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ACS12-04-V1.0

DESIGNED	Tino
REVISER	
REV	V1_0

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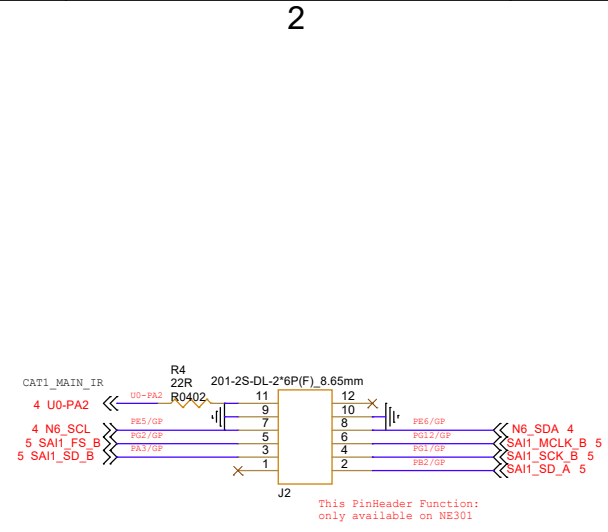
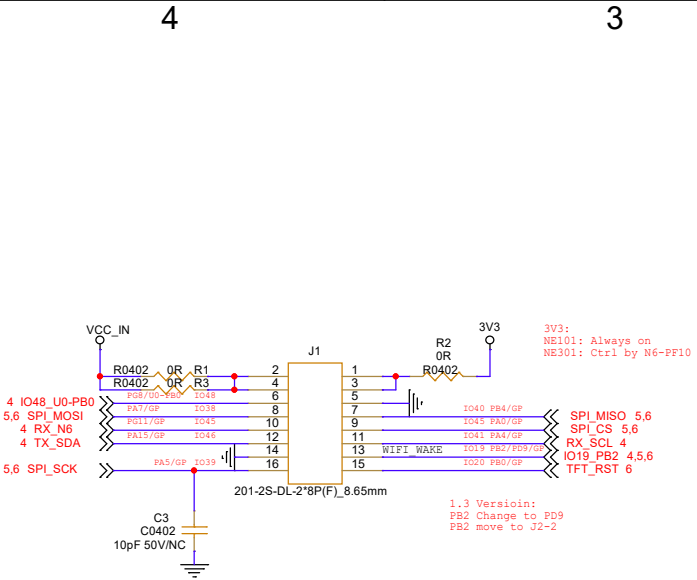
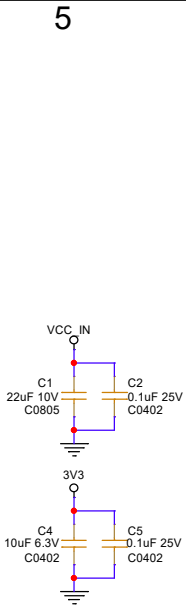
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Revision History

REV. CODE	DATE	Description
V1 0	2024/12/11	New Design



NE101: I2C CFG from J3
ESP32-S3: IOs can cfg by any IO for alternte I2S, I2C, SPI, UART

IOs	Alternate	WiFi-Halw	CAT-1	PIR	RADAR	IR Array	Gyro	ST-ToF	ToF	ALS	Temp & RH%	Mono-OLED	TFT	Audio
GPIO19	USB-D-	WiFi_WAKE											TFT_BL	
GPIO20	USB-D+	WiFi_RST											TFT_RST	
GPIO38	SPI-MOSI	SPI-MOSI											SPI-MOSI	I2S_SDO
GPIO39	SPI-CLK	SPI-CLK											SPI-CLK	I2S_SCLK
GPIO40	SPI-MISO	SPI-MISO											TFT_DC	I2S_SDI
GPIO41	Halw_IRQ	Halw_IRQ												I2C_SCL
GPIO45	UART_RX/CS	SPI-CS	UART_RX			UART_RX							SPI-CS	I2S_WS
GPIO46	UART_TX	WiFi-BUSY	UART_TX			UART_TX								I2C_SDA
GPIO48	IO48_U0-PB0	FWR_ON	FWR_ON	IO48										I2C_SDA

