DragonBoard410c

Title	DragonBoard410c		
Size: D	Document Number: <Doc>		Rev: A
Date: Monday, August 31, 2015	Sheet 1 of 33		

SHEET	BLOCK	SCHEMATIC
1	\	TITLE
2	\	TABLE_OF_CONTENTS
3	\	APQ8016 - CONTROL
4	\	APQ8016 - EBI0-LPDDR3
5	\	APQ8016 - GPIO 0-73
6	\	APQ8016 - GPIO 74-121 / DNC
7	\	APQ8016 - BOOT CONFIG SW
8	\	APQ8016 - MIPI CSI/DSI
9	\	APQ8016 - RF INTERFACE
10	\	APQ8016 - PWR1
11	\	APQ8016 - PWR2
12	\	APQ8016 - PWR3
13	\	APQ8016 - GND
14	\	APQ8016 - DECOUPLING
15	\	EXTERNAL BUCK REGULATORS
16	\	PM8916 - CONTROL/CLOCKS
17	\	PM8916 - CHARGER/GPIOS/MPPS
18	\	PM8916 - SMPS
19	\	PM8916 - LDOS
20	\	PM8916 - AUDIO
21	\	MEMORY - LPDDR3 + EMMC - CONTR
22	\	MEMORY - LPDDR3 + EMMC - POWER
23	\	MEMORY - USD CONNECTOR
24	\	USB - SWITCH / HUB
25	\	USB - CONNECTORS
26	\	DISPLAY - DSI SWITCH
27	\	DISPLAY - DSI TO HDMI BRIDGE
28	\	SWITCHES/LEDS
29	\	HS / LS EXPANSION CONNECTORS
30	\	JTAG / UART / ANALOG EXPANSION
31	\	WCN3620 - RF / CONTROL
32	\	WCN3620 - PWR / GND
33	\	WGR7640 - GPS

SHEET	BLOCK	SCHEMATIC

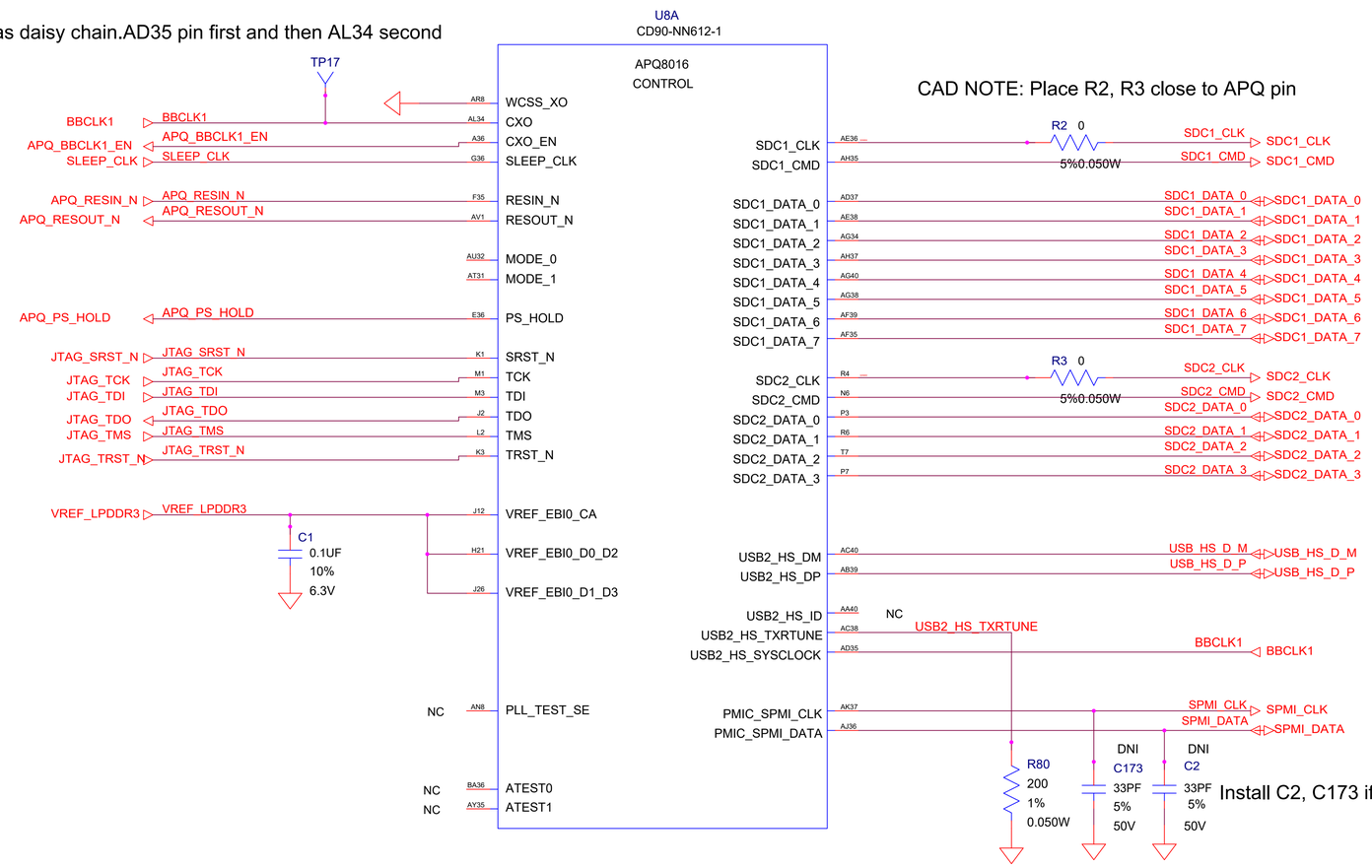
SHEET	BLOCK	SCHEMATIC

SHEET	BLOCK	SCHEMATIC

Title	DragonBoard410c	
Size: D	Document Number: <Doc>	Rev: A
Date: Monday, August 31, 2015	Sheet 2 of 33	

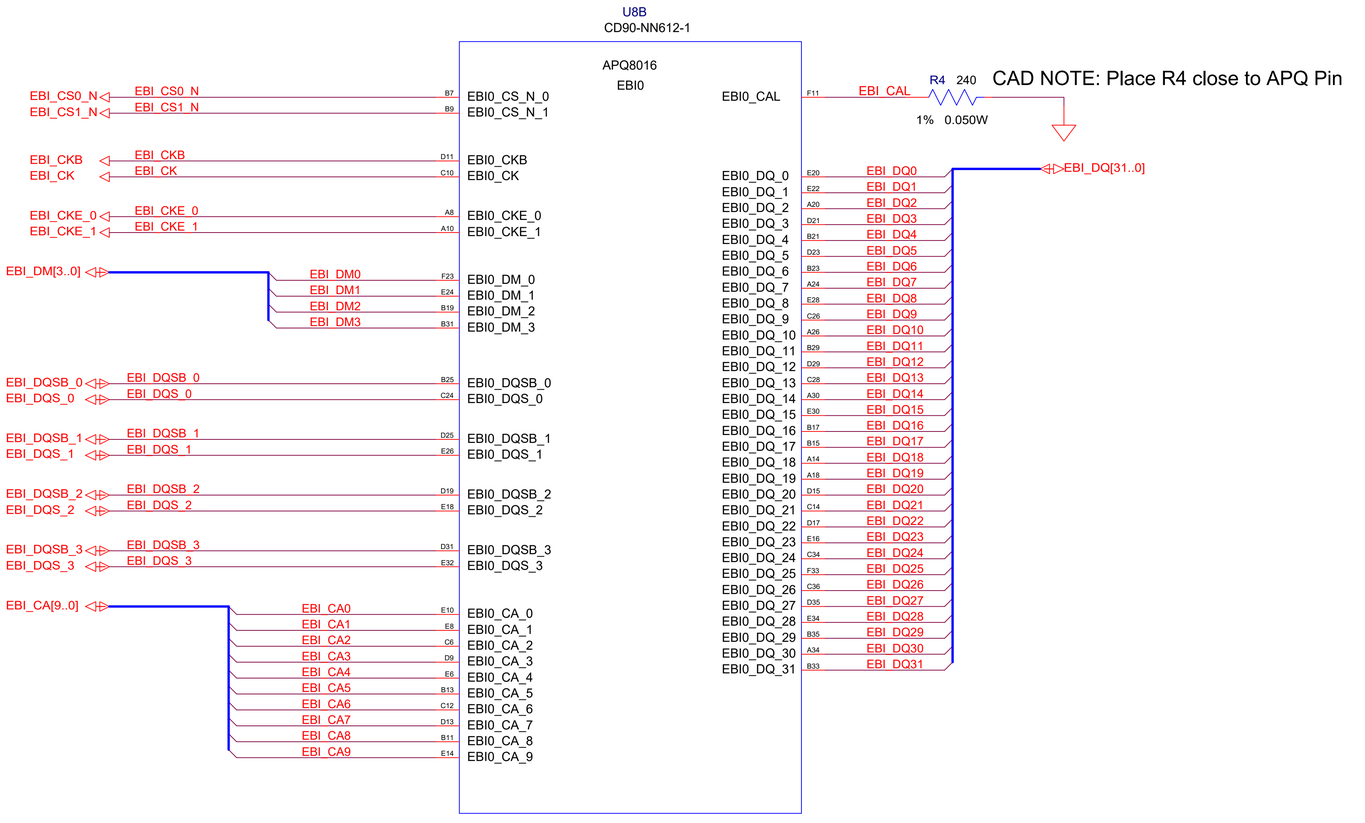
APQ8016 - CONTROL

Route BBCLK1 as daisy chain.AD35 pin first and then AL34 second



Title	DragonBoard410c		
Size D	Document Number <Doc>		Rev A
Date: Monday, August 31, 2015	Sheet 3 of 33		

APQ8016 - EBI0-LPDDR3



Title	DragonBoard410c	
Size D	Document Number <Doc>	Rev A
Date: Monday, August 31, 2015	Sheet 4 of 33	

APQ8016 - GPIO 0-73

U8C
CD90-NN612-1

APQ8016
GPIO1

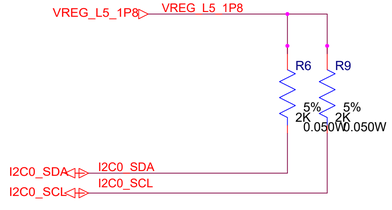
UART0 (LS EXP CONN)	UART0_TX	UART0_TX	BA38	GPIO_0	BLSP1	GPIO_37	E4	FORCED_USB_BOOT
	UART0_RX	UART0_RX	BB39	GPIO_1		GPIO_38	B37	SD_CARD_DET_N
	UART0_CTS_N	UART0_CTS_N	AV35	GPIO_2		GPIO_39	BC2	WCSS_BT_SSBI
	UART0_RTS_N	UART0_RTS_N	AY37	GPIO_3		GPIO_40	BB5	WCSS_WLAN_DATA_2
UART1 (LS EXP CONN)DEBUG UART	UART1_TX	UART1_TX	AT9	GPIO_4	BLSP2	GPIO_41	BB1	WCSS_WLAN_DATA_1
	UART1_RX	UART1_RX	AY1	GPIO_5		GPIO_42	BD3	WCSS_WLAN_DATA_0
I2C0 (LS EXP CONN)SENSORS I2C	I2C0_SDA	I2C0_SDA	AY3	GPIO_6		GPIO_43	BA6	WCSS_WLAN_SET
	I2C0_SCL	I2C0_SCL	AV3	GPIO_7		GPIO_44	BB3	WCSS_WLAN_CLK
SPI1 (HS EXP CONN)	SPI1_MOSI	SPI1_MOSI	H5	GPIO_8	BLSP3	GPIO_45	AY5	WCSS_FM_SSBI
	SPI1_MISO	SPI1_MISO	G2	GPIO_9		GPIO_46	AY9	WCSS_FM_SDI
	SPI1_CS_N	SPI1_CS_N	H1	GPIO_10		GPIO_47	BA4	WCSS_BT_DAT_CTL
	SPI1_CLK	SPI1_CLK	E2	GPIO_11		GPIO_48	AW8	WCSS_BT_DAT_STB
LS_EXP_GPIO_B	LS_EXP_GPIO_B	LS_EXP_GPIO_B (TS_RST_N)	AM39	GPIO_12	BLSP4	GPIO_49	Y37	NC
LS_EXP_GPIO_C	LS_EXP_GPIO_C	LS_EXP_GPIO_C (TS_INT_N)	AM35	GPIO_13		GPIO_50	AA34	NC
I2C3 (HS EXP CONN - OPT)DSI2HDMI, USB HUB (OPT)	I2C3_SDA	I2C3_SDA	AN40	GPIO_14		GPIO_51	Y35	NC
	I2C3_SCL	I2C3_SCL	AN36	GPIO_15		GPIO_52	AA38	NC
SPI0 (LS EXP CONN)TOUCH SCREEN I2C	SPI0_MOSI	SPI0_MOSI	K7	GPIO_16	BLSP5	GPIO_53	L40	NC
	SPI0_MISO	SPI0_MISO	G6	GPIO_17		GPIO_54	K39	NC
	SPI0_CS_N	SPI0_CS_N	J6	GPIO_18		GPIO_55	H39	NC
	SPI0_CLK	SPI0_CLK	J4	GPIO_19		GPIO_56	AA36	NC
HDMI_HPD_N	HDMI_HPD_N	HDMI_HPD_N	AY7	GPIO_20	BLSP6	GPIO_57	G40	NC
USR_LED_1_CTRL	USR_LED_1_CTRL	USR_LED_1_CTRL	AW6	GPIO_21		GPIO_58	J40	NC
I2C1 (LS EXP CONN)	I2C1_SDA	I2C1_SDA	AV7	GPIO_22		GPIO_59	L38	NC
	I2C1_SCL	I2C1_SCL	BA2	GPIO_23		GPIO_60	Y39	NC
LS_EXP_GPIO_G	LS_EXP_GPIO_G	LS_EXP_GPIO_G (DSI_VSYNC)	AT5	GPIO_24		GPIO_61	AL38	NC
LS_EXP_GPIO_H	LS_EXP_GPIO_H	LS_EXP_GPIO_H (DSI_RST)	AU4	GPIO_25		GPIO_62	G34	NC
CSI0_MCLK	CSI0_MCLK	CSI0_MCLK	H3	GPIO_26		GPIO_63	AJ40	CDC_PDM0_CLK
CSI1_MCLK	CSI1_MCLK	CSI1_MCLK	C2	GPIO_27		GPIO_64	AH39	CDC_PDM0_SYNC
LS_EXP_GPIO_K	LS_EXP_GPIO_K	LS_EXP_GPIO_K (CSI1_RST)	F1	GPIO_28		GPIO_65	AK39	CDC_PDM0_TX0
I2C2 (HS EXP CONN)CAMERA I2C	I2C2_SDA	I2C2_SDA	B3	GPIO_29	CCI	GPIO_66	AJ38	CDC_PDM0_RX0
	I2C2_SCL	I2C2_SCL	F3	GPIO_30		GPIO_67	AK35	CDC_PDM0_RX1
DSI2HDMI_INT_N	DSI2HDMI_INT_N	DSI2HDMI_INT_N	D3	GPIO_31		GPIO_68	AL40	CDC_PDM0_RX2
DSI_SW_SEL_APQ	DSI_SW_SEL_APQ	DSI_SW_SEL_APQ	D1	GPIO_32		GPIO_69	L36	LS_EXP_GPIO_D (MAG_INT)
LS_EXP_GPIO_L	LS_EXP_GPIO_L	LS_EXP_GPIO_L (CSI1_PWDN)	G4	GPIO_33		GPIO_70	AN38	NC
LS_EXP_GPIO_J	LS_EXP_GPIO_J	LS_EXP_GPIO_J (CSI0_PWDN)	F5	GPIO_34		GPIO_71	AR38	NC
LS_EXP_GPIO_I	LS_EXP_GPIO_I	LS_EXP_GPIO_I (CSI0_RST)	A4	GPIO_35		GPIO_72	AT39	NC
LS_EXP_GPIO_A	LS_EXP_GPIO_A	LS_EXP_GPIO_A (APQ_INT)	C4	GPIO_36		GPIO_73	AU40	NC

WCSS (WLAN/BT/FM) SIGNALS

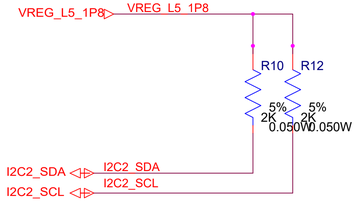
PM8916 CODEC SIGNALS

I2C PULL-UP RESISTORS

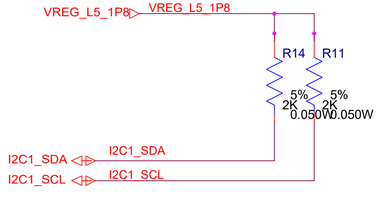
I2C0 (LS EXP CONN)SENSORS I2C



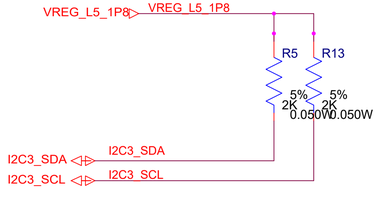
I2C2 (HS EXP CONN)CAMERA I2C



I2C1 (LS EXP CONN)

