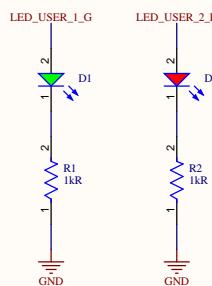
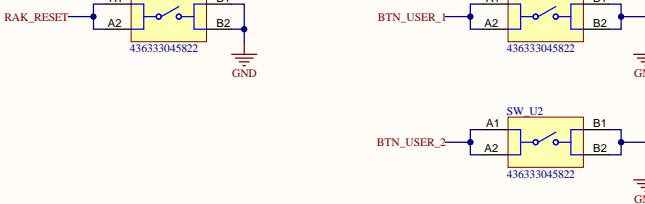
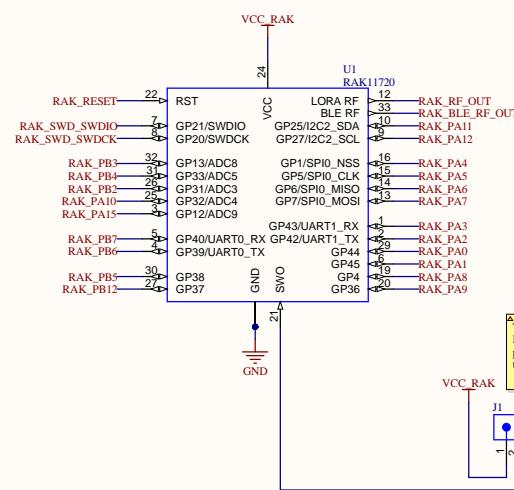
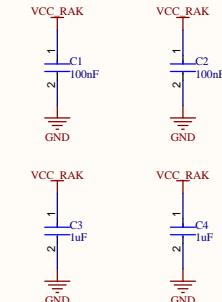


Pin map

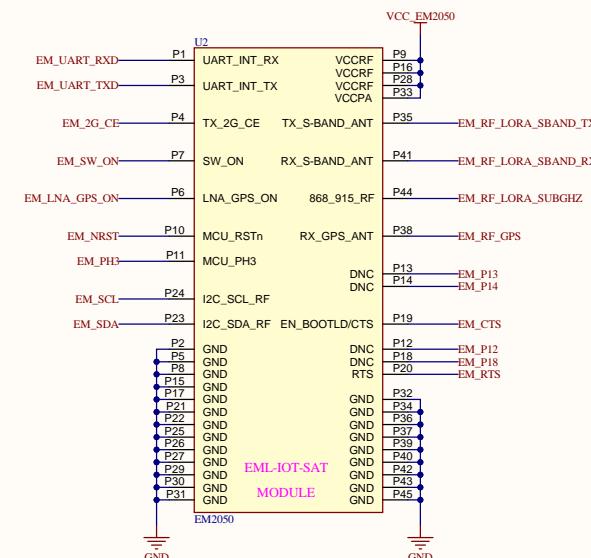
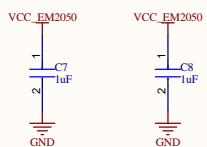
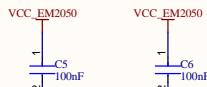
RAK_PB6	RAK_UART1_RXD	RAK_UART1 is used for programming and debugging purposes.
RAK_PB7	RAK_UART1_TXD	
RAK_PA2	RAK_UART2_RXD	RAK_UART2 is connected to EM2050
RAK_PA3	RAK_UART2_TXD	
RAK_PA11	RAK_I2C_SDA	
RAK_PA12	RAK_I2C_SCL	
RAK_PA4	RAK_SPI_SS	
RAK_PA5	RAK_SPI_SCK	
RAK_PA6	RAK_SPI_MISO	
RAK_PA7	RAK_SPI_MOSI	
RAK_PA15	LED_USER_1_G	
RAK_PA1	LED_USER_2_R	
RAK_PA9	BTN_USER_1	
RAK_PB2	BTN_USER_2	
RAK_PB5	EM_NRST	
RAK_PA0	EM_CTS	
RAK_PA10	EM_RTS	

J1

This jumper, J1, allows activation of the RUI3 firmware recovery feature by shorting pin 1 and 2. Shorting pin 2 and 3 will enable the use of this pin as SWO (SWD) or GPIO.



