


RESERVE 1400-1449

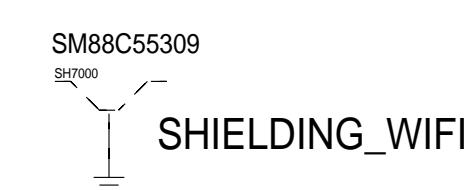
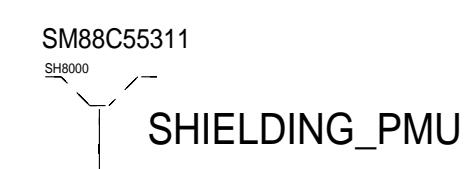
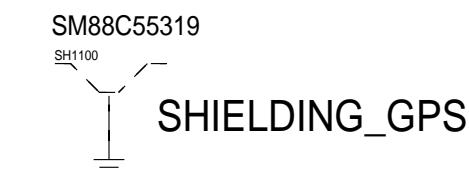
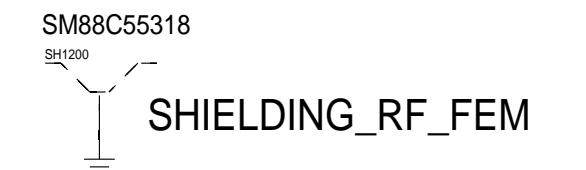
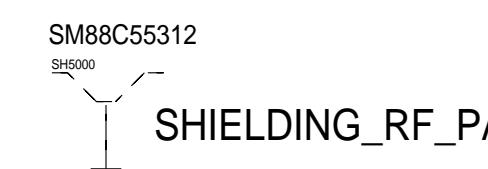
1. ADD THIRD MIC ON MAIN CONNECTOR, BUT NOT COMPATIBLE WITH RIGA M
2. ADDED 2ST CONNECTOR FOR FRONT CAMMERA,NEED CHANG NET
3. DELETE PD
4. ADD FAULT_N ON PMI632 PIN 44
5. OPTION RESISTER SHOULD BE 240K

APPROVALS		 MOTOROLA MOBILE DEVICES	
ENGINEER: ZHANG BEI		BLOCK TITLE: defender_sm6150	
LAST MODIFIED BY: ZHANG BEI Wed Mar 06 16:56:43 2019			
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CAD FILE NAME:			REV 01
PAGE 1 OF 70			

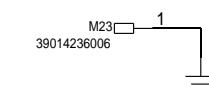
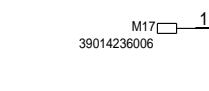
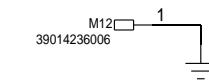
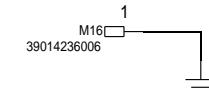
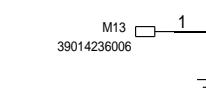


DEFENDER ME/SHIELDS

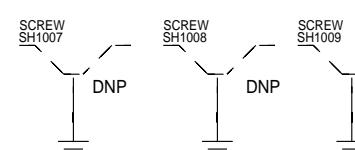
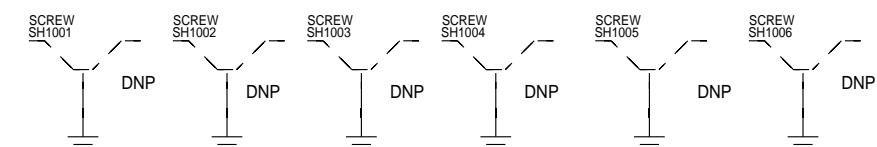
PCB SHIELDING



GROUND CONTACTS



SCREW



MOTOROLA MOBILITY CONFIDENTIAL RESTRICTED-MDB TRACKED TRACKEDANDBLOCKED

APPROVALS

MOTOROLA
MOBILE DEVICES

ENGINEER: ZHANG BEI

BLOCK TITLE:

LAST MODIFIED BY: ZHANG BEI

defender_sm6150

Thu Oct 10 16:02:44 2019

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PROJECT NAME
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REV
01

CAD FILE NAME:

PAGE 3 OF 70

REF:5000 - 5219



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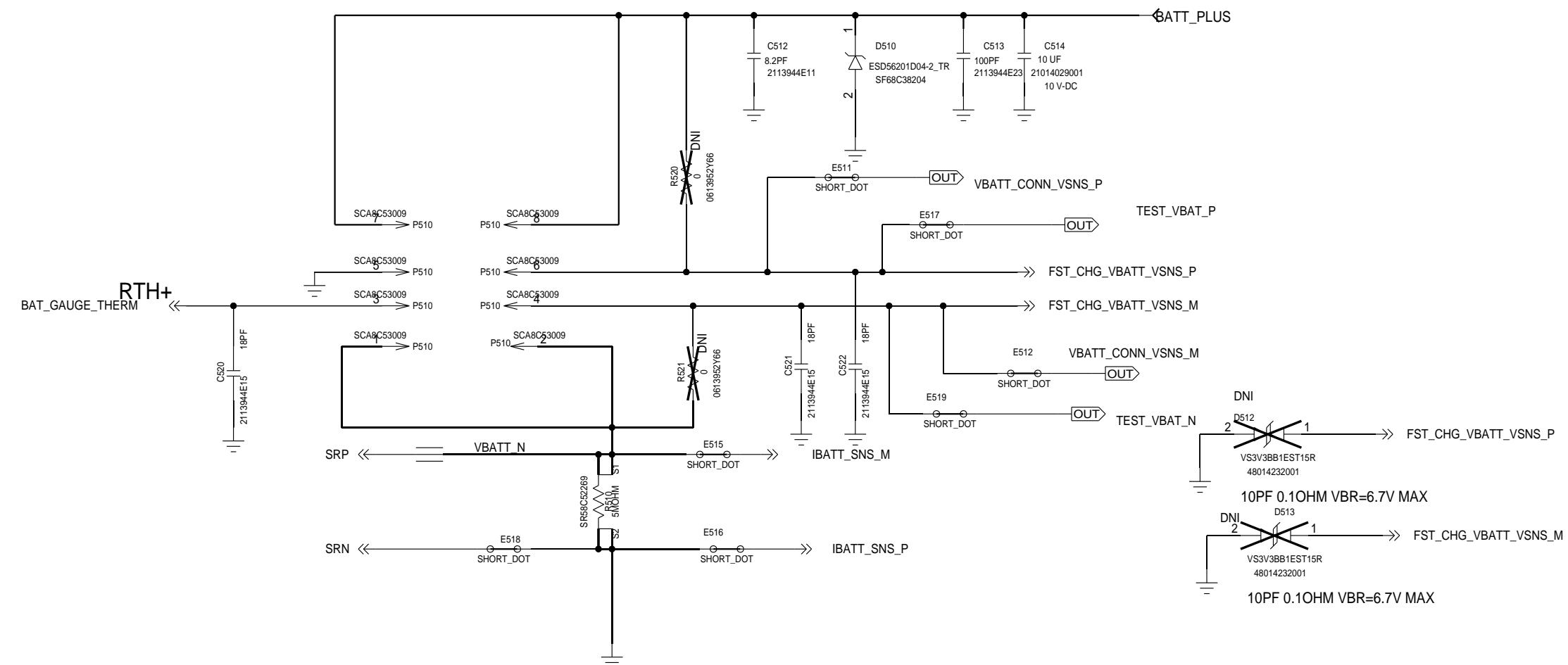
APPROVALS	MOTOROLA MOBILE DEVICES	
ENGINEER: ZHANG BEI	BLOCK TITLE: defender_sm6150	
LAST MODIFIED BY: ZHANG BEI Thu Oct 10 16:02:44 2019		
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CAD FILE NAME:		PAGE 4 OF 70

PWR: USB-PD

D		D																
C		C																
B		B																
A	<table border="1"><tr><td>APPROVALS</td><td colspan="2"> MOTOROLA MOBILE DEVICES</td></tr><tr><td>ENGINEER: ZHANG</td><td colspan="2" rowspan="2">BLOCK TITLE: power</td></tr><tr><td>LAST MODIFIED BY: ZHANG Thu Mar 28 16:47:12 2019</td></tr><tr><td colspan="2">MOTOROLA CONFIDENTIAL RESTRICTED <small>THE DRAWING ON THIS PRINT AND INFORMATION THEREWITH ARE PROPRIETARY TO MOTOROLA AND SHALL NOT BE USED OR DISCUSSED IN WHOLE OR IN PART WITHOUT MOTOROLA'S CONSENT. © COPYRIGHT, MOTOROLA. THIS DOES NOT IMPLY PUBLICATION</small></td><td>REV 01</td></tr><tr><td>B</td><td>PROJECT NAME defender_sm6150.cpm</td><td>CAD FILE NAME:</td></tr><tr><td></td><td></td><td>PAGE 5 OF 70</td></tr></table>	APPROVALS	 MOTOROLA MOBILE DEVICES		ENGINEER: ZHANG	BLOCK TITLE: power		LAST MODIFIED BY: ZHANG Thu Mar 28 16:47:12 2019	MOTOROLA CONFIDENTIAL RESTRICTED <small>THE DRAWING ON THIS PRINT AND INFORMATION THEREWITH ARE PROPRIETARY TO MOTOROLA AND SHALL NOT BE USED OR DISCUSSED IN WHOLE OR IN PART WITHOUT MOTOROLA'S CONSENT. © COPYRIGHT, MOTOROLA. THIS DOES NOT IMPLY PUBLICATION</small>		REV 01	B	PROJECT NAME defender_sm6150.cpm	CAD FILE NAME:			PAGE 5 OF 70	A
APPROVALS	 MOTOROLA MOBILE DEVICES																	
ENGINEER: ZHANG	BLOCK TITLE: power																	
LAST MODIFIED BY: ZHANG Thu Mar 28 16:47:12 2019																		
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B	PROJECT NAME defender_sm6150.cpm	CAD FILE NAME:																
		PAGE 5 OF 70																

PWR: BATT

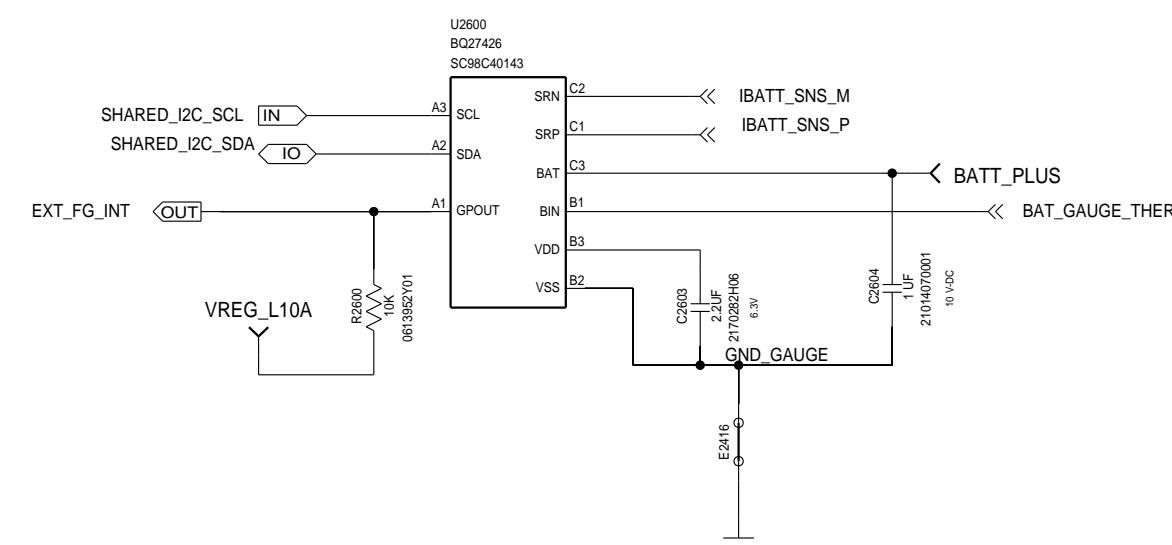
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LAST MODIFIED BY: ZHANG BEI Thu Oct 10 16:02:45 2019		power	
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CAD FILE NAME:			PAGE 6 OF 70

PWR: FUEL GAUGE

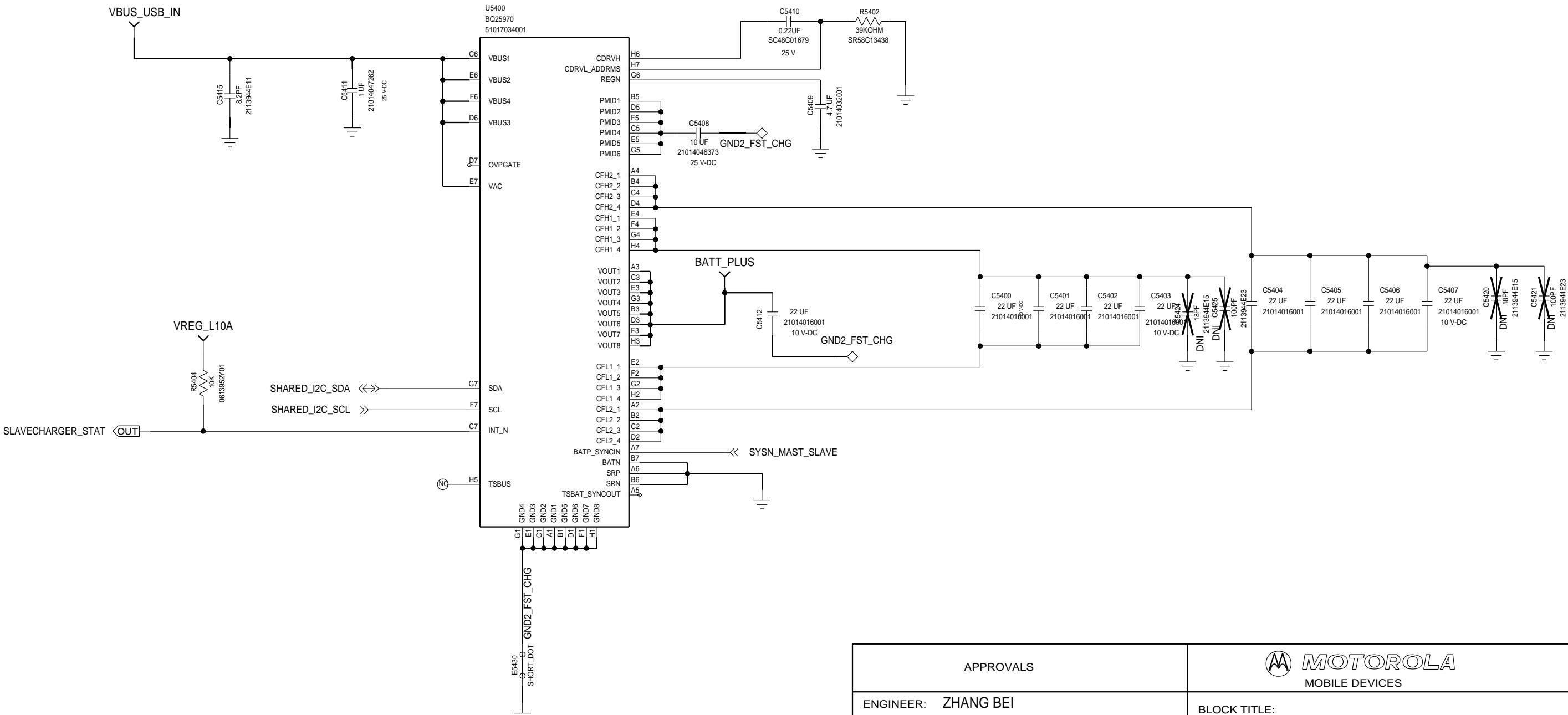
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ENGINEER: CHUNLEI YOU		BLOCK TITLE:	
LAST MODIFIED BY: Thu Oct 10 16:02:45 2019		power	
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CAD FILE NAME:		REV 01	
		PAGE 7 OF 70	

PWR:SLAVE FAST CHARGER

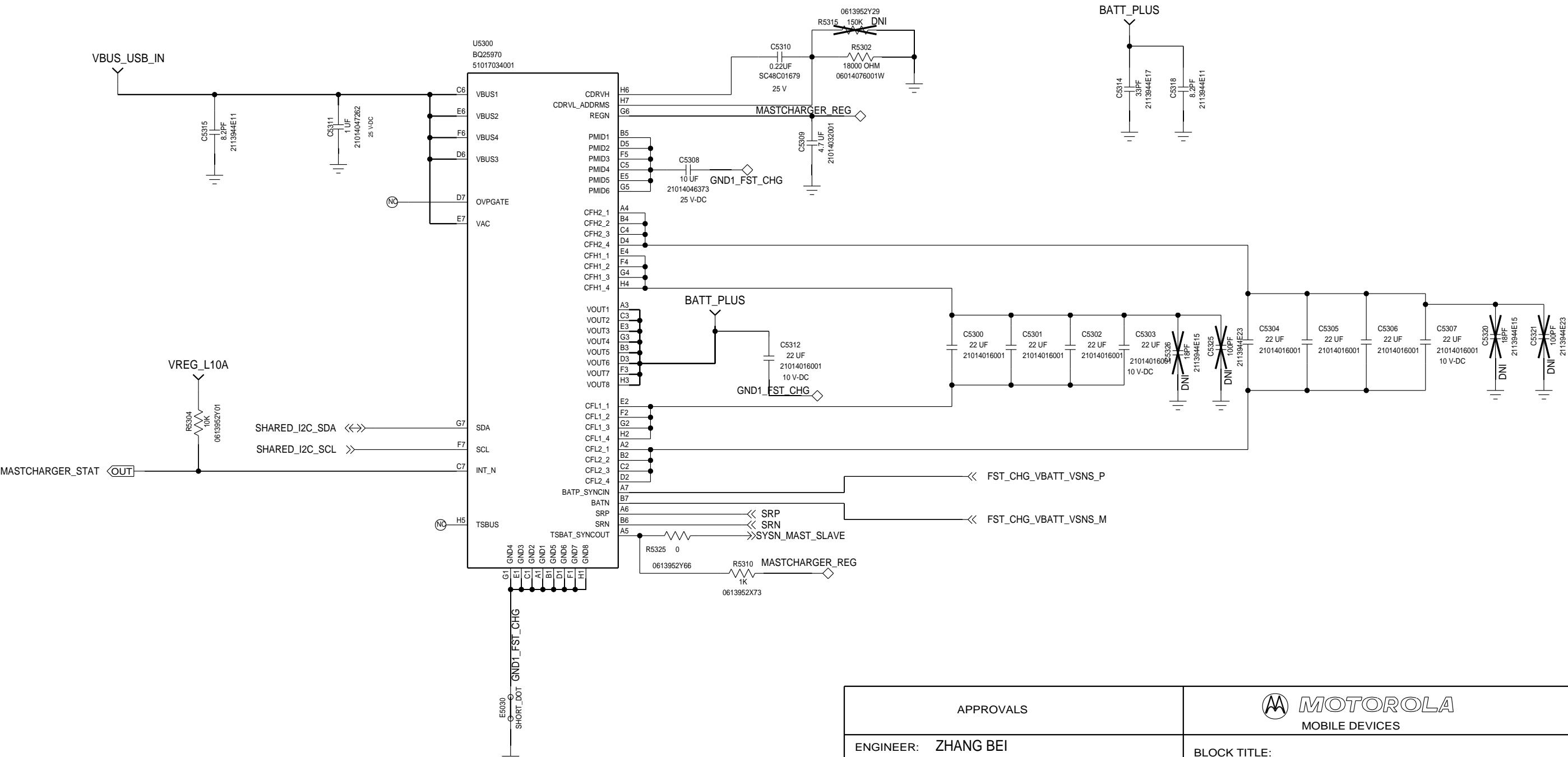
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LAST MODIFIED BY: ZHANG BEI Thu Oct 10 16:02:45 2019		power	
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B	defender_sm6150.cpm		01
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PWR:master FAST CHARGER

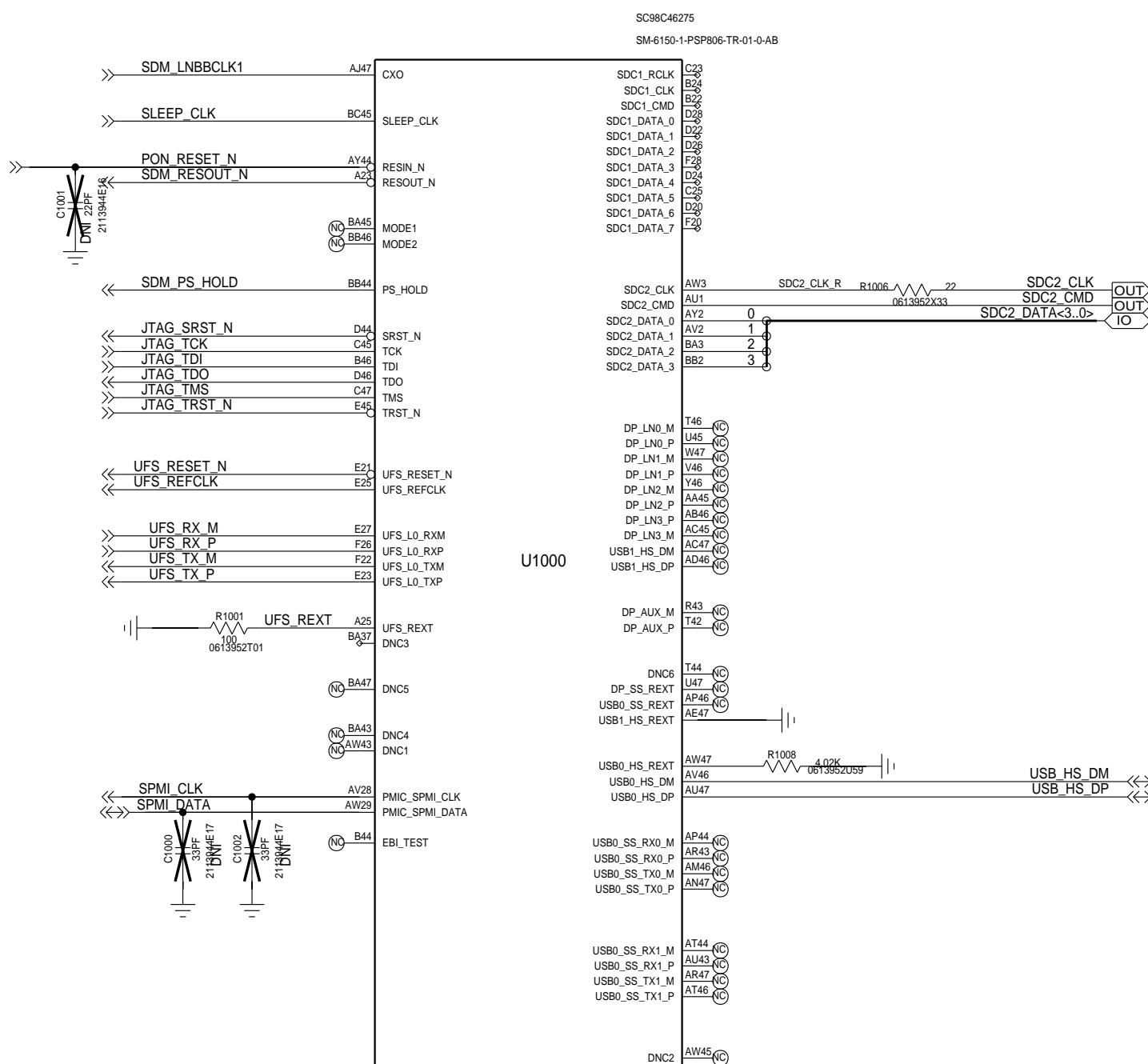
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APPROVALS		MOTOROLA MOBILE DEVICES	
ENGINEER: ZHANG BEI		BLOCK TITLE:	
LAST MODIFIED BY: ZHANG BEI Thu Oct 10 16:02:45 2019		power	
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B	defender_sm6150.cpm	01	
CAD FILE NAME:		PAGE 9 OF 70	

SM6150: CONTROL

REF 1000-1099

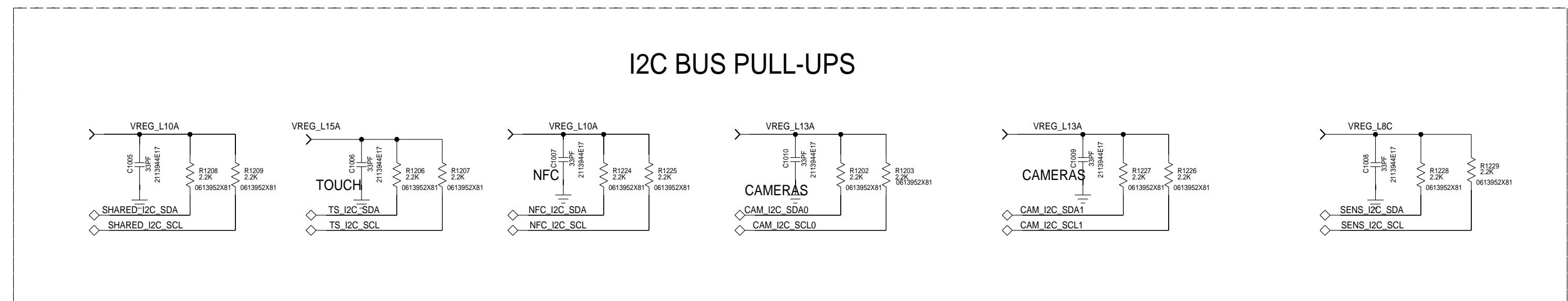
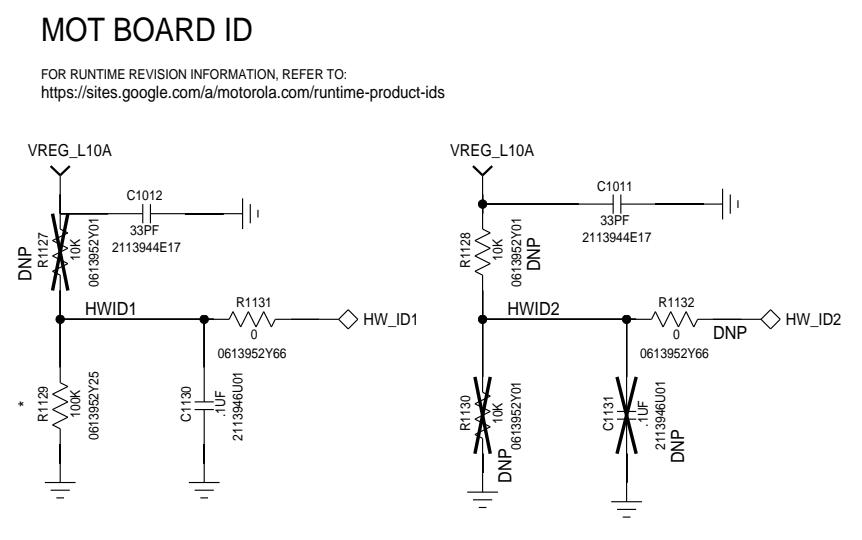
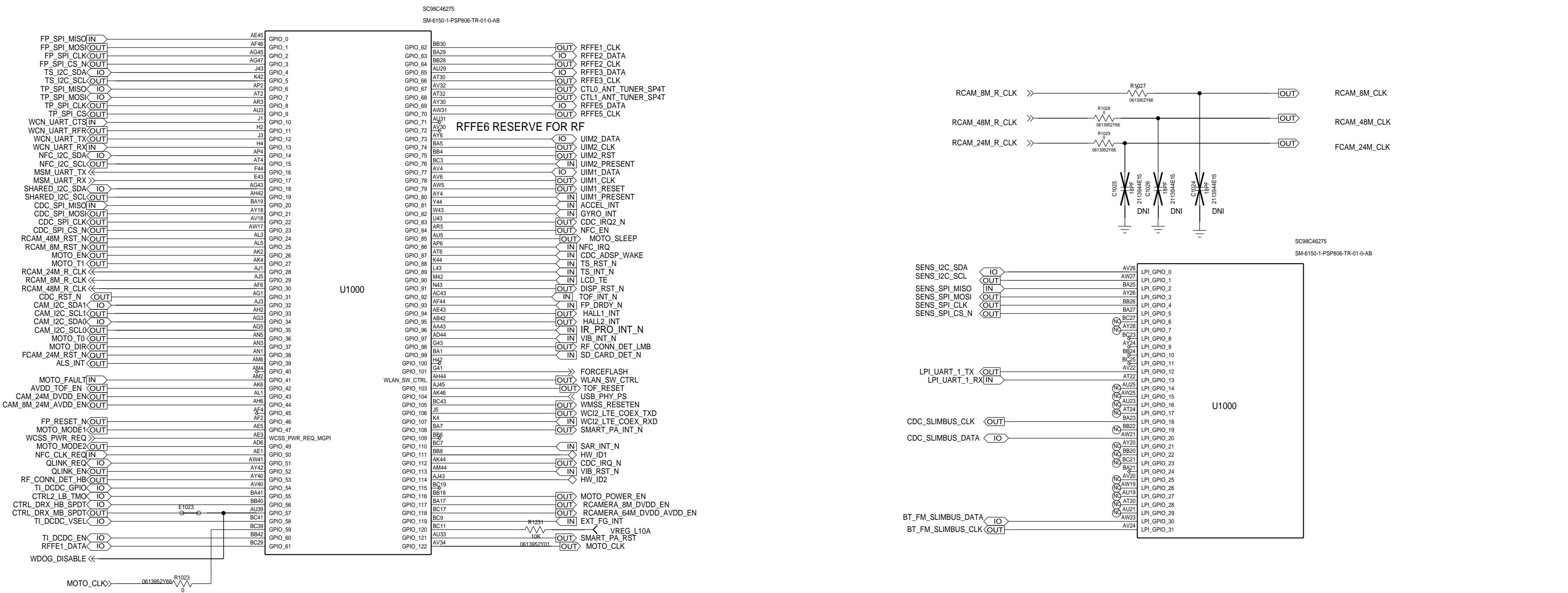


APPROVALS		MOTOROLA MOBILE DEVICES	
ENGINEER: MOTOROLA		BLOCK TITLE: ap_pmic	
LAST MODIFIED BY: MOTOROLA Thu Oct 10 16:02:46 2019			
MOTOROLA CONFIDENTIAL RESTRICTED		PROJECT NAME	REV
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B defender_sm6150.cpm			
CAD FILE NAME:			PAGE 10 OF 70

SM6150: GPIOS

REVISONS

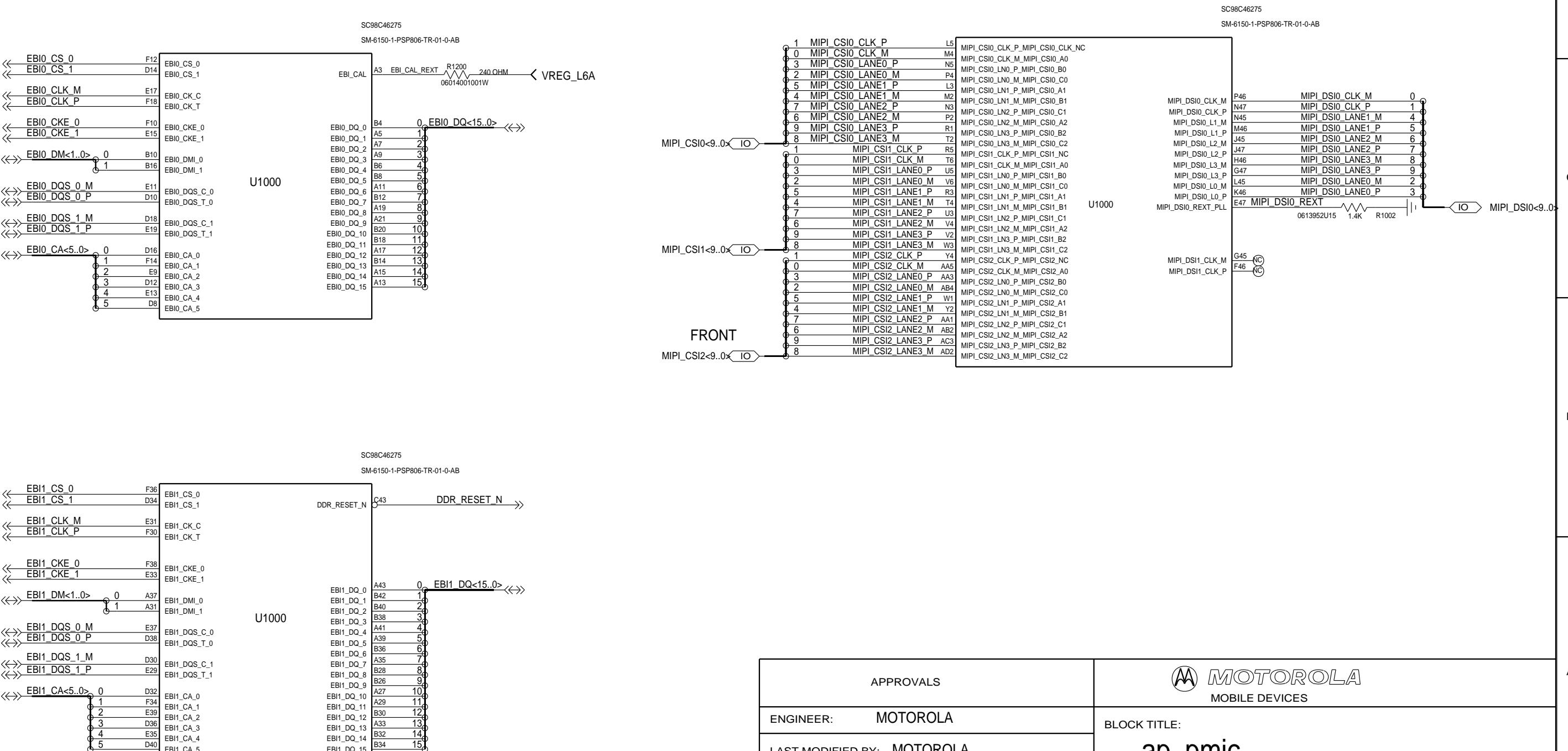
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APPROVALS		MOTOROLA MOBILE DEVICES	
ENGINEER:	MOTOROLA	BLOCK TITLE:	ap_pmic
LAST MODIFIED BY:	MOTOROLA		
Thu Oct 10 16:02:47 2019			
MOTOROLA CONFIDENTIAL RESTRICTED		PROJECT NAME	REV
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CAD FILE NAME:			PAGE 11 of 70

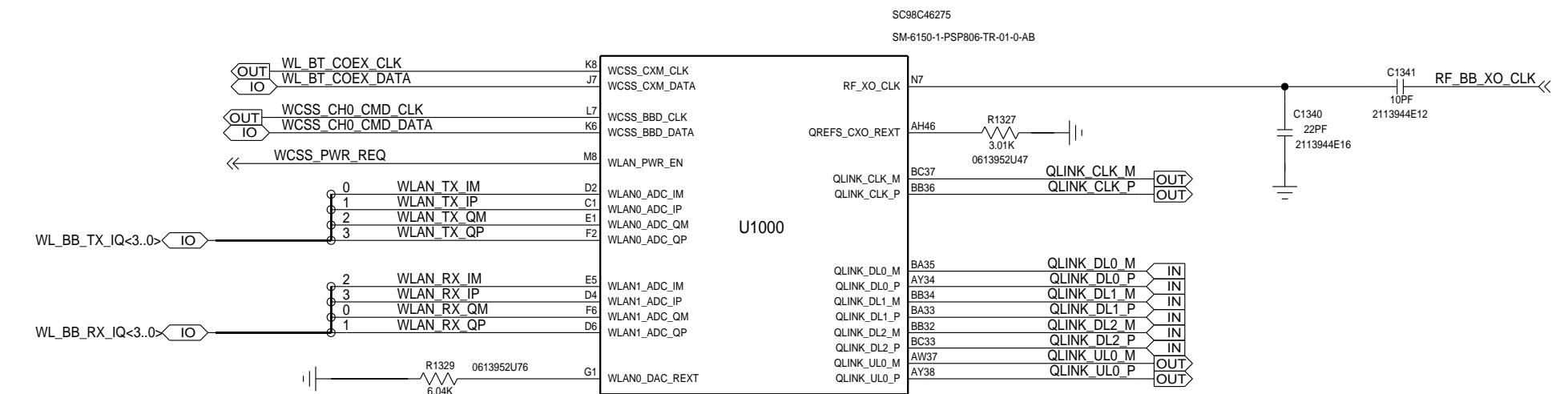
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REF 1200-1299