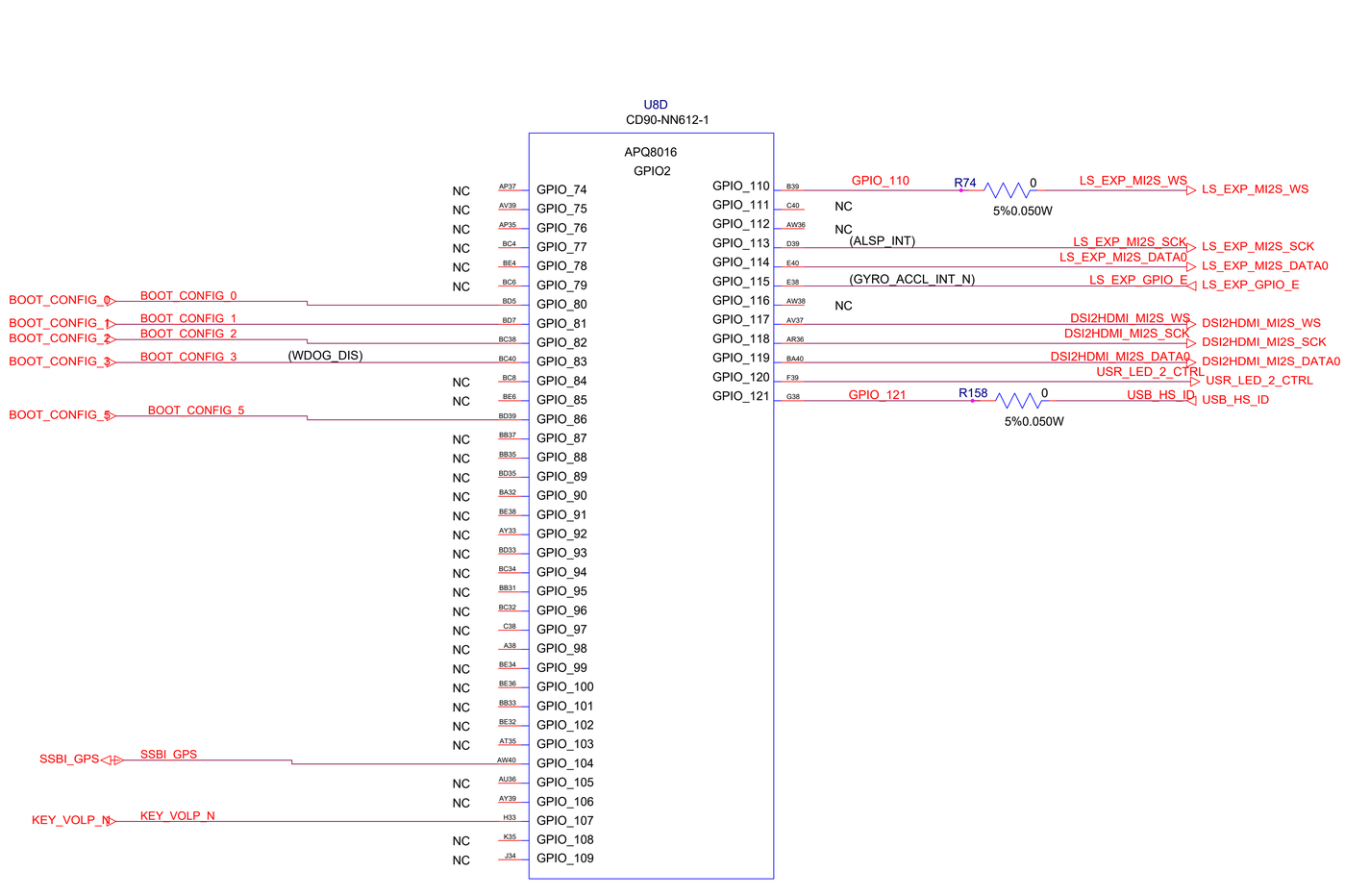


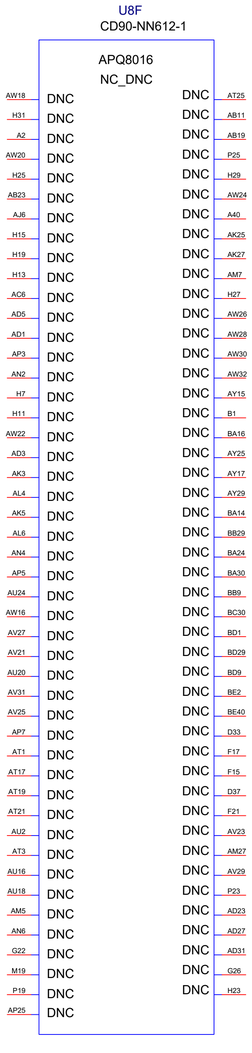
I2C3 (HS EXP CONN - OPT)DSI2HDMIUSB HUB (OPT)



Title	DragonBoard410c	
Size: D	Document Number: <Doc>	Rev: A
Date: Monday, August 31, 2015	Sheet 5 of 33	

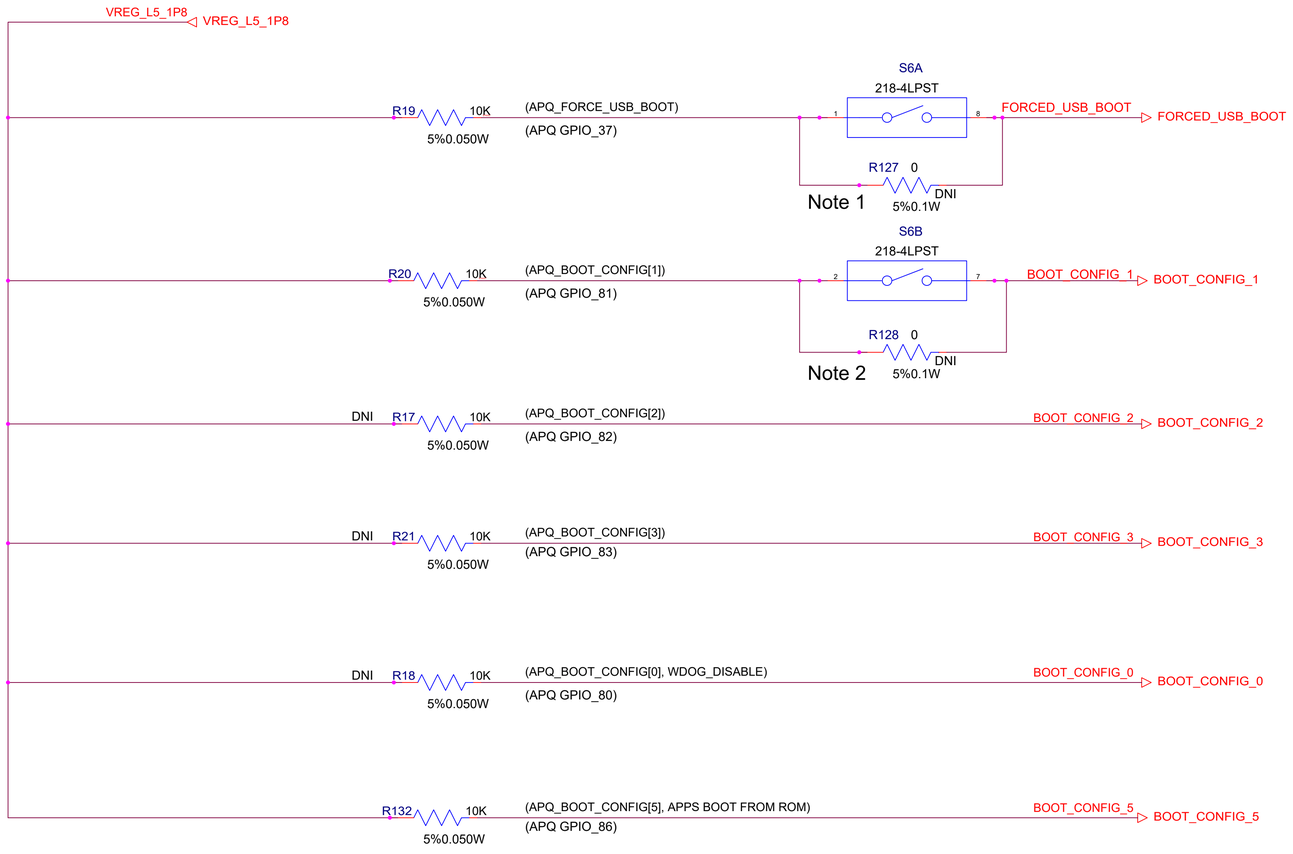
APQ8016 - GPIO 74-121 / DNC





Title	DragonBoard410c
Size: D	Document Number: <Doc>
Rev: A	
Date: Monday, August 31, 2015	Sheet 6 of 33

APQ8016 - BOOT CONFIG SW



BOOT CONFIGURATIONS

BOOT_CONFIG[3:1]	BOOT OPTIONS
0b000	SDC1 --> SDC2 --> USB2.0
0b001	SDC2 --> SDC1 --> USB2.0
0b010	SDC1 --> USB2.0
0b011	USB2.0

Default Boot Config (0b000) is eMMC on the SDC1

Note 1: Short between resistors pads to force boot from USB when dip-switch is not installed

Note 2: Short between resistors pads to boot from uSD when dip-switch is not installed

Title: DragonBoard410c		
Size: D	Document Number: <Doc>	Rev: A
Date: Monday, August 31, 2015	Sheet 7 of 33	

U8E
CD90-NN612-1

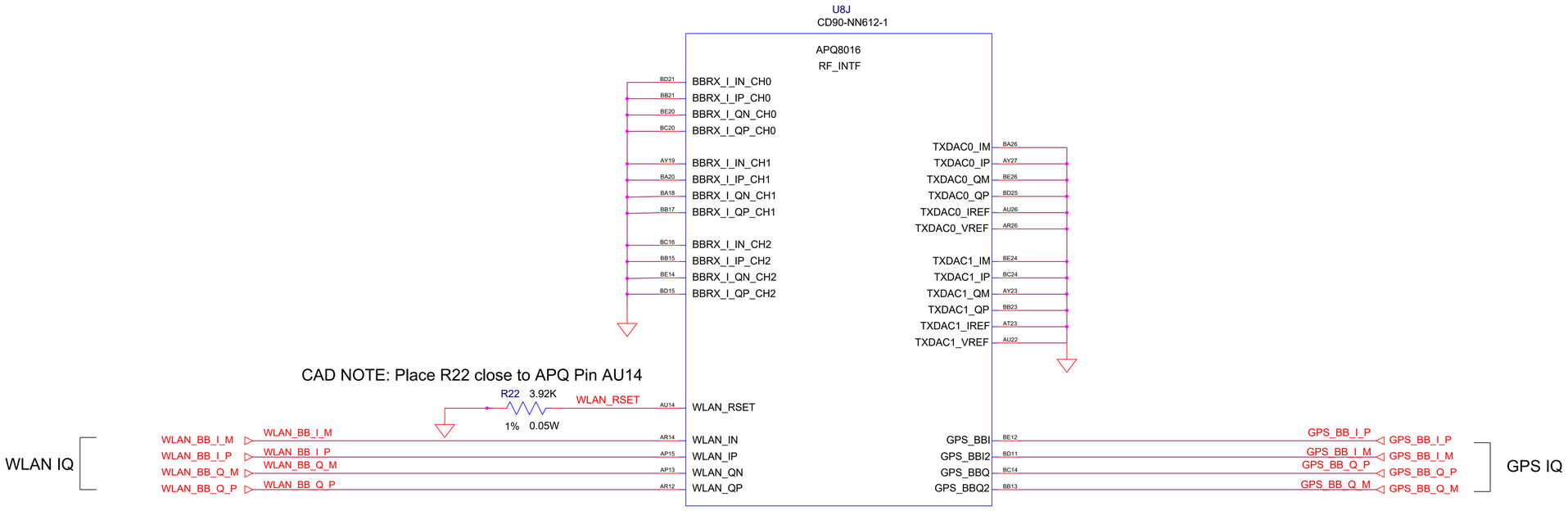
APQ8016
MIPI

MIPI_CSI0_DATA0_M	MIPI_CSI0_DATA0_M	U4	MIPI_CSI0_LANE0_N	MIPI_DSI0_CLK_N	AH1	MIPI_DSI0_CLK_M	MIPI_DSI0_CLK_M
MIPI_CSI0_DATA0_P	MIPI_CSI0_DATA0_P	U6	MIPI_CSI0_LANE0_P	MIPI_DSI0_CLK_P	AG2	MIPI_DSI0_CLK_P	MIPI_DSI0_CLK_P
MIPI_CSI0_CLK_M	MIPI_CSI0_CLK_M	W6	MIPI_CSI0_LANE1_N	MIPI_DSI0_LANE0_N	AF1	MIPI_DSI0_DATA0_M	MIPI_DSI0_DATA0_M
MIPI_CSI0_CLK_P	MIPI_CSI0_CLK_P	V5	MIPI_CSI0_LANE1_P	MIPI_DSI0_LANE0_P	AE2	MIPI_DSI0_DATA0_P	MIPI_DSI0_DATA0_P
MIPI_CSI0_DATA1_M	MIPI_CSI0_DATA1_M	U2	MIPI_CSI0_LANE2_N	MIPI_DSI0_LANE1_N	AF3	MIPI_DSI0_DATA1_M	MIPI_DSI0_DATA1_M
MIPI_CSI0_DATA1_P	MIPI_CSI0_DATA1_P	T1	MIPI_CSI0_LANE2_P	MIPI_DSI0_LANE1_P	AE4	MIPI_DSI0_DATA1_P	MIPI_DSI0_DATA1_P
MIPI_CSI0_DATA2_M	MIPI_CSI0_DATA2_M	W2	MIPI_CSI0_LANE3_N	MIPI_DSI0_LANE2_N	AH3	MIPI_DSI0_DATA2_M	MIPI_DSI0_DATA2_M
MIPI_CSI0_DATA2_P	MIPI_CSI0_DATA2_P	V1	MIPI_CSI0_LANE3_P	MIPI_DSI0_LANE2_P	AG4	MIPI_DSI0_DATA2_P	MIPI_DSI0_DATA2_P
MIPI_CSI0_DATA3_M	MIPI_CSI0_DATA3_M	AA6	MIPI_CSI0_LANE4_N	MIPI_DSI0_LANE3_N	AL2	MIPI_DSI0_DATA3_M	MIPI_DSI0_DATA3_M
MIPI_CSI0_DATA3_P	MIPI_CSI0_DATA3_P	Y5	MIPI_CSI0_LANE4_P	MIPI_DSI0_LANE3_P	AK1	MIPI_DSI0_DATA3_P	MIPI_DSI0_DATA3_P

MIPI_CSI1_DATA0_M	MIPI_CSI1_DATA0_M	AA2	MIPI_CSI1_LANE0_N
MIPI_CSI1_DATA0_P	MIPI_CSI1_DATA0_P	Y1	MIPI_CSI1_LANE0_P
MIPI_CSI1_CLK_M	MIPI_CSI1_CLK_M	AB5	MIPI_CSI1_LANE1_N
MIPI_CSI1_CLK_P	MIPI_CSI1_CLK_P	AB3	MIPI_CSI1_LANE1_P
MIPI_CSI1_DATA1_M	MIPI_CSI1_DATA1_M	AC2	MIPI_CSI1_LANE2_N
MIPI_CSI1_DATA1_P	MIPI_CSI1_DATA1_P	AB1	MIPI_CSI1_LANE2_P

