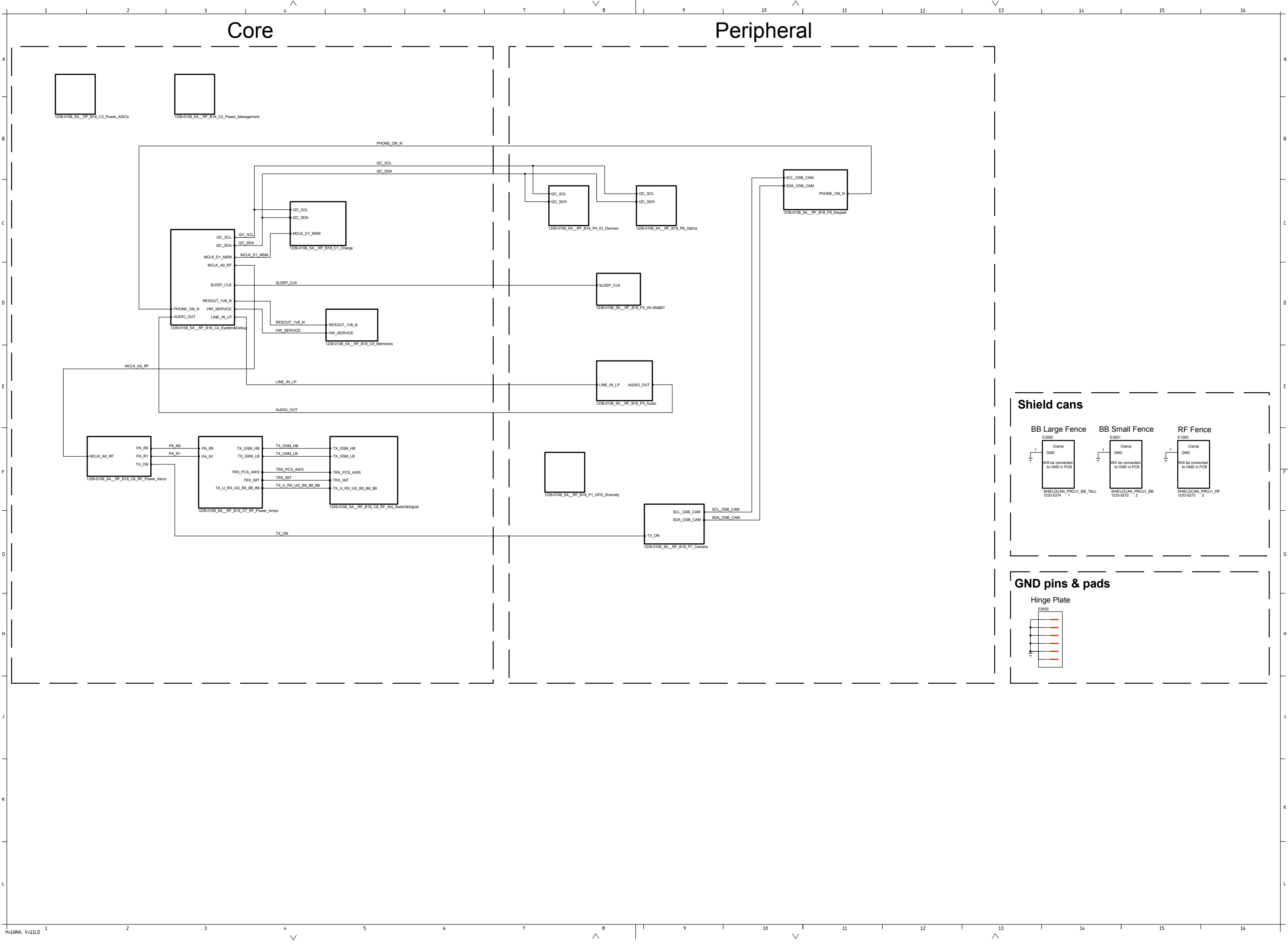




# Schematics, Electrical

Applicable for R800i, R800a, R800x, R800at, Z1



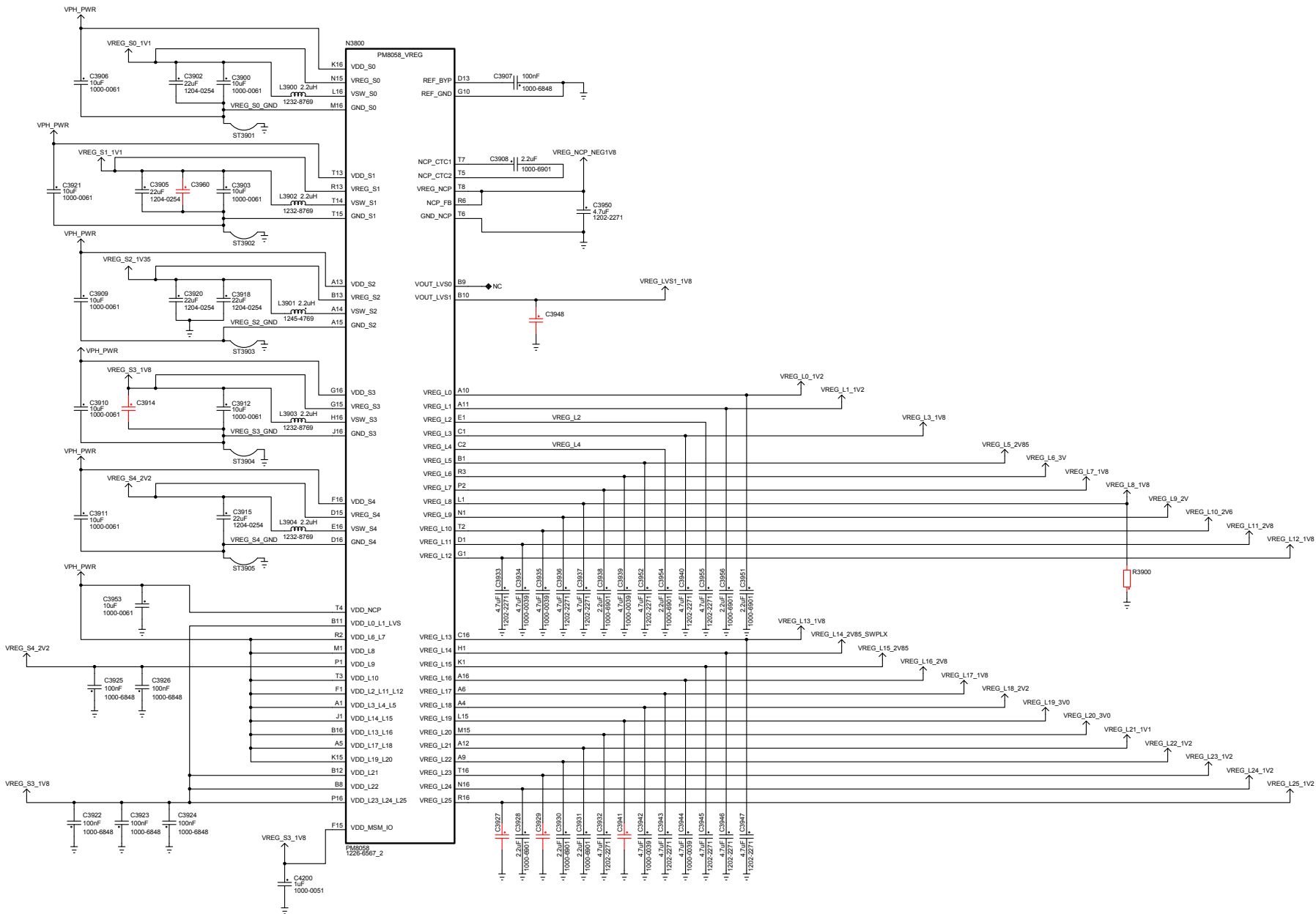
[illegible]

