



EZR32LG WSTK Radio Board

915 MHz +20dBm Switched

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Revision History	
Rev.	Description
A00	RF matching fine-tuned

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SCHEMATIC1

 SILICON LABS		Schematic Title	
		EZR32LG 915MHz Switched WSTK Radio Board	
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Approved: DDB		Title Page	
Size A3	BOM Doc No: <Cage Code>	Document number BRD4503A	Revision B00
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PCB4503A

Power & Decoupling

The schematic diagram illustrates the power and decoupling network for the EZR32LG330F256R63G microcontroller (U1C). The microcontroller is shown with its internal power blocks and external connections.

Internal Blocks and Connections:

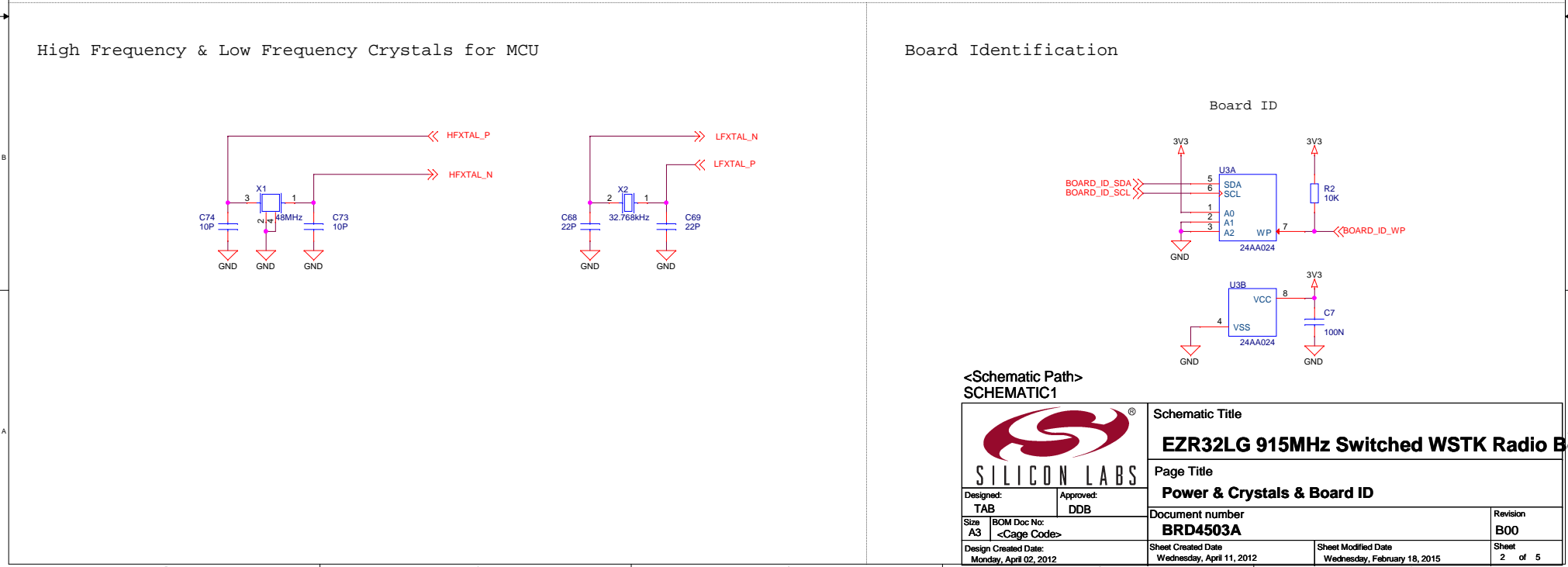
- Digital Regulator:** VDD_DREG (40) connects to VMCU. DECOUPLE (41) connects to GND. IOVDD_0 (12), IOVDD_3 (27), and IOVDD_5 (57) connect to VMCU. VSS_PAD (65) connects to GND.
- Analog Supply:** AVDD_1 (24) and AVDD_0 (28) connect to GND. USB_VBUS (54) connects to USB_VREGI (47) and USB_VREGO (46).
- USB Supply:** USB_VBUS (54) connects to USB_VREGI (47) and USB_VREGO (46).
- Ground:** VSS_PAD (65) connects to GND.

