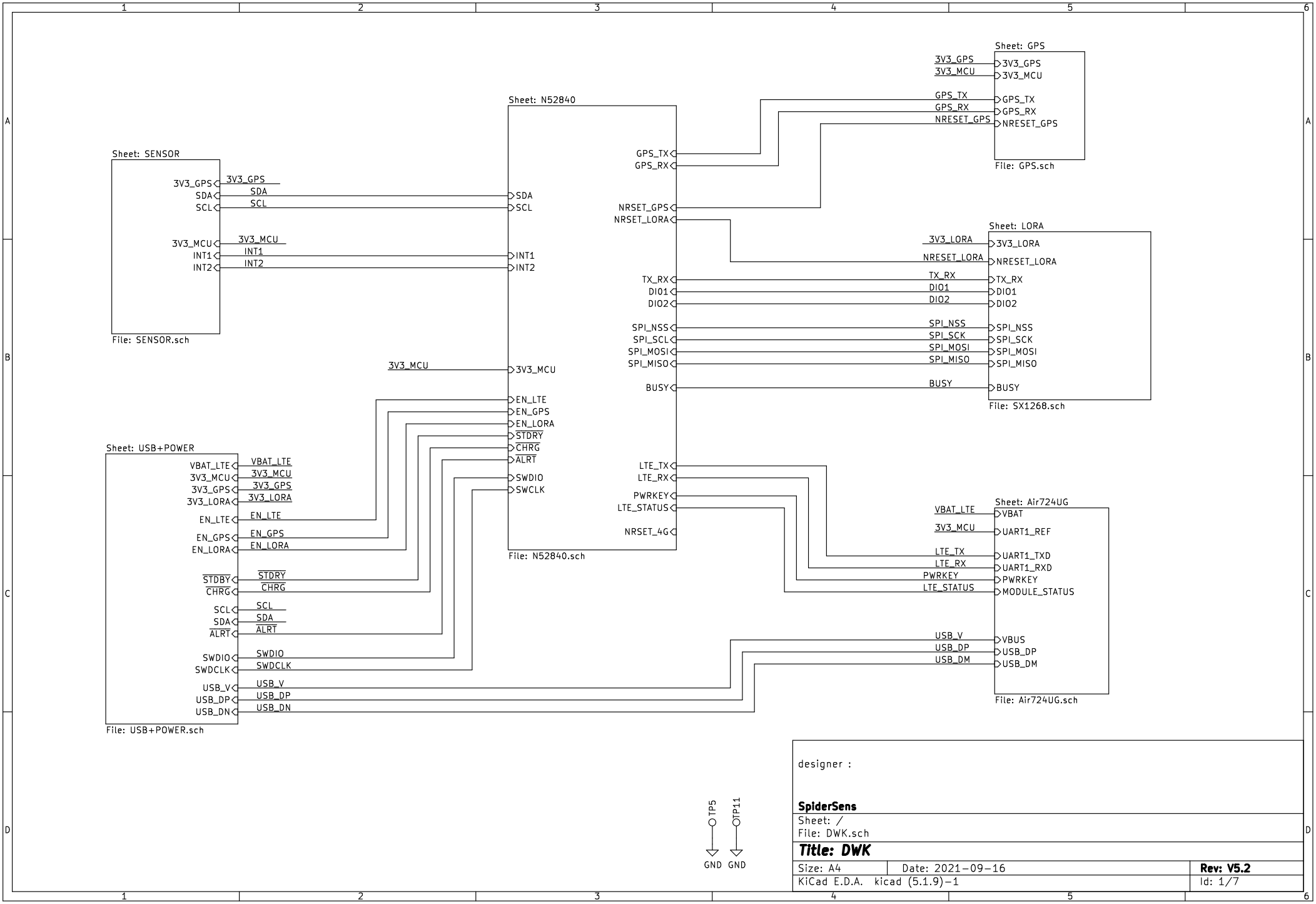
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