Thunderboard EFR32BG22

EFR32BG22C224F512IM40

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Revision History

Rev.	Description
A02	The design is based on BRD4184A. There is a new pinout of the EFR32BG22, and the ambient light sensor has been changed.

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PCB1

PCB4184B

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Size: A3	BOM Doc No:	Page Title: **Title Page**	
Design Created Date: Wednesday, July 31, 2019		Document number: **BRD4184B**	Revision: A02
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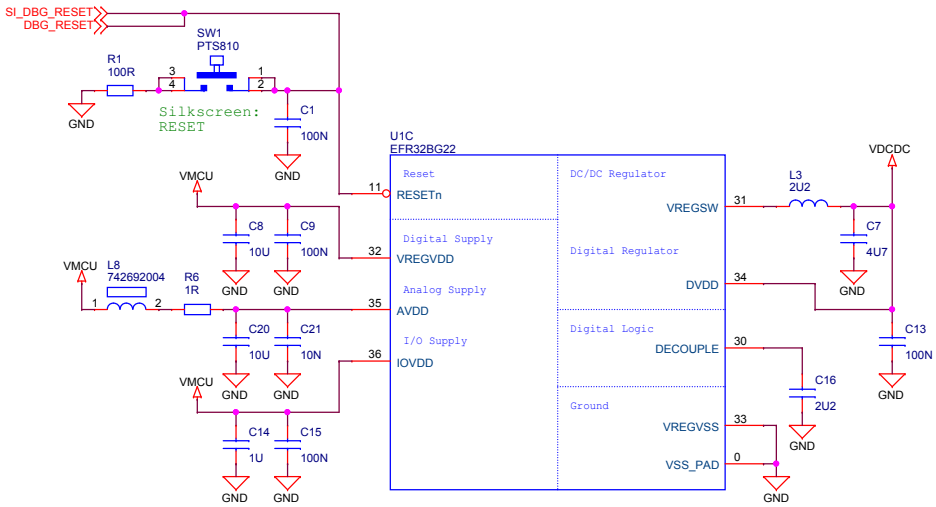
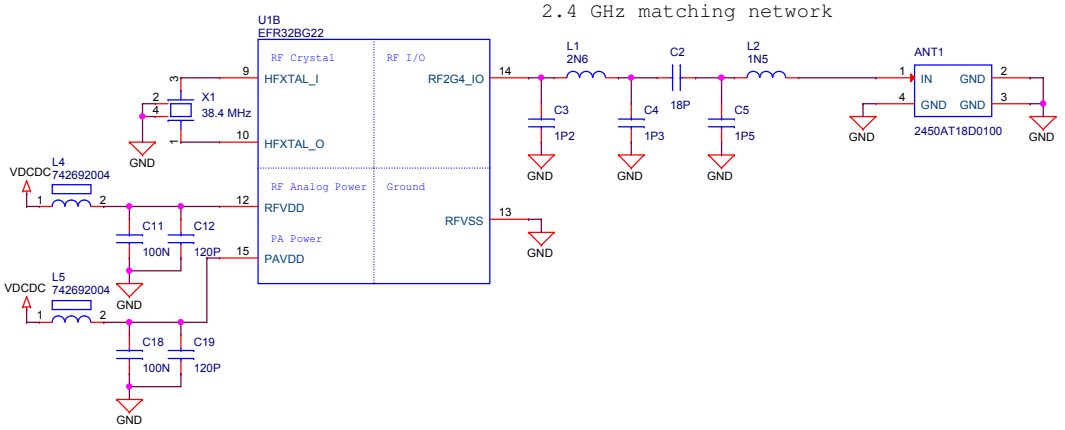
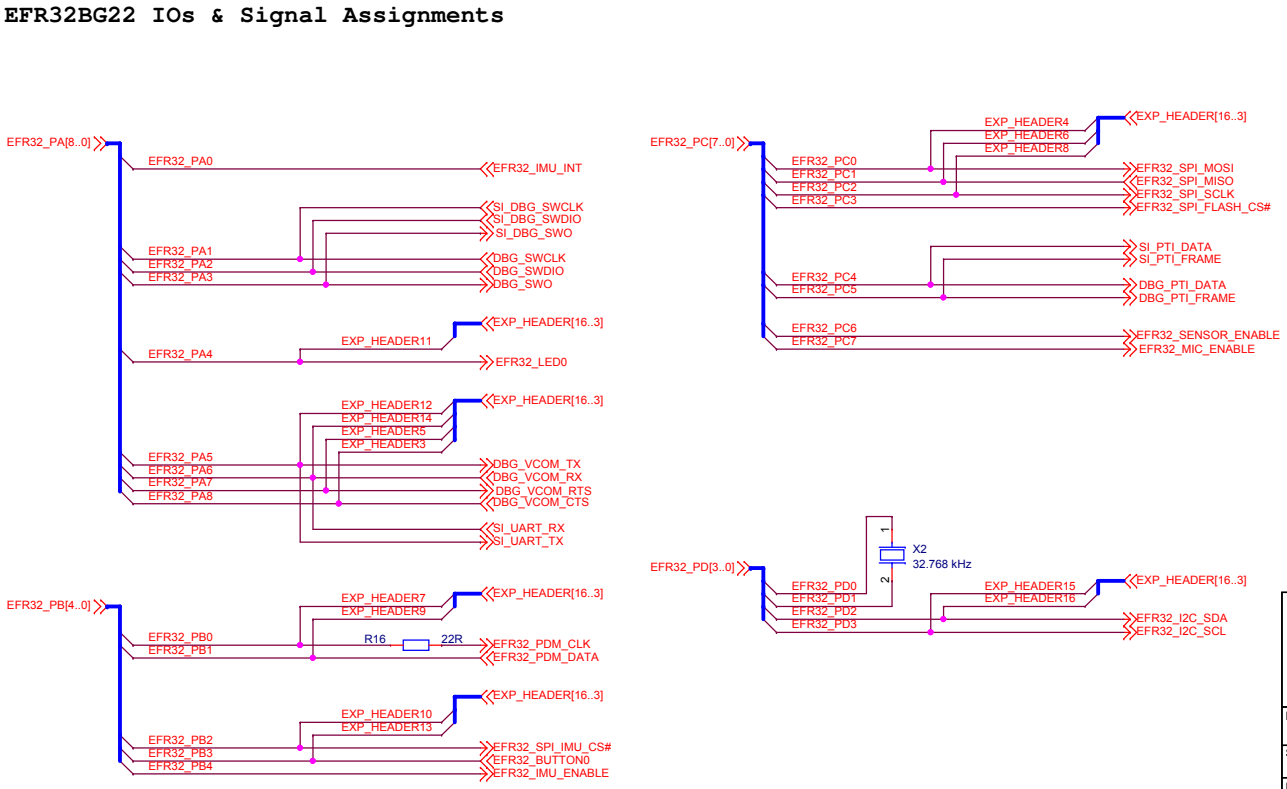
EFR32BG22 Power Section