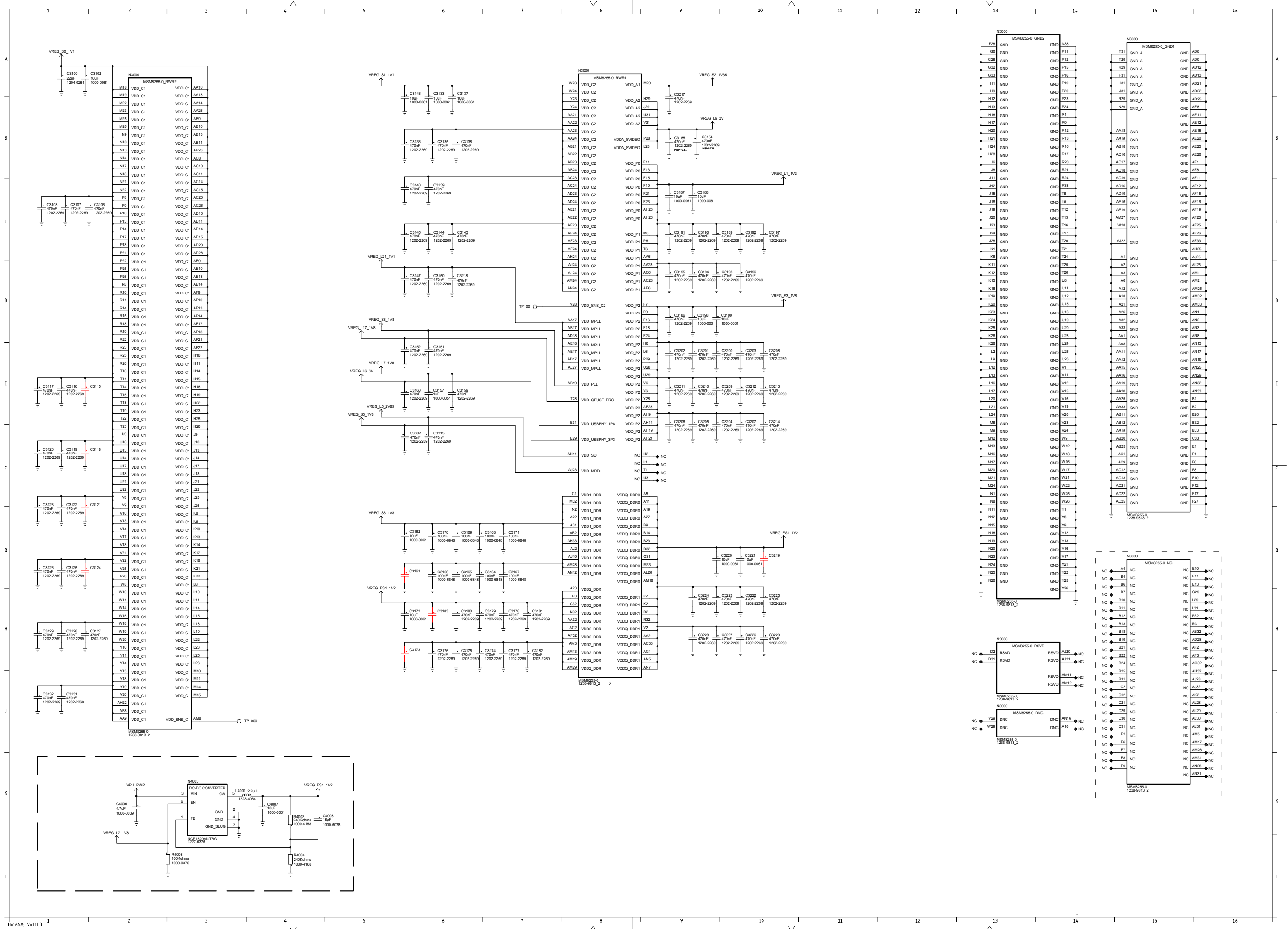
The schematic diagram illustrates the power management circuitry centered around the PM8058 IC. Key components and connections include:

- VREG L6\_3V:** A voltage regulator section featuring the V3803 SSM3K18FV NMOs and associated capacitors C3807 and V3801.
- BAT\_FET\_N:** The battery FET driver stage, utilizing the V3800 NTLIS3113P P-MOS and gate drive network consisting of R3800, C3822, C3823, and C3820.
- PM8058 IC:** The central power management controller, shown with its pinout and internal blocks like PM8058\_OVP\_PWR, LED\_ATC, OVP\_CTL, OVP\_CLAMP, VCHG, BAT\_FET\_N, VREF\_THERM, and MPP\_07.
- Backup Capacitor:** A dedicated backup capacitor section labeled "Backup Capacitor" containing C3806 (22µF) and C3809 (1000-6503).

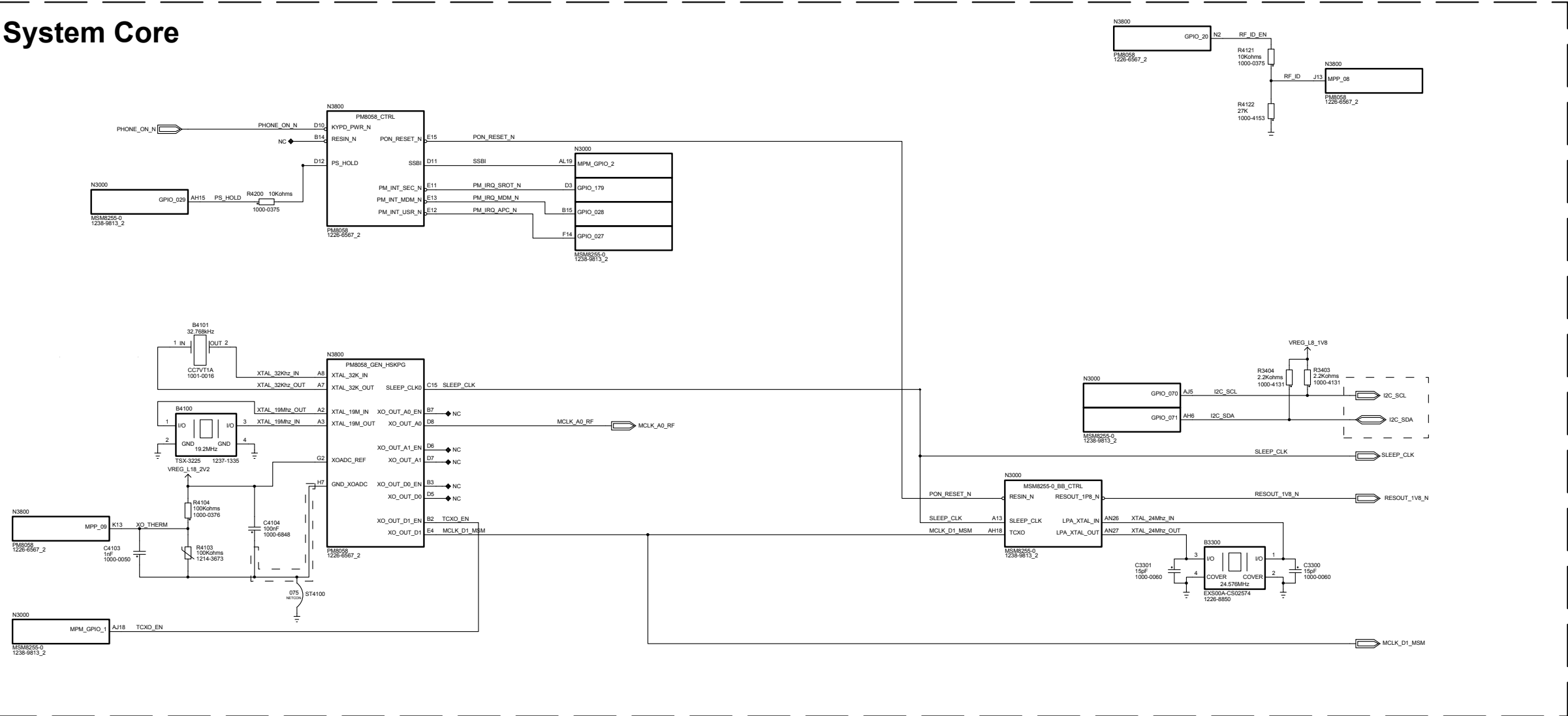
The diagram uses standard electronic symbols for MOSFETs, resistors, capacitors, diodes, and integrated circuits, along with various labels for pins, nets, and components.