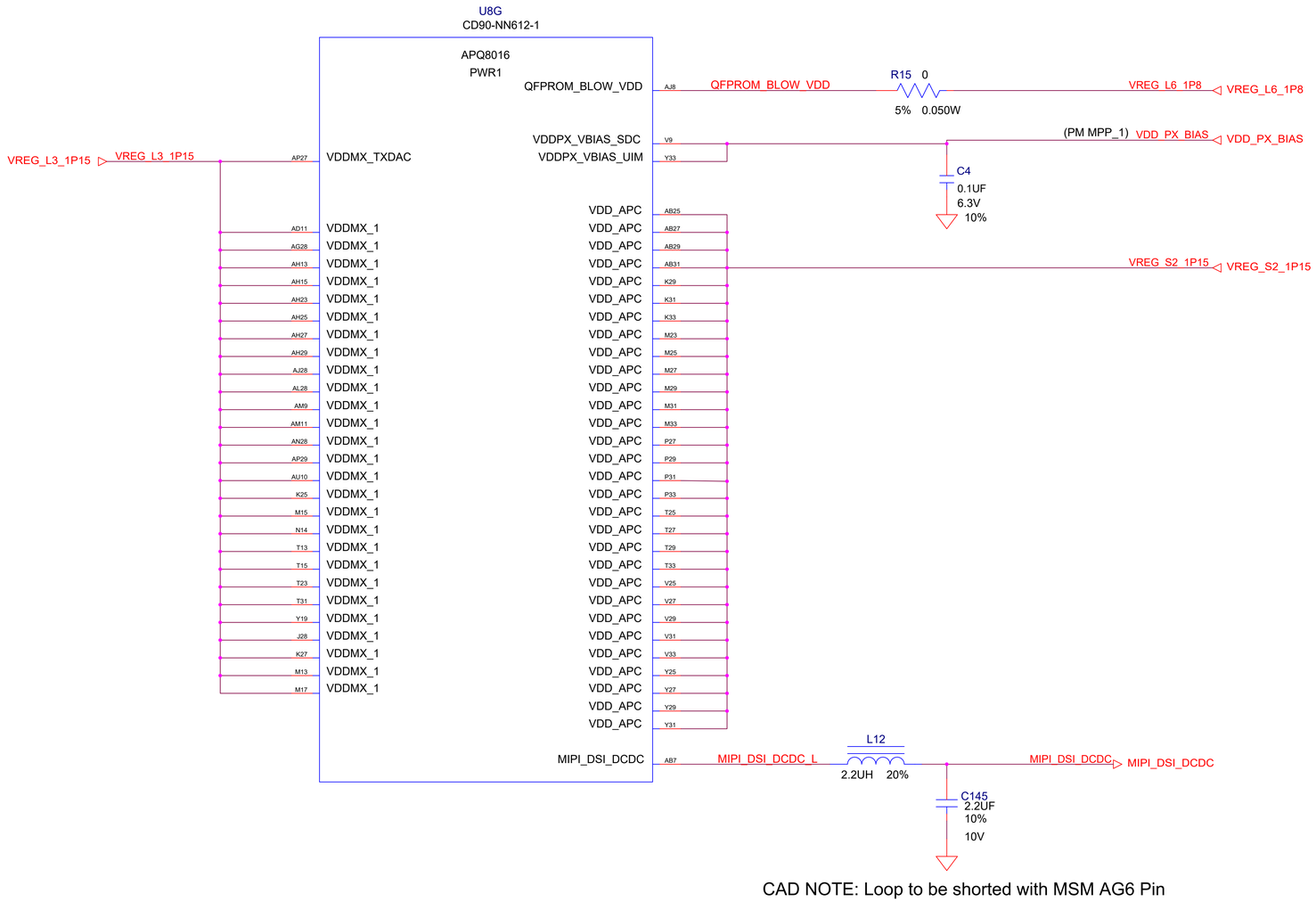
Title	DragonBoard410c		
Size D	Document Number <Doc>		Rev A
Date: Monday, August 31, 2015	Sheet 8	of 33	

APQ8016 - RF INTERFACE



Title: DragonBoard410c		
Size: D	Document Number: <Doc>	Rev: A
Date: Monday, August 31, 2015	Sheet 9 of 33	

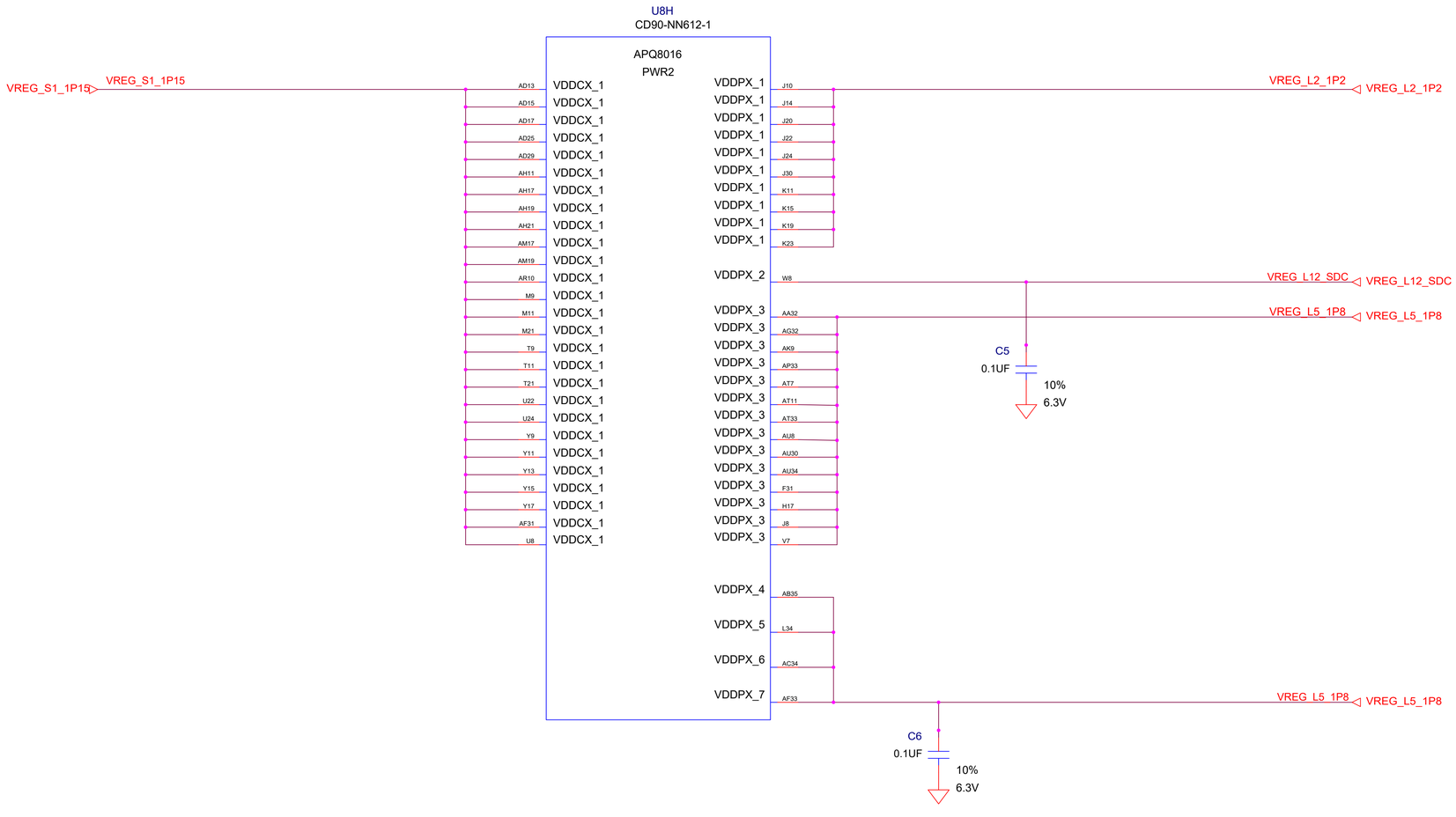
APQ8016 - PWR1



CAD NOTE: Loop to be shorted with MSM AG6 Pin

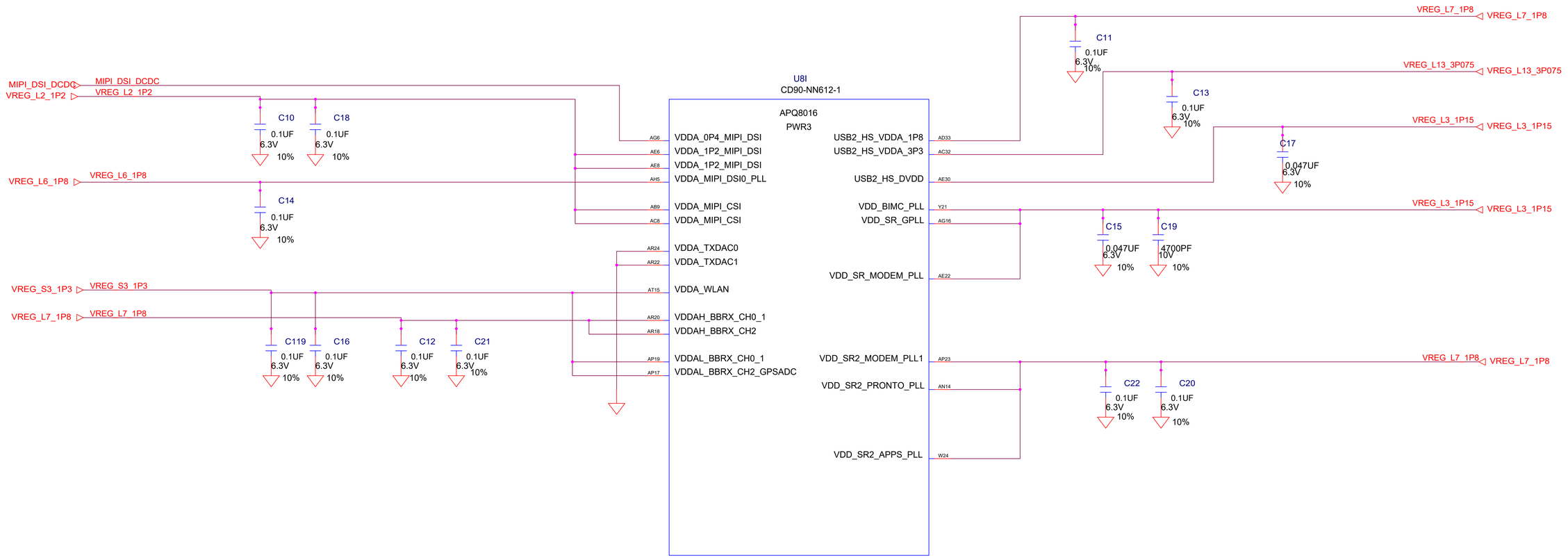
Title	DragonBoard410c	
Size D	Document Number <Doc>	Rev A
Date: Monday, August 31, 2015	Sheet 10 of 33	

APQ8016 - PWR2



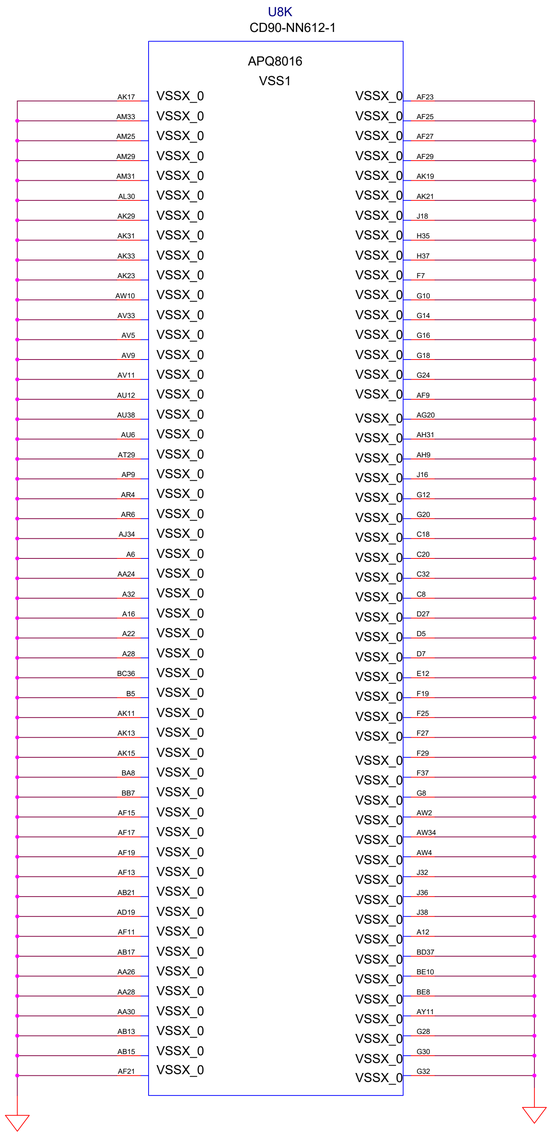
Title	DragonBoard410c	
Size: D	Document Number: <Doc>	Rev: A
Date: Monday, August 31, 2015	Sheet 11 of 33	

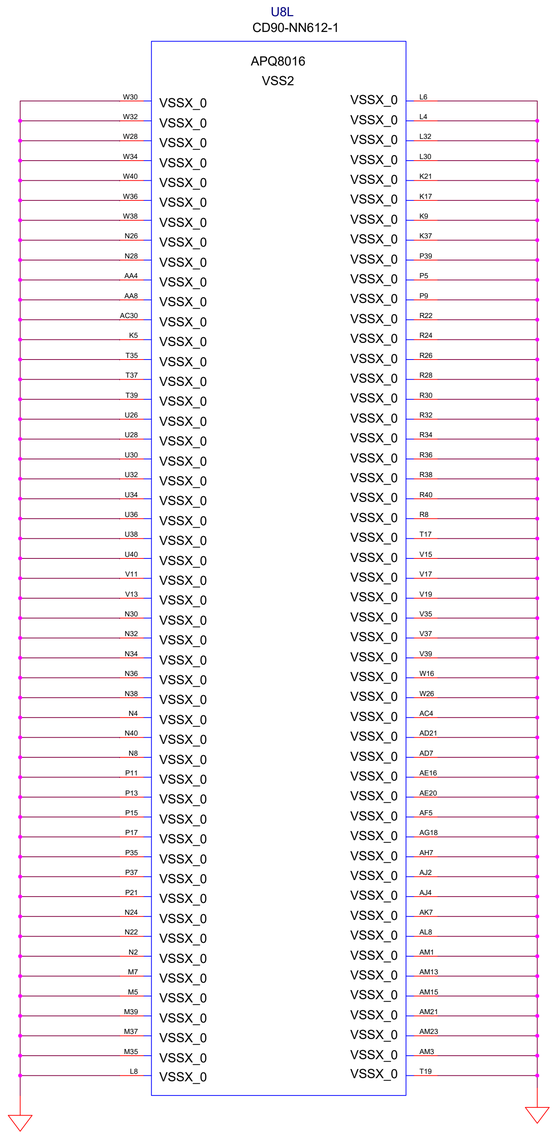
APQ8016 - PWR3

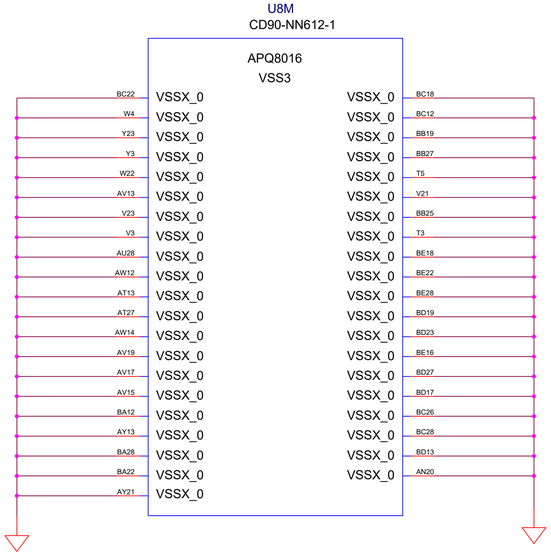


Title	DragonBoard410c	
Size D	Document Number <Doc>	Rev A
Date: Monday, August 31, 2015	Sheet 12 of 33	

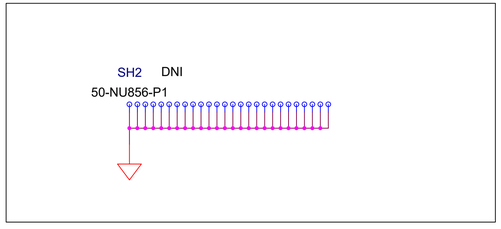
APQ8016 - GND





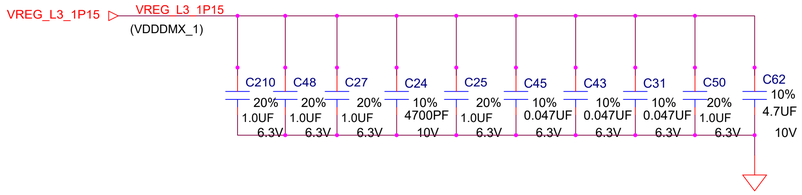


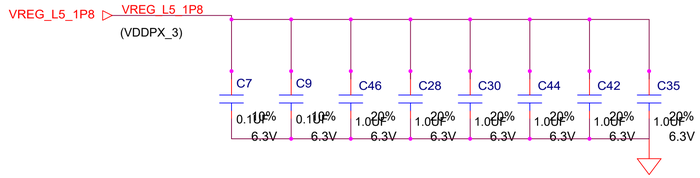
APQ / PM / DDR Circuitry Shield

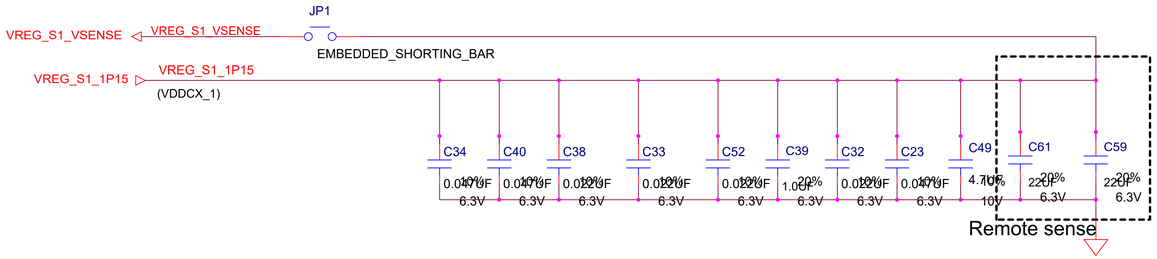


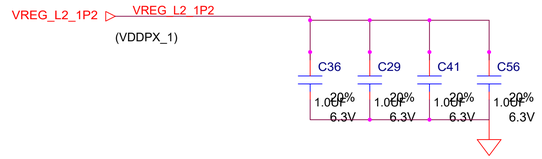
Title	DragonBoard410c	
Size D	Document Number <Doc>	Rev A
Date: Monday, August 31, 2015	Sheet 13 of 33	