SM6150: WCSS/RF

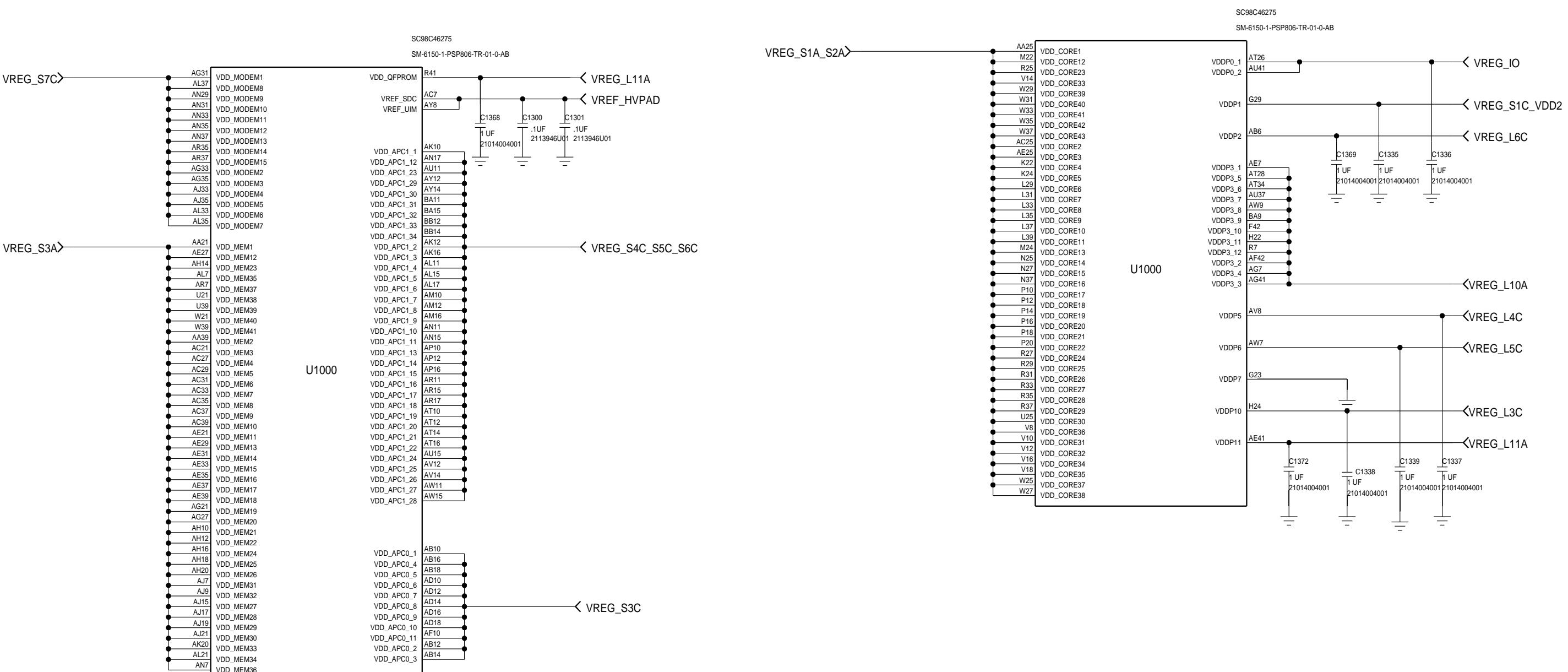
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APPROVALS		MOTOROLA MOBILE DEVICES	
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LAST MODIFIED BY: MOTOROLA Thu Oct 10 16:02:46 2019			
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			PAGE 13 OF 70

SM6150: PWR1/PWR2

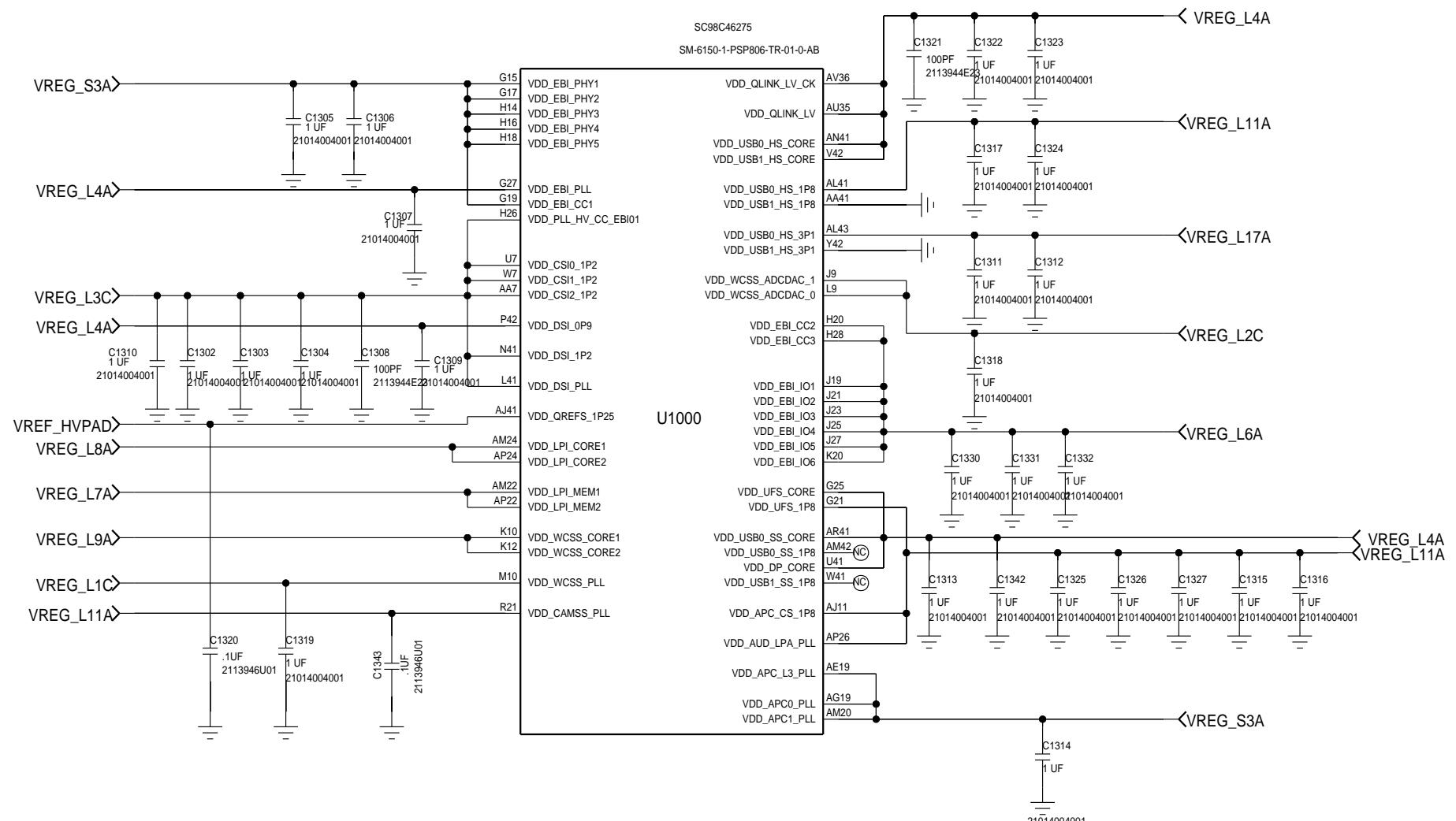
REF 1300-1399



APPROVALS		MOTOROLA MOBILE DEVICES	
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LAST MODIFIED BY: MOTOROLA Thu Oct 10 16:02:48 2019		ap_pmic	
MOTOROLA CONFIDENTIAL RESTRICTED	PROJECT NAME	REV	
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SM6150: PWR3

REF 1300-1399



APPROVALS

MOTOROLA
MOBILE DEVICES

ENGINEER: MOTOROLA

LAST MODIFIED BY: MOTOROLA
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BLOCK TITLE:

ap_pmic

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PROJECT NAME
B defender_sm6150.cpm

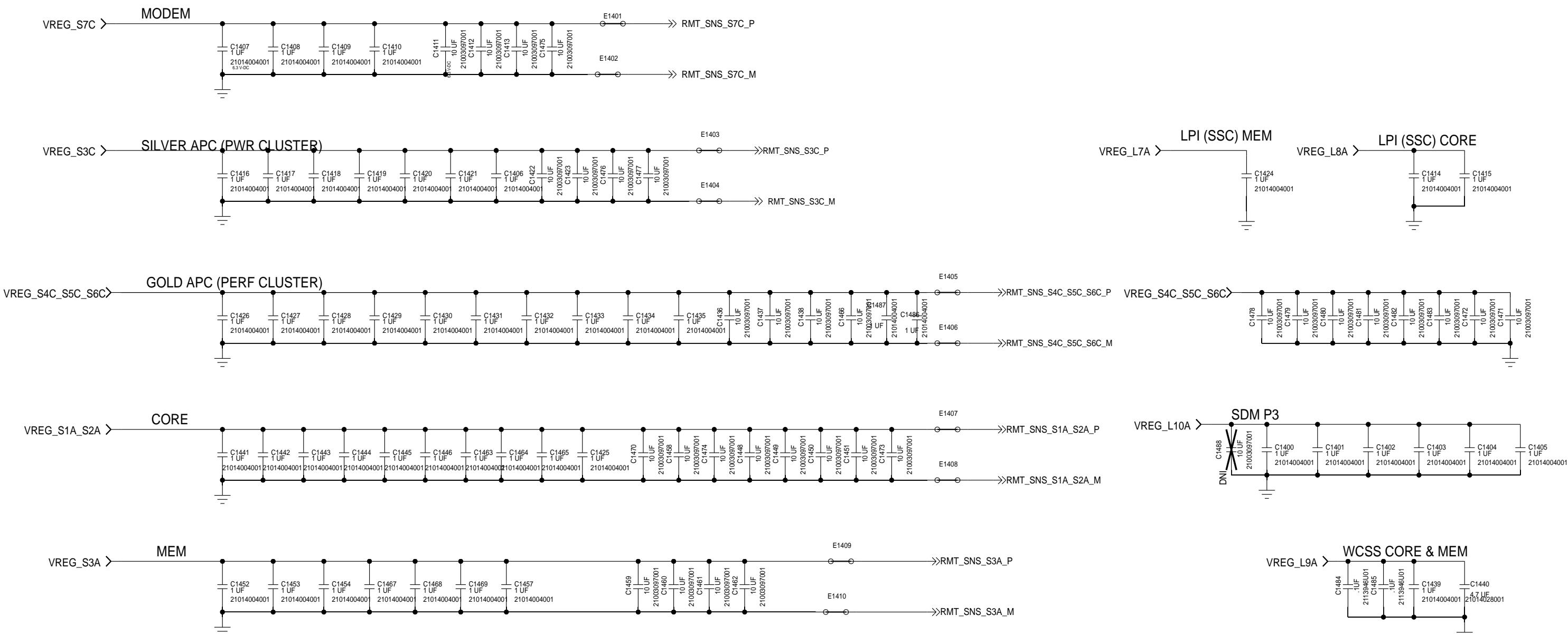
REV
01

CAD FILE NAME:

PAGE 15 OF 70

SM6150: DECAPS

REF 1400-1499



APPROVALS

MOTOROLA
MOBILE DEVICES

ENGINEER: MOTOROLA

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BLOCK TITLE:

ap_pmic

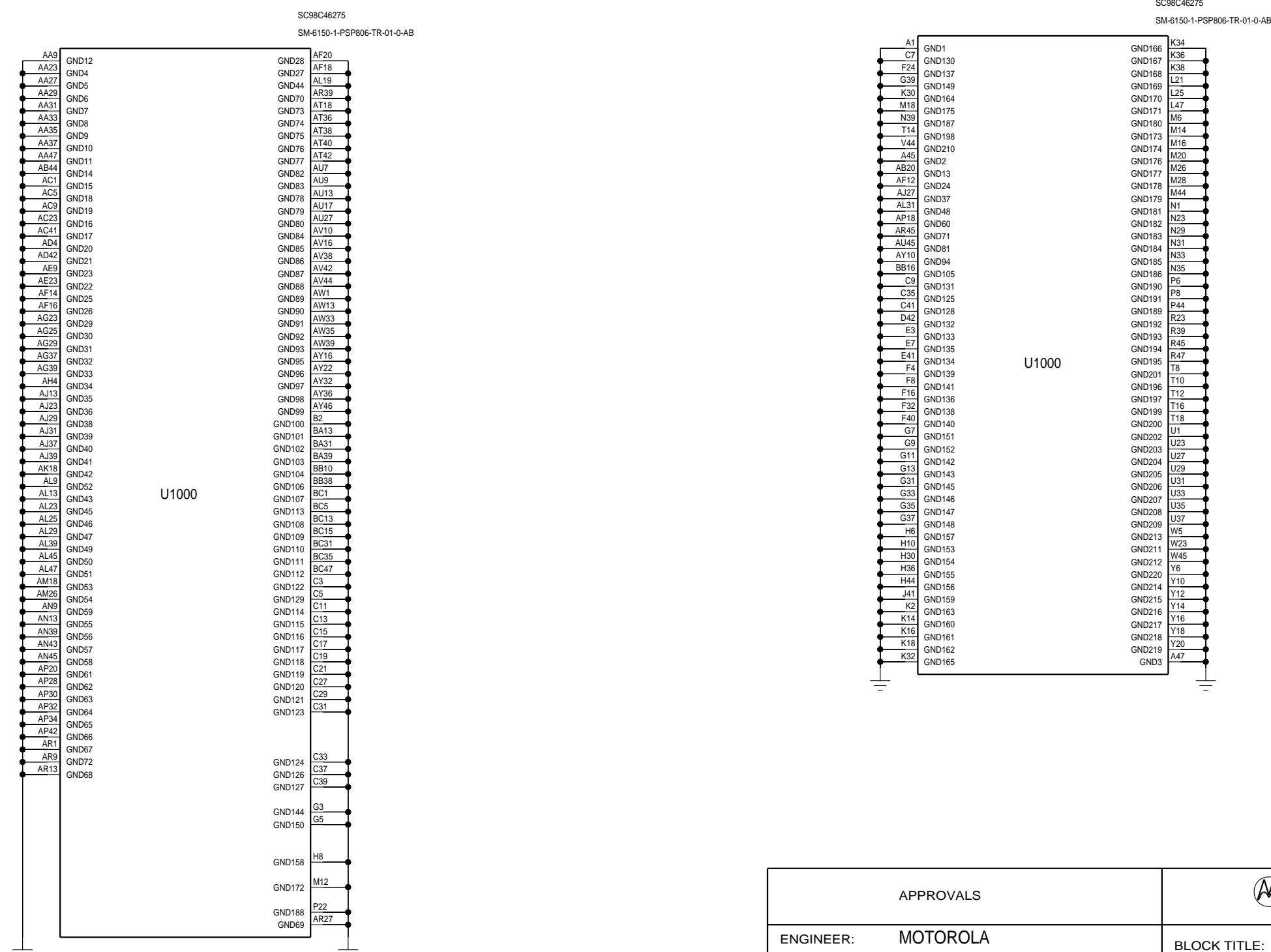
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defender_sm6150.cpm

REV
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CAD FILE NAME:

PAGE 16 OF 70

SM6150: GND

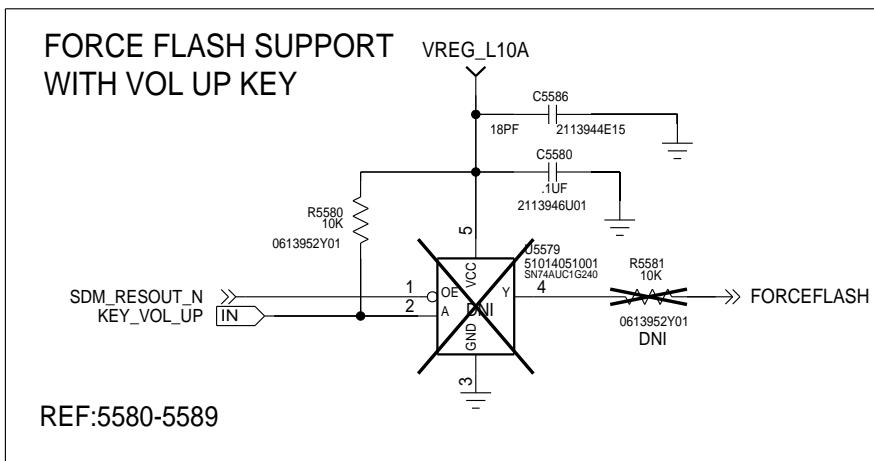
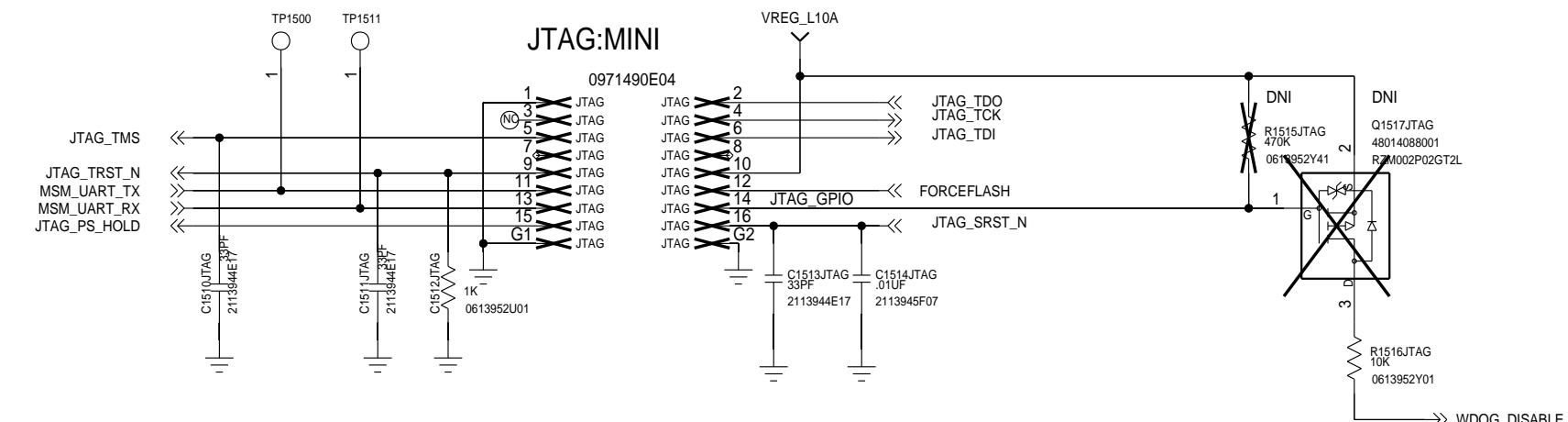


APPROVALS		MOTOROLA MOBILE DEVICES	
ENGINEER: MOTOROLA		BLOCK TITLE: ap_pmic	
LAST MODIFIED BY: MOTOROLA Thu Oct 10 16:02:49 2019			
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CAD FILE NAME:		REV 01	
		PAGE 17 OF 70	

SM6150: DEBUG

REF 1000-1099

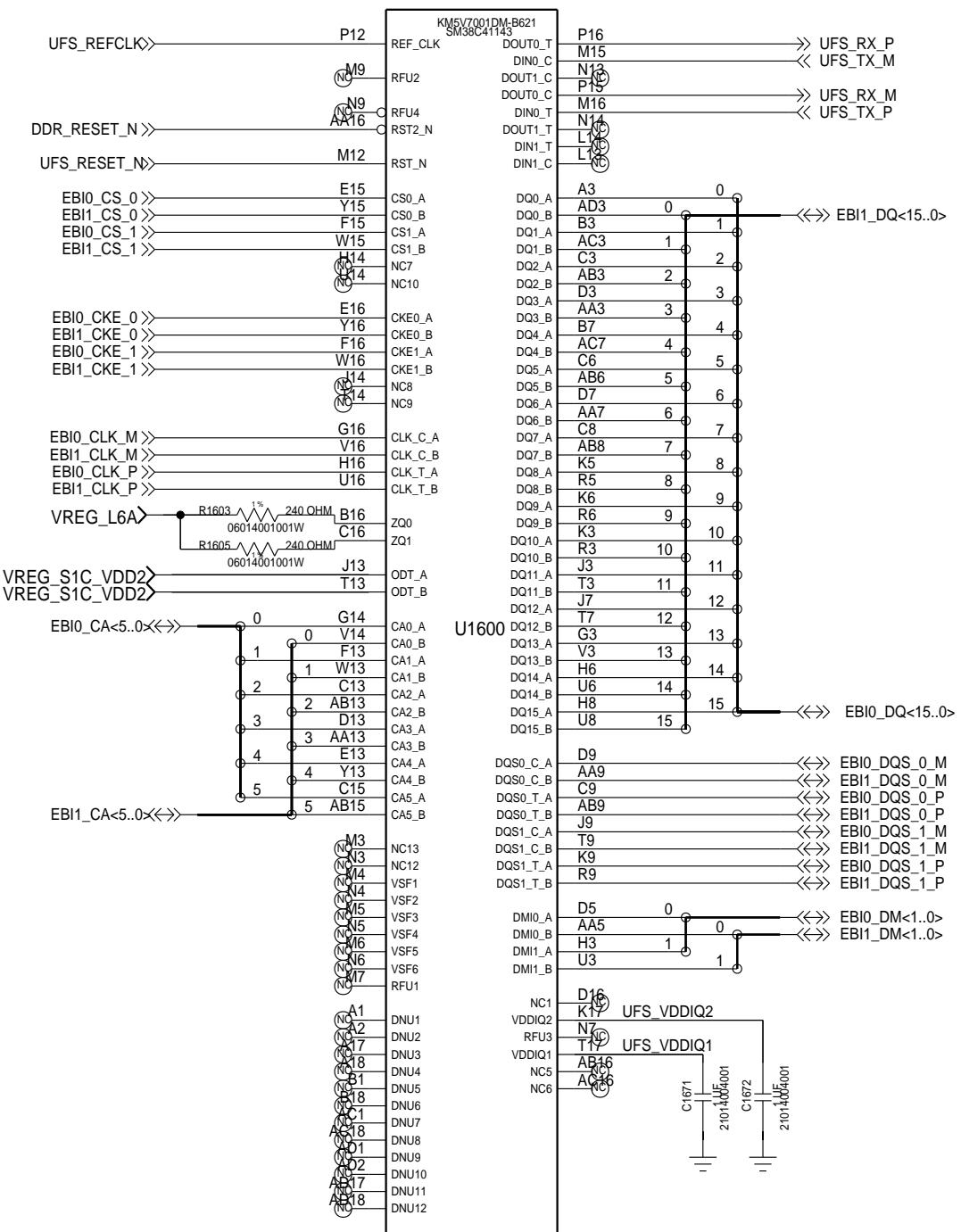
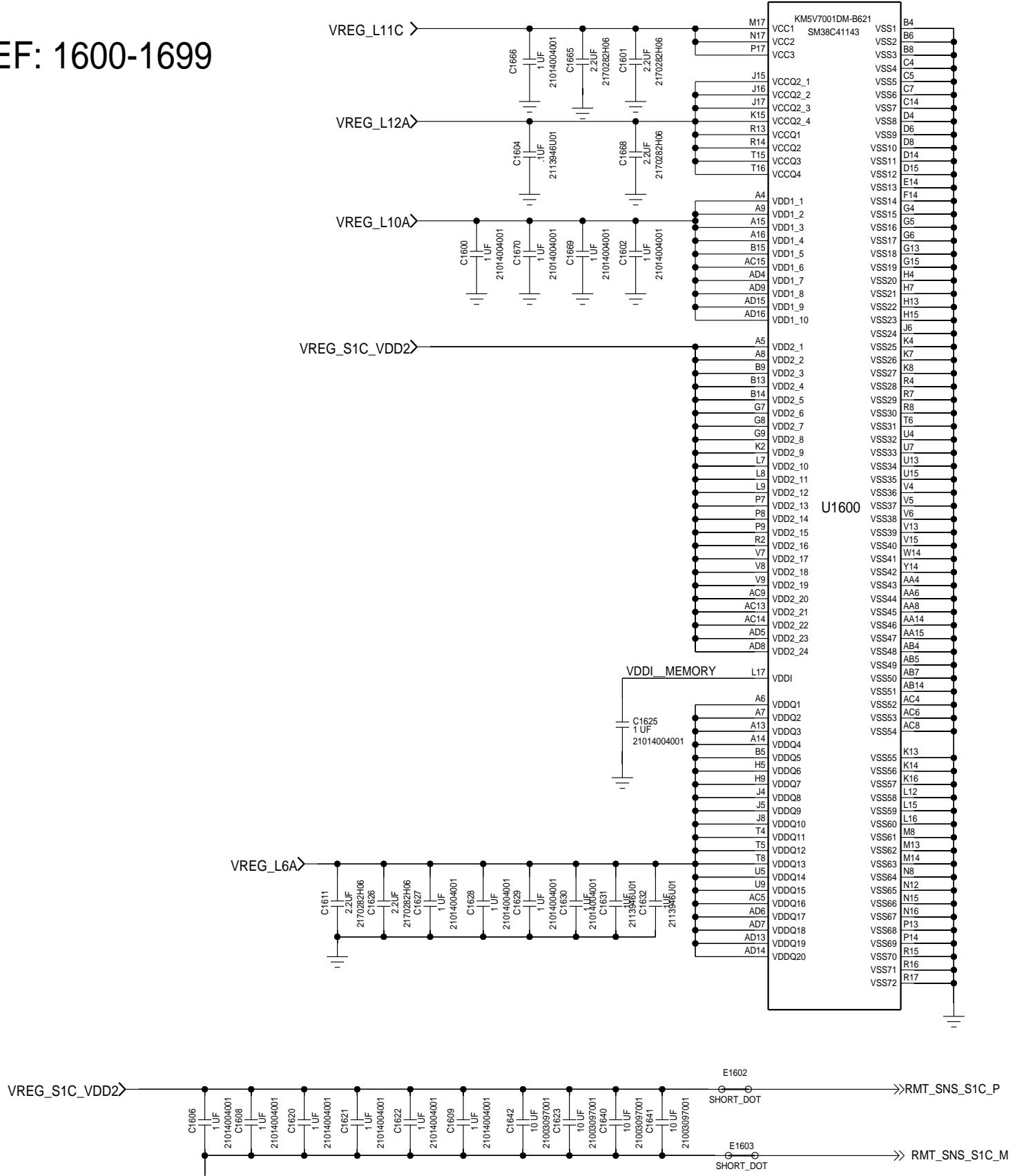
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APPROVALS		MOTOROLA MOBILE DEVICES	
ENGINEER:	MOTOROLA	BLOCK TITLE:	ap_pmic
LAST MODIFIED BY:	MOTOROLA		
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MOTOROLA CONFIDENTIAL RESTRICTED		PROJECT NAME	REV
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MEMORY: UMCP

REF: 1600-1699



APPROVALS

MOTOROLA
MOBILE DEVICES

ENGINEER: MOTOROLA

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ap_pmic

PROJECT NAME
B defender_sm6150.cpm

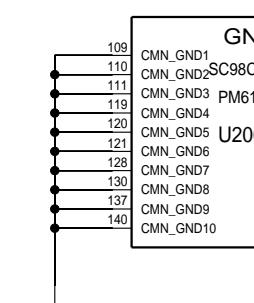
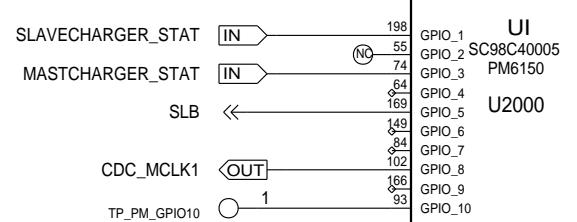
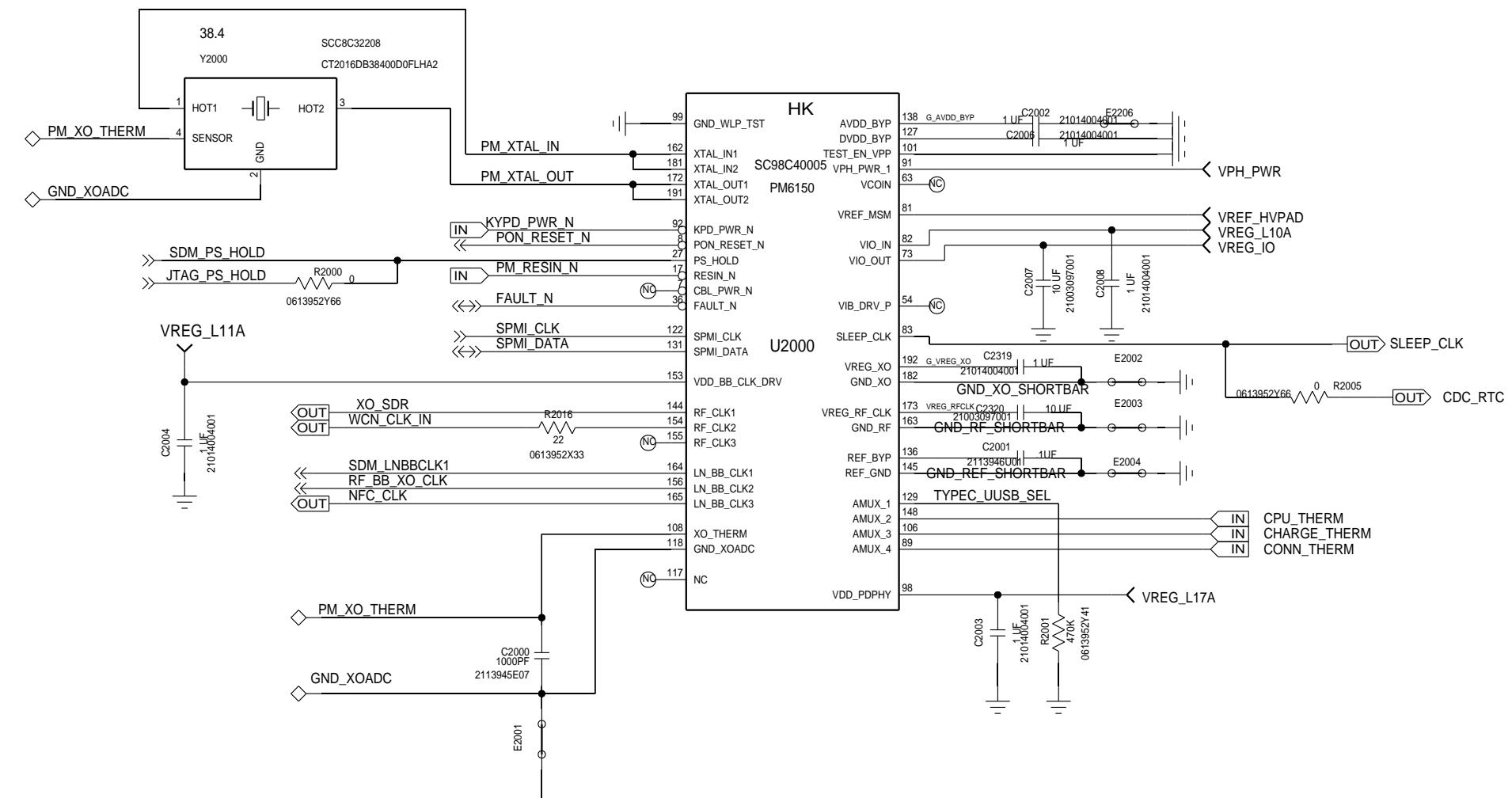
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CAD FILE NAME:

PAGE 19 OF 70

PM6150: CTRL/CLOCKS/GPIOS

REF: 2000-2099

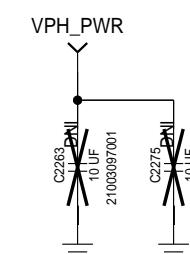
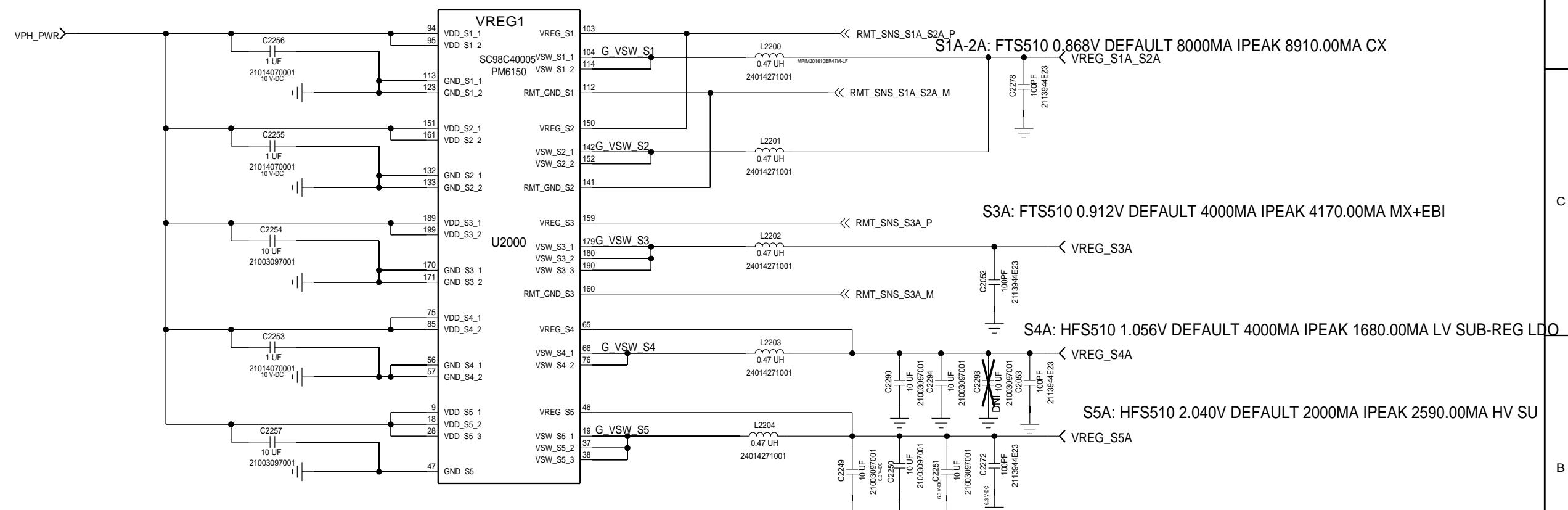


APPROVALS		MOTOROLA MOBILE DEVICES	
ENGINEER: MOTOROLA		BLOCK TITLE: ap_pmic	
LAST MODIFIED BY: MOTOROLA Thu Oct 10 16:02:46 2019		MOTOROLA CONFIDENTIAL RESTRICTED	
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		PROJECT NAME B defender_sm6150.cpm	REV 01
		CAD FILE NAME:	
		PAGE 20 OF 70	

PM6150: SMPS

REF: 2200-2299

S1A-2A: FTS510 0.868V DEFAULT 8000MA IPEAK 8910.00MA CX



APPROVALS

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MOTOROLA
MOBILE DEVICES

BLOCK TITLE:

ap_pmic

PROJECT NAME
defender_sm6150.cpm

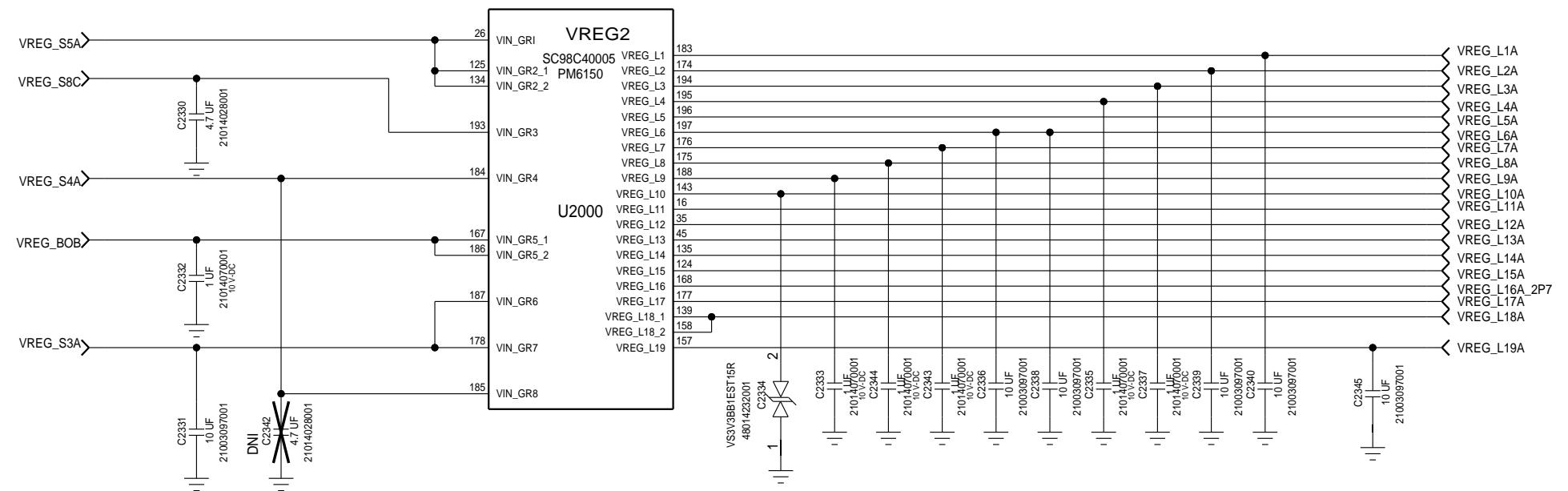
REV
01

CAD FILE NAME:

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PM6150: LDOS

REF: 2300-2399



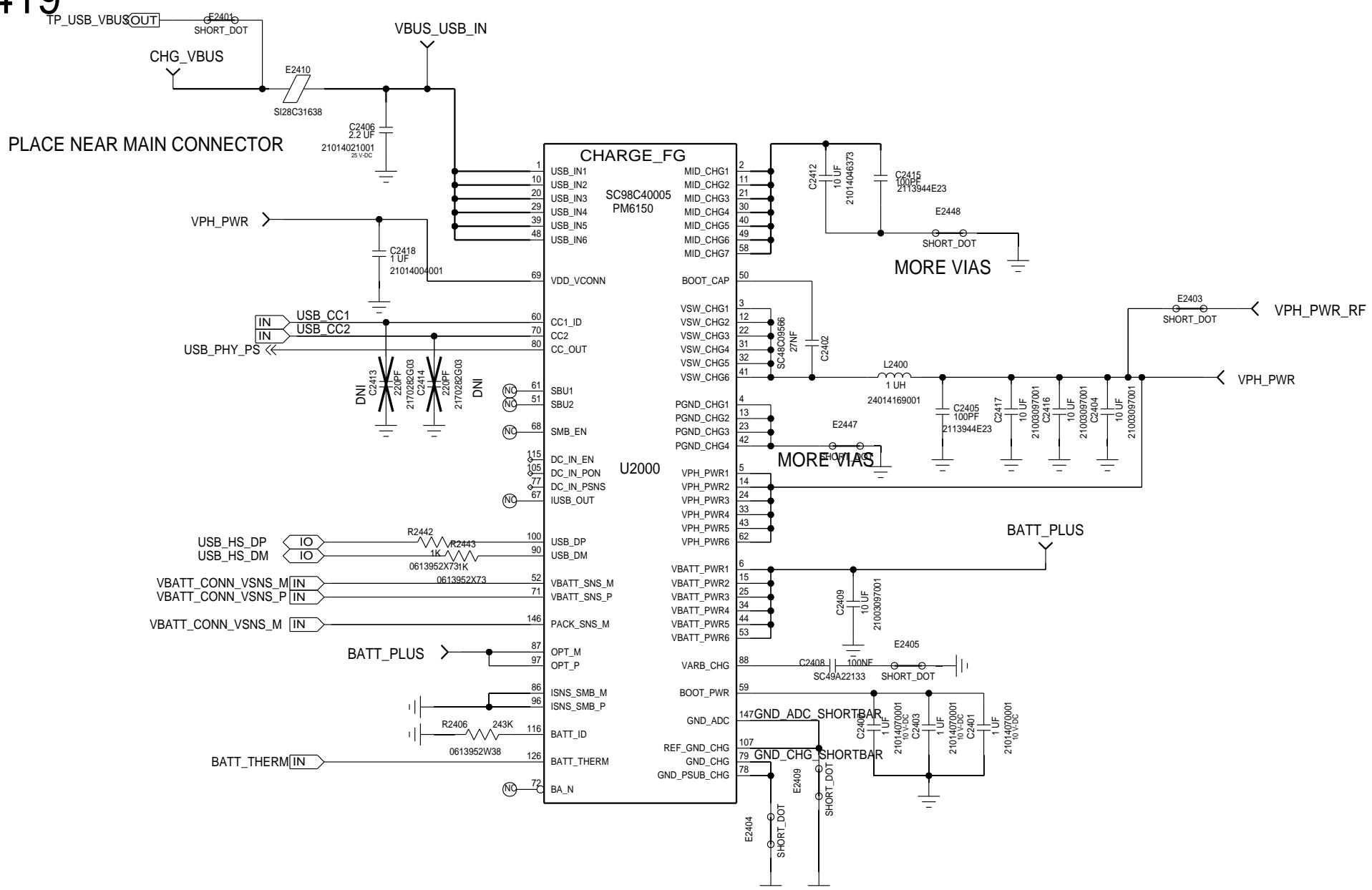
PSEUDO CAPLESS LDOS

FOR CAPLESS LDOS: IF DECAPS ON THE LOAD SIDE DO NOT ADD UP TO LDO SPEC, THEN INSTALL THE CAP CLOSE TO THE PMIC

APPROVALS		MOTOROLA MOBILE DEVICES	
ENGINEER: MOTOROLA		BLOCK TITLE:	
LAST MODIFIED BY: MOTOROLA Thu Oct 10 17:32:02 2019		ap_pmic	
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CAD FILE NAME:		REV 01	
		PAGE 22 OF 70	

PM6150: CHARGER

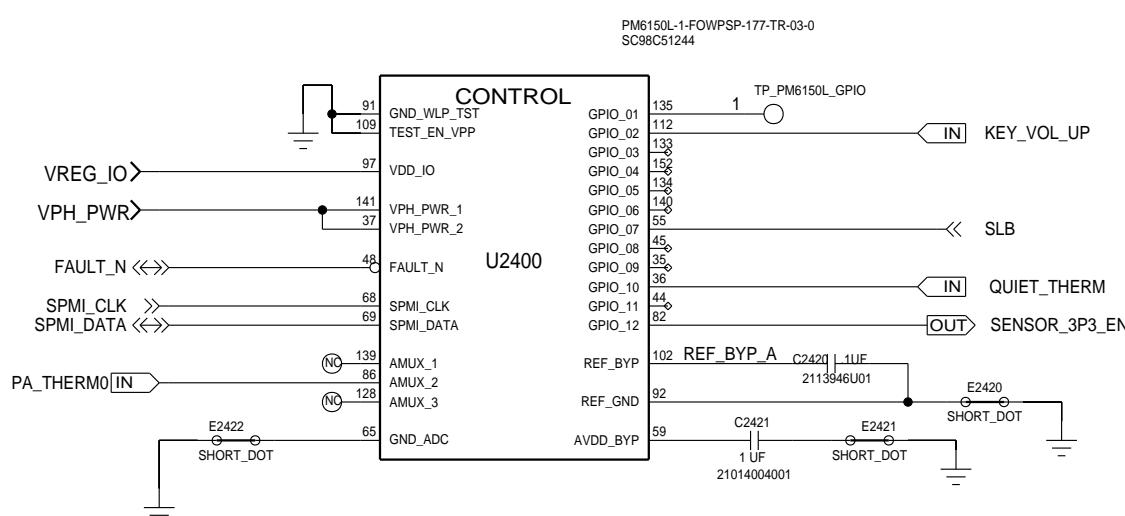
REF: 2400-2419



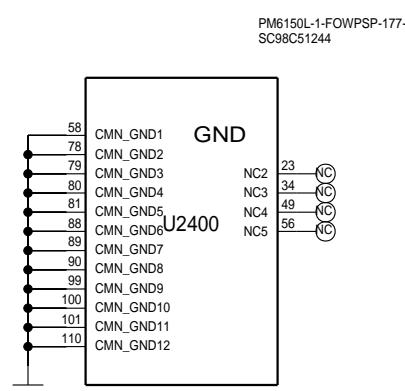
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ENGINEER: MOTOROLA		BLOCK TITLE: ap_pmic	
LAST MODIFIED BY: MOTOROLA Thu Oct 10 16:02:46 2019			
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CAD FILE NAME:		PAGE 23 OF 70	

PM6150L: GPIOS

REF: 2420-2439



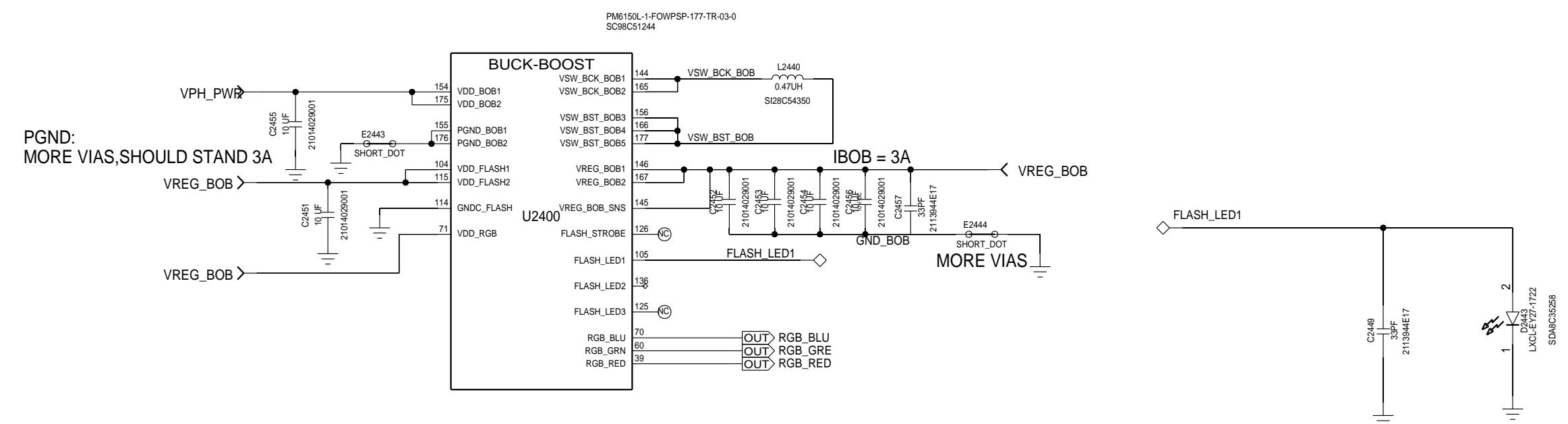
CAD NOTE: VIA DIRECTLY TO MAIN GND. DON'T CONNECT TO ANY OTHER GND



APPROVALS	MOTOROLA MOBILE DEVICES	
ENGINEER: MOTOROLA	BLOCK TITLE:	
LAST MODIFIED BY: MOTOROLA Thu Oct 10 16:02:45 2019	ap_pmic	
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CAD FILE NAME:		PAGE 24 OF 70

PM6150L: BOB_FLASH

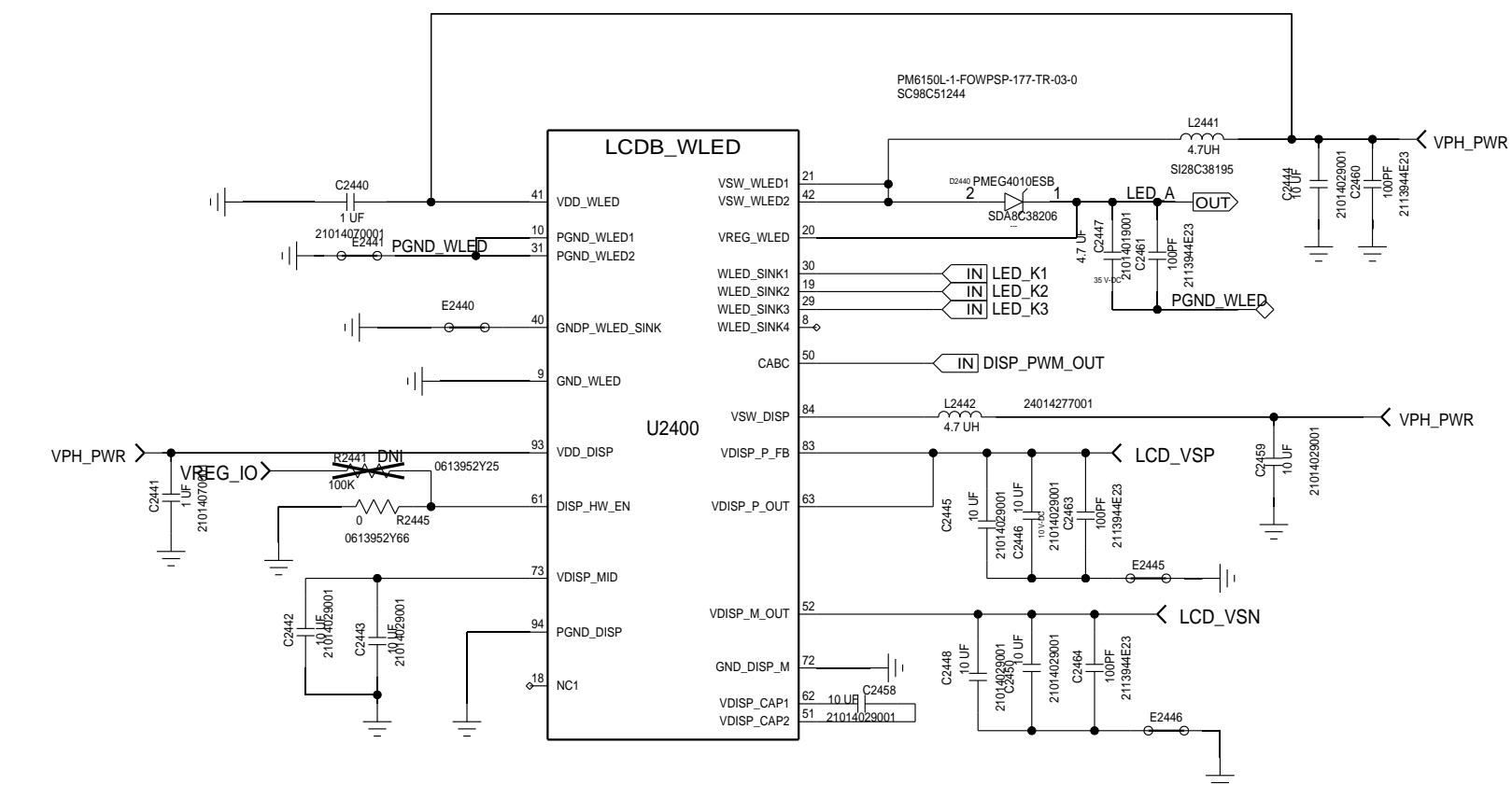
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CAD FILE NAME:		REV 01	
PAGE 25 OF 70			

PM6150L: LCD_BIAS &&WLED

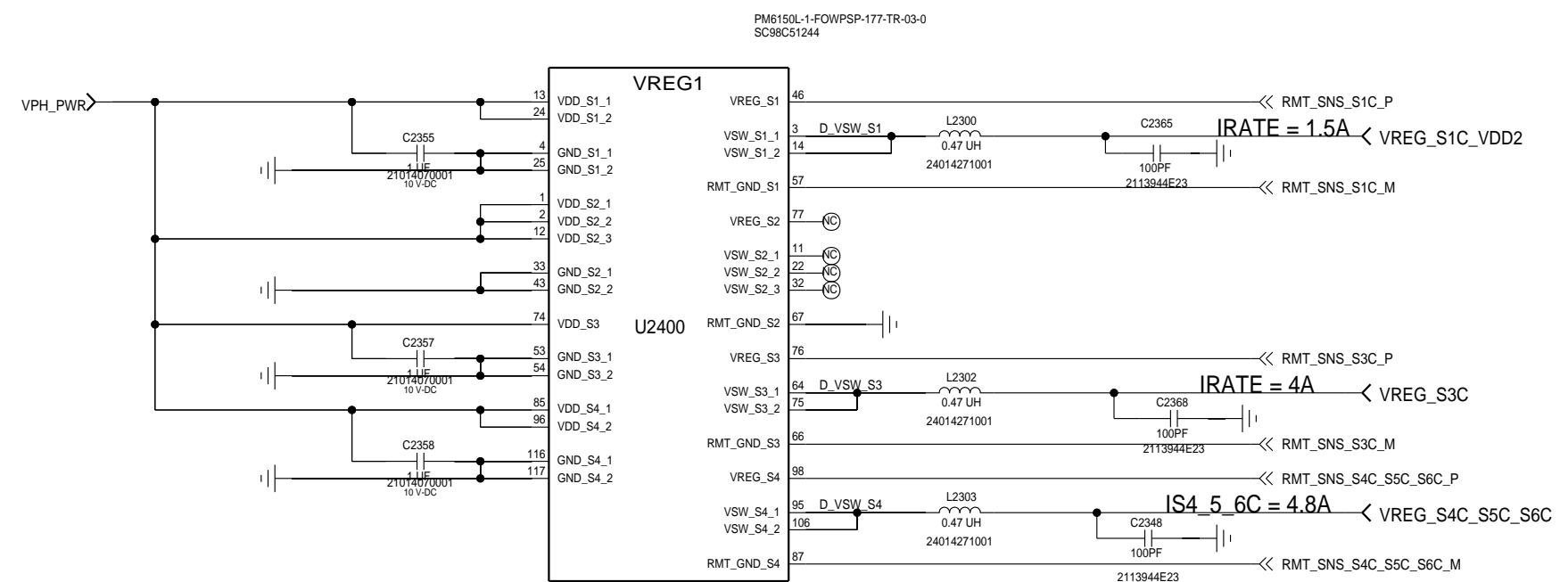
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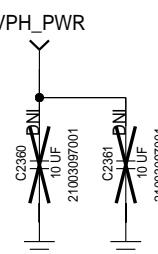
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CAD FILE NAME:		PAGE 26 OF 70	

PM6150L: SMPS1

REF: 2300-2399



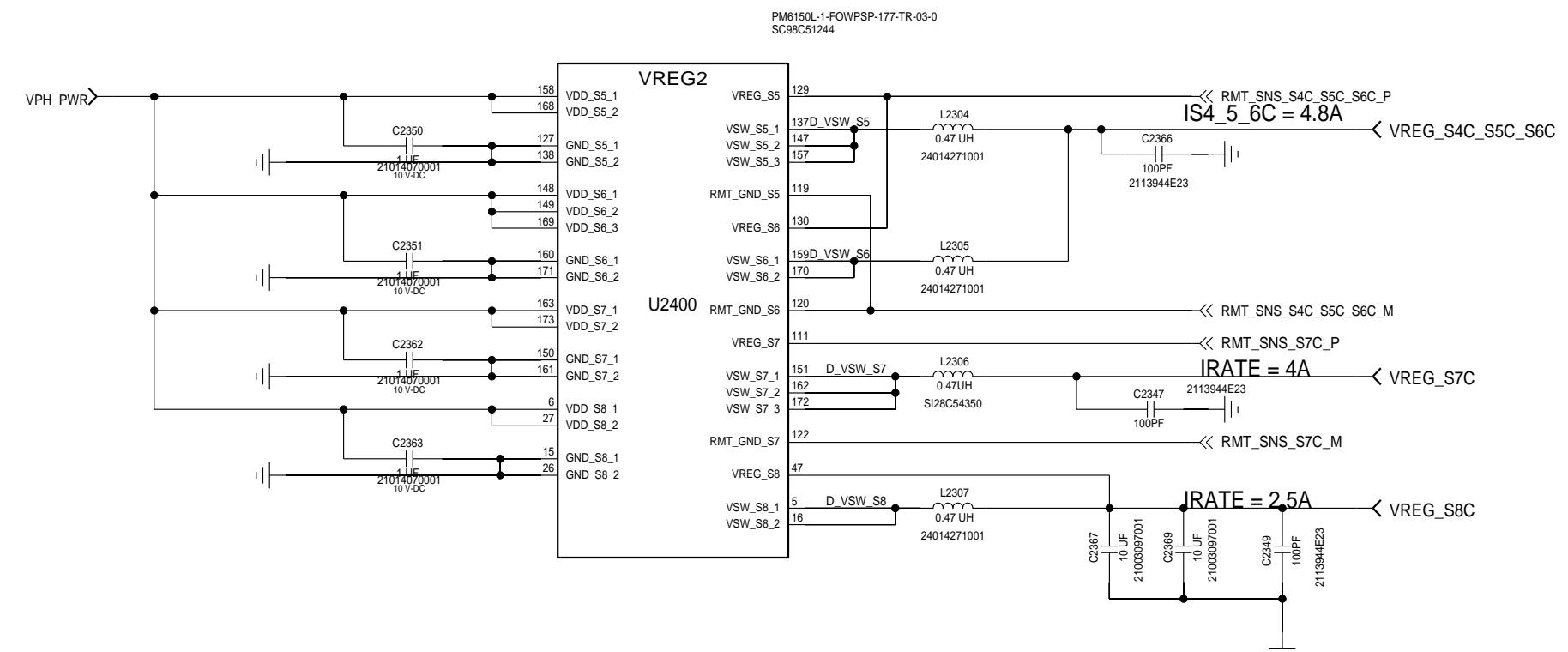
B_PLUS BULK _CAPS.DISTRIBUTE THESE ALL OVER U2400



APPROVALS		MOTOROLA MOBILE DEVICES	
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LAST MODIFIED BY: MOTOROLA Thu Oct 10 16:02:48 2019		ap_pmic	
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B	defender_sm6150.cpm	01	PAGE 27 OF 70
CAD FILE NAME:		PAGE 27 OF 70	

PM6150L: SMPS2

REF: 2300-2399



APPROVALS		MOTOROLA MOBILE DEVICES	
ENGINEER: MOTOROLA		BLOCK TITLE: ap_pmic	
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CAD FILE NAME:		REV 01	
PAGE 28 OF 70			1

PM6150L: LDOS

REF: 2300-2399

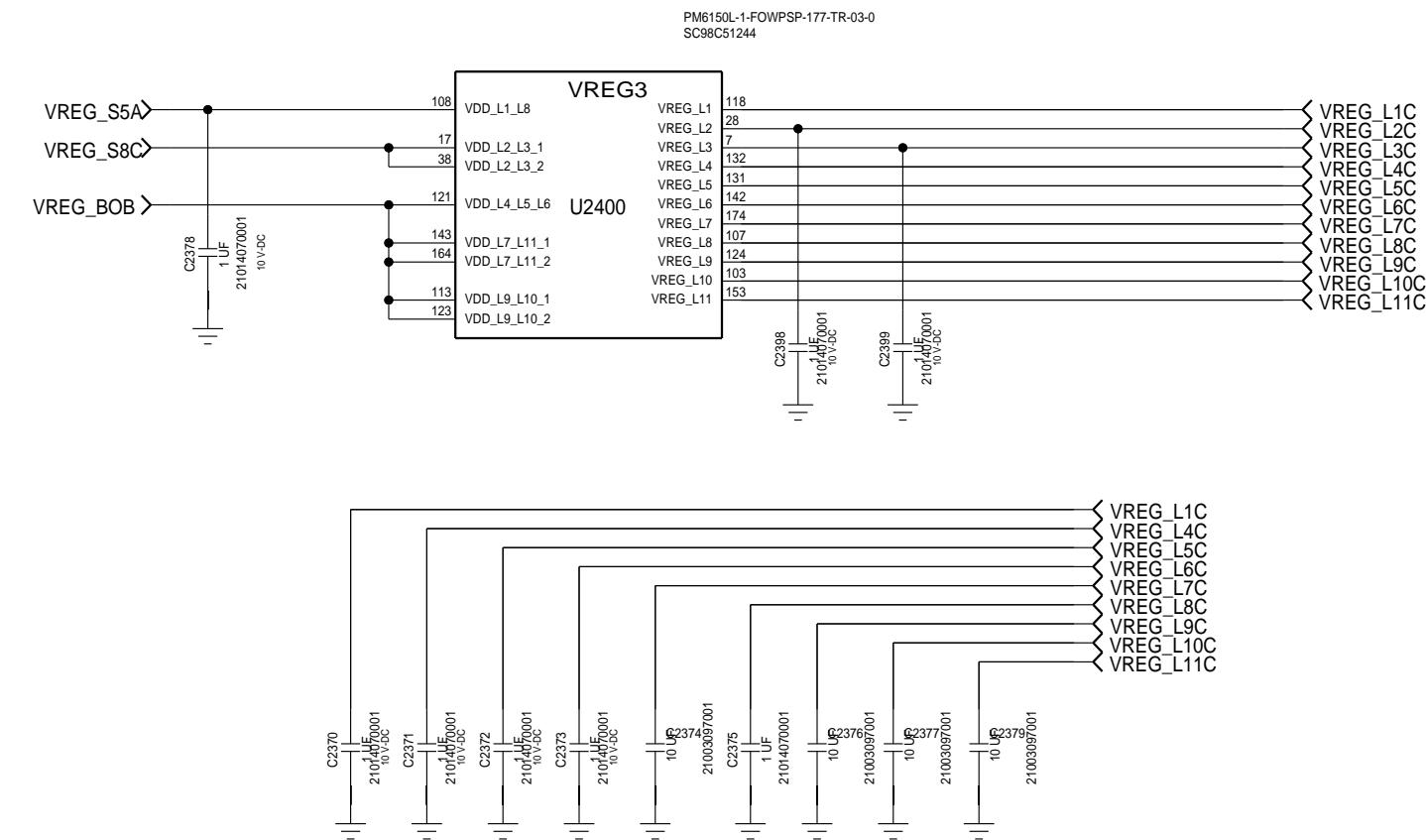


Table 3-6 Linear/low-voltage regulator summary for PM6150A/PM6150L

Regulator	Circuit type	I _{rated} (mA)	Default on booting voltage (V) ¹	Nominal voltage (V)	Sleep state	Specified range (V)	Expected use
L1	LDO510 LV PMOS 150	150	-	1.8	Off	1.504 to 2	WCN 1.8V XO
L2	LDO510 NMOS 600	600	-	1.304	Off	0.32 to 1.304	WCN 1.3V RFA
L3	LDO510 NMOS 600	600	1.232	1.232	Off	0.32 to 1.304	1.23V MSIPs
L4	LDO510 MV PMOS 150	150	-	1.808	Off	1.504 to 3.544	UIM1
L5	LDO510 MV PMOS 150	150	-	1.808	Off	1.504 to 3.544	UIM2
L6	LDO510 MV PMOS 150	150	2.96	2.96	Off	1.504 to 3.544	PX_2
L7	LDO510 MV PMOS 600	600	-	3.008	Off	1.504 to 3.544	ALS sensor 3V, TSP 3V
L8	LDO510 LV PMOS 150	150	-	1.8	Off	1.504 to 2	1.8V environment sensors
L9	LDO510 MV PMOS 600	600 ²	2.96	2.96	Off	1.504 to 3.544	SD_MMC 3V
L10	LDO510 MV PMOS 600	600	-	3.304	Off	1.504 to 3.544	WCN 3.3V
L11	LDO510 MV PMOS 600	600	2.96	2.96	Off	1.504 to 3.544	UFS 2.96V

1. Voltages shown in the Default on booting voltage (V) column indicate that the regulator is enabled as part of the hardware default-on sequence.

2. LDO9 is tested and used beyond its I_{rated} limit for SD3.0 support.

PSEUDO CAPLESS LDOS

FOR CAPLESS LDOS: IF DECAPS ON THE LOAD SIDE DO NOT ADD UP TO LDO SPEC, THEN INSTALL THE CAP CLOSE TO THE PMIC

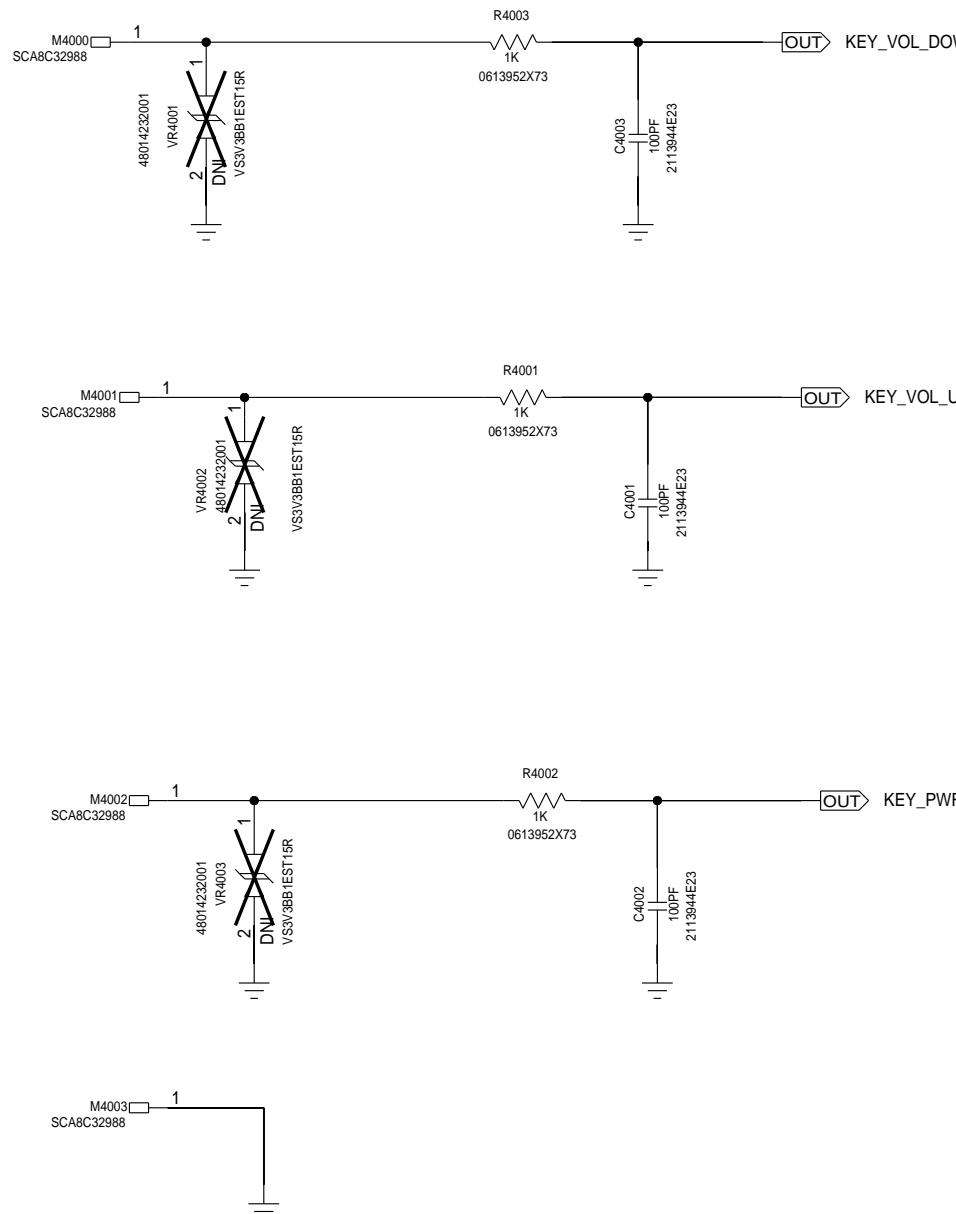
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CAD FILE NAME:		PAGE 29 OF 70	

UI: SIDE KEY

VOL_UP/DOWN/GND TPS NEED P0 BRINGUP ONLY

REF:4000-4199

MECHANICAL KEYS

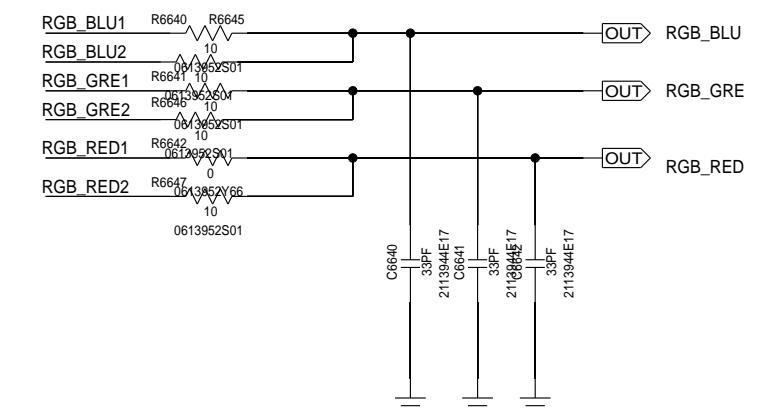
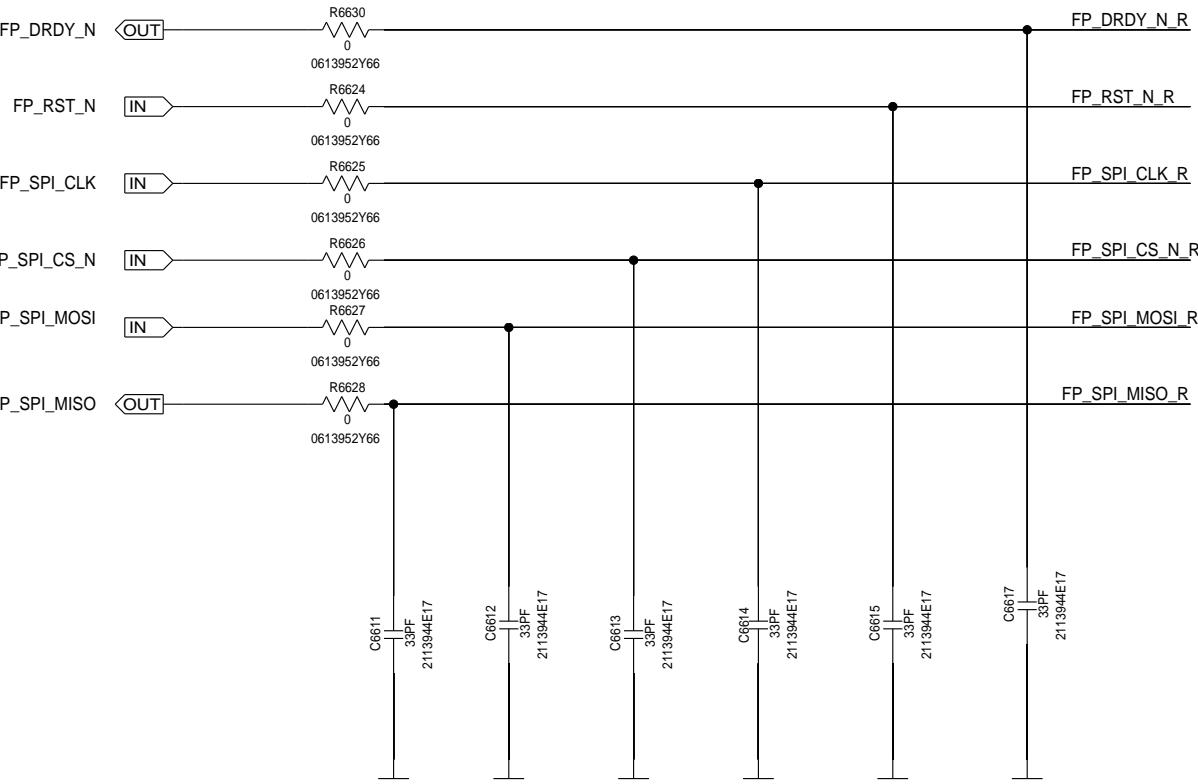
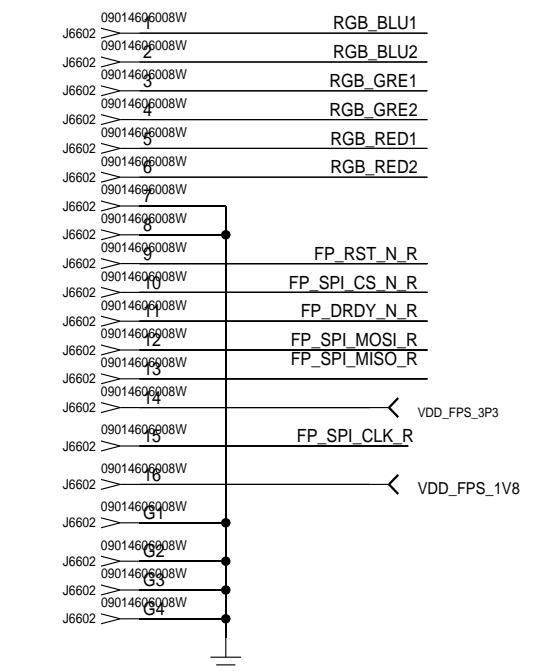
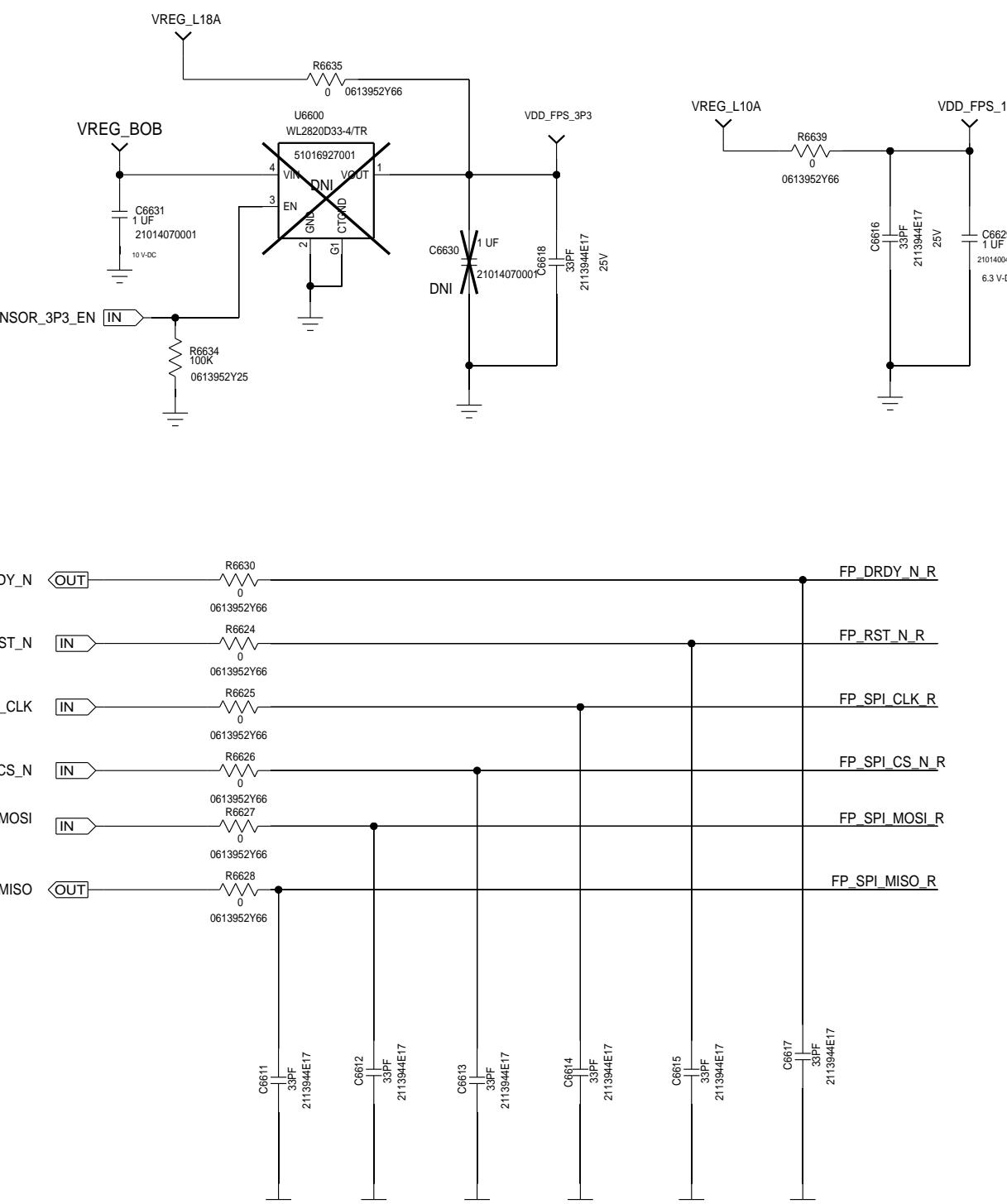


