

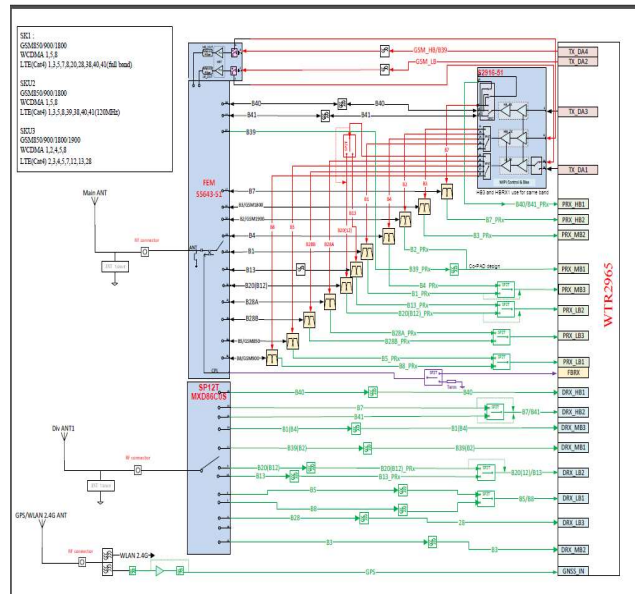
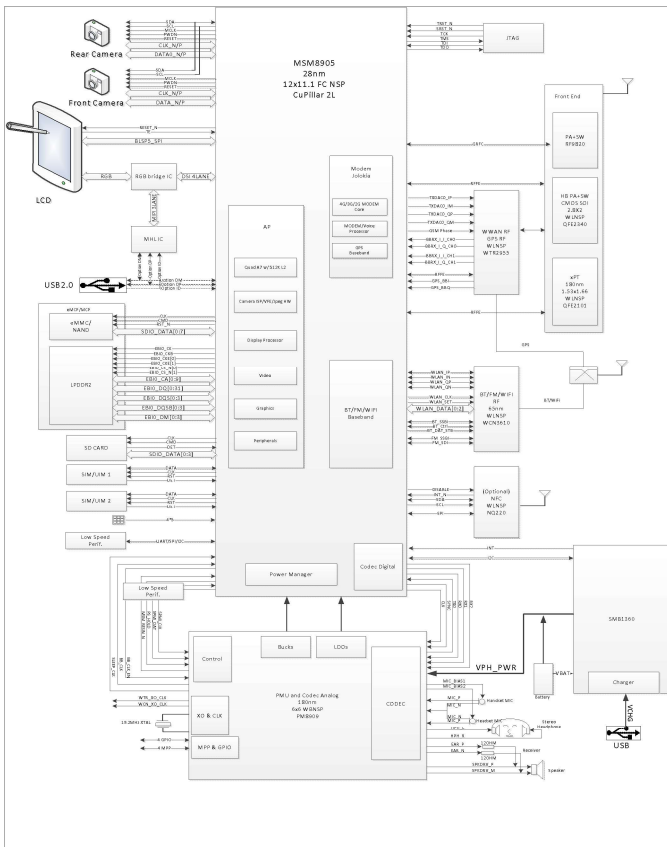
[illegible]

Revision History

REV	DESCRIPTION
TA-1189/TA-1186_V0.1	Pre-EVT
TA-1189/TA-1186_V0.2	EVT: update RF matching; update antenna matching; update HWID information
TA-1189/TA-1186_V0.3	DVT: update RF matching; update antenna matching; update HWID information; remove antenna tuner; remove mic grounding which close to antenna area.

Board Change History

SCHEMATIC MCN	HW VERSION	REVISION	DESCRIPTION OF CHANGE



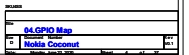
MSM8905 GPIO Configuration For QRD8909

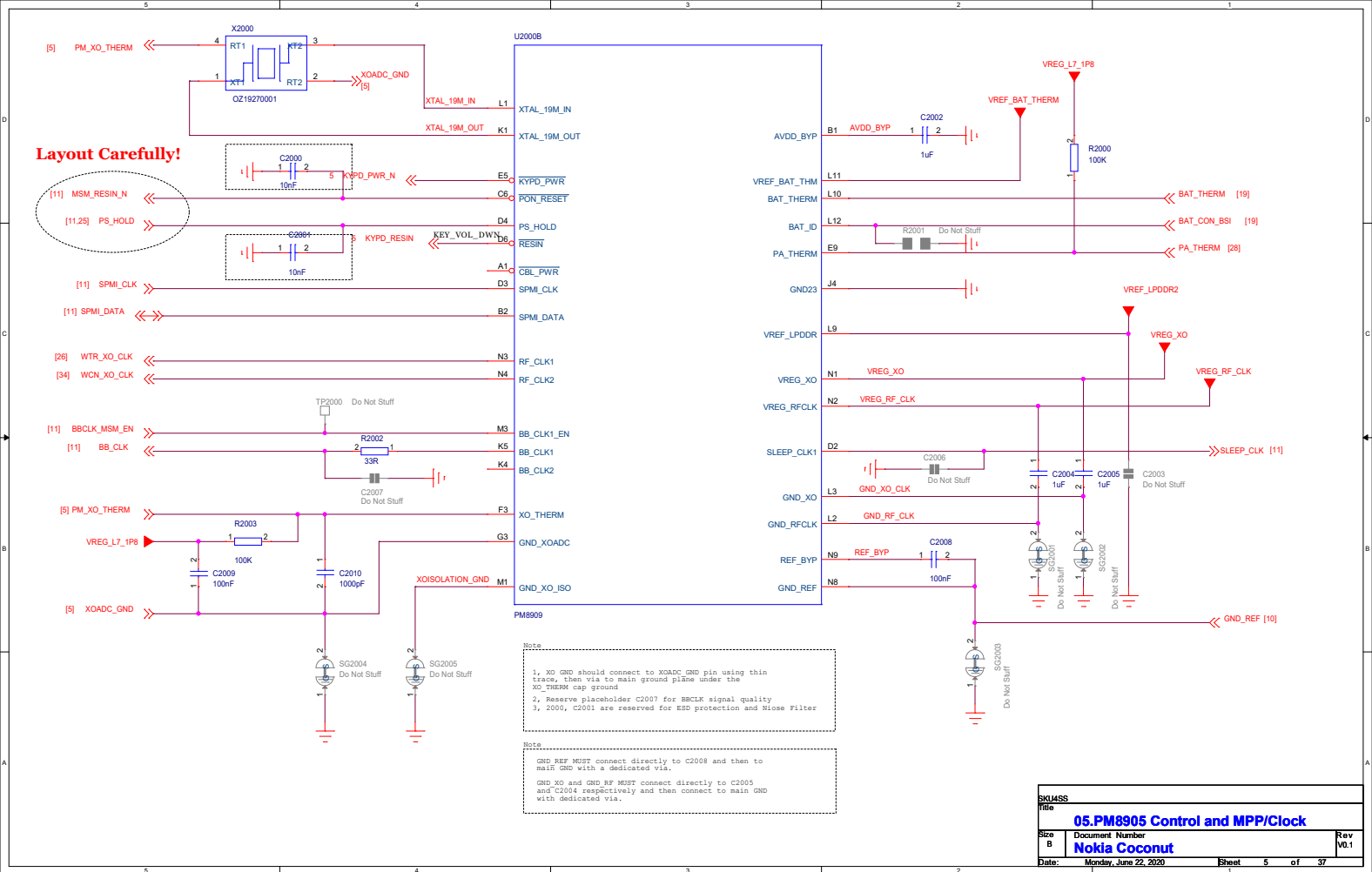
GPIO_0	MI2S_2_WS	GPIO_41	WCSS_WLAN_DATA_1	GPIO_82	APPS_BOOT_FROM_ROM
GPIO_1	MI2S_2_SCK	GPIO_42	WCSS_WLAN_DATA_0	GPIO_83	NC
GPIO_2	MI2S_2_D0	GPIO_43	WCSS_WLAN_RST	GPIO_84	RST_GPS_LNA_EN
GPIO_3	MI2S_2_D1	GPIO_44	WCSS_WLAN_CLK	GPIO_85	CH0_GSM_TX_PHASE_D0
GPIO_4	UART_MSM_TX	GPIO_45	WCSS_FM_SSB1	GPIO_86	RFFE5_CLK
GPIO_5	UART_MSM_RX	GPIO_46	WCSS_FM_SDI	GPIO_87	RFFE5_DATA
GPIO_6	GPIO6_ROW	GPIO_47	WCSS_BT_CTRL	GPIO_88	RFFE4_CLK
GPIO_7	GPIO7_ROW	GPIO_48	WCSS_BT_DAT_STB	GPIO_89	RFFE4_DATA
GPIO_8	NFC_BLSF6_SPI_ESE_MOSI	GPIO_49	UIM2_DATA	GPIO_90	KEY_VOL_UP_N
GPIO_9	NFC_BLSF6_SPI_ESE_MISO	GPIO_50	UIM2_CLK	GPIO_91	LCD_ID
GPIO_10	NFC_BLSF6_SPI_ESE_CS_N	GPIO_51	UIM2_RESET	GPIO_92	SCAM_ID
GPIO_11	NFC_BLSF6_SPI_ESE_CLK	GPIO_52	GPIO52_ROW	GPIO_93	LCD_TE_SCAM_ID
GPIO_12	RGB_SYS_CLK2	GPIO_53	UIM1_DATA	GPIO_94	GPIO94_SENSE
GPIO_13	MHL_RESET	GPIO_54	UIM1_CLK	GPIO_95	GPIO95_SENSE
GPIO_14	MHL_RGB_I2C_SDA	GPIO_55	UIM1_RESET	GPIO_96	GPIO96_SENSE
GPIO_15	MHL_RGB_I2C_SCL	GPIO_56	GPIO56_ROW	GPIO_97	GPIO97_SENSE
GPIO_16	BLSP5_SPI_MOSI	GPIO_57	UIM_BATT_ALM	GPIO_98	MI2S_2_MCLK
GPIO_17	BLSP5_SPI_MISO	GPIO_58	SMB_INT	GPIO_99	GPIO99_ROW
GPIO_18	BLSP5_SPI_CS_N	GPIO_59	CDC_PDM_CLK	GPIO_100	SDC1_CLK
GPIO_19	BLSP5_SPI_CLK	GPIO_60	CDC_PDM_SYNC	GPIO_101	SDC1_DATA7
GPIO_20	NFC_DISABLE	GPIO_61	CDC_PDM_TX	GPIO_102	SDC1_DATA6
GPIO_21	NFC_INT_N	GPIO_62	CDC_PDM_RX0	GPIO_103	SDC1_DATA5
GPIO_22	FLAG_CAMERA_AF_EN	GPIO_63	CDC_PDM_RX1	GPIO_104	SDC1_DATA4
GPIO_23	NFC_DWL_REQ	GPIO_64	CDC_PDM_RX2	GPIO_105	SDC1_DATA3
GPIO_24	LCD_TE0	GPIO_65	ACCL_INT2_N	GPIO_106	SDC1_DATA2
GPIO_25	LCD_RST_N	GPIO_66	RFFE1_CLK	GPIO_107	SDC1_DATA1
GPIO_26	CAM0_MCLK	GPIO_67	RFFE1_DATA	GPIO_108	SDC1_DATA0
GPIO_27	CAM1_MCLK	GPIO_68	RFFE2_CLK	GPIO_109	SDC1_CMD
GPIO_28	SCAM_RST_N	GPIO_69	RFFE2_DATA	GPIO_110	LCM_SPI_RS
GPIO_29	CAM_I2C_SDA	GPIO_70	SP2T_B41_B7	GPIO_111	SMB_NFC_I2C_SDA
GPIO_30	CAM_I2C_SCL	GPIO_71	NC	GPIO_112	SMB_NFC_I2C_SCL
GPIO_31	NFC_ESE_PWR_REQ	GPIO_72	NC		
GPIO_32	NC	GPIO_73	NC		
GPIO_33	SCAM_PWDN	GPIO_74	SP2T_VCTL		
GPIO_34	NCAM_PWDN	GPIO_75	NC		
GPIO_35	NCAM_RST_N	GPIO_76	TX_G_N_SEL0(WDOG_DISABLE)		
GPIO_36	MHL_INT	GPIO_77	NC		
GPIO_37	FORCED_USB_BOOT	GPIO_78	NC		
GPIO_38	SMB_CM	GPIO_79	DRX_MODE_SEL_B41_B7		
GPIO_39	WCSS_BT_SSB1	GPIO_80	DRX_MODE_SEL_B3_B39		
GPIO_40	WCSS_WLAN_DATA_2	GPIO_81	NC		