EFR32BG22 RF Section



EFR32BG22 IOs & Signal Assignments



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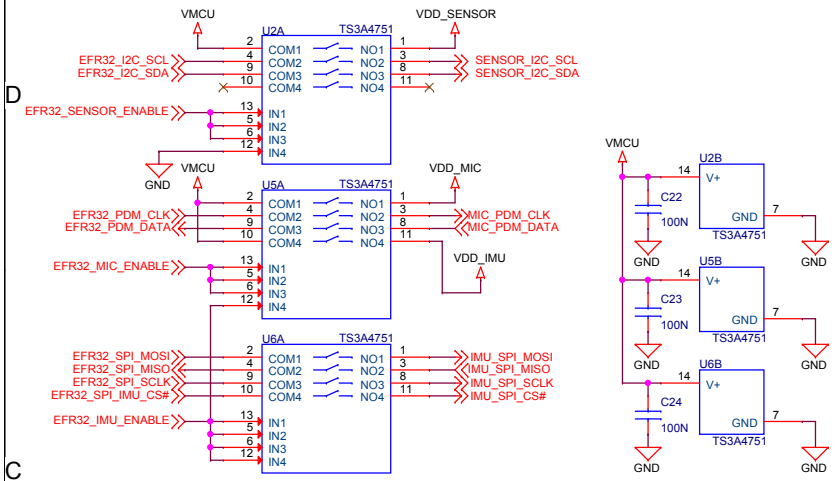
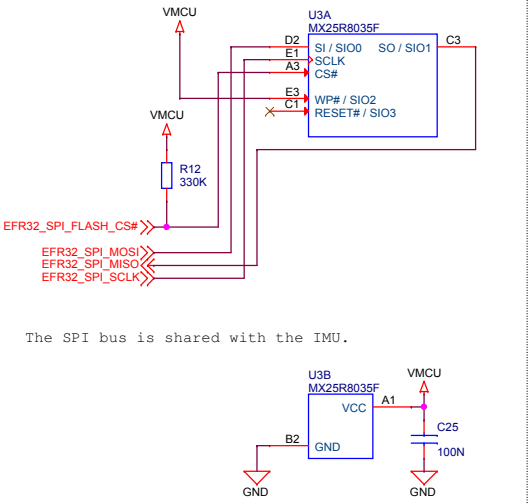
Sensor Power/Isolation

There are no pull-down resistors on the enable pins, and software should therefore immediately drive the lines to prevent the pins from floating.

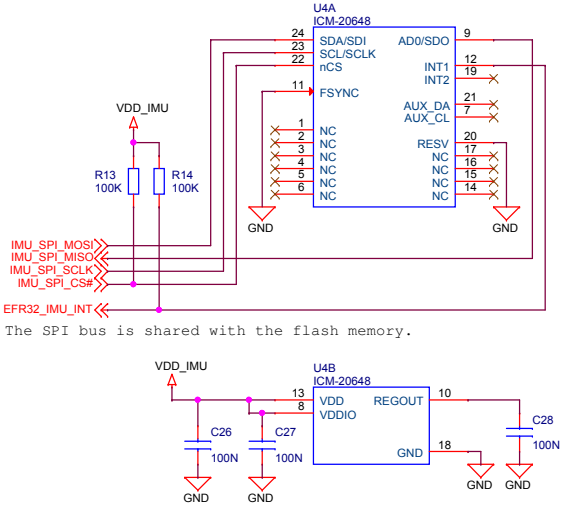


SPI Flash



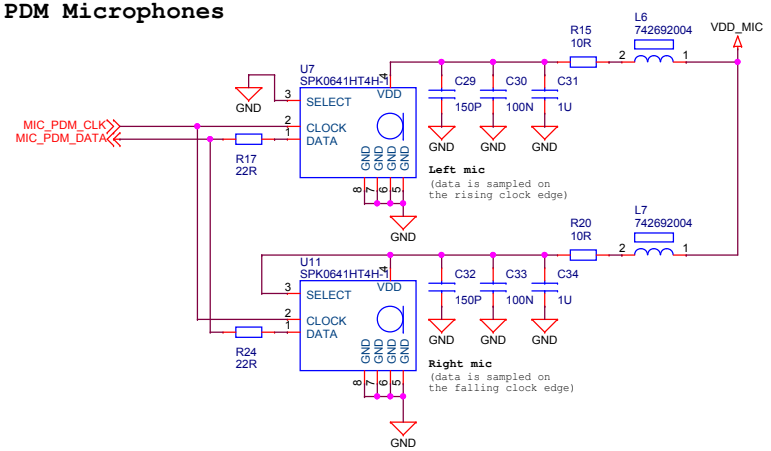
The SPI bus is shared with the IMU.

