

SAMSUNG CONFIDENTIAL
THIS DOCUMENT CONTAINS CONFIDENTIAL
PROPRIETARY INFORMATION THAT IS
SAMSUNG ELECTRONICS CO.'S PROPERTY.
DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS
EXCEPT AS AUTHORIZED BY SAMSUNG.

SM-S921W REV0.6

SM-S921W Common

S_AP PCB part

2023. 10. 06

TG	System		Power Audio		RF			Visual (CAM)	Visual (Disp.) Visual (Sensor)	HW Structure
Ref#.	11nnn	12nnn	13nnn	14nnn	15nnn	16nnn	17nnn	18nnn	19nnn	10nnn
Contents	AP IO AP Power decap	AP Associated UFS memory Motor Driver JTAG Key FPCB PCB ID	Core PMIC group	Audio AMP Charger NFC+SIM MFC	RF Ant.			CAM PMIC Wide CAM Tele 3x CAM Tele 10x CAM MCU	ALS	Interposer Shieldcan Bosshole
sheet	sheet1	sheet2	sheet3	sheet4	sheet5	sheet6	sheet7	sheet8	sheet9	sheet10

Changed by: szid

Date Changed:

Time Changed:

Engineer: SEC

Drawn By: SEC

R&D CHK:

DOC CTRL CHK:

MFG ENGR CHK:

QA CHK:

REV:

Drawing Number:

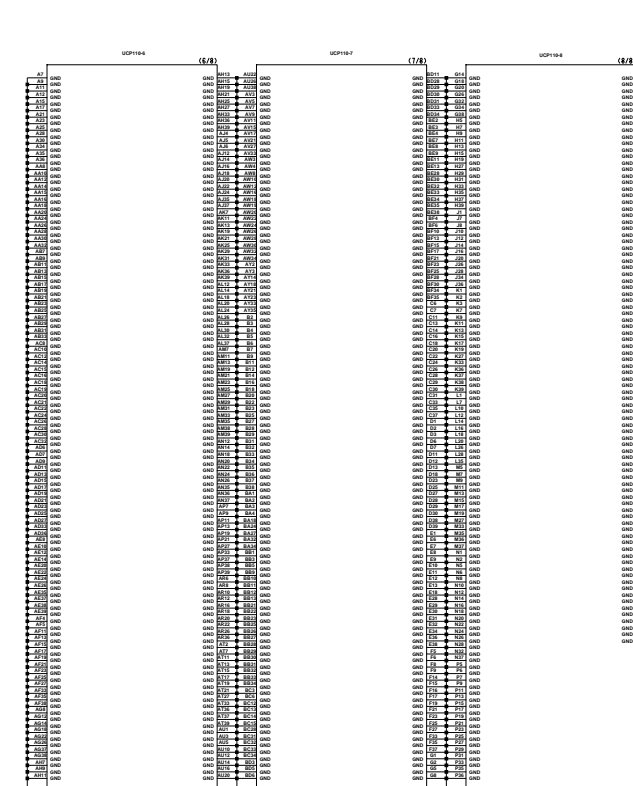
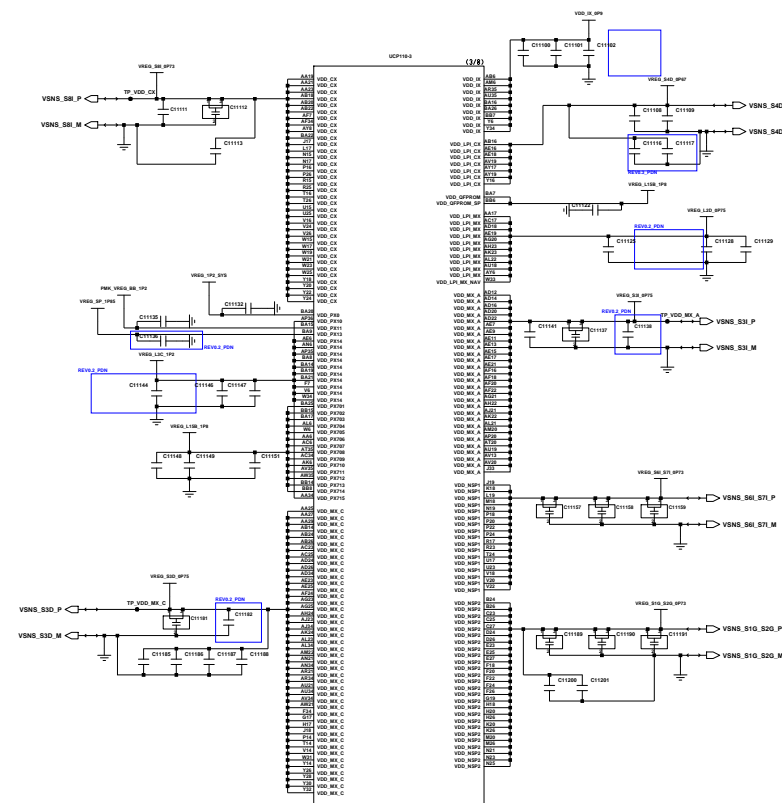
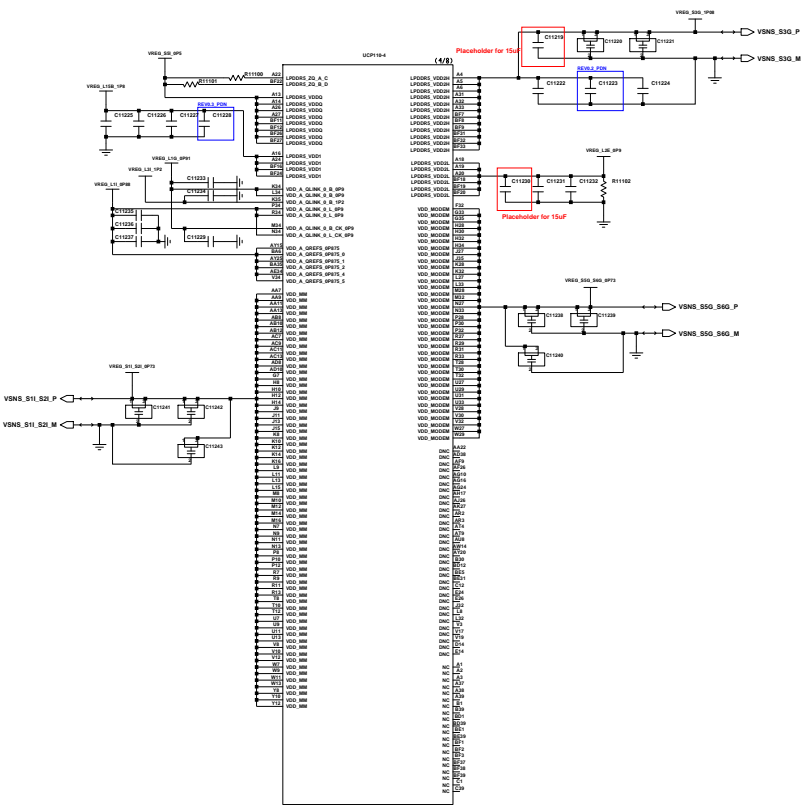
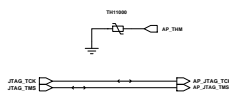
Page: 6

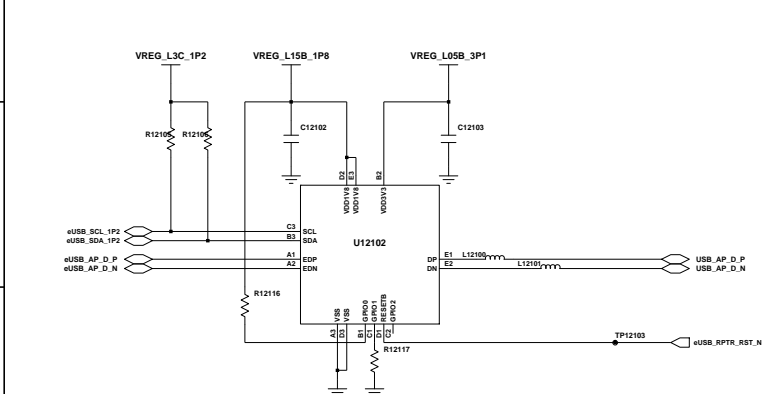
TITLE:

Size:

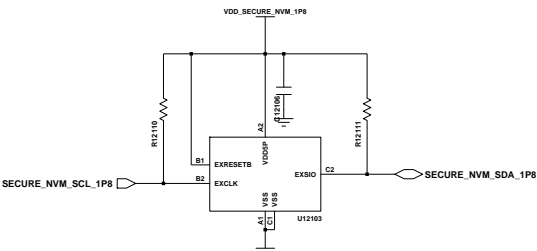
SM8650

(POWER decap, GND)

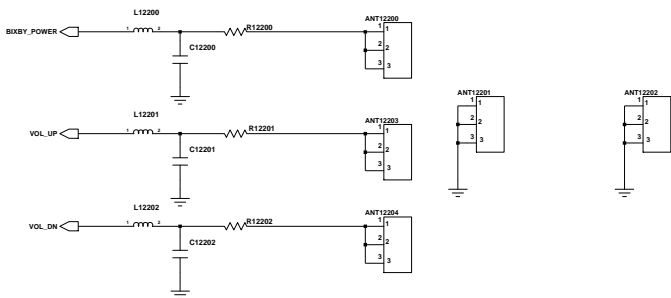




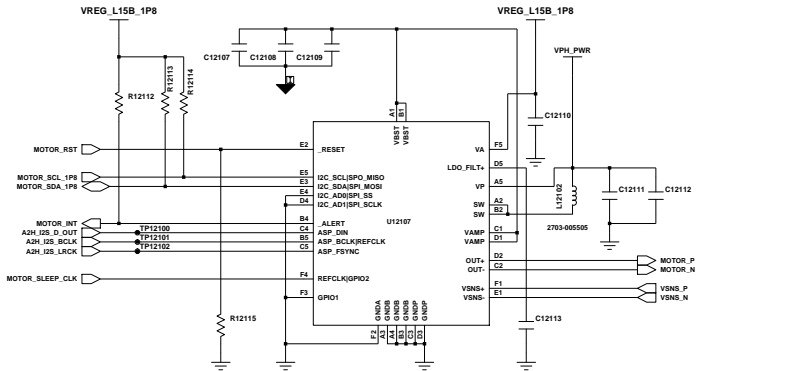
eUSB REPEATER
NEW ITEM



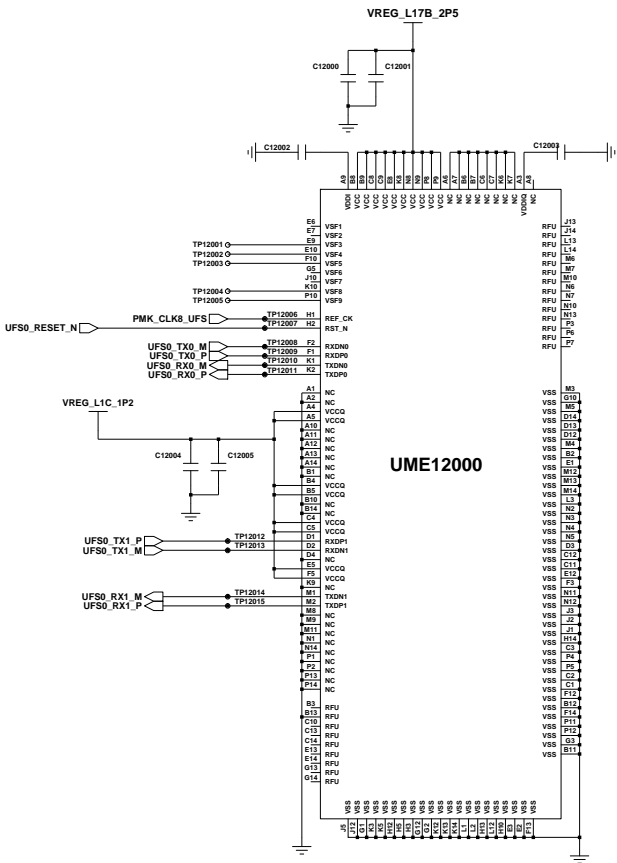
SECURE NVM
NEW ITEM



Vol + Power key

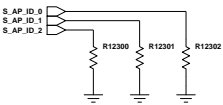


MOTOR DRV IC



UFS 3.1 128
UFS 4.0 256

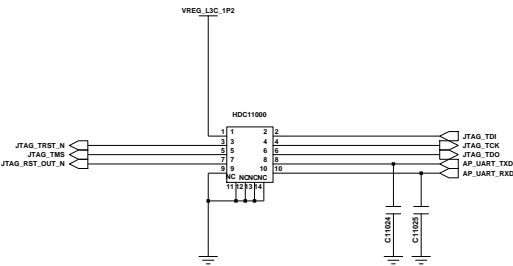
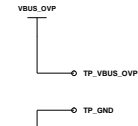
S_AP_ID