NE301: I2C CFG from J3 & J1

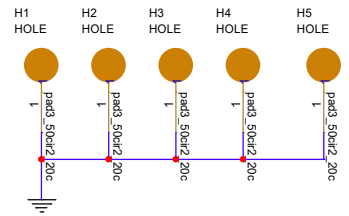
IOs	Alternate	WiFi-Halw	CAT-1	PIR	RADAR	IR Array	Gyro	ST-ToF	ToF	ALS	Temp & RH%	Mono-OLED	TFT	Audio
PB2/GP		WiFi_WAKE											TFT_BL	SAI1_SD_A
PB0/GP		WiFi_RST											TFT_RST	
PA7/GP	SPI-MOSI	SPI-MOSI											SPI-MOSI	I2S_SDO
PA5/GP	SPI-CLK	SPI-CLK											SPI-CLK	I2S_SCLK
PB4/GP	SPI-MISO	SPI-MISO											TFT_DC	I2S_SDI
PA0/GP	SPI-CS	SPI-CS												I2S_WS
PG11/GP	UART_RX	SPI-CS	UART_RX			UART_RX								
PA15/GP	UART_TX	WiFi-BUSY	UART_TX			UART_TX								
PG8/U0-PB0	FWR_ON	FWR_ON	FWR_ON	PG8/U0-PB0										
PA4/GP		Halw_IRQ												