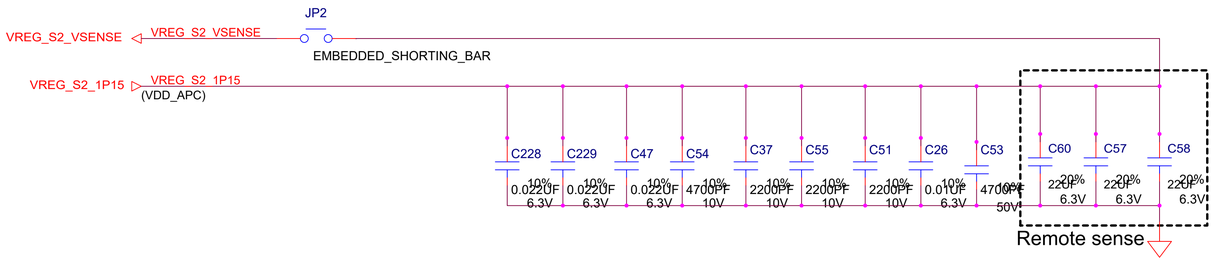
APQ8016 BYPASS CAPACITORS









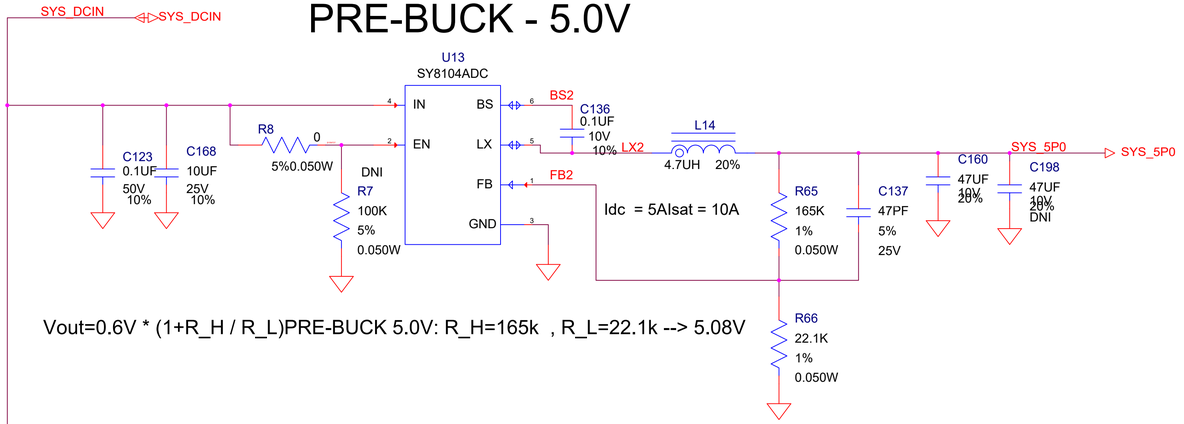


Title	DragonBoard410c	
Size D	Document Number <Doc>	Rev A
Date: Monday, August 31, 2015	Sheet 14 of 33	

EXTERNAL BUCK REGULATORS

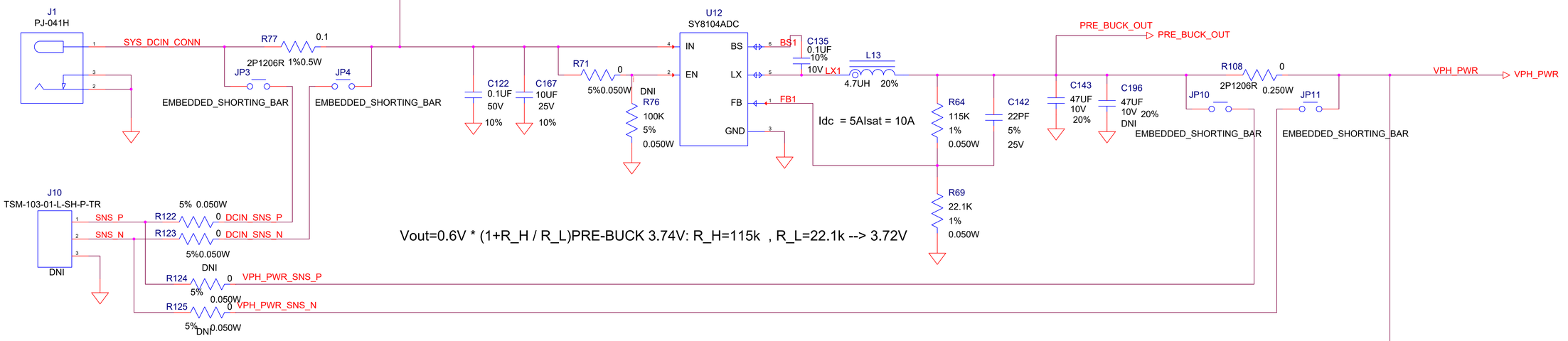
To/From LS EXP CONN

PRE-BUCK - 5.0V



Vout=0.6V * (1+R_H / R_L)PRE-BUCK 5.0V: R_H=165k , R_L=22.1k --> 5.08V

PRE-BUCK - 3.7V



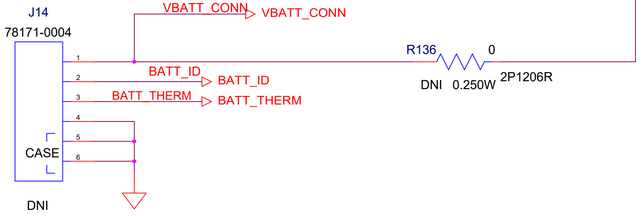
Vout=0.6V * (1+R_H / R_L)PRE-BUCK 3.74V: R_H=115k , R_L=22.1k --> 3.72V

ARM ENERGY PROBE (PWR MEAS)

SUPPORTED	ASSY OPTION
YES	INSTALL J10
NO	DNI J10

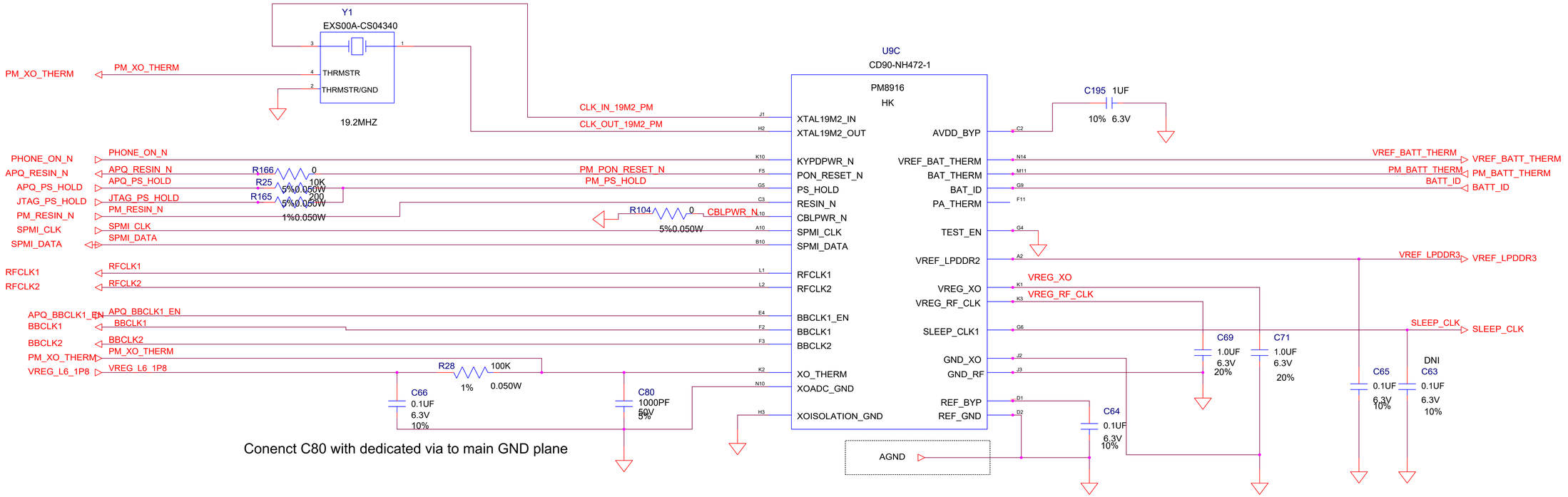
VPH_PWR SOURCE

BOM CONFIG	SUPPORTED	ASSY OPTION
Hx0x, HX5X	3.7V BUCK	INSTALL R108 DNI J14, R136
NONE	BATTERY	DNI R108 INSTALL J14, R136



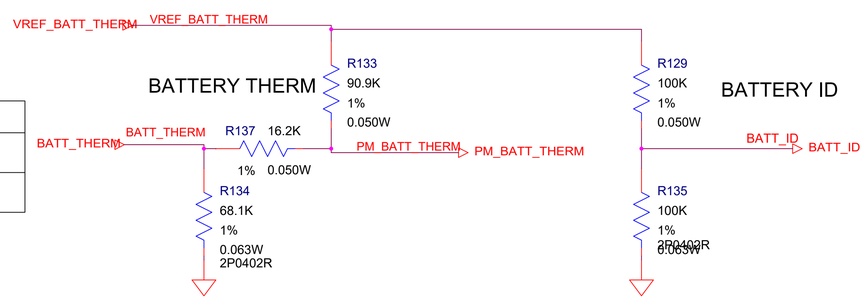
Title	DragonBoard410c	
Size D	Document Number <Doc>	Rev A
Date: Monday, August 31, 2015	Sheet 15 of 33	

PM8916 - CONTROL/CLOCKS



VPH_PWR SOURCE

BOM CONFIG	SUPPORTED	ASSY OPTION
Hx0x, HX5X	3.7V BUCK	INSTALL R134,R135
NONE	BATTERY	DNI R134,R135

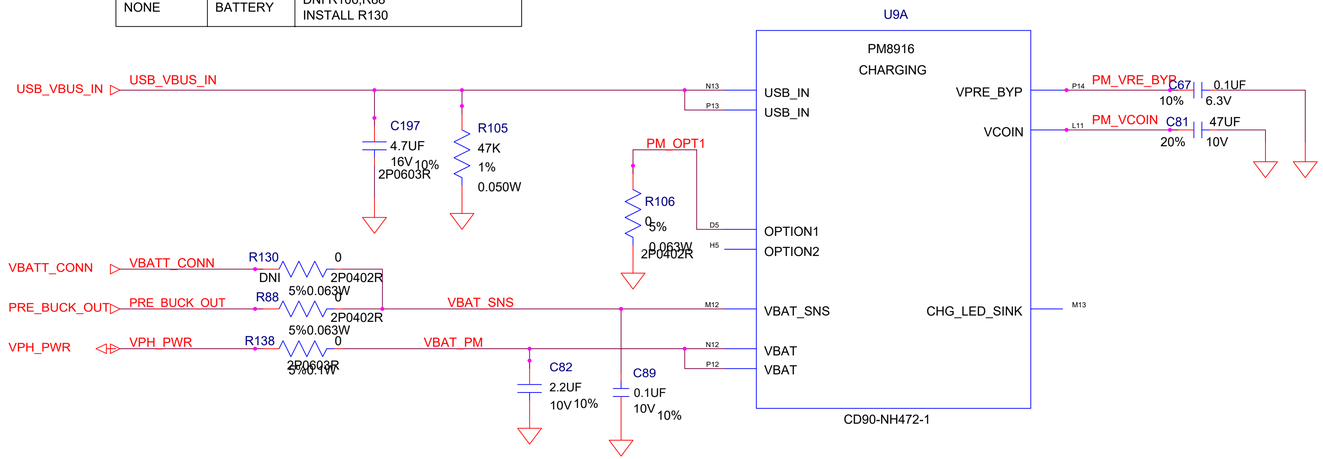


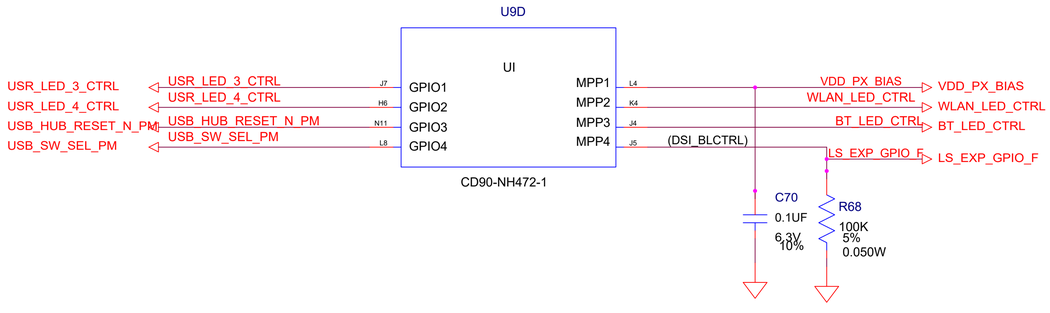
Title	DragonBoard410c	
Size D	Document Number <Doc>	Rev A
Date: Monday, August 31, 2015	Sheet 16 of 33	

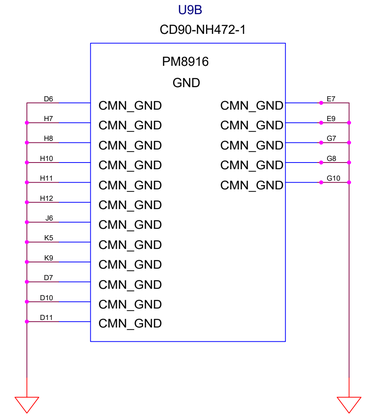
PM8916 - CHARGER/GPIOS/MPPS

VPH_PWR SOURCE

BOM CONFIG	SUPPORTED	ASSY OPTION
Hx0x, HX5X	3.7V BUCK	INSTALL R106,R88 DNI R130
NONE	BATTERY	DNI R106,R88 INSTALL R130

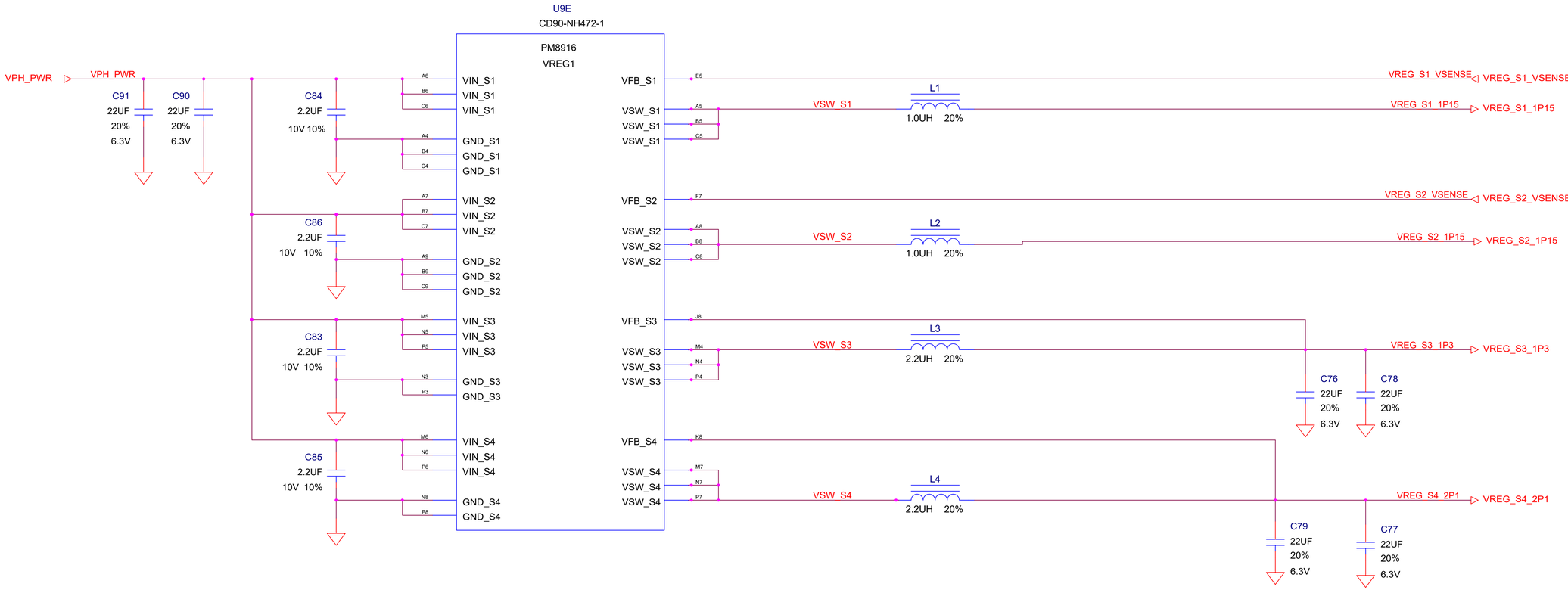






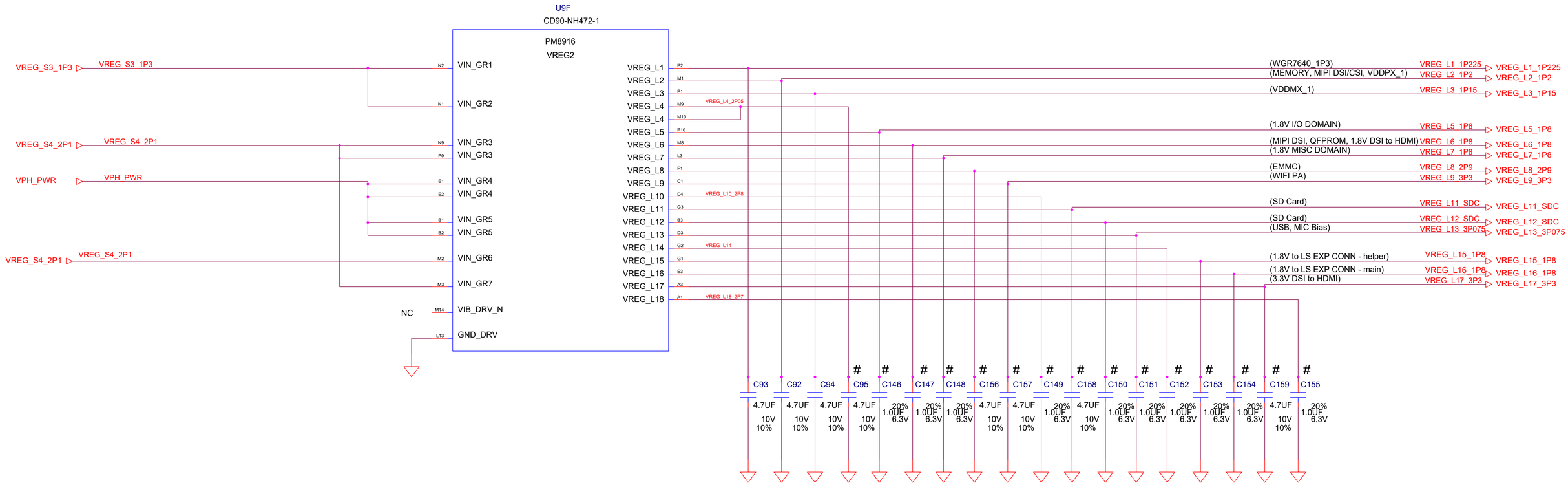
Title	DragonBoard410c		
Size: D	Document Number: <Doc>		Rev: A
Date: Monday, August 31, 2015	Sheet 17 of 33		