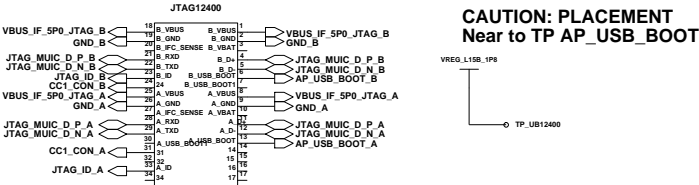
S_AP PBA table

ID	ID_2	ID_1	ID_0	
0	L	L	L	Not Used
1	L	L	H	Not Used
2	L	H	L	CHN_SUB6 , JPN_mmW
3	L	H	H	Not Used
4	H	L	L	Not Used
5	H	L	H	KOR_SUB6
6	H	H	L	EUR_SUB6 , Global_SUB6
7	H	H	H	NA_mmW ,NA_CAN_Sub6

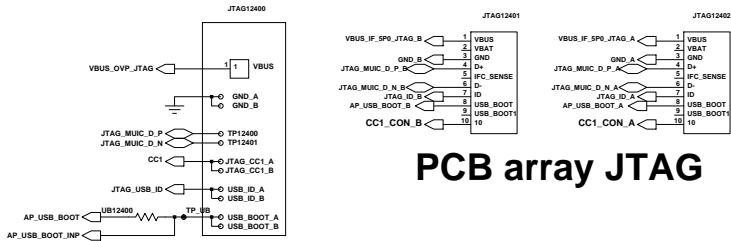
FOR JIG



AP JTAG CONNECTOR



CAUTION: PLACEMENT
Near to TP_AP_USB_BOOT

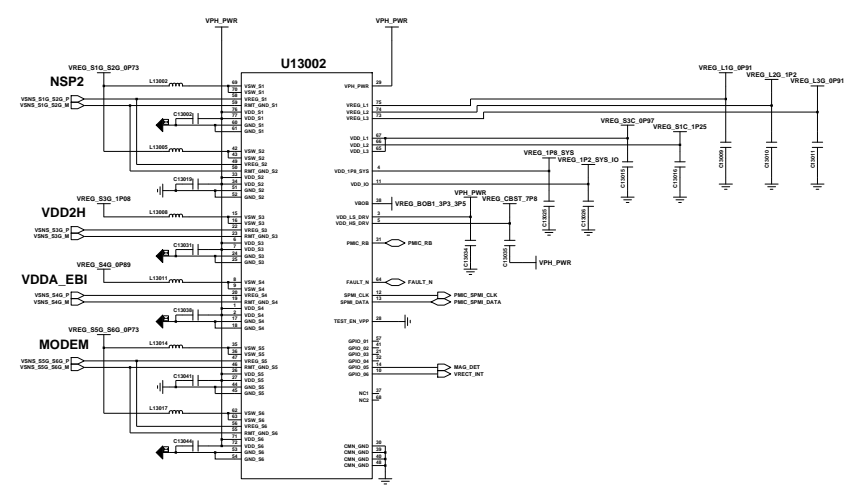


PCB array JTAG

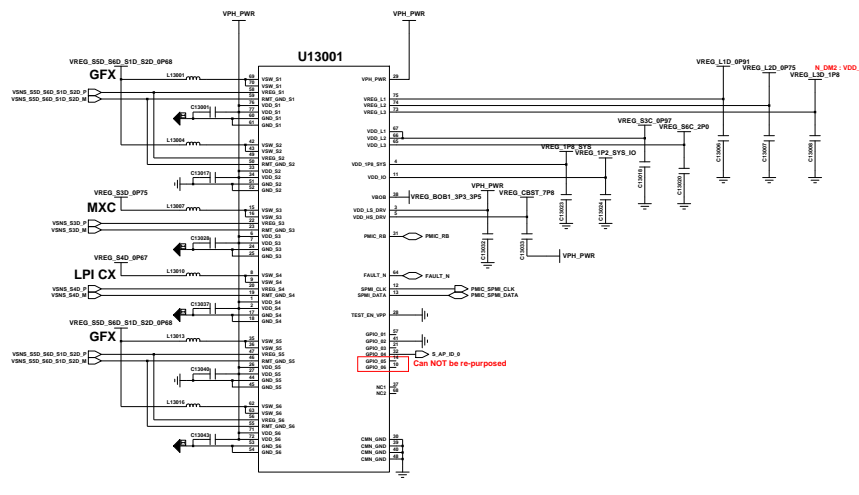
Ref#. 12nnn

PM8550VS, PM8550VE

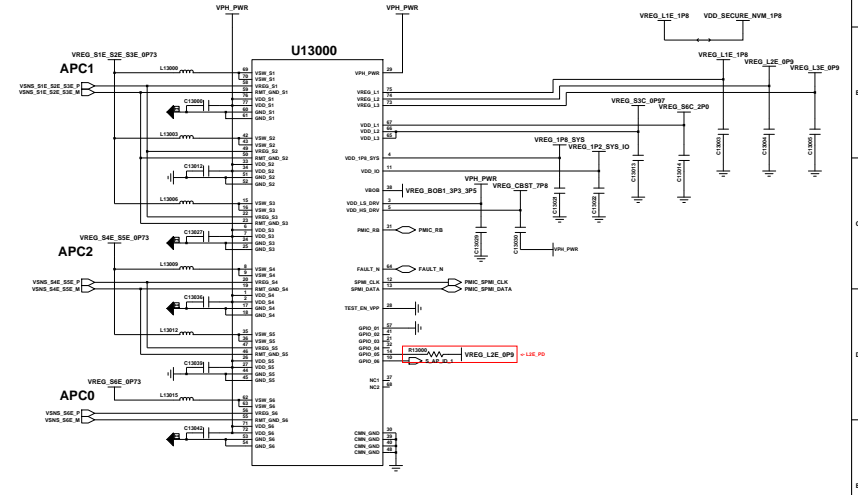
!! CAUTION !!
Place Cin 10uF Bulk Caps at corner of PM8550VS and PM8550VE as close as possible
- PM8550VS : VDD_S1, S3, S4, S6
- PM8550VE : VDD_S1, S4, S5, S8



PM8550VS_G



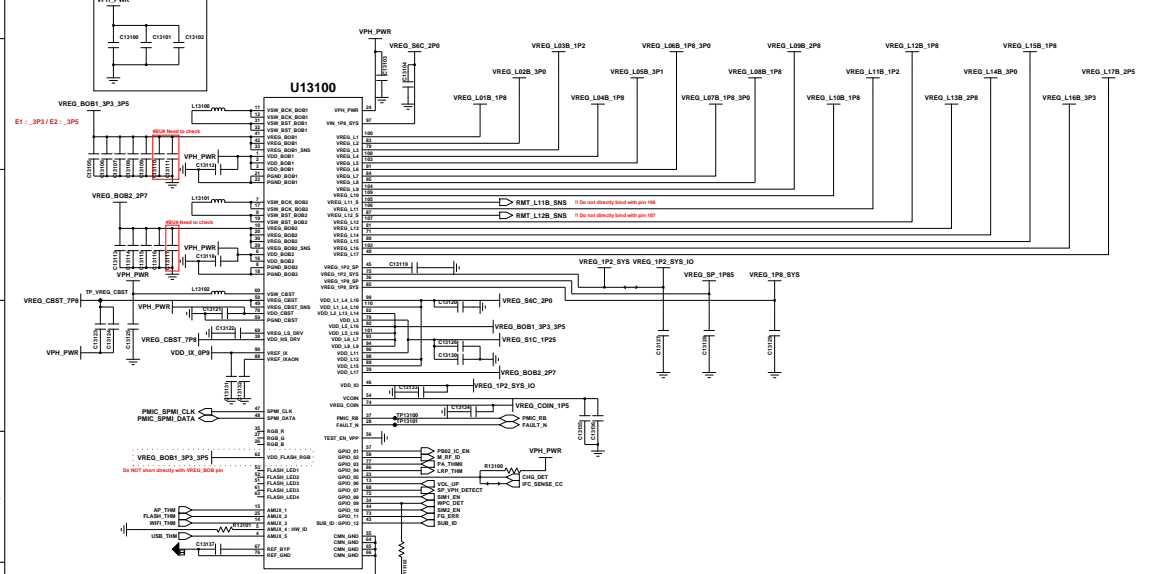
PM8550VS_D



PM8550VS_E

PM8550

Extra Bulk cap

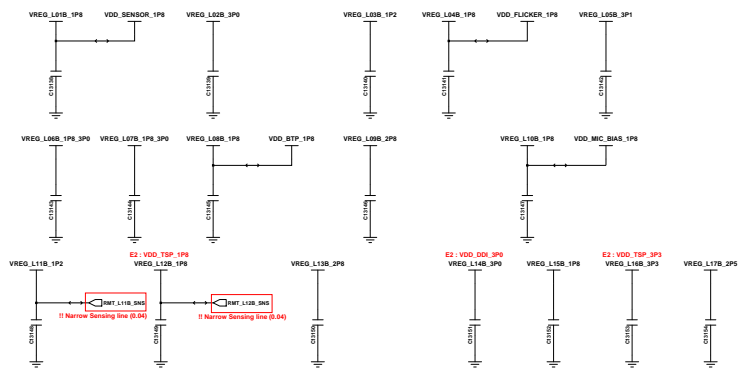


PM8550

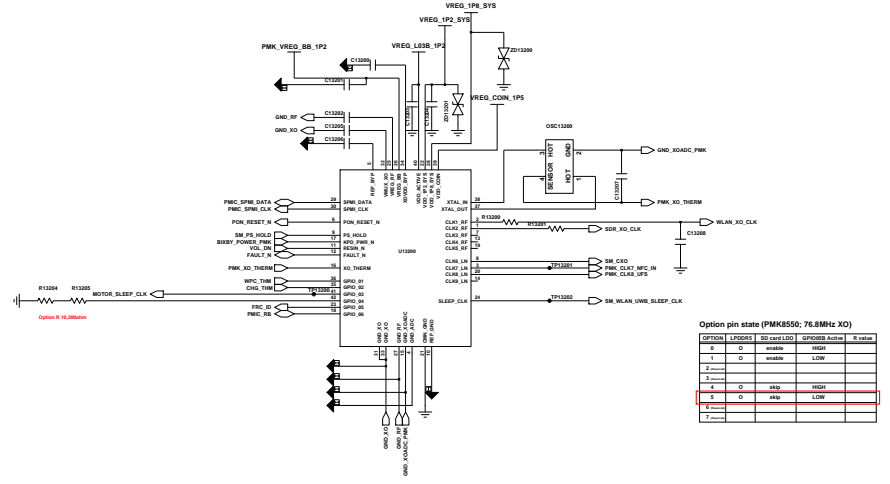
H/W ID table (PM8550 AMUX_4)

HW ID	BOARD REVISION	Value	Mech
00	SM8550 SW bring-up A-Type	6.04K	
01		9.1K	
02	SM-S921_S926 REV0.0	12.4K	
03	SM-S921_S926 REV0.1	18K	
04	SM-S921_S926 REV0.2	22K	
05	SM-S921_S926 REV0.3	30K	
06		39K	
07	SM-S921_S926 REV0.4	47K	
08		56K	
09	SM-S921_S926 REV0.5	68K	
10		82K	
11	SM-S921_S926 REV0.6	100K	
12	SM-S921_S926 REV0.6 (PVR)	120K	
13		150K	
14		180K	
15		200K	
16		240K	
17		280K	
18		330K	
19		430K	
20		560K	
21		750K	
22		1000K	
23		1500K	
24		3000K	

PM8550 LDO OUT CAP



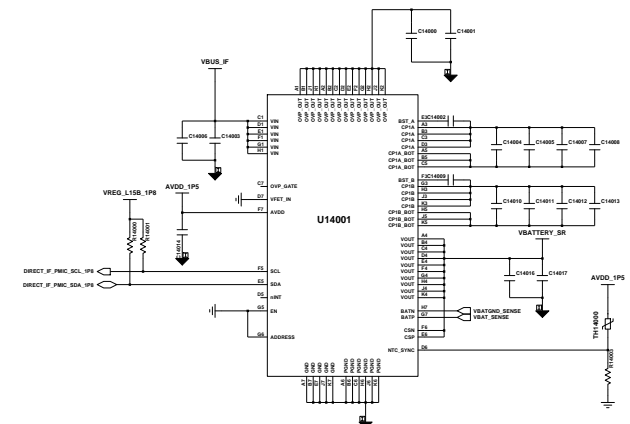
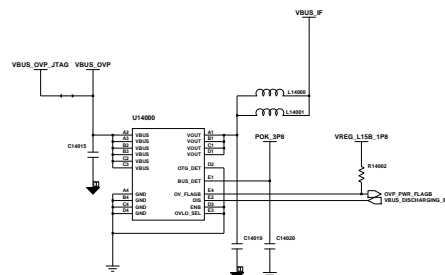
PMK8650