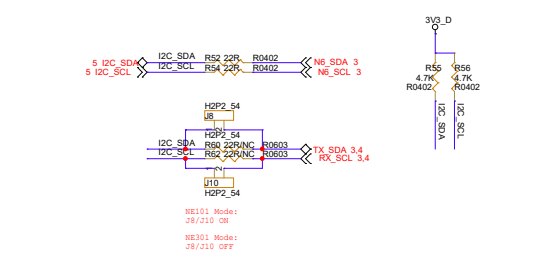
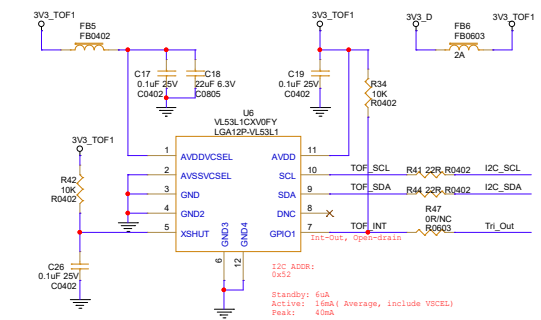
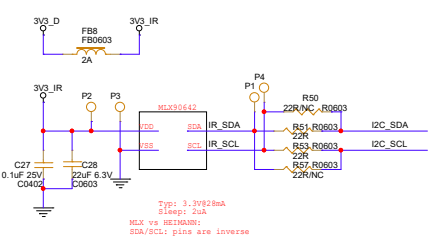
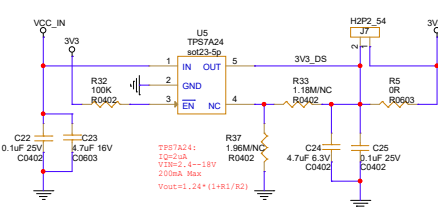
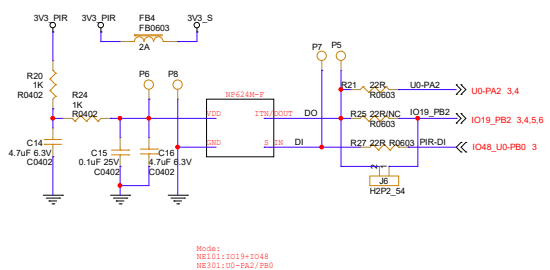
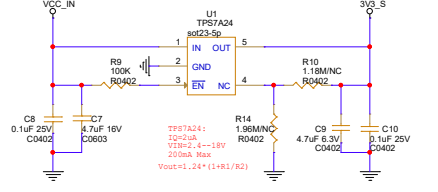
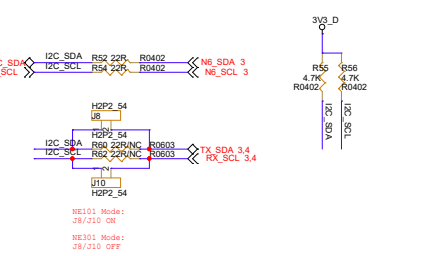
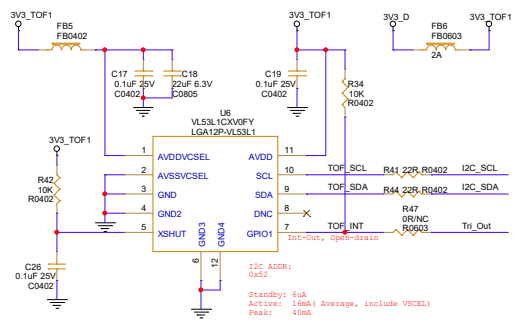
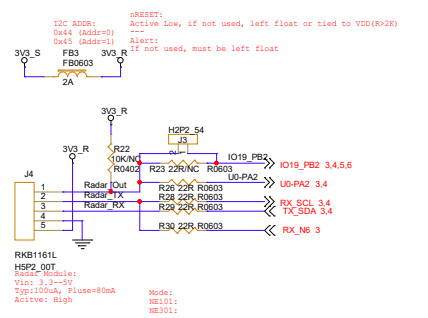
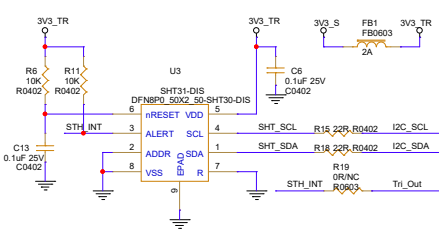
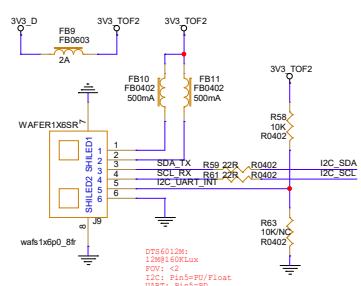
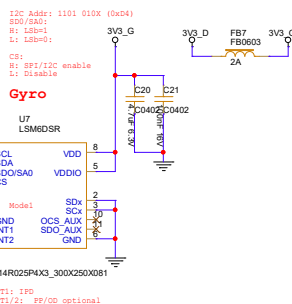
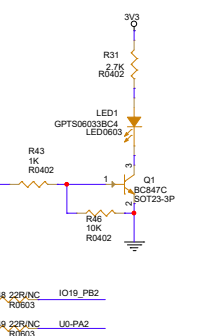