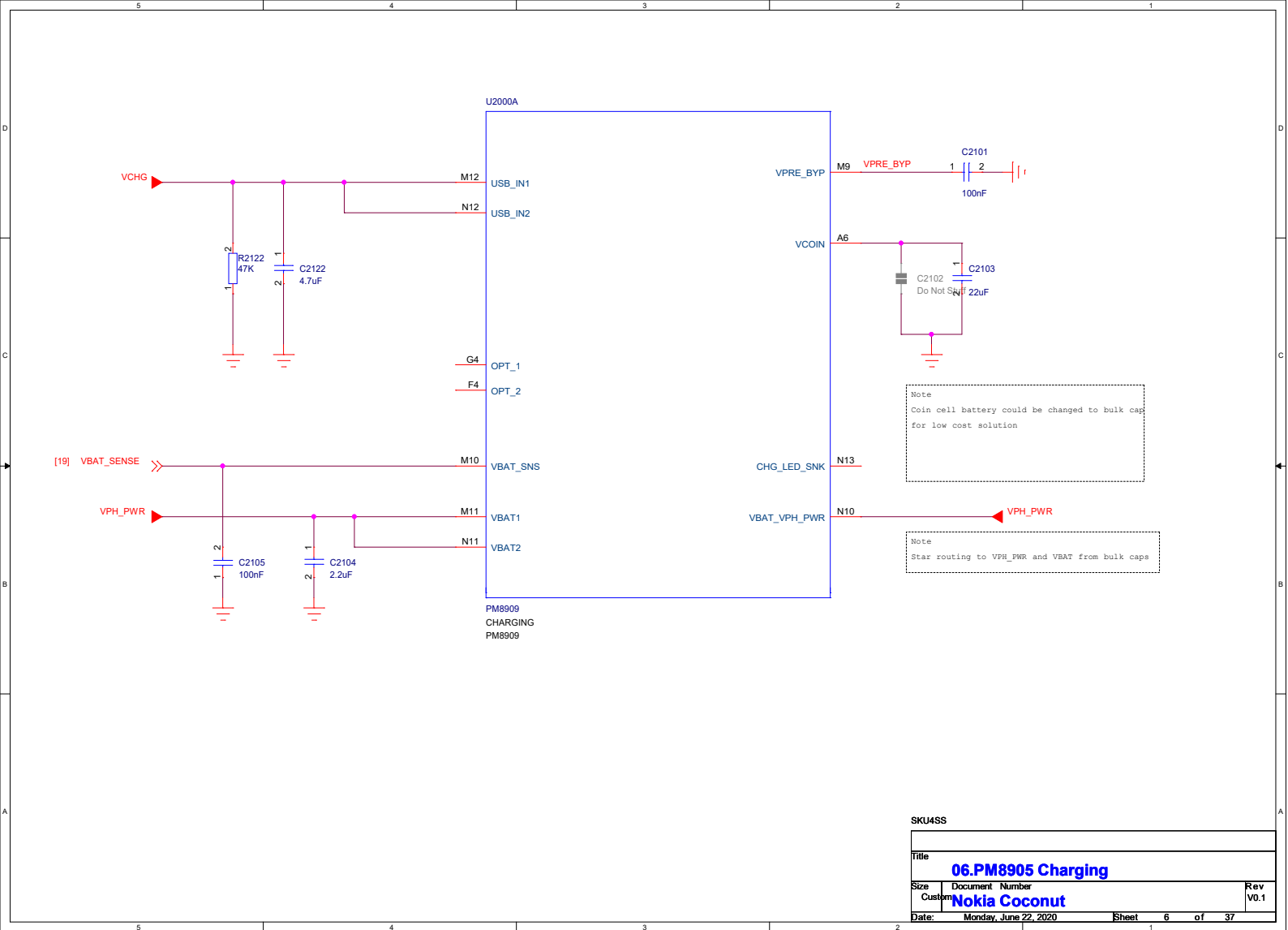
PM8909 GPIO/MPP Configuration For QRD8909

GPIO_1	PM_KEYBL_EN	MPP_1	VDD_PX_BIAS_MPP
GPIO_2	RGB_NFC_CLK_REQ	MPP_2	LCM_BI_EN
GPIO_3	UIM_BATT_ALM	MPP_3	VREF_DAC_MPP
GPIO_4	CAMERA_FLASH_EN	MPP_4	KEY_BL_EN

GPIO MAP

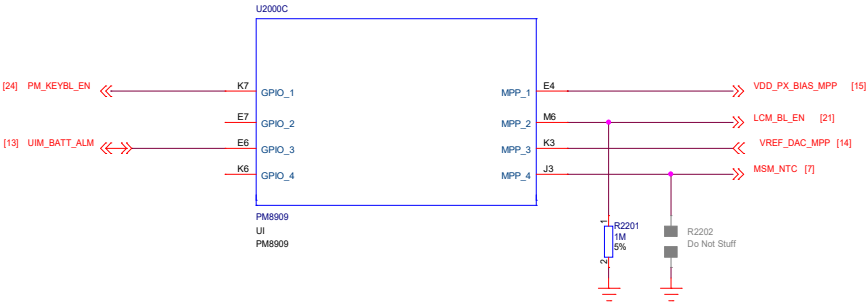




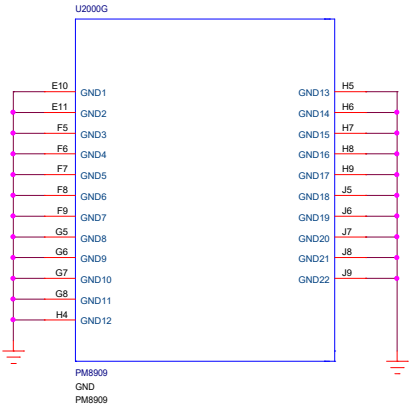
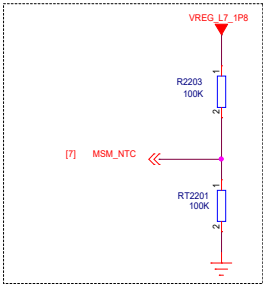


Software Caution:
Need software to config MSM
GPIO internal pullup

PM8905_GPIO_MPP



NTC For MSM

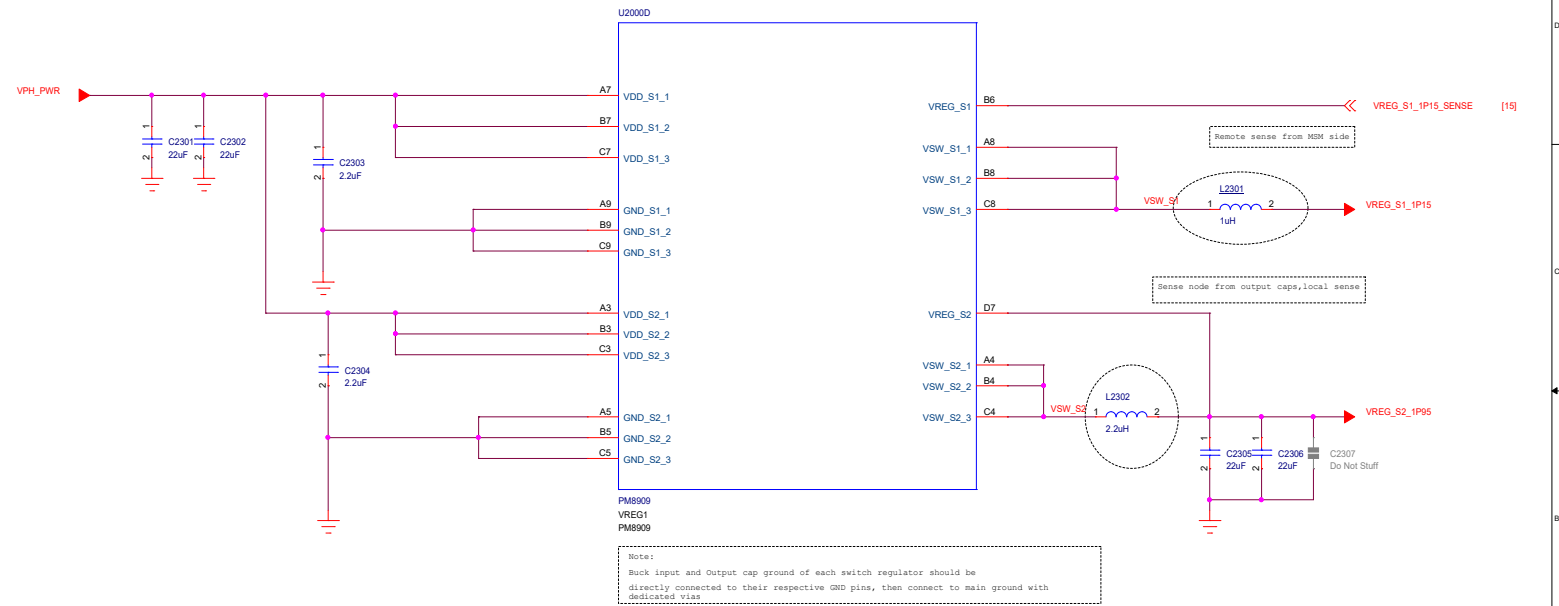


Note:
Change the MPP2 and MPP4 assignment to mitigate coupling risk to XTAL_OUT pin