A



B

C

D

PROJECT NAME ApolloEcho_Dev_Kit	AUTHOR mtnguyen
TITLE	LEAP
Rev 2.0.0	Date Mar 01, 25
FILE NAME EM2050.SchDoc	SHEET 2 OF 6

1
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2

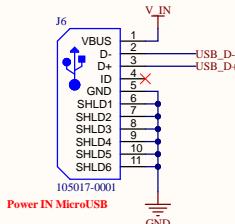
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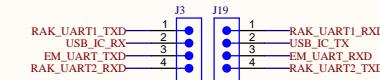
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6

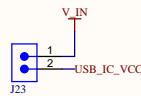
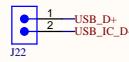
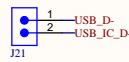
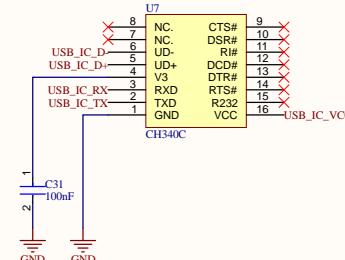
A



[TODO] Placing jumpers on J2 & J3 will enable connections between the RAK11720 and EM2050.
Removing these jumpers will allow for firmware updates on the EM2050.



B



D

PROJECT NAME	ApolloEcho_Dev_Kit	AUTHOR	mtnguyen
TITLE	USB_Serial		
Rev	2.0.0	Date	Mar 01, 25
FILE NAME	USB_Serial.SchDoc	SHEET	3 OF 6

1

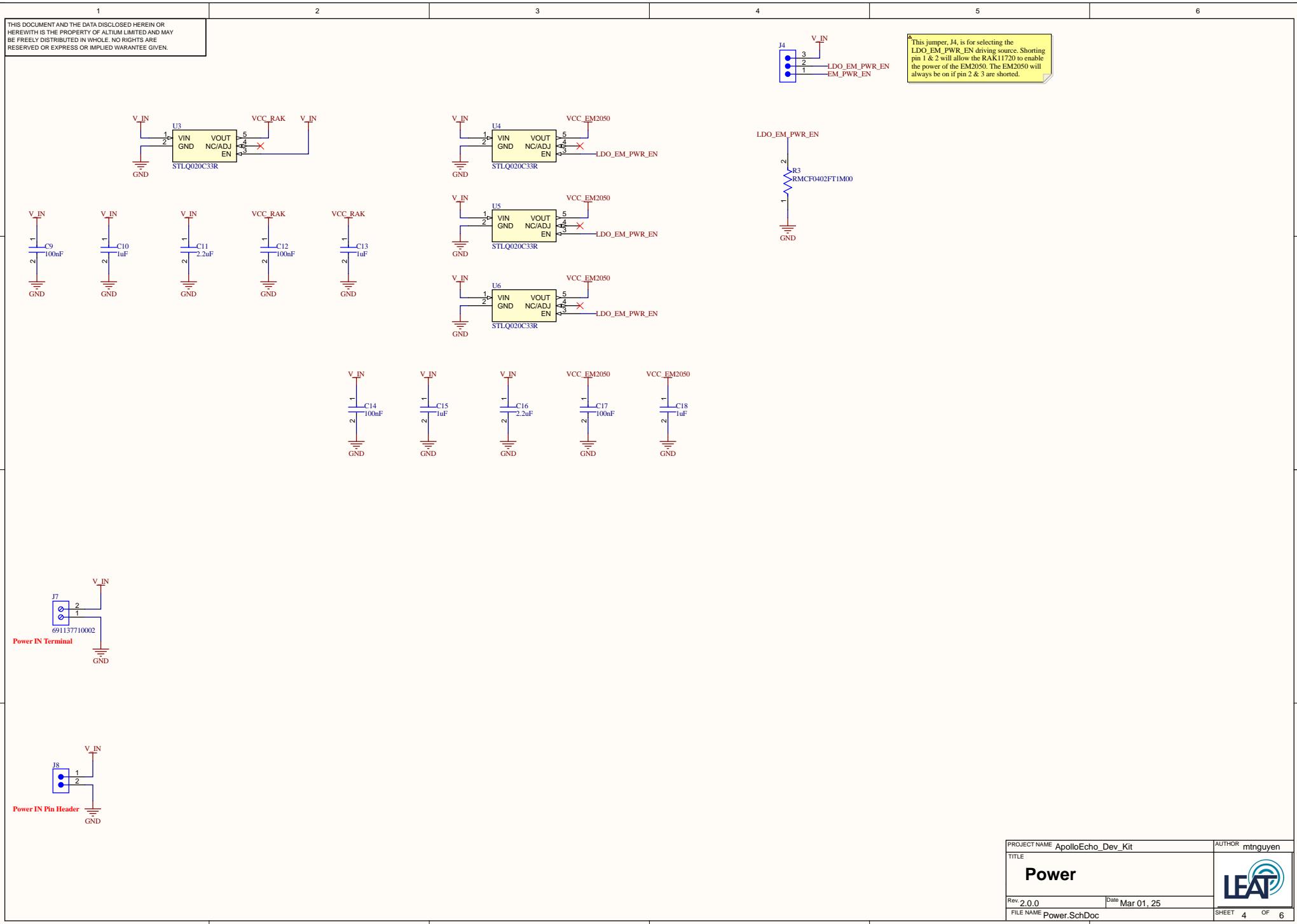
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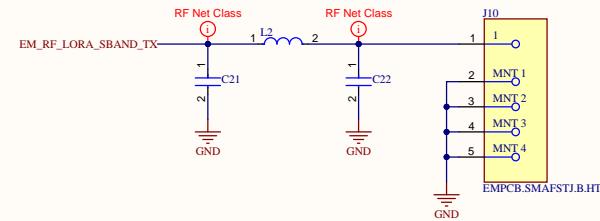
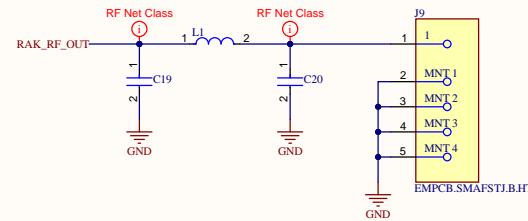