6-axis Inertial Sensor (IMU)

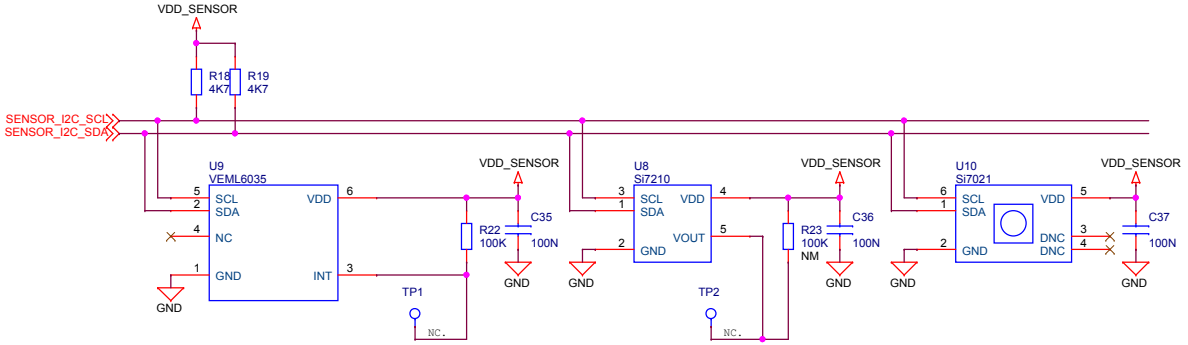


The SPI bus is shared with the flash memory.

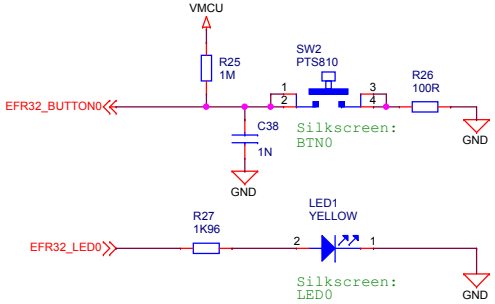
PDM Microphones



UV/Ambient Light Sensor Hall-effect Sensor RH/Temp Sensor

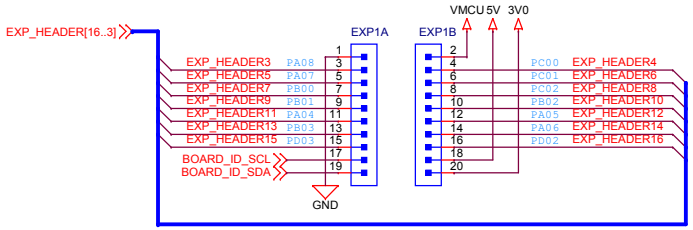


Push Buttons & LEDs



Breakout Pads – EXP Header

All signals routed to the EXP header are used on the board as well.
Take care to avoid signal conflicts (see page 2 for signal assignments).



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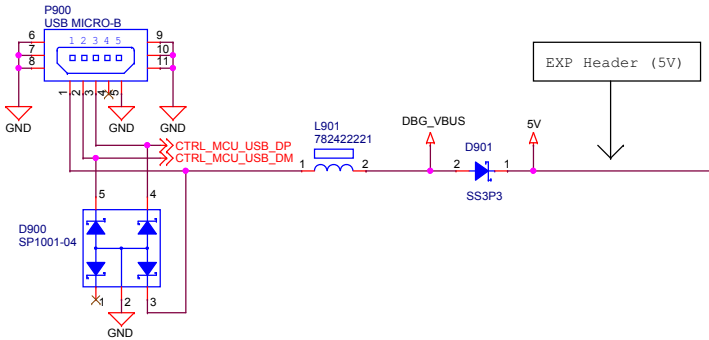
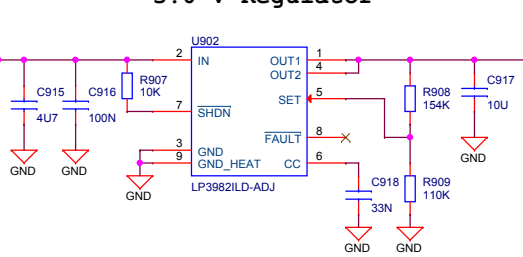
CR2032 Coin Cell Holder