# Power Management

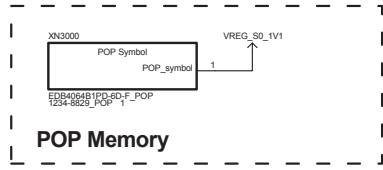
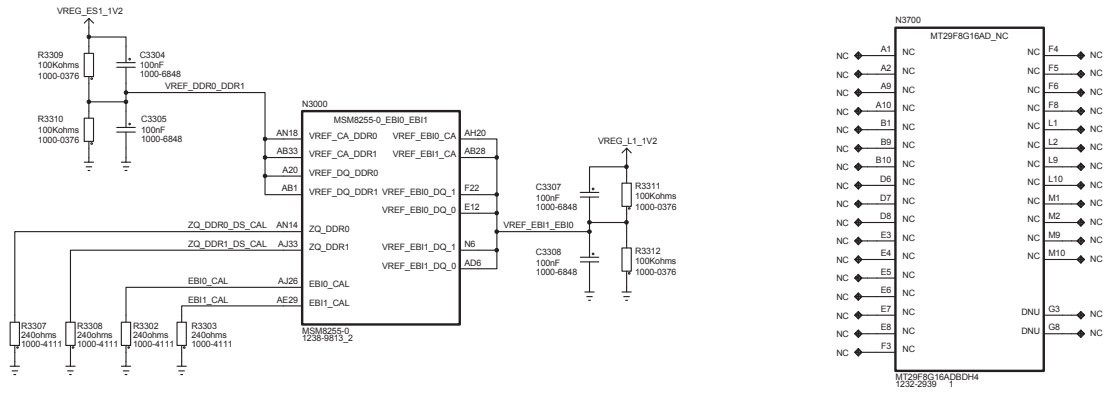
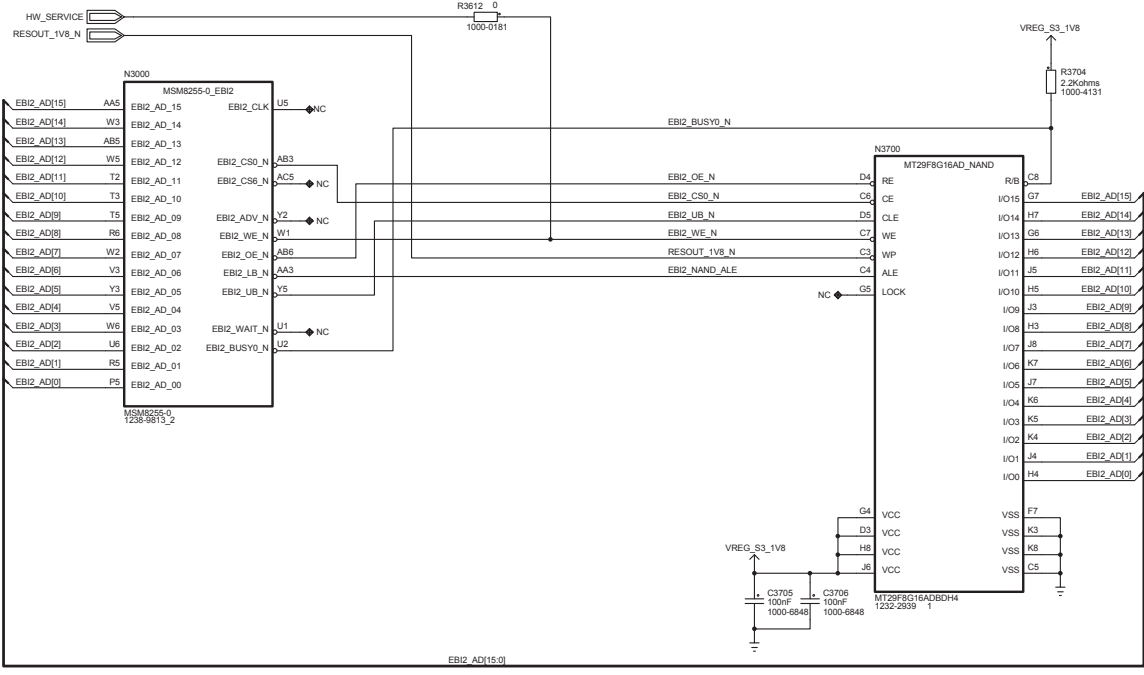