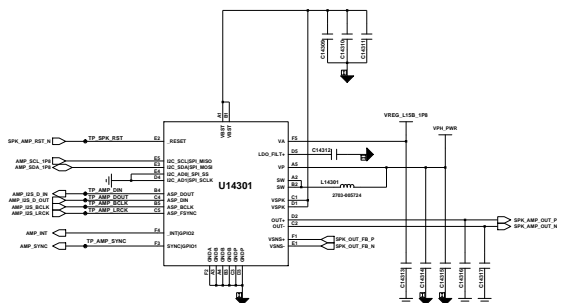
PMK8650

Option pin state (PMK8550: 76.8MHz XO)

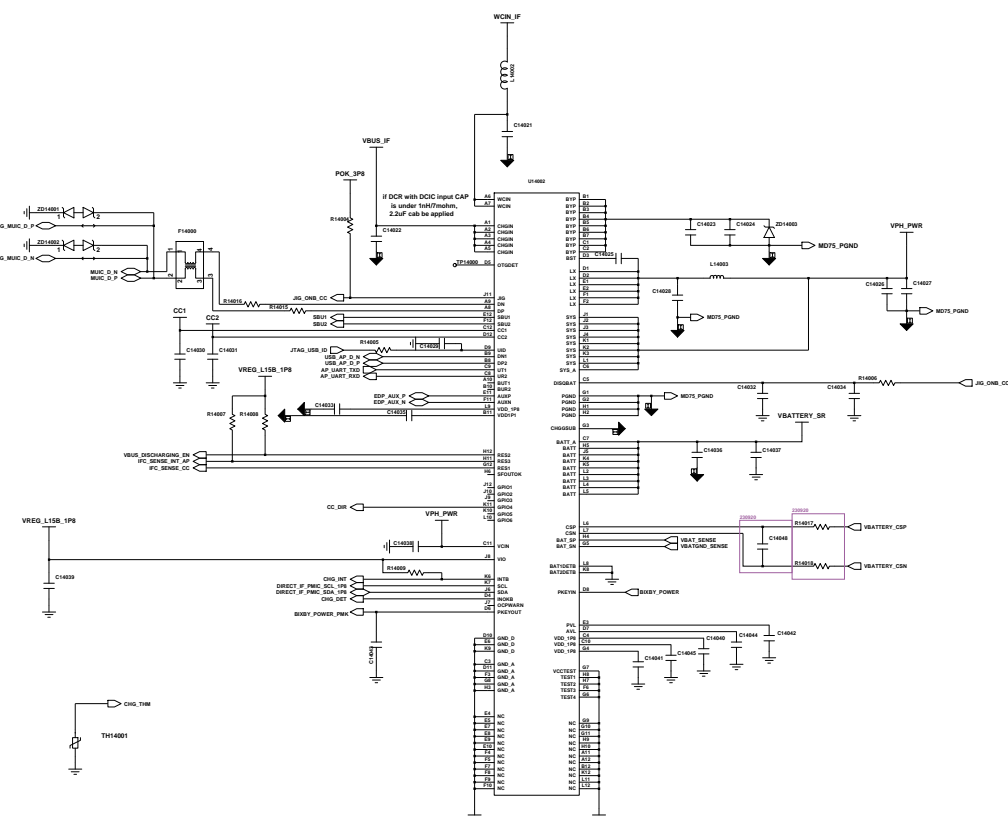
OPTION	LP0001	SD (pin1/LO)	GP0001 Active	0 value
0	0	pin1	pin1	
1	0	pin1	pin1	
2	0	pin1	pin1	
3	0	pin1	pin1	
4	0	pin1	pin1	
5	0	pin1	pin1	
6	0	pin1	pin1	
7	0	pin1	pin1	



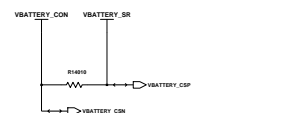
OVP LS



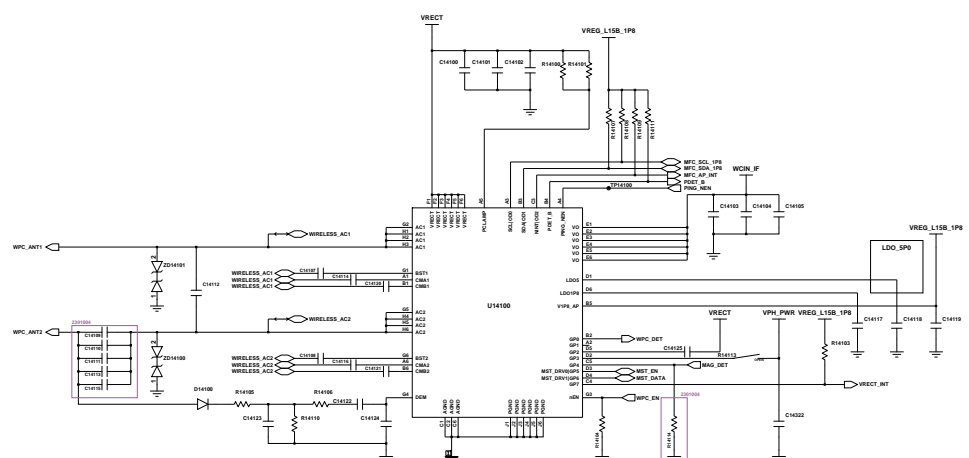
NFC



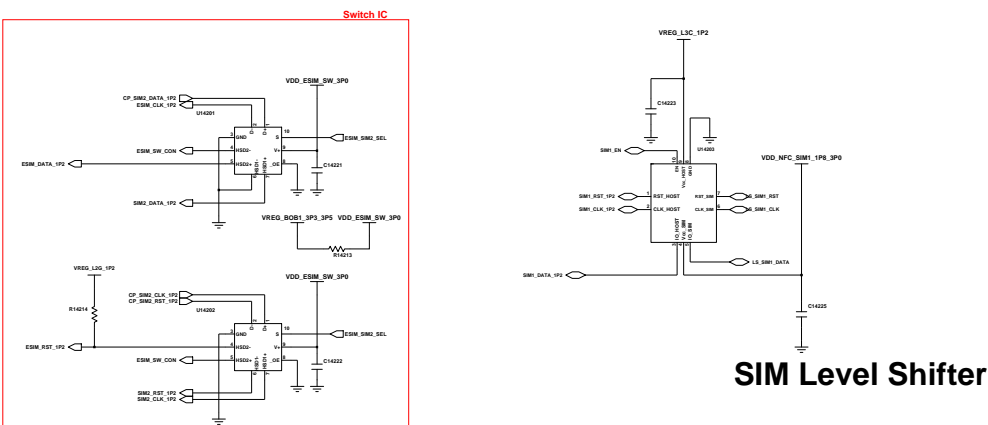
Battery Sensing



IF PMIC

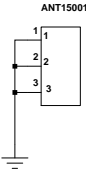


MFC

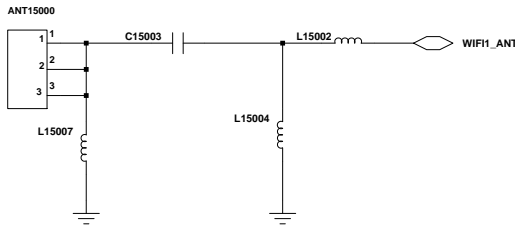


SAMSUNG CONFIDENTIAL
THIS DOCUMENT CONTAINS CONFIDENTIAL
PROPRIETARY INFORMATION THAT IS
SAMSUNG ELECTRONICS CO.'S PROPERTY.
DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS
EXCEPT AS AUTHORIZED BY SAMSUNG.

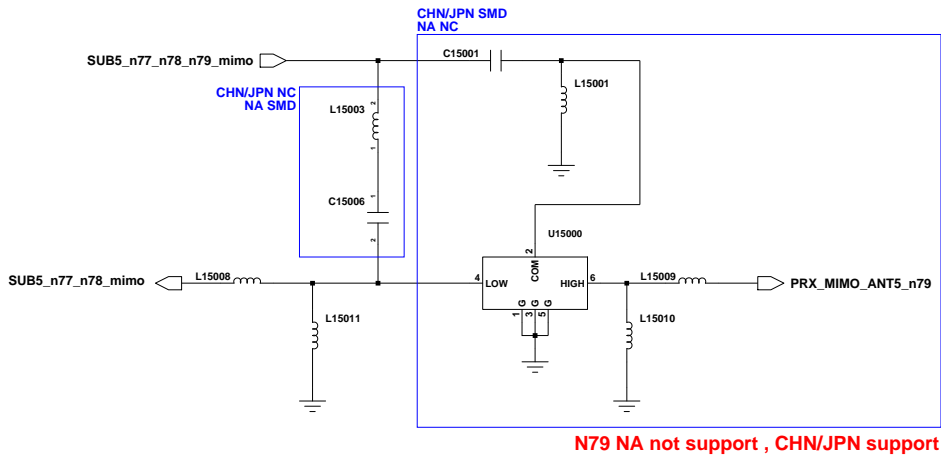
SUB6 WIFI2_2.4G



CCP

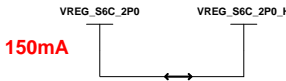
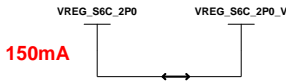
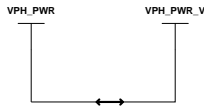
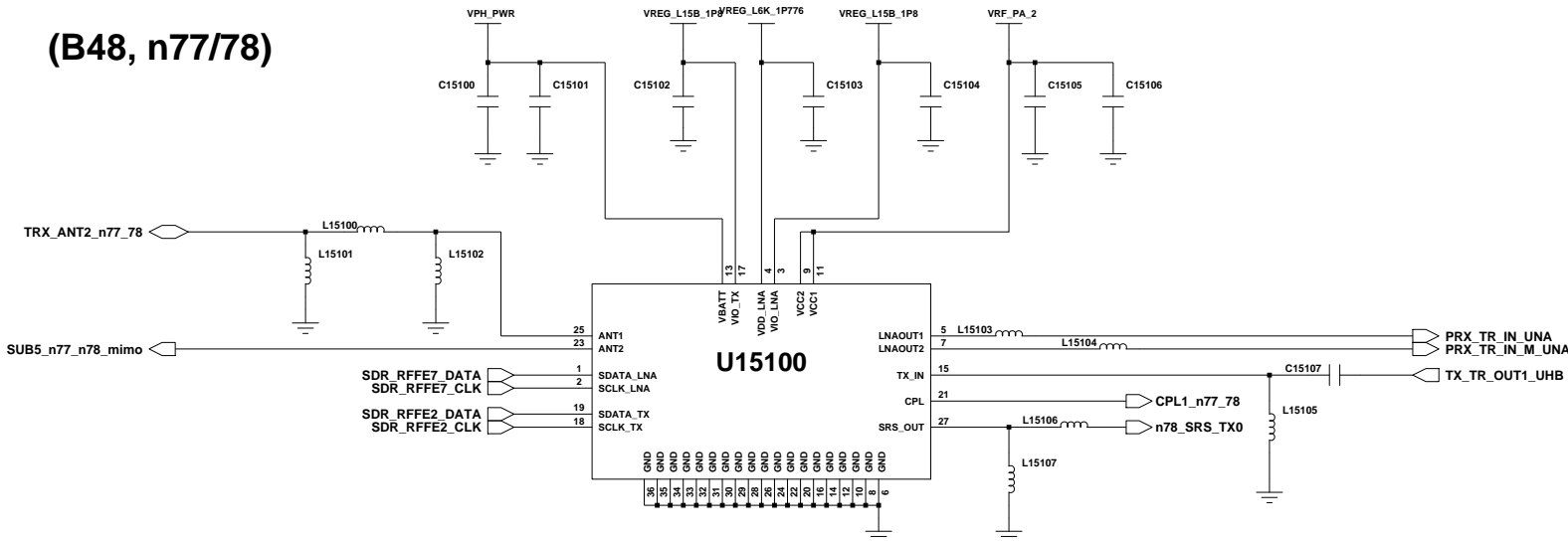


SUB5 (n79_UWB)