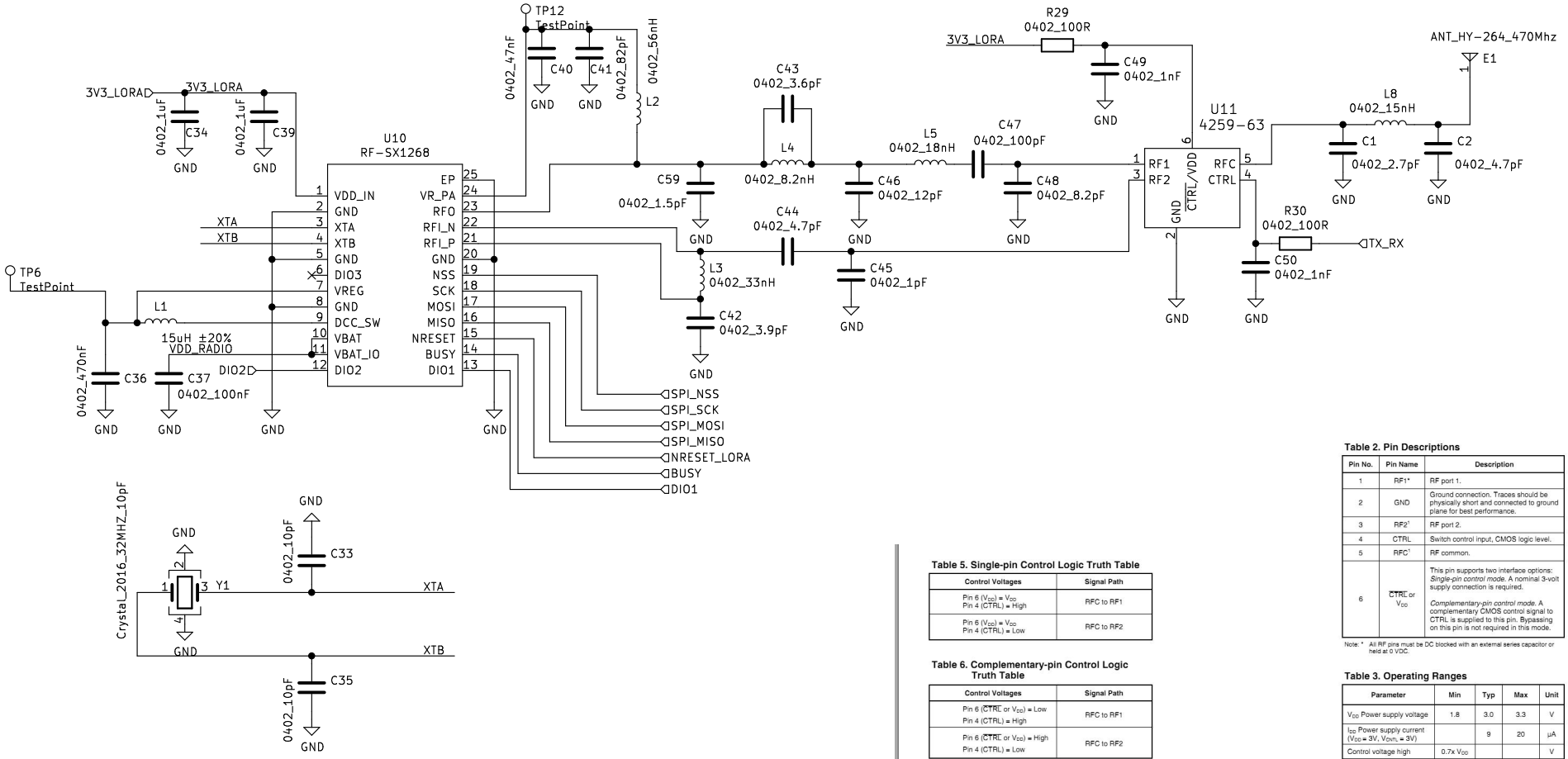