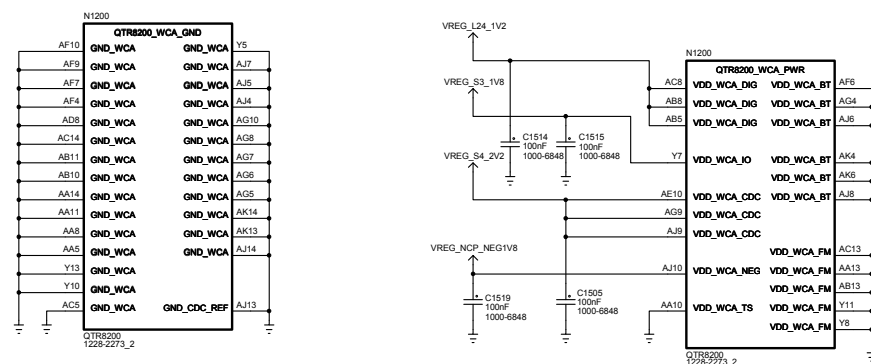
System Core



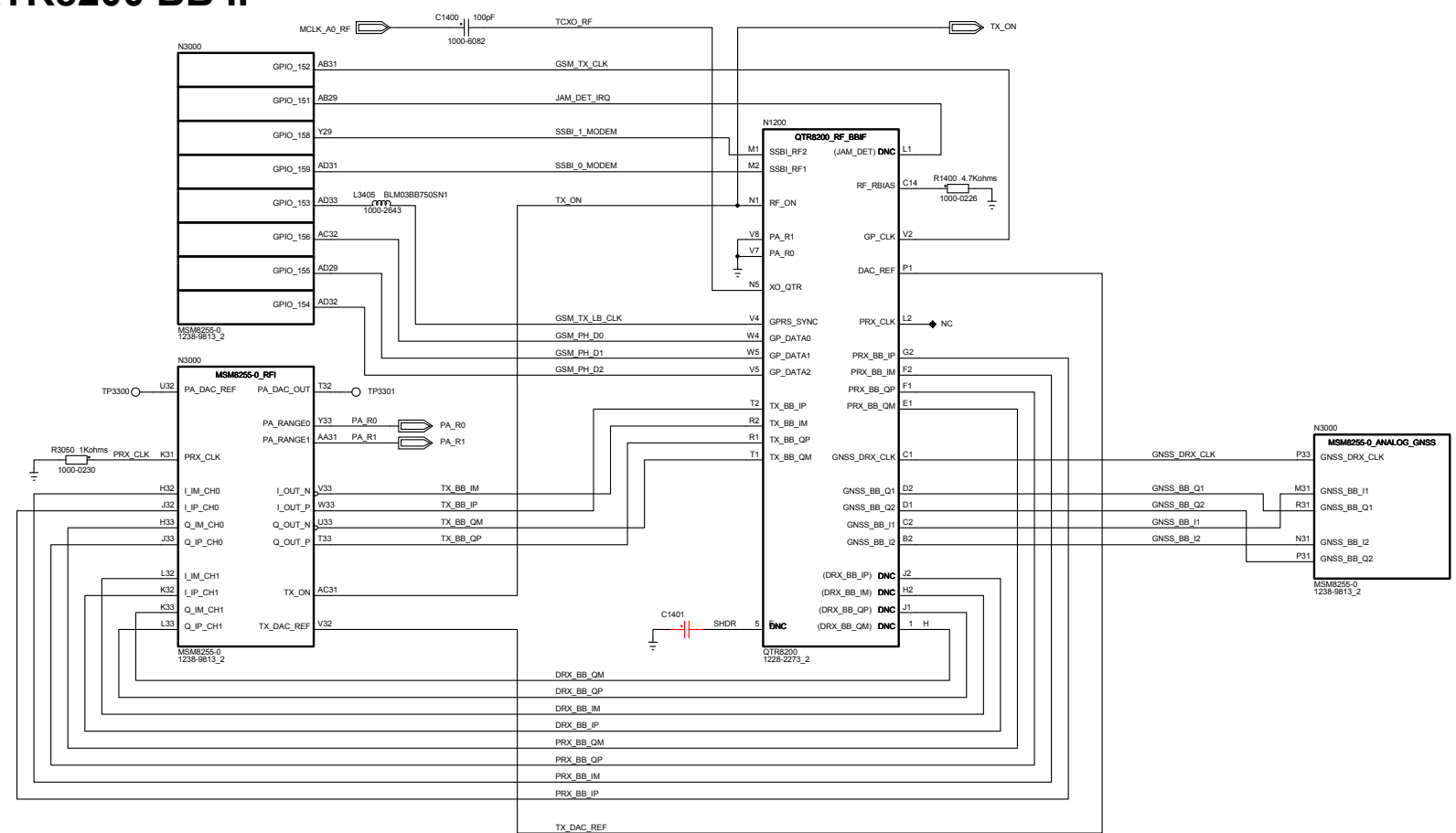
Memory



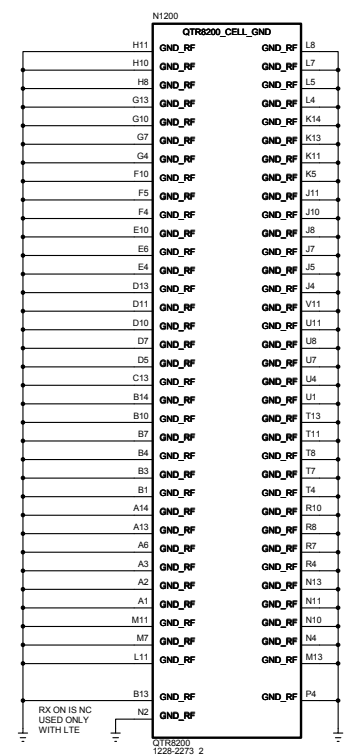
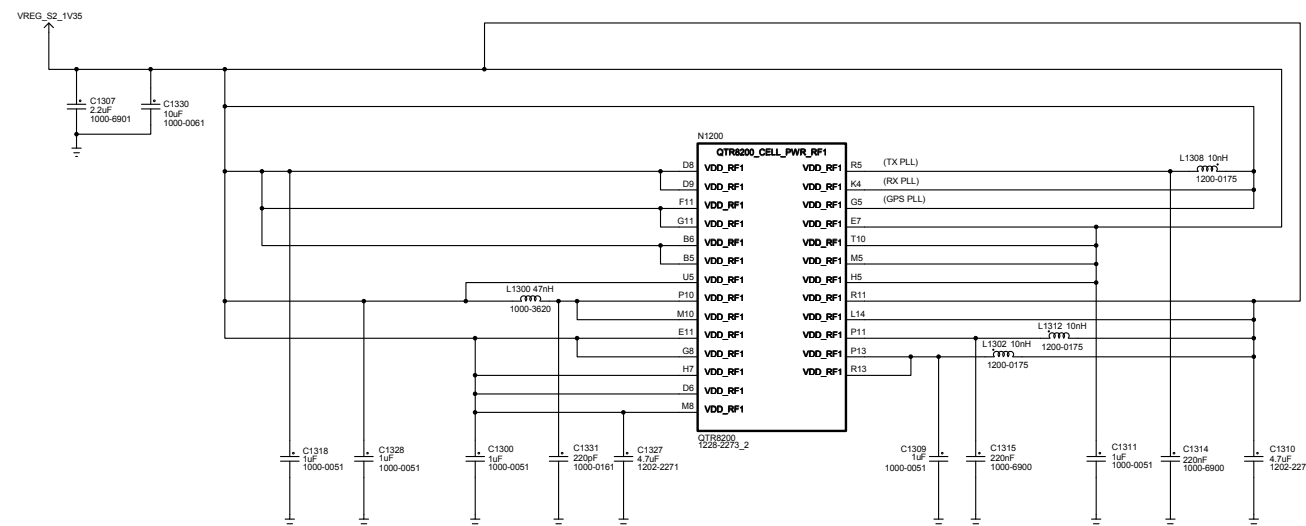
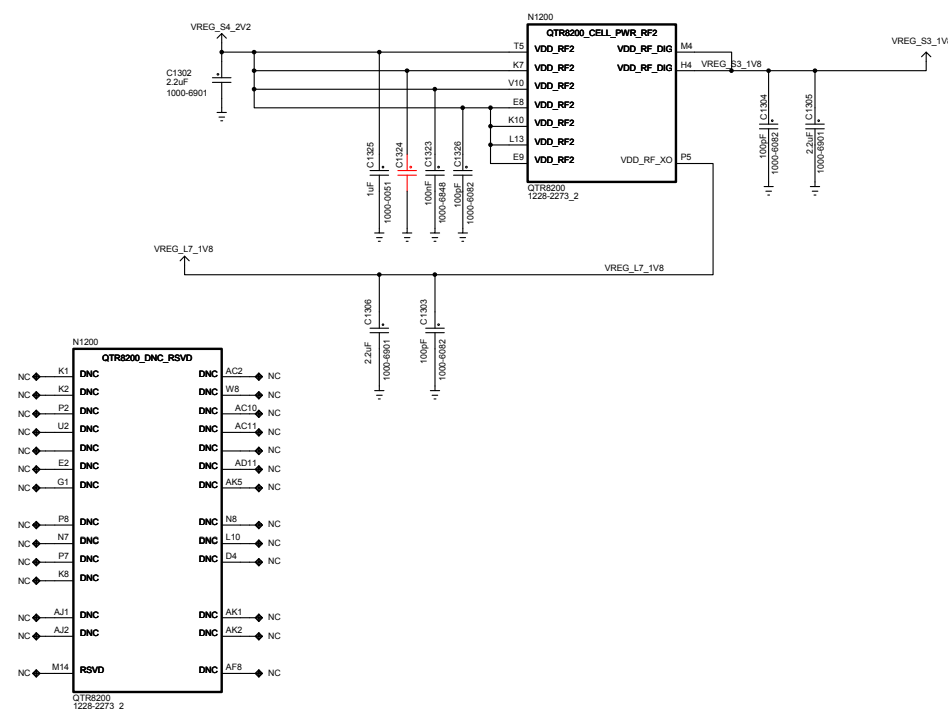
## QTR8200 WCA POWER



