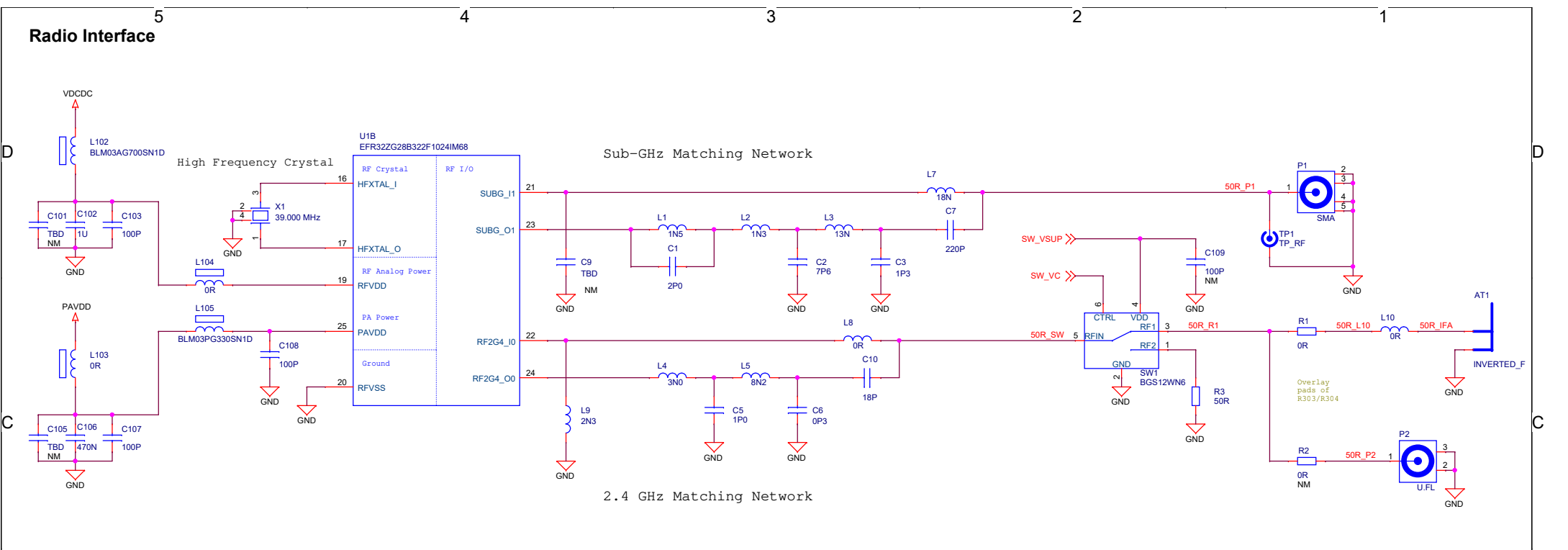
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Sheet