Table 2. Pin Descriptions

Pin No.	Pin Name	Description
1	RF1*	RF port 1.
2	GND	Ground connection. Traces should be physically short and connected to ground plane for best performance.
3	RF2*	RF port 2.
4	CTRL	Switch control input, CMOS logic level.
5	RFC*	RF common.
6	$\overline{CTRL}$ or V_{DD}	This pin supports two interface options: *Single-pin control mode*. A nominal 3-volt supply connection is required. *Complementary-pin control mode*. A complementary CMOS control signal to CTRL is supplied to this pin. Bypassing on this pin is not required in this mode.

Note: * All RF pins must be DC blocked with an external series capacitor or held at 0 VDC.

Table 3. Operating Ranges

Parameter	Min	Typ	Max	Unit
V_{DD} Power supply voltage	1.8	3.0	3.3	V
I_{DD} Power supply current (V_{DD} = 3V; V_{CNTL} = 3V)		9	20	µA
Control voltage high	0.7x V_{DD}			V
Control voltage low			0.3x V_{DD}	V

Table 5. Single-pin Control Logic Truth Table

Control Voltages	Signal Path
Pin 6 (V_{DD}) = V_{DD} Pin 4 (CTRL) = High	RFC to RF1
Pin 6 (V_{DD}) = V_{DD} Pin 4 (CTRL) = Low	RFC to RF2

Table 6. Complementary-pin Control Logic Truth Table

Control Voltages	Signal Path
Pin 6 ($\overline{CTRL}$ or V_{DD}) = Low Pin 4 (CTRL) = High	RFC to RF1
Pin 6 ($\overline{CTRL}$ or V_{DD}) = High Pin 4 (CTRL) = Low	RFC to RF2

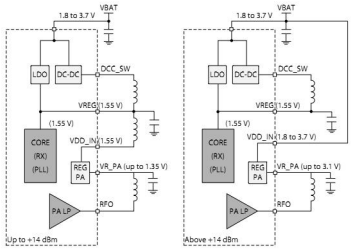

Figure 4-3: PA Supply Scheme in DC-DC Mode

4.4.3 Power Amplifier Summary

The following table summarizes the power amplifier optimization keys between both PA supply modes:

Table 4-4: Power Amplifier Summary

PA Summary	Conditions	Up to +14 dBm	Above +14 dBm
Max Power	with relevant matching and settings	+14 dBm	+ 22 dBm
IDDTX	at + 22 dBm and 490 MHz at +10 dBm and 780 MHz	- 20 mA	107 mA -
Output Power vs VBAT		flat from VBAT = 1.8 V to 3.7 V	in DC - DC mode, flat from 3.3 V to 3.7 V VBAT = 3.1 V for +22 dBm VBAT = 2.7 V for +20 dBm VBAT = 1.8 V for +16 dBm
IDDTX vs VBAT		inversely proportional to VBAT, DC - DC buck converter is used for PA supply	-

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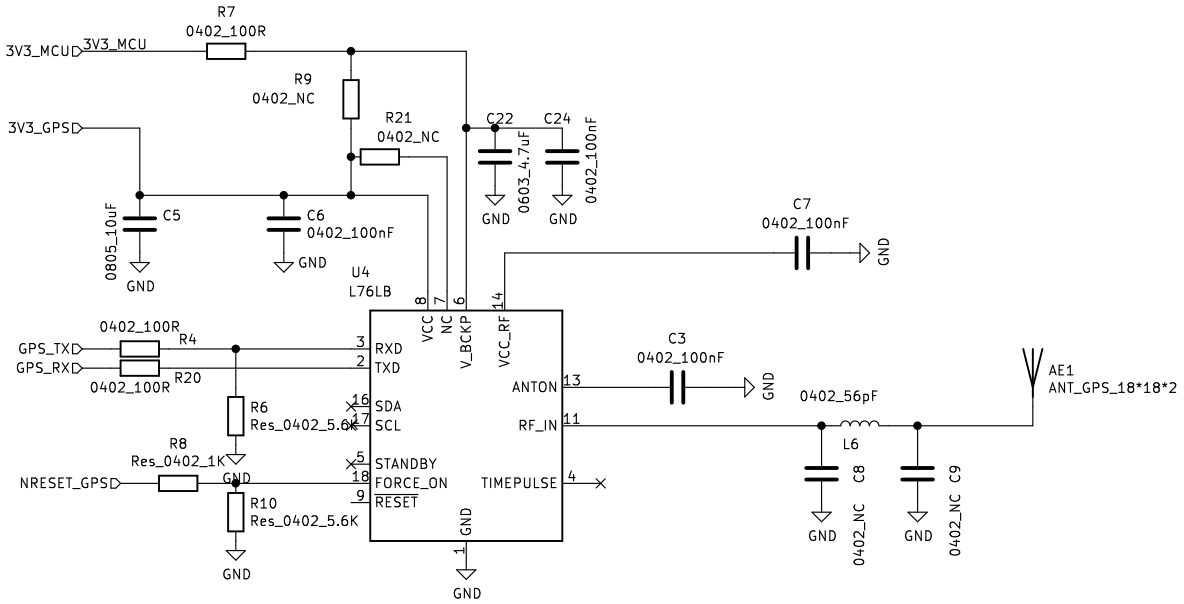