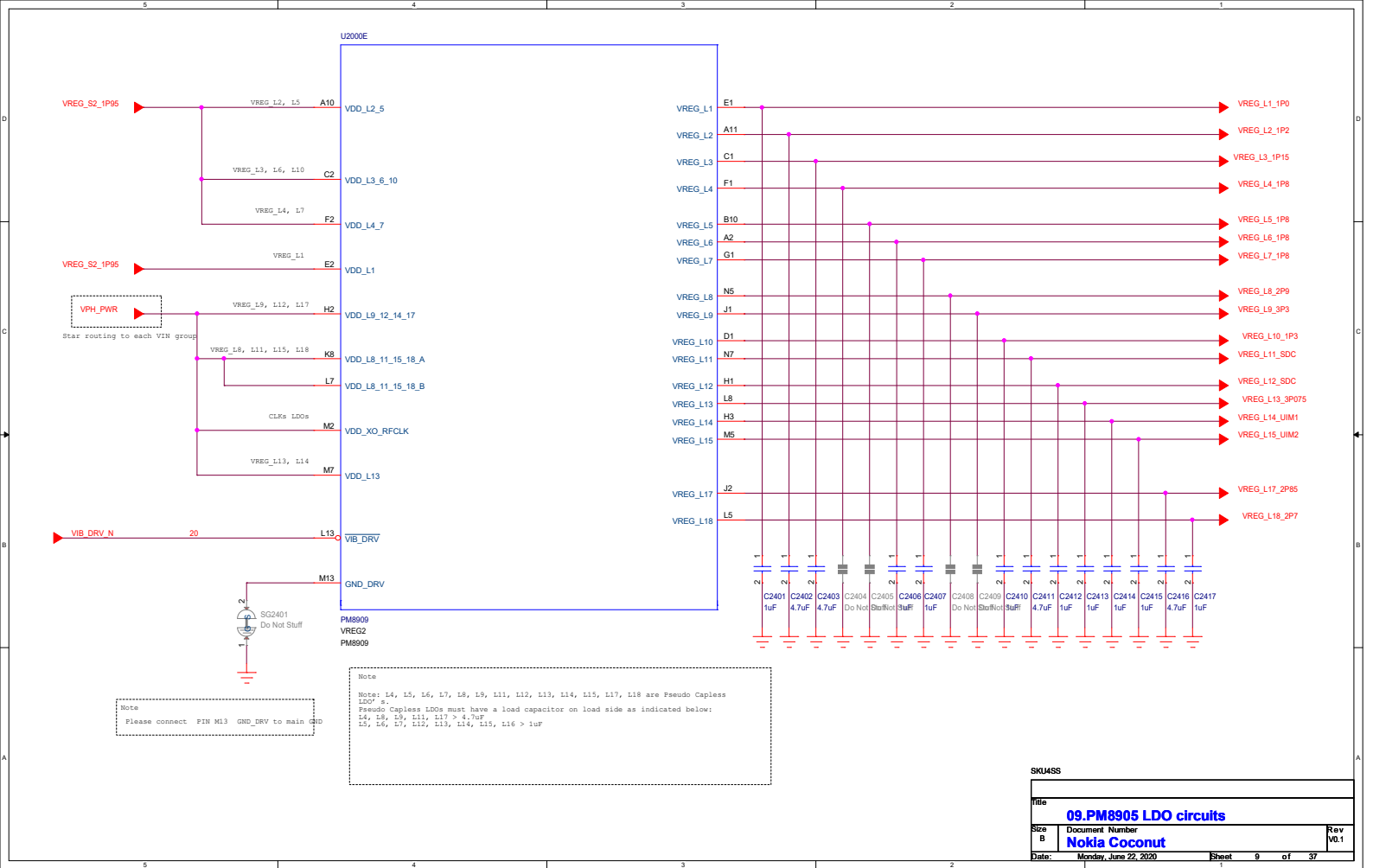
Note:
Ensure that pull down resistor of atleast 1Mohm is placed, if MPP2 and MPP4 are used as DO (Digital Output).

Note:
This thermistor needs to be placed near MSM. It's used to provide better thermal control for skin temperature.

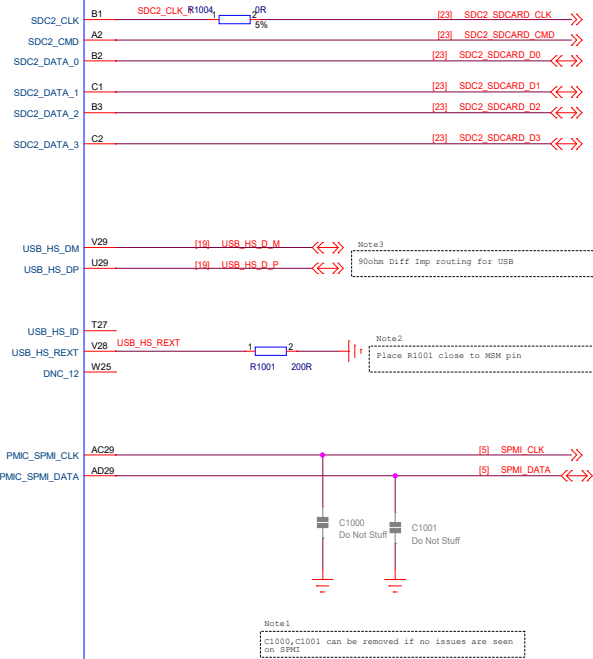
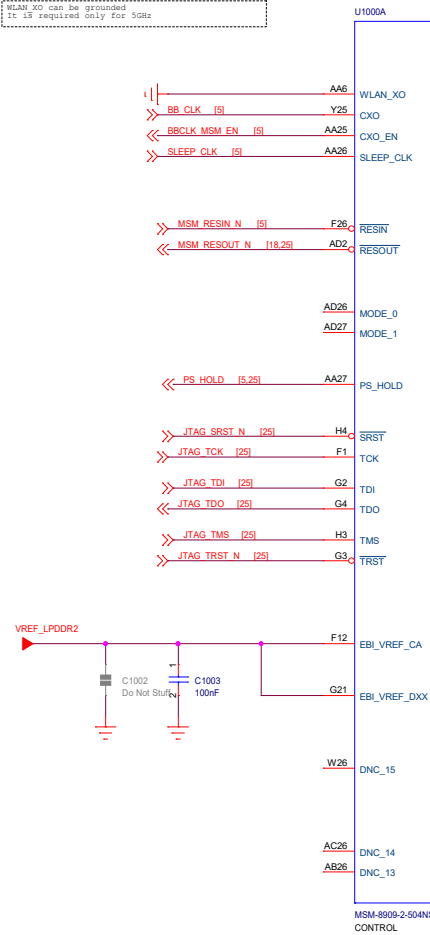
SKU468			
Title			
07.PM8905 GPIO/MPP			
Size	Document Number	Rev	
B	Nokia Coconut	V0.1	
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SKU468			
Title			
08.PM8905 Buck converter			
Size	Document Number	Rev	
B	Nokia Coconut	V0.1	
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Notes
1. If it is required only for 50ms

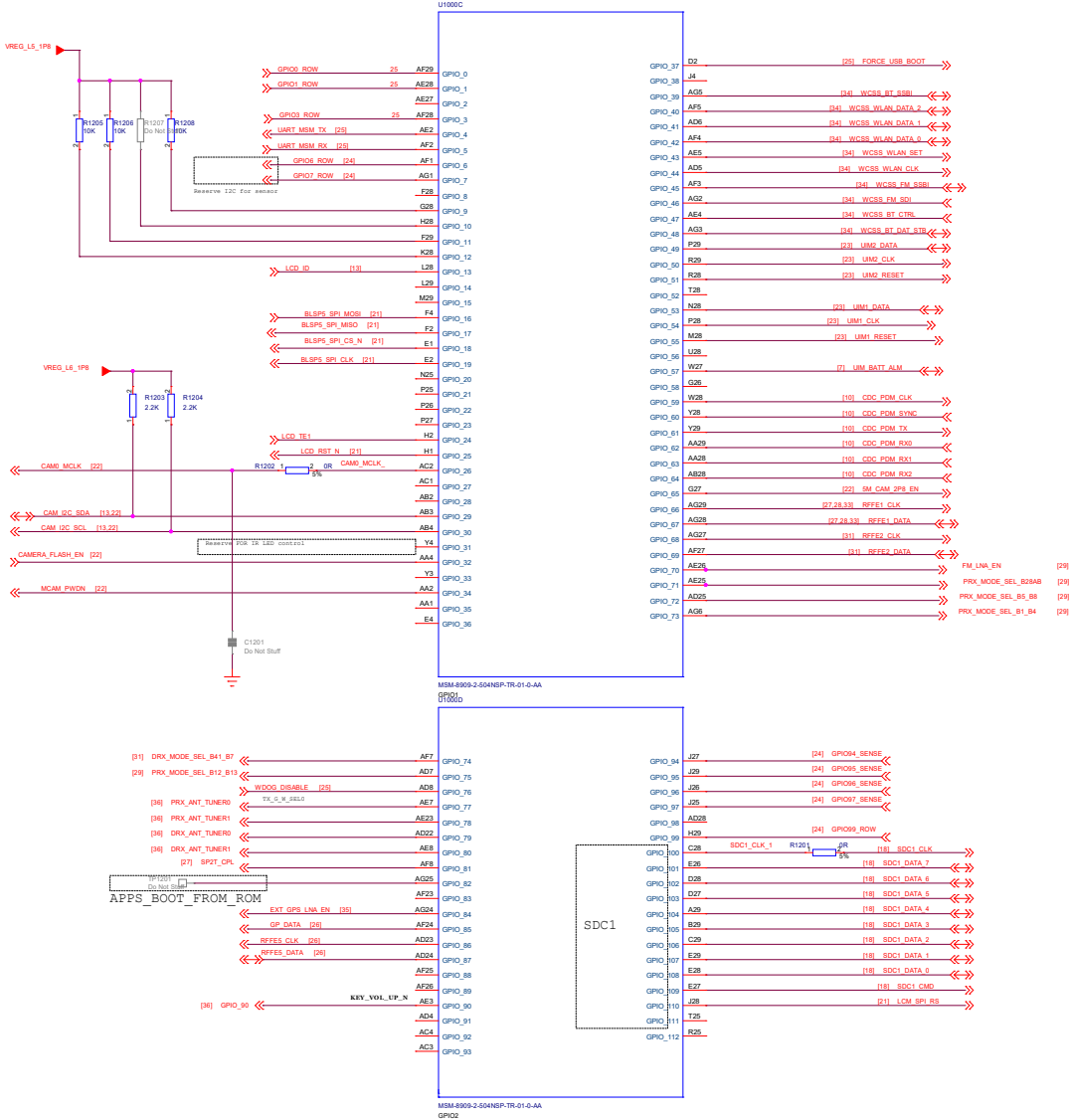


SKU468		
Title		
10.PM8905 CODEC		
Size	Document Number	Rev
B	Nokia Coconut	V0.1
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SKUMSS