**QTR8200 BB IF**

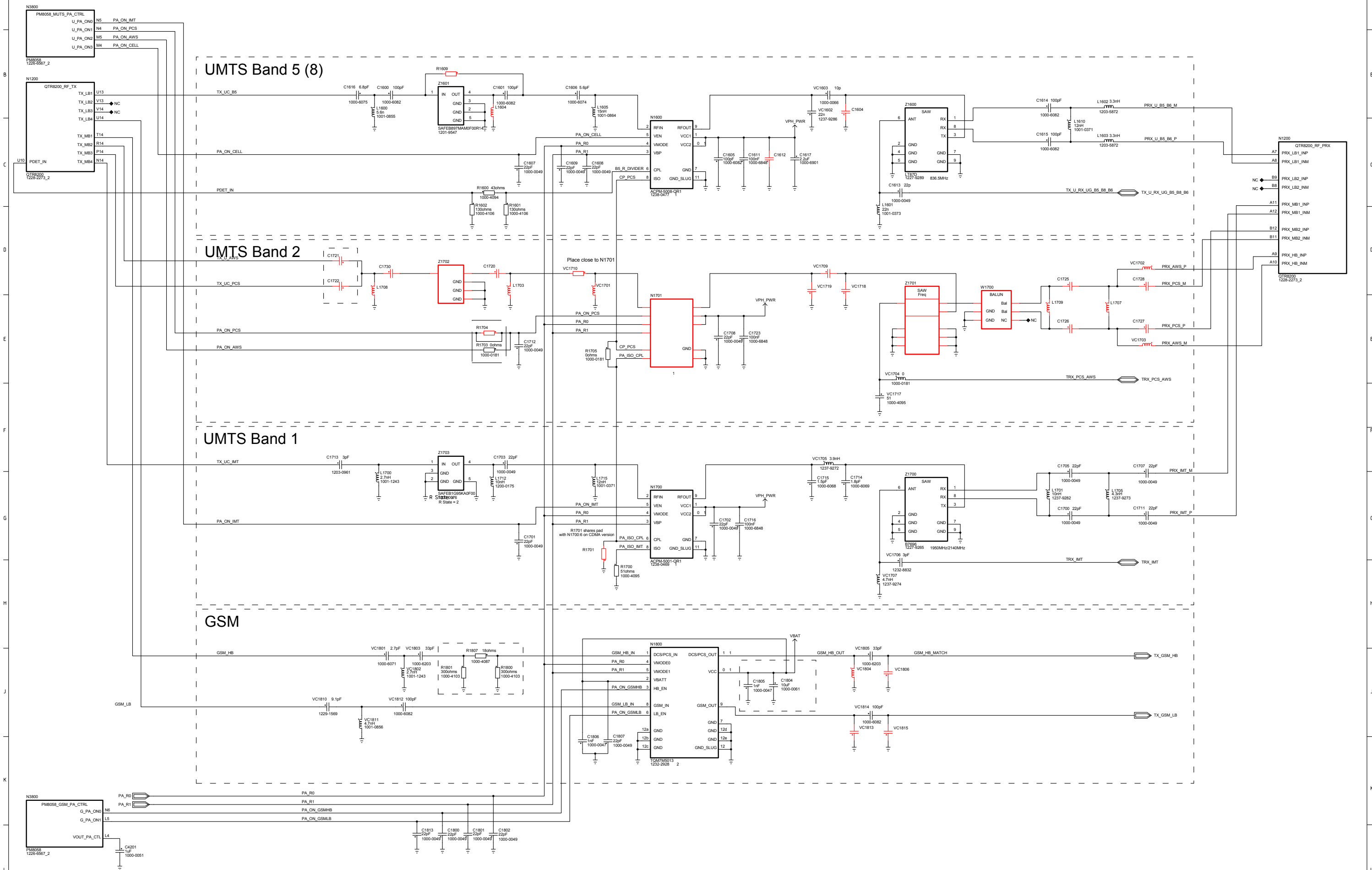


## QTR8200 CELL POWER





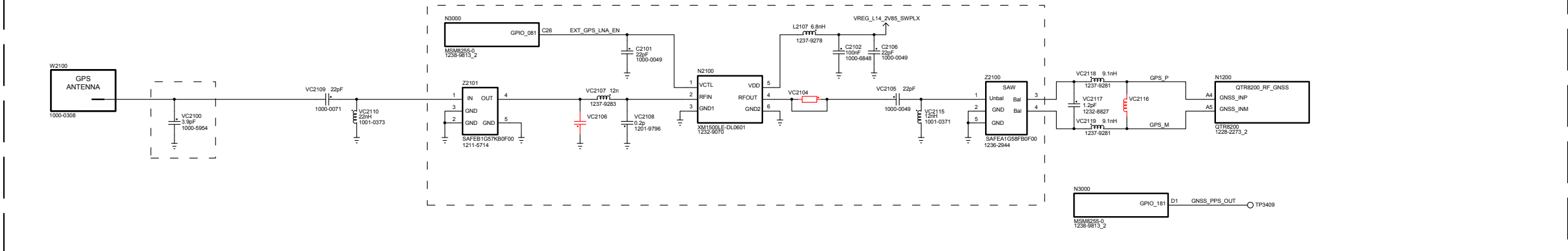
# UMTS-radio



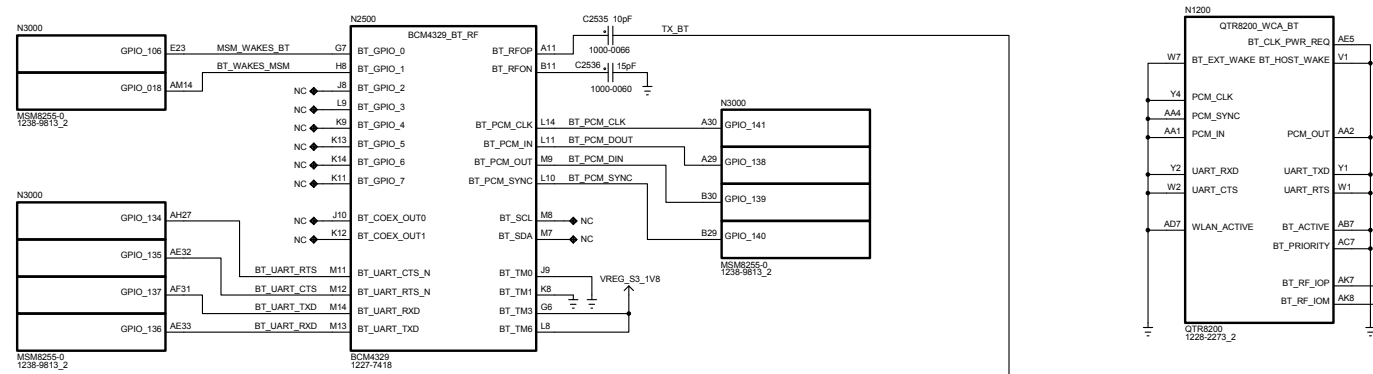