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PAVDD Configuration

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

Overlay pads of R210/R211

RF Shielding

SH101: RF SHIELD COVER
SH100: RF SHIELD FRAME

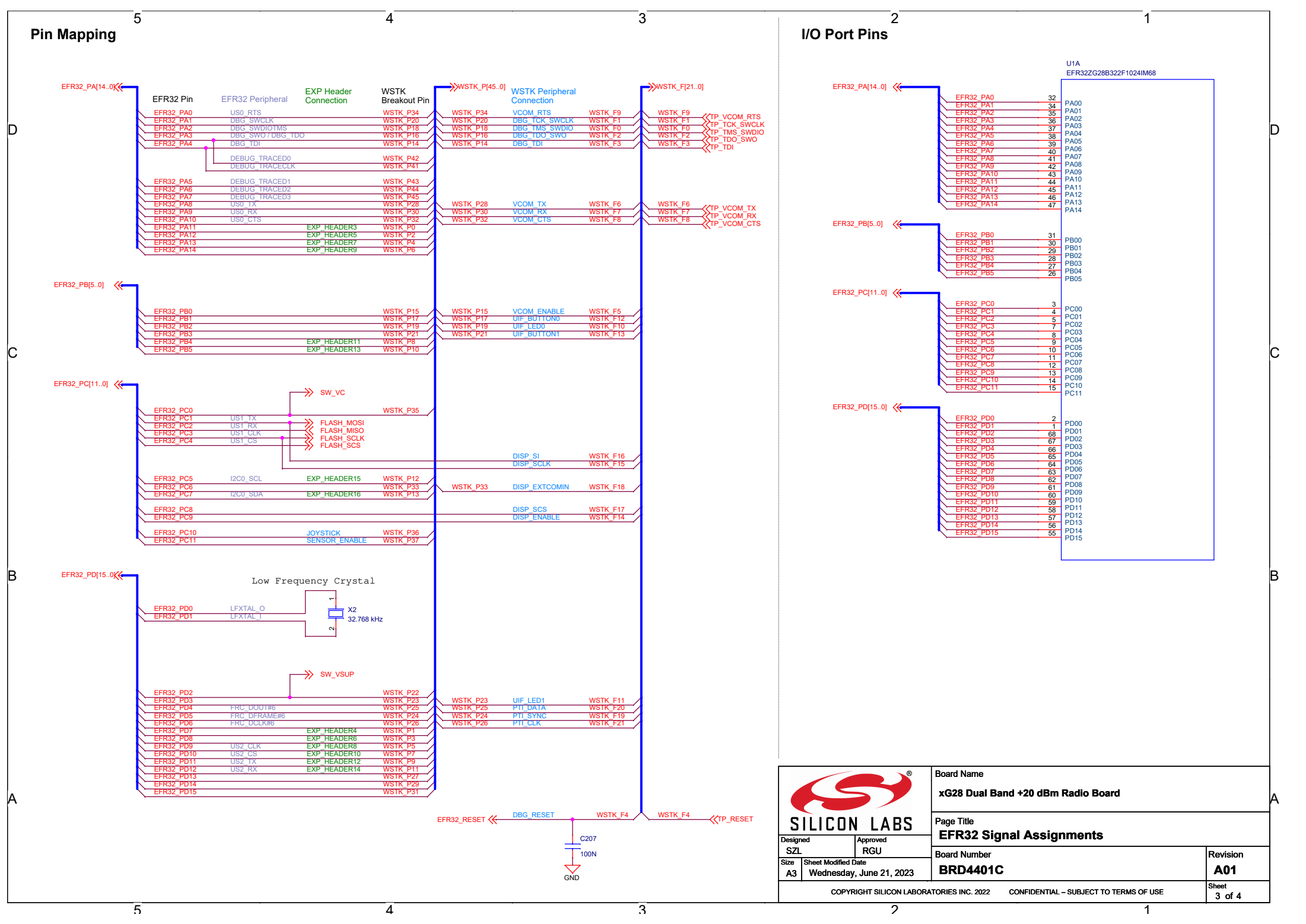
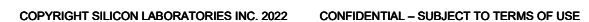
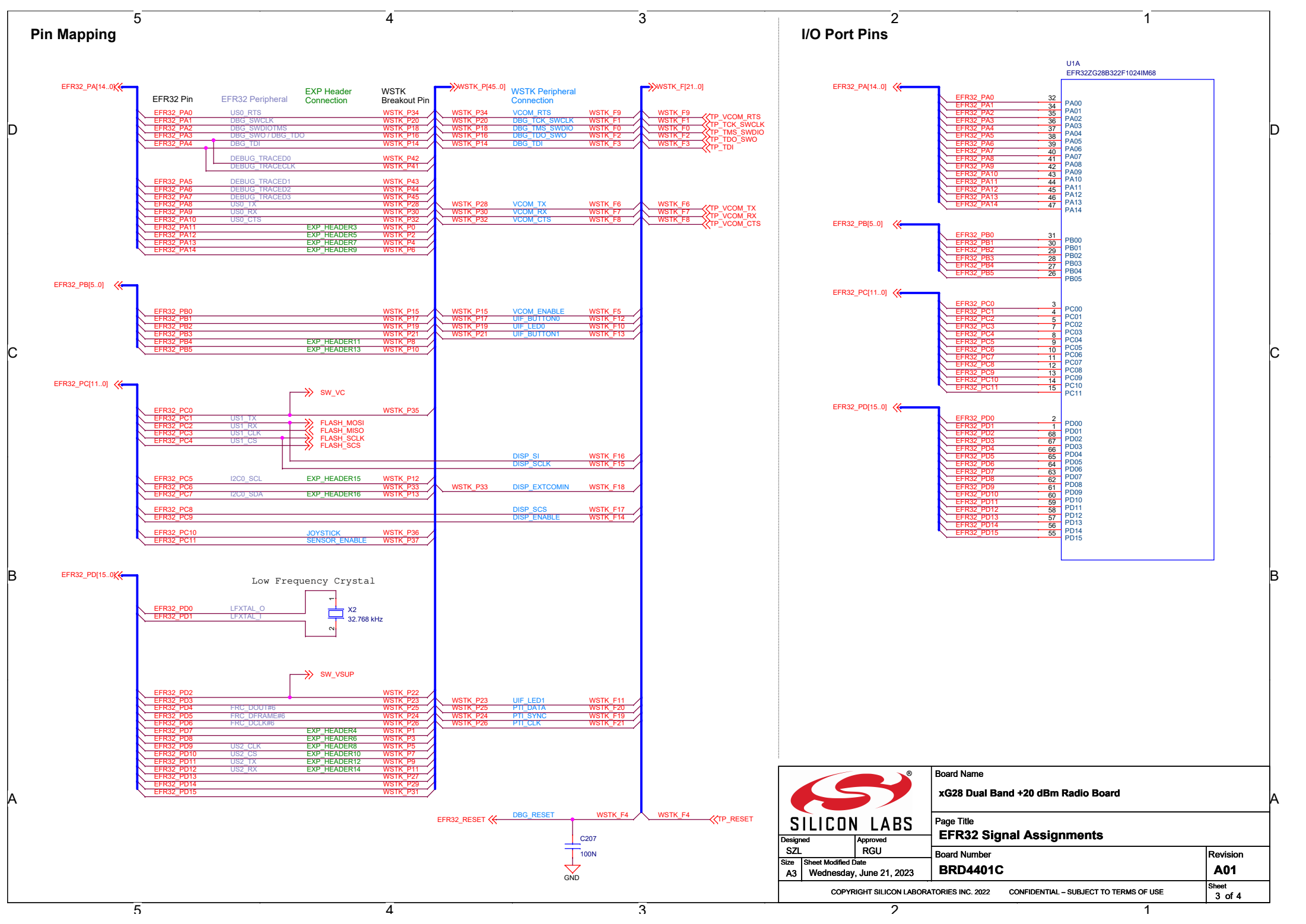
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Designed SZL		Approved RGU	
Size A3	Sheet Modified Date Wednesday, June 21, 2023		