PM8916 - SMPS



Title	DragonBoard410c	
Size: D	Document Number: <Doc>	Rev: A
Date: Monday, August 31, 2015	Sheet 18 of 33	

PM8916 - LDOs



NOTES:

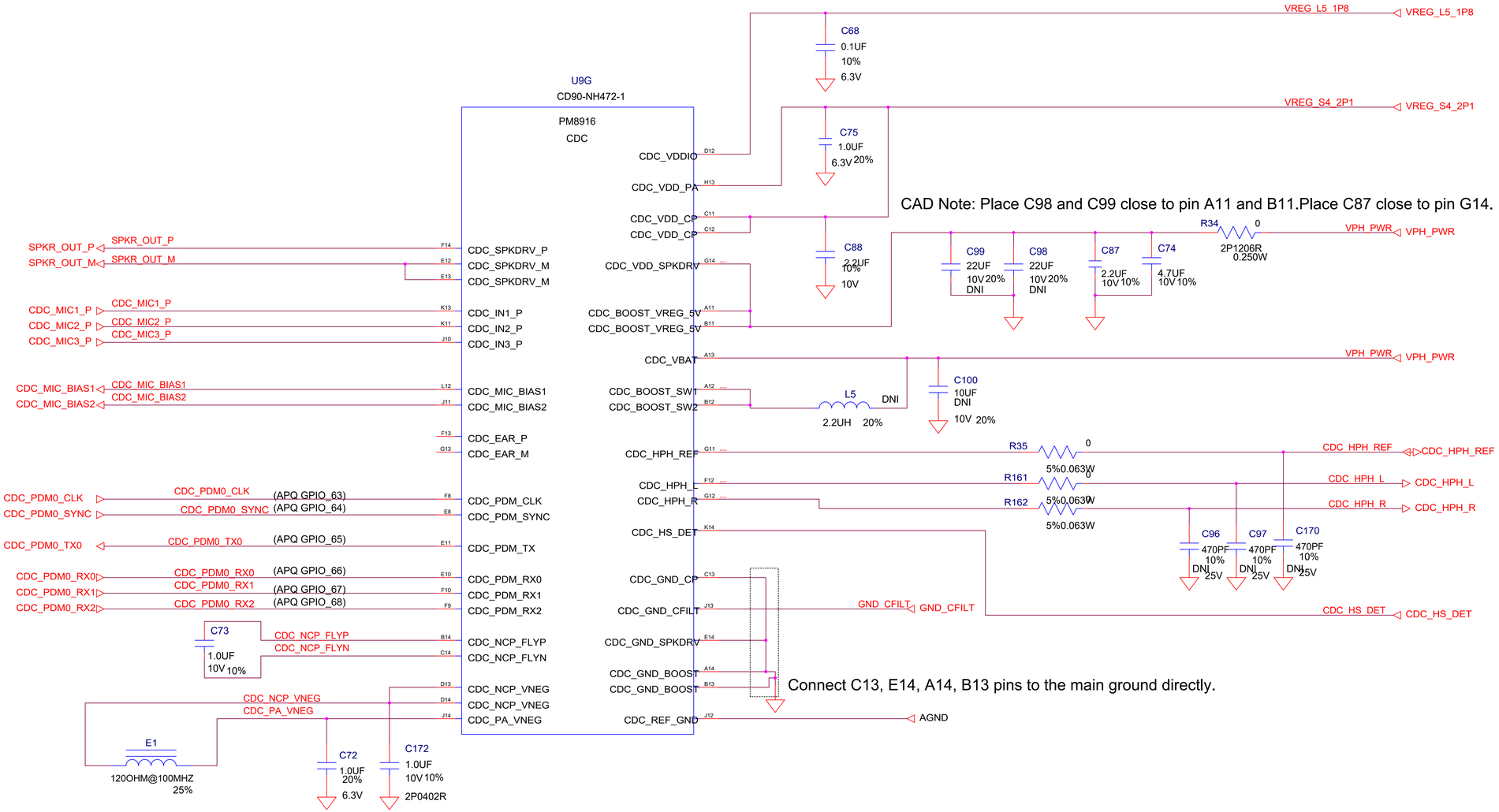
Effective output capacitanceLDOs L1, L2, L3, L4, L8, L9, L11, L17 --> Cout_eff = 4.7uFLDOs L5, L6, L7, L10, L12, L13, L14, L15, L16, L18 --> Cout_eff = 1.0uF

PSEUDO CAPLESS LDOs (indicated by # near the capacitor)L4, L5, L6, L7, L8, L9, L10, L11, L12, L13, L14, L15, L16, L17, L18

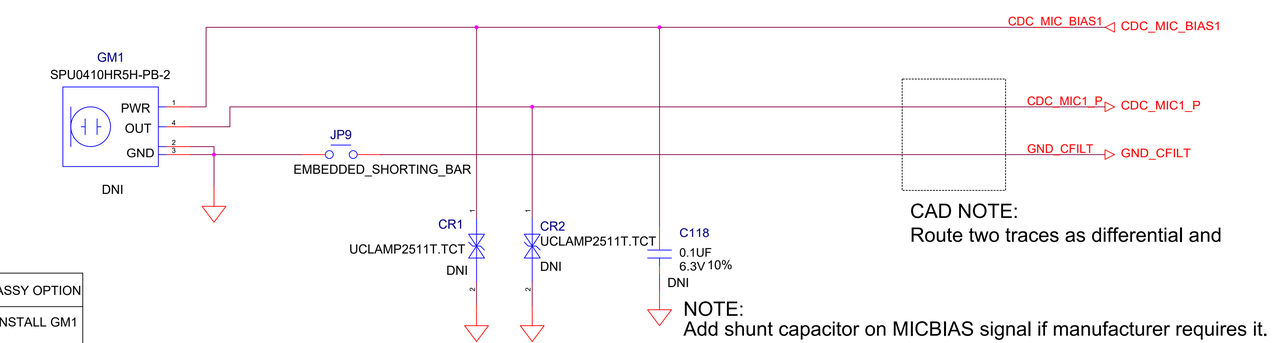
PSEUDO CAPLESS LDOs capacitors location is defined in 80-NK808-21

Title	DragonBoard410c	
Size D	Document Number <Doc>	Rev A
Date: Monday, August 31, 2015	Sheet 19 of 33	

PM8916 - AUDIO



ANALOG MIC

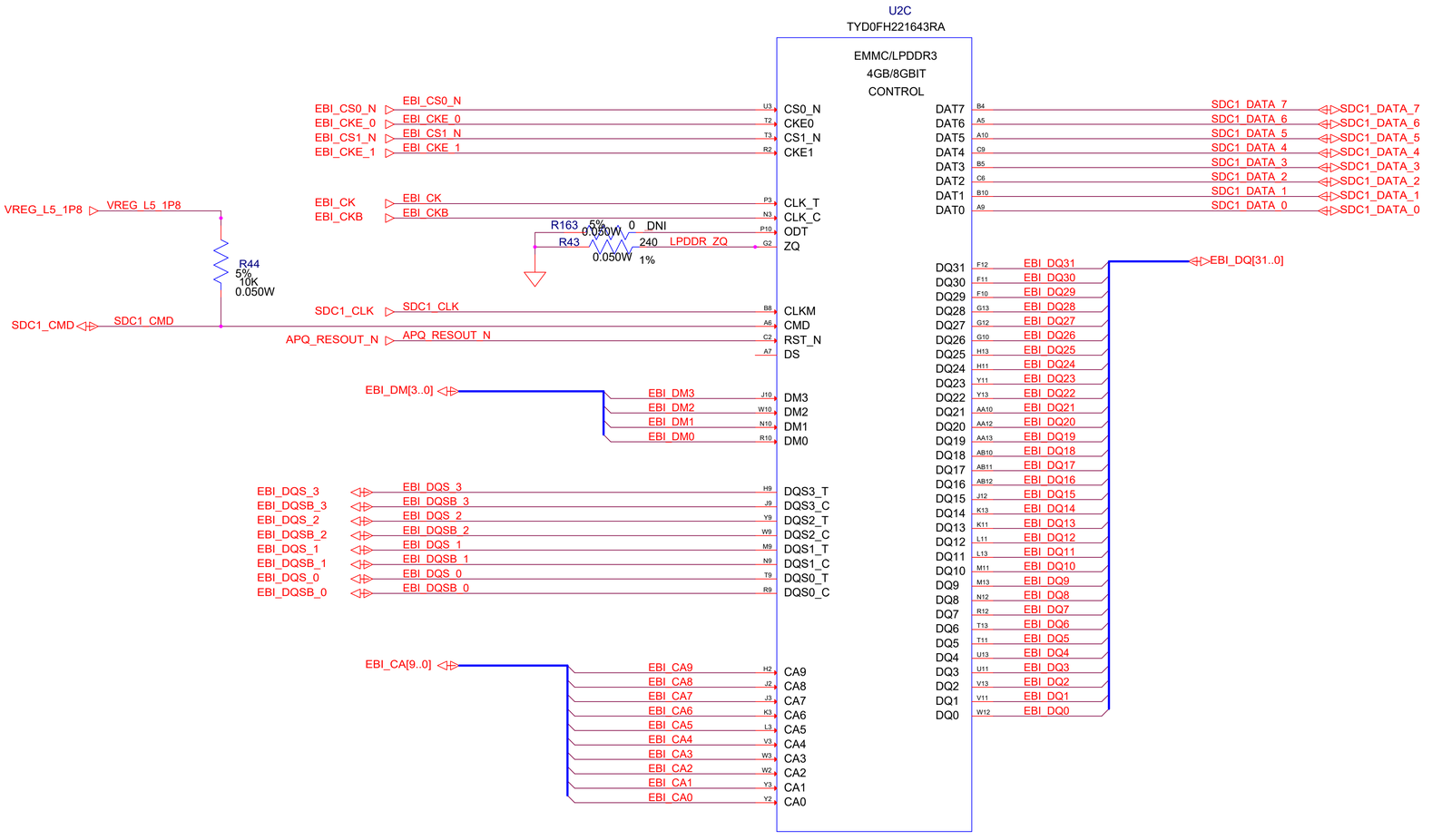


ANALOG MIC

SUPPORTED	ASSY OPTION
YES	INSTALL GM1
NO	DNI GM1

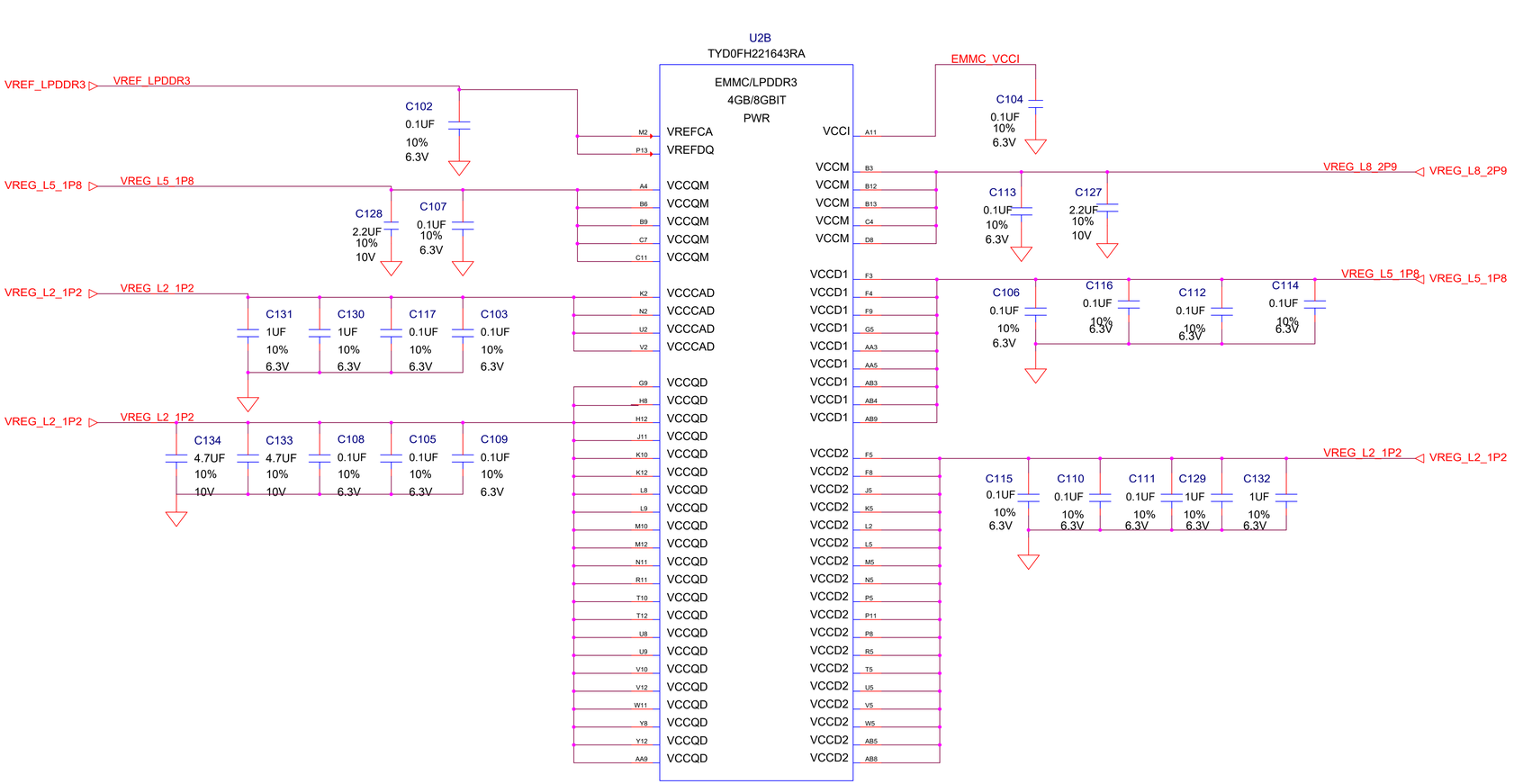
Title	DragonBoard410c		
Size D	Document Number <Doc>		Rev A
Date: Monday, August 31, 2015	Sheet 20 of 33		