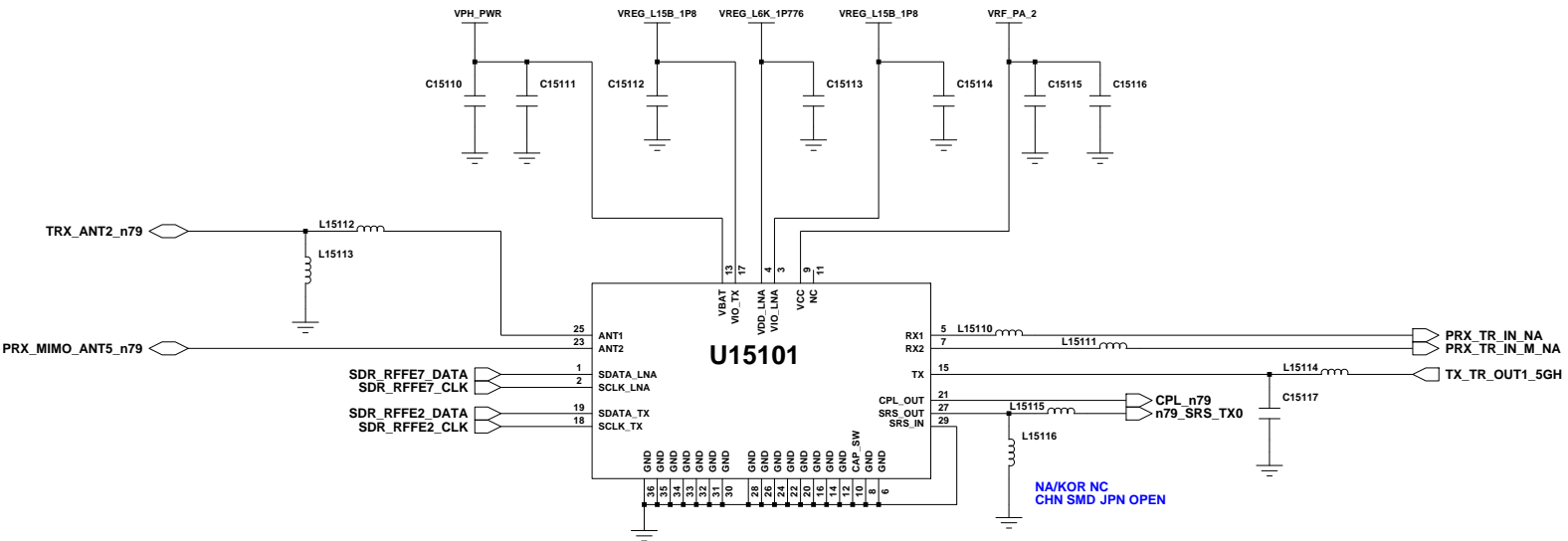


N79 NA not support , CHN/JPN support

UHB (B48, n77/78)



UHB (n79) NA/KOR NC CHN/JPN SMD



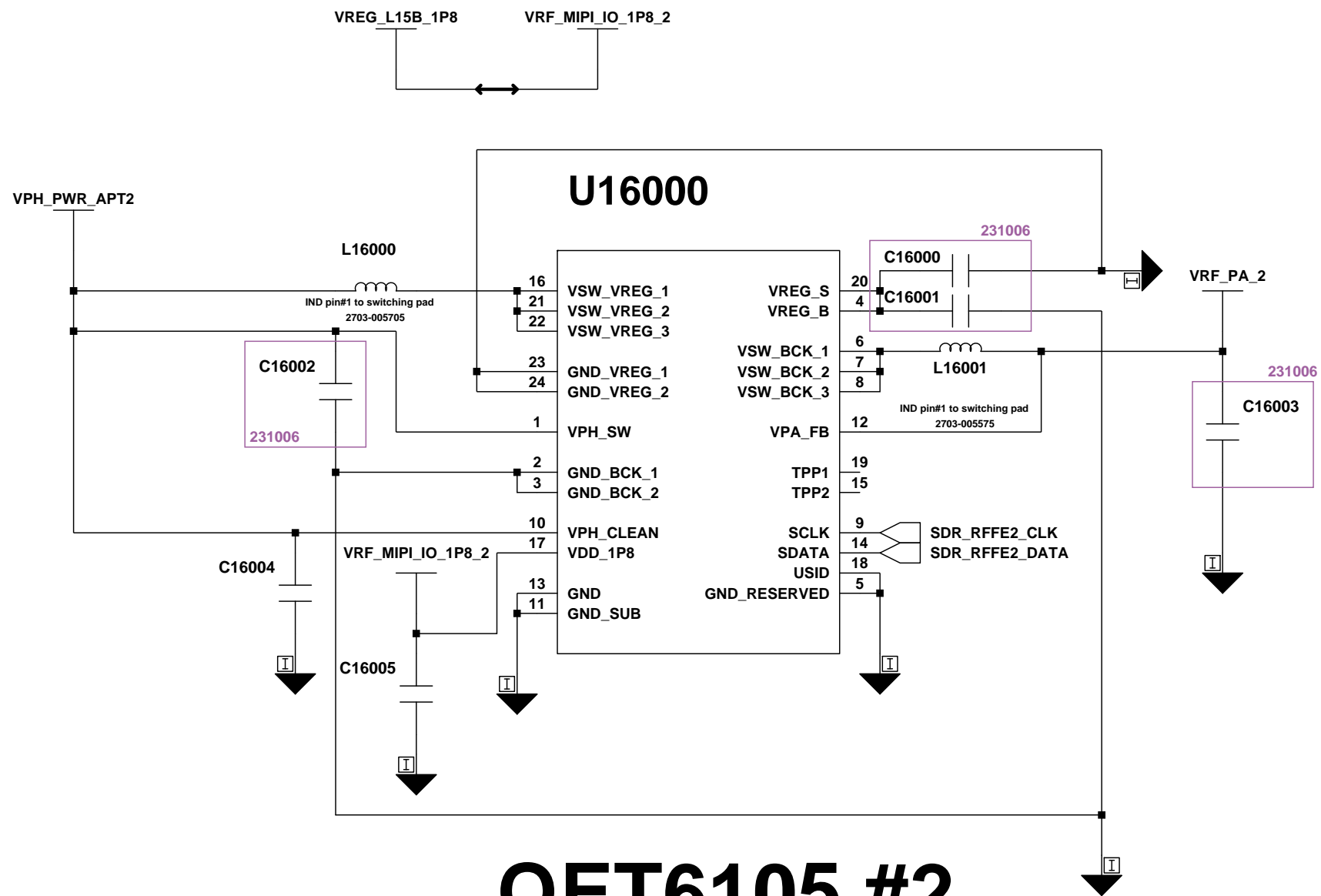
mmW module power cap

Ref#. 15nnn

Engineer: SEC	SAMSUNG ELECTRONICS		
Drawn by: SEC	TITLE:		Size:
R&D CHK:	RF (1/3)		12 1 8 A
DOC CTRL CHK:			
MFG ENGR CHK:			
QA CHK:	REV:	Drawing Number:	Page:

Changed by: jyz.cho Date Changed: Wednesday, January 11, 2023 Time Changed: 5:41:28 pm

SAMSUNG CONFIDENTIAL
THIS DOCUMENT CONTAINS CONFIDENTIAL
PROPRIETARY INFORMATION THAT IS
SAMSUNG ELECTRONICS CO'S PROPERTY.
DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS
EXCEPT AS AUTHORIZED BY SAMSUNG.



REF#. 16nnn

Engineer: SEC	SAMSUNG ELECTRONICS		
Drawn by: SEC			
R&D CHK:	TITLE: RF (2/3)		Size: 6 1 4 A TL
DOC CTRL CHK:			
MFG CTRL CHK:			
QA CHK:	REV:	Drawing Number:	Page: 15

1	2	3	4	5	6	7	8	9	10	11	12
<div><div>SAMSUNG CONFIDENTIAL THIS DOCUMENT CONTAINS CONFIDENTIAL PROPRIETARY INFORMATION THAT IS SAMSUNG ELECTRONICS CO.'S PROPERTY. DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS EXCEPT AS AUTHORIZED BY SAMSUNG.</div></div>											
A											A
B											B
C											C
D											D
E											E
F											F
G											G
H											H
1	2	3	4	5	6	7	8	9	10	11	12

Ref#. 17nnn

Engineer: SEC	<div>SAMSUNG ELECTRONICS</div>		
Drawn by: SEC			
R&D CHK:			
DOC CTRL CHK:			
MFG ENGR CHK:	TITLE: <div>RF (3/3)</div>		
QA CHK:	REV:	Drawing Number:	Page: 16

1	2	3	4	5	6	7	8	9	10	11	12						
<div><div>SAMSUNG CONFIDENTIAL THIS DOCUMENT CONTAINS CONFIDENTIAL PROPRIETARY INFORMATION THAT IS SAMSUNG ELECTRONICS CO'S PROPERTY. DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS EXCEPT AS AUTHORIZED BY SAMSUNG.</div></div>																	
A											A						
B											B						
C											C						
D											D						
E											E						
F											F						
G											G						
H											H						
								<div>Engineer: SEC</div>				<div>SAMSUNG ELECTRONICS</div>					
								Drawn by: SEC									
								R&D CHK:									
								DOC CTRL CHK:									
								MFG ENGR CHK:		<div>Visual (disp.)</div>		12 1 8 A					
								QA CHK:				REV					
								Changed by: jy.r.cho		Date Changed: Tuesday, April 4, 2023		Time Changed: 3:58:32 pm		Drawing Number:		Page: 18	
1	2	3	4	5	6	7	8	9	10	11	12						

CON10000

INP 100



BOTH HOLES
BOTH HOLES
BOTH HOLES



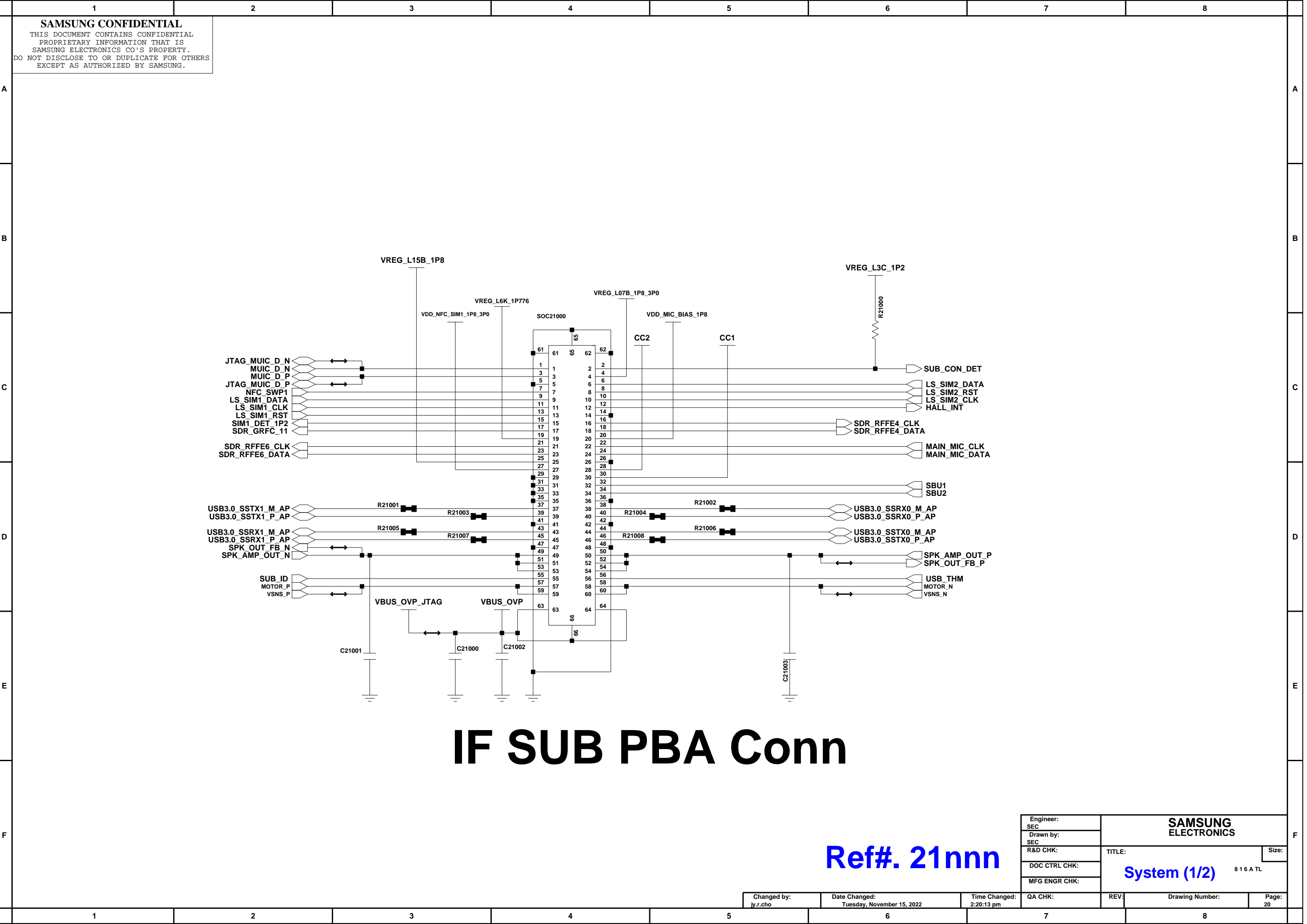
Diagram illustrating a hexagonal hole in a plate. The hole is labeled "BOTH HOLE B10000 L10002". A red line highlights the boundary of the hole, and a double-headed arrow indicates the width of the hole.