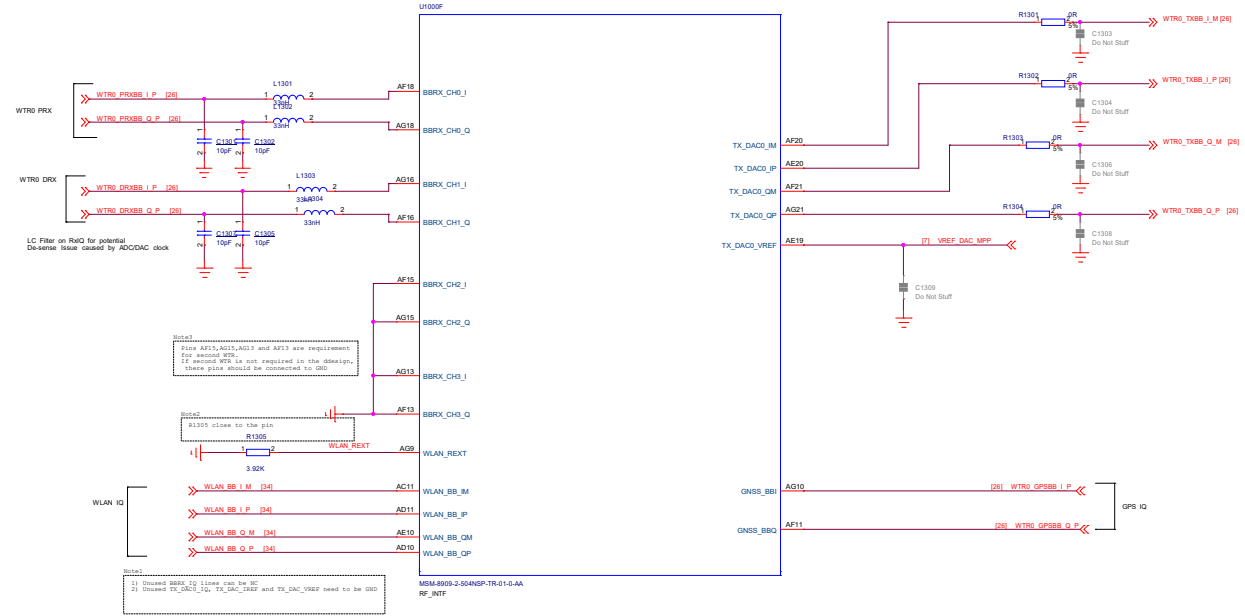
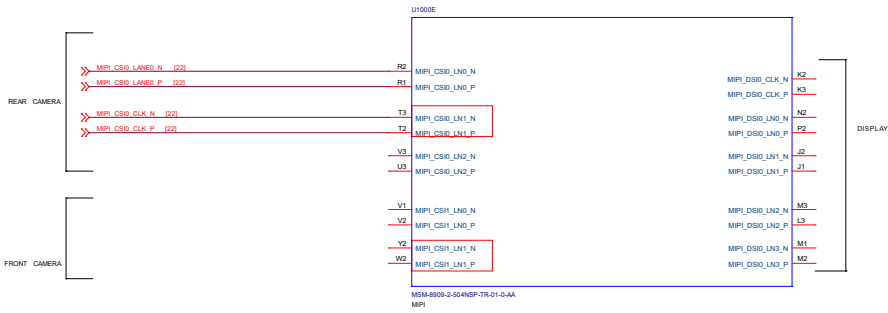
Title			
12.MSM8905: EBI			
Size	Document Number	Rev	
Custom	Nokia Coconut	V0.1	
Date:	Monday, June 22, 2020	Sheet	12 of 37



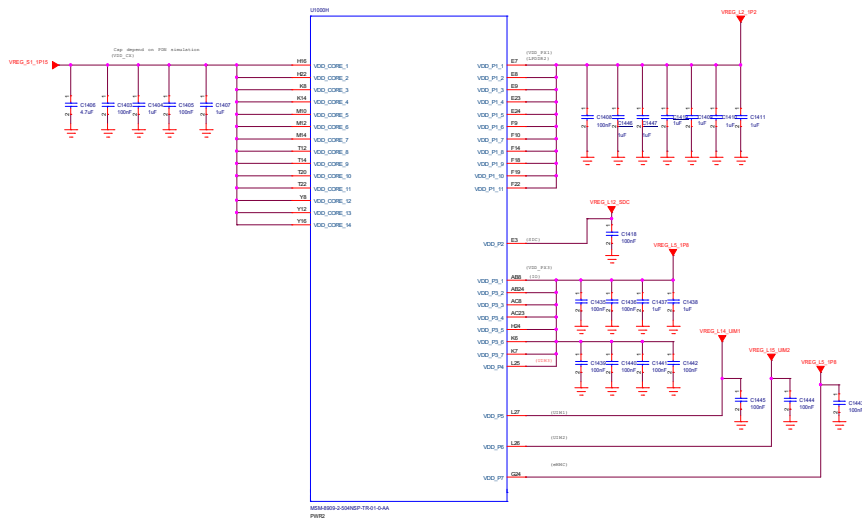
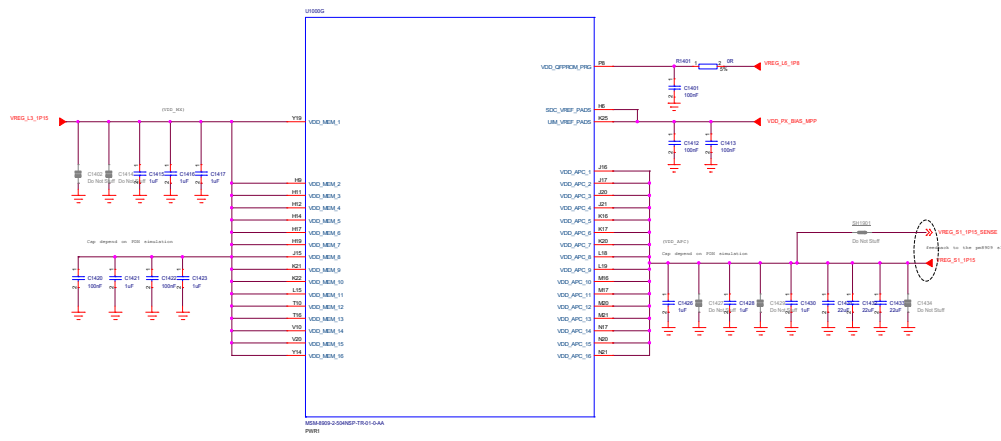
GPIO0	BOOT_CONFIG0
GPIO1	BOOT_CONFIG1
GPIO2	BOOT_CONFIG2
GPIO3	BOOT_CONFIG3
GPIO4	BOOT_CONFIG4
GPIO5	BOOT_CONFIG5
GPIO6	BOOT_CONFIG6
GPIO7	BOOT_CONFIG7
GPIO8	BOOT_CONFIG8
GPIO9	BOOT_CONFIG9
GPIO10	BOOT_CONFIG10
GPIO11	BOOT_CONFIG11
GPIO12	BOOT_CONFIG12
GPIO13	BOOT_CONFIG13
GPIO14	BOOT_CONFIG14
GPIO15	BOOT_CONFIG15
GPIO16	BOOT_CONFIG16
GPIO17	BOOT_CONFIG17
GPIO18	BOOT_CONFIG18
GPIO19	BOOT_CONFIG19
GPIO20	BOOT_CONFIG20
GPIO21	BOOT_CONFIG21
GPIO22	BOOT_CONFIG22
GPIO23	BOOT_CONFIG23
GPIO24	BOOT_CONFIG24
GPIO25	BOOT_CONFIG25
GPIO26	BOOT_CONFIG26
GPIO27	BOOT_CONFIG27
GPIO28	BOOT_CONFIG28
GPIO29	BOOT_CONFIG29
GPIO30	BOOT_CONFIG30
GPIO31	BOOT_CONFIG31
GPIO32	BOOT_CONFIG32
GPIO33	BOOT_CONFIG33
GPIO34	BOOT_CONFIG34
GPIO35	BOOT_CONFIG35
GPIO36	BOOT_CONFIG36
GPIO37	BOOT_CONFIG37
GPIO38	BOOT_CONFIG38
GPIO39	BOOT_CONFIG39
GPIO40	BOOT_CONFIG40
GPIO41	BOOT_CONFIG41
GPIO42	BOOT_CONFIG42
GPIO43	BOOT_CONFIG43
GPIO44	BOOT_CONFIG44
GPIO45	BOOT_CONFIG45
GPIO46	BOOT_CONFIG46
GPIO47	BOOT_CONFIG47
GPIO48	BOOT_CONFIG48
GPIO49	BOOT_CONFIG49
GPIO50	BOOT_CONFIG50
GPIO51	BOOT_CONFIG51
GPIO52	BOOT_CONFIG52
GPIO53	BOOT_CONFIG53
GPIO54	BOOT_CONFIG54
GPIO55	BOOT_CONFIG55
GPIO56	BOOT_CONFIG56
GPIO57	BOOT_CONFIG57
GPIO58	BOOT_CONFIG58
GPIO59	BOOT_CONFIG59
GPIO60	BOOT_CONFIG60
GPIO61	BOOT_CONFIG61
GPIO62	BOOT_CONFIG62
GPIO63	BOOT_CONFIG63
GPIO64	BOOT_CONFIG64
GPIO65	BOOT_CONFIG65
GPIO66	BOOT_CONFIG66
GPIO67	BOOT_CONFIG67
GPIO68	BOOT_CONFIG68
GPIO69	BOOT_CONFIG69
GPIO70	BOOT_CONFIG70
GPIO71	BOOT_CONFIG71
GPIO72	BOOT_CONFIG72
GPIO73	BOOT_CONFIG73