External Components and Connections:

- Capacitors:** C75 (100N) connects to RADIO_RESET and GND. C72 (10U) connects to VMCU and GND. C66 (10N) and C65 (10N) connect to AVDD_1 and AVDD_0. C80 (1U) and C82 (4.7U) connect to USB_VREGI and USB_VREGO. C67 (100N) connects to VMCU and GND. C55 (1U) connects to DECOUPLE and GND. C64 (100N), C63 (100N), C62 (100N), and C61 (10U) connect to IOVDD_0, IOVDD_3, IOVDD_5, and VSS_PAD. C76 (100N), C77 (100N), and C5 (10U) connect to VMCU_IN and GND. C78 (100N), C79 (100N), and C6 (10U) connect to VRF_IN and GND.
- Resistors:** R51 (1R) connects to VMCU and GND. R1 (OR) connects to VMCU and GND. R3 (OR) connects to VRF and GND.
- Inductor:** L55 (CBF102WB) connects to VMCU and GND.

Signals and Pins:

- RADIO_RESET:** Connects to the RADIO_RESET pin (22) and GND.
- VMCU:** Connects to the VMCU pin (40) and GND.
- VRF:** Connects to the VRF pin (57) and GND.



High Frequency & Low Frequency Crystals for MCU

High Frequency & Low Frequency Crystals for MCU

The diagram shows two crystal oscillator circuits. The first circuit, labeled X1, is an 8MHz crystal connected to HFXTAL_P and HFXTAL_N pins. It includes two 10pF capacitors (C74 and C73) connected to ground. The second circuit, labeled X2, is a 32.768kHz crystal connected to LFXTAL_N and LFXTAL_P pins. It includes two 22pF capacitors (C68 and C69) connected to ground.

Board Identification

Board ID

The diagram shows two 24AA024 EEPROMs (U3A and U3B). U3A is connected to BOARD_ID_SDA, BOARD_ID_SCL, and BOARD_ID_WP pins. U3B is connected to VCC (3V3) and VSS (GND). A 10K resistor (R2) is connected between 3V3 and BOARD_ID_WP.

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The diagram shows two crystal oscillator circuits. The first circuit, labeled X1, is an 8MHz crystal connected to HFXTAL_P and HFXTAL_N pins. It includes two 10pF capacitors (C74 and C73) connected to ground. The second circuit, labeled X2, is a 32.768kHz crystal connected to LFXTAL_N and LFXTAL_P pins. It includes two 22pF capacitors (C68 and C69) connected to ground.