MEMORY - LPDDR3 + EMMC - CONTROL



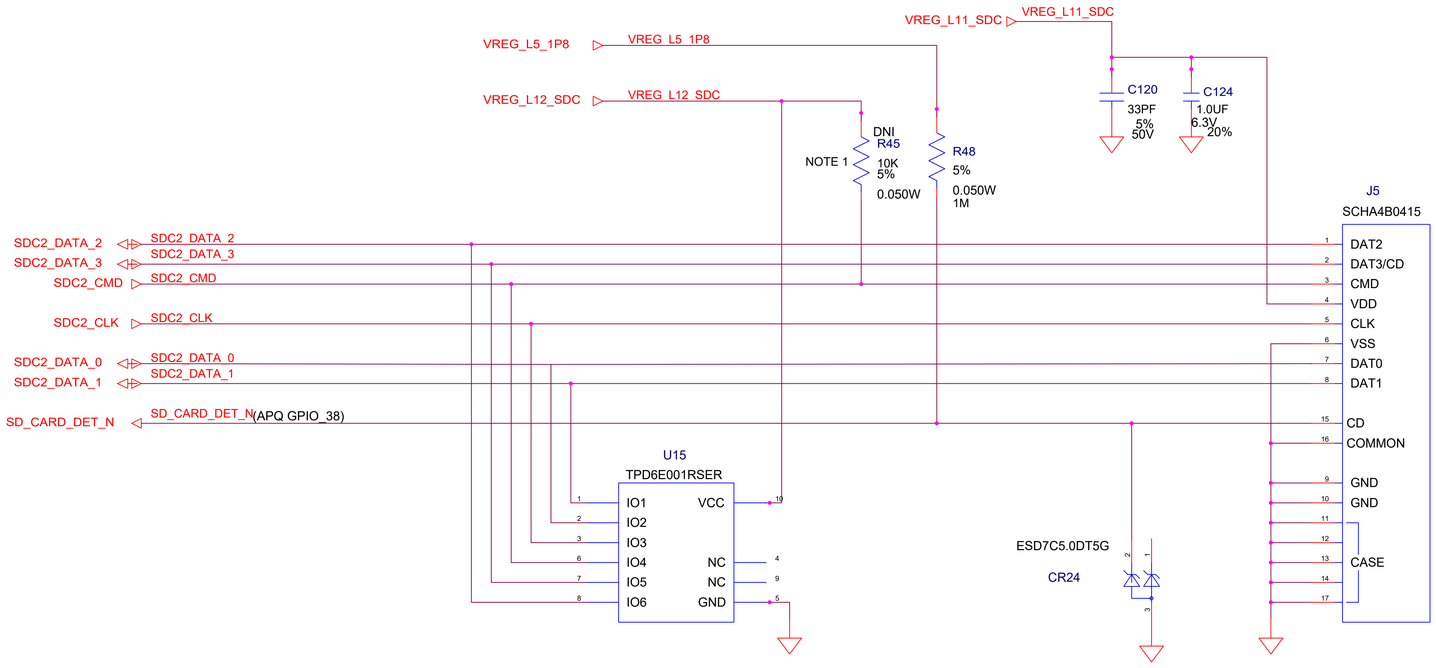
Title	DragonBoard410c	
Size D	Document Number <Doc>	Rev A
Date: Monday, August 31, 2015	Sheet 21 of 33	

MEMORY - LPDDR3 + EMMC - CONTROL

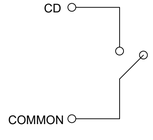


Title	DragonBoard410c		
Size D	Document Number <Doc>		Rev A
Date: Monday, August 31, 2015	Sheet 22 of 33		

MEMORY - uSD CONNECTOR



CARD DETECT	CASE
CARD NOT INSTALLED	CD-COMMON SW=OFF
CARD INSTALLED	CD-COMMON SW=ON



Title	DragonBoard410c	
Size D	Document Number <Doc>	Rev A
Date: Monday, August 31, 2015	Sheet 23 of 33	

USB - SWITCH / HUB

FORCE DSI SELECTION TO USB HOST MODE

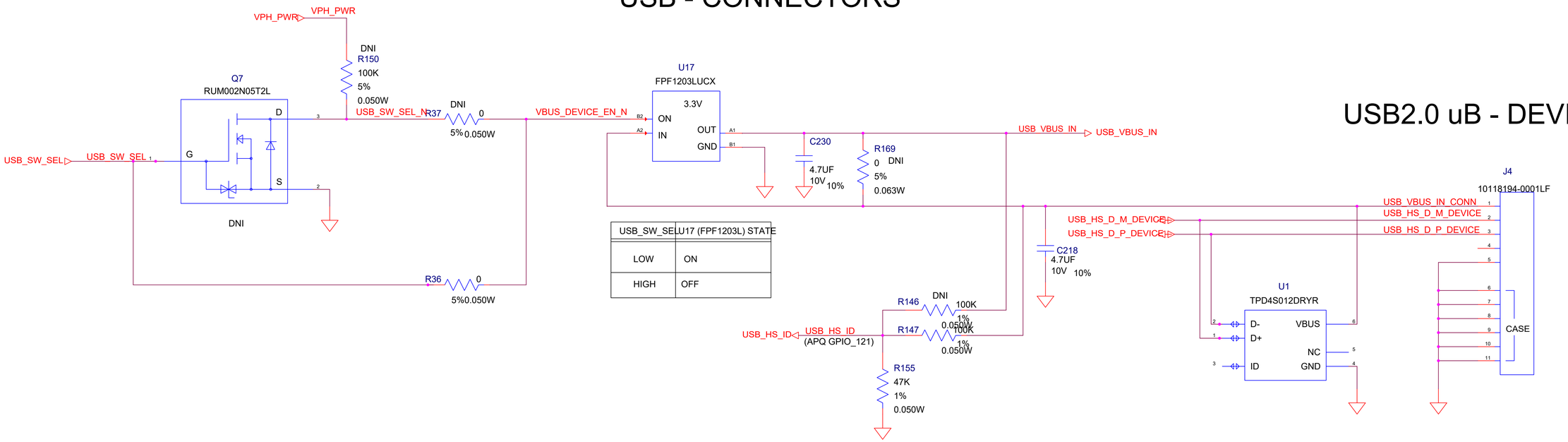
USB_SW_SEL	USB Mode
LOW	DEVICE
HIGH	HOST

Note 1:
REF_SEL[1:0] = '10' --> REFVLK=19.2MHz

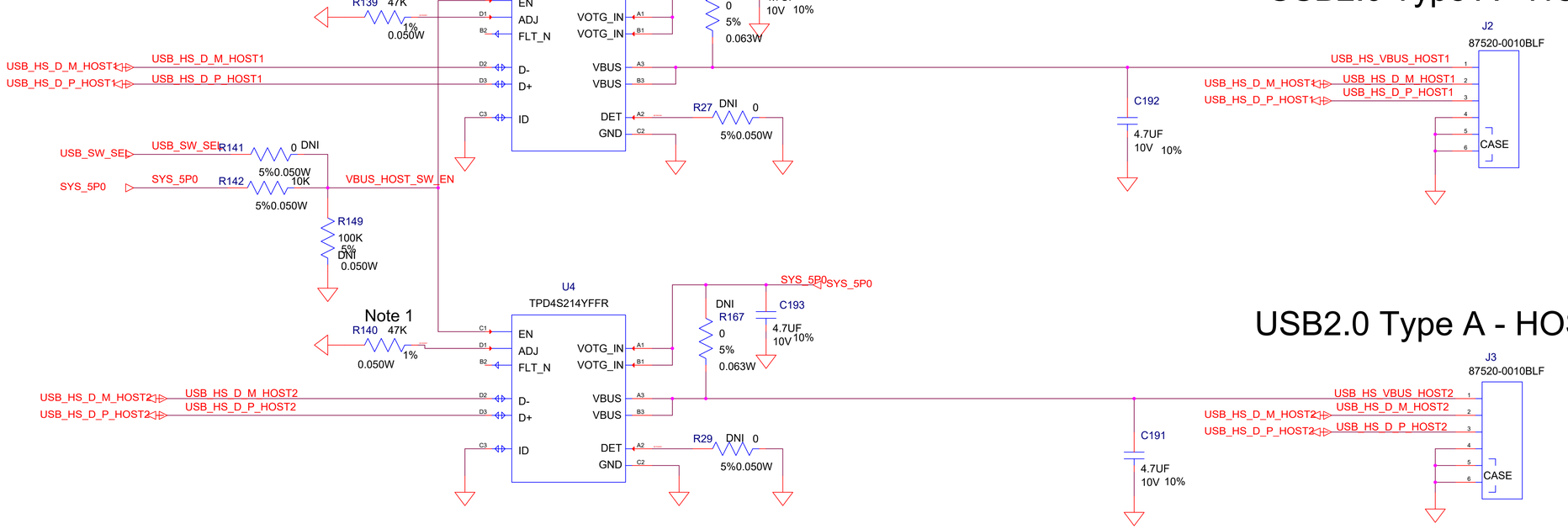
Title	DragonBoard410c
Size: D	Document Number: <Doc>
Rev: A	
Date: Monday, August 31, 2015	Sheet 24 of 33

USB - CONNECTORS

USB2.0 uB - DEVICE



USB2.0 Type A - HOST1

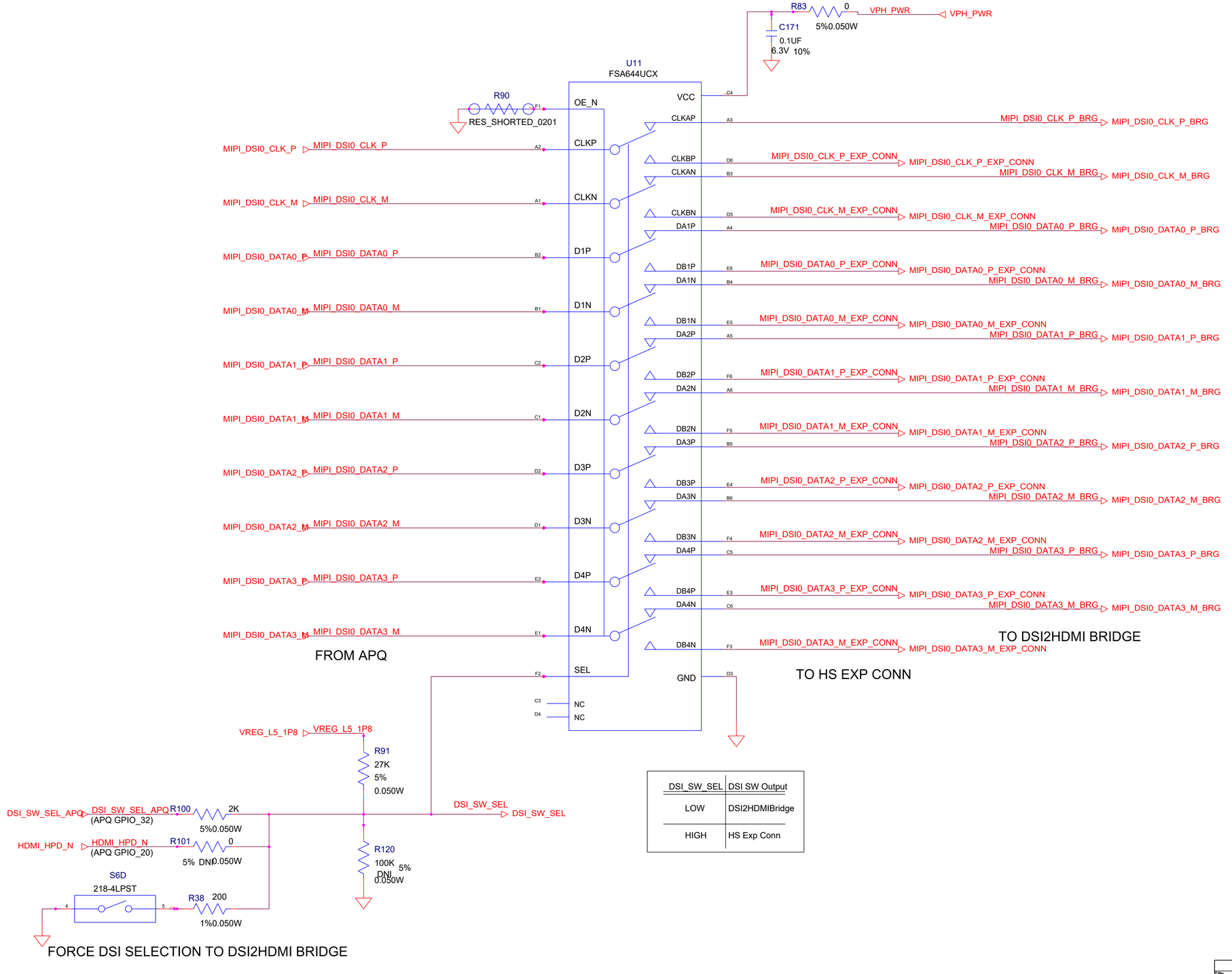


USB2.0 Type A - HOST2

Notes:1. Current Limit = 55.358 / Radj [komh] = 1.18mA2. Connect USB ID pin on connector when uAB conenctor is used (10104111)

Title	DragonBoard410c		
Size D	Document Number <Doc>		Rev A
Date: Monday, August 31, 2015	Sheet 25 of 33		

DISPLAY - DSI SWITCH



DSI_SW_SEL	DSI SW Output
LOW	DSI2HDMIBridge
HIGH	HS Exp Conn

Title	DragonBoard410c	
Size D	Document Number <Doc>	Rev A
Date: Monday, August 31, 2015	Sheet 26 of 33	

DISPLAY - DSI TO HDMI BRIDGE

U3
ADV7533BCBZ-RL

I2C3_SDA → R52 0 → I2C3_SDA_BRG
I2C3_SCL → R40 5%0.050W → I2C3_SCL_BRG
5%0.050W
VREG_L5_1P8 → R42 2K 5% 0.050W
R87 1K 1% 0.050W → REXT_BRG

DSI_SW_SEL → R121 0 DNI 5%0.050W
DSI2HDMI_INT_N (APQ GPIO_31)
HDMI_5V → R85 2K 5% 0.050W; R86 2K 5% 0.050W; R102 2K 5% 0.050W
HDMI_HPD
TP4 TP5 TP6
DSI2HDMI_MI2S_DATA0 (APQ GPIO_119)
DSI2HDMI_MI2S_SCK (APQ GPIO_118)
DSI2HDMI_MI2S_WS (APQ GPIO_117)
HDMI_DDC_SDA
HDMI_DDC_SCL

MIPI_DSI0_DATA0_P_BRG / MIPI_DSI0_DATA0_M_BRG
MIPI_DSI0_DATA1_P_BRG / MIPI_DSI0_DATA1_M_BRG
MIPI_DSI0_DATA2_P_BRG / MIPI_DSI0_DATA2_M_BRG
MIPI_DSI0_DATA3_P_BRG / MIPI_DSI0_DATA3_M_BRG
MIPI_DSI0_CLK_P_BRG / MIPI_DSI0_CLK_M_BRG

U3 pin			
C5	R_EXT	AVDD	B4
E5	SDA	A2VDD	G7
E6	SCL	DVDD	E2
C3	PD	DVDD	E4
D5	INT	DVDD	G1
C4	HPD	PVDD	C6
C1	SPDIF/I2S	V1P2	D4
C2	SCLK/MCLK	V1P2	E3
D3	LRCLK	V3P3	B1
D2	DDCSDA	CEC_CLK	D7
D1	DDCSCL	CEC	D6
G3	DRX0+	TX0+	A5
F3	DRX0-	TX0-	A6
G4	DRX1+	TX1+	A3
F4	DRX1-	TX1-	A4
G5	DRX2+	TX2+	A1
F5	DRX2-	TX2-	A2
G6	DRX3+	TXC+	A7
F6	DRX3-	TXC-	B7
G2	DRXC+	GND	C7
F2	DRXC-	GND	E1
B2	GND	GND	E7
B3	GND	GND	F1
B5	GND	GND	F7
B6	GND		

I2C ADDR: 0X39 (7-BIT)

ADV_AVDD → C213 0.1UF 6.3V 10%; E2 330 OHM @ 100MHZ 25%; C161 1.0UF 16V 10%; C121 4.7UF 10V 10%; VREG_L6_1P8
ADV_A2VDD → C214 0.1UF 6.3V 10%; E3 330 OHM @ 100MHZ 25%; C162 1.0UF 16V 10%
ADV_PVDD → C165 0.1UF 6.3V 10%; E4 330 OHM @ 100MHZ 25%; C163 1.0UF 16V 10%
ADV_DVDD_V1P2 → C212 0.1UF 6.3V 10%; C211 0.1UF 6.3V 10%; E11 330 OHM @ 100MHZ 25%; C160 1.0UF 16V10%
ADV_V3P3 → C215 0.1UF 6.3V 10%; E6 330 OHM @ 100MHZ 25%; C169 1.0UF 16V10%; VREG_L17_3P3

CEC_CLK → R157 0 DNI 5%0.050W → HDMI_CEC

HDMI_TMDS_TX0_P / HDMI_TMDS_TX0_M
HDMI_TMDS_TX1_P / HDMI_TMDS_TX1_M
HDMI_TMDS_TX2_P / HDMI_TMDS_TX2_M
HDMI_TMDS_TXC_P / HDMI_TMDS_TXC_M

BBCLK2 → R30 0 5%0.050W → CEC_CLK

Y3
SG-210STF 12.2880MS3
VREG_L17_3P3 → R51 0 DNI 5% 0.050W → ST_N / VCC
OUT / GND → R50 0 DNI 5%0.050W
C3 0.1UF 6.3V DNI 10%
12.2880MHZ
DNI