Board Name xG28 Dual Band +20 dBm Radio Board	
Page Title RF & Power	
Board Number BRD4401C	Revision A01

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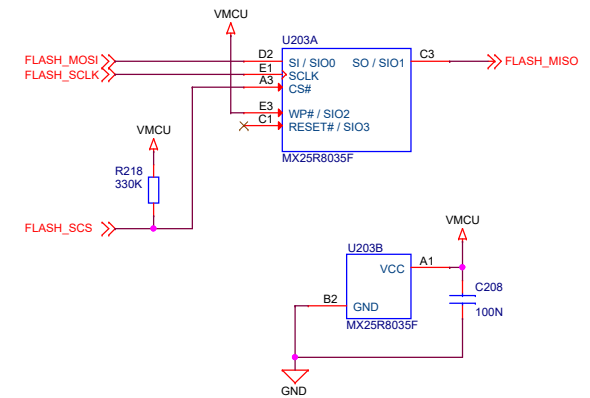
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The schematic diagram illustrates the WSTK connectors and the serial flash circuit. It is divided into two main sections: WSTK Connectors and Serial Flash.

WSTK Connectors: This section shows two connectors, Upper Connector (P200) and Lower Connector (P201). The Upper Connector (P200) has 39 pins. Pins 1-10 are labeled WSTK_P36 through WSTK_P45. Pins 11-20 are labeled WSTK_F0 through WSTK_F9. Pins 21-30 are labeled WSTK_F10 through WSTK_F19. Pins 31-39 are labeled WSTK_F20 through WSTK_F28. The Lower Connector (P201) has 40 pins. Pins 1-10 are labeled WSTK_P0 through WSTK_P9. Pins 11-20 are labeled WSTK_P10 through WSTK_P19. Pins 21-30 are labeled WSTK_P20 through WSTK_P29. Pins 31-40 are labeled WSTK_P30 through WSTK_P39. The diagram also shows power and ground connections: 5V, 3V3, USB_VBUS, USB_VREG, GND, and VMCU_IN.