SM-S921W Common

<div><div>SAMSUNG CONFIDENTIAL THIS DOCUMENT CONTAINS CONFIDENTIAL PROPRIETARY INFORMATION THAT IS SAMSUNG ELECTRONICS CO.'S PROPERTY. DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS EXCEPT AS AUTHORIZED BY SAMSUNG.</div><div>SM-S921W REV0.6A</div><div>SM-S921W Common</div><div>M_RF PCB part</div><div>2023.10.19</div></div>															

TG	System		Power Audio		RF			Visual (CAM)	Visual (Disp.) Visual (Sensor)	HW Structure
Ref#.	21nnn	22nnn	23nnn	24nnn	25nnn	26nnn	27nnn	28nnn	29nnn	20nnn
Contents	IF Sub PBA	PCB ID JTAG	BATT conn. DCM leakage WPC conn.	Audio AMP 2nd/3rd MIC RCV cont.	ANT mmW ANT LFEM	LPAMID TRCV RF PMIC QET	BT/WiFi GPS UWB	Flash UWCAM VTCAM	Sensor Display PMIC Display conn.	Interposer Shieldcan
sheet	sheet21	sheet22	sheet23	sheet24	sheet25	sheet26	sheet27	sheet28	sheet29	sheet20

Engineer:		
Drawn by:		
RDG CHK:	TITLE:	Size:
DOC CTRL CHK:		
MFG ENGR CHK:		



IF SUB PBA Conn

Ref#. 21nnn

Engineer: SEC	SAMSUNG ELECTRONICS		Size: 8 1 6 A TL
Drawn by: SEC			
R&D CHK:	TITLE:	System (1/2)	
DOC CTRL CHK:			
MFG ENGR CHK:			
QA CHK:	REV:	Drawing Number:	Page: 20

Changed by: jy.r.cho Date Changed: Tuesday, November 15, 2022 Time Changed: 2:20:13 pm

M_RF PBA table

ID	M_RF PBA type	Value	SEC CODE
0	NA_mmW	5.1K	2007-007698
1	NA_CAN_Sub6	10.0K	2007-007142
2	CHN_SUB6	15.0K	2007-007132
3	Global_SUB6	20.0K	2007-007312
4	JPN_mmW	30.0K	2007-008275
5	KOR_SUB6	39.0K	2007-007134
6	EUR_SUB6	82.0K	2007-007590
7	N/A	100.0K	2007-007107



M_RF_ID



3DF COUPON



2D BARCODE

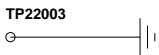
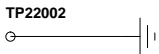
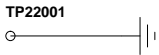
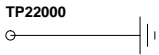
SMD NC

NA (U)

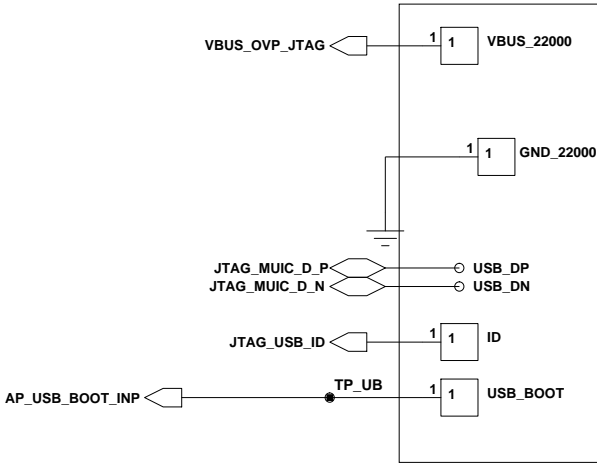
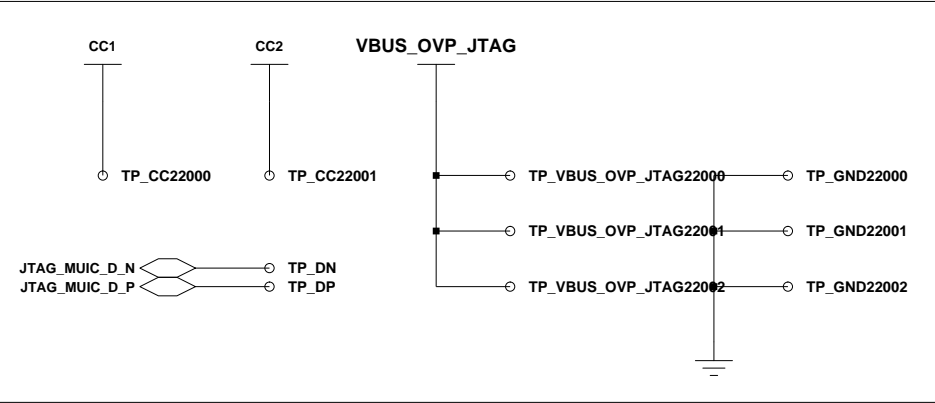
CAN (W)

CHN (0)

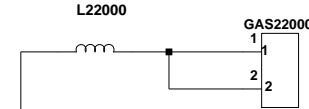
JPN (D)



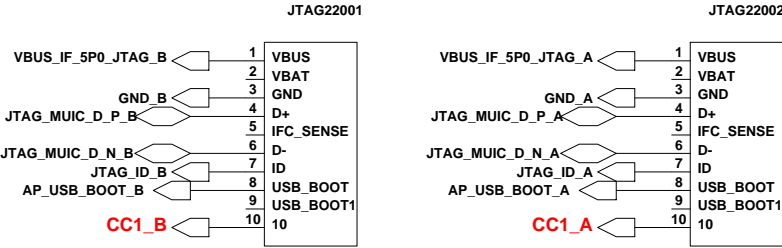
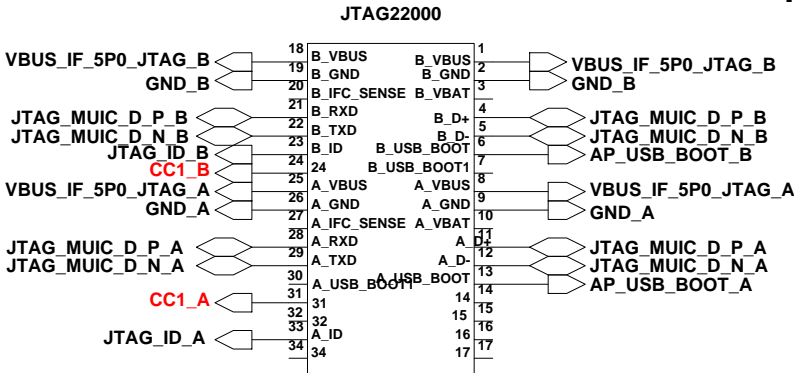
FOR JIG



CAUTION: PLACEMENT
Near to TP AP_USB_BOOT



SMR poron

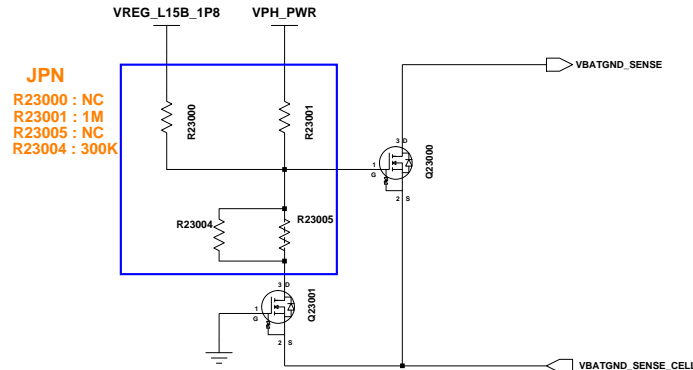
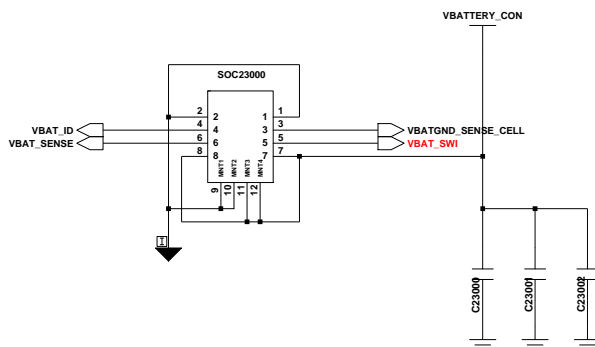


PCB array JTAG

Ref#. 22nnn

Engineer: SEC	SAMSUNG ELECTRONICS		
Drawn by: SEC			
R&D CHK:	TITLE: System (2/2)		Size: 8 1 6 A TL
DOC CTRL CHK:			
MFG ENGR CHK:			
QA CHK:	REV:	Drawing Number:	Page: 21

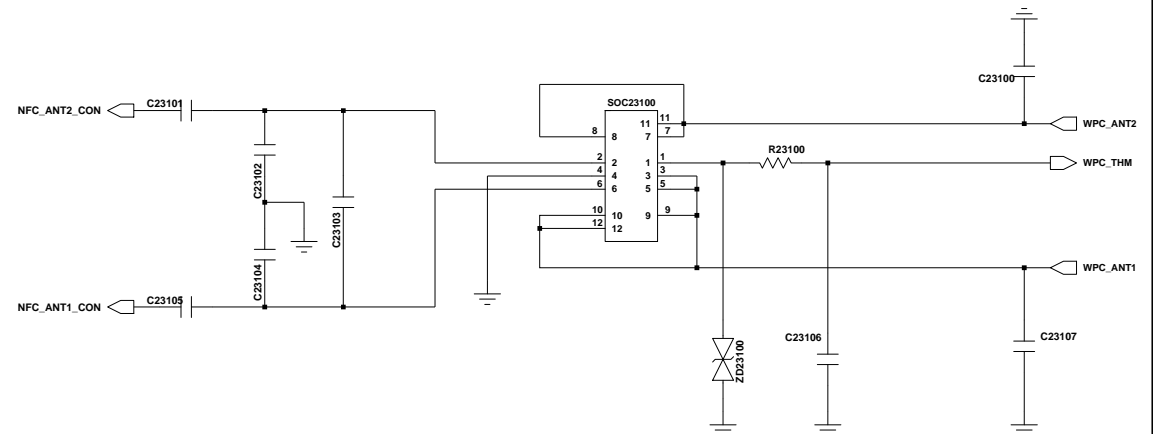
Changed by: jy.r.cho	Date Changed: Wednesday, November 30, 2022	Time Changed: 3:12:10 pm
-------------------------	---	-----------------------------



