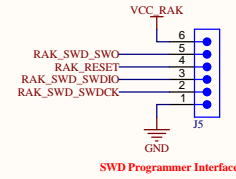


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Pin map

RAK_PB6 — RAK_UART1_TXD
RAK_PB7 — RAK_UART1_RXD

RAK_UART1 is used for programming
and debugging purposes.

RAK_PA2 — RAK_UART2_TXD
RAK_PA3 — RAK_UART2_RXD

RAK_UART2 is connected to EM2050.

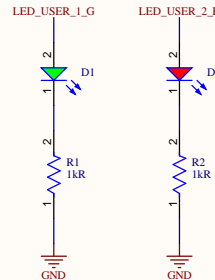
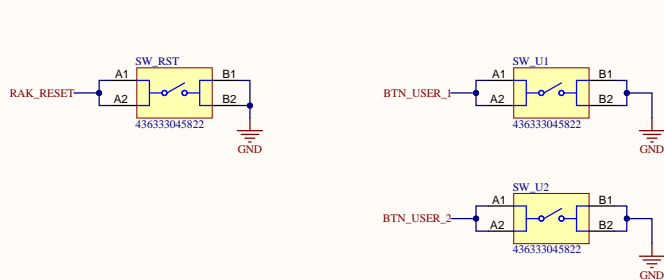
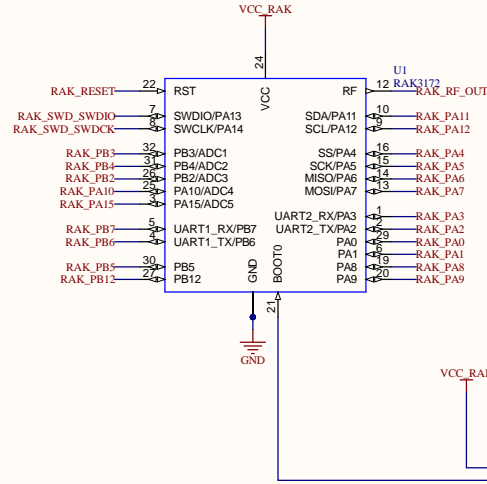
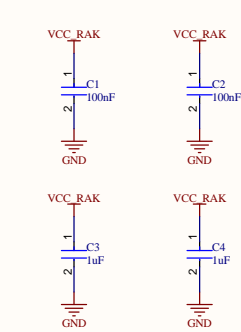
RAK_PA11 — RAK_I2C_SDA
RAK_PA12 — RAK_I2C_SCL

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

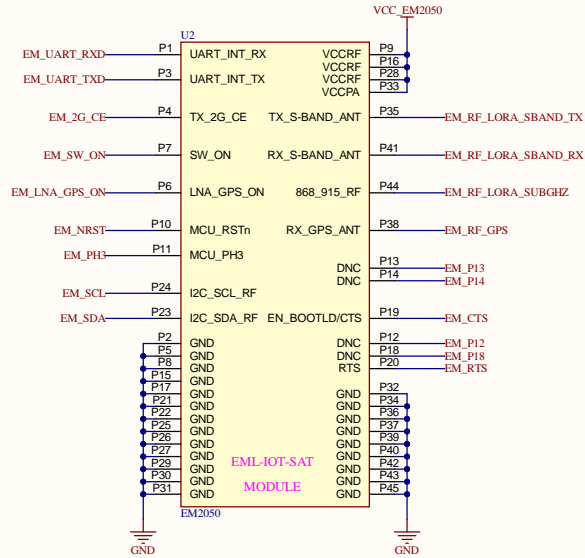
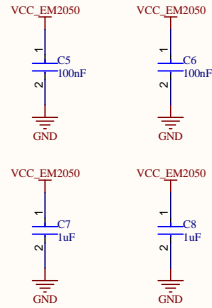
RAK_PB5 — EM_N_RST
RAK_PA0 — EM_CTS
RAK_PA10 — EM_RTS
RAK_PA8 — EM_PWR_EN

This jumper, J1, allows activation of the RAK
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.



PROJECT NAME	ApolloEcho_Dev_Kit	AUTHOR	mtnguyen
TITLE	RAK11720		
Rev	2.0.0	Date	Mar 01, 25
FILE NAME	RAK3172.SchDoc		
SHEET 1 OF 6			LEAT

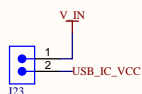
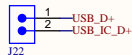
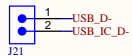
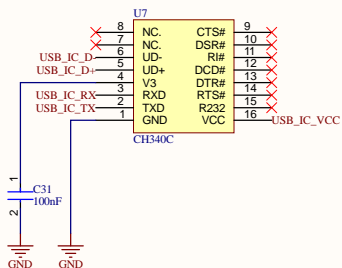
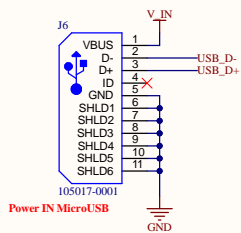
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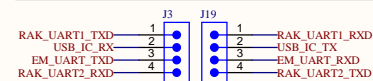
PROJECT NAME ApolloEcho_Dev_Kit		AUTHOR mtnguyen	
TITLE			
EM2050			
Rev 2.0.0	Date Mar 01, 25		
FILE NAME EM2050.SchDoc		SHEET 2 OF 6	



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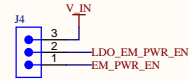
[TODO] Placing jumpers on J2 & J3 will enable connections between the RAK11720 and EM2050.
Removing these jumpers will allow for firmware updates on the EM2050.