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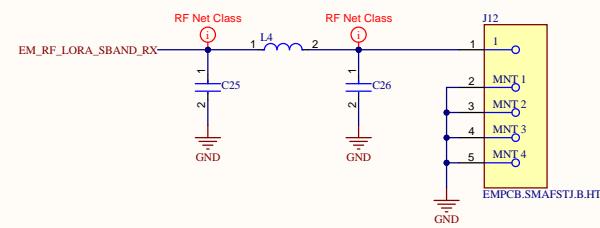
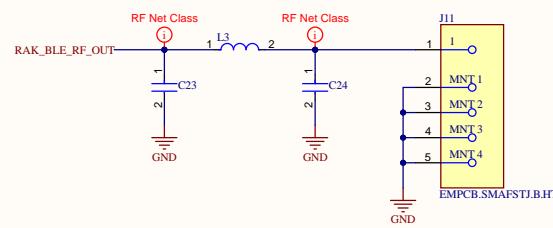
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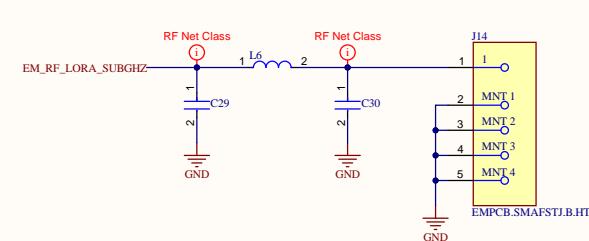
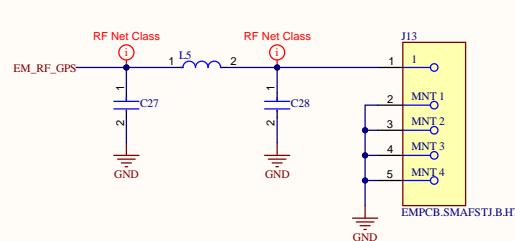
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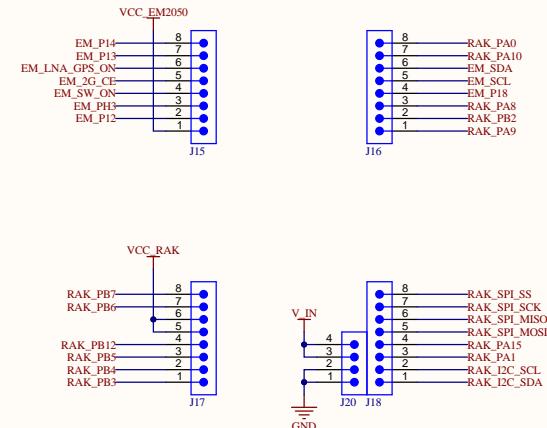
B



C



D



PROJECT NAME	ApolloEcho_Dev_Kit	AUTHOR	mtnguyen
TITLE	Ios		
Rev	2.0.0	Date	Mar 01, 25
FILE NAME	Ios.SchDoc	SHEET	6 OF 6

Board Stack Report

Stack Up		Layer Stack			
Layer	Board Layer Stack	Name	Material	Thickness	Constant
1		Top Paste			
2		Top Overlay			
3		Top Mask	Solder Resist	0.015mm	3.8
4		Top Copper	Copper	0.035mm	
5		Dielectric 1	7628	0.200mm	4.6
6		Plane Layer 1 (Ground)	Copper	0.018mm	
7		Core	FR-4	1.065mm	4.5
8		Plane Layer 2 (PWR)	Copper	0.018mm	
9		Dielectric 2	7628	0.200mm	4.6
10		Bottom Copper	Copper	0.035mm	
11		Bottom Mask	Solder Resist	0.015mm	3.8
12		Bottom Overlay			
13		Bottom Paste			
Height : 1.600mm					