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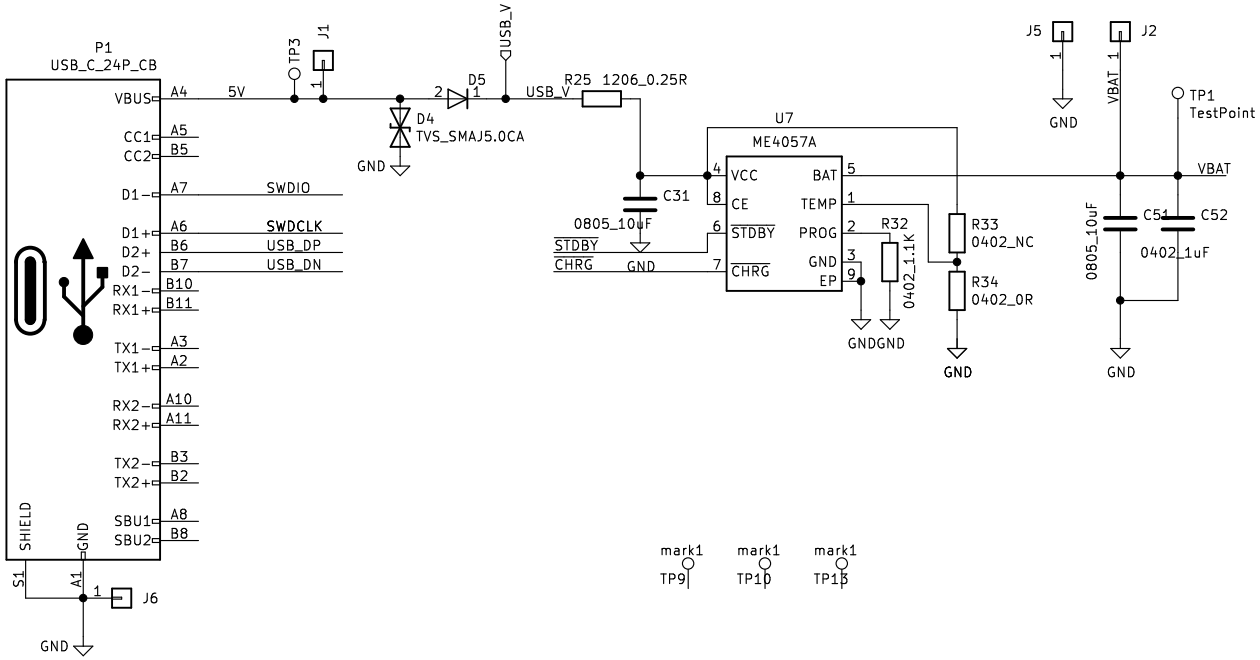
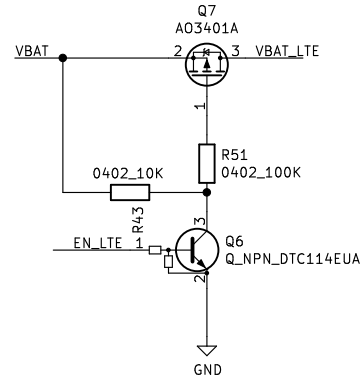