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B defender_sm6150.cpm			PAGE 30 OF 70

UI: FPS

REF: 6600 - 6699

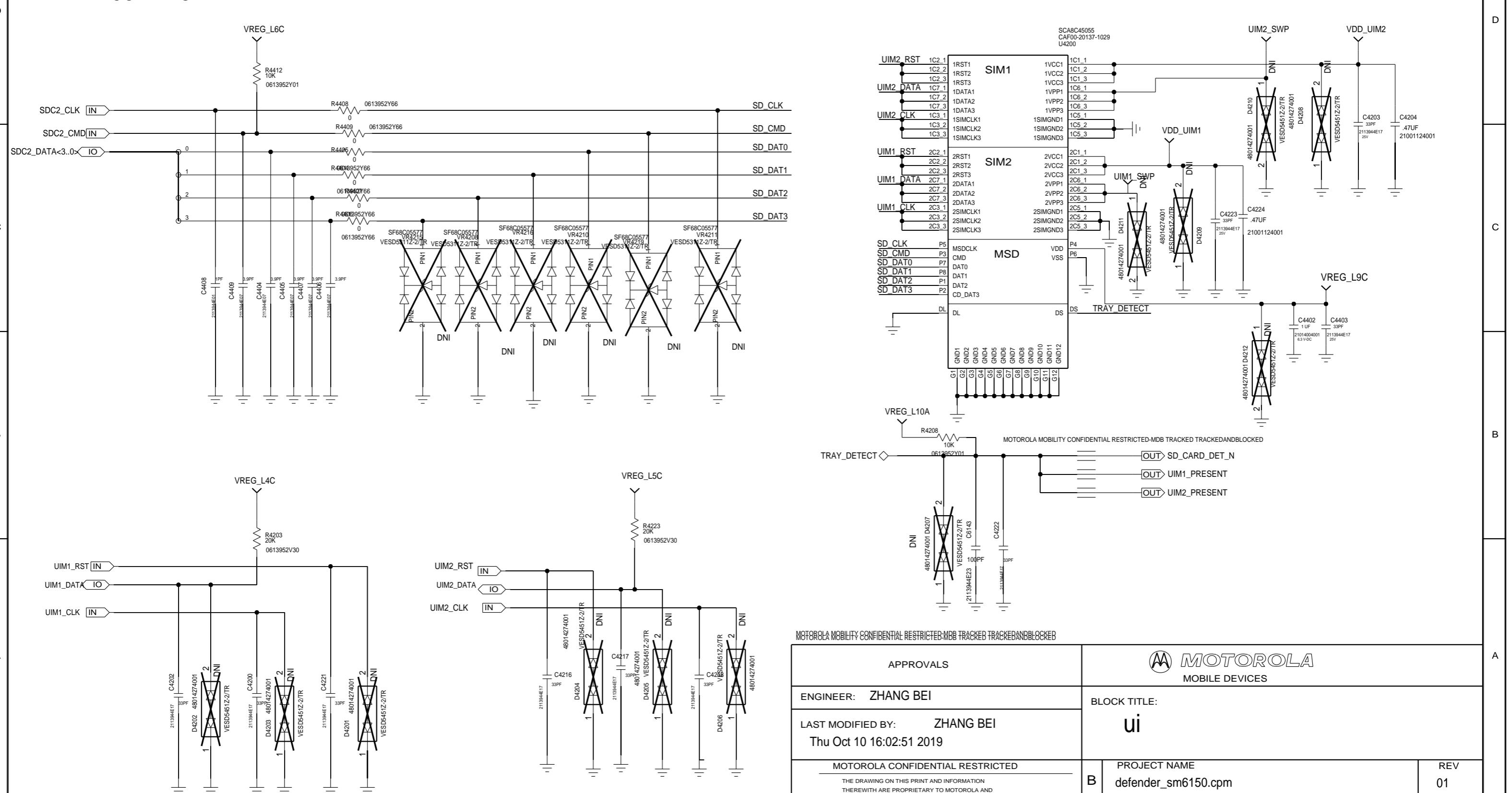
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CAD FILE NAME:			PAGE 31 OF 70

UI: UIM & SD

REF:4200-4219



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ENGINEER: ZHANG BEI

LAST MODIFIED BY: ZHANG BEI

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BLOCK TITLE:

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PROJECT NAME
defender_sm6150.cpm

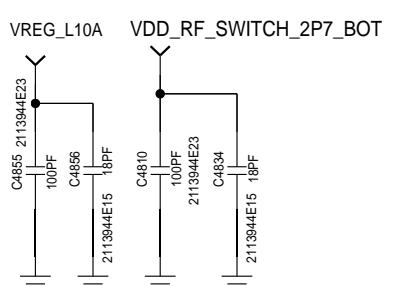
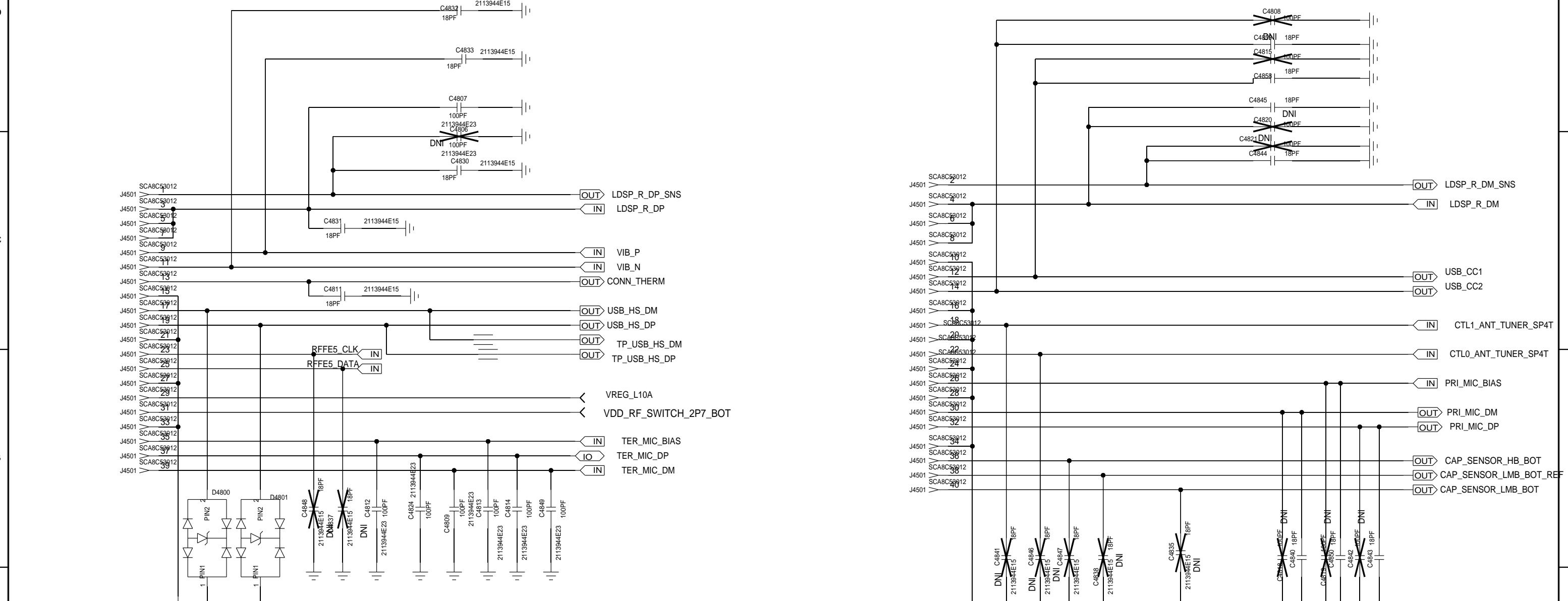
REV
01

CAD FILE NAME:

PAGE 32 OF 70

2P7 DECIDED BY TOP OR BOTTOM SIDE?

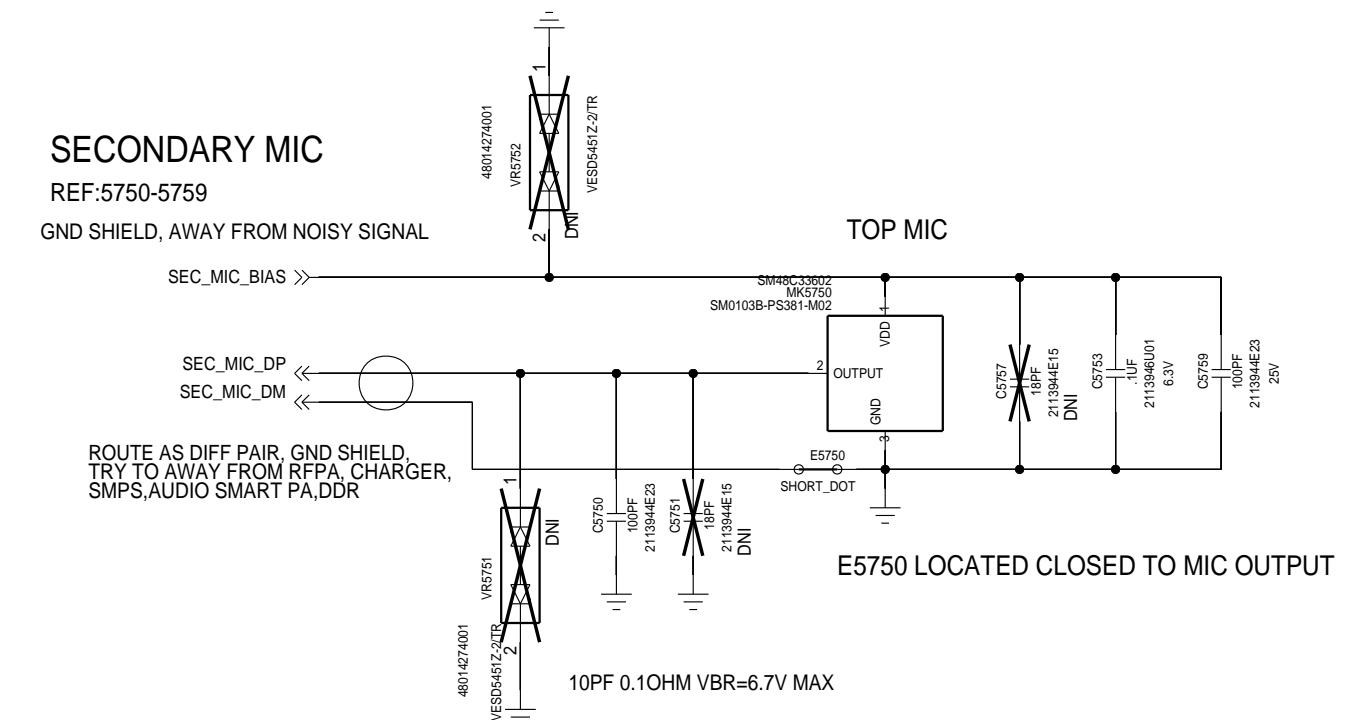
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LAST MODIFIED BY: CHUNLEI YOU		ui	
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CAD FILE NAME:		PAGE 33 OF 70	

Audio:MICS

REF: 5700-5789



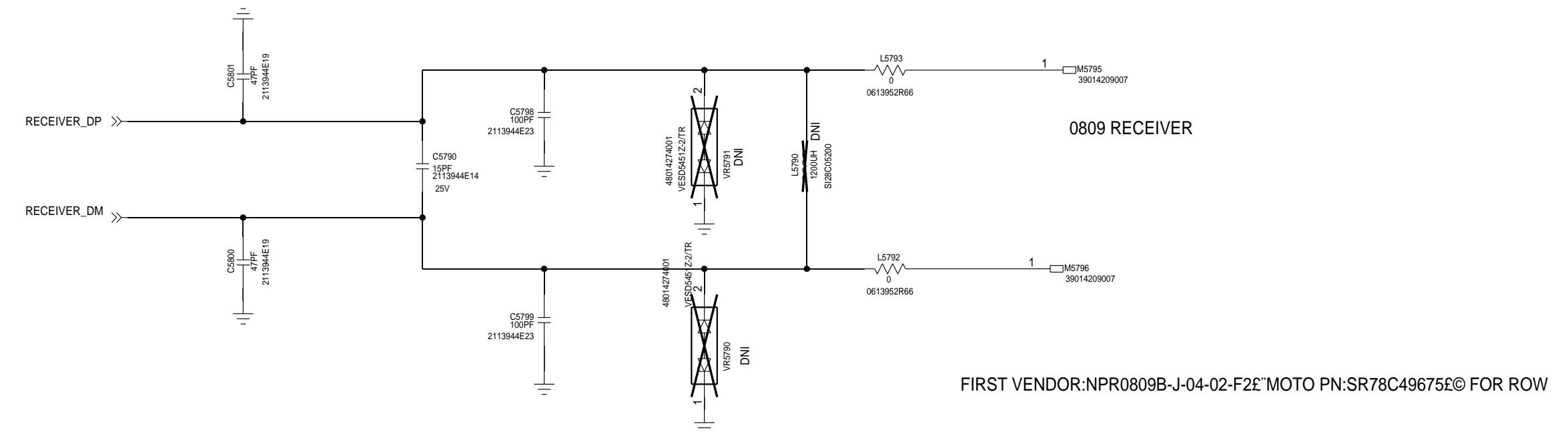
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ENGINEER: ZHANG BEI	BLOCK TITLE: audio	
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CAD FILE NAME:	PAGE 34 OF 70	

AUDIO: Receiver

ROUTE AS DIFF PAIR
LINE WIDTH >=1MM
ADD STITCHING VIAS ALONGSIDE IF POSSIBLE

LOUDSPEAKER/EAR PIECE

REF:5790-5799

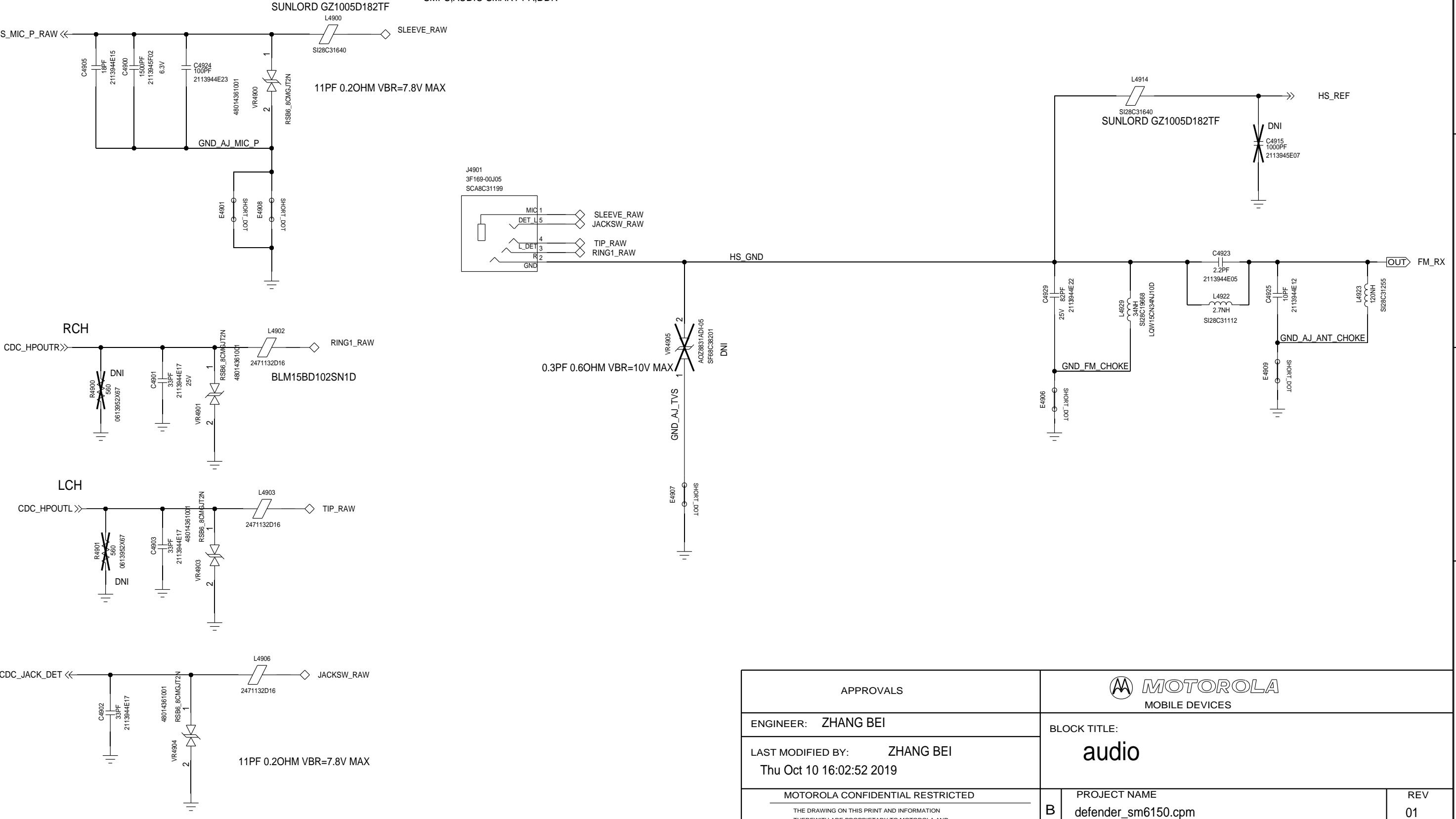


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CAD FILE NAME:		REV 01	
PAGE 35 OF 70			

AFE: 3.5MM HEADSET

REF:4900-4949

GND SHIELD,
TRY TO AWAY FROM RFPA, CHARGER,
SMPS,AUDIO SMART PA,DDR

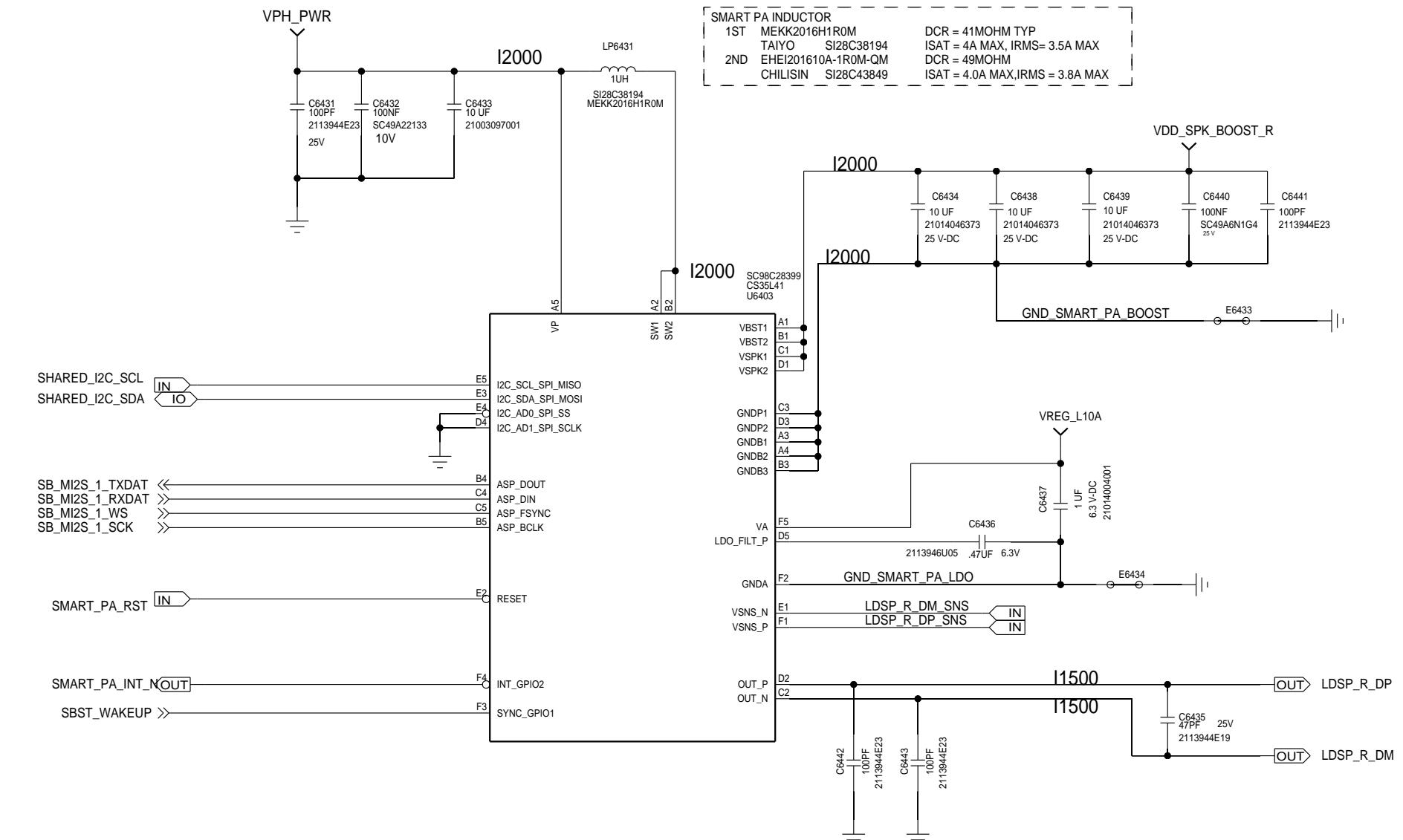


AUDIO: SMART BOOST

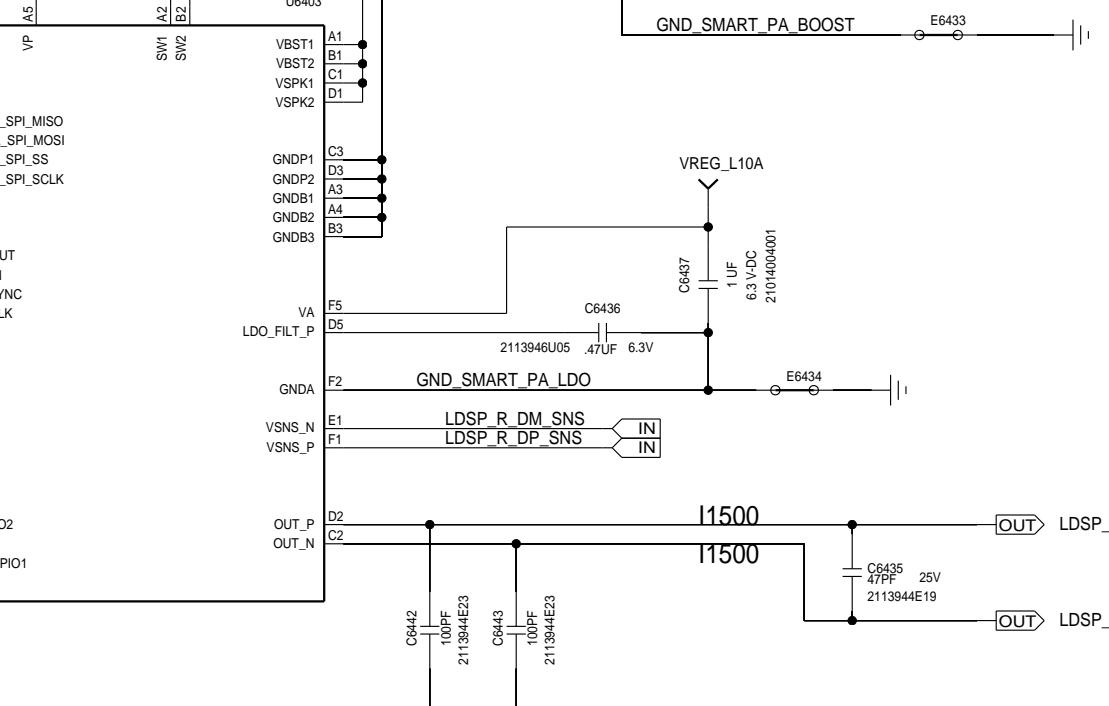
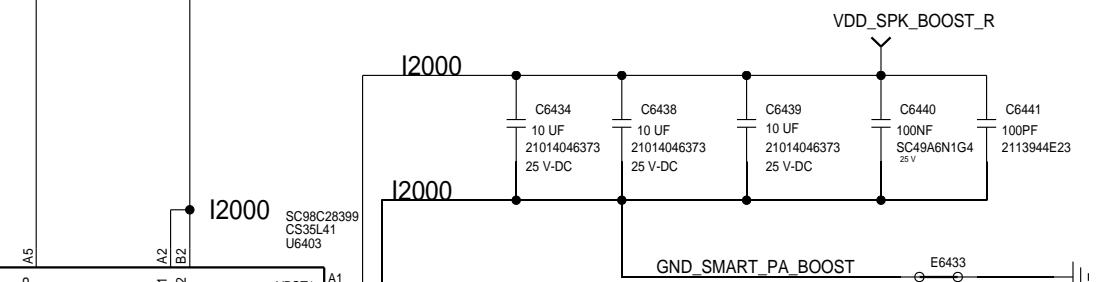
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*** BOOST IC I2C ADD. 0X??

RESERVE 6500-6599



SMART PA INDUCTOR
 1ST MEKK2016H1R0M DCR = 41MOHM TYP
 TAIYO SI28C38194 ISAT = 4A MAX, IRMS= 3.5A MAX
 2ND EHEI201610A-1R0M-QM DCR = 49MOHM
 CHILISIN SI28C43849 ISAT = 4.0A MAX,IRMS = 3.8A MAX



APPROVALS

MOTOROLA
MOBILE DEVICES

ENGINEER: ZHANG BEI

LAST MODIFIED BY: ZHANG BEI

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B defender_sm6150.cpm

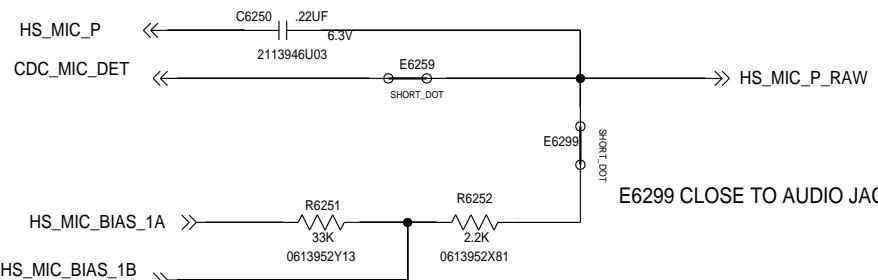
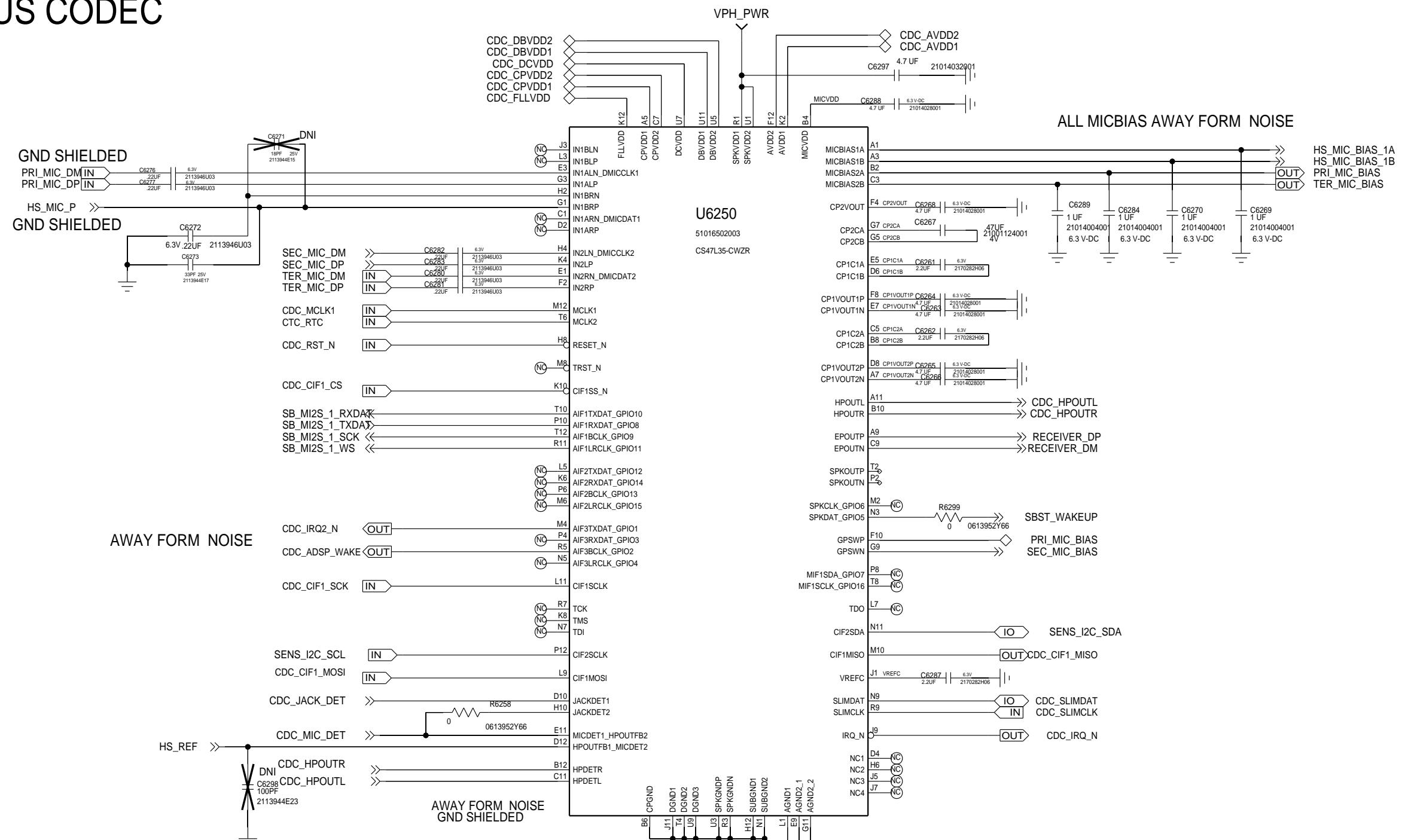
REV
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CAD FILE NAME:

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AUDIO: CIRRUS CODEC

REF 6250-6299



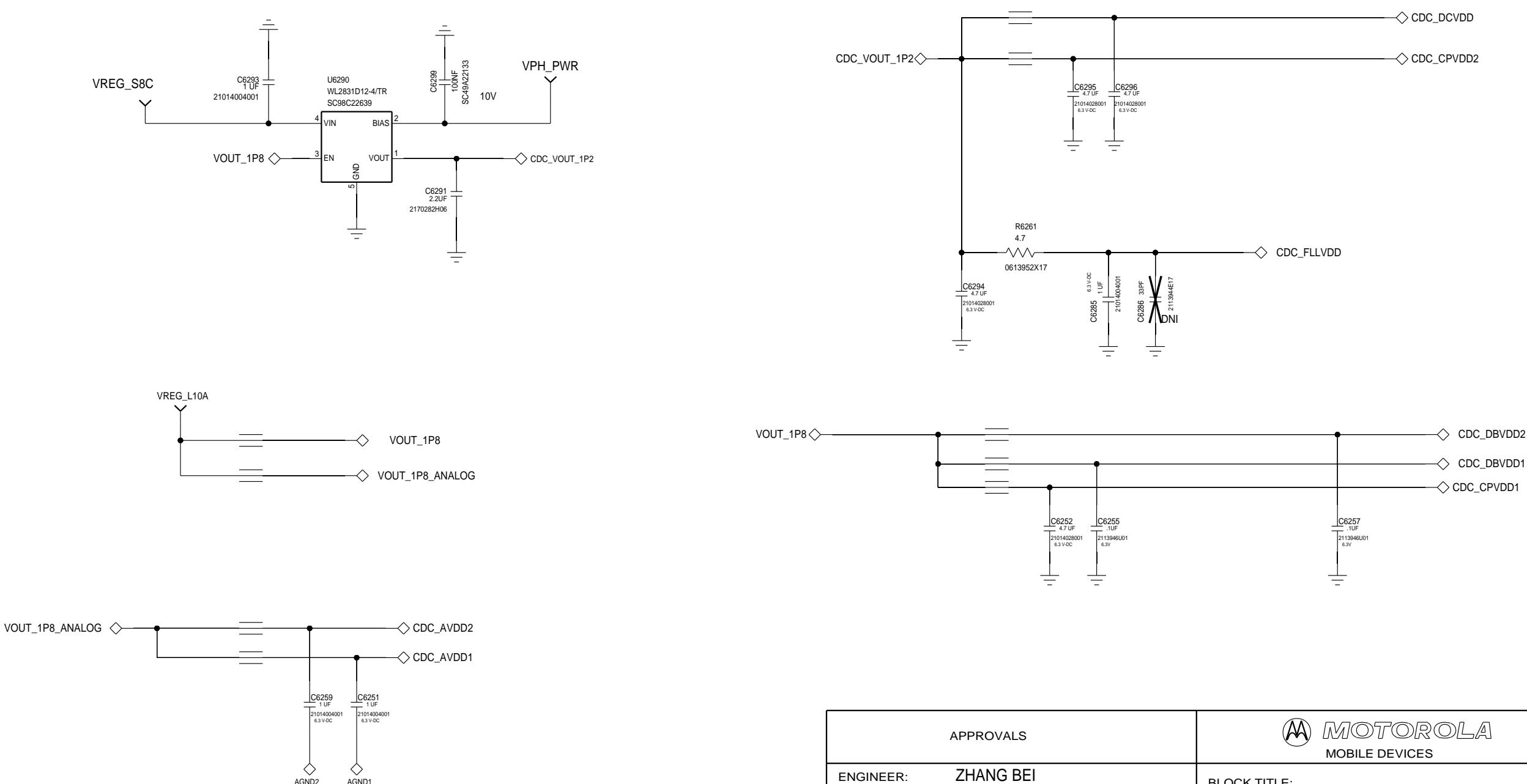
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ENGINEER:	ZHANG BEI	BLOCK TITLE:	audio
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Thu Oct 10 16:02:52 2019			
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AUDIO: CODEC POWER