### Main Antenna matching



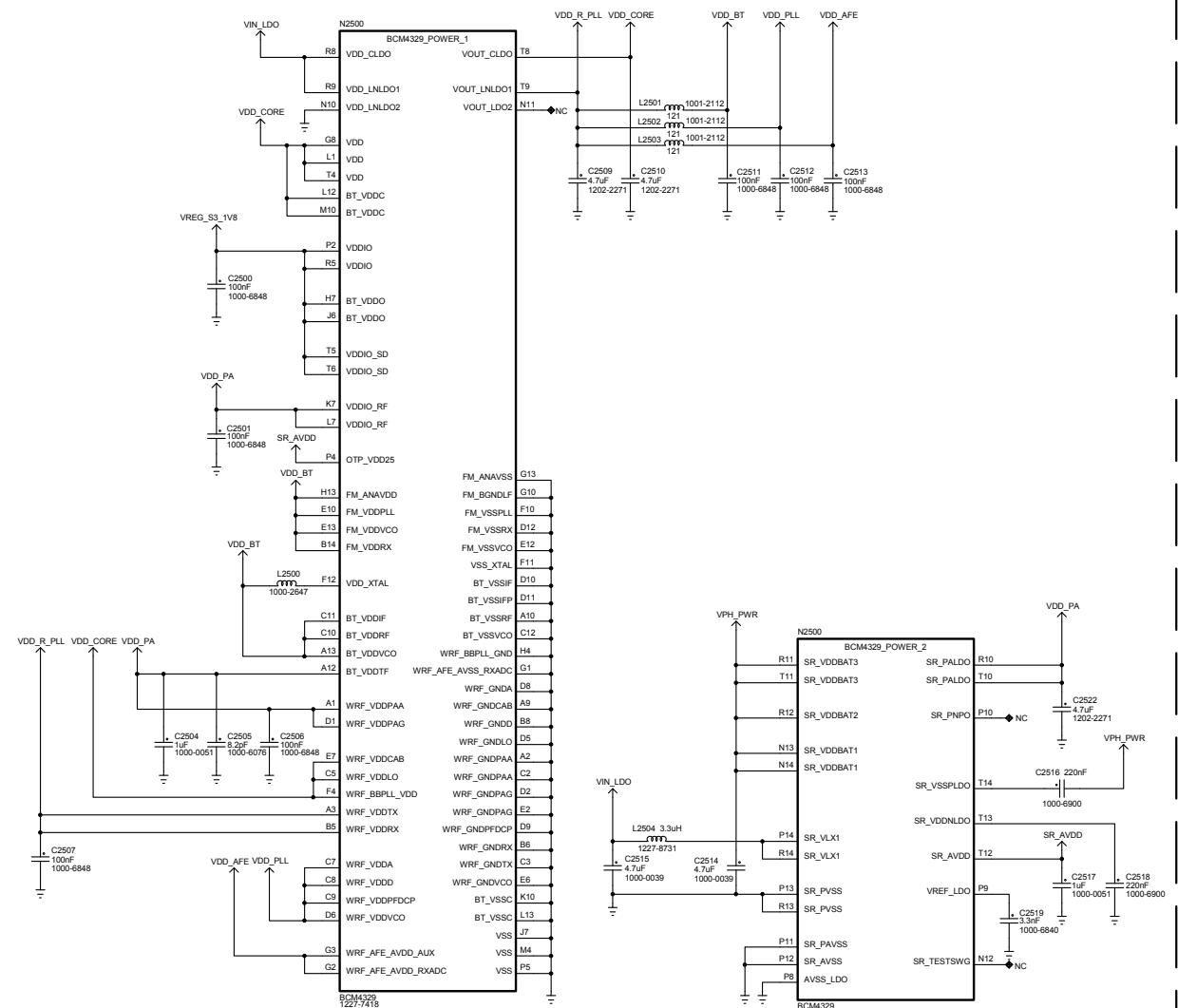
GPS



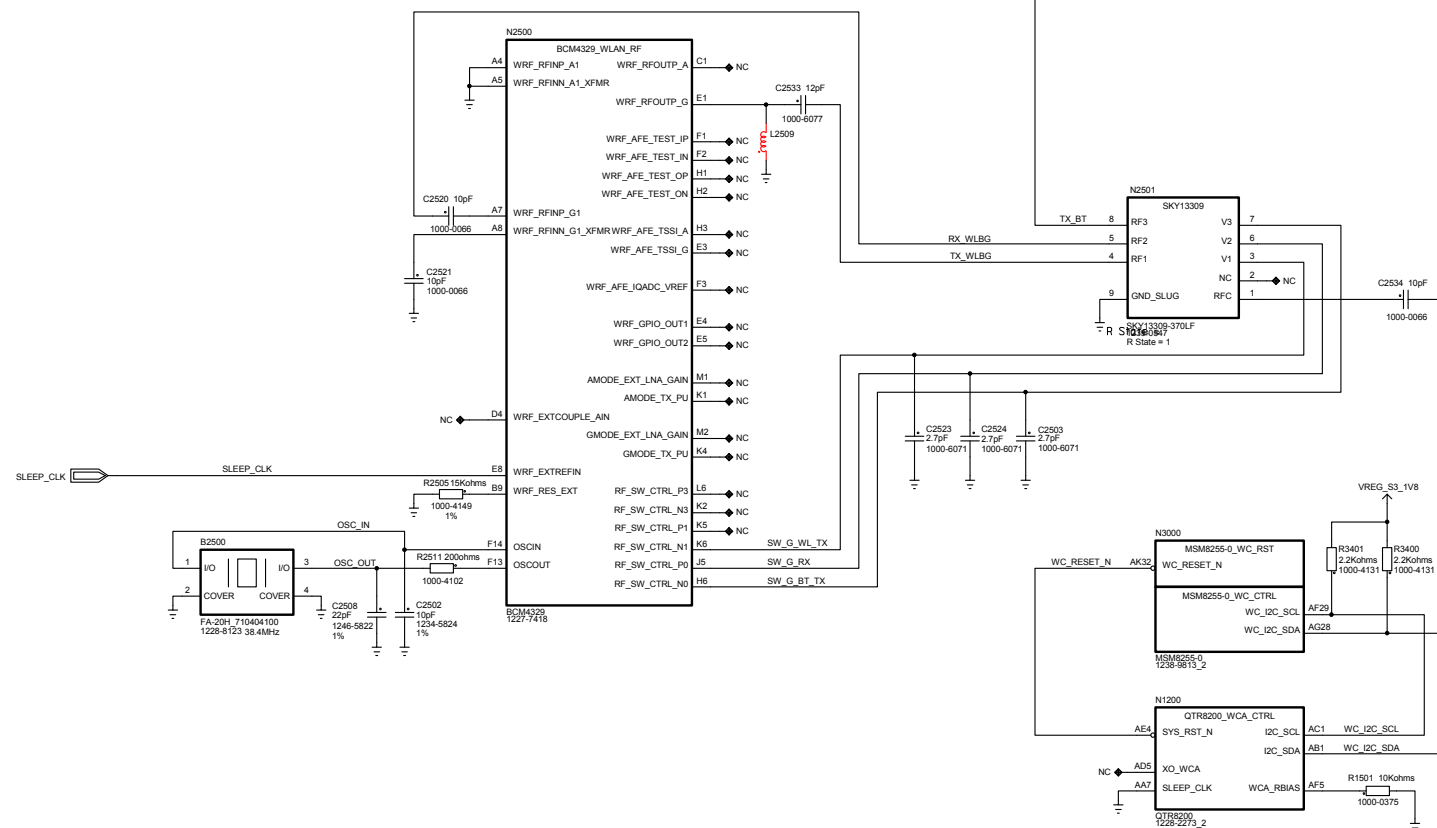
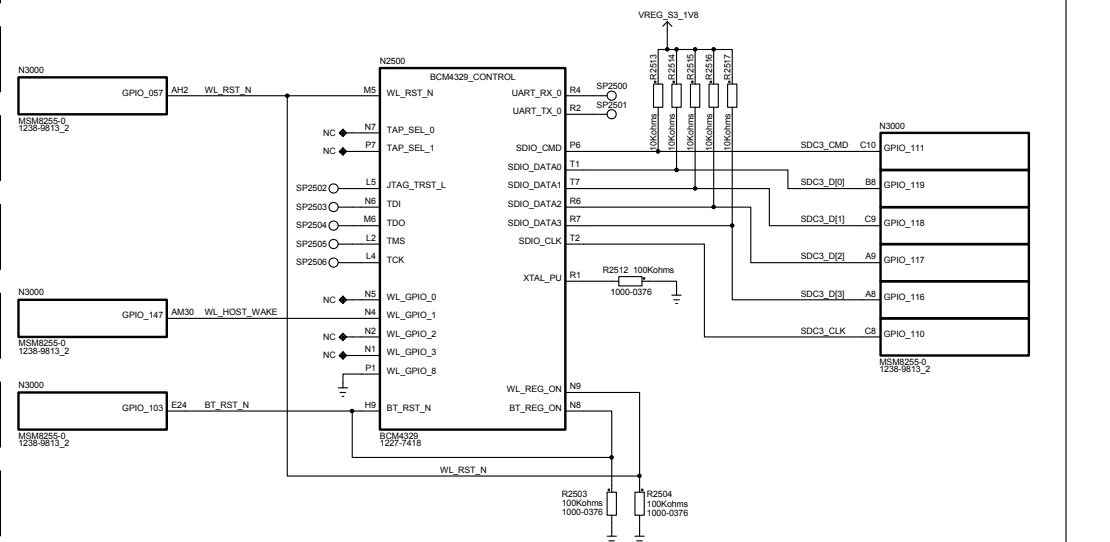
## BT Radio