POWER BAT



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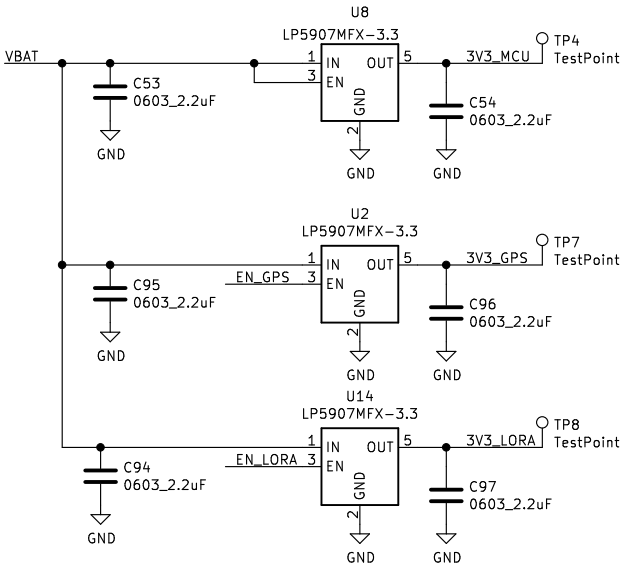

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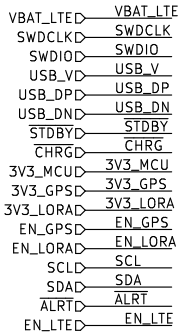

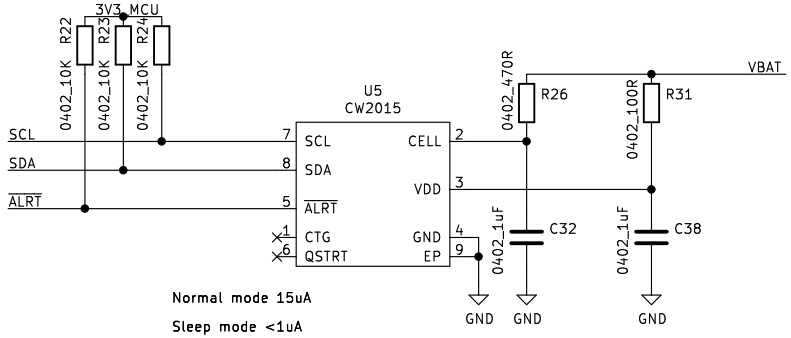

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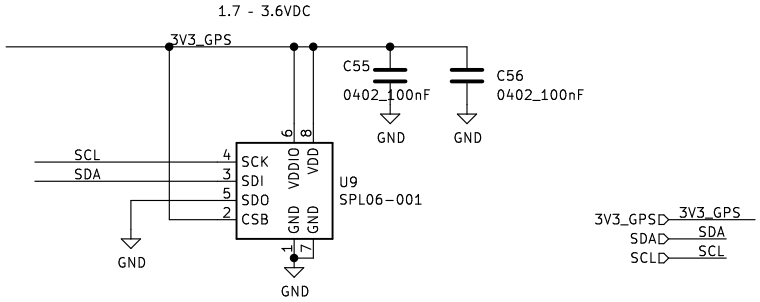
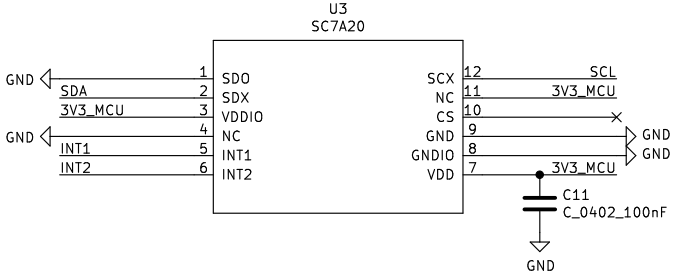