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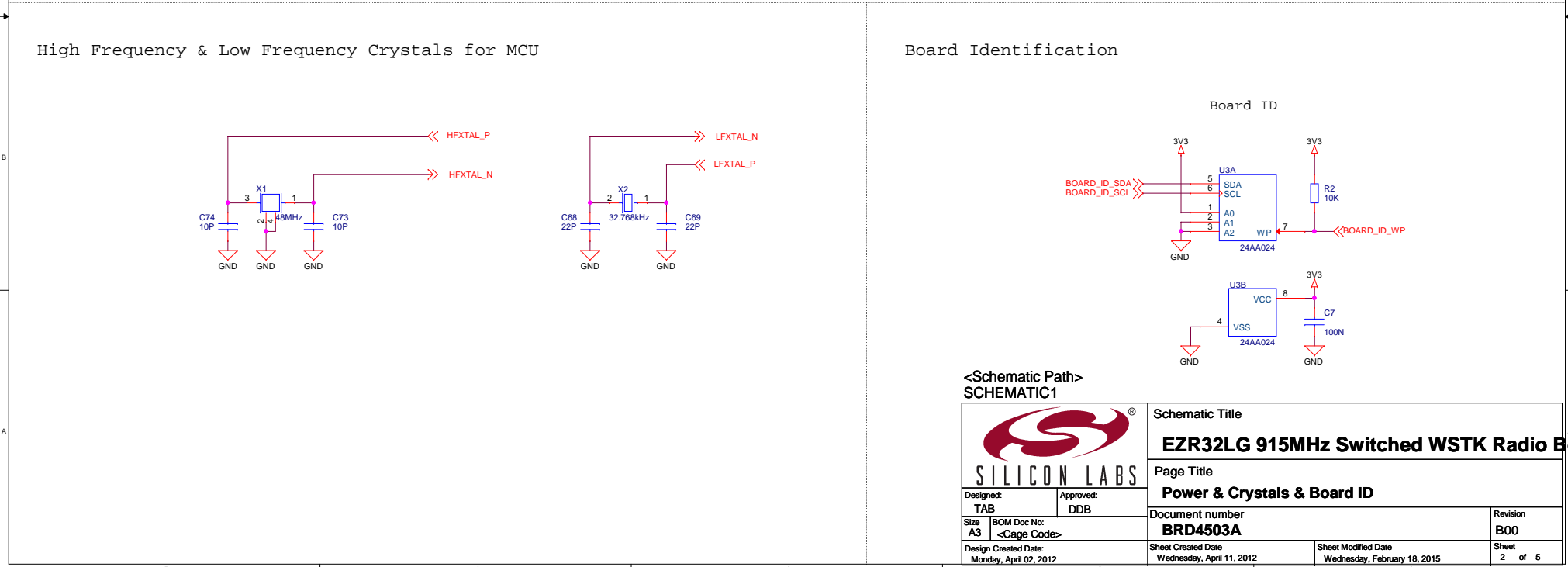
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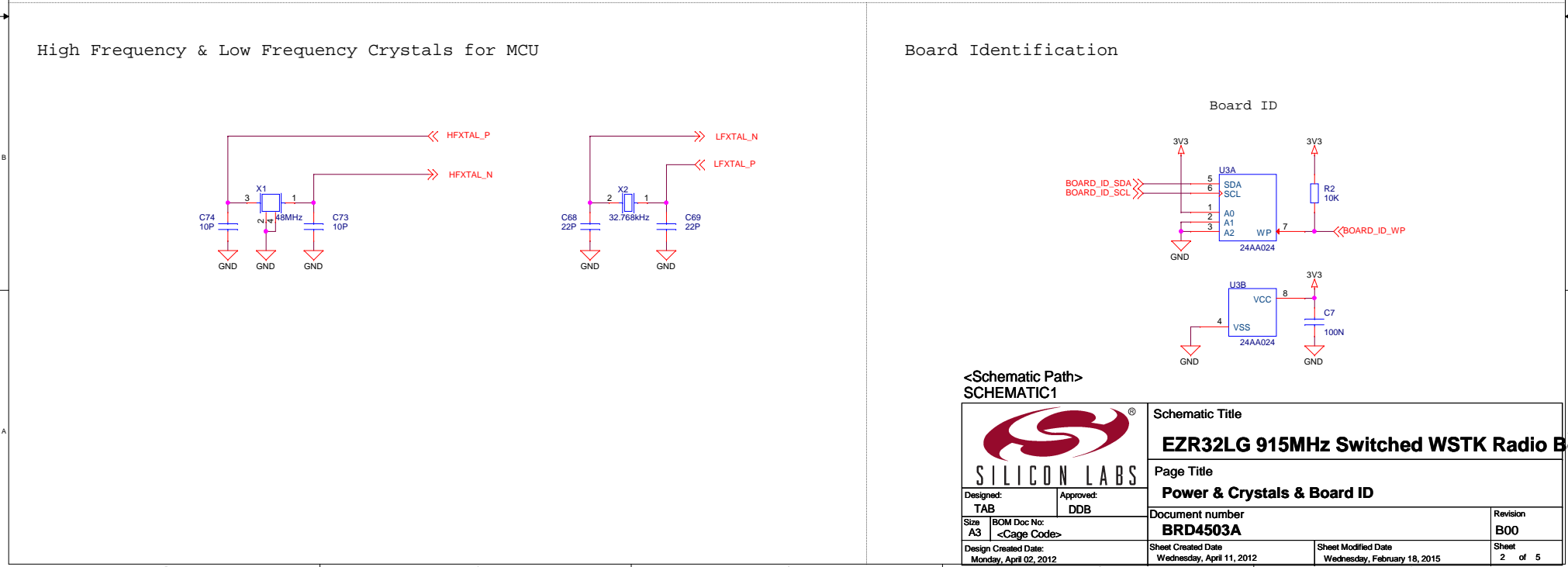
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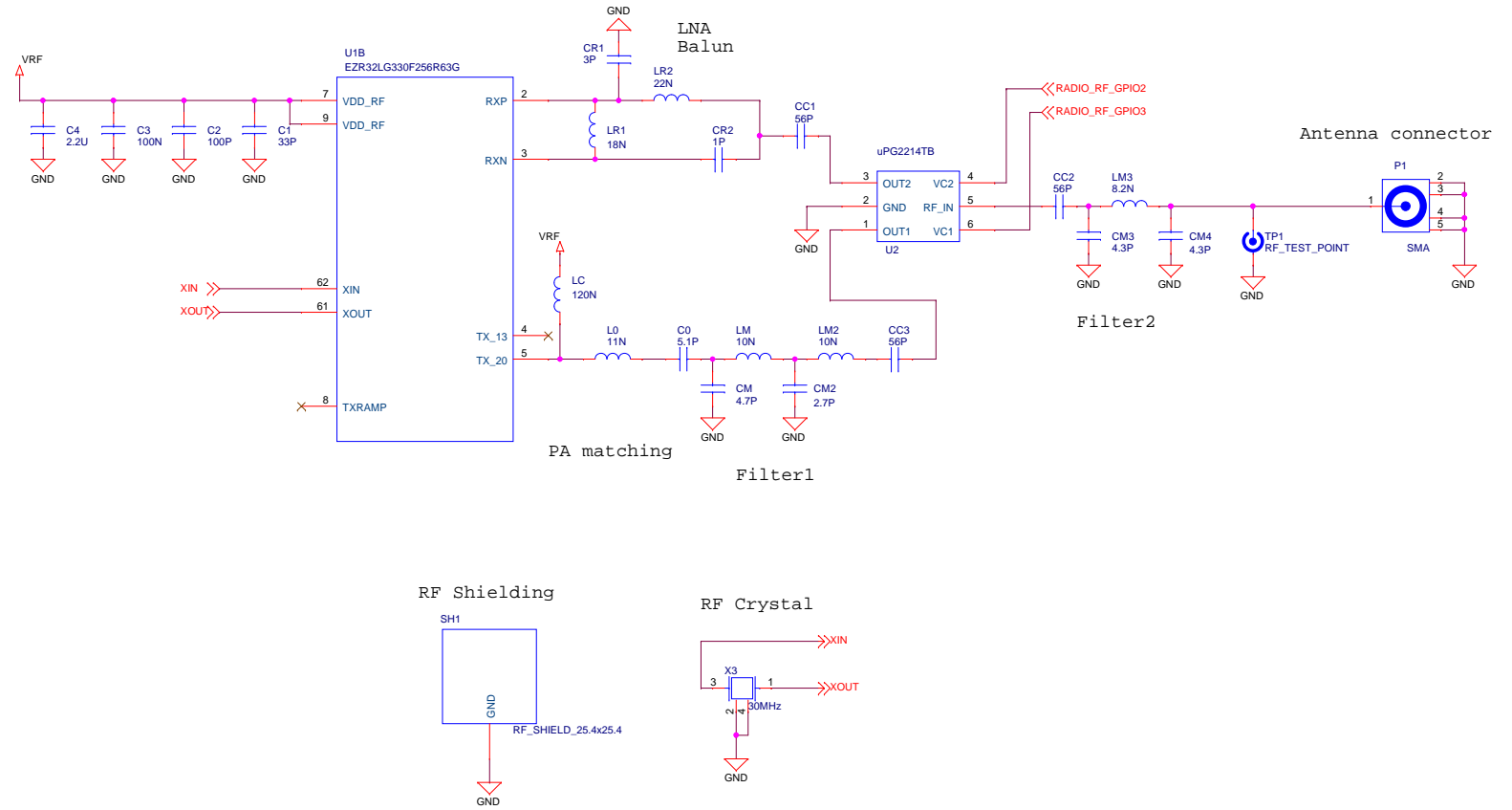
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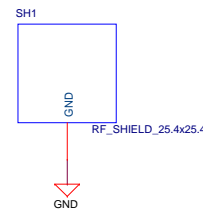
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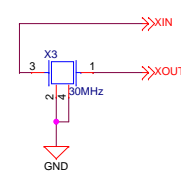
Antenna & Radio Interface