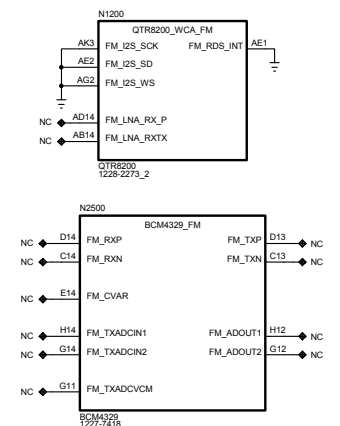
## WLAN/BT/FM power



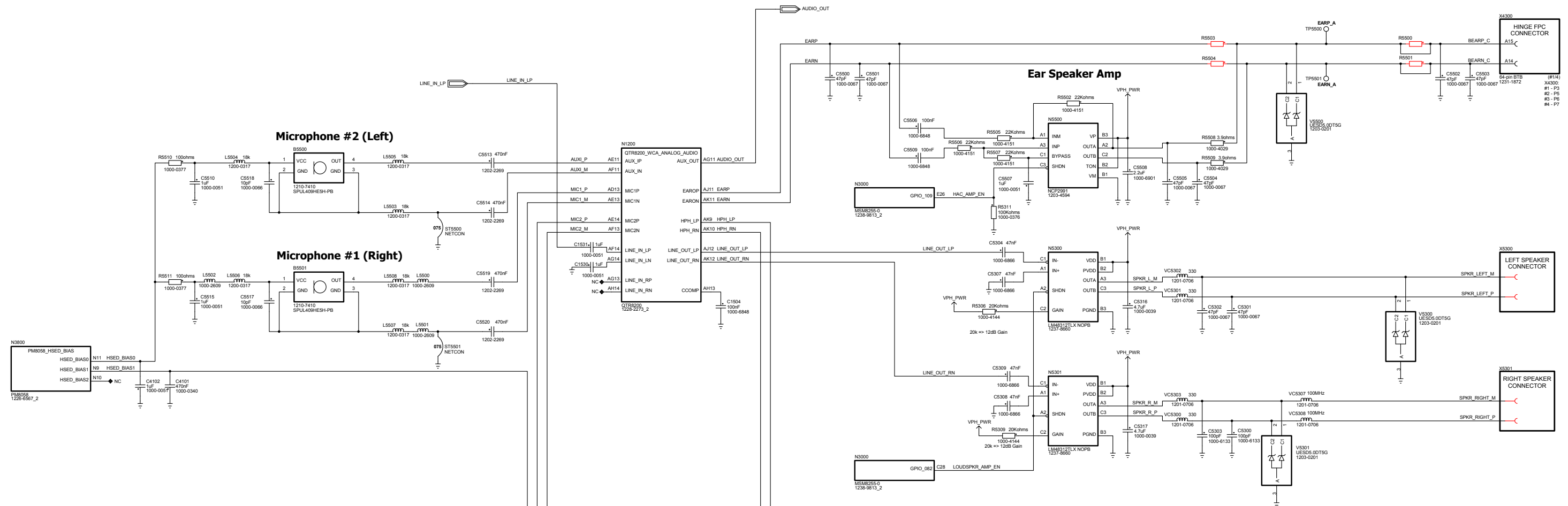
## WLAN Radio



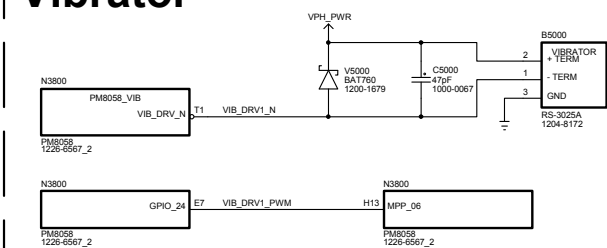
## FM Radio



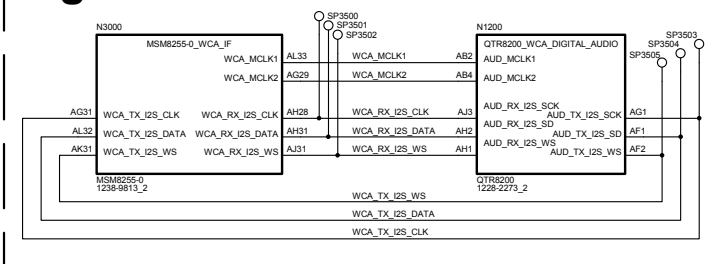
## Analog Audio



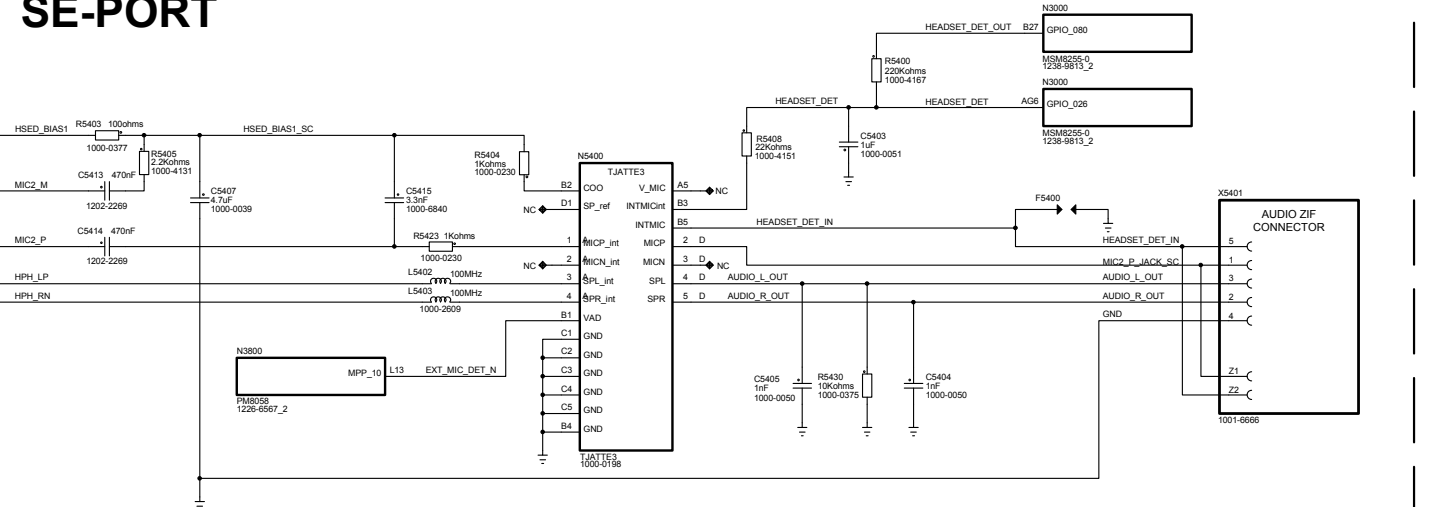
## Vibrator



## Digital Audio

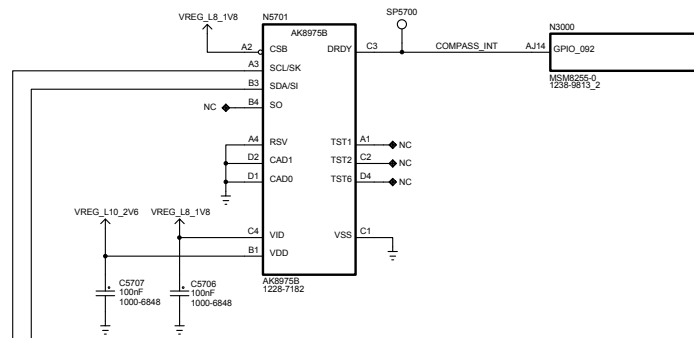


## SE-PORT



# E-Compass

The schematic diagram illustrates the E-Compass circuit. The central component is the AK8975B (N5701) digital compass IC. It is connected to an N2000 microcontroller (GPIO\_02) via an I2C interface (A2, A3, B3, B4). The IC is powered by VREG\_L8\_1V8 (VDD) and VREG\_L10\_2V6 (VDDO). It also has a SP5700 sensor input (C3) connected to COMPASS\_INT. The