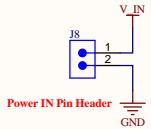
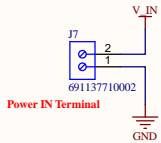
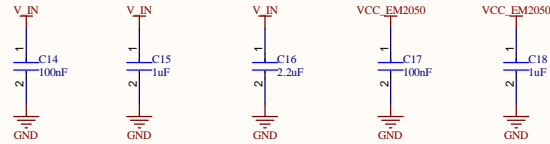
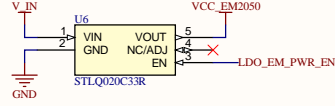
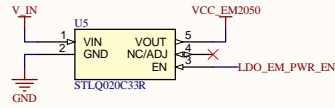
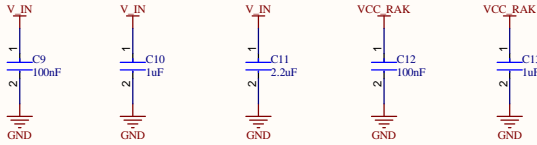
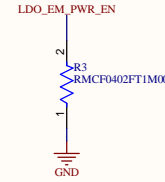
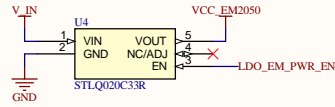
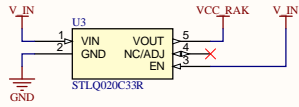
PROJECT NAME	ApolloEcho_Dev_Kit	AUTHOR	mtnguyen
TITLE	USB_Serial		
Rev	2.0.0	Date	Mar 01, 25
FILE NAME	USB_Serial.SchDoc		
SHEET	3	OF	6



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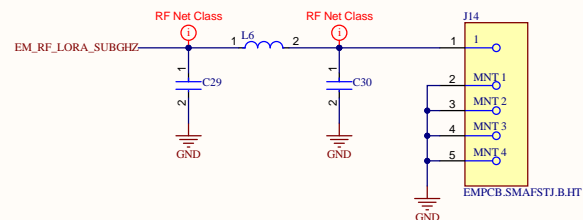
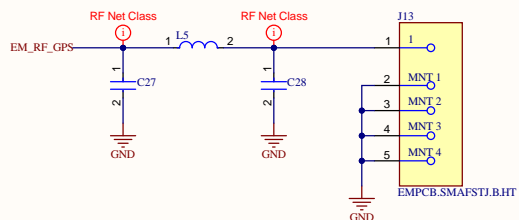
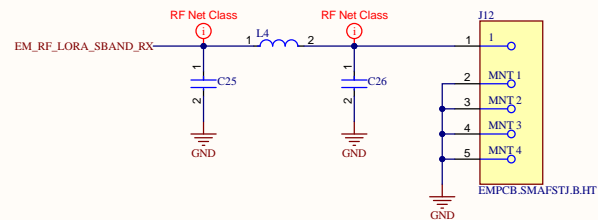
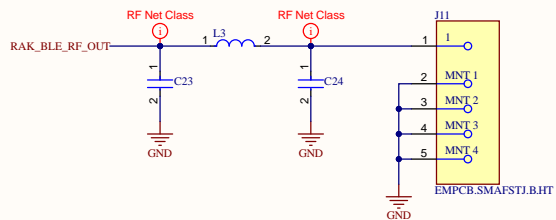
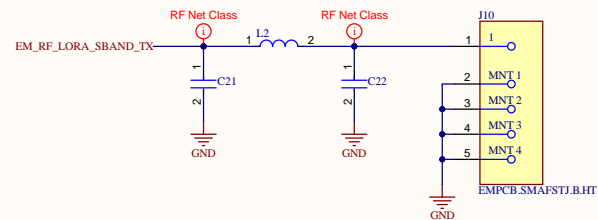
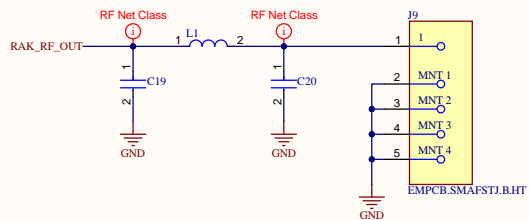
This jumper, J4, is for selecting the LDO_EM_PWR_EN driving source. Shorting pin 1 & 2 will allow the RAK11720 to enable the power of the EM2050. The EM2050 will always be on if pin 2 & 3 are shorted.



PROJECT NAME	ApolloEcho_Dev_Kit	AUTHOR	mtnguyen
TITLE	Power		
Rev	2.0.0	Date	Mar 01, 25
FILE NAME	Power.SchDoc	SHEET	4 OF 6

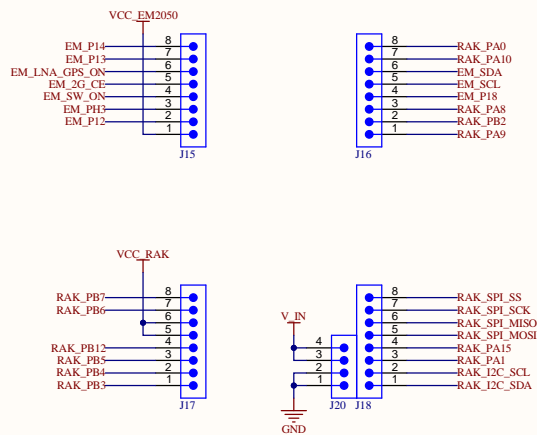


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PROJECT NAME	ApolloEcho_Dev_Kit	AUTHOR	mtnguyen
TITLE	RF		
Rev	2.0.0	Date	Mar 01, 25
FILE NAME	RF.SchDoc		
SHEET 5 OF 6			LEAT

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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