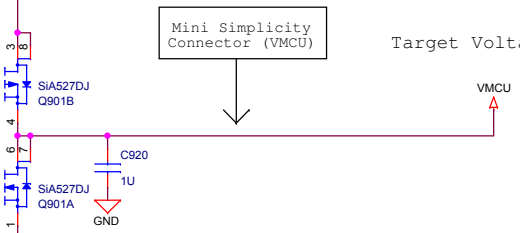
Debug USB Connection



EXP Header (5V)

3.0 V Regulator





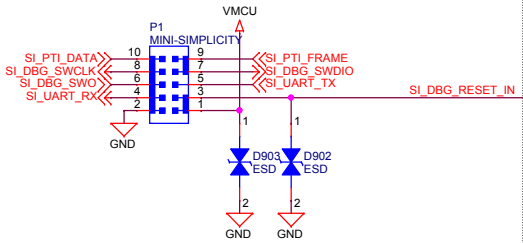
Mini Simplicity Connector (VMCU)

Target Voltage Domain

Q901 switches from battery power to USB when USB is plugged in.

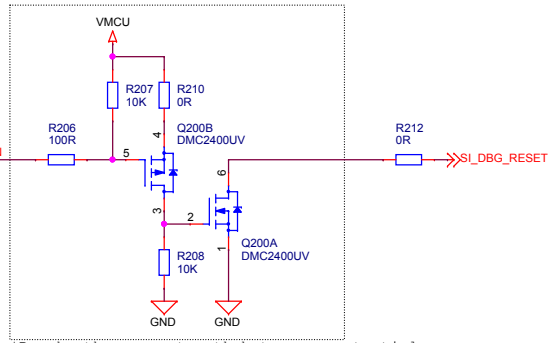
Additionally, the Mini Simplicity connector can supply power directly to the target voltage domain if the USB line and battery is removed.

Mini Simplicity Connector



SI_DBG_RESET_IN

Non-inverting open drain buffer*



*Breaks the current path between a potential pull-up resistor to VMCU on the external debugger, and the pull-up resistor to DVDD on U1.