Parameter	Symbol	Condition		Min	Type	Max	Units
Operating temperature	TA	Operational		-40	25	85	℃
		Full accuracy		0	25	65	℃
Operating Pressure	P			300		1100	hPa
Supply voltage	VDD			1.7		3.6	V
Interface supply voltage	VDDIO			1.2		3.6	V
©Supply current (with 1 measurement per second.)	Idd	1 Hz	Low Power		3	5	uA
			Standard		11	15	
			High precision		40	50	
Note: The current consumption depends on both pressure measurement precision and rate. Please refer to the Pressure Configuration (PRS_CFG) register description for an overview of the current consumption in different combinations of measurement precision and rate.							
Peak current	Ipeak	During conversion			400	500	uA
©Standby current	Iddsbm					1	uA



参数	符号	测试条件	最小值	典型值	最大值	单位
供电电压	V_{DD}	--	1.71	2.5	3.6	V
IO 供电电压	V_{DDIO}	--	1.71	--	V_{DD}+0.1	V
供电电流	I_{DD}	T_A=25°C，ODR=100HZ	--	20	--	μA
低功耗电流	I_{DDLP}	T_A=25°C，ODR=100HZ	--	10	--	μA
掉电电流	I_{DDPdn}	T_A=25°C	--	0.5	--	μA
数字高电平输入电压	V_{IH}	--	0.8* V_{DDIO}	--	--	V
数字低电平输入电压	V_{IL}	--	--	--	0.2* V_{DDIO}	V
高电平输出电压	V_{OH}	--	0.9* V_{DDIO}	--	--	V
低电平输出电压	V_{OL}	--	--	--	0.1* V_{DDIO}	V
输出数据率	ODR0	ODR= 1HZ	--	1	--	HZ
	ODR1	ODR= 10HZ	--	10	--	
	ODR2	ODR= 25HZ	--	25	--	
	ODR3	ODR= 50HZ	--	50	--	
	ODR4	ODR= 100HZ	--	100	--	
	ODR5	ODR= 200HZ	--	200	--	
	ODR6	ODR= 400HZ	--	400	--	
开启时间	T_{on}	ODR=100HZ	--	1	--	ms
工作温度	T_{opr}	--	-40	--	+85	°C

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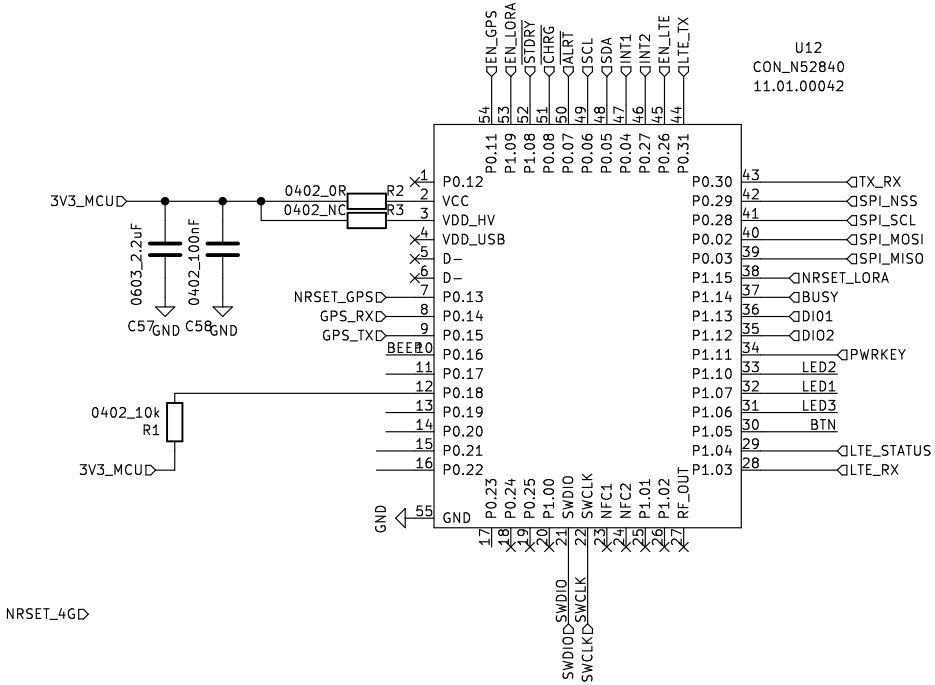