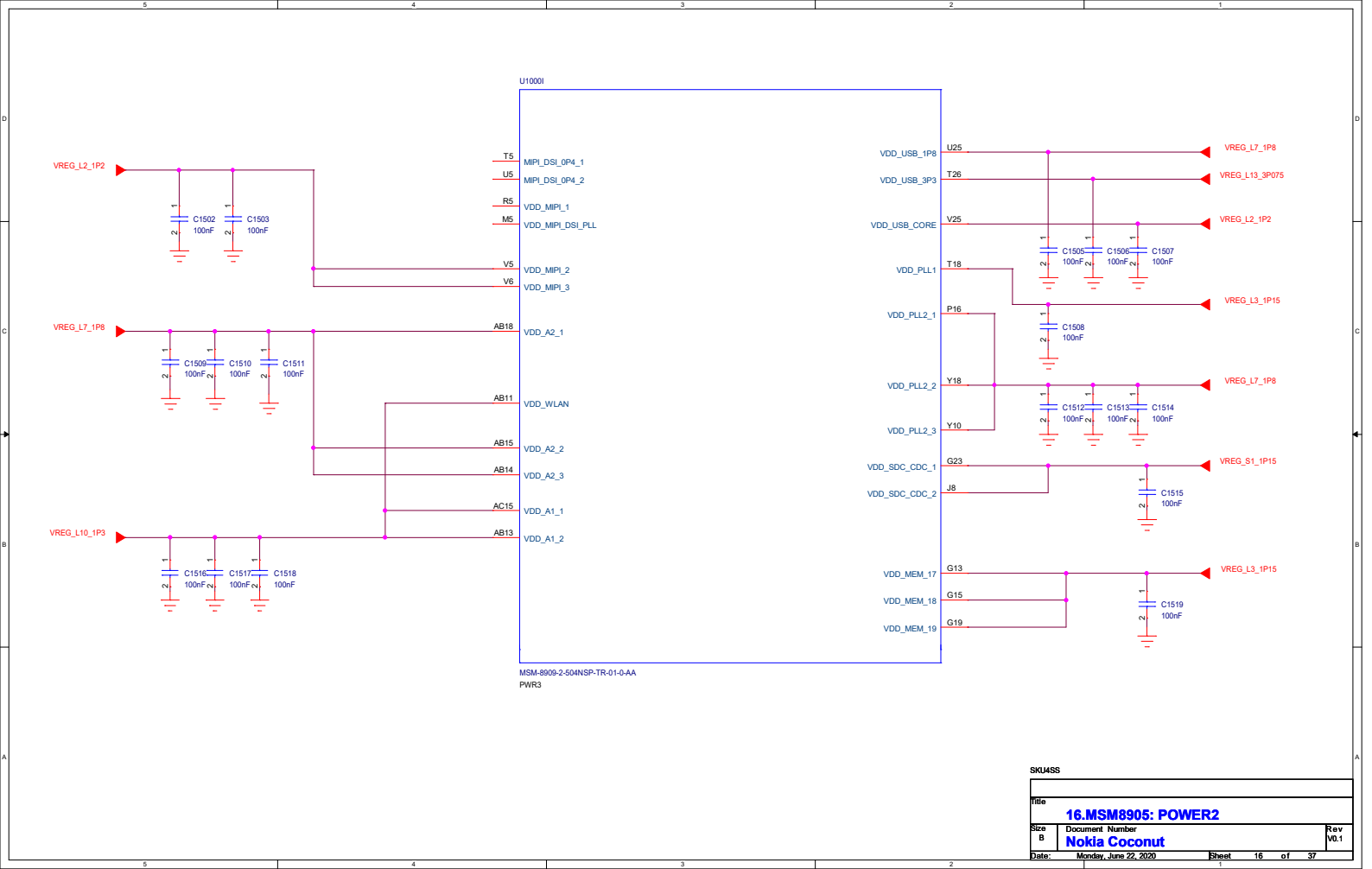
Default Boot Config (GPIO0) is 4000

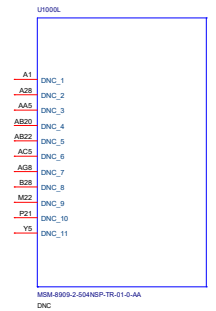
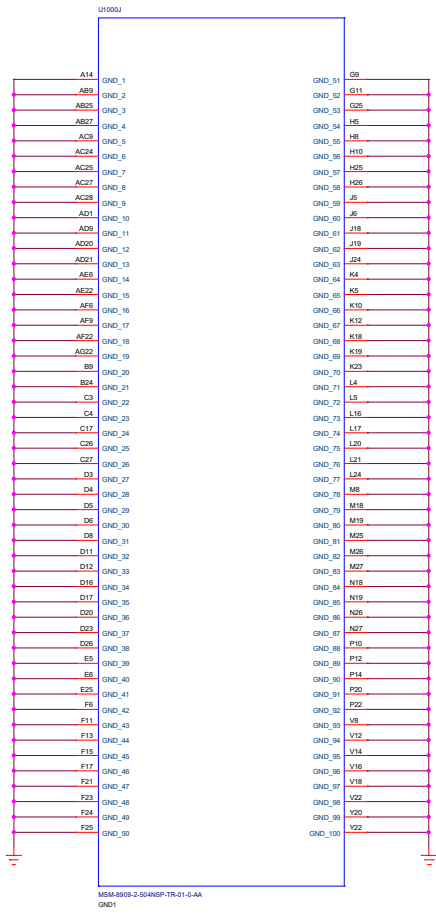
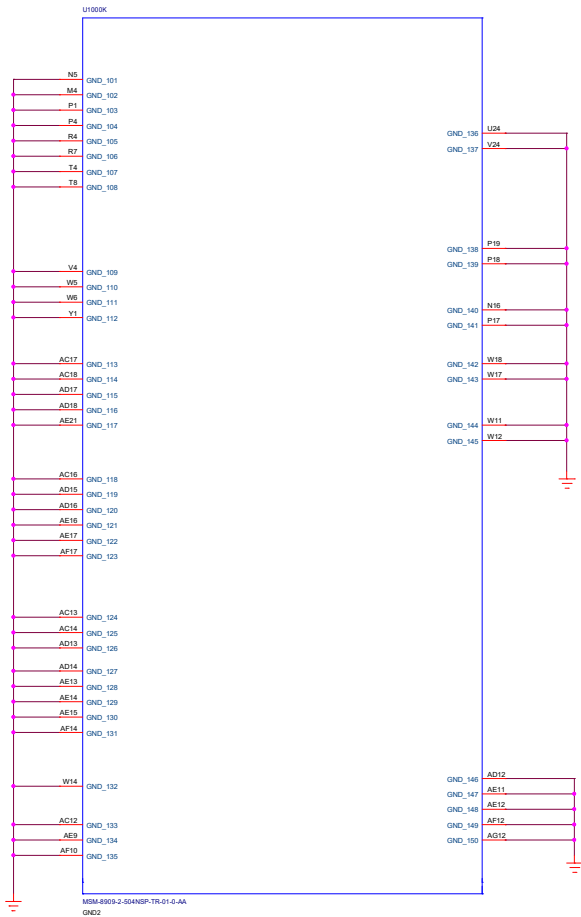
File	13.MSM8905: GPIO	Rev	10.1
Doc	Document	Number	
File	Nokia Coconut	Rev	10.1
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SNU455			
File	14.MSM8909: MIPI and RF Control		
Doc	Document	Number	Rev
C			10.1
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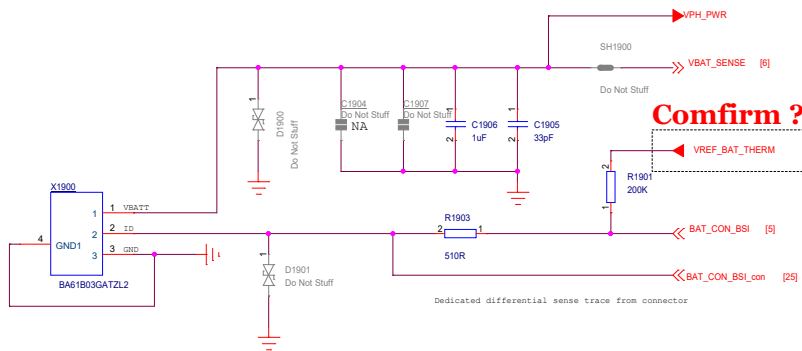




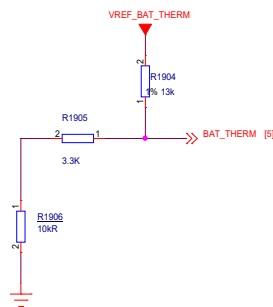


SML485			
File			
17 MSM8905:GND			
Rev	Document	Number	Rev
C		Nokia Coconut	10.1
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BAT CON



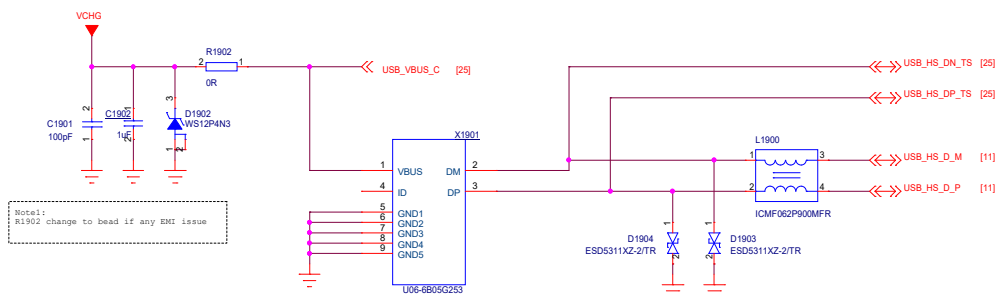
BATTERY NTC



The BPD comparator threshold is set at 95% of VREF_BAT_THERM
NOTE: the overvoltage protection threshold is 6.3V for PMIC

Micro USB CON

NOTE: the overvoltage protection threshold is 6.3V for PMIC

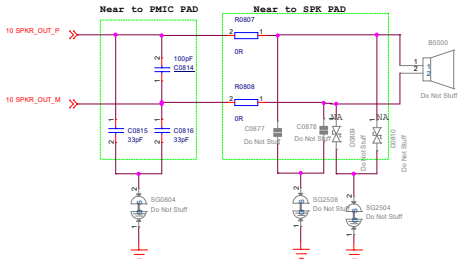


SKU468

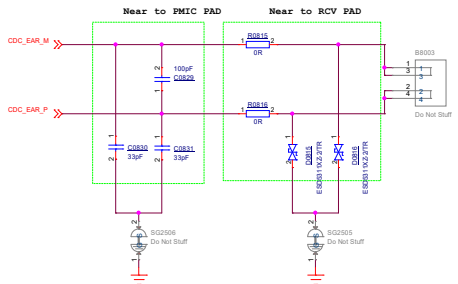
Title			
19.Battery/USB Connector/MHL			
Size	Document Number		Rev
B	Nokia Coconut		V0.1
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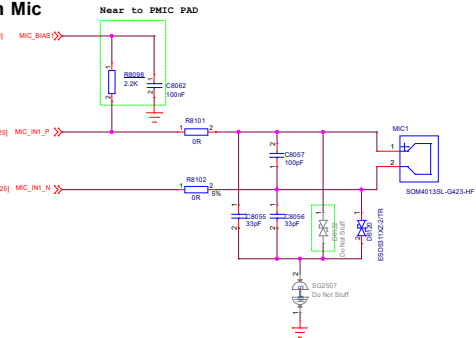
SPK



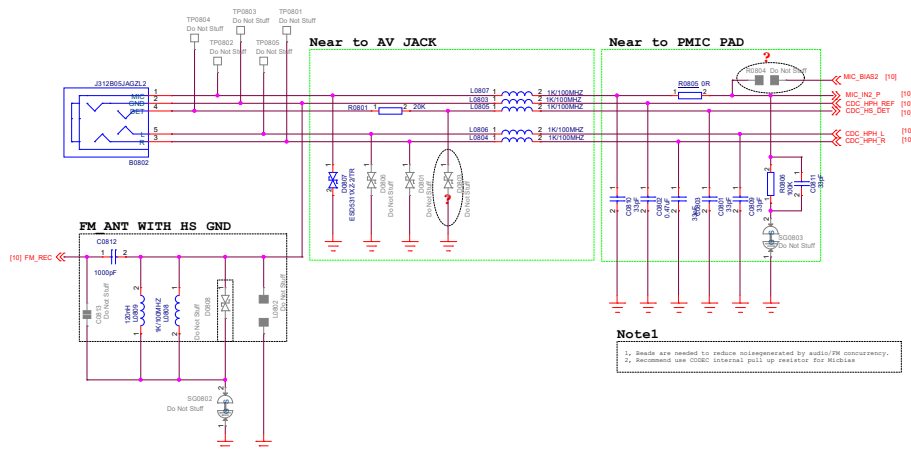
RCV



Main Mic

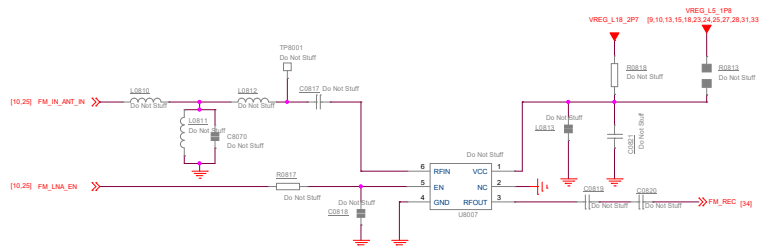


Headset



Note1
1. Beads are needed to reduce noise generated by audio/FM concurrency.
2. Recommended use C839, C840, C841, C842, C843, C844, C845, C846 for Nokia.