REF 6250-6299

1.2V POWER SUPPLY

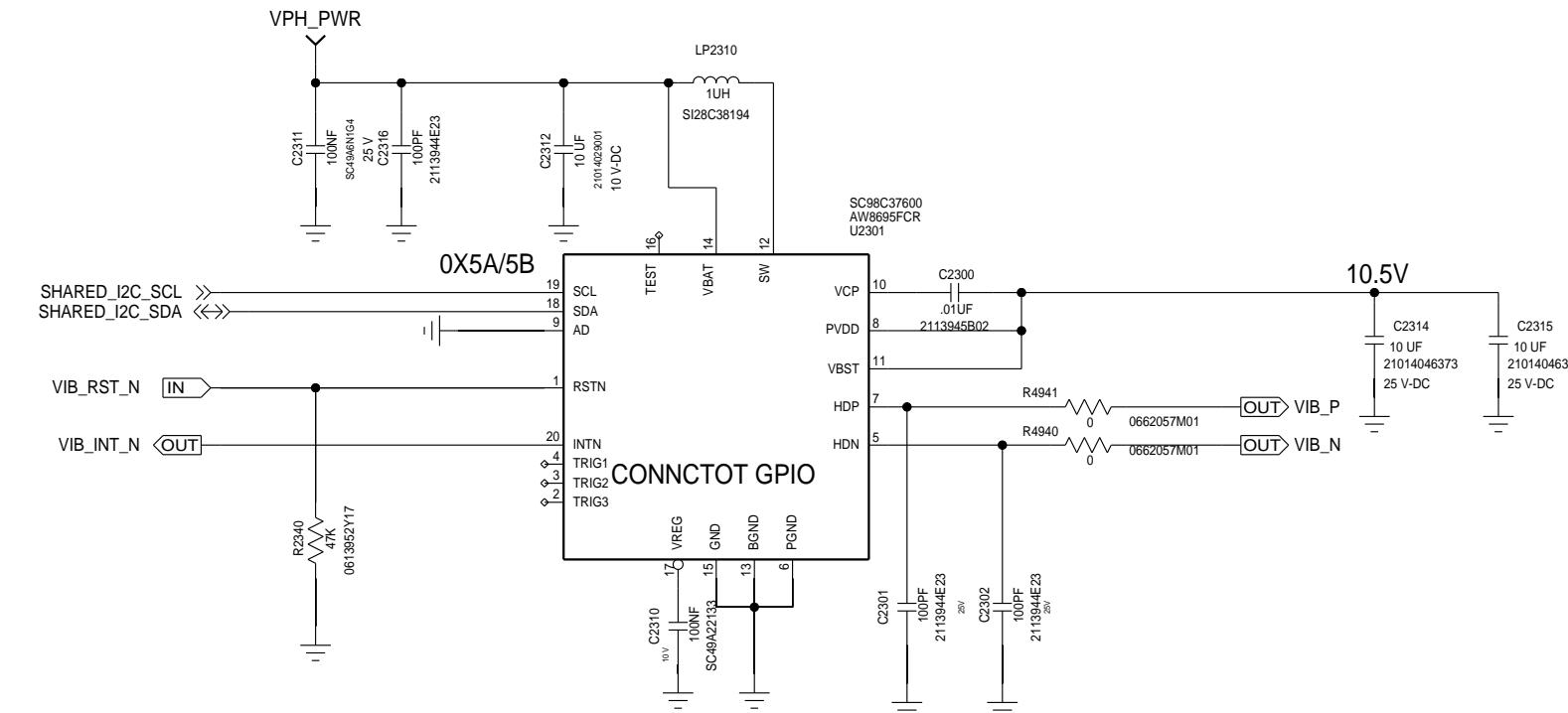
DROPOUT 0.12V TYPICAL @300MA
DROPOUT 0.25V MAX @500MA



APPROVALS		MOTOROLA MOBILE DEVICES	
ENGINEER: ZHANG BEI		BLOCK TITLE:	
LAST MODIFIED BY: ZHANG BEI Thu Oct 10 16:02:52 2019		audio	
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B	defender_sm6150.cpm	CAD FILE NAME:	PAGE 39 OF 70

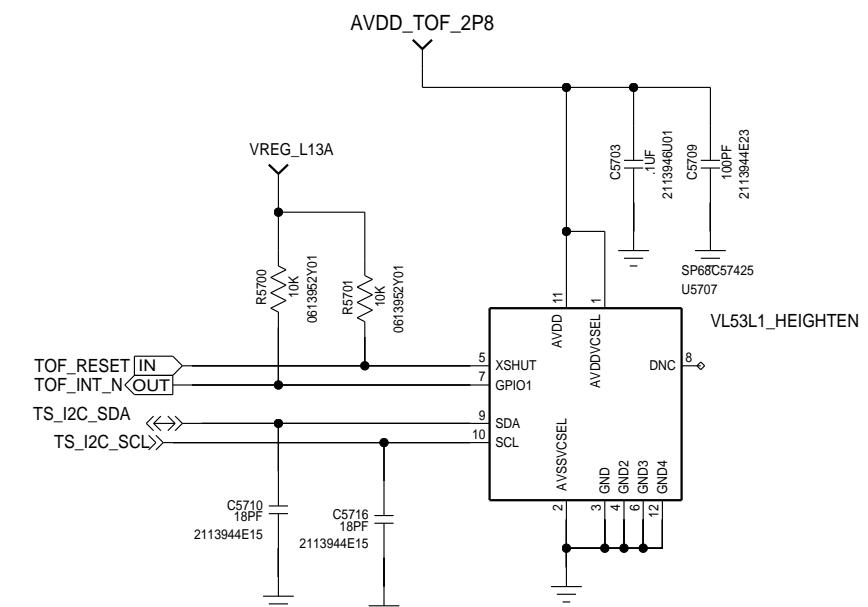
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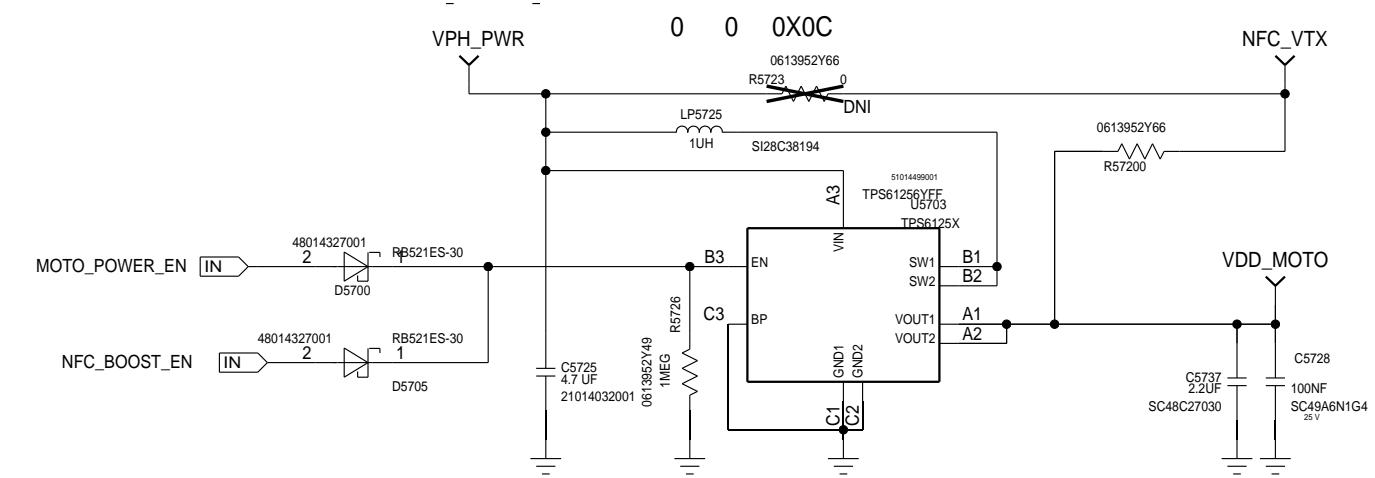
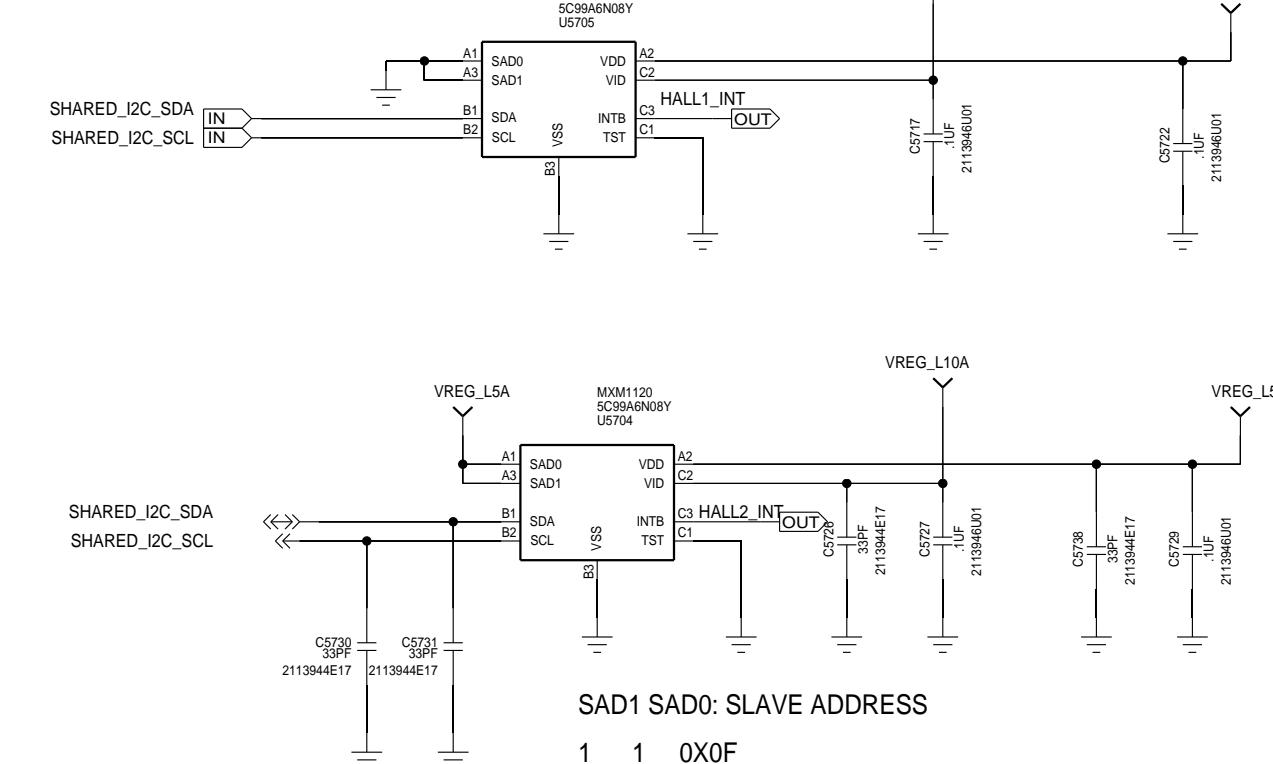
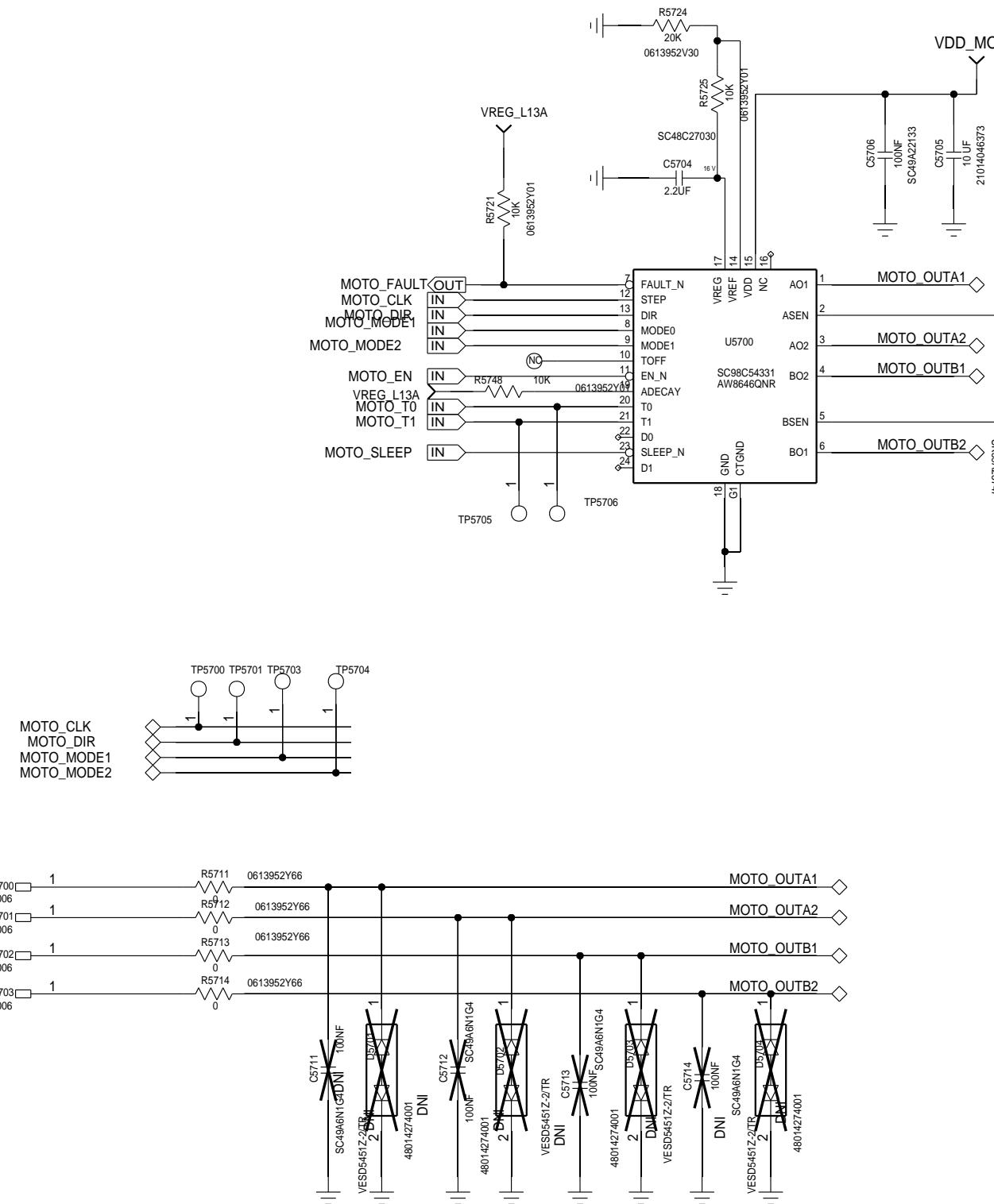
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		PAGE 40 OF 70	

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APPROVALS		 MOTOROLA MOBILE DEVICES	
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LAST MODIFIED BY: ZHOUHU Thu Oct 10 16:02:54 2019			
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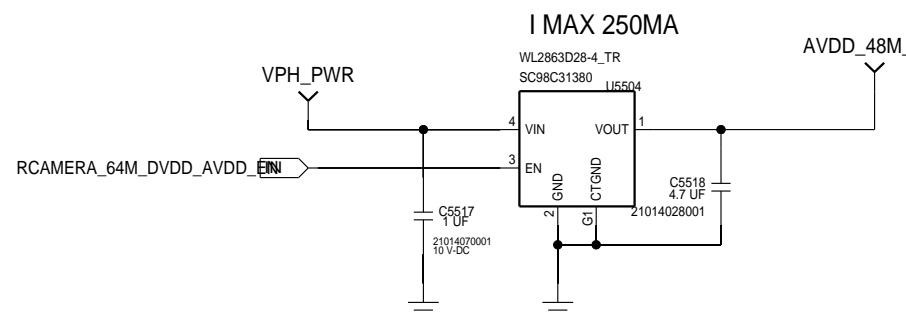
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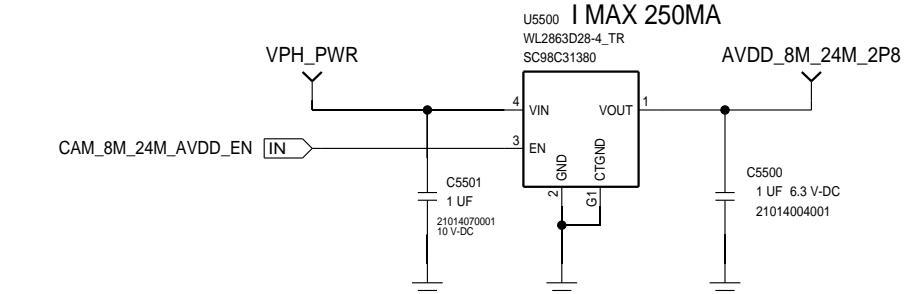
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		PAGE 42 OF 70	

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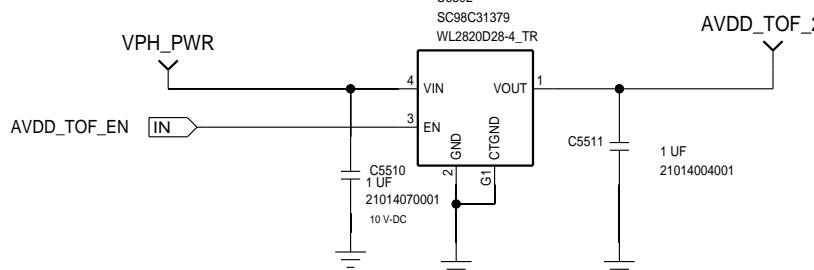
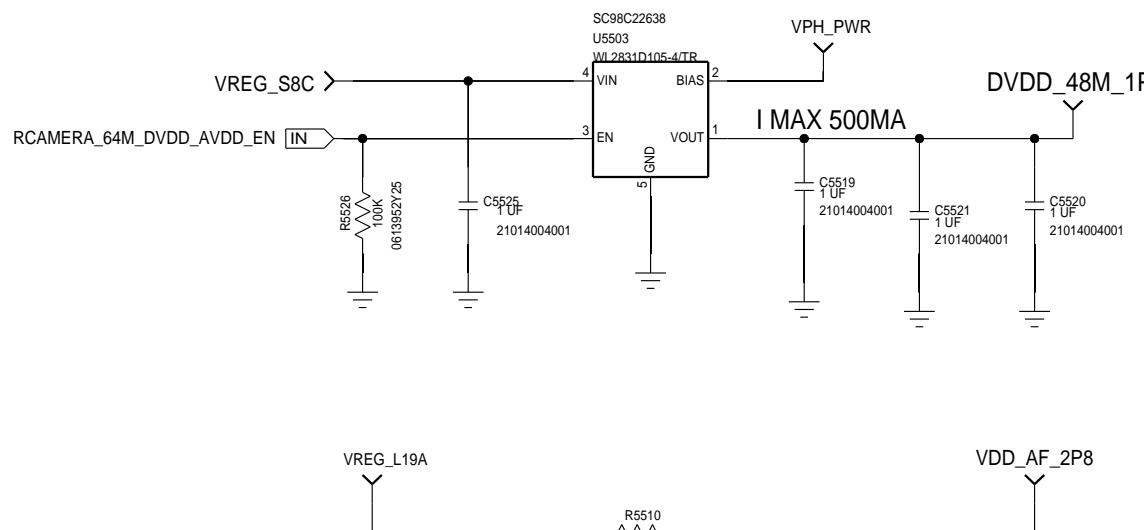
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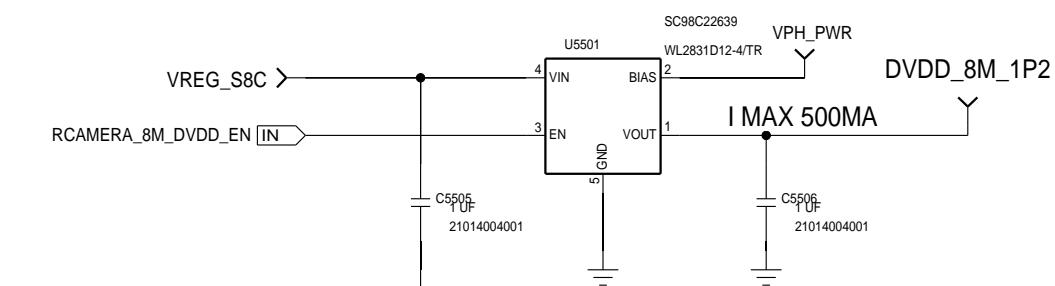
FRONT AND 8M AVDD



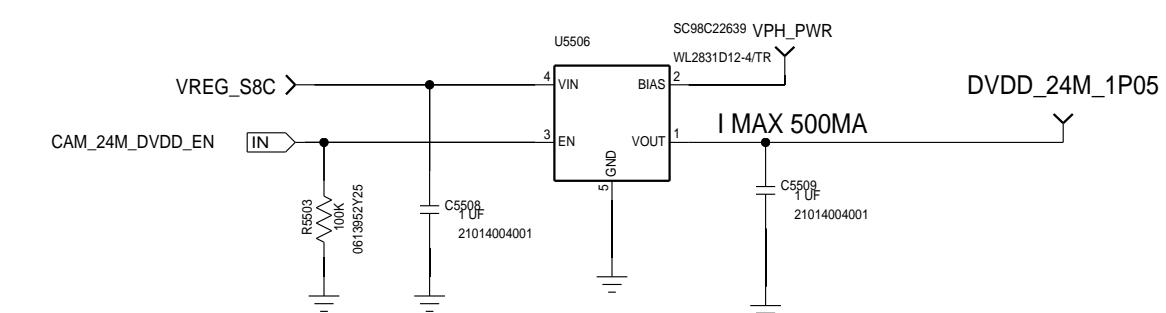
FOR REAR 64M DVDD



FOR REAR 8M DVDD



FRONT 24M DVDD



APPROVALS

MOTOROLA
MOBILE DEVICES

ENGINEER: HANLEI

LAST MODIFIED BY: ZHOHU

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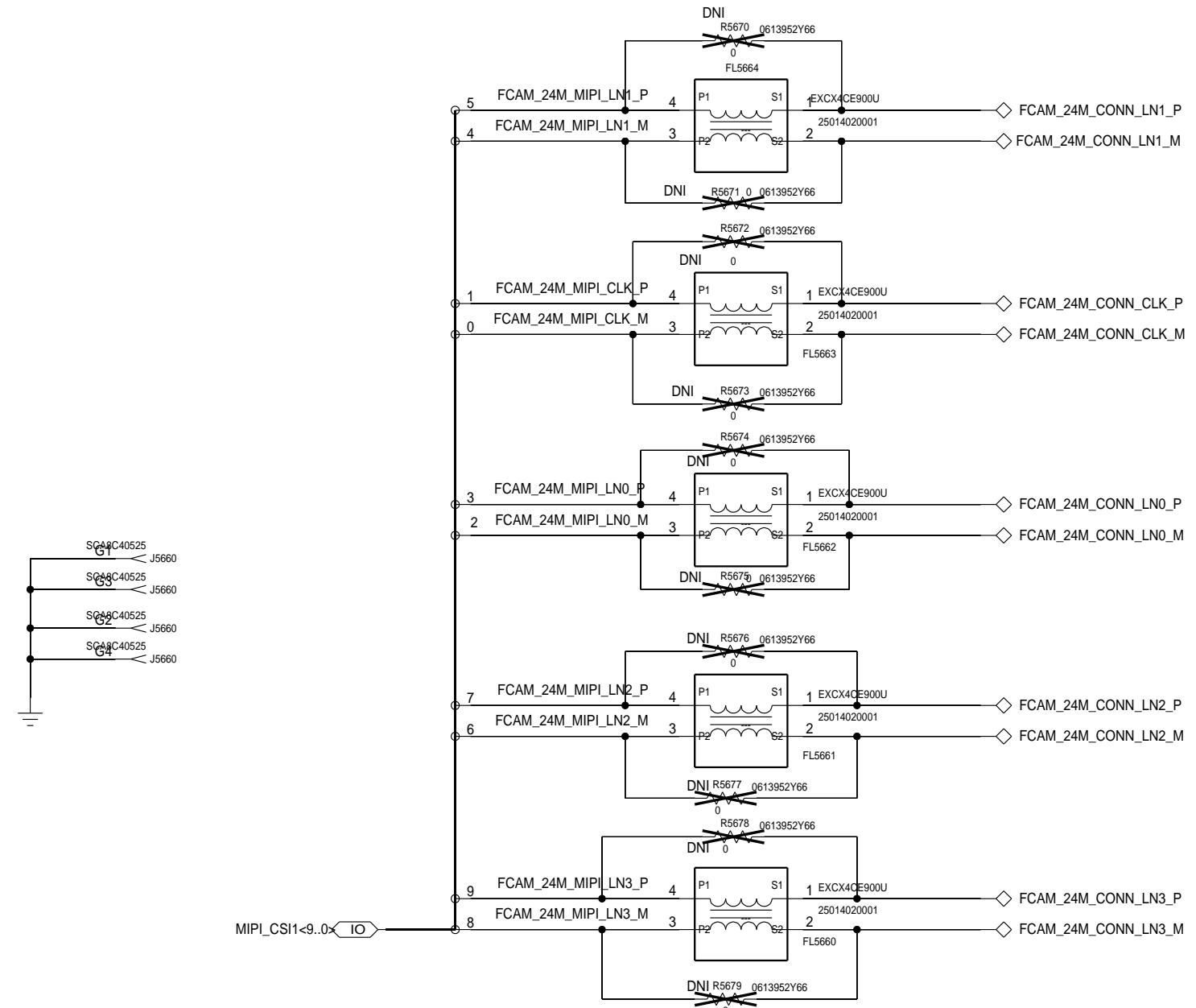
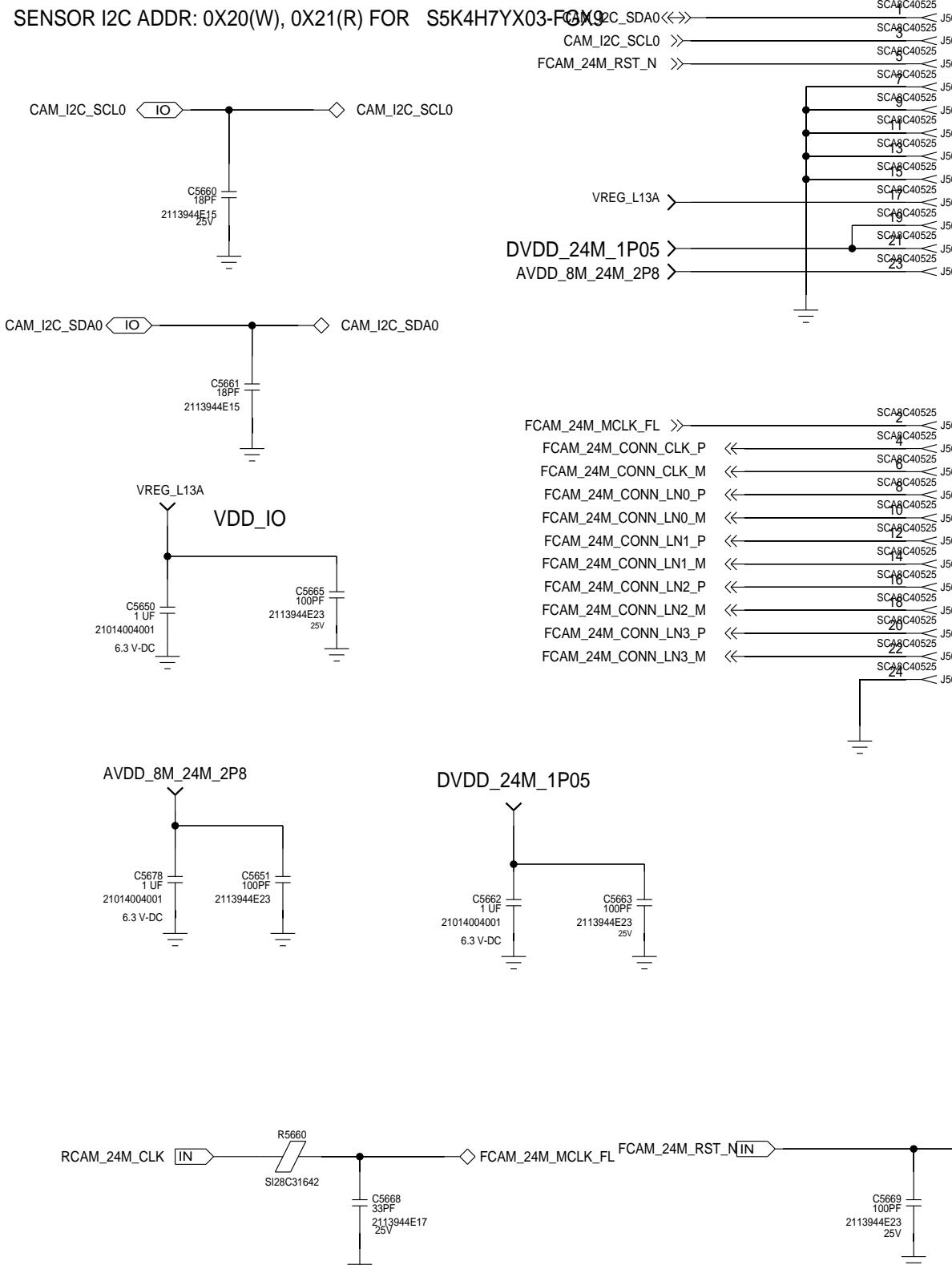
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PAGE 43 OF 70

CAM: FRONT 24M CONNECTOR2

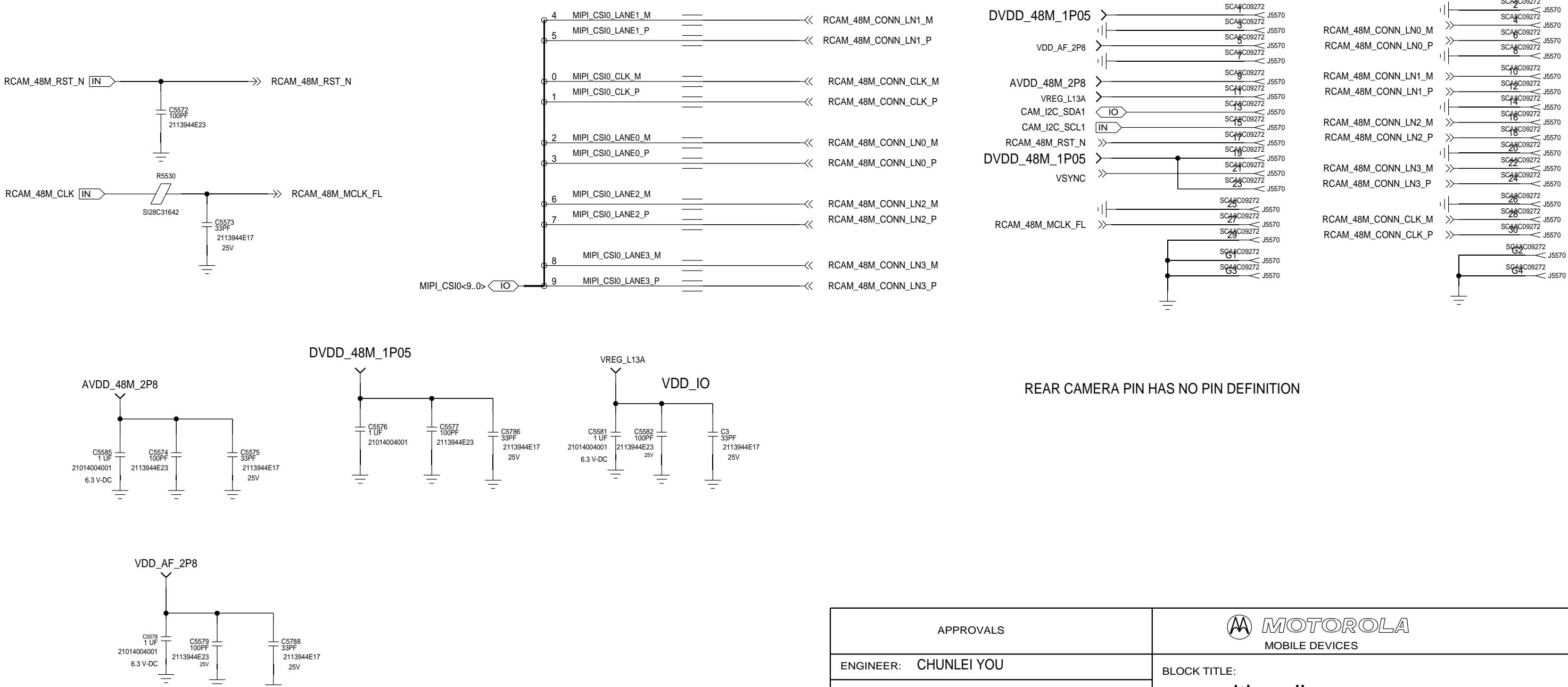
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APPROVALS		MOTOROLA MOBILE DEVICES	
ENGINEER: ZHANG BEI		BLOCK TITLE: multimedia	
LAST MODIFIED BY: ZHANG BEI Thu Oct 10 16:02:54 2019			
MOTOROLA CONFIDENTIAL RESTRICTED		PROJECT NAME B defender_sm6150.cpm	
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CAD FILE NAME:		PAGE 44 OF 70	