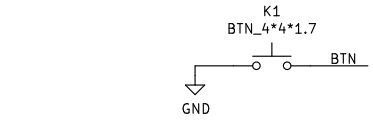

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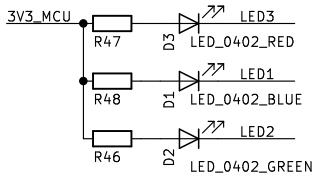

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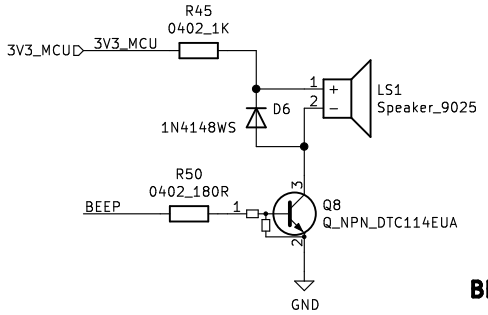

BEEP

● 模块参数

表 1. RF-BM-ND05l 参数

芯片型号	nRF52840-QIAA-R
工作电压	1.7 ~ 5.5 V，推荐为 3.3 V
工作频段	2402 MHz ～ 2480 MHz
最大发射功率	-20 ~ +8 dBm (正常0 dBm输出)
接收灵敏度	-96 dBm
RAM	256 KB
FLASH	1 MB
GPIO数量	29 个
晶振频率	32 MHz，32.768 KHz
封装方式	SMT（邮票半孔）
工作温度	- 40 ℃ ～ + 85 ℃
储存温度	- 40 ℃ ～ + 125 ℃

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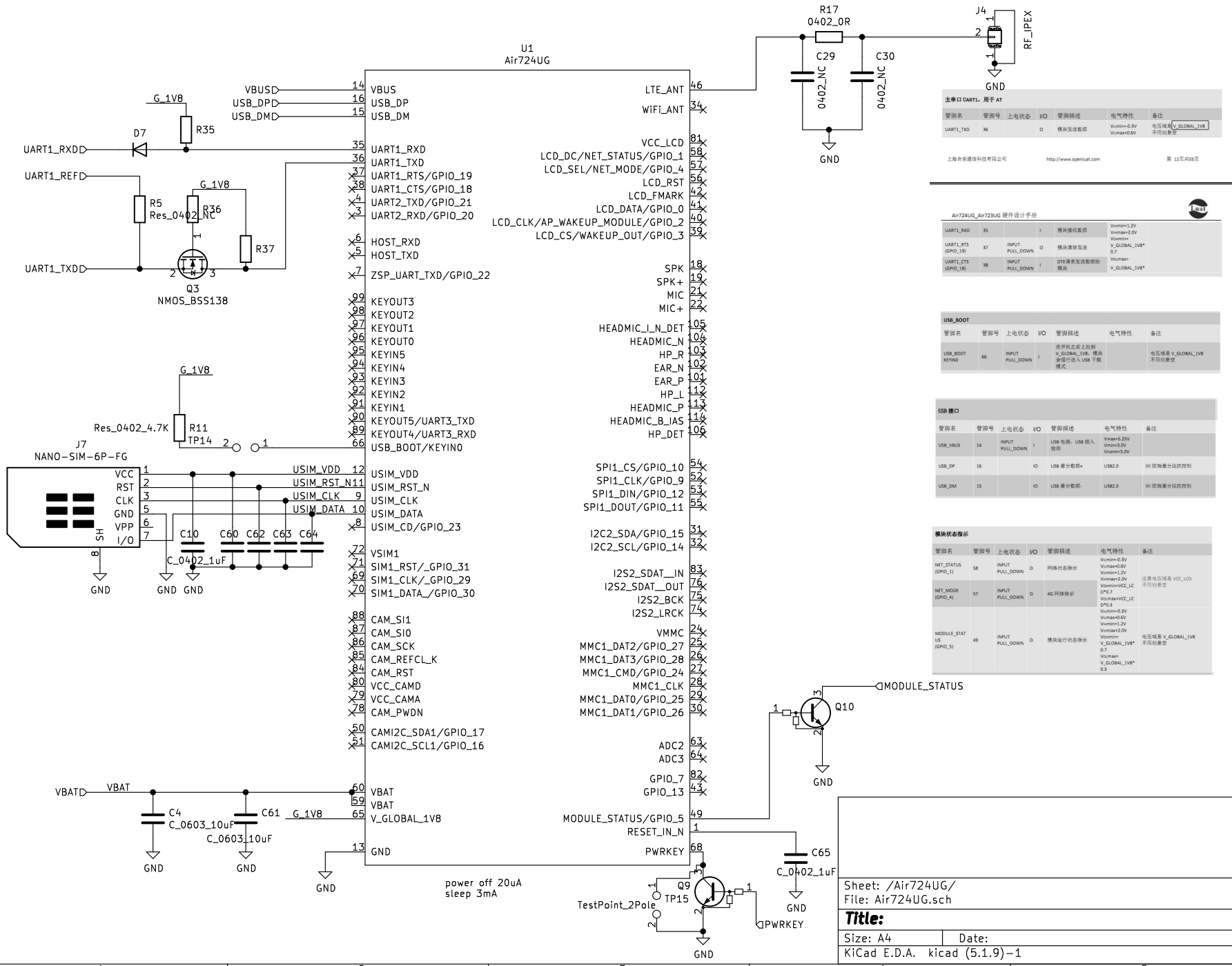