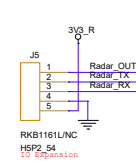
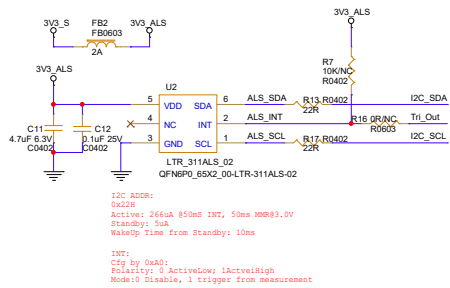
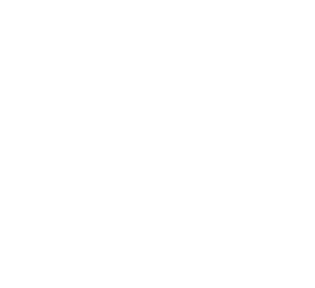
NE301: I2C CFG from J1

IOs	Alternate	WiFi-Halw	CAT-1	PIR	RADAR	IR Array	Gyro	ST-ToF	ToF	ALS	Temp & RH%	Mono-OLED	TFT	Audio
U0-PA2						U0-PA2								I2C_SCL
PB5/GP	I2C_SCL													I2C_SDA
PB6/GP	I2C_SDA													I2C_SDA
PG2/GP	SAI1_FS_B													SAI1_FS_B
PG12/GP	SAI1_MCLK_B													SAI1_MCLK_B
PA3/GP	SAI1_SD_B													SAI1_SD_B
PG1/GP	SAI1_SCK_B													SAI1_SCK_B