RF Shielding



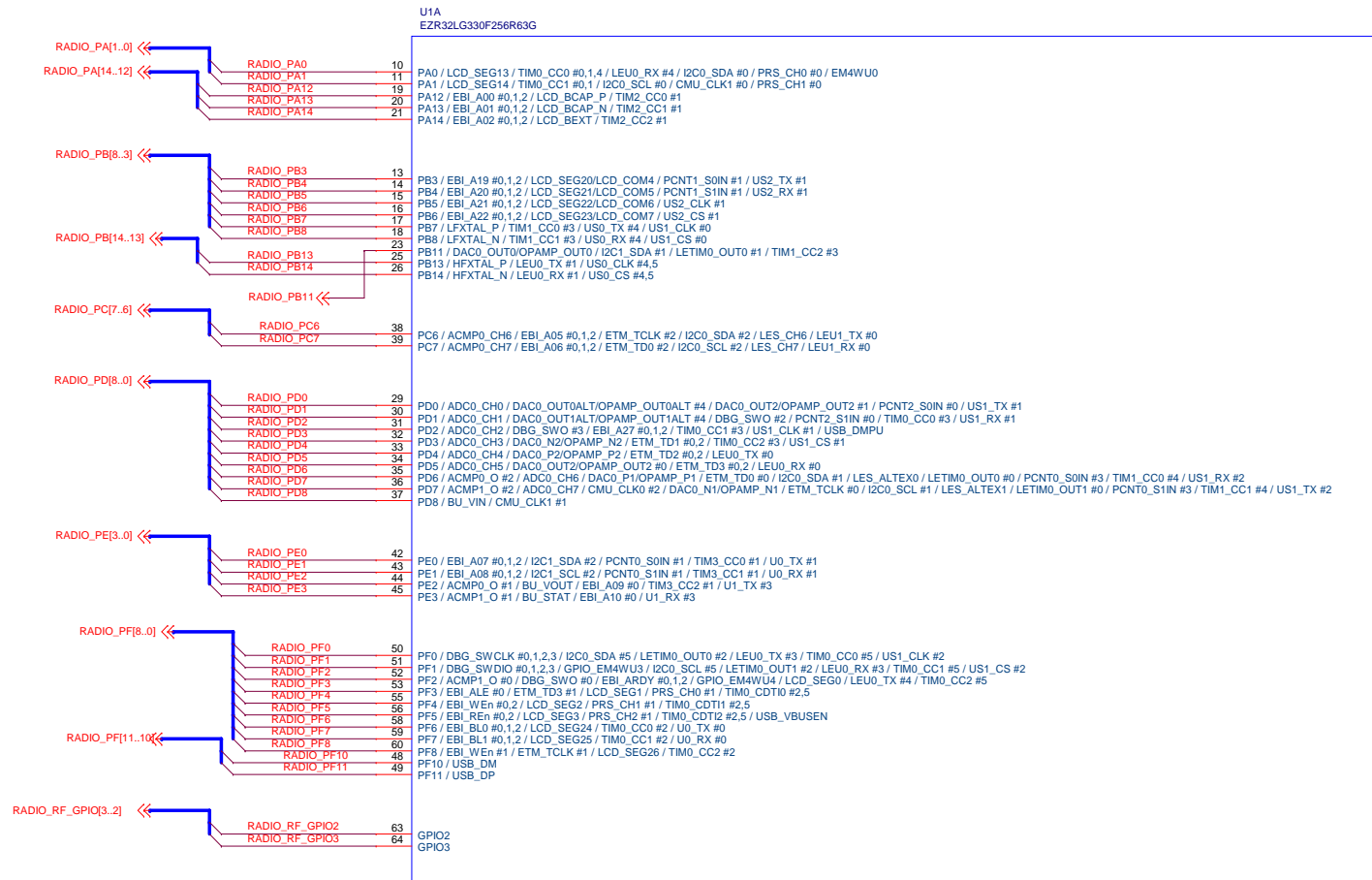
RF Crystal



