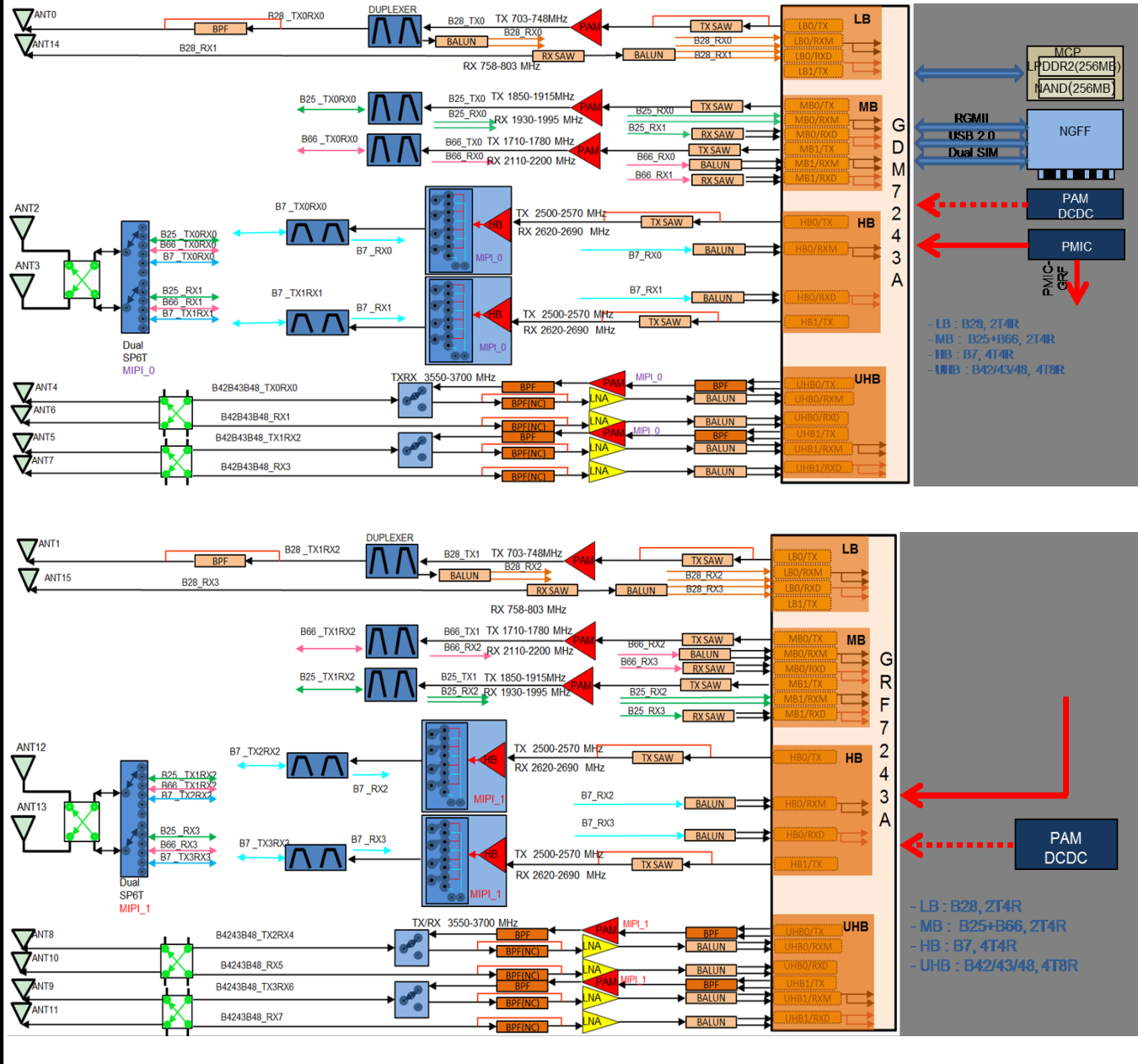


AIRCREEK_V2.5

2019.10.15

BLOCK DIAGRAM



FEATURE

- FORM FACTOR**
 - NGFF module
- RF**
 - LB : B28, 2T4R
 - MB : B25+B66, 2T4R
 - HB : B7, 4T4R
 - UHB : 【B42/43】 /48, 4T8R
- CA combination**