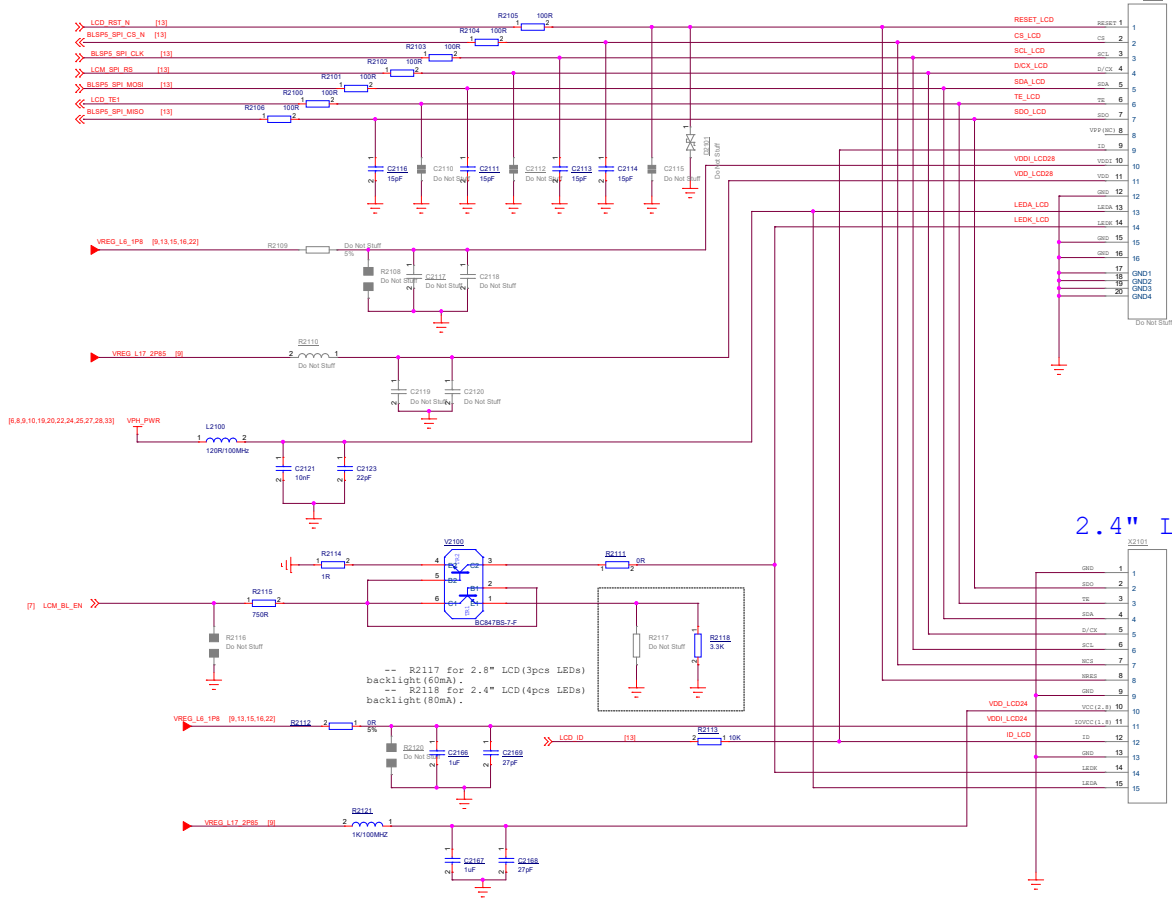
FM_LNA



SHEET			
File	20 Audio	Rev	10.1
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2.8" LCD for Premium Version.
2.4" LCD for Basic Version.

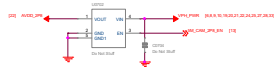
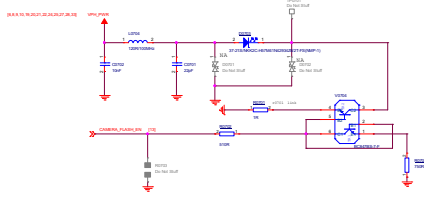
2.8" LCD



2.4" LCD

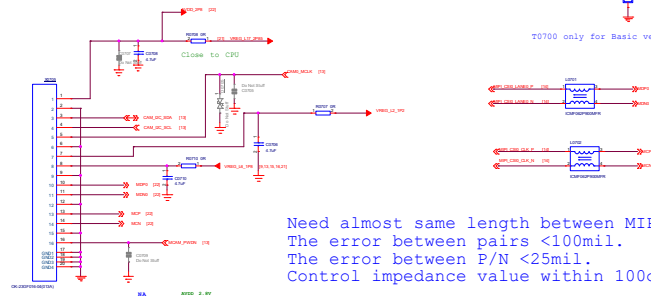
SHEET			
File	21_LCD/backlight		
Doc	Document	Number	Rev
C	Nokia LEO		1.0
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CAMERA FLASH



Pin	Signal	IO	Notes
1	GPIO0	I/O	
2	GPIO1	I/O	
3	GPIO2	I/O	
4	GPIO3	I/O	
5	GPIO4	I/O	
6	GPIO5	I/O	
7	GPIO6	I/O	
8	GPIO7	I/O	
9	GPIO8	I/O	
10	GPIO9	I/O	
11	GPIO10	I/O	
12	GPIO11	I/O	
13	GPIO12	I/O	
14	GPIO13	I/O	
15	GPIO14	I/O	
16	GPIO15	I/O	
17	GPIO16	I/O	
18	GPIO17	I/O	
19	GPIO18	I/O	
20	GPIO19	I/O	

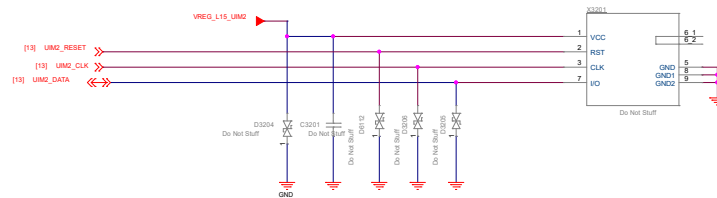
REAR CAMERA



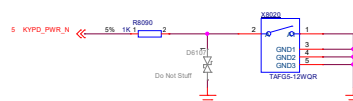
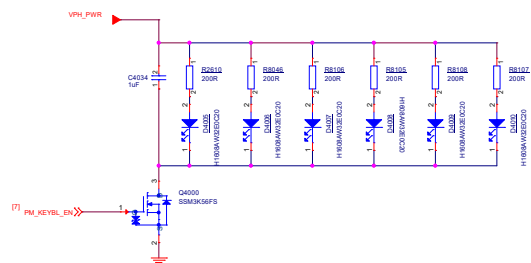
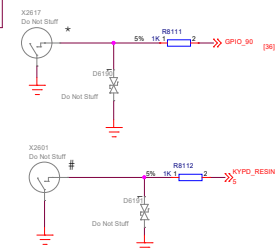
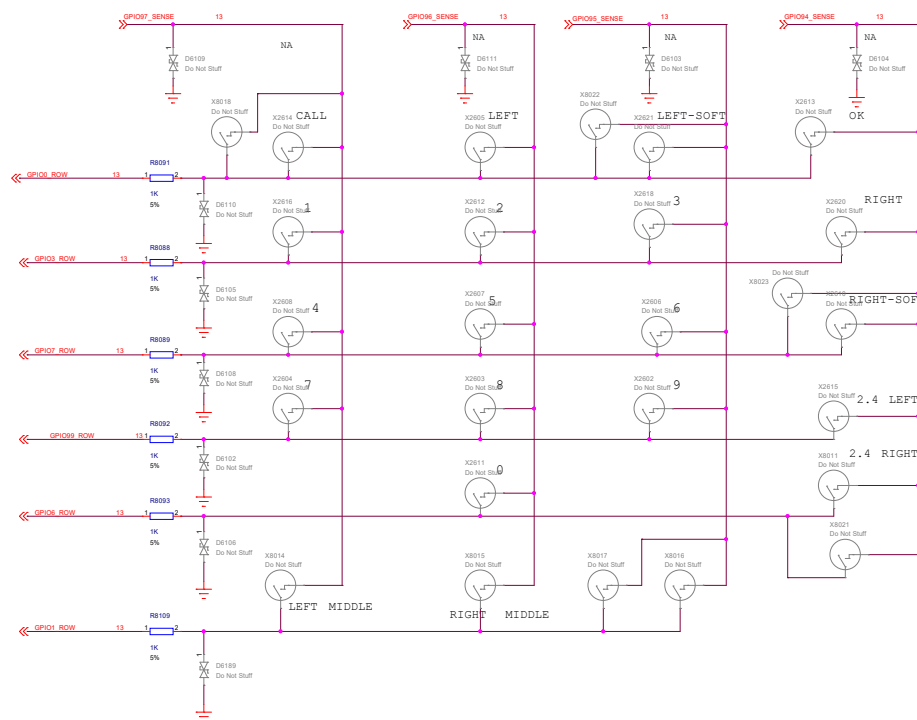
Need almost same length between MIPI lanes.
The error between pairs <100mil.
The error between P/N <25mil.
Control impedance value within 100ohm.