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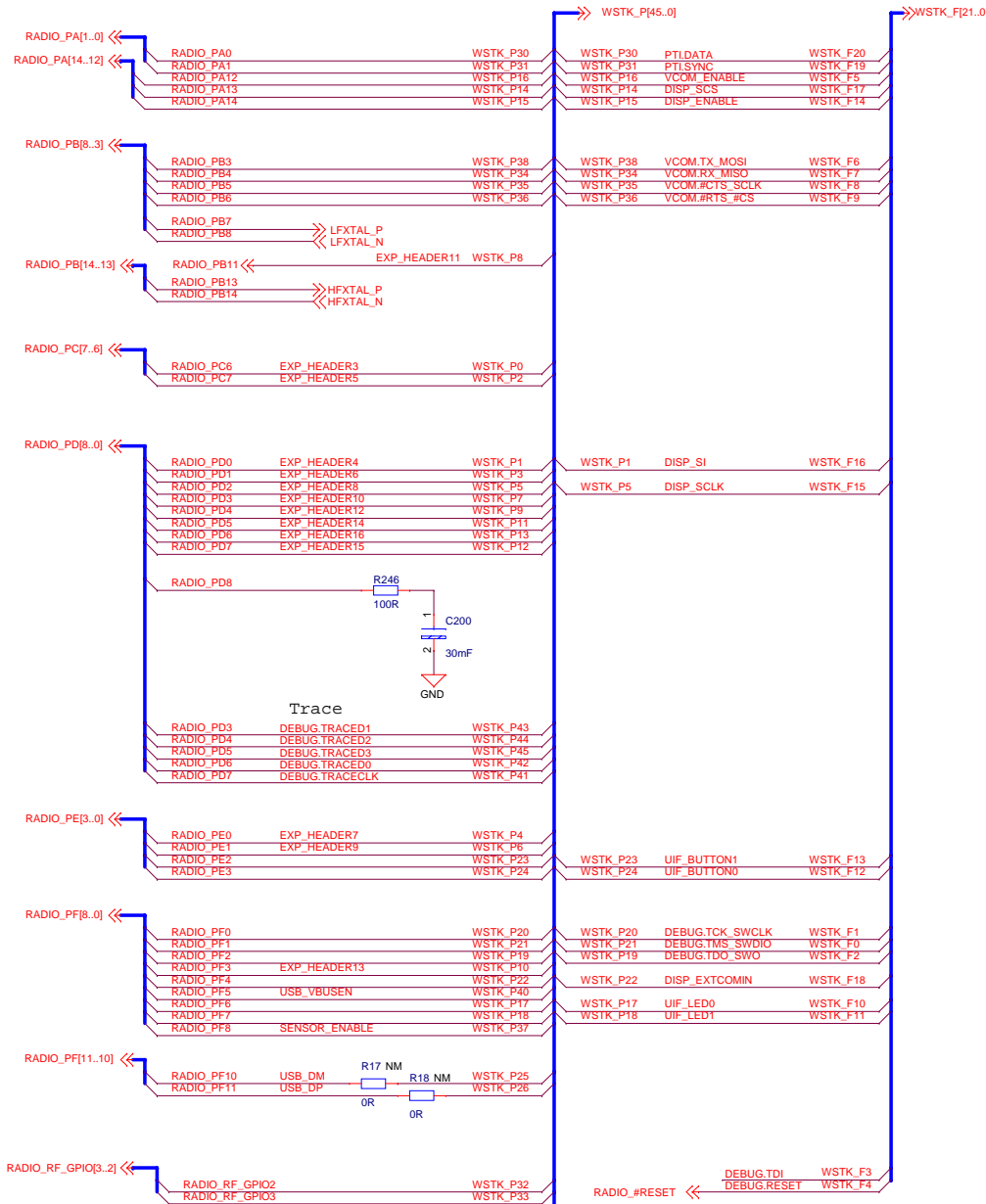
I/O Port Pins