Inter-band CA

 - (B28) + (B25/B66) + (B7) + (B42/43/48)

Intra-band CA

 - CA_B25 (DL-2CA, UL-1CA)
 - CA_B66 (DL-2CA, UL-1CA)
 - CA_B28 (DL-2CA, UL-1CA)
 - CA_B7 (DL-2CA, UL-1CA)
 - CA_B42 (DL-2CA, 3CA, UL-1CA, 2CA)
 - CA_B43 (DL-2CA, UL-1CA)
 - CA_B48 (DL-2CA, 3CA)
- SYSTEM**
 - USB2.0 for debugging
 - Dual SIM
 - RGMII
 - 1PPS
 - Temperature detection for baseband
 - Security mode

PAGE

- TITLE
- HISTORY
- GDM7243A
- POWER
- MCP & NGFF
- GDM7243A RF(FDD+TDD) + ANT
- GRF7243A RF(FDD+TDD) + ANT

HISTORY

Revision	Author/Date (YYYY/MM/DD)	Revision Contents	Version 1.2 of a tagret schematic	
			Each Decimal fraction of the version	Revision Description
			Units	1. An error or alternation related to new devices and debugging points 2. PCB revision is mandatory.
			Tenths	1. A changes of devices' values after optimizing or debugging circuits
V1.0	Foxconn-Allen 2018/04/02	1. Initial draft.		
	GCT 2018/07/26	1. Matching point was updated. B5 - TX0 : C423(8.2nH), C250(47pF), C612(2.2nH), C614(3.3nH) - TX1 : C273(47pF), C633(1.2nH) B20 - TX0 : C251(2.2nH), C623(3.3nH) - TX1 : C287(2.4nH), C642(47pF), C639(2.7nH) - RX0 : C424(DNI), C237(6.8nH), C236(6.8nH) - RX1 : L52(DNI), C464(6.2nH), C462(6.2nH) B1 - TX0 :C197(1.5nH), C184(1.5nH), C246(1pF), C370(8.2nH) - RX0 : L20(4.7nH), C191(8.2pF), C192(8.2pF) - RX1 : C323(1.8nH), C320(1.8nH), C330(1.8nH), L49(0.5pF) - RX2 : C563(1nH), C562(1nH), L95(0.5pF), L156(DNI) RX3 : C554(1.2nH), L94(1pF) B3 - TX0 : C200(1.5nH), C185(2nH), C367(4.7nH), C372(4pF) - TX1 : C202(1.5nH), L88(4.7nH), C193(1.2nH), C436(1nH) - RX0 : L81(DNI), L22(1pF), L23(DNI), C277(1.2nH), C278(1.2nH) - RX1 : L51(1pF), C322(3.3nH), C332(3.3nH), L50(0.5pF) - RX2 : L92(DNI), C552(4.7pF), C553(4.7pF), L91(1pF) RX3 : C547(2.7nH), C548(2.7nH) B7 - TX1 : C651(1.5nH), C653(1.8nH), C266(12pF) - TX2 : C402(3.9pF), C404(12nH) - TX3 : C450(1.0nH), C451(0.5pF), C687(1.0nH), L166(1.8nH), C452(8.2nH) - RX0 : C684(DNI) - RX1 : C702(1.0pF) - RX2 : L164(2.2nH) - RX3 : L166(1.8nH), C452(8.2nH), C720(1.0pF) 2. RX PLL bypass cap was changed 10uF to 22uF. - GDM : C86, C87 - GRF : C534, C535 B38 - TX1 : C222(2.0nH), C167(1.2nH), C647(1.2nH) - TX2 : C628(1.5nH), C567(1.2nH), C171(1.8nH) - TX3 : C407(1.2nH), C169(2.4nH) - RX0 : L99(DNI), C295, C294(1.5pF), C527(5.1pF) - RX1 : L102(1.0pF), C298, C296(0R), C544(3.0nH), C539(1.0nH) - RX2 : L135(12nH), C329, C317(1.0pF), L136(10nH), C559(1.8nH) RX3 : L139(0.5pF), C400, C401(0R), L140(0.5pF), C564(3.6nH) B40 - TX0 : C252(39pF) - TX1 : C265(1.5nH) - TX2 : C408(1.5nH) X3 : C444(1.2nH), C442(2.2nH), L121(2.4nH), C445(1.2nH) B41 - TX1 : C224(1.0nH), C173(3.3pF) - TX2 : C395(1.0nH) - TX3 : C410(1.0nH), C175(1.8nH) B42 - ANT5 : C832(2.2pF) - TX0 : C350(2pF), C361(47pF) - RX0 : C583(47pF) - RX1 : C584(47pF) - RX2 : C780(2.7nH), C771(47pF), C763(47pF), C766(47pF), L76(DNI) - RX3 : C773(47pF) - RX4 : C607(47pF), C605(2nH), C606(2nH), L75(DNI) - RX5 : C608(47pF) - RX6 : C802(3nH), C795(47pF), C792(2nH), C793(2nH), L112(DNI) - RX7 : C804(47pF)		