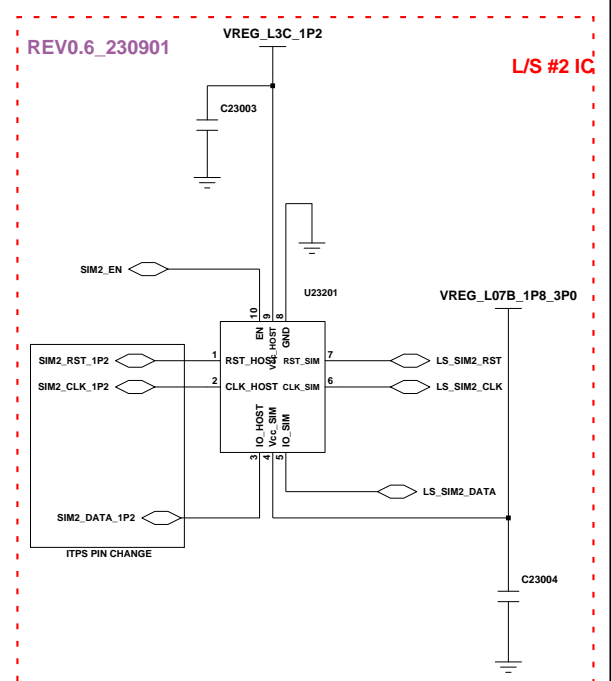
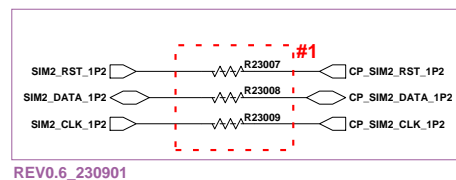
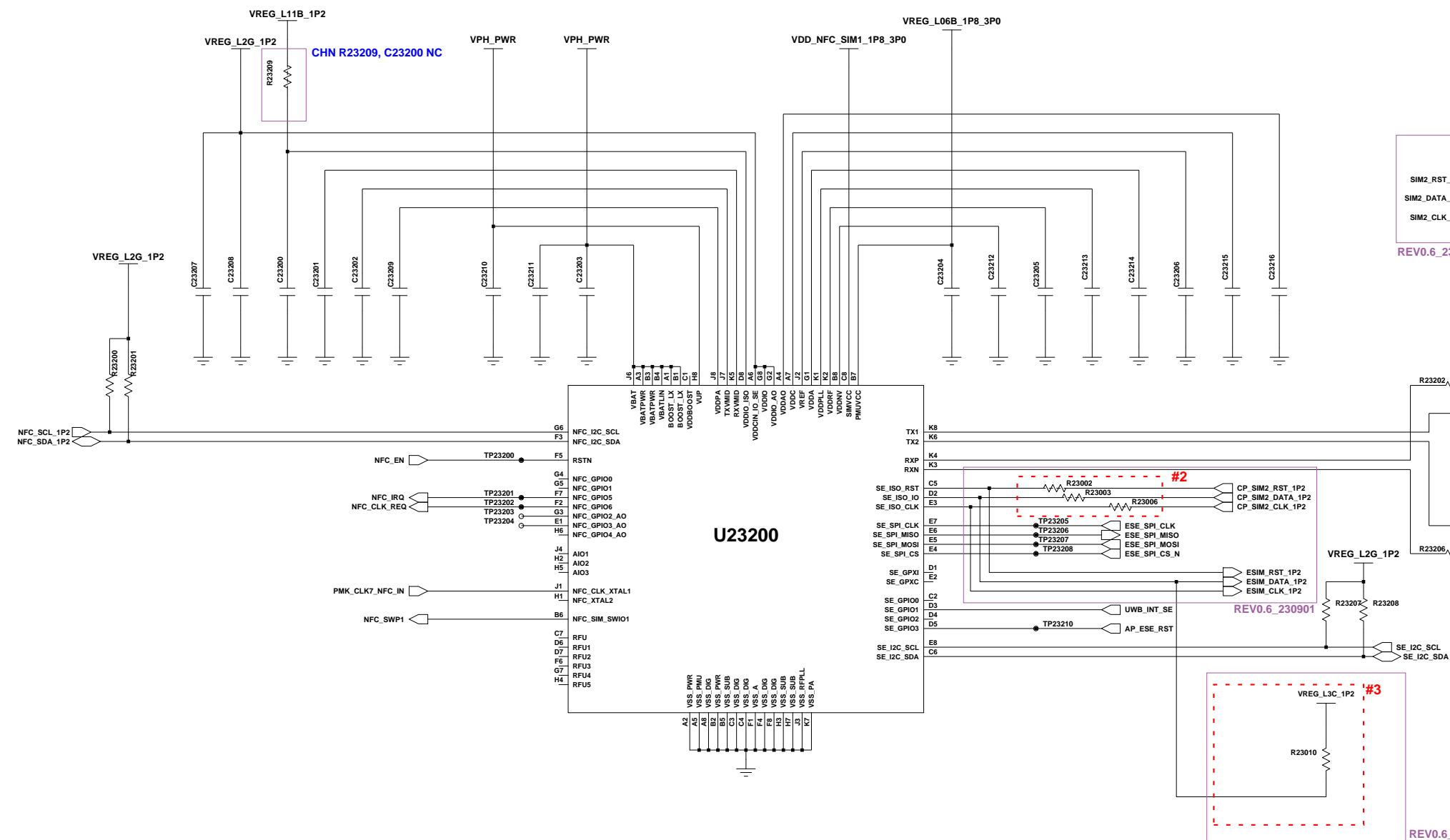
Battery Connector

		NFC IC	#1	#2	#3	L/S #2 IC	
NA/CAN	Nano + eSIM	SN300U	OPEN	SHORT	20K	NC	NA : Bootstrap
CHN	2-Nano	SN300T	SHORT	OPEN	OPEN	SMD	
JPN	Nano + eSIM	SN300P	OPEN	SHORT	20K	NC	

NFC



W/C CONNECTOR



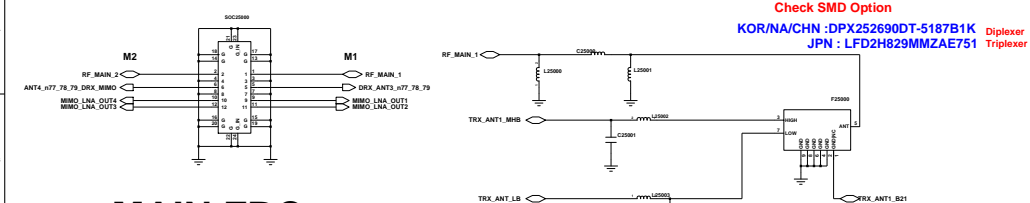
SIM Level Shifter



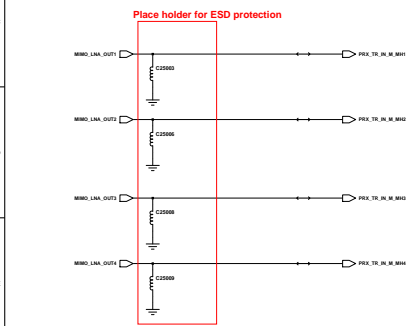
RCV Conn.

Ref#. 24nnn

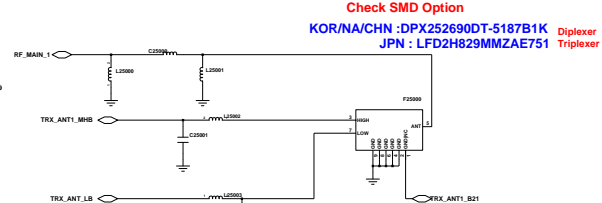
Engineer: SEC	<div style="text-align: center;"> SAMSUNG ELECTRONICS </div>		
Drawn by: SEC			
R&D CHK:	TITLE:	Size:	
DOC CYRL CHK:	Power, Audio (2/2)		8 1 6 A TL
MFG ENGR CHK:			
QA CHK:	REV:	Drawing Number:	Page: 23



MAIN FRC

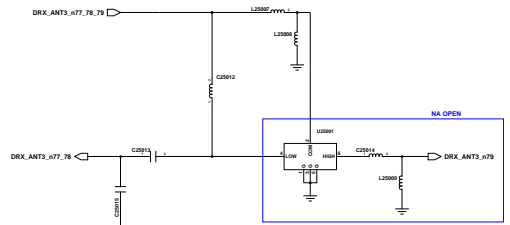
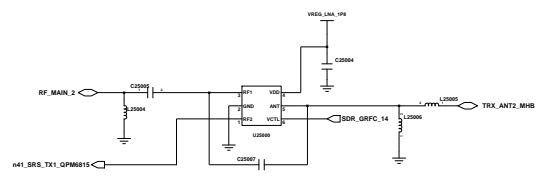


MHB MIMO_LNA OUT

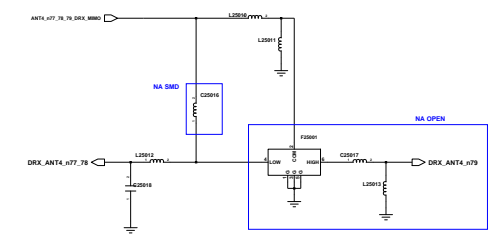


MAIN1 ANT (LB,MB,JPN B21)

MAIN2 ANT (HB_n41)

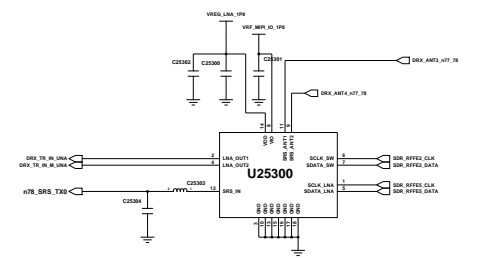


MAIN ANT3 (B48_n77/78/79)

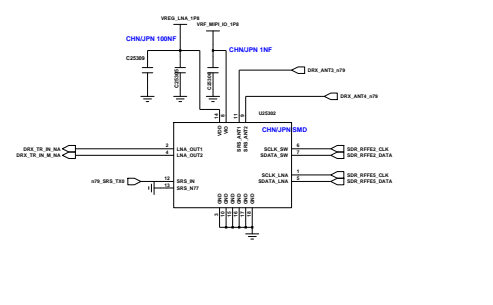


MAIN ANT4 (n77/78/79)

n77/78

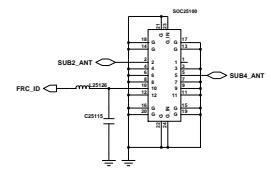
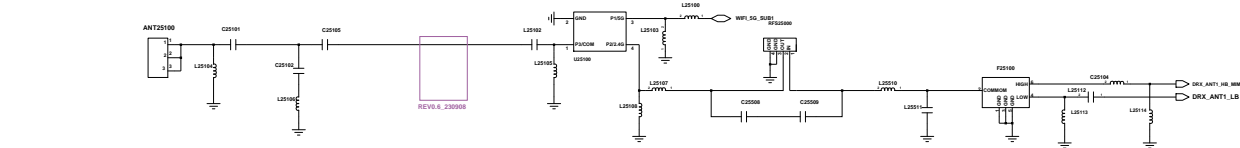


SMD option

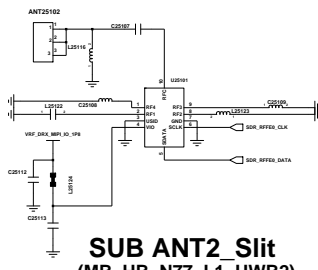


DRX_ANT

SUB ANT1_Frame (lb_hb)

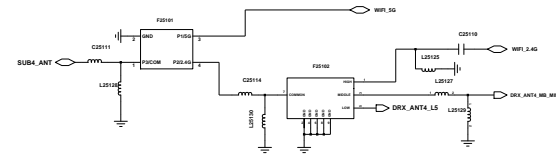


TOP FRC



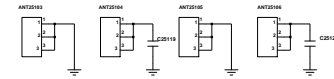
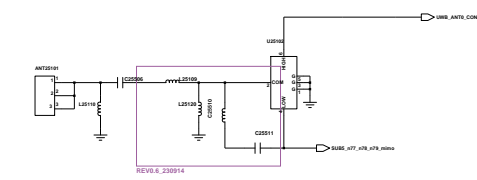
SUB ANT2_Slit (MB_HB_N77_L1_UWB2)

SUB4 (L5_mb_WIFI 2.4G_5G)

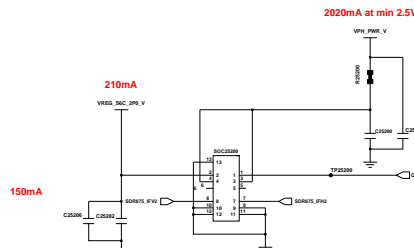


SUB3 (N79)

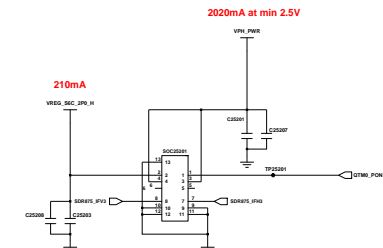
SUB5 (n79_UWB)



CCP

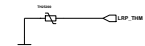


mmW_ANT_CONN (Left)



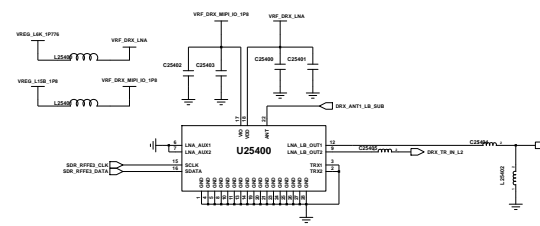
mmW_ANT_CONN (Right)

150mA



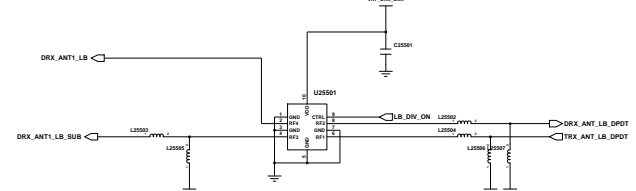
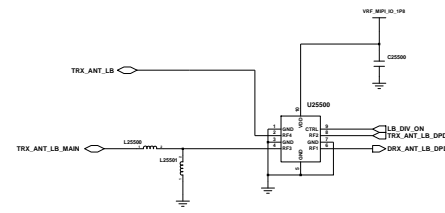
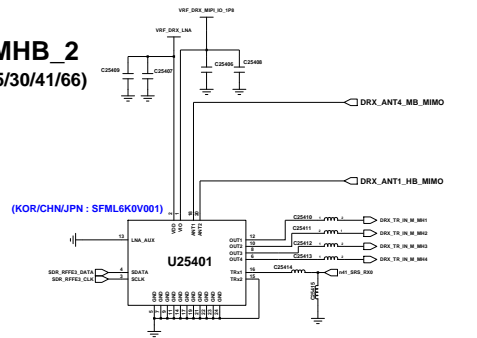
DRX_LB

(B5/8/12/13/14/17/18/19/20/26/28/29/71_BC0/10_G850/900)