主串口 UART1，用于 AT

管脚名	管脚号	上电状态	I/O	管脚描述	电气特性	备注
UART1_TXD	36		O	模块发送数据	Vumin=-0.3V Vumax=0.6V	电压域是V_GLOBAL_1V8 不用前悬空

Air724UG_Air723UG 硬件设计手册

UART1_RXD	35		I	模块接收数据	Vi≤min=1.2V Vi≤max=2.0V	
UART1_RTS (GPIO_19)	37	INPUT PULL_DOWN	O	模块请求发送	Voumin= V_GLOBAL_1V8*0.7	
UART1_CTS (GPIO_18)	38	INPUT PULL_DOWN	I	DTE请求发送数据给模块	Vo≥max= V_GLOBAL_1V8*	

USB_BOOT

管脚名	管脚号	上电状态	I/O	管脚描述	电气特性	备注
USB_BOOT KEYIN0	66	INPUT PULL_DOWN	I	在开机之前上拉到V_GLOBAL_1V8，模块会强行进入 USB 下载模式		电压域是 V_GLOBAL_1V8 不用前悬空

USB 接口

管脚名	管脚号	上电状态	I/O	管脚描述	电气特性	备注
USB_VBUS	14	INPUT PULL_DOWN	I	USB 电源，USB 插入检测	Vmax=5.25V Vmin=3.0V Vnorm=5.0V	
USB_DP	16		IO	USB 差分数据+	USB2.0	90 欧姆差分阻抗控制
USB_DM	15		IO	USB 差分数据-	USB2.0	90 欧姆差分阻抗控制

模块状态指示

管脚名	管脚号	上电状态	I/O	管脚描述	电气特性	备注
NET_STATUS (GPIO_1)	58	INPUT PULL_DOWN	O	网络状态指示	Vumin=-0.3V Vumax=0.6V Vinmin=1.2V Vinmax=2.0V Voumin=VCC_LCD*0.7 Vo.max=VCC_LCD*0.3	注意电压域是 VCC_LCD 不用前悬空
NET_MODE (GPIO_4)	57	INPUT PULL_DOWN	O	4G 网络指示		
MODULE_STATUS (GPIO_5)	49	INPUT PULL_DOWN	O	模块运行状态指示	Vumin=-0.3V Vumax=0.6V Vinmin=1.2V Vinmax=2.0V Voumin=V_GLOBAL_1V8*0.7 Vo.max=V_GLOBAL_1V8*0.3	电压域是 V_GLOBAL_1V8 不用前悬空

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