	GCT 2018/12/21	1. Schematics changed and add parts of ANT0&1 ANT0 - U254(LPF), C897(NC), C895(NC), C896(47pF) ANT1 - U255(LPF), C900(NC), C899(NC), C898(47pF)	- BAND28_RX1 C241(47pF) L161(18nH) L213(18nH) C976(47pF) BAND28_TX0RX0 C238(47pF) C612(47pF) C613(18nH) C973(47pF) BAND28_RX3 C304(47pF) L85(18nH) C459(18nH) BAND28_TX1RX2 C624(18nH) C251(47pF) C231(47pF) C623(47pF) L84(18nH) C405(47pF) - B25TX0RX0 C197(10pF) L77(6.8nH) L196(2nH) C184(10pF) C368(10pF) C913(1nH) L78(27nH) B25RX1 C323(10pF) L198(27nH) B25TX1RX2 C233(10pF) L97(6.8nH) L200(2nH) C190(10pF) C518(10pF) C916(1nH) L105(27nH) BAND25_RX3 C554(10pF) L202(27nH) - B66TX0RX0 C200(10pF) L80(10pF) C185(0ohm) C371(10pF) C920(4.7nH) C919(10pF) L212(6.8nH) B66RX1 C324(10pF) C334(3.6nH) C923(3.6nH) C922(10pF) B66TX1RX2 C202(10pF) L88(3.6nH) L203(6.8nH) C193(0ohm) C436(10pF) C926(4.7nH) C925(10pF) C552(8.2nH) C553(8.2nH) C461(4.7nH) L158(10pF) B66RX3 C487(10pF) L492(3.6nH) C930(3.6nH) C928(10pF) L90(1pF) - B7TX0RX0 C619 C276 C617 C352 C528 C289 C529 10pF B7TX1RX1 C651 C336 C647 C356 C540 C292 C544 10pF B7TX2RX2 C602 C628 C387 C678 C561 C313 C561 10pF B7TX3RX3 C685 C681 C674 C441 C695 C344 C564 10pF - B48TX0RX0 C325 C577 C361 C350 C281 C726 C703 C825 C379 C583 C303 10pF B48RX1 C828 C584 C337 10pF B48TX1RX2 C341 C727 C383 C283 C734 C737 C491 C771 C312 C832 10pF B48RX3 C835 C773 C772 10pF B48TX2RX4 C448 C600 C510 C306 C746 C709 C839 C394 C607 C308 10pF B48RX5 C841 C608 C499 10pF B48TX3RX6 C345 C745 C432 C307 C743 C740 C844 C494 C795 C319 10pF B48RX7 C846 C804 C803 10pF C822 C819 C260 C216 C215 C259 C757 C761 C258 C214 C257 C213 10pF	
	FOXCONN 2019/02/01	1. Add band 4 to replace band 3 and component change below - TXRX0 :U88(SAFFB1G73KA0F0AR), U83(SAYEY1G73CA0F0A) - RX1 : U37(SAFFB2G14FA0F0A) - TX1RX2 : U78(SAYEY1G73CA0F0A), U96(SAFFB1G73KA0F0AR) - RX3 : U40(SAFFB2G14FA0F0A)		
	FOXCONN 2019/05/06	1. Add band 28 to replace band 5 and component change below 2. Add band 28 to replace band 20 and component change below. 3. Add band 25 to replace band 1 and component change below. 4. Add band 66 to replace band 4 and component change below band28 U27, U29 (SKY77772) PA U76, U75(SAYRH725MBC0B0A) DUPLEXER U73, U77(SAYRH725MBC0B0A) TX SAW U112, U91 (SAFFB780MAA0F0AR1X) RX SAW U264, U265, U92, U109 (HHM17147A1) BALUN band25 U28, U30(SKY77762) PA U74, U100(SAYPE1G88BA1G0A) DUPLEXER U36, U68, U256, U257(SAFFB1G96FB1F0AR1X) RX SAW U70, U71(SAFFB1G88KC1F0AR1X) TX SAW band66 U78, U83(SAYRH1G74BA1F0A) DUPLEXER U259, U262(SAFFB2G15AA0F0A) RX SAW U88, U98(SAFFB1G74AB0F0A) TX SAW U37, U40, U258, U263(HHM17147A1) balun		
	FOXCONN 2019/07/20	band28 TX0 C614 C612 U73 DNI C950 3.3nH C949 0ohm TX1 C625 C623 U77 DNI C958 100pF C957 47pF band66 TX0 L80 C185 2.0nH C200 1.5nH TX1 L185 1.2nH C193 2.0nH C202 1.5nH band7 B7 TX1 C266 C342 9pF B7 TX2 C402 C418 9pF C422 C451 DNI B7 TX3 C450 C454 9pF		
	FOXCONN 2019/10/15	band28 TX0 C613 R377 C952 C951 DNI C950 100pF C949 47pF L159 20nH U254 C896 C255 47pF TX1 C624 R339 C954 C953 DNI L84 20nH U255 C898 C256 47pF band7 B7 TX0 C253 C338 9pF		