U14
TPD13S523RSVR

5V_SUPPLY	3		
5V_OUT	4		
CTRL1	15	HDMI_CEC	
CTRL2	16	HDMI_DDC_SCL	
CTRL3	1	HDMI_DDC_SDA	
CTRL4	2	HDMI_HPD	
CTRL5	5	TP7	
D0+	14	HDMI_TMDS_TXC_M	HDMI_TMDS_TXC_M
D0-	13	HDMI_TMDS_TXC_P	HDMI_TMDS_TXC_P
D1+	12	HDMI_TMDS_TX0_M	HDMI_TMDS_TX0_M
D1-	11	HDMI_TMDS_TX0_P	HDMI_TMDS_TX0_P
D2+	10	HDMI_TMDS_TX1_M	HDMI_TMDS_TX1_M
D2-	9	HDMI_TMDS_TX1_P	HDMI_TMDS_TX1_P
D3+	8	HDMI_TMDS_TX2_M	HDMI_TMDS_TX2_M
D3-	7	HDMI_TMDS_TX2_P	HDMI_TMDS_TX2_P
GND	6		

SYS_5P0 → R82 0 DNI 0.050W 5%; C208 20% 1.0UF 6.3V; C209 20% 1.0UF 6.3V
HDMI_5V

VREG_L17_3P3 → R41 27K 5% → CR3 RB751S40,115 0.050W
HDMI_CEC → R180 0 5%0.050W
R181 0 5% DNI 0.050W
VREG_L5_1P8 → R118 100K 5% DNI 0.050W
HDMI_HPD_N (APQ GPIO_20)

Q6
RUM002N05T2L
HDMI_HPD_N to APQ8016 via level shifter

J6
10029449-111RLF

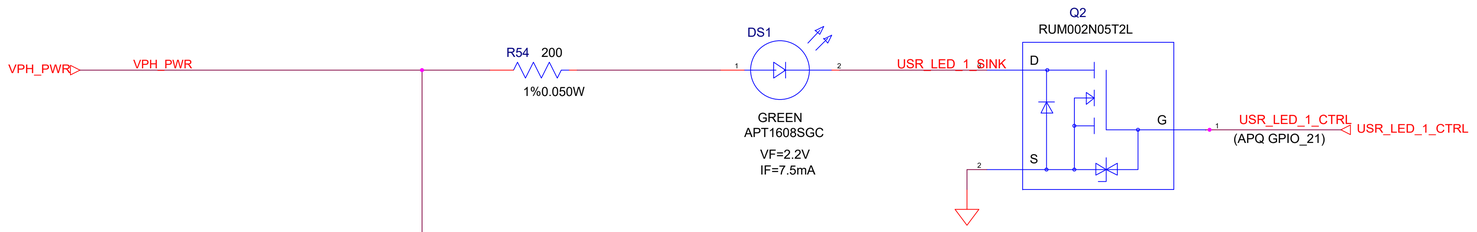
J6		J6	
HDMI_TMDS_TX2_P	1	HDMI_TMDS_TX2_P	
	2	HDMI_TMDS_TX2_M	
HDMI_TMDS_TX2_M	3	HDMI_TMDS_TX1_P	
HDMI_TMDS_TX1_P	4		
	5	HDMI_TMDS_TX1_M	
HDMI_TMDS_TX1_M	6	HDMI_TMDS_TX0_P	
HDMI_TMDS_TX0_P	7		
	8	HDMI_TMDS_TX0_M	
HDMI_TMDS_TX0_M	9	HDMI_TMDS_TXC_P	
HDMI_TMDS_TXC_P	10		
	11	HDMI_TMDS_TXC_M	
HDMI_TMDS_TXC_M	12	HDMI_CEC_CONN	
HDMI_CEC_CONN	13		
NC	14		
HDMI_DDC_SCL	15	HDMI_DDC_SCL	
HDMI_DDC_SDA	16	HDMI_DDC_SDA	
	17		
HDMI_5V	18	HDMI_5V	
HDMI_HPD	19	HDMI_HPD	
	20		
	21		
	22	CASE	
	23		

R84 10K 5% 0.050W

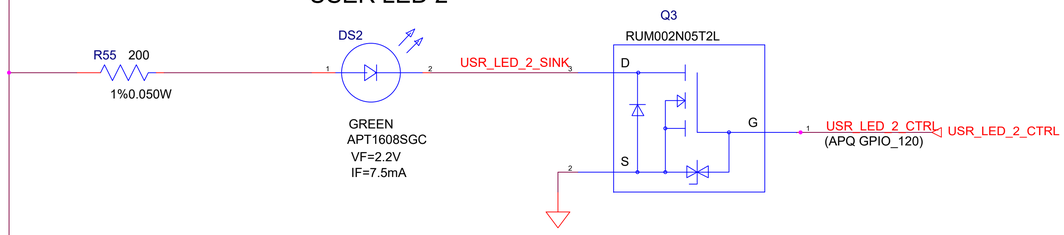
Title	DragonBoard410c		
Size D	Document Number <Doc>		Rev A
Date: Monday, August 31, 2015	Sheet 27 of 33		

SWITCHES / LEDS

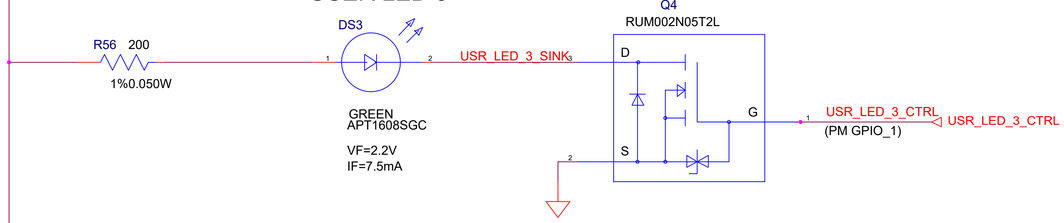
USER LED 1



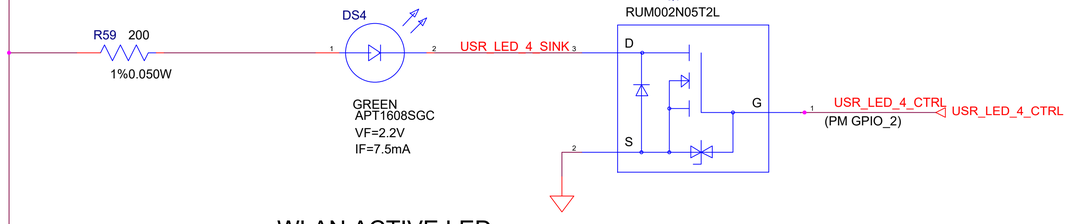
USER LED 2



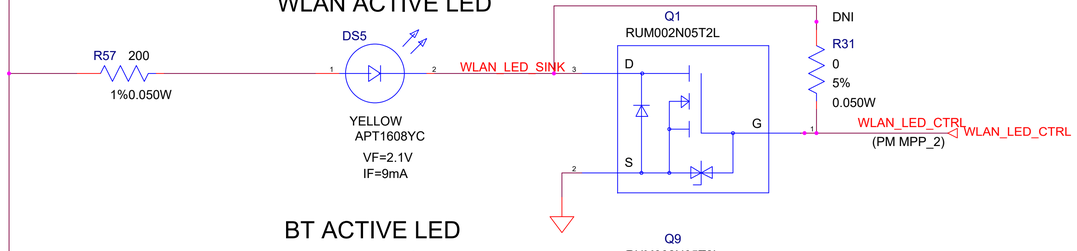
USER LED 3



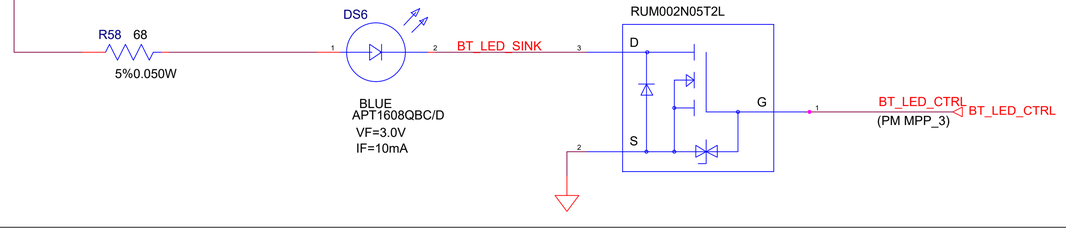
USER LED 4



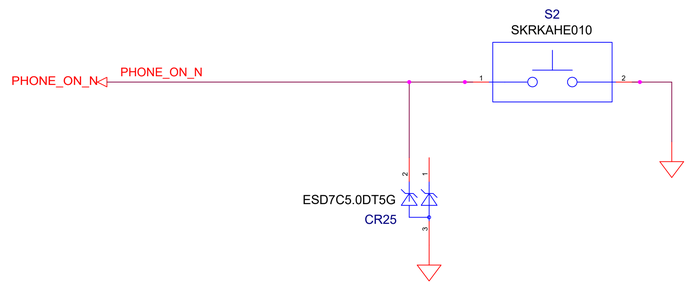
WLAN ACTIVE LED



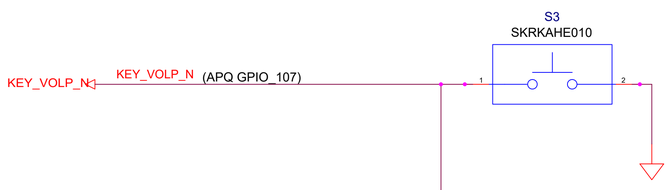
BT ACTIVE LED



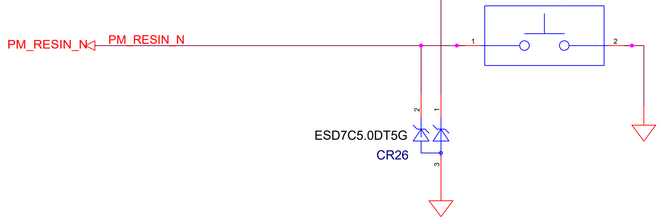
PWR SWITCH



VOL/ZOOM+



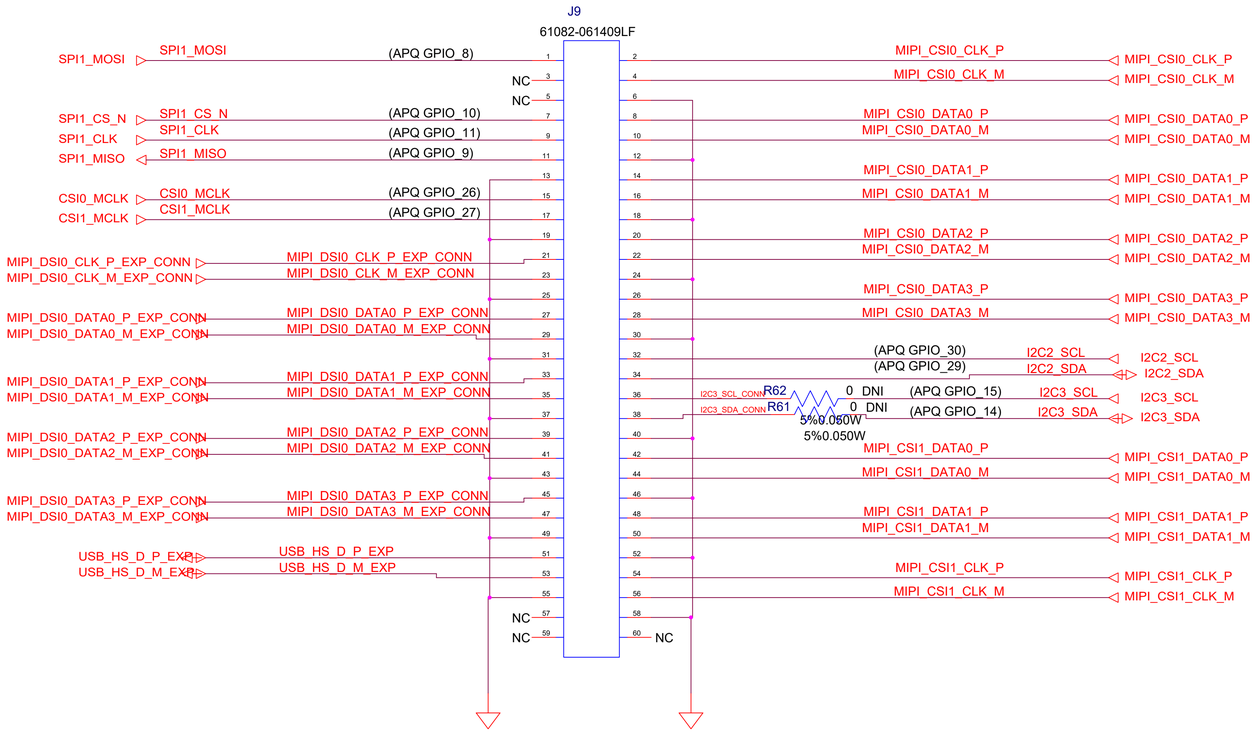
VOL/ZOOM-



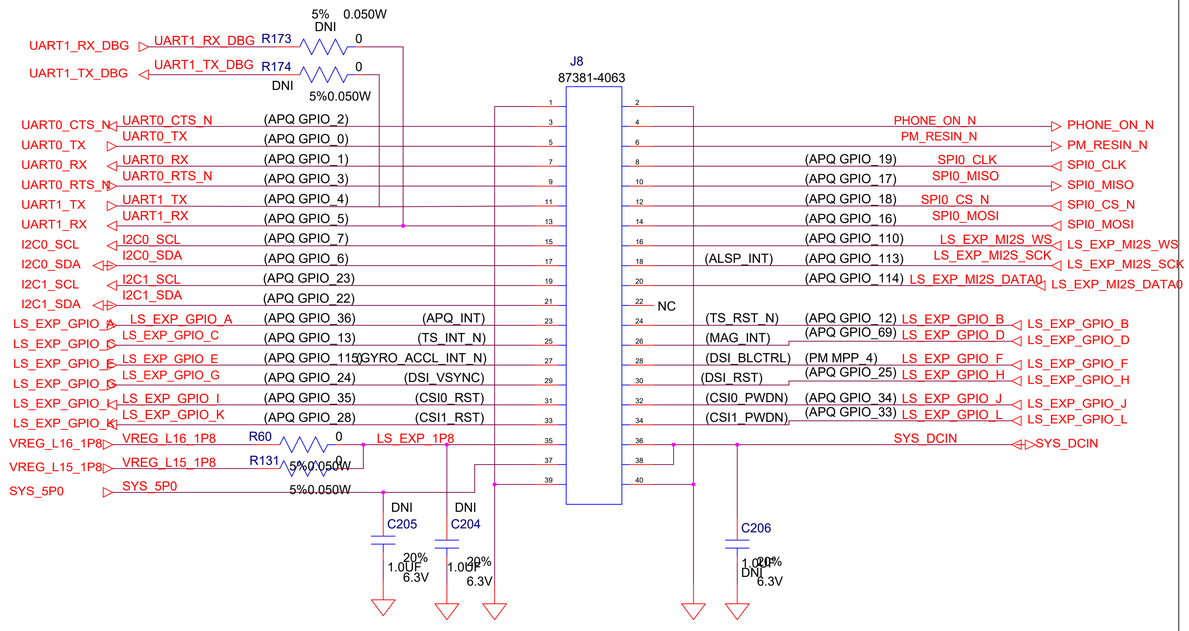
Title	DragonBoard410c		
Size D	Document Number <Doc>		Rev A
Date: Monday, August 31, 2015	Sheet 28 of 33		

LS / HS EXPANSION CONNECTORS

HS EXPANSION CONNECTOR



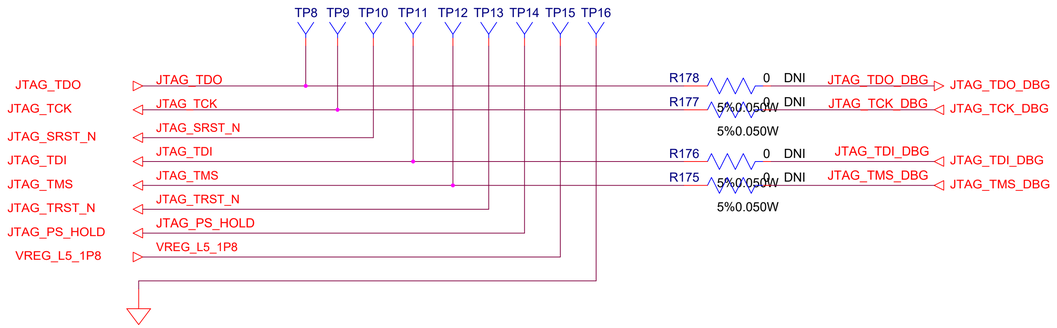
LS EXPANSION CONNECTOR



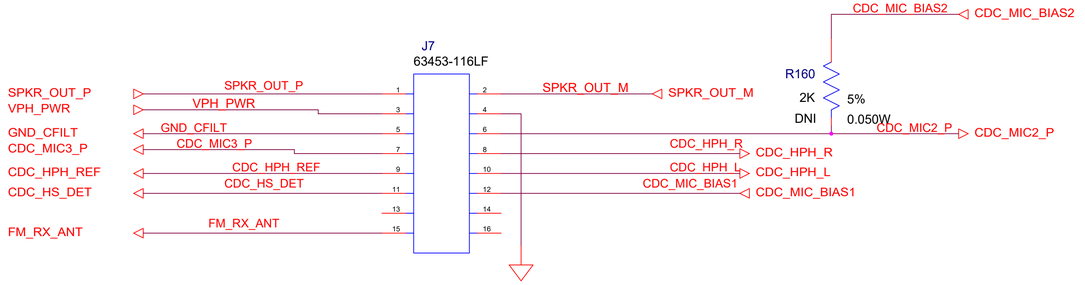
Title	DragonBoard410c		
Size D	Document Number <Doc>		Rev A
Date: Monday, August 31, 2015	Sheet 29 of 33		