SAI I2S Mapping

SAI1_FS_B	I2S_WS
SAI1_MCLK_B	
SAI1_SD_B	I2S_SDO
SAI1_SD_A	I2S_SDI
SAI1_SCK_B	I2S_BCLK





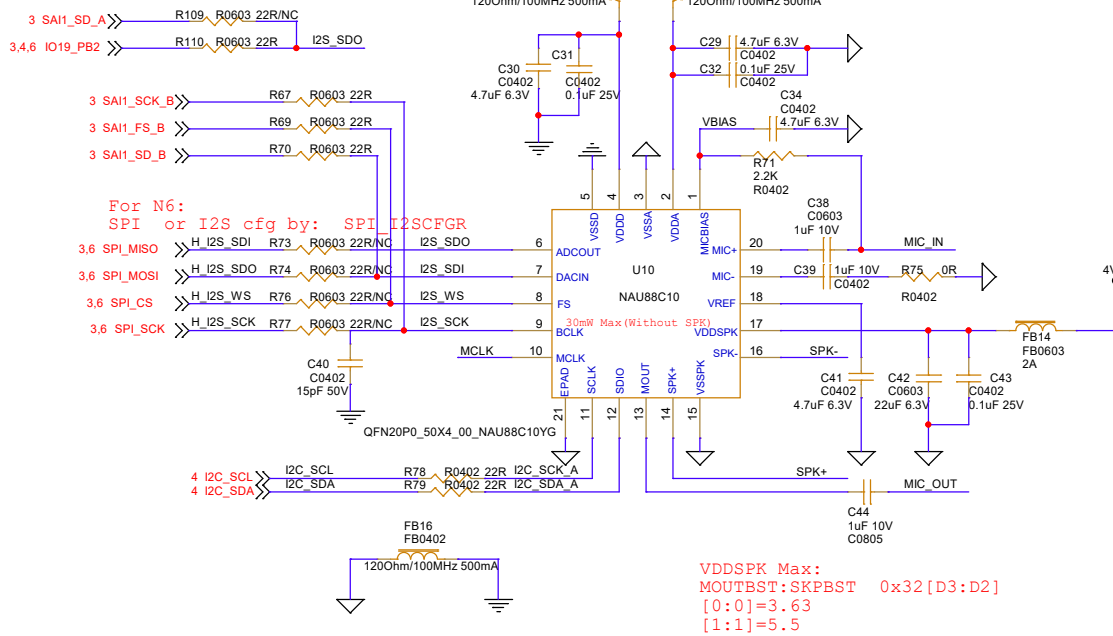
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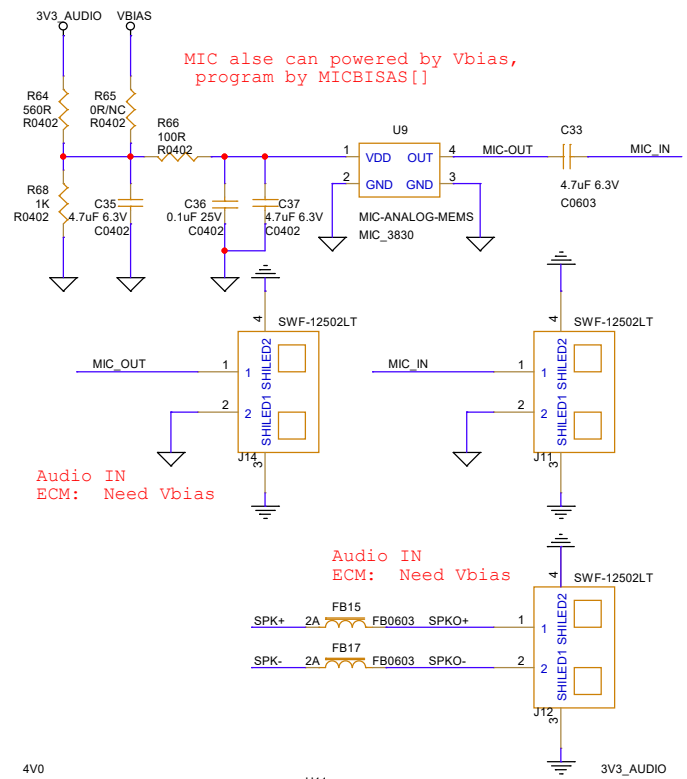
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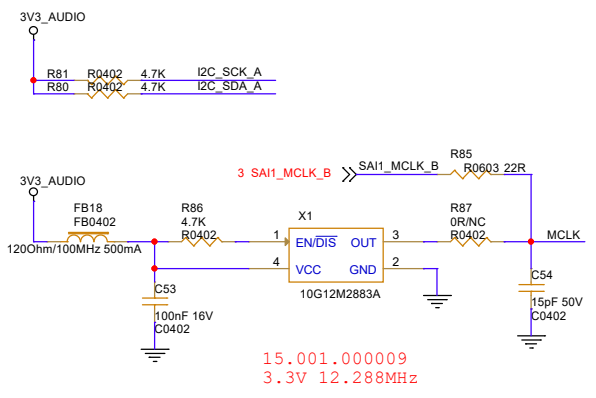
SAI:
 1.2 Ver: R109-NC, R110-ON
 1.3 Ver: R109-ON, R110-NC