GCT

Semiconductor, Inc.

Title

AIRCREEK2.5

Size

Document Number

History

Date

Thursday, October 24, 2019

Sheet

2 of 8

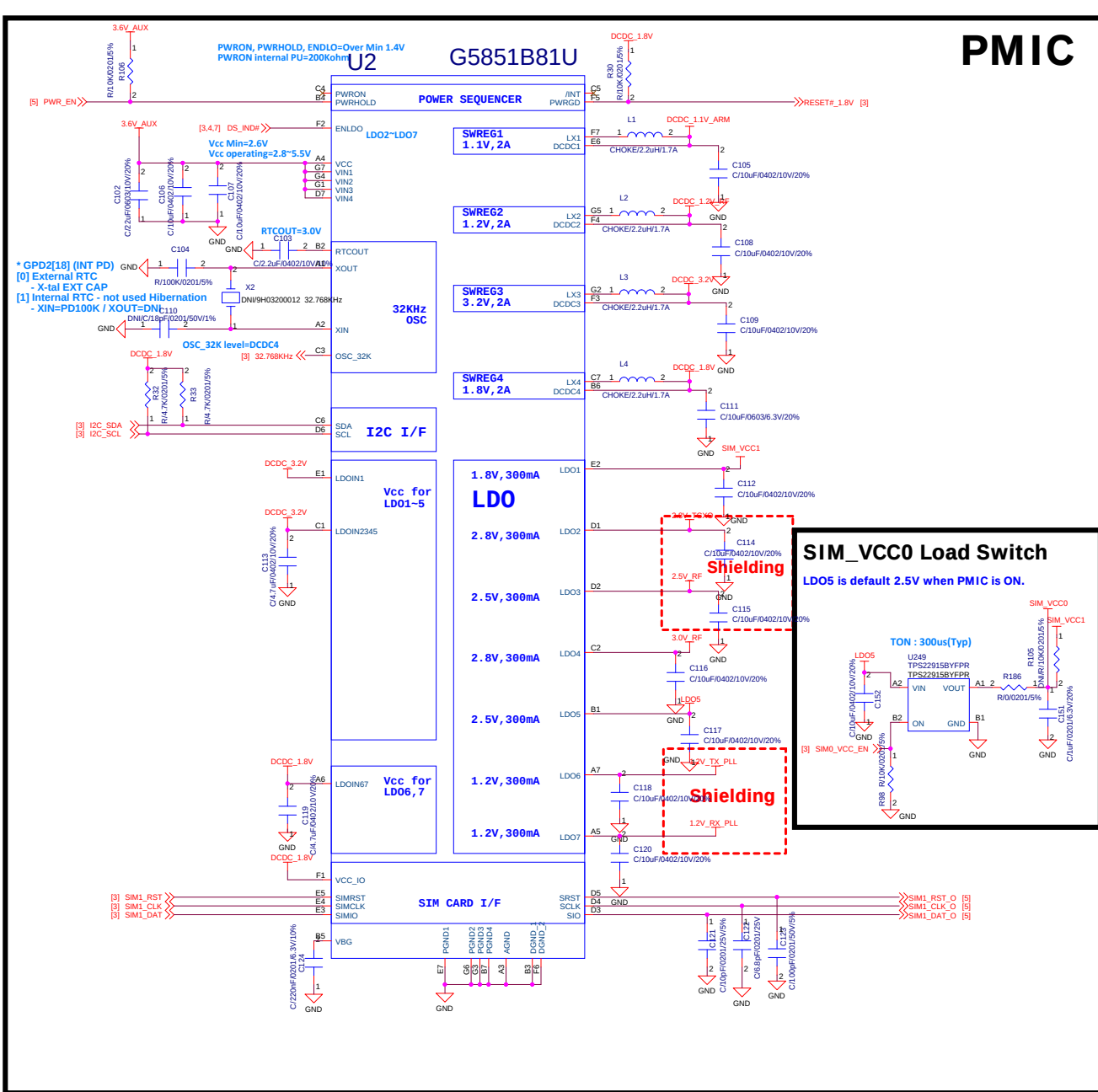
Rev

1.1

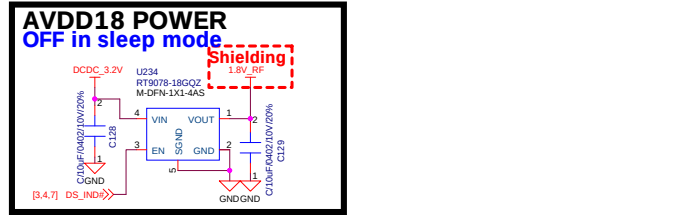