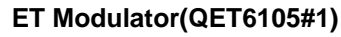
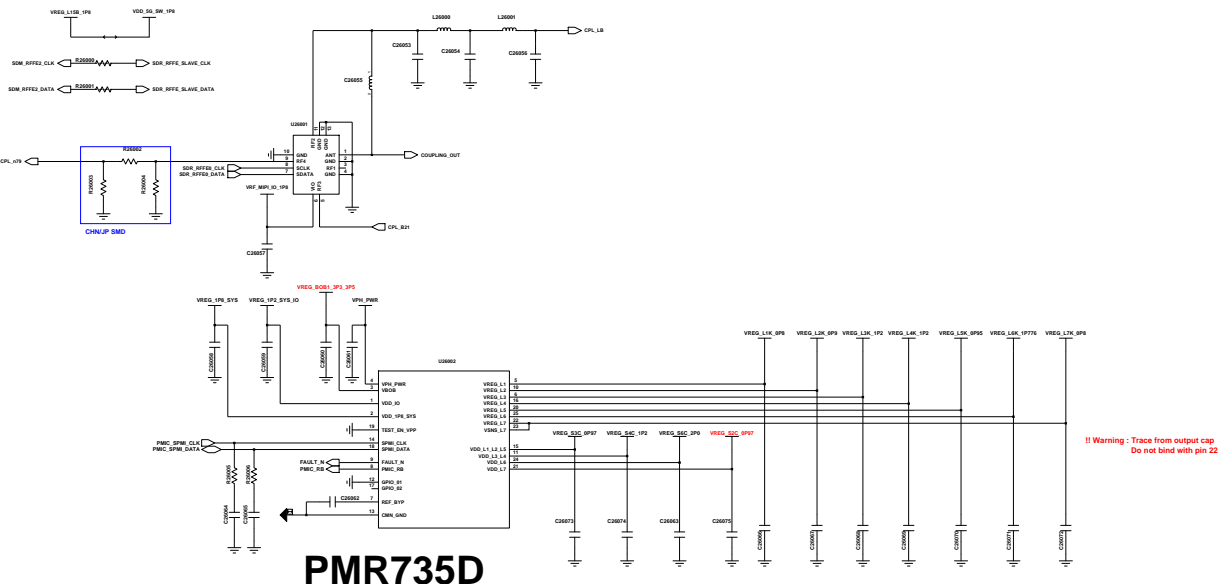
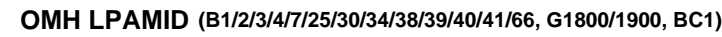


DRX_MHB_2 (B2/4/7/25/30/41/66)

(KOR/CHN/JPN : SFML6K0V001)



Ref#. 25nnn







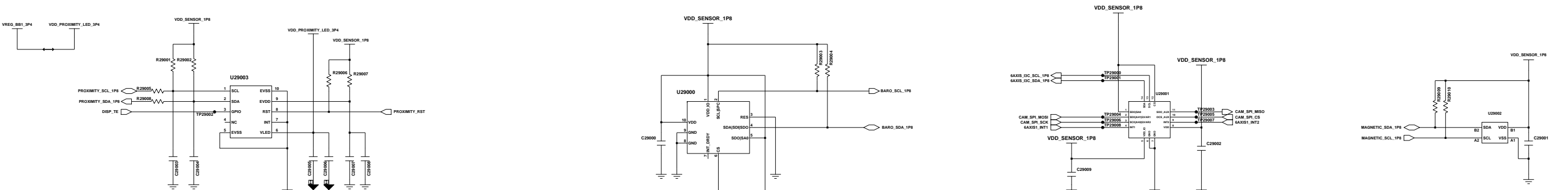
C



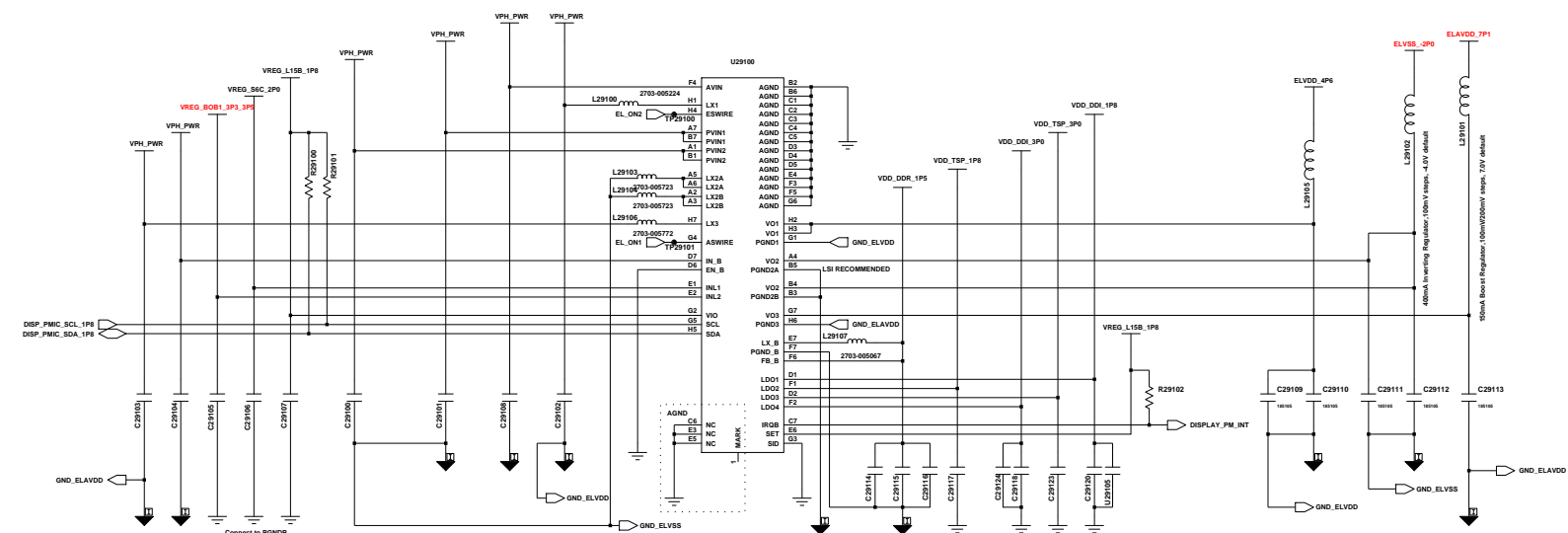
F



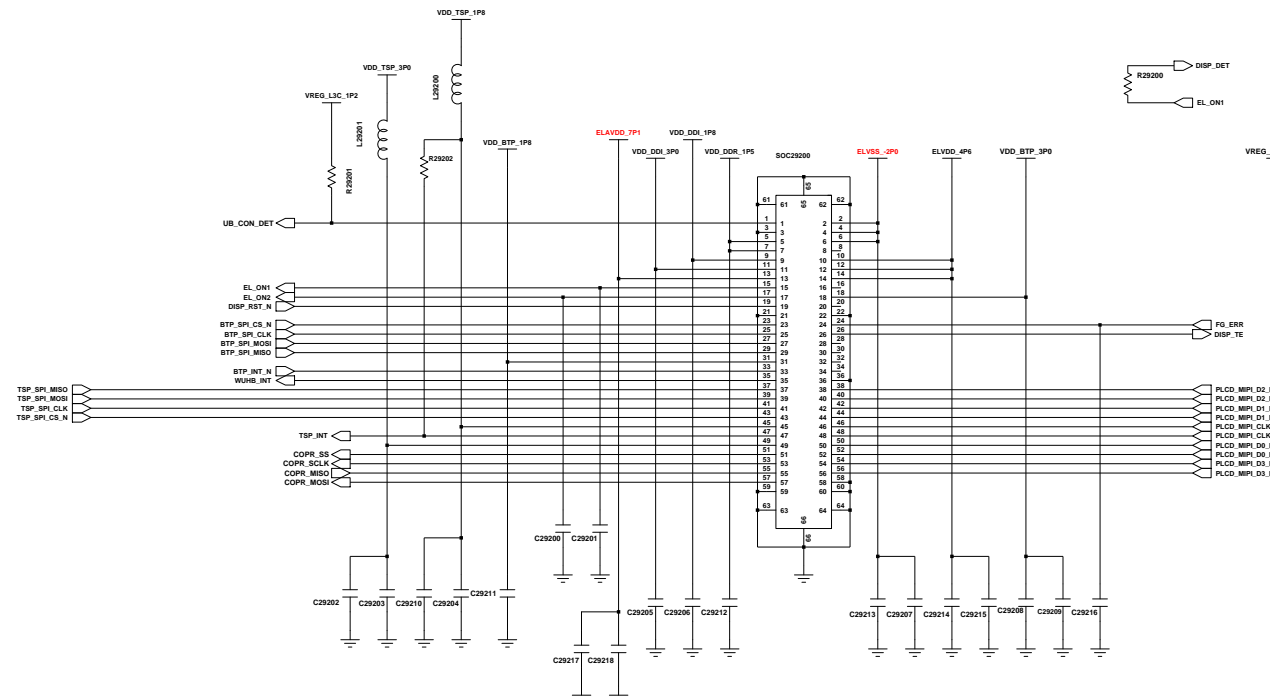
H



Magnetic SENSOR



DISPLAY PMIC



DISPLAY CONNECTOR

JTAG22000

<div><div>SAMSUNG CONFIDENTIAL THIS DOCUMENT CONTAINS CONFIDENTIAL PROPRIETARY INFORMATION THAT IS SAMSUNG ELECTRONICS CO.'S PROPERTY. DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS EXCEPT AS AUTHORIZED BY SAMSUNG.</div></div>																A
																B
																C
																D
																E
																F
																G
																H
																I
																J
																K
																L
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	<div><div>Engineer:</div><div>Drawn by:</div><div>RED CHK:</div><div>DOC CTRL CHK:</div><div>MFG ENGR CHK:</div></div> <div><div>Changed by:</div><div>userB</div><div>Date Changed:</div><div></div><div>Time Changed:</div><div></div><div>QA CHK:</div><div></div><div>REV</div><div></div><div>Drawing Number:</div><div></div><div>Page:</div><div>6</div></div>