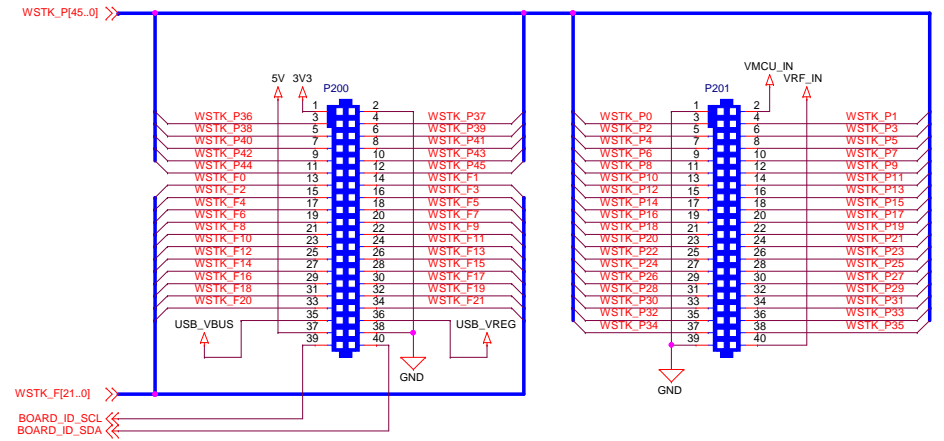
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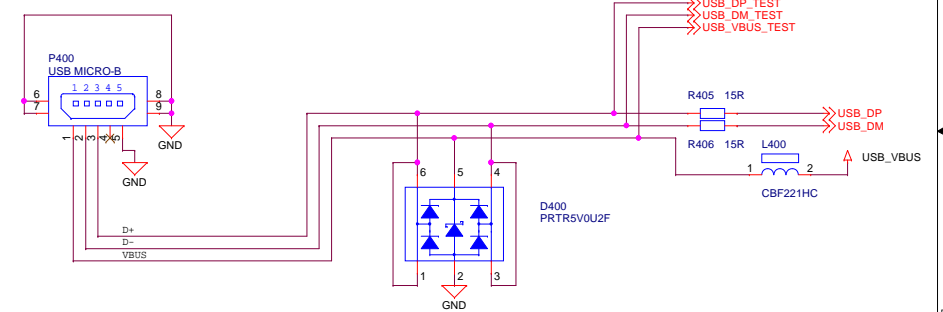
Pin Mapping



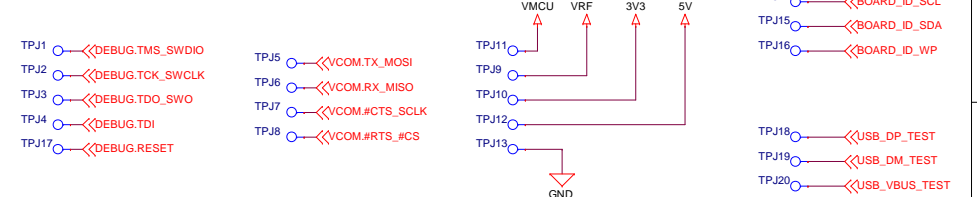
WSTK Connectors



USB Connection and ESD protection



Test Points



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