CAM: REAR 64M MAIN CONNECTOR

REF:5570-5589

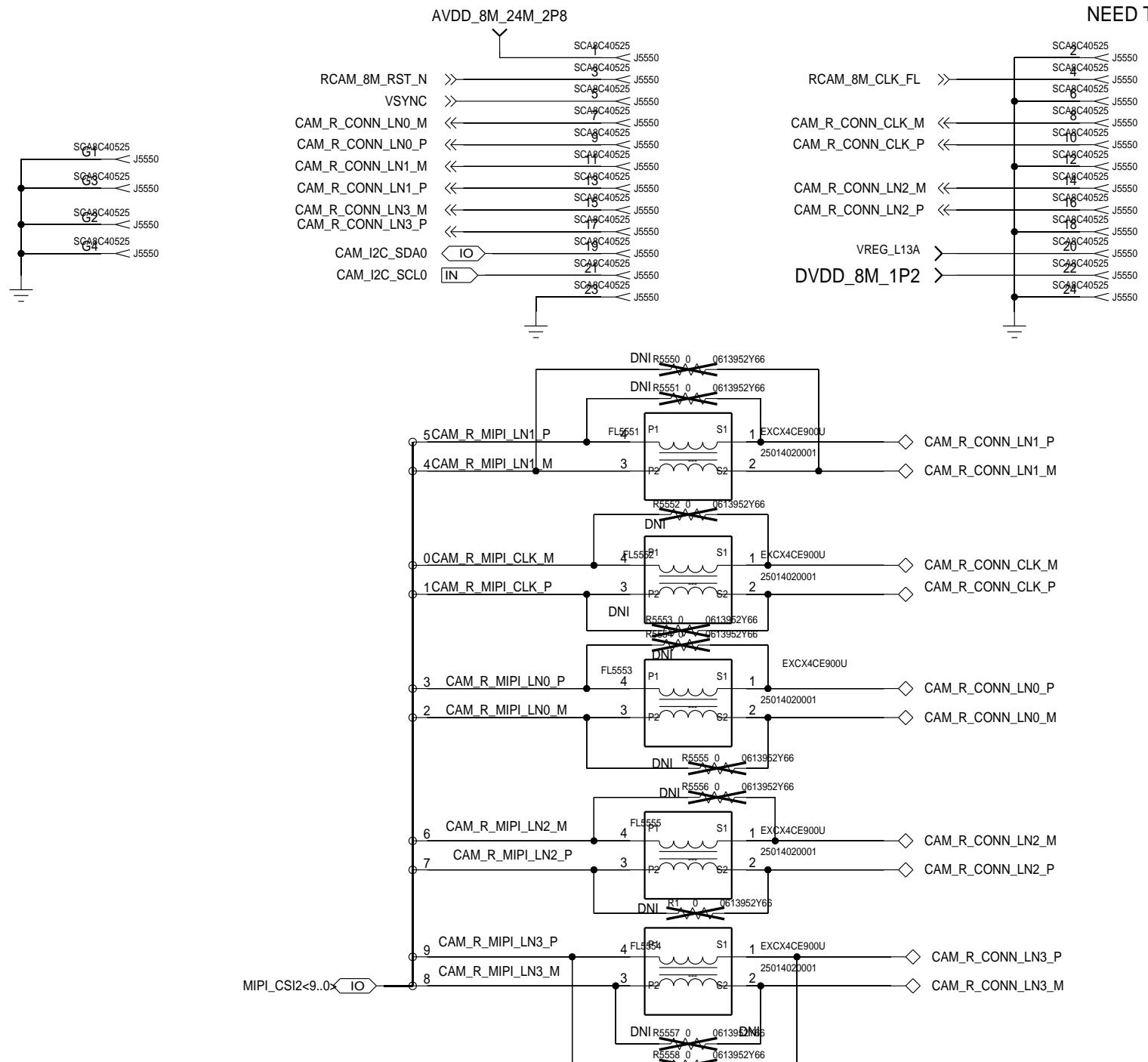
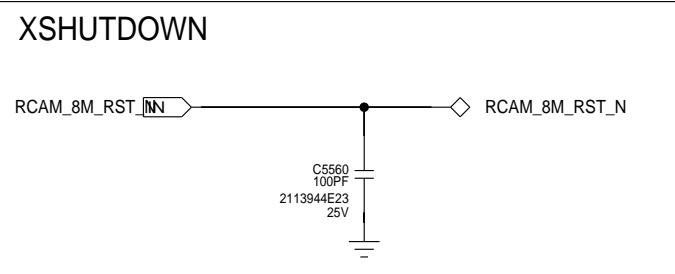
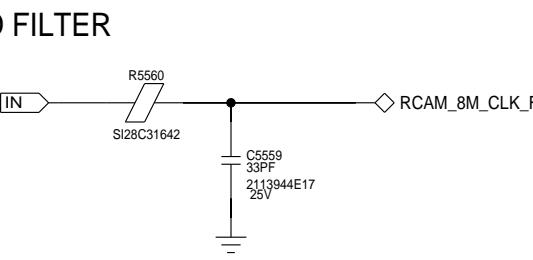
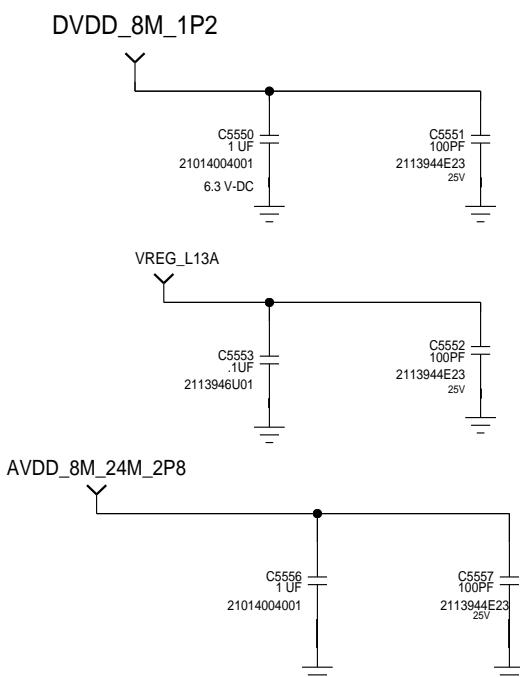
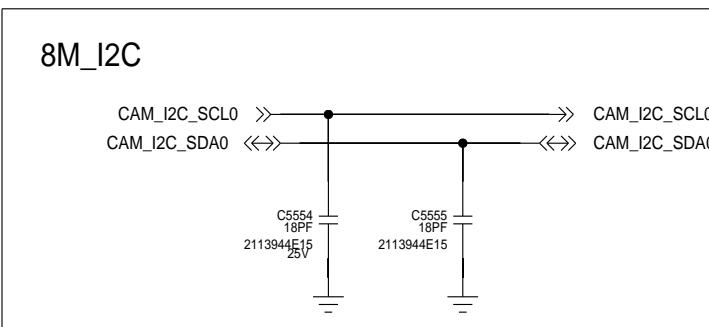


APPROVALS		MOTOROLA MOBILE DEVICES	
ENGINEER: CHUNLEI YOU		BLOCK TITLE: multimedia	
LAST MODIFIED BY: CHUNLEI YYOU Thu Oct 10 16:02:53 2019			
MOTOROLA CONFIDENTIAL RESTRICTED		PROJECT NAME B defender_sm6150.cpm	
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CAD FILE NAME:		PAGE 45 OF 70	

CAM: REAR 8M

REF 5550-5569

NEED TO CONFIRM THE PIN DIFINE



APPROVALS

MOTOROLA
MOBILE DEVICES

ENGINEER: ZHANG BEI

LAST MODIFIED BY: ZHANG BEI

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BLOCK TITLE:
multimedia

PROJECT NAME
defender_sm6150.cpm

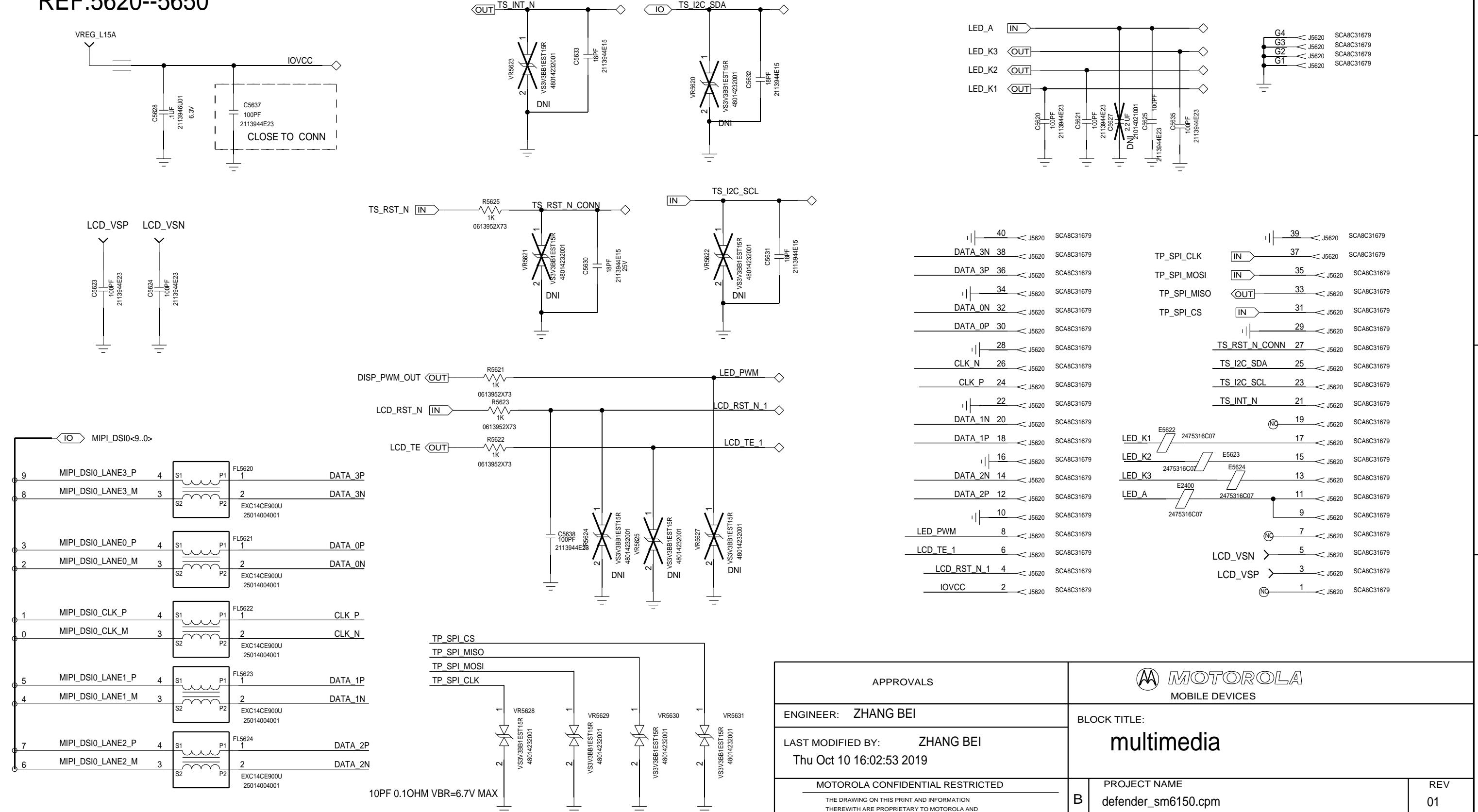
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CAD FILE NAME:

PAGE 46 OF 70

DISP: CONNECTOR

REF:5620--5650



APPROVALS

MOTOROLA
MOBILE DEVICES

ENGINEER: ZHANG BEI

BLOCK TITLE:

multimedia

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PROJECT NAME

B defender_sm6150.cpm

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CAD FILE NAME:

PAGE 47 OF 70

GND SHIELDED FOR MIPI_DSI SIGNALS AS A GROUP

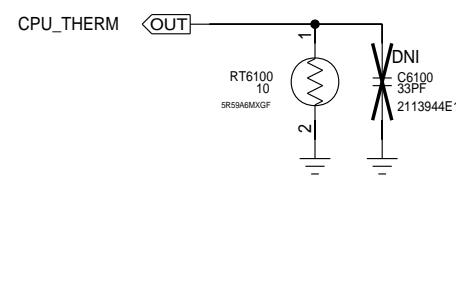
ADD GND STITCHING VIAS FOR EACH SIGNAL GROUP (EBI,CSI,DSI) WHEN POSSIBLE TO MINIMIZE RETURN CURRENT LOOP

Sensor: NTC

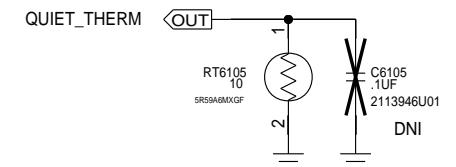
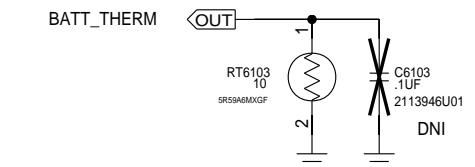
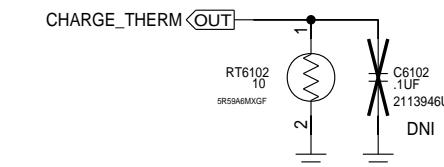
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RESERVE: 6111-6149

FOR SDM THERMAL



CHRG TEMP SENSOR



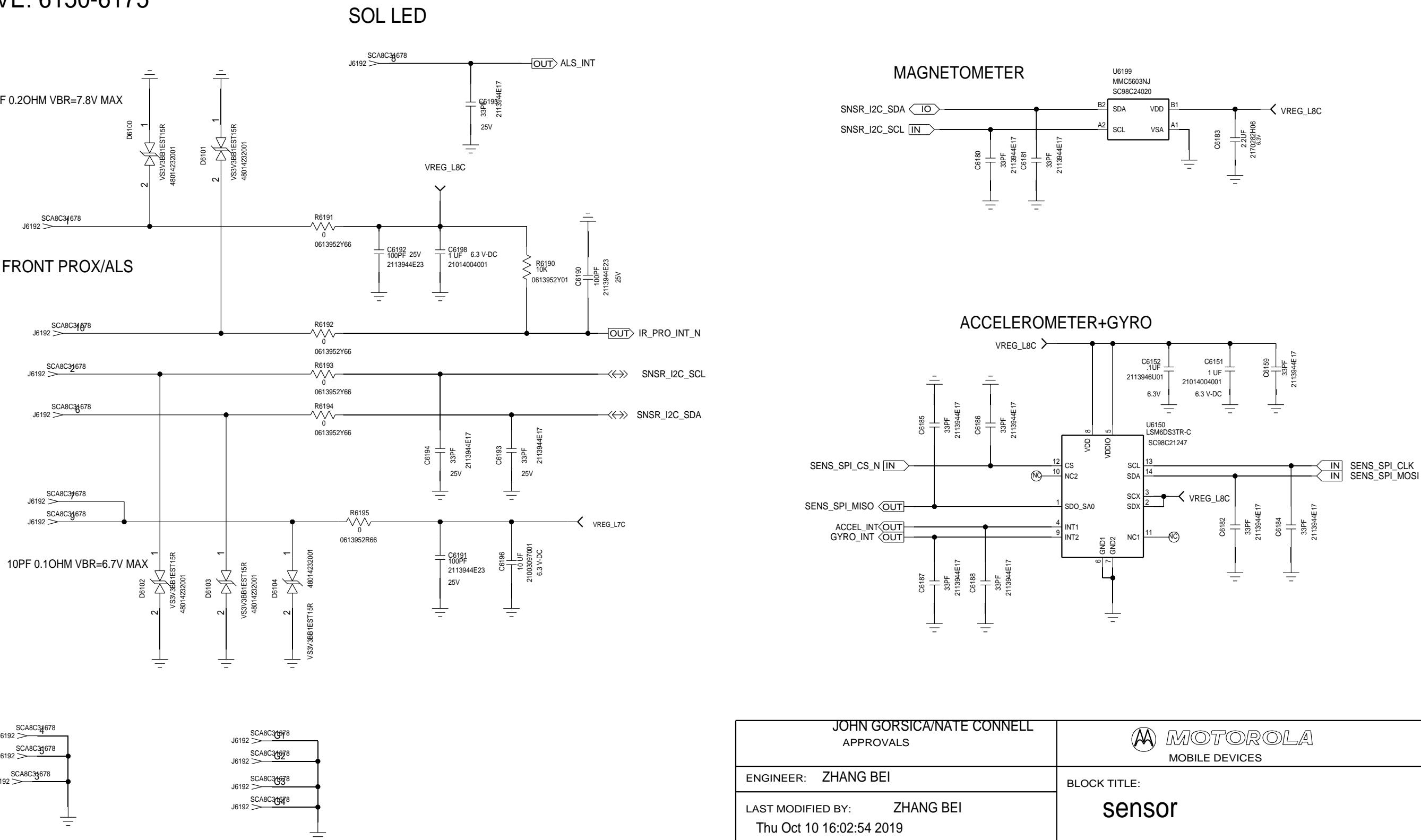
JOHN GORSICA/NATE CONNELL APPROVALS		MOTOROLA MOBILE DEVICES	
ENGINEER: ZHANG BEI		BLOCK TITLE: sensor	
LAST MODIFIED BY: ZHANG BEI Thu Oct 10 16:02:54 2019			
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CAD FILE NAME:			PAGE 48 OF 70

SENSOR:A+G

REF: 6176-6199

RESERVE: 6150-6175

AWAY FORM NOISY SIGNALS AND HIGH POWER SOURCES



JOHN GORSICA/NATE CONNELL
APPROVALS

ENGINEER: ZHANG BEI

LAST MODIFIED BY: ZHANG BEI

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MOTOROLA
MOBILE DEVICES

BLOCK TITLE:

sensor

PROJECT NAME
defender_sm6150.cpm

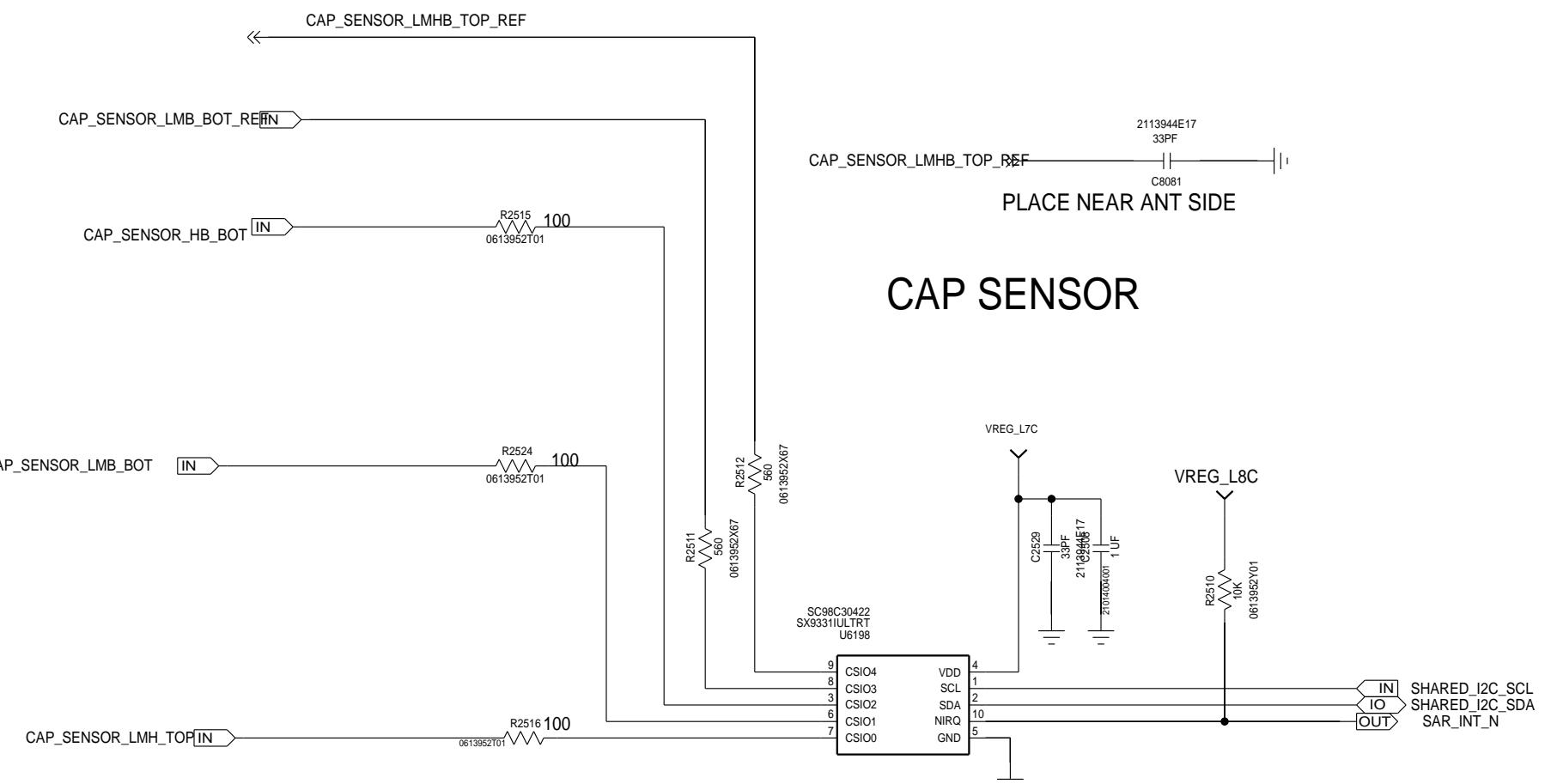
REV
01

CAD FILE NAME:

PAGE 49 OF 70

SENSOR: CAP SENSOR

REF 2510-2530



APPROVALS	 MOTOROLA MOBILE DEVICES	
ENGINEER:	BLOCK TITLE:	
LAST MODIFIED BY:	sensor	
Thu Oct 10 16:02:54 2019		
MOTOROLA CONFIDENTIAL RESTRICTED	PROJECT NAME	REV
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CAD FILE NAME:	PAGE 50 OF 70	

SDR660: POWER

REF 3000-3099

D

D

C

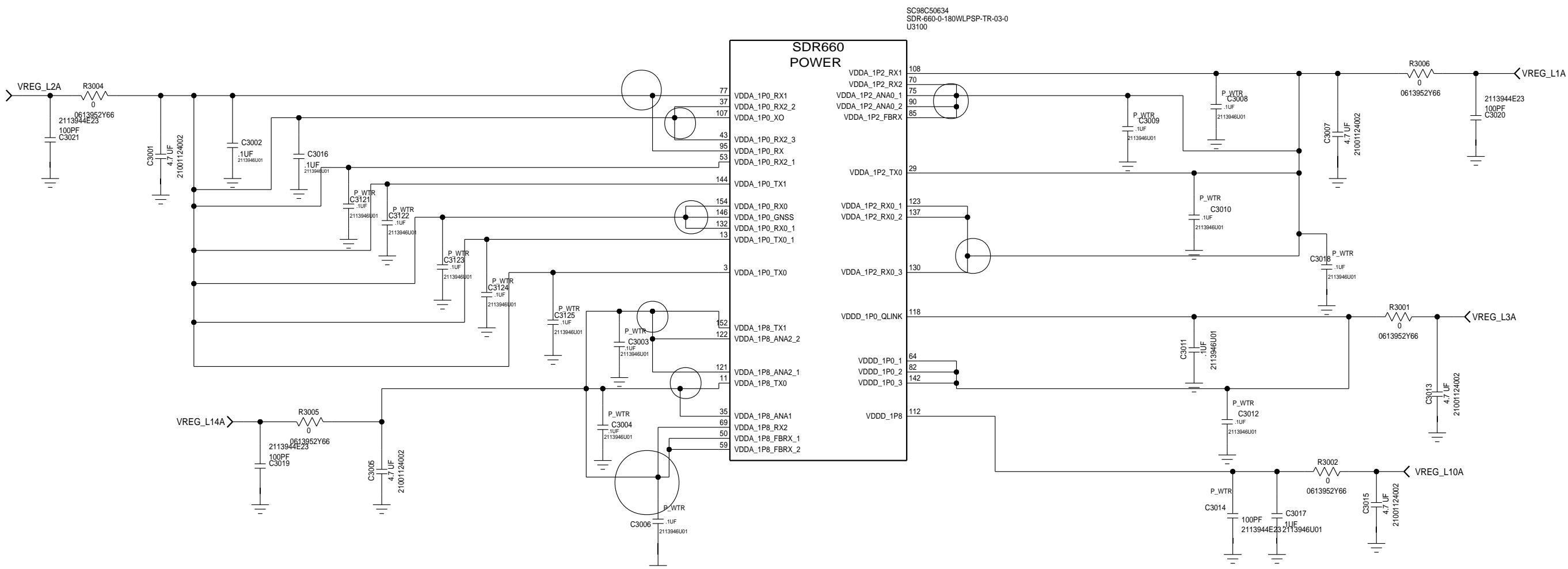
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B

B

A

A

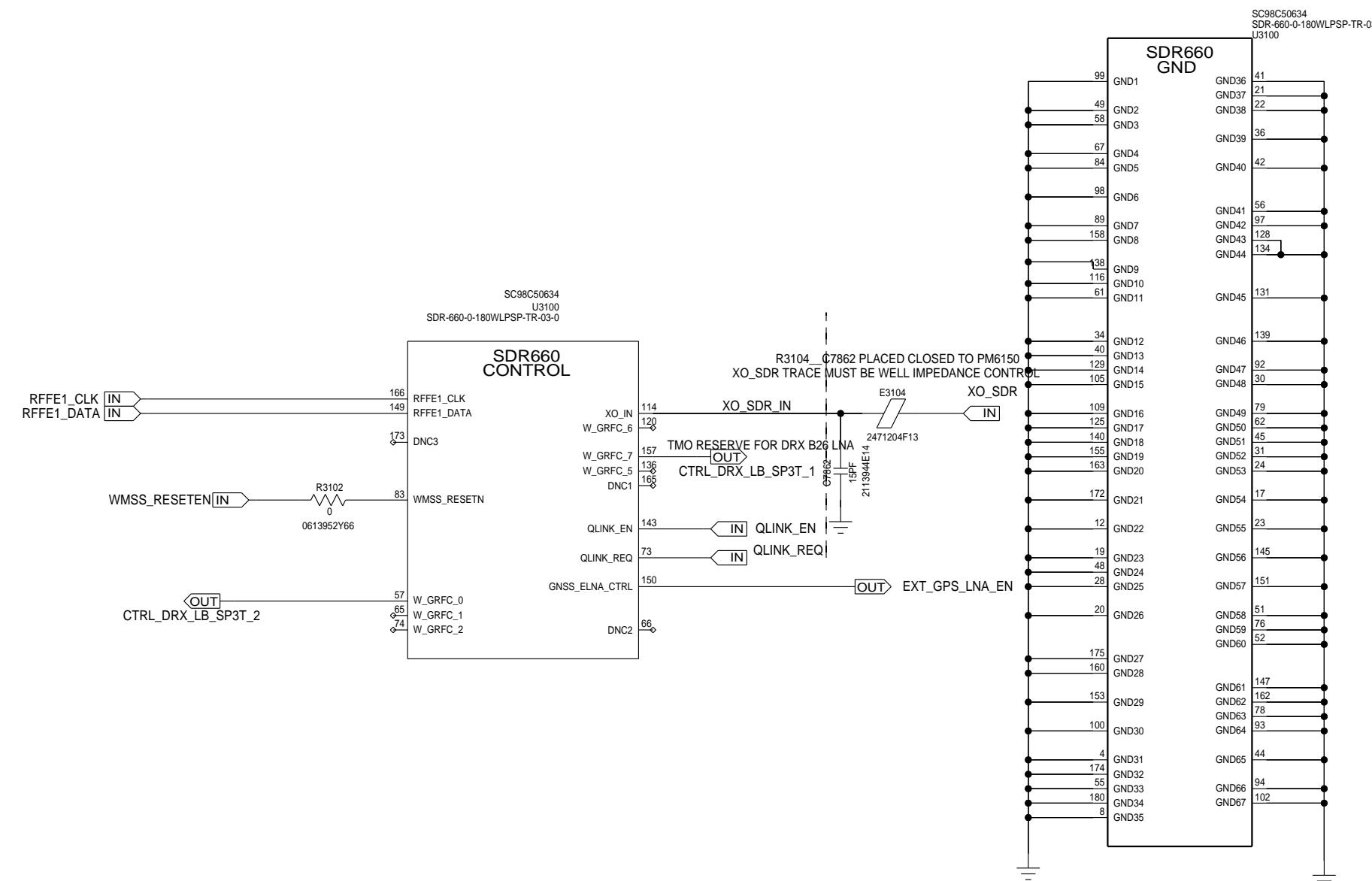


CIRCLE PRESENT SDR660 POWER SUPPLY STAR ROUTING

APPROVALS		MOTOROLA MOBILE DEVICES	
ENGINEER:		BLOCK TITLE: blk_sdr660	
LAST MODIFIED BY: Thu Oct 10 16:02:55 2019			
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CAD FILE NAME:		PAGE 51 OF 70	

SDR660: TX/PWR/GROUND

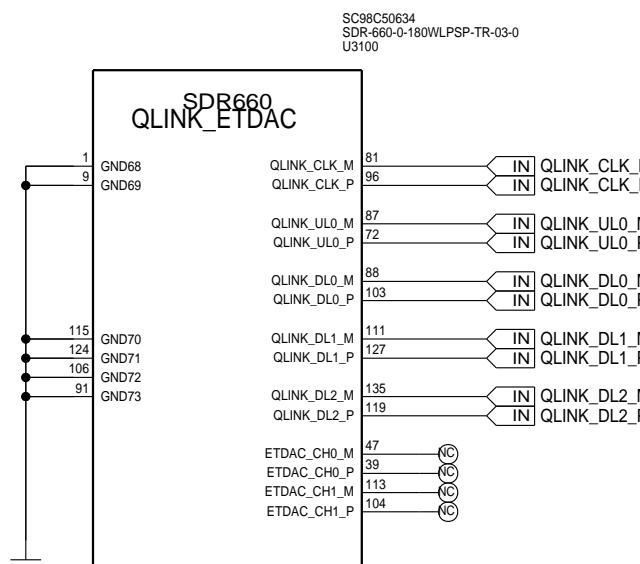
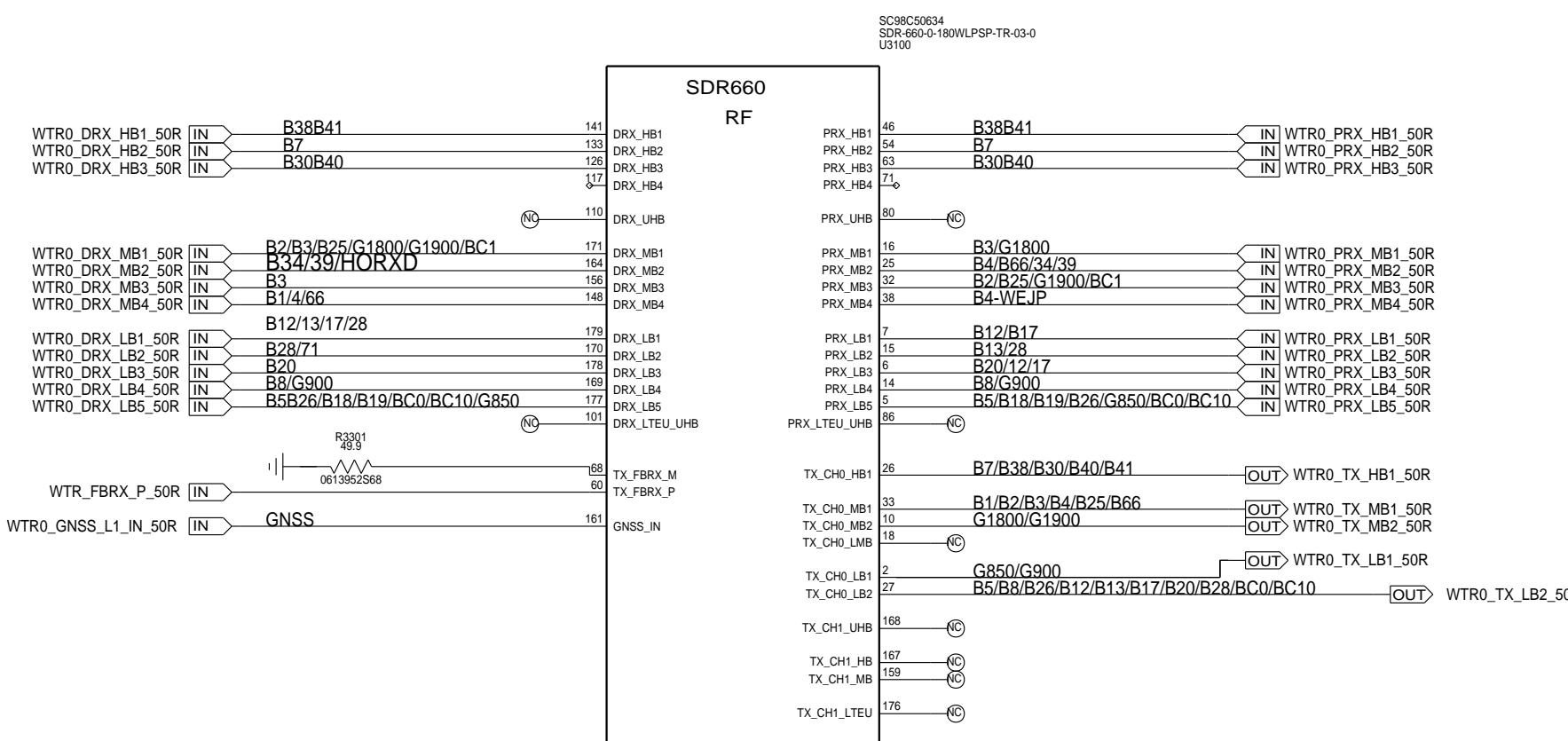
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APPROVALS		MOTOROLA MOBILE DEVICES	
ENGINEER:		BLOCK TITLE:	
LAST MODIFIED BY: Thu Oct 10 16:02:55 2019		blk_sdr660	
MOTOROLA CONFIDENTIAL RESTRICTED	PROJECT NAME	REV	
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(C) COPYRIGHT, MOTOROLA. THIS DOES NOT IMPLY PUBLICATION			PAGE 52 OF 70
CAD FILE NAME:			

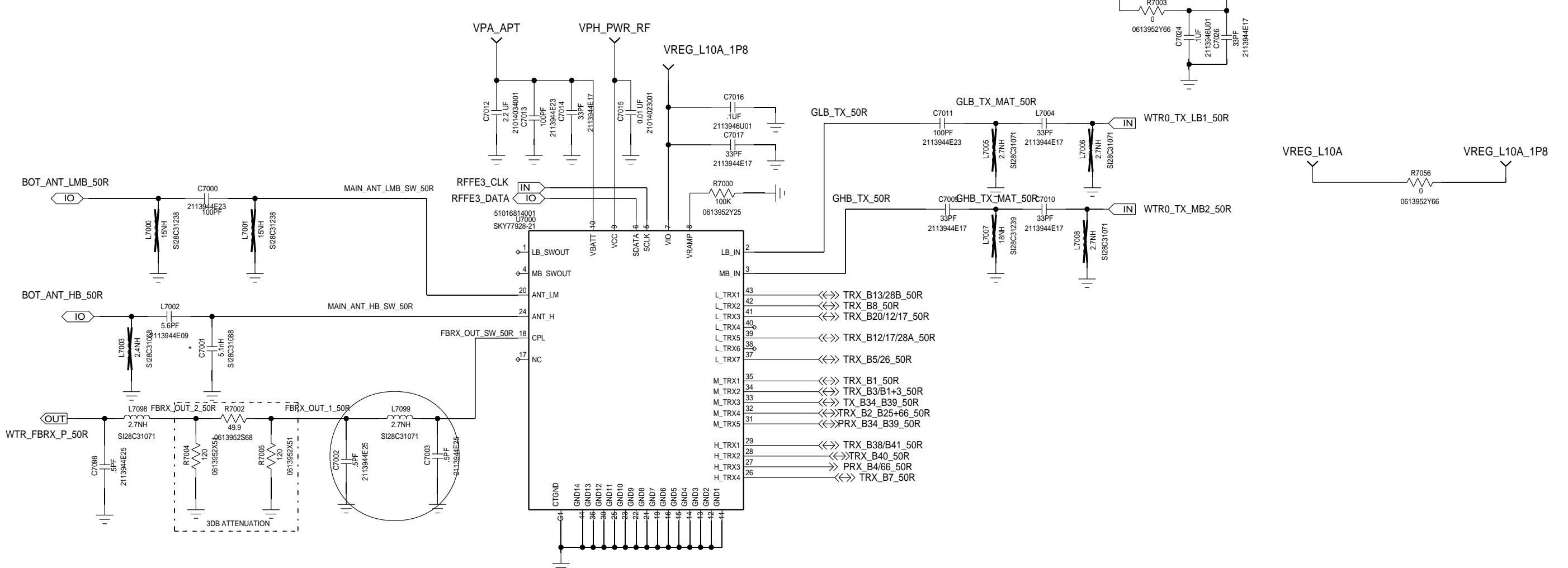
SDR660: PRX/DRX/GPS

REF 3200-3299



APPROVALS		MOTOROLA MOBILE DEVICES	
ENGINEER:		BLOCK TITLE:	
LAST MODIFIED BY: Thu Oct 10 16:02:55 2019		blk_sdr660	
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CAD FILE NAME:		REV 01 PAGE 53 OF 70	