SM-S921U IFSUB PBA REV0.7

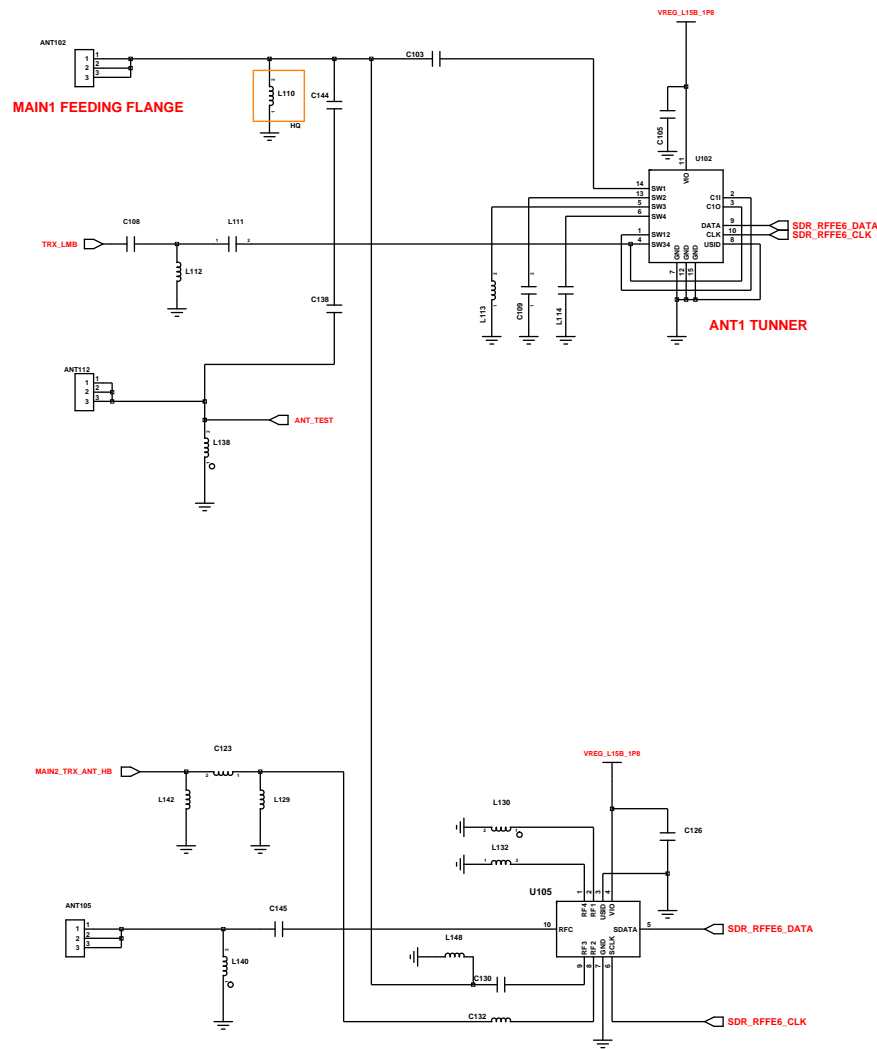
sheet01 : ANT

sheet02 : LOGIC

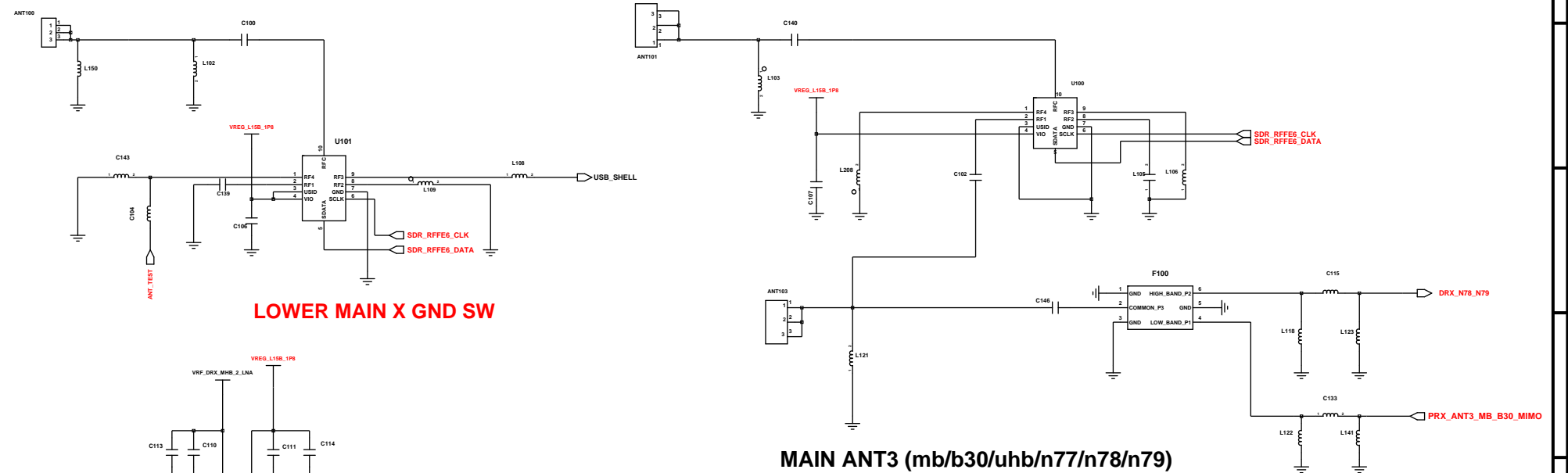
2023 . 09.20

Engineer:						
Drawn By:						
R&D CHK:	TITLE:		Size:			
DOC CTRL CHK:						
MFG ENGR CHK:						
Changed by: user83	Date Changed:	Time Changed:	QA CHK:	REV:	Drawing Number:	Page: 6

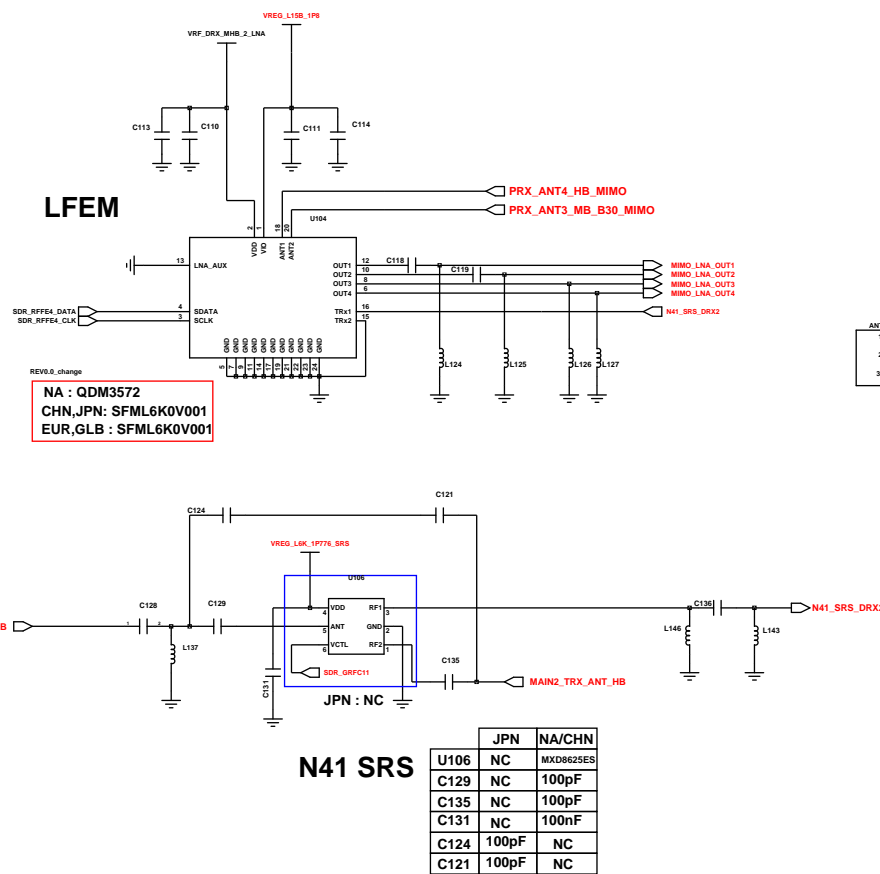
**(GSM LB/MB, B1/2/3/4/5/8/12/13/17/18/19/20/25/26/28,
TDD 34/39)**



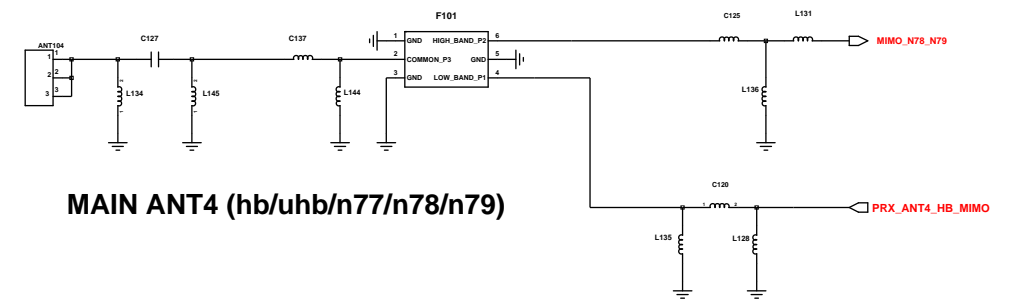
MAIN ANT2(HB/n77/n78)



MAIN ANT3 (mb/b30/uhb/n77/n78/n79)



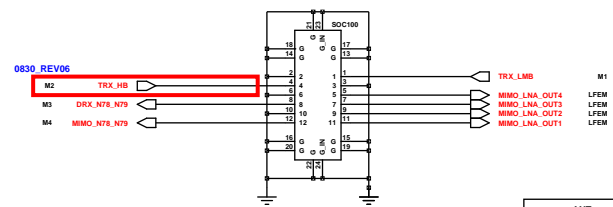
MAIN ANT4 (hb/uhb/n77/n78/n79)



MAIN ANT4 (hb/uhb/n77/n78/n79)

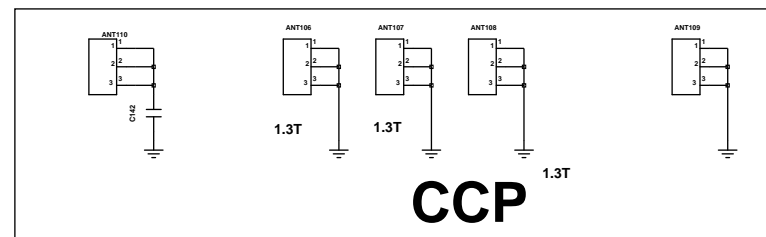
	JPN	NA/CHN
U106	NC	MXD8625ES
C129	NC	100pF
C135	NC	100pF
C131	NC	100nF
C124	100pF	NC
C121	100pF	NC

FRC CON

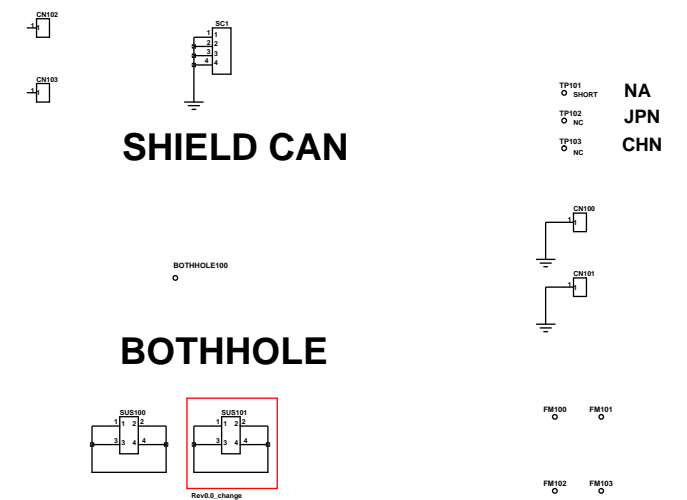


RF Connector

ANT	Band
M1 (Metal)	LB/MB
M2 (Metal)	HB/ n77/n78/n79
M3 (Metal)	mb/uhb/n77/n78/n79
M4 (SPK sus)	hb/uhb/n77/n78/n79



etc.

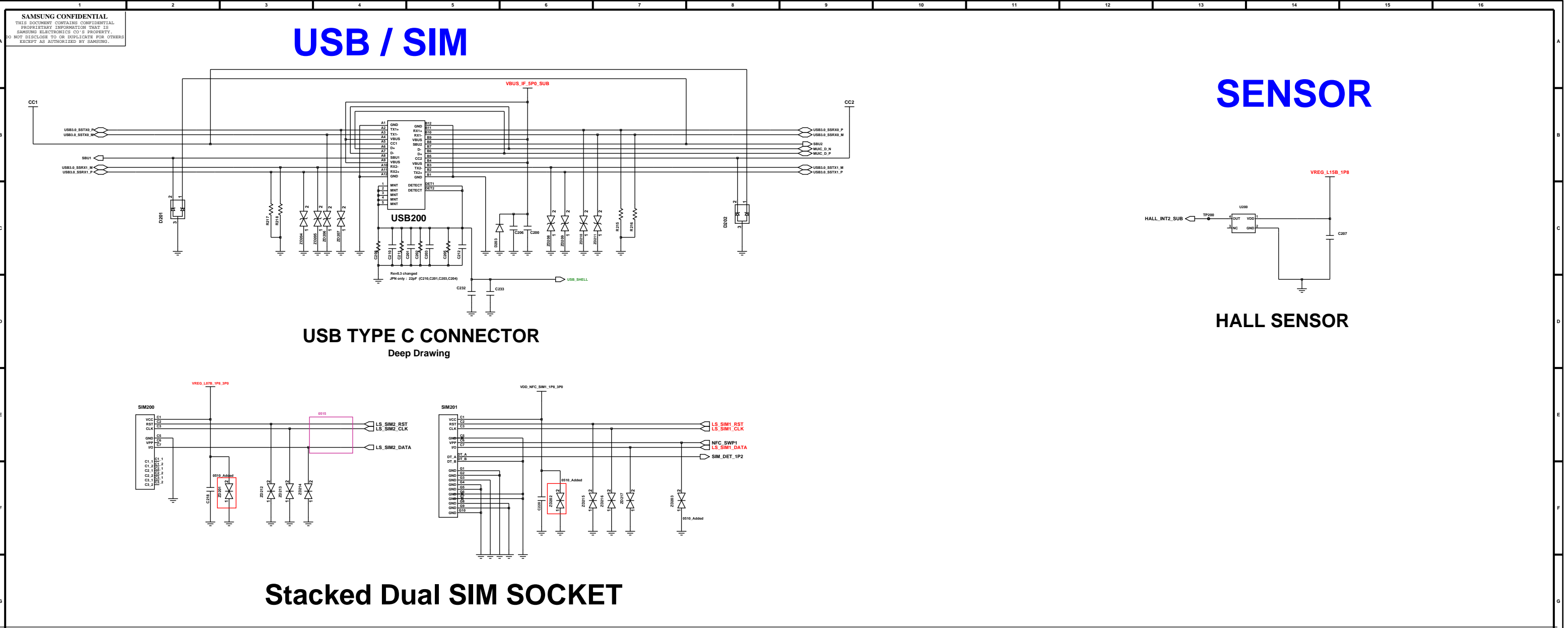


SHIELD CAN

BOTHHOLE

SCREW SUS

INSIK MARK



SM-S921U Common