JTAG / UART / ANALOG EXPANSION CONNECTORS

JTAG INTERFACE (TOP)



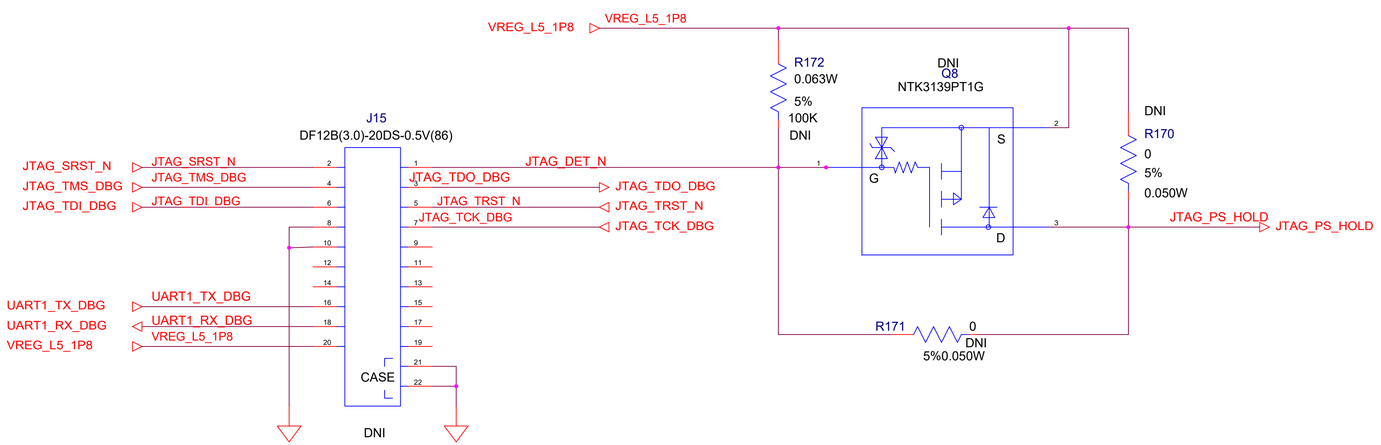
ANALOG EXPANSION CONNECTOR



ANALOG INTERFACES

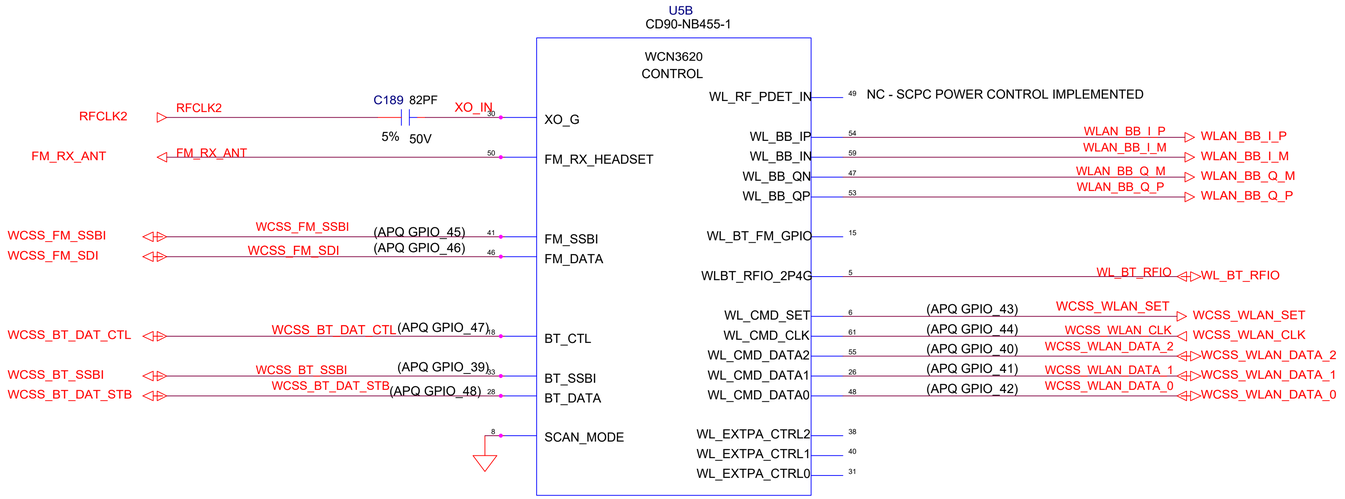
BOM CONFIG	SUPPORTED	ASSY OPTION
Hx0x	YES	INSTALL J15
Hx5x	NO	DNI J15

JTAG/UART INTERFACE TO 20-NR332 (BOTTOM) (BACKUP OPTION)

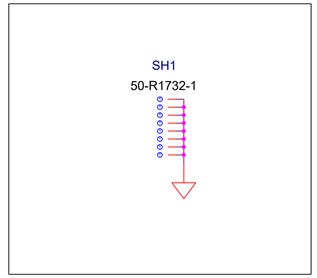


Title	DragonBoard410c	
Size D	Document Number <Doc>	Rev A
Date: Monday, August 31, 2015	Sheet 30 of 33	

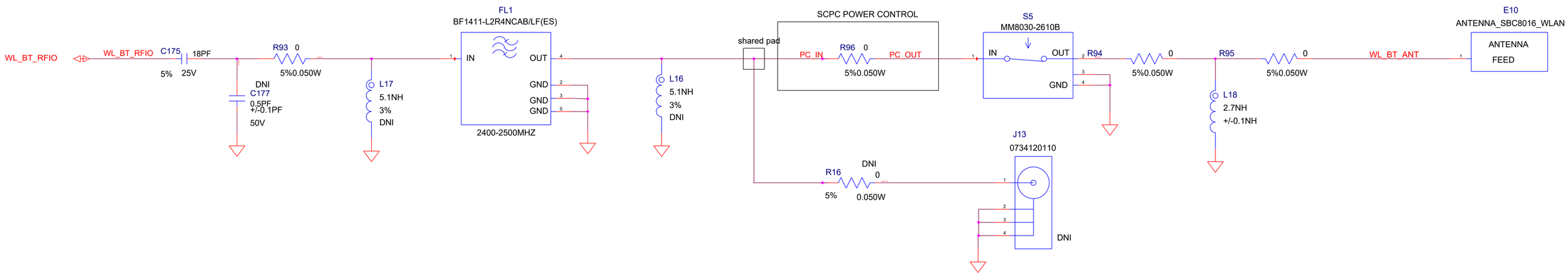
WCN3620 RF & CONTROL



WCN & WGR Circuitry Shield



Default option: On-board printed antenna

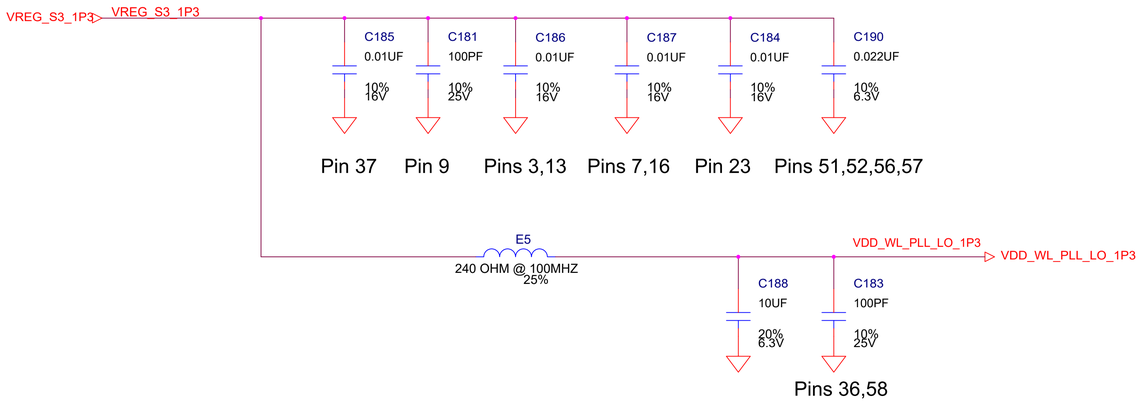


Stuffing option: UFL connector for external antenna

Title	DragonBoard410c	
Size D	Document Number <Doc>	Rev A
Date: Monday, August 31, 2015	Sheet 31 of 33	

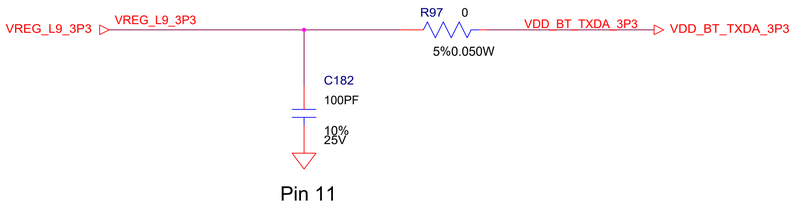
WCN3620 PWR & GND

1.3V

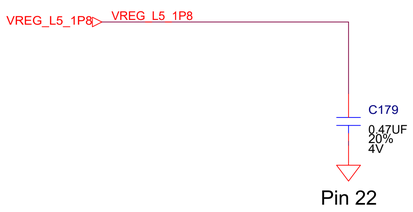


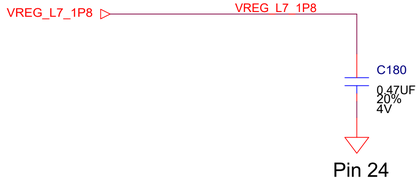
3.3V

Note:If 2.4 GHz WLAN spurs are observed around 2.6 to 2.7 GHz replace R97 with ~20 nH inductor.

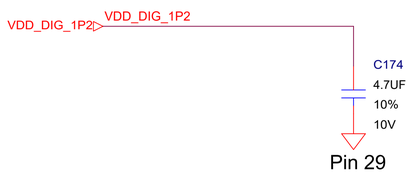


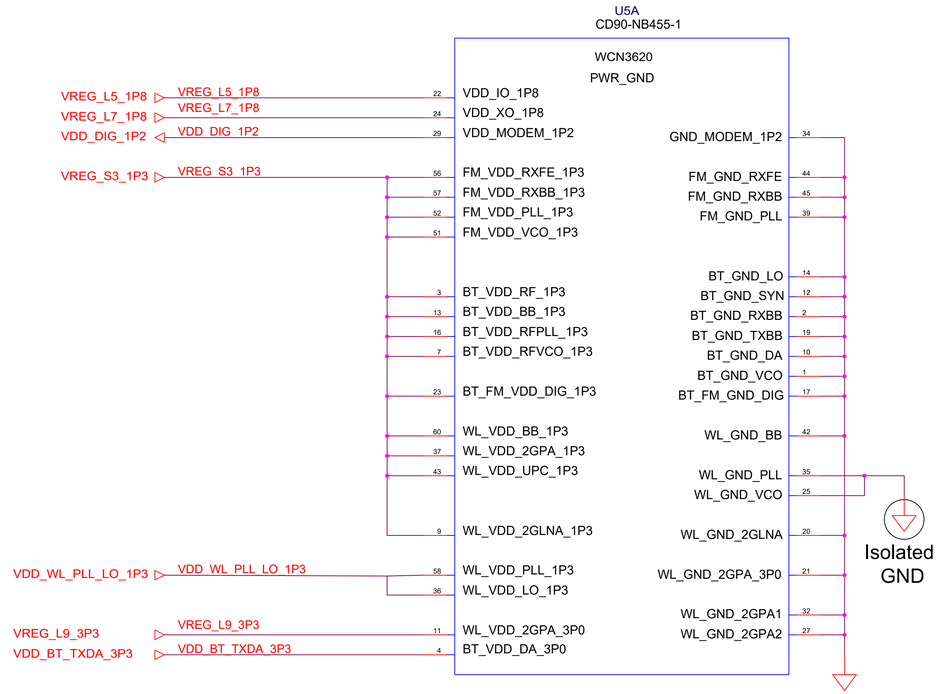
1.8V





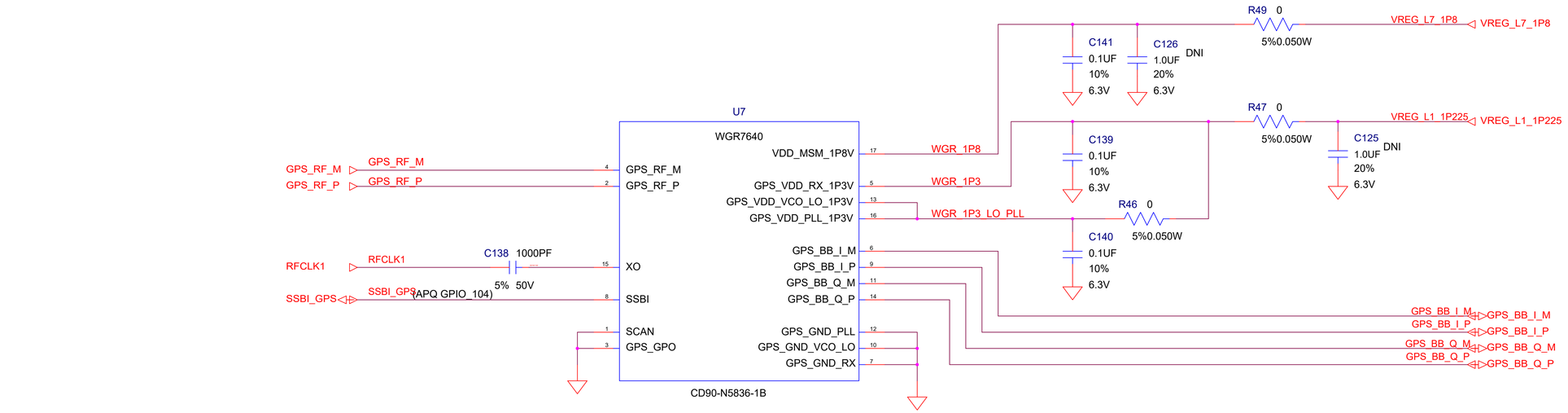
1.2V

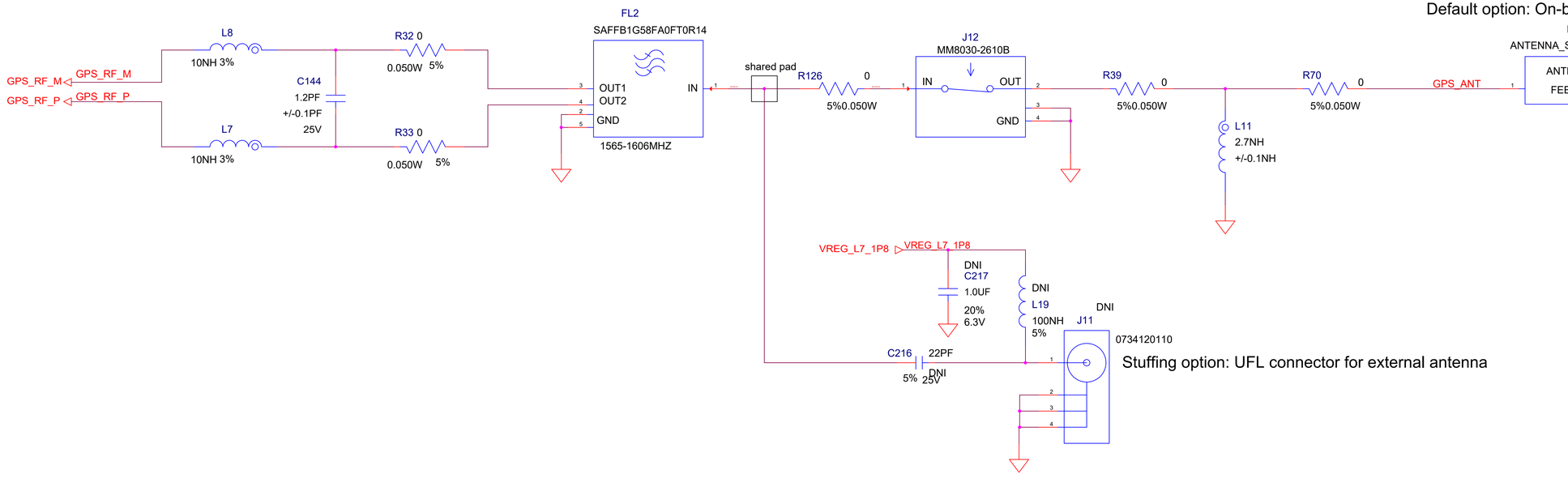




Title	DragonBoard410c	
Size D	Document Number <Doc>	Rev A
Date: Monday, August 31, 2015	Sheet 32 of 33	

WGR7640 - GPS





Title	DragonBoard410c		
Size D	Document Number <Doc>		Rev A
Date: Monday, August 31, 2015	Sheet 33 of 33		