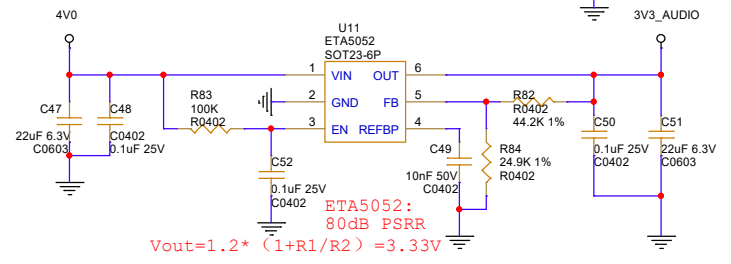
MIC also can powered by Vbias, program by MICBISAS[]



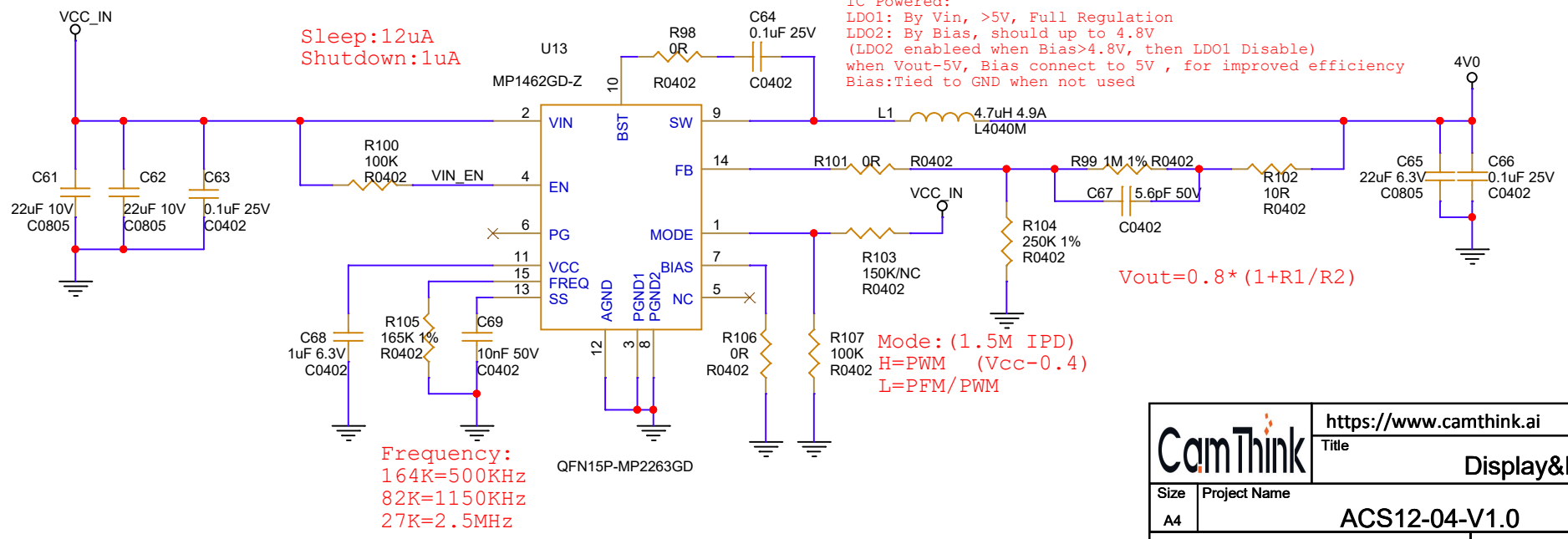
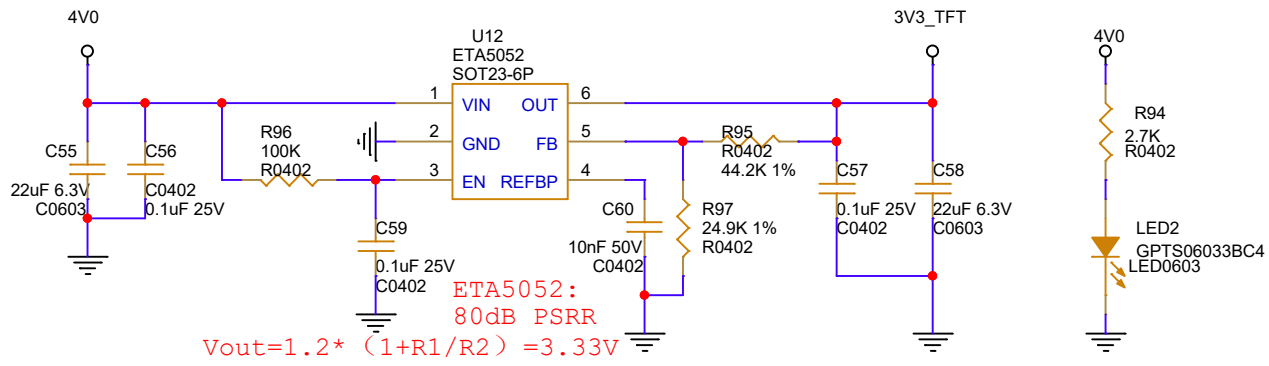
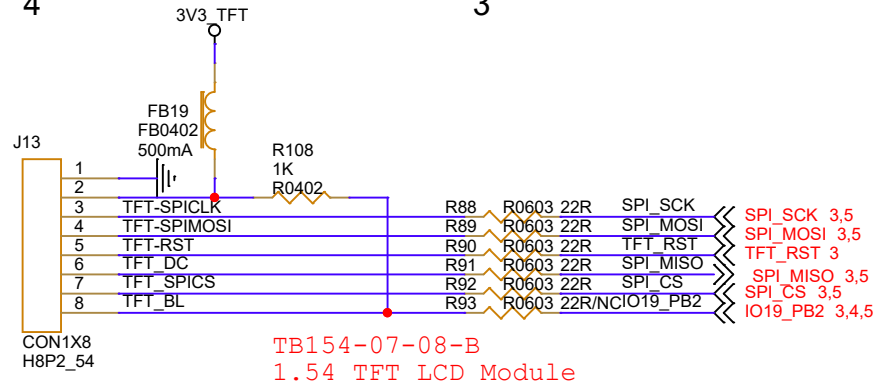
Audio IN ECM: Need Vbias



15.001.000009
 3.3V 12.288MHz



ETA5052:
 80dB PSRR
 $V_{out} = 1.2 * (1 + R1/R2) = 3.33V$



		https://www.camthink.ai	
		Title	
Size	Project Name		Rev
A4	ACS12-04-V1.0		<RevCode>
Date:	Thursday, March 26, 2026	Sheet	6 of 6