FRONT CAMERA

USIM2

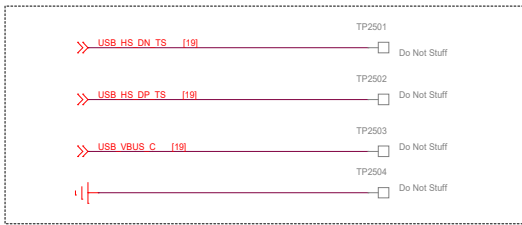


SKU#SS			
Title			
23. SIM/TF card			
Size	Document Number	Rev	
C	Nokia Coconut	V0.1	
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SKU4SS			
File			
24.KeypadLED/connector			
Doc C	Document Number	Rev V0.	
Nokia LEO			
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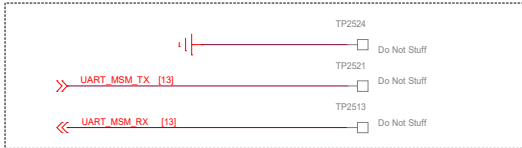
USB Test Point



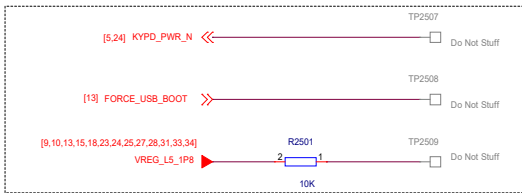
Battery Test Point



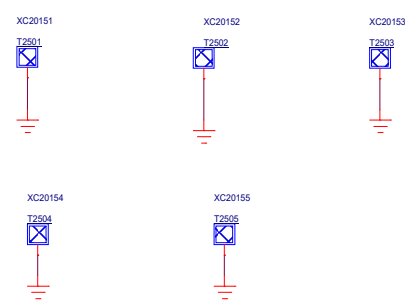
UART Test Point



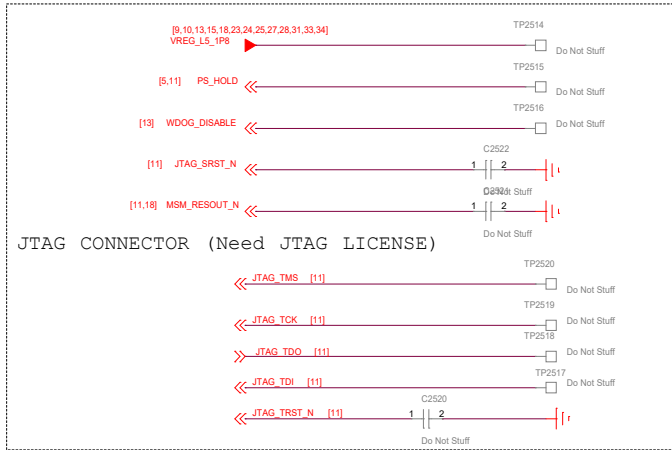
Force BOOT Test PAD



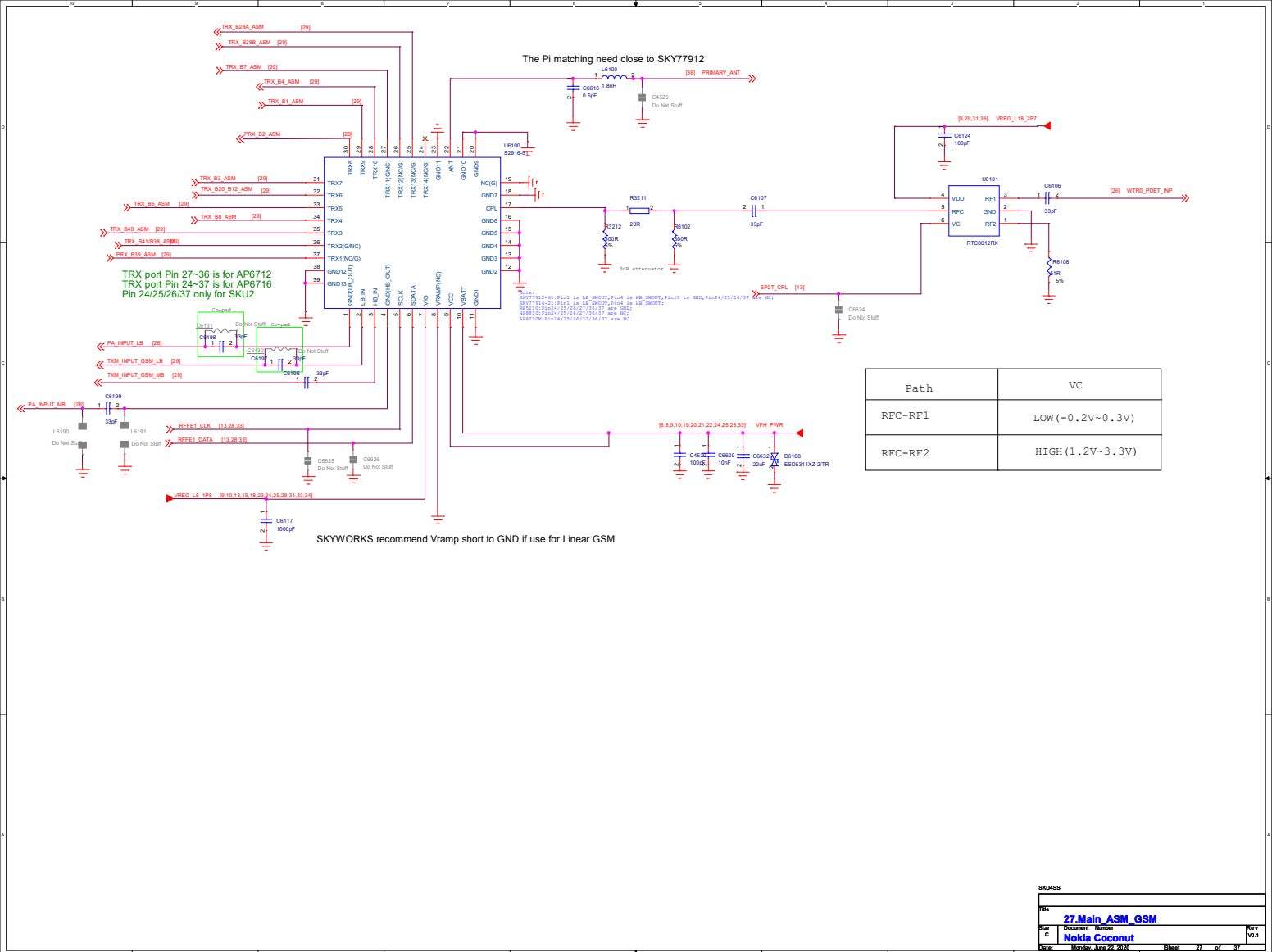
Shielding Frame



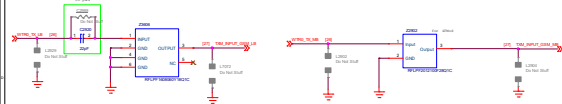
SW Test Point (Reserved For QC Debug)



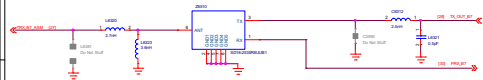
BRU488			
Title			
25.Test Point/GND/Shields			
Size	Document Number	Rev	
B	Nokia Coconut	V0.1	
Date:	Monday, June 22, 2020	Sheet	25 of 37