RFFE:TRX ASM REF 7000-7099

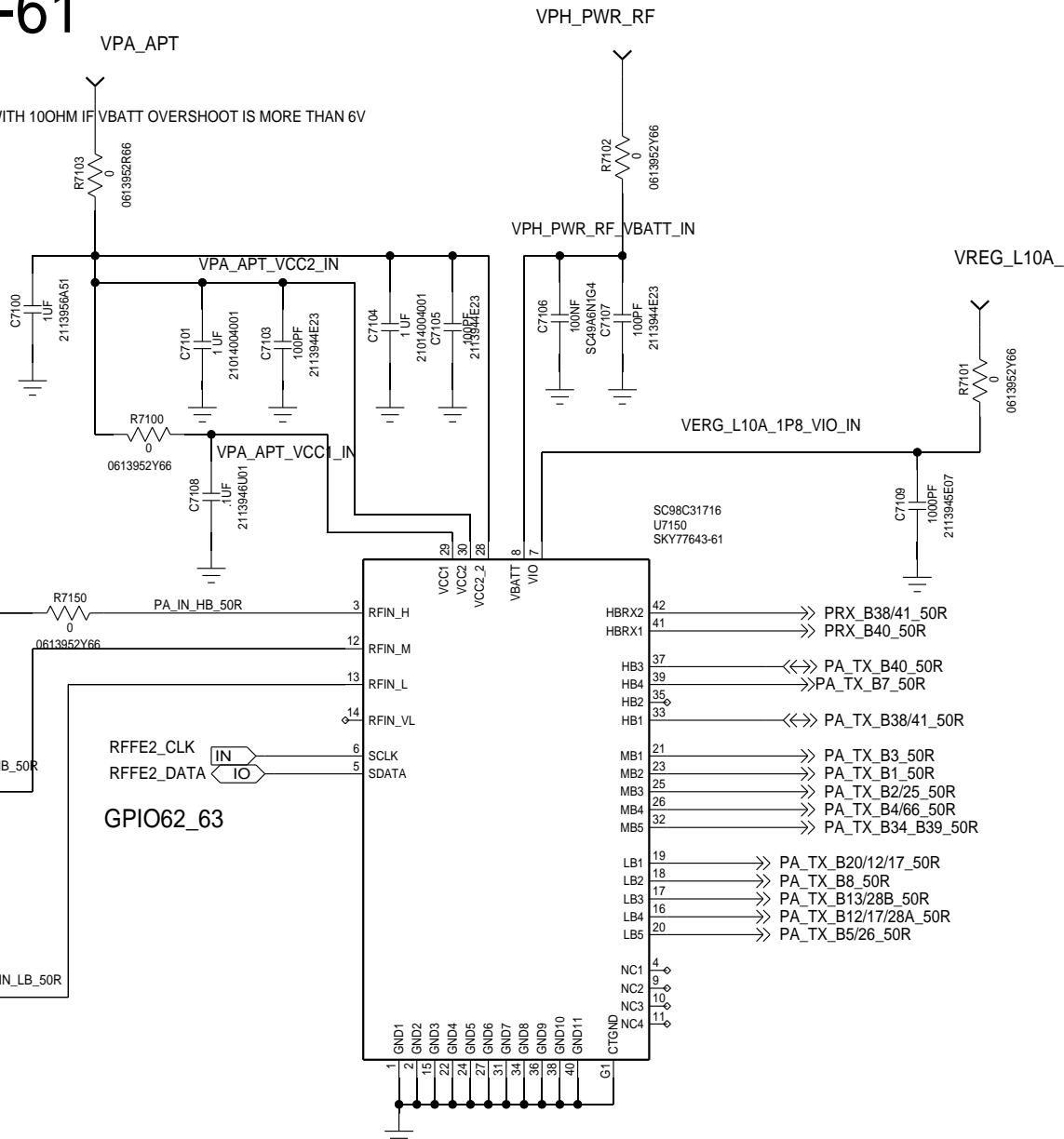
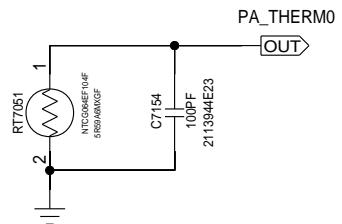


APPROVALS		MOTOROLA MOBILE DEVICES	
ENGINEER:		BLOCK TITLE:	
LAST MODIFIED BY:		rffe	
Thu Oct 10 16:02:55 2019			
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CAD FILE NAME:		PAGE 54 OF 70	

RFFE: SKY77643-61

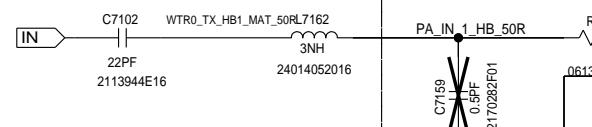
REF 7150-7199

NOTE : REPLACE R7101 0 OHM WITH 10OHM IF VBATT OVERSHOOT IS MORE THAN 6V

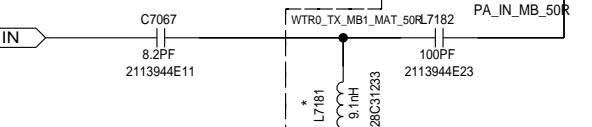


DC BLOCK REQ'D

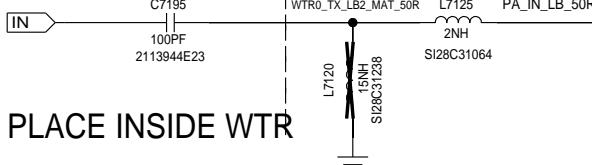
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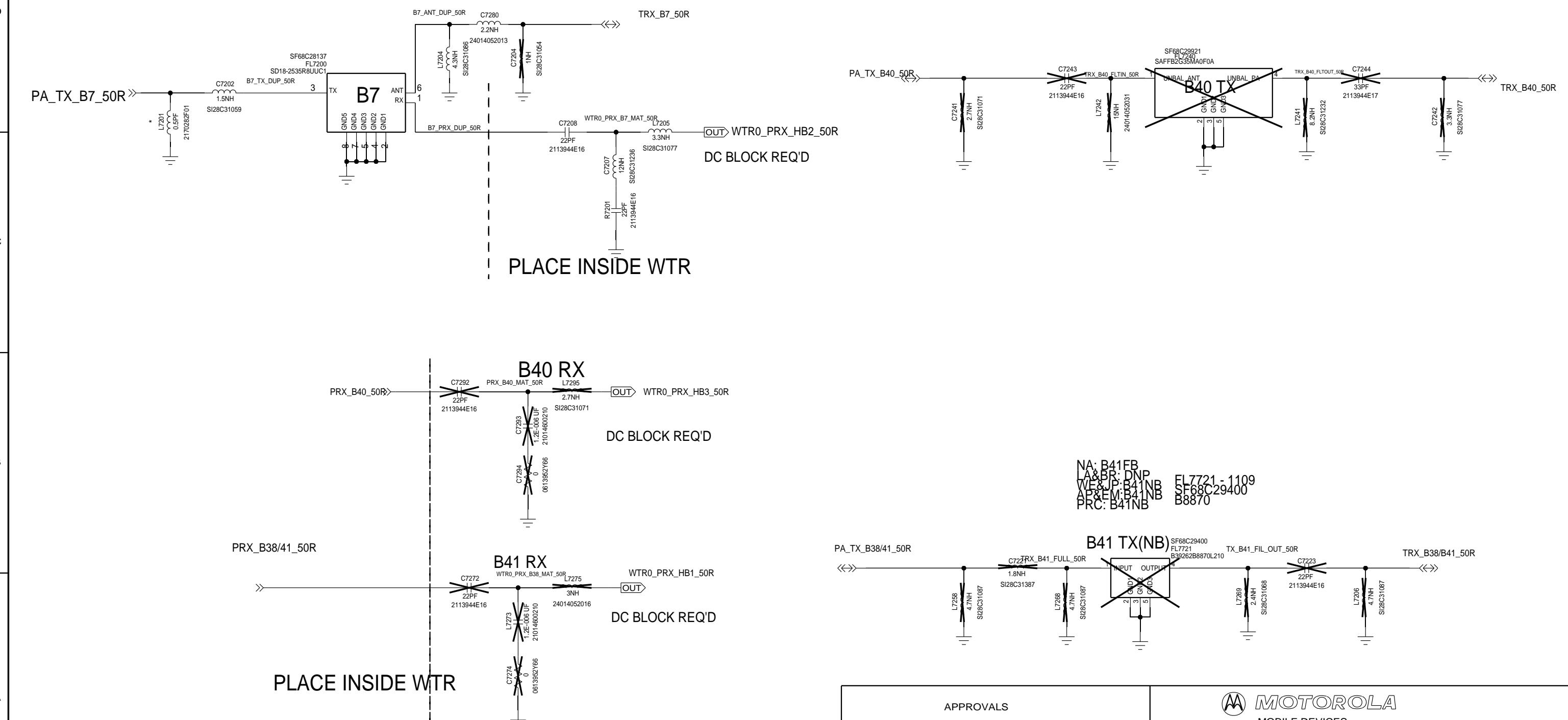


PLACE INSIDE WTR

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ENGINEER:		BLOCK TITLE:	
LAST MODIFIED BY: Thu Oct 10 16:02:57 2019		rffe	
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CAD FILE NAME:		REV 01	
PAGE 55 OF 70			

RFFE: HB_TRX_B7,38,40,41

REF 7200-7299

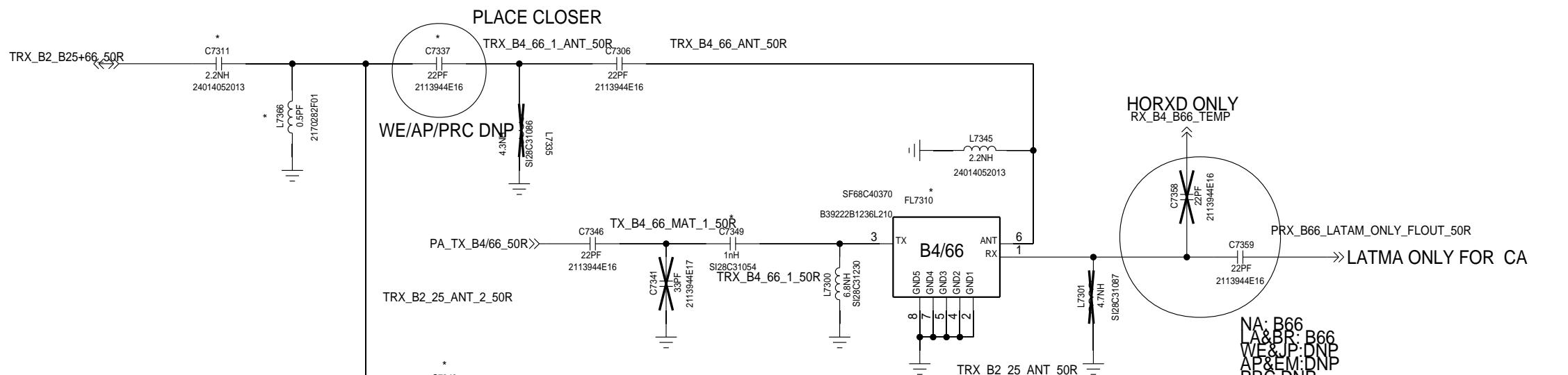


APPROVALS	MOTOROLA MOBILE DEVICES		
ENGINEER:	LAST MODIFIED BY: Thu Oct 10 16:02:55 2019	BLOCK TITLE:	
LAST MODIFIED BY: Thu Oct 10 16:02:55 2019		rffe	
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PROJECT NAME B defender_sm6150.cpm		CAD FILE NAME:	
		PAGE 56 OF 70	

RFFE :MB_TRX_B2,4,25,66,G1900

REF 7300-7399

B4/B66



HORXD ONLY
RX_B4_B66_TEMP

NA: B66
LA&BR: B66
WE&JP: DNP
AP&EM: DNP
PRC DNP

B25 °C SF68C24360
SAYPE1G88BA1G0A
B2-91014530001
SD18-1880R8UUC1

B2/25/GSM1900.RX

DC BLOCK REQ'D

B2/B25

GSM1900 RX

APPROVALS

MOTOROLA
MOBILE DEVICES

ENGINEER:

BLOCK TITLE:

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B defender_sm6150.cpm

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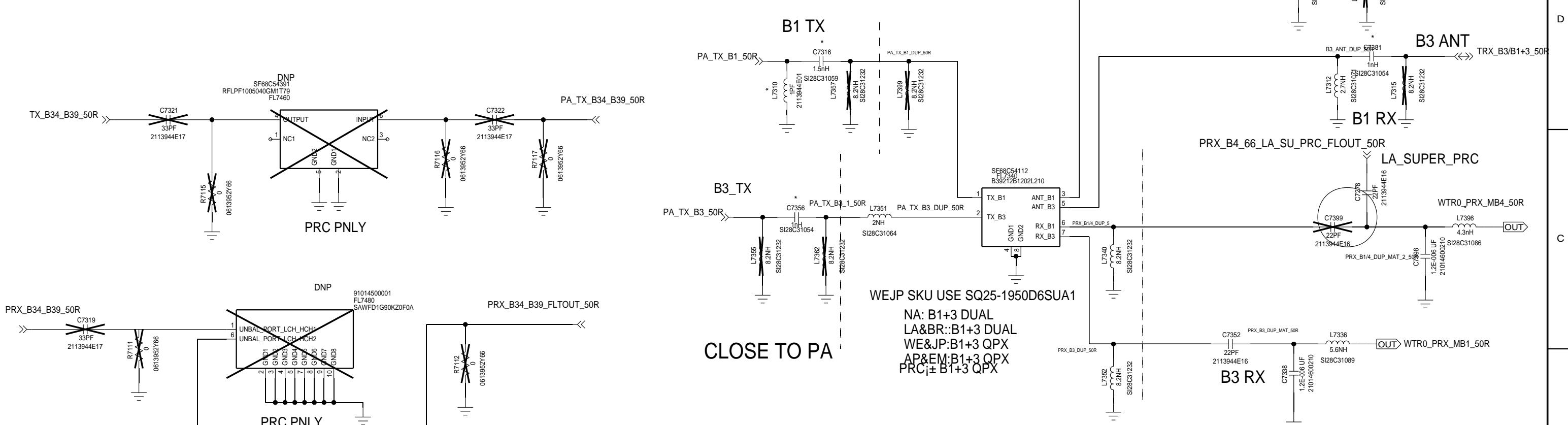
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PAGE 57 OF 70

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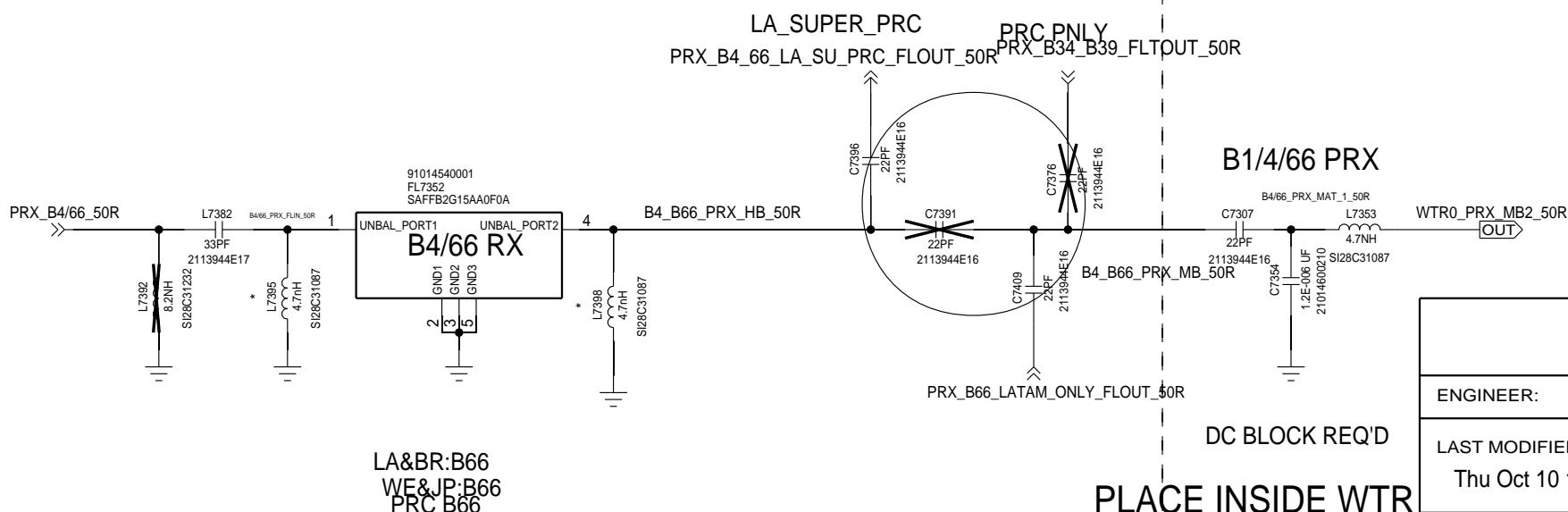
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CLOSE TO PA



CLOSE TO PA

PLACE INSIDE WTR



PLACE INSIDE WTR

APPROVALS

MOTOROLA
MOBILE DEVICES

ENGINEER:

BLOCK TITLE:

rffe

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defender_sm6150.cpm

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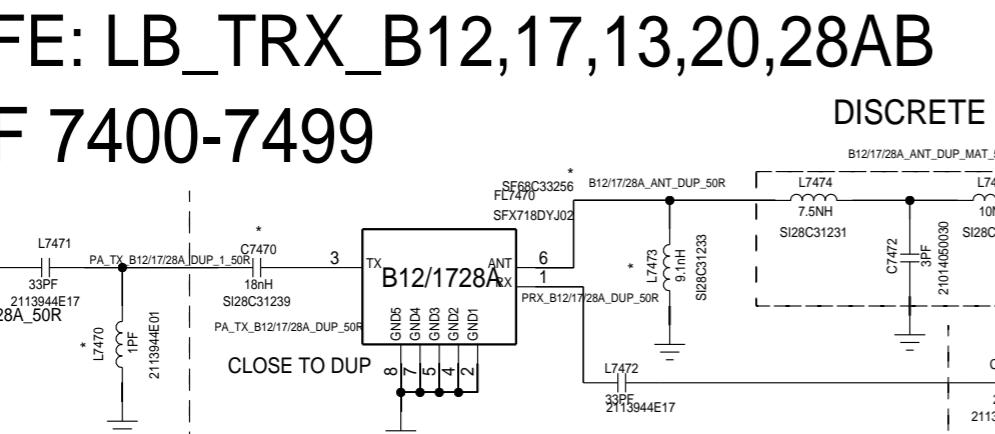
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PAGE 58 OF 70

RFFE: LB_TRX_B12,17,13,20,28AB

REF 7400-7499

D



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WE&JP: B28A

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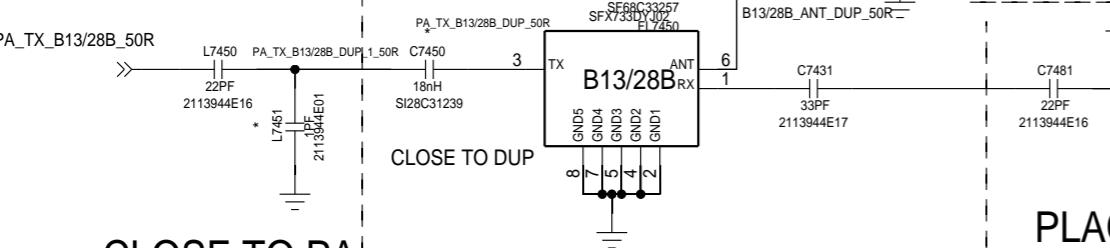
SFX18DYJ02

PRC: DNP



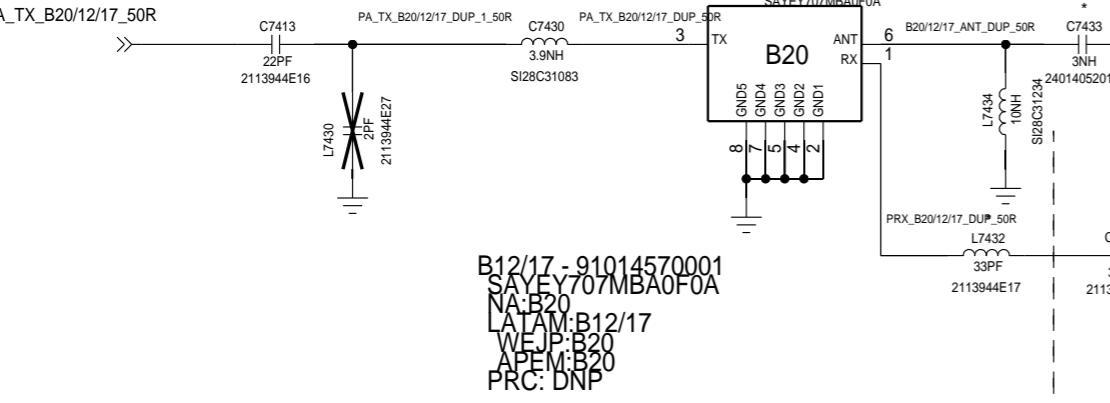
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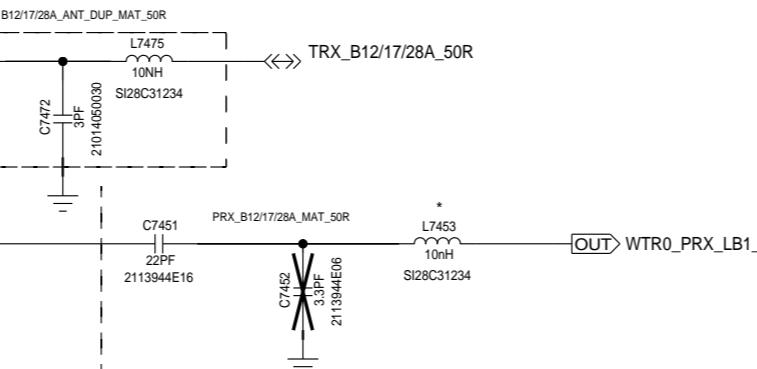
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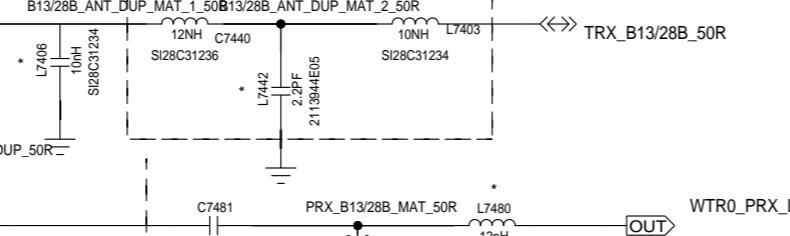
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DISCRETE LPF



PLACE INSIDE WTR

DISCRETE LPF FOR B13



PLACE INSIDE WTR

APPROVALS

 MOTOROLA
MOBILE DEVICES

ENGINEER:

BLOCK TITLE:

rffe

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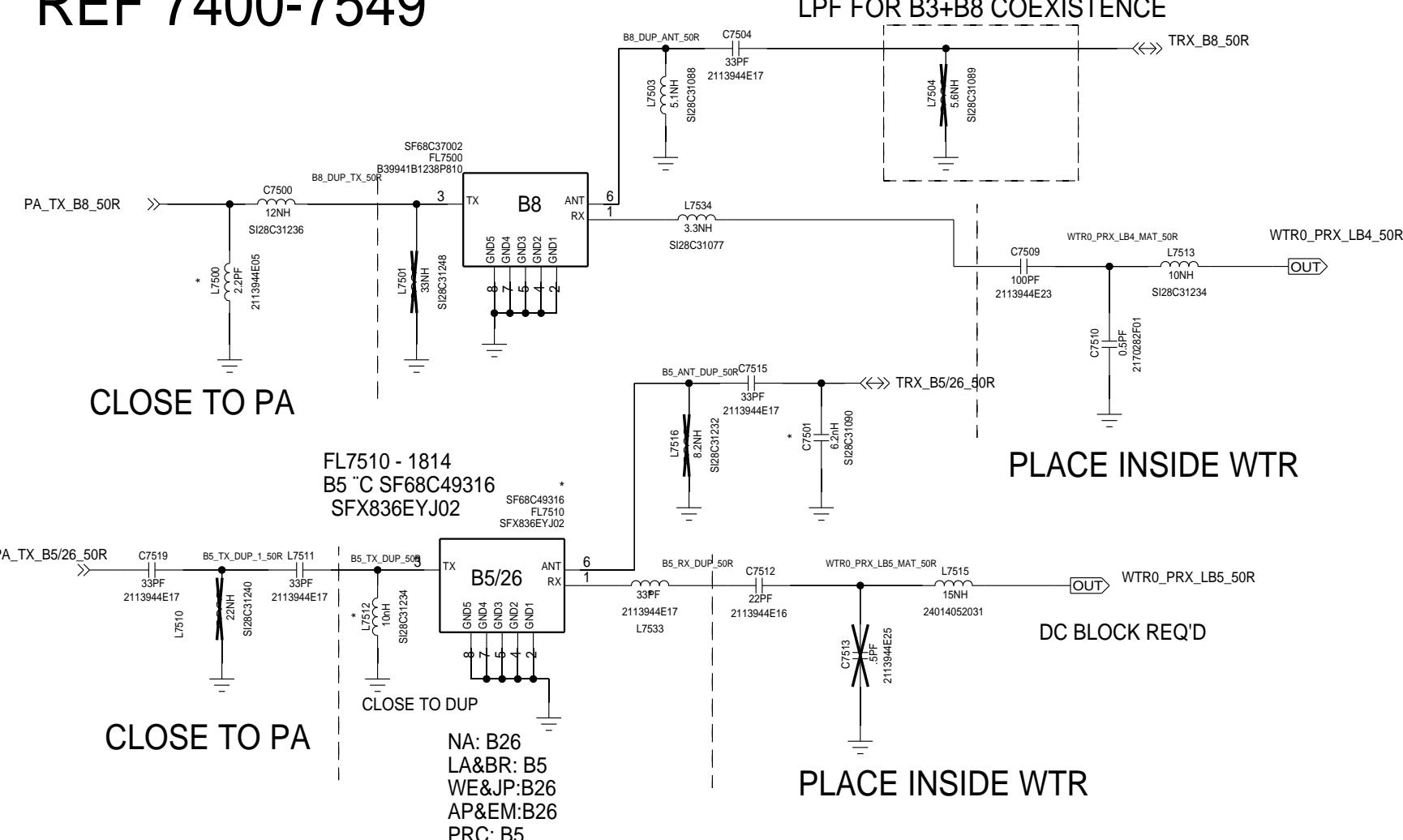
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defender_sm6150.cpmREV
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CAD FILE NAME:

PAGE 59 OF 70

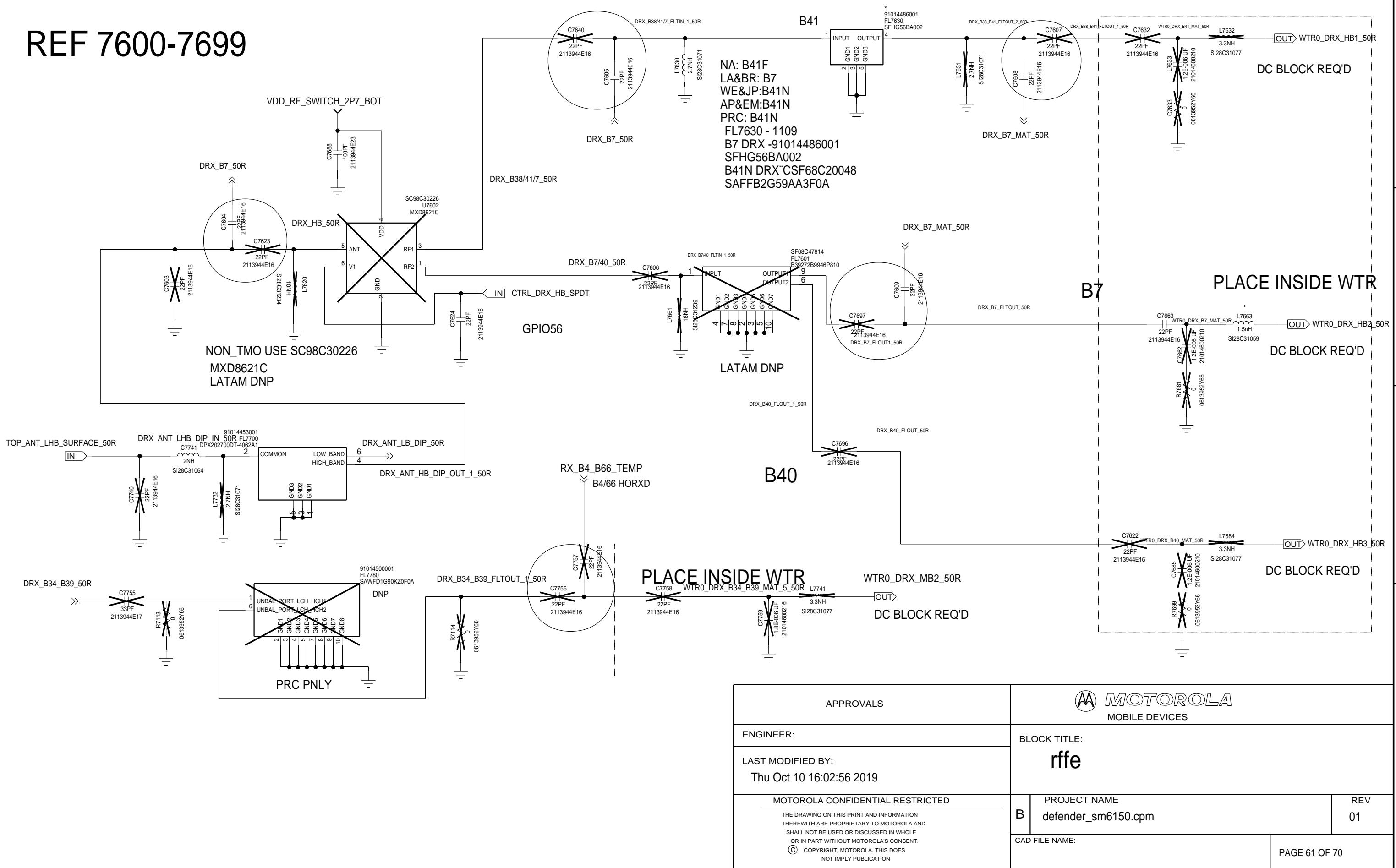
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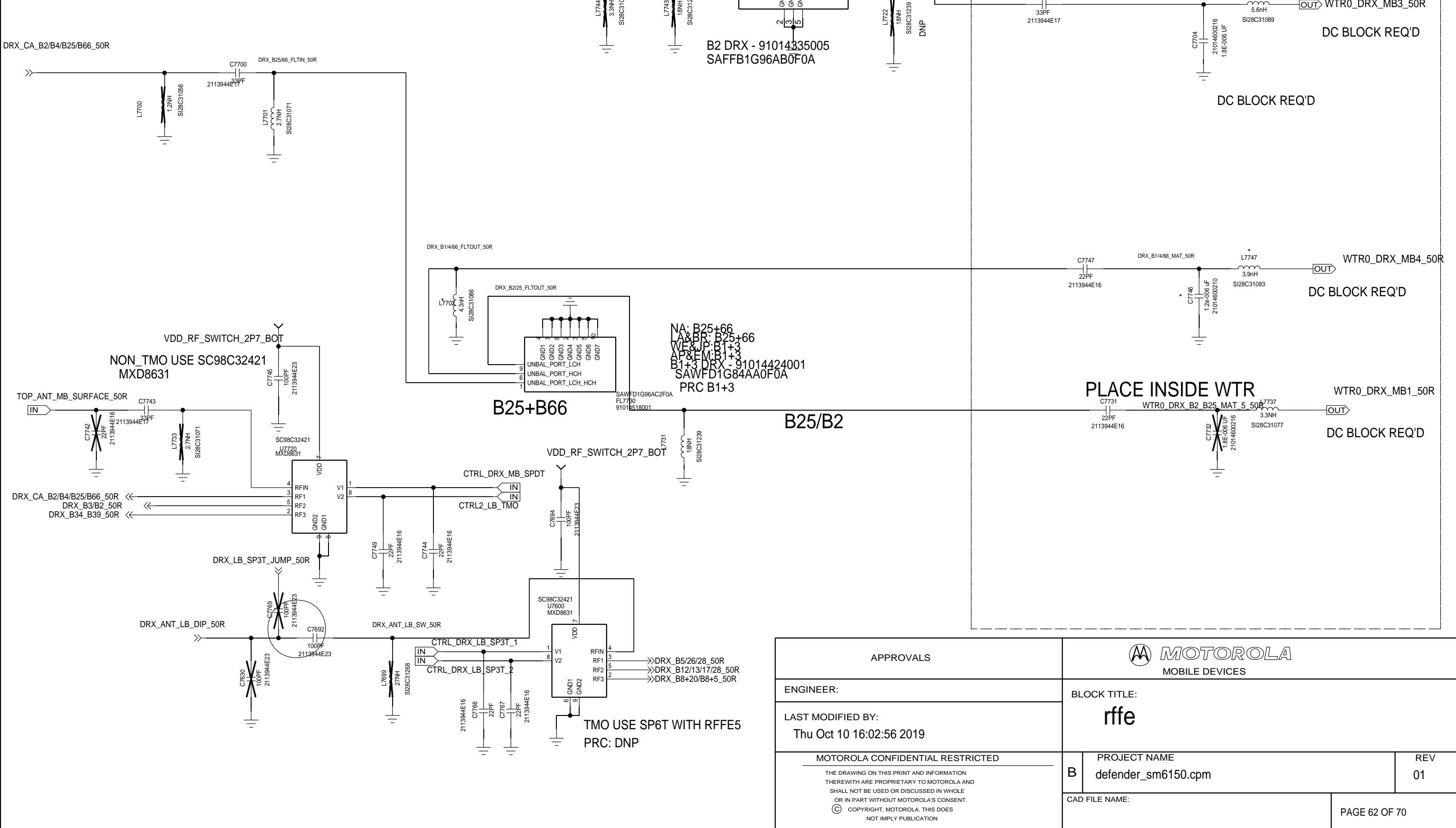
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ENGINEER:		BLOCK TITLE:	
LAST MODIFIED BY: Thu Oct 10 16:02:56 2019		rffe	
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CAD FILE NAME:			PAGE 60 OF 70

REF 7600-7699



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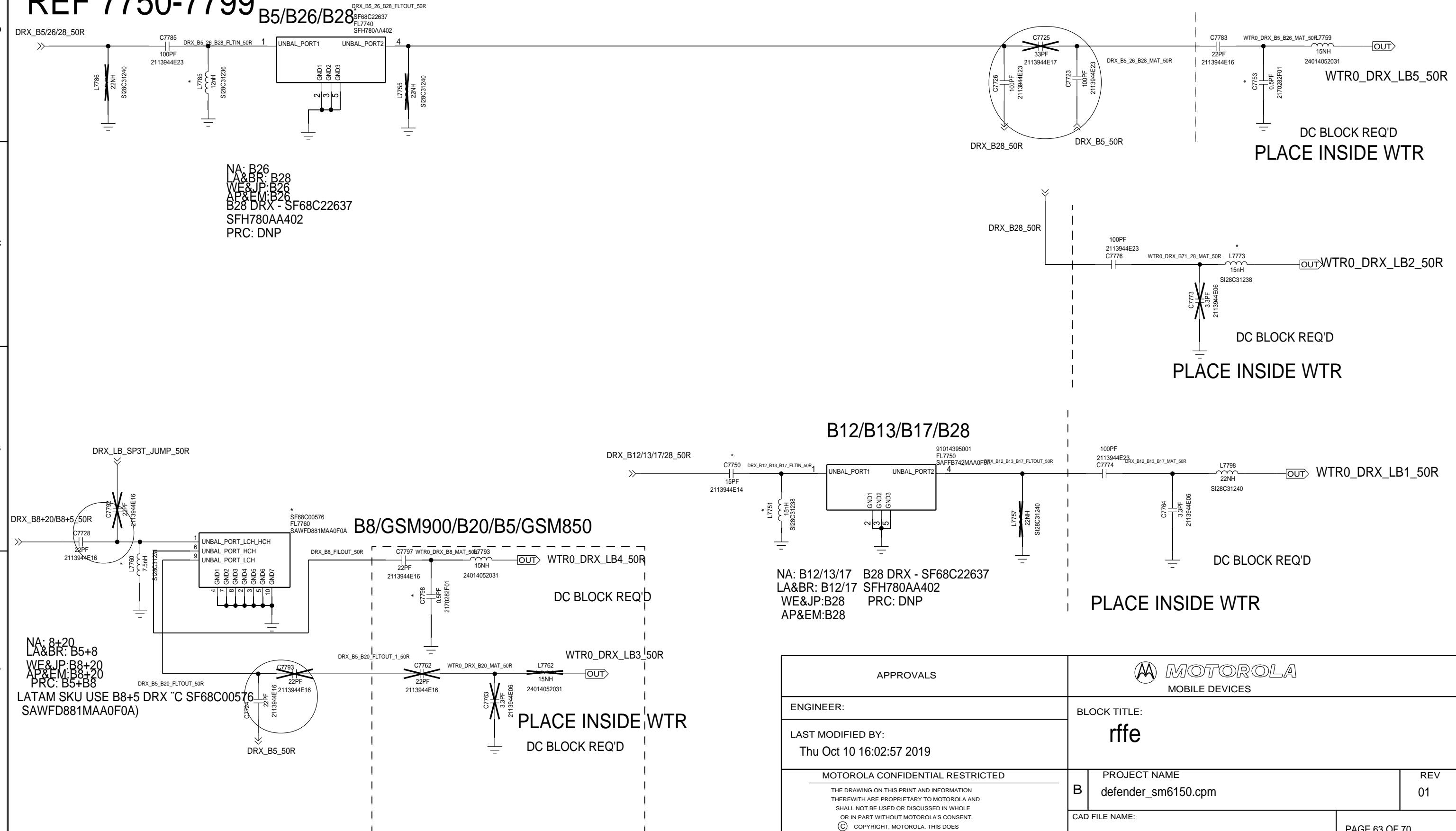
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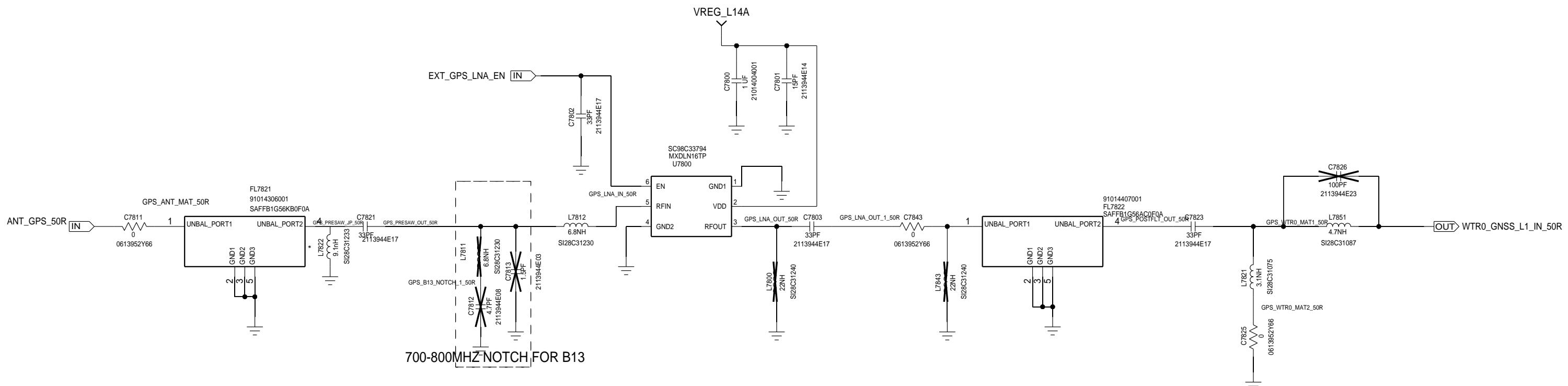
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REF 7750-7799