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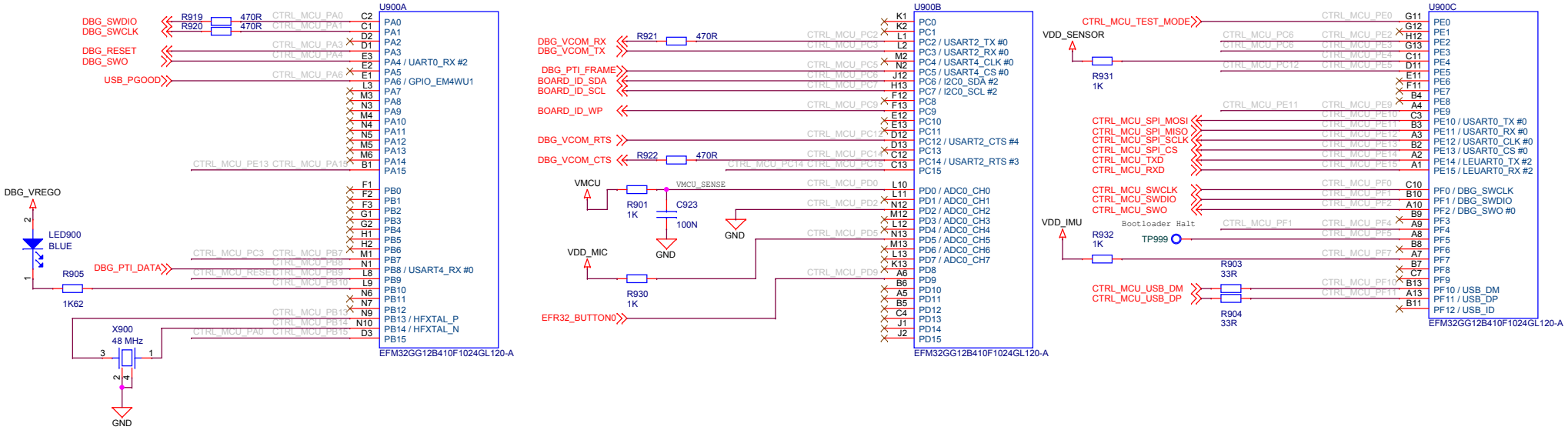
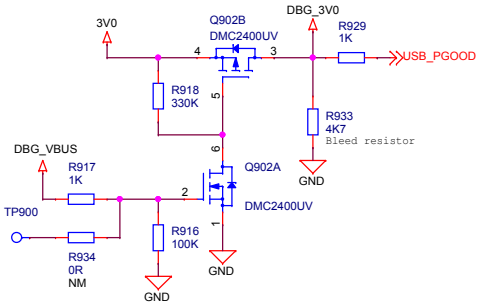
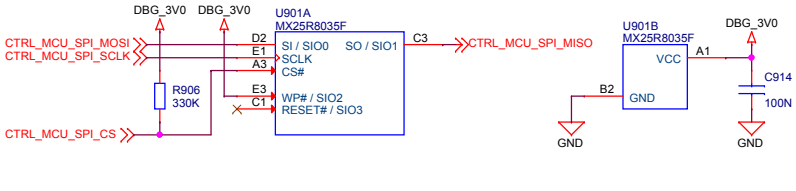
On-board Debugger



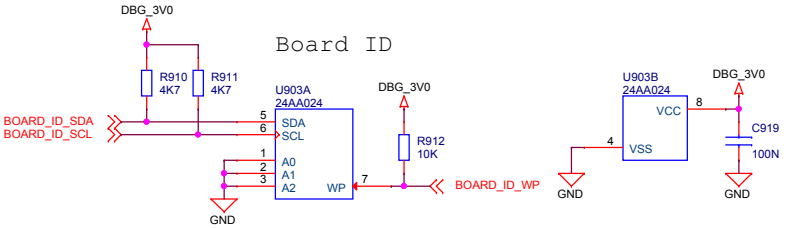
USB Cable Detection and Power Isolation



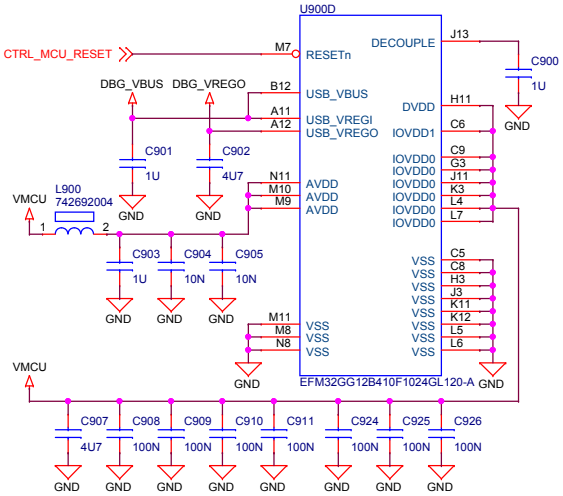
Serial Flash



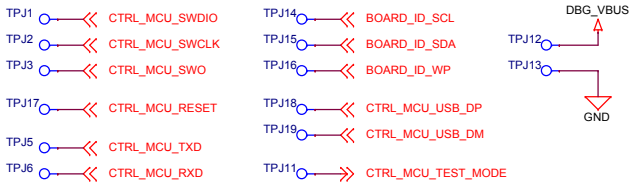
Board ID



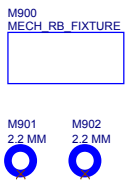
On-board Debugger Power



Test Points



Mech



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