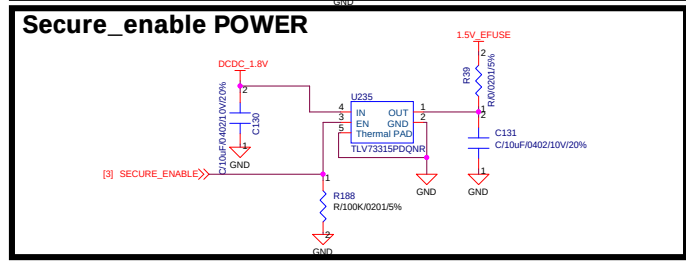
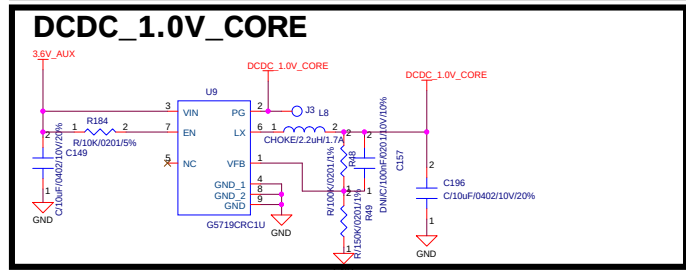
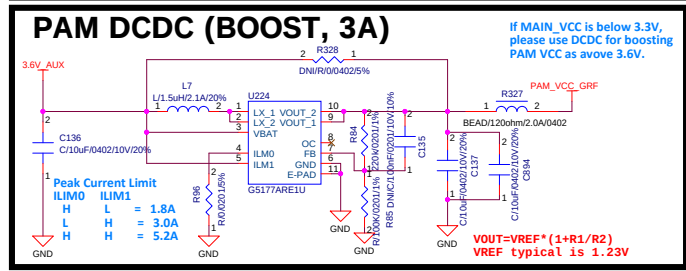
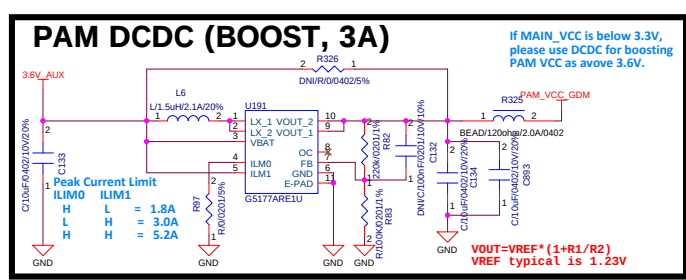


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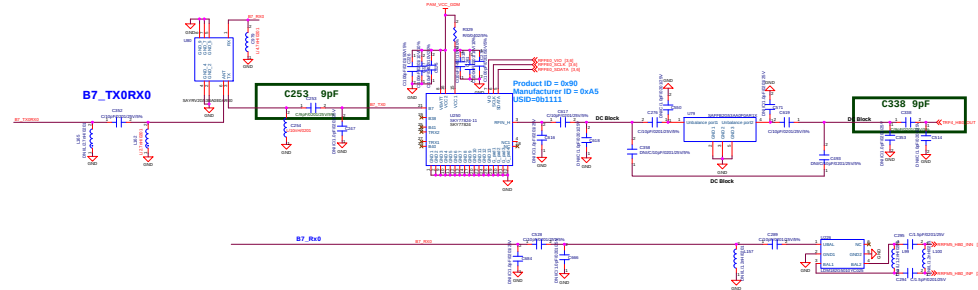