TX_LB/MB_LPF is required to meet 4FMod specs



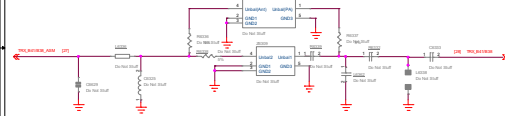
B7 Duplexer



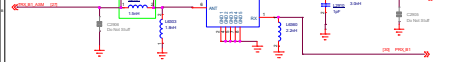
B40 TRx



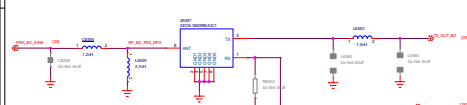
B41 TRx



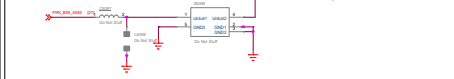
B1 Duplexer



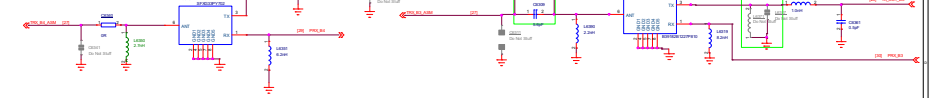
B2 Duplexer



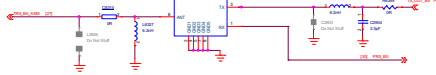
B39 PRx



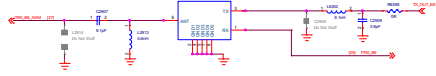
B4 Duplexer



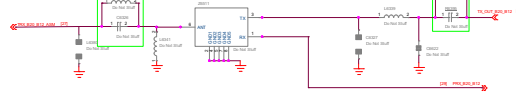
B5 Duplexer



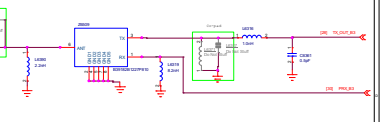
B8 Duplexer



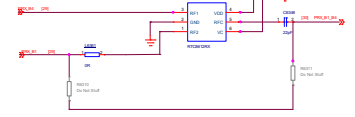
B20 Duplexer



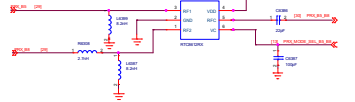
B3 Duplexer



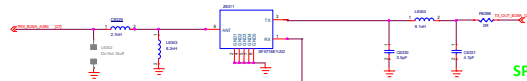
SP2T B1/B4 PRx



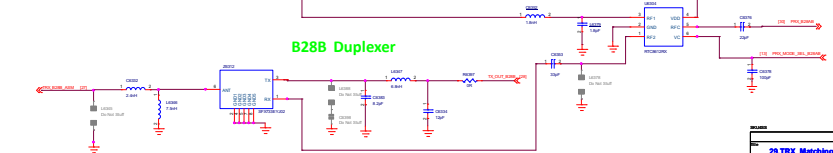
SP2T B5/B8 PRx



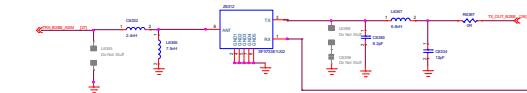
B28A Duplexer



SP2T B28A/B28B PRx

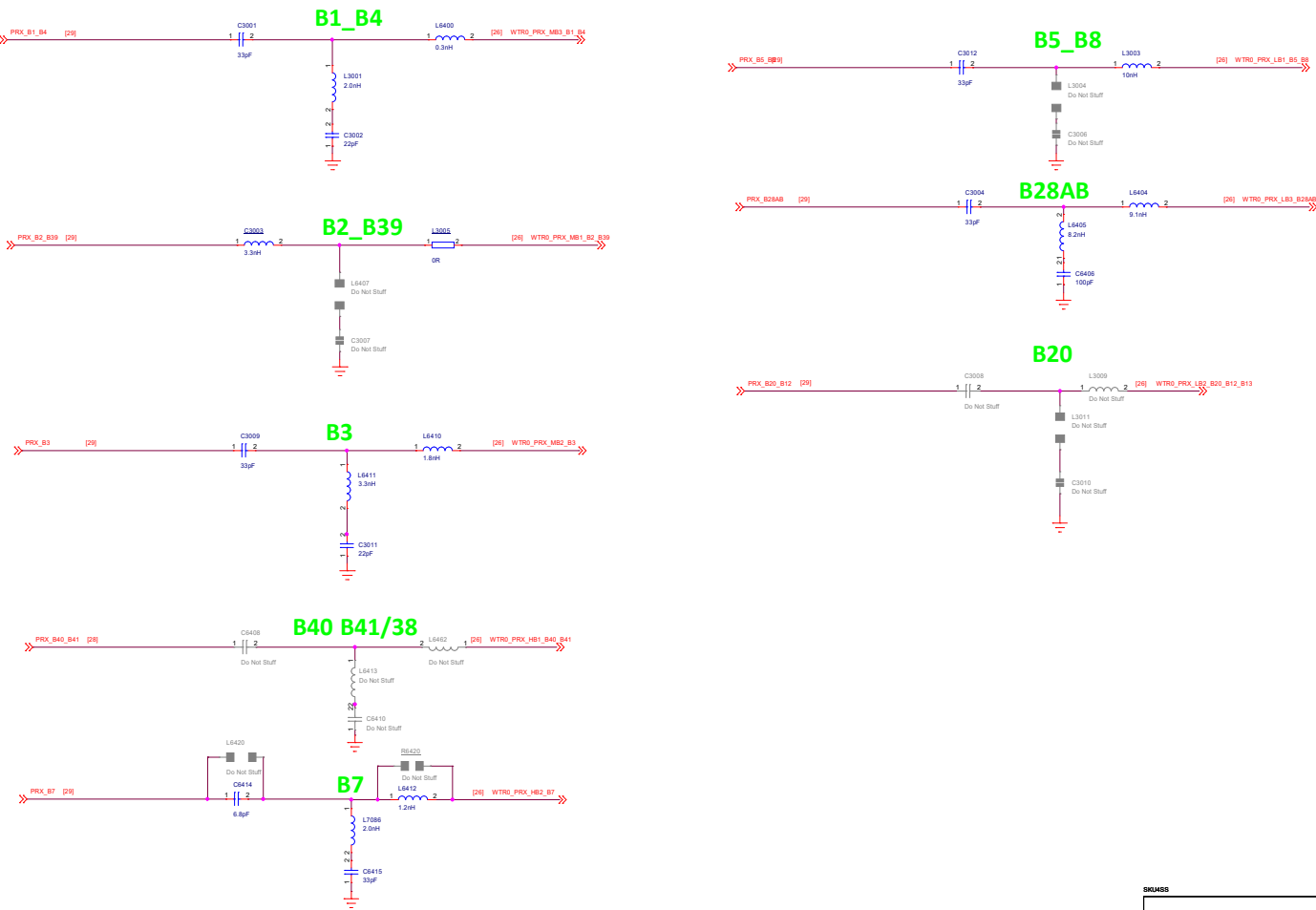


B28B Duplexer



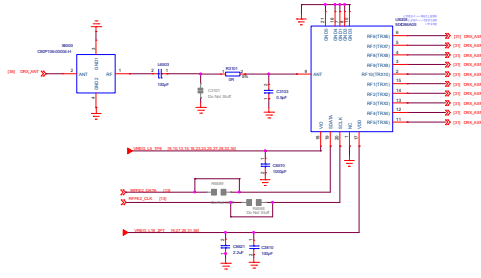
Notes
28 TRX Matching
Nokia Coconut

Note:The matching need close to WTR, RX ports have DC at the pin, so it need DC block

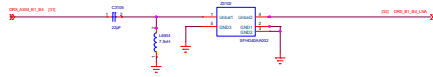


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DRX ASM



B1_B4 DRX



B2_B39 DRX



B3 DRX



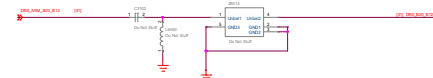
B5 DRX



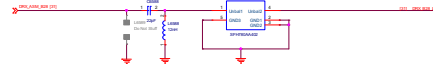
B8 DRX



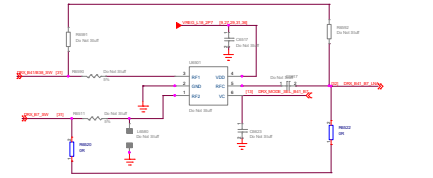
B20_B12 DRX



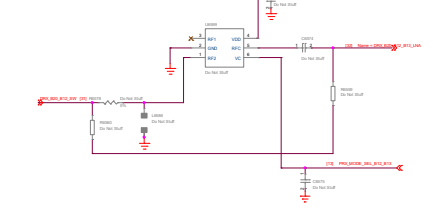
B28 DRX



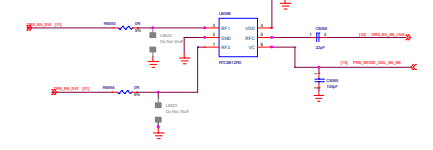
SP2T B41/B7



SP2T B20 DRX

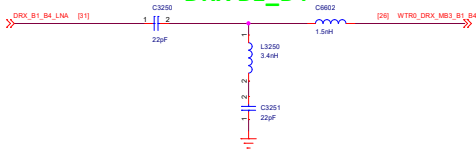


SP2T B5/B8 DRX

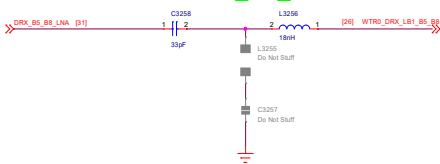


Note:The matching need
close to WTR, RX ports have
DC at the pin, so it need DC block,

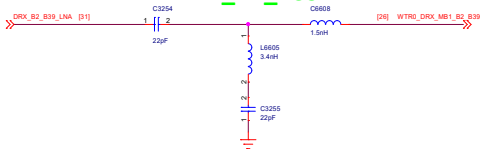
DRX_B1_B4



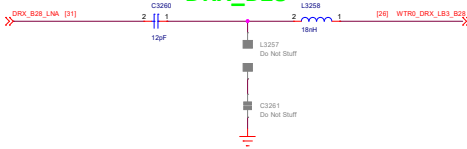
DRX_B5_B8



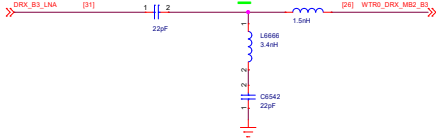
DRX_B2_B39



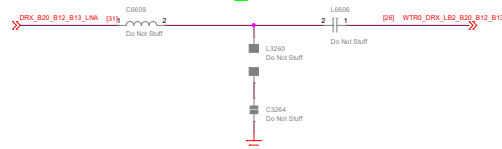
DRX_B28



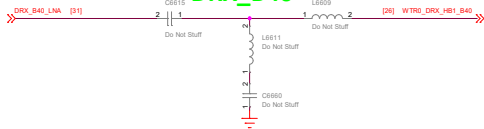
DRX_B3



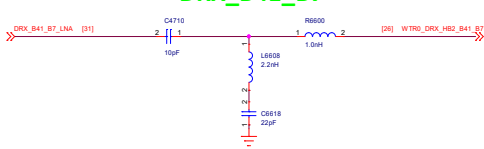
DRX_B20



DRX_B40

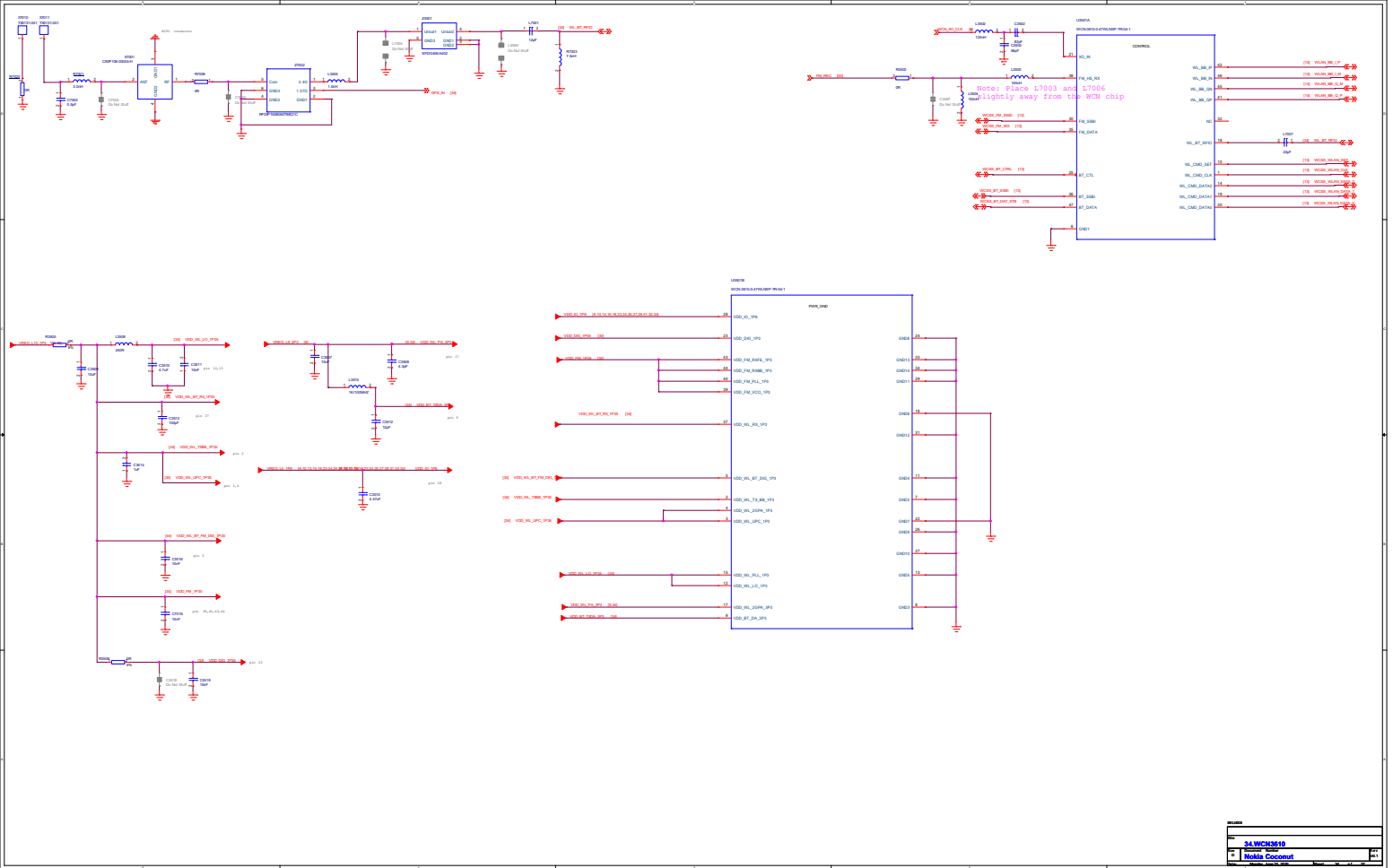


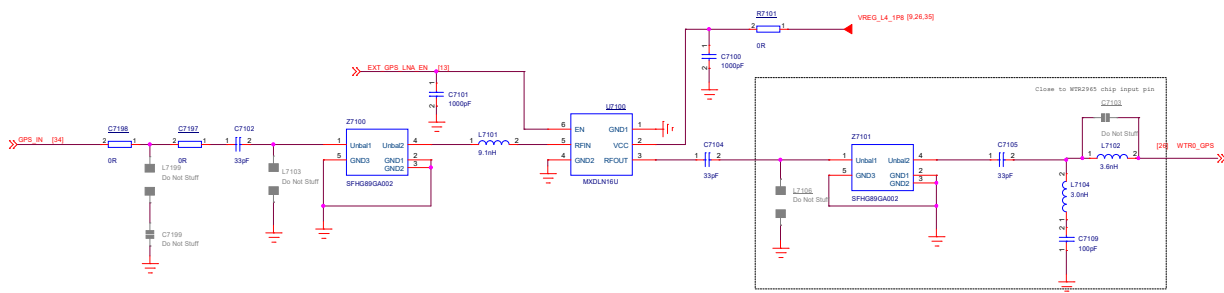
DRX_B41_B7



DRX MATCHING

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Change History

- 1. 2022-01-01: Initial version, change part 100 to 101.
- 2. 2022-01-01: Initial version, change part 100 to 101.
- 3. 2022-01-01: Initial version, change part 100 to 101.
- 4. 2022-01-01: Initial version, change part 100 to 101.
- 5. 2022-01-01: Initial version, change part 100 to 101.