B5/B26/B28

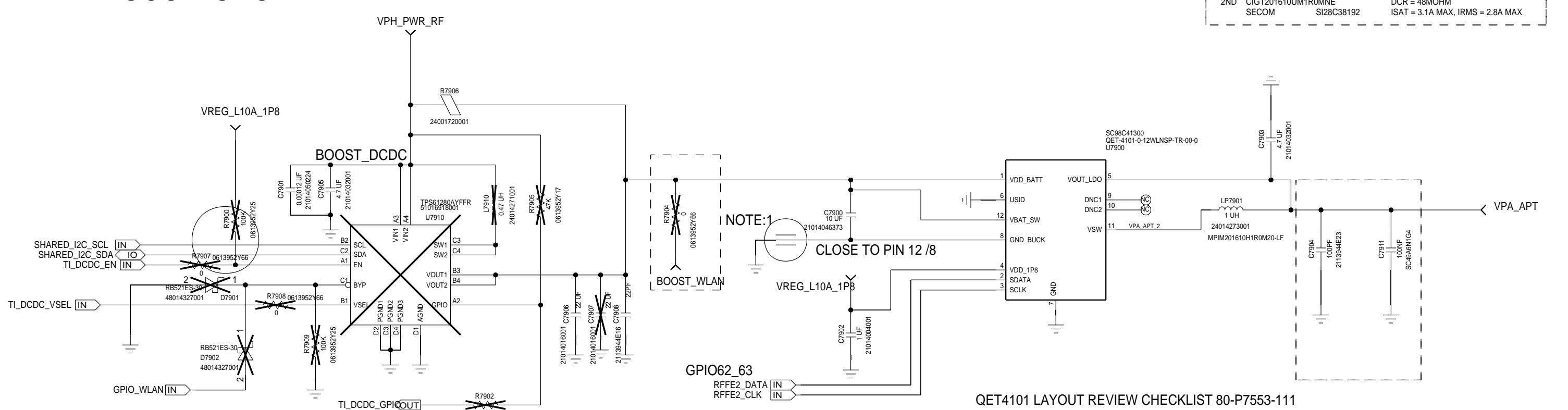


RFFE: GPS REF7800-7899



APPROVALS		MOTOROLA MOBILE DEVICES	
ENGINEER:		BLOCK TITLE:	
LAST MODIFIED BY:		rffe	
MOTOROLA CONFIDENTIAL RESTRICTED	B	PROJECT NAME	REV
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CAD FILE NAME:			PAGE 64 OF 70

RFFE: QFE4101&TI DCDC REF7900-7949



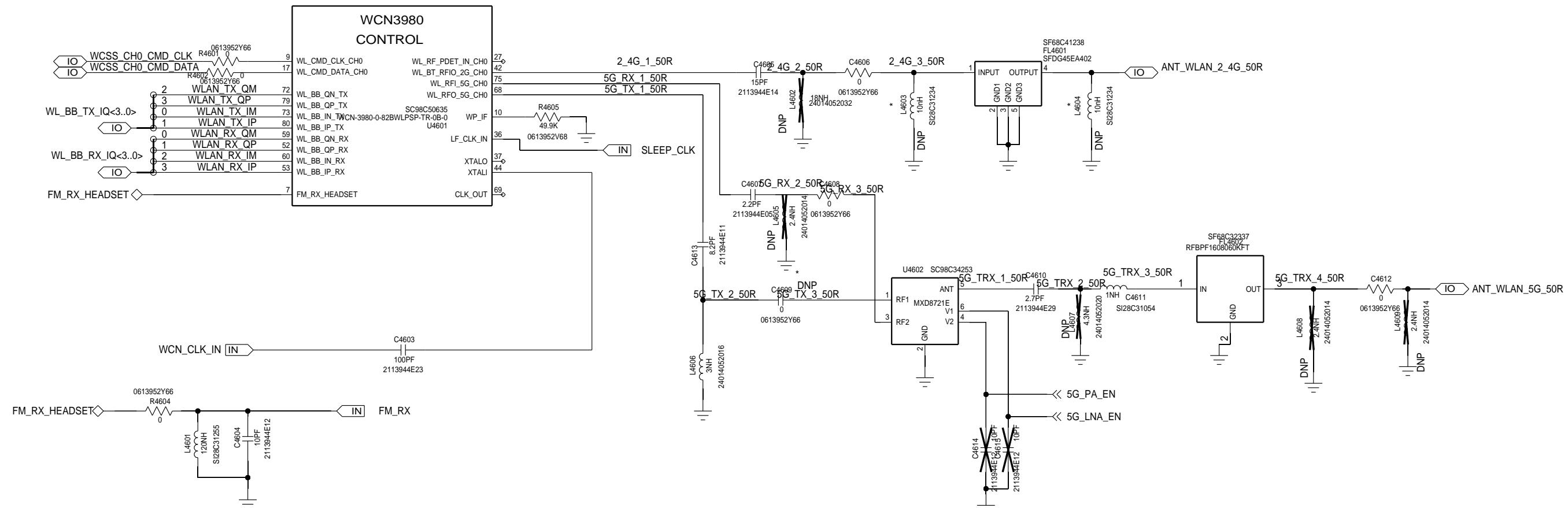
QET4101 LAYOUT REVIEW CHECKLIST 80-P7553-111

DO NOT VIA DIRECTLY TO GROUND PLANE. KEEP ISOLATED ON SURFACE LAYER

NOTE1: NO VIAS ON PIN 8 (GND_SW) AND PIN 12 (VBAT_SW), NO VIAS ON C7900 PADS. USE SHORT AND WIDE TRACES CONNECTING FROM CHIP PINS TO C7900, EXTEND THE TRACE ($\geq 1\text{MM}$), THEN VIAS DOWN AND CONNECT TO THE GROUND AND POWER PLANE/FILL ON THE NEXT LAYER. KEEP THE NEXT LAYER AS CONTINUOUS GROUND UNDERNEATH THE AREA FROM CHIP PINS TO THE C7900 CONNECTION.

APPROVALS		MOTOROLA MOBILE DEVICES	
ENGINEER:		BLOCK TITLE: rffe	
LAST MODIFIED BY: Thu Oct 10 16:02:56 2019			
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CAD FILE NAME:			PAGE 65 OF 70

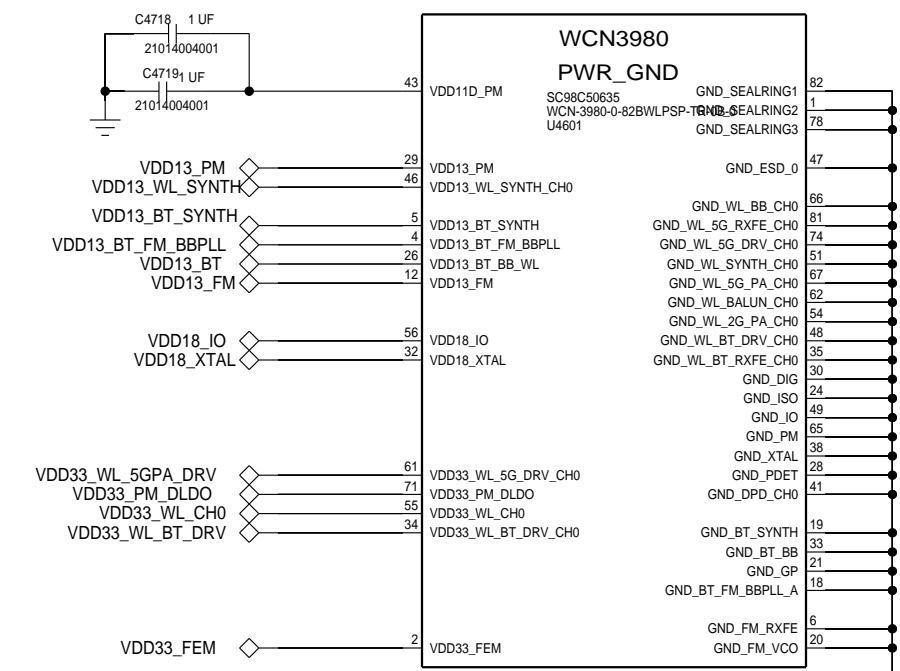
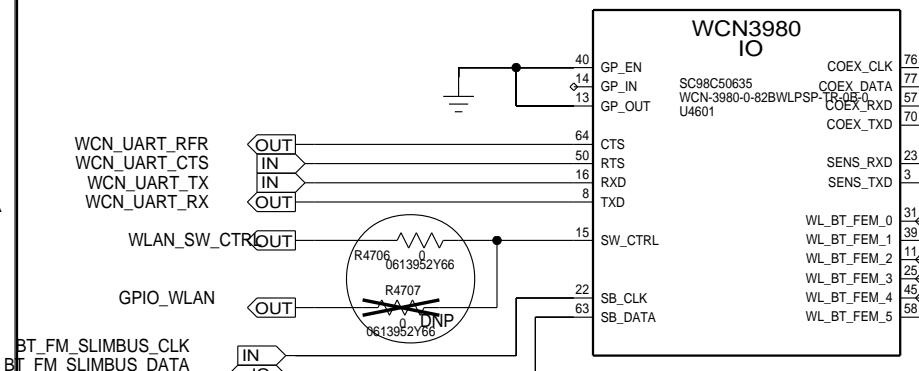
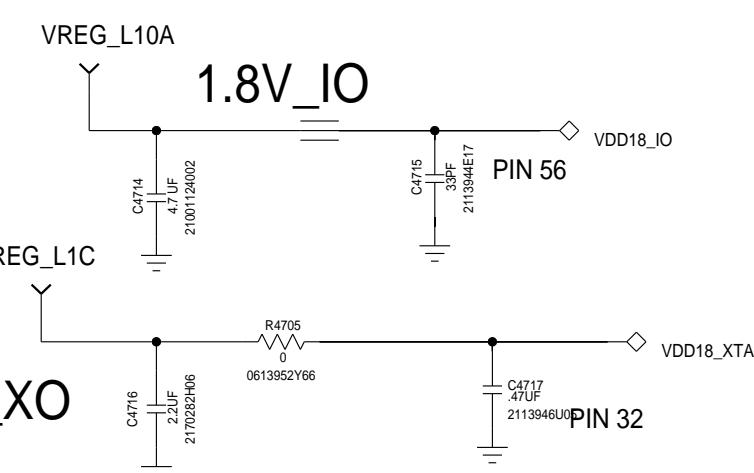
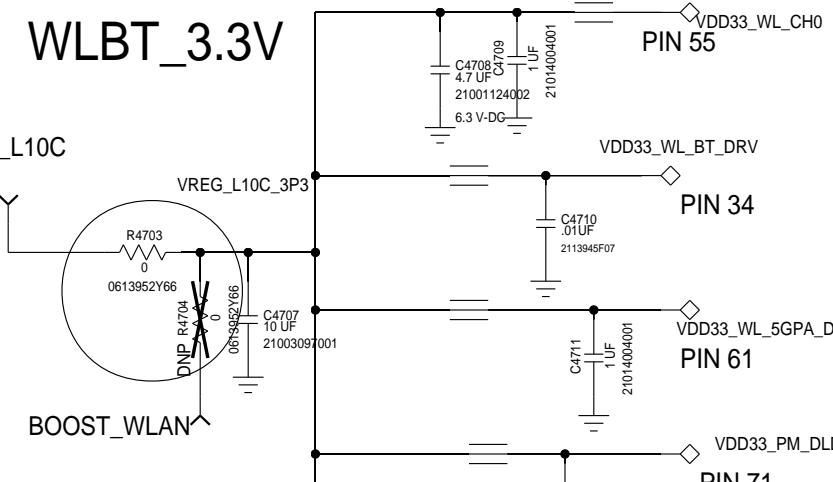
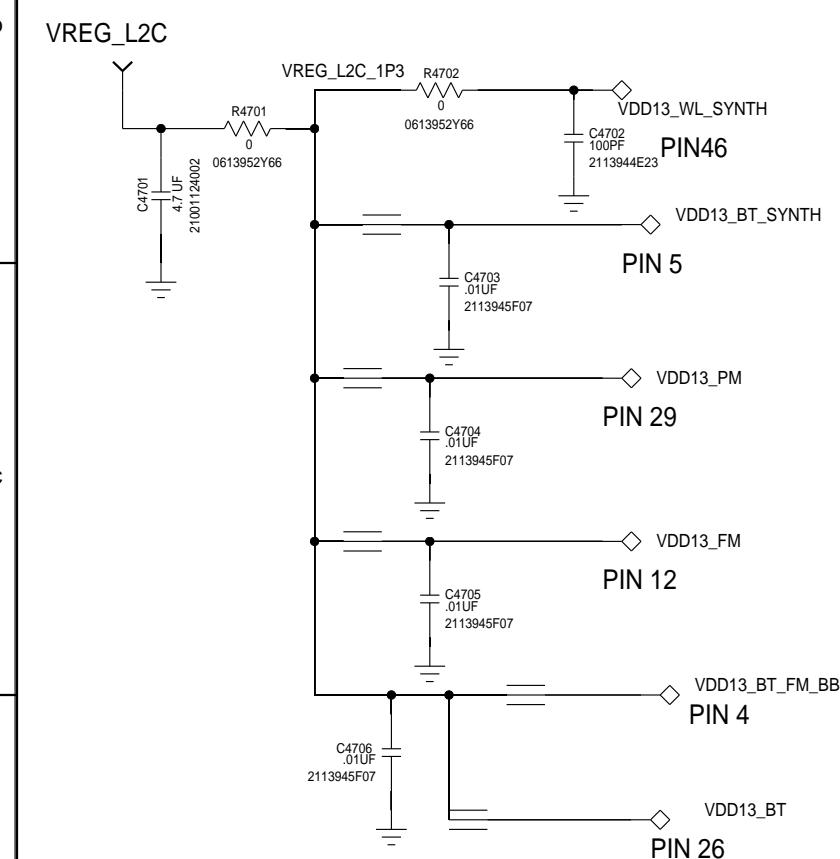
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WCN3980 POWER

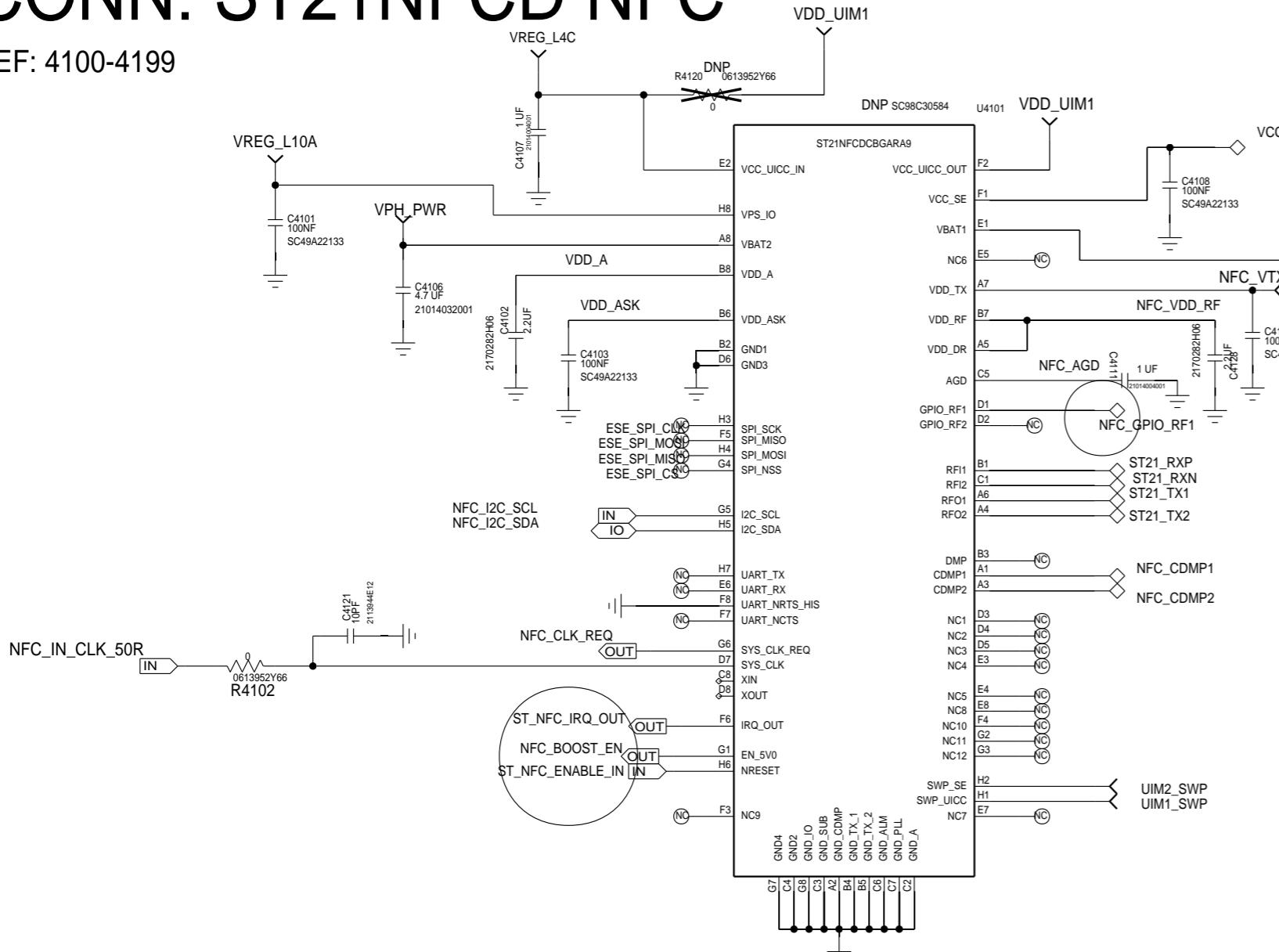
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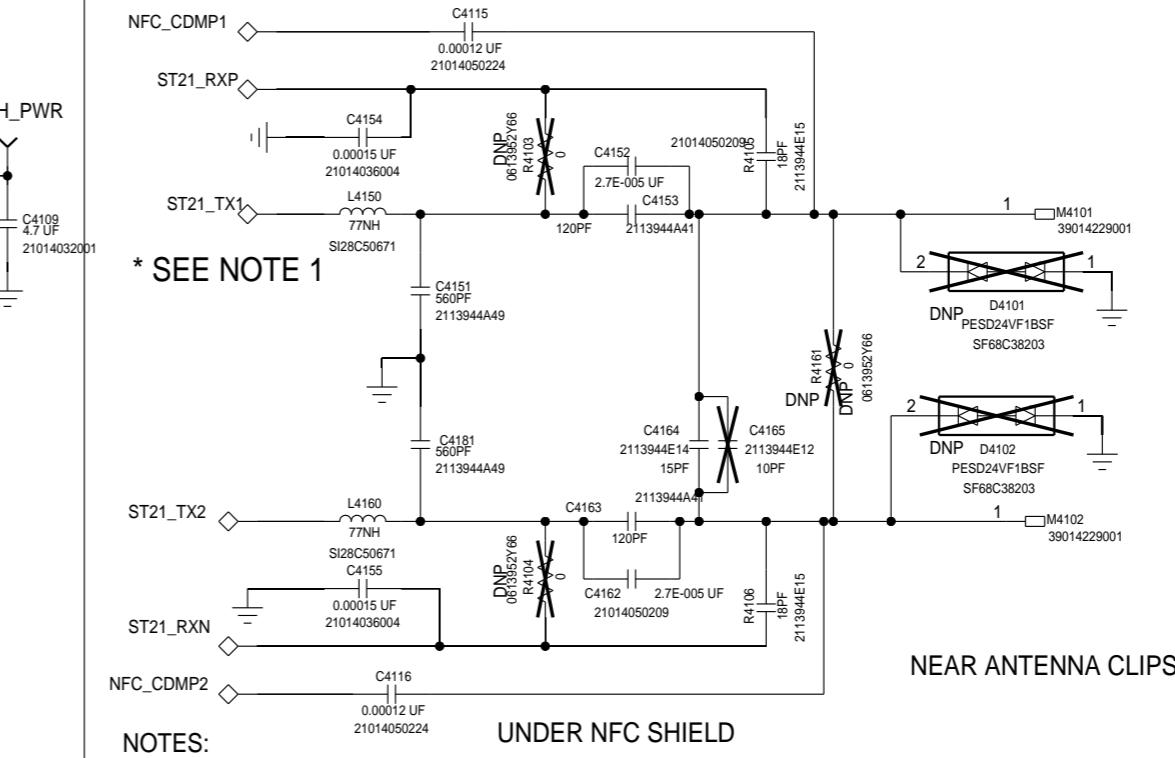
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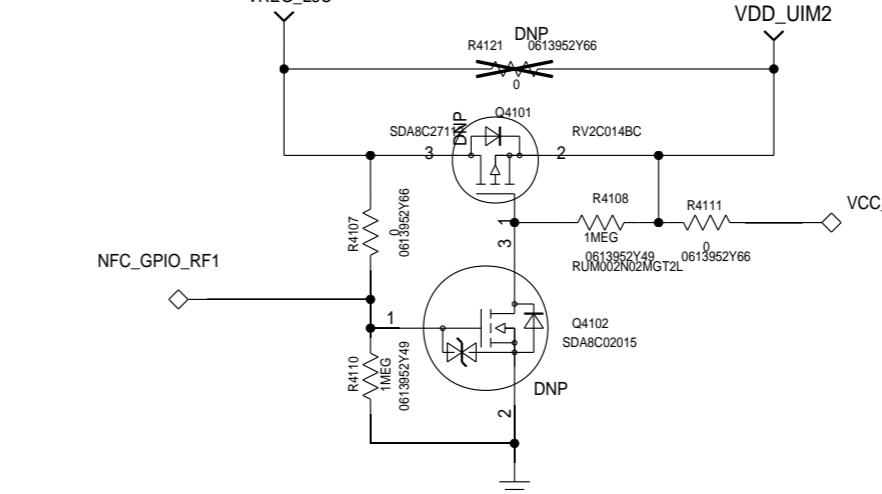


EXTERNAL 5.0V SWITCHER FOR NFC BOOST SUPPLY, CONTROLLED FROM TX_PWR_REQ OUTPUT OF ST21

ANTENNA MATCHING



NEAR ANTENNA CLIPS



APPROVALS

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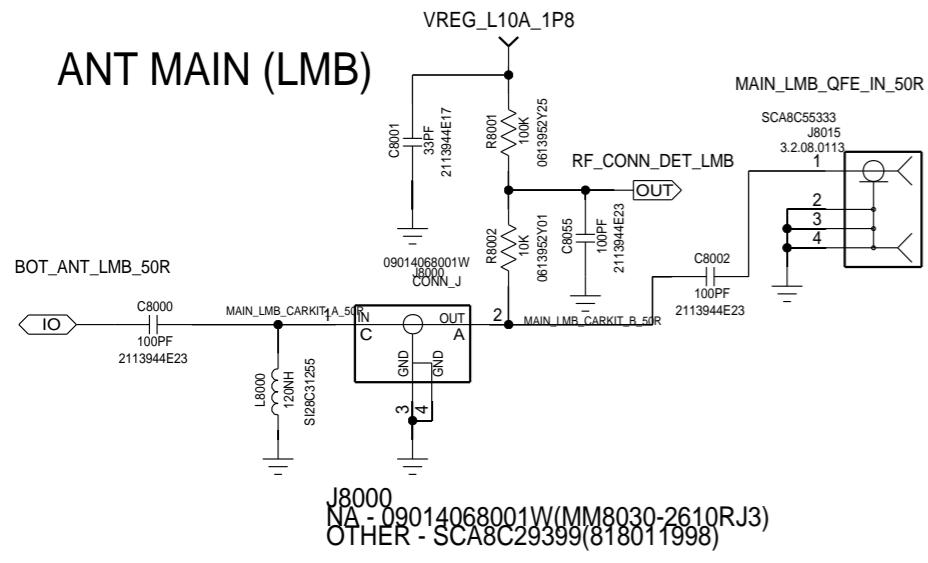
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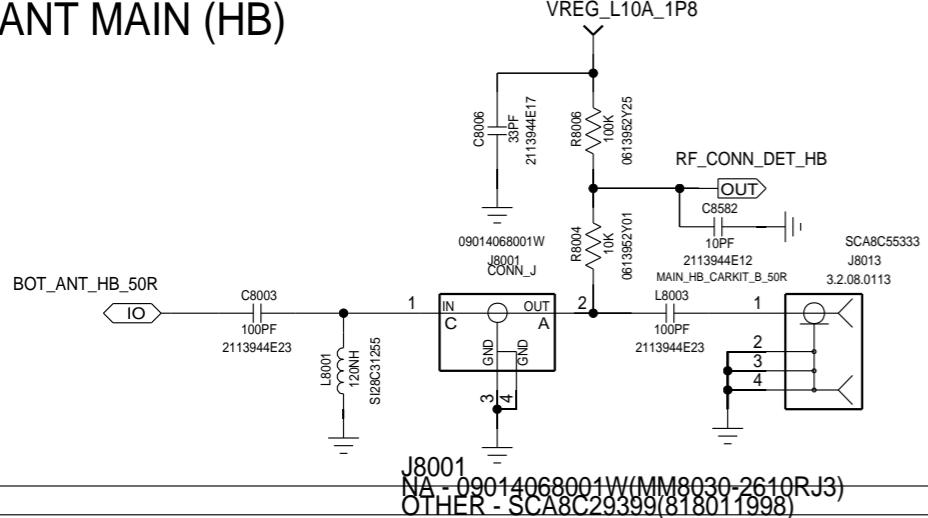
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defender_sm6150.cpmREV
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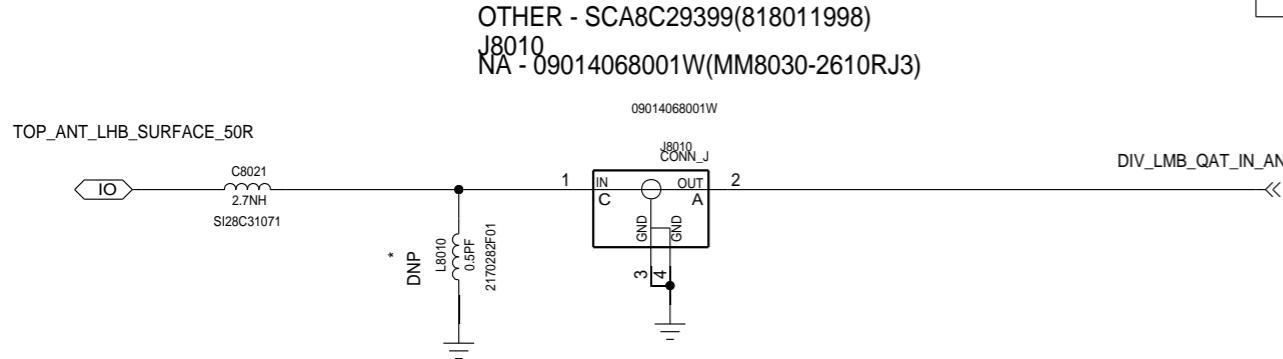
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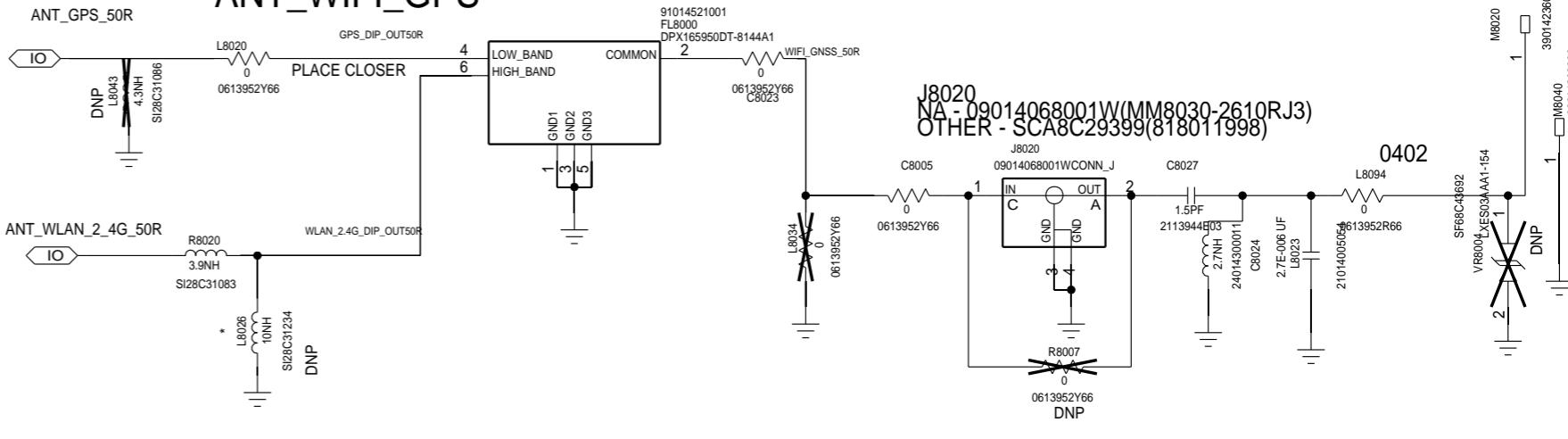
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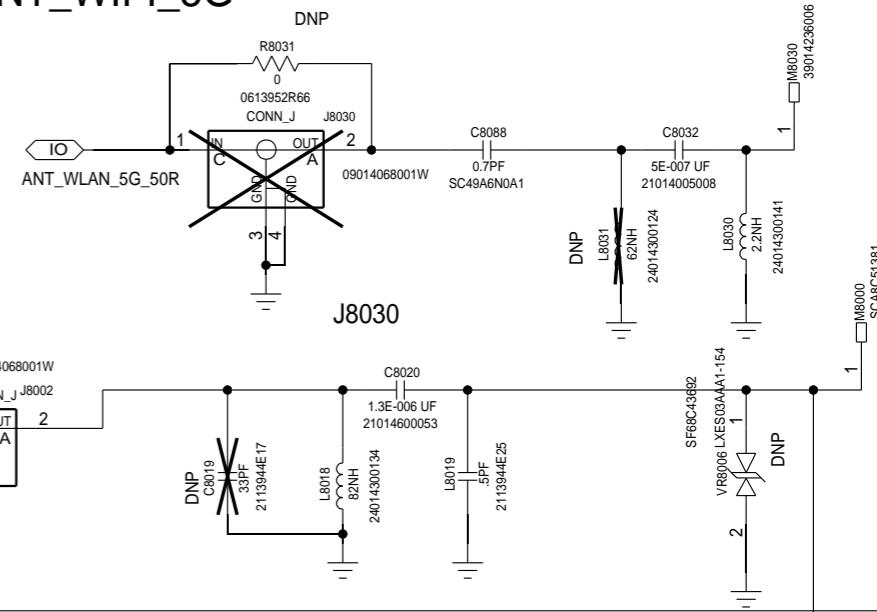
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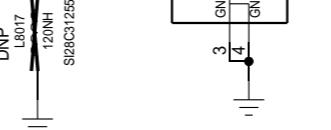


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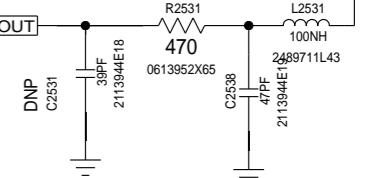


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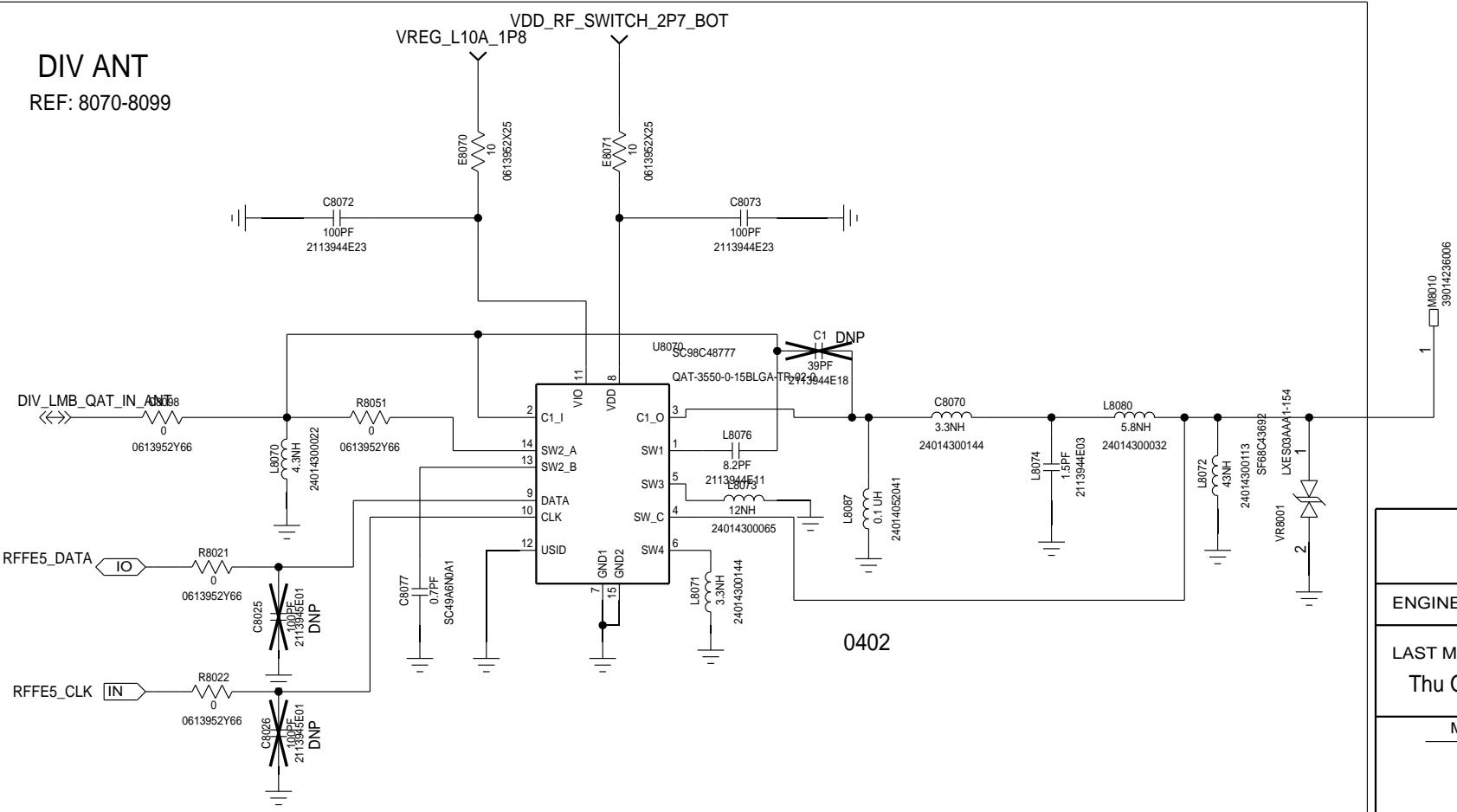
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