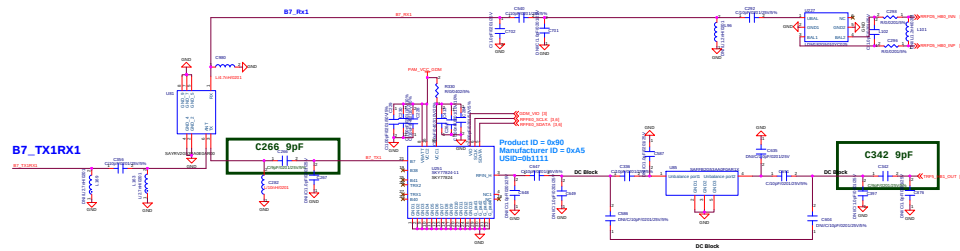
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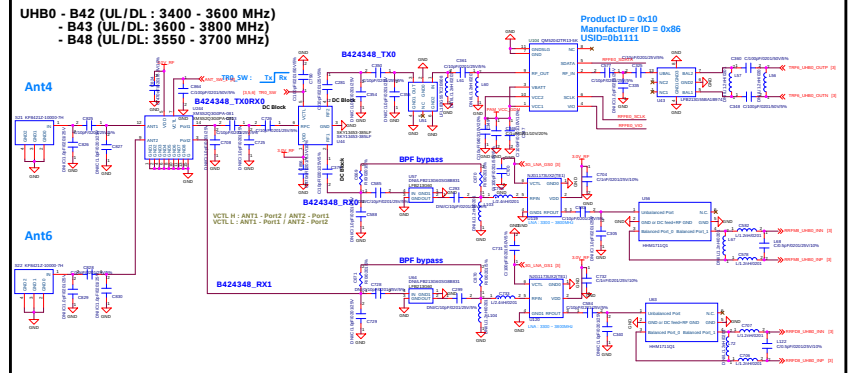
GDM7243A HB0 - B 7 (UL : 2500-2570 MHz, DL : 2620-2690 MHz)