Serial Flash: This section shows the connection of the serial flash memory (U203A and U203B) to the VMCU. U203A is connected to the VMCU via pins D2, E1, A3, and E3. U203B is connected to the VMCU via pins B2 and A1. The flash memory is labeled MX25R8035F. The diagram also shows a 330K resistor (R218) connected to the VMCU and a 100nF capacitor (C208) connected to the VMCU.



WSTK Power Decoupling

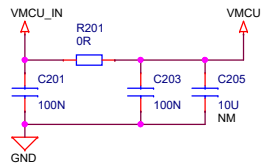
The diagram shows a power decoupling circuit for the VMCU. It starts with a VMCU_IN input, followed by a 100nF capacitor (C201) to ground. Then, a 0R resistor (R201) is connected in series. This is followed by another 100nF capacitor (C203) to ground. Finally, a 10uF non-polarized electrolytic capacitor (C205) is connected to ground. The output is VMCU.

Board Identification

The diagram shows two ICs used for board identification, both M24C02 EEPROMs. The first IC (U200A) has its SDA pin (5) connected to BOARD_ID_SDA, its SCL pin (6) connected to BOARD_ID_SCL, and its WP pin (7) connected to BOARD_ID_WP. Its address pins (A0, A1, A2) are connected to ground. The second IC (U200B) has its VCC pin (8) connected to 3V3 and its VSS pin (4) connected to ground.

Test Points

The diagram shows the locations of various test points (TPJ1 through TPJ20) on the board. TPJ1 through TPJ17 are connected to specific pins or signals: TPJ1 (TP_TMS_SWDIO), TPJ2 (TP_TCK_SWCLK), TPJ3 (TP_TDO_SWO), TPJ4 (TP_TDI), TPJ17 (TP_RESET), TPJ5 (TP_VCOM_TX), TPJ6 (TP_VCOM_RX), TPJ7 (TP_VCOM_CTS), and TPJ8 (TP_VCOM_RTS). TPJ11 is connected to VMCU, TPJ9 to VRF, TPJ10 to 3V3, and TPJ12 to 5V. TPJ13 is connected to ground. TPJ14 is connected to BOARD_ID_SCL, TPJ15 to BOARD_ID_SDA, and TPJ16 to BOARD_ID_WP. TPJ18, TPJ19, and TPJ20 are marked with an 'X' and are not connected.



The schematic diagram illustrates the electrical connections for the M24C02 EEPROM. The top section shows the M24C02 (U200A) connected to a 3V3 supply. Pins 5 (SDA), 6 (SCL), 1 (A0), 2 (A1), and 3 (A2) are connected to the supply. Pin 7 (WP) is connected to the supply through a 10K resistor (R200). The bottom section shows the M24C02 (U200B) connected to a 3V3 supply. Pin 4 (VSS) is connected to GND, and pin 8 (VCC) is connected to the supply through a 100nF capacitor (C200).

TPJ1 \rightarrow TP_TMS_SWDIO

TPJ2 \rightarrow TP_TCK_SWCLK

TPJ3 \rightarrow TP_TDO_SWO

TPJ4 \rightarrow TP_TDI

TPJ17 \rightarrow TP_RESET

TPJ5 \rightarrow TP_VCOM_TX

TPJ6 \rightarrow TP_VCOM_RX

TPJ7 \rightarrow TP_VCOM_CTS

TPJ8 \rightarrow TP_VCOM_RTS

TPJ11 \rightarrow VMCU

TPJ9 \rightarrow VRF

TPJ10 \rightarrow 3V3

TPJ12 \rightarrow 5V

TPJ13 \rightarrow GND

TPJ14 \rightarrow BOARD_ID_SCL

TPJ15 \rightarrow BOARD_ID_SDA

TPJ16 \rightarrow BOARD_ID_WP

TPJ18 \rightarrow X

TPJ19 \rightarrow X

TPJ20 \rightarrow X