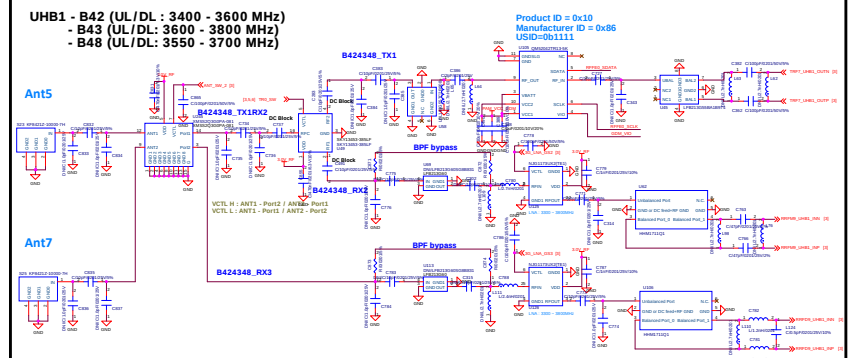
HB1 - B 7 (UL : 2500 - 2570 MHz)



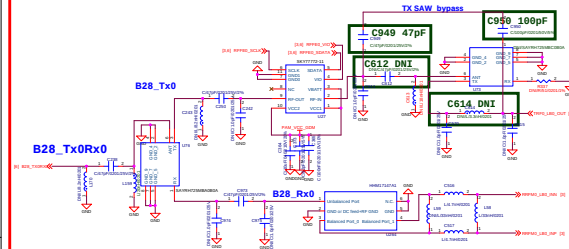
**UHB0 - B42 (UL/DL : 3400 - 3600 MHz)
- B43 (UL/DL: 3600 - 3800 MHz)
- B48 (UL/DL: 3550 - 3700 MHz)**



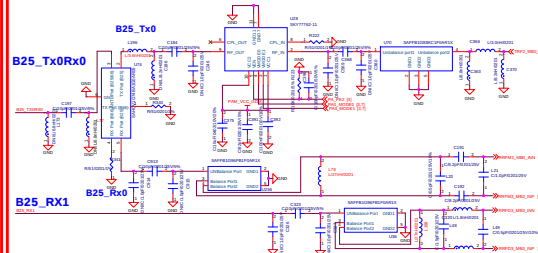
**UHB1 - B42 (UL/DL : 3400 - 3600 MHz)
- B43 (UL/DL: 3600 - 3800 MHz)
- B48 (UL/DL: 3550 - 3700 MHz)**



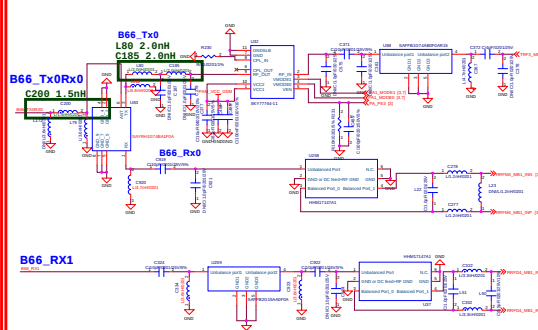
LB0 - BAND 28 (UL: 703-748, DL: 758-803 MHz)



MB0 - BAND 25 (UL: 1850-1915, DL: 1930-1995 MHz)



MB1 - BAND 66 (UL: 1710-1780, DL: 2110-2200 MHz)



Temperature detection for PA using NTC Thermistor

NTC must be close to the PA

Load R value can be tuned