IC has several test points (TST1, TST2, TST6) and a VSS pin. Capacitors C5707 and C5708 are connected to the power pins.

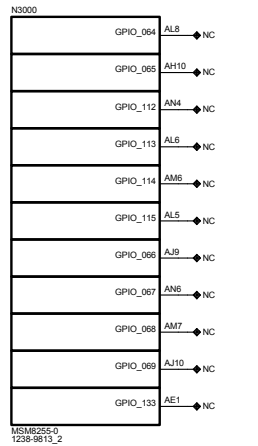


# eMMC

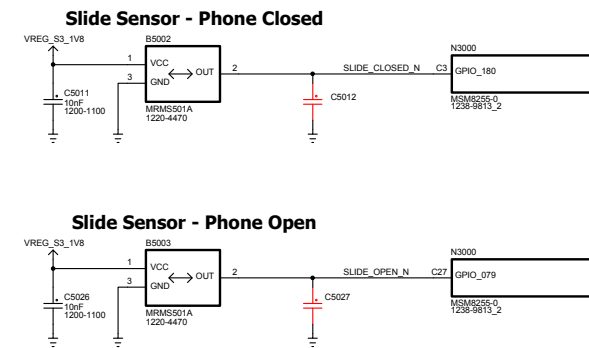
NS0000

	GPIO_064	AL8	◆ NC
	GPIO_065	AH10	◆ NC
	GPIO_112	AN4	◆ NC
	GPIO_113	AL6	◆ NC
	GPIO_114	AM6	◆ NC
	GPIO_115	AL5	◆ NC
	GPIO_066	AJ9	◆ NC
	GPIO_067	AN8	◆ NC
	GPIO_068	AM7	◆ NC
	GPIO_069	AJ10	◆ NC
	GPIO_131	AE1	◆ NC

MSME255-0  
1230-0813\_2



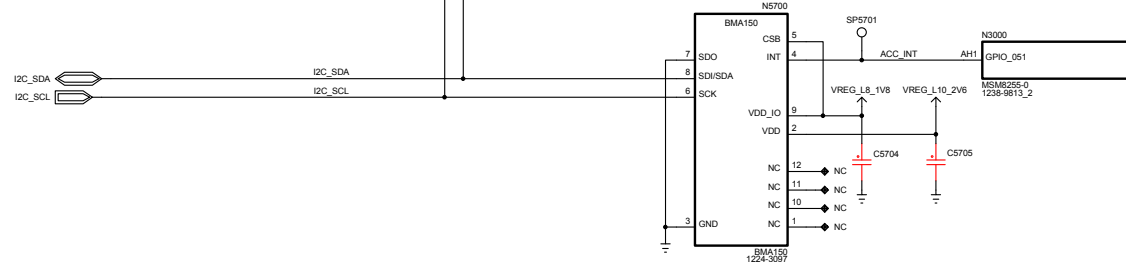
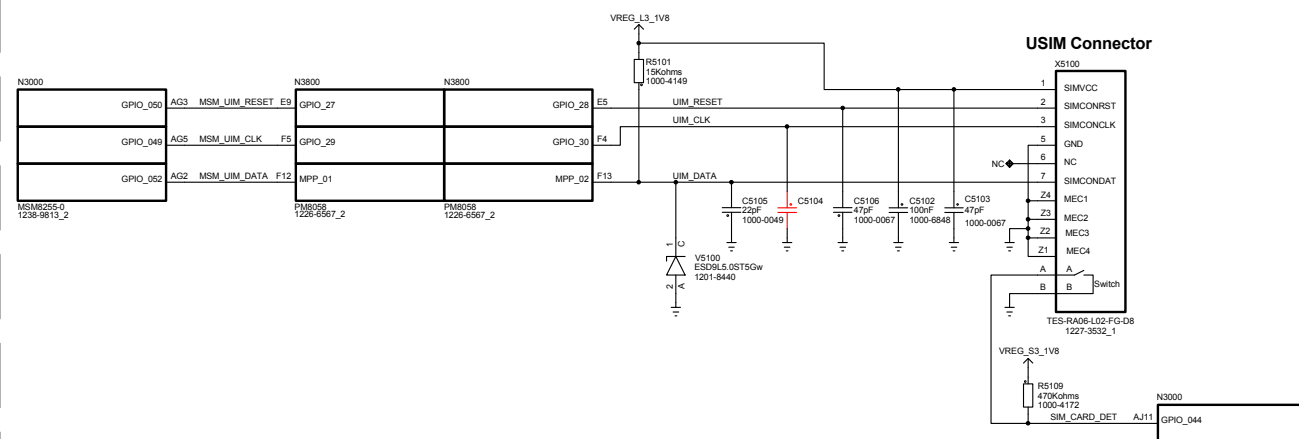
# MR Sensor



# Accelerometer

The diagram shows the BMA150 accelerometer chip (N5700) connected to an I2C interface. The chip is labeled BMA150 1224-3097. The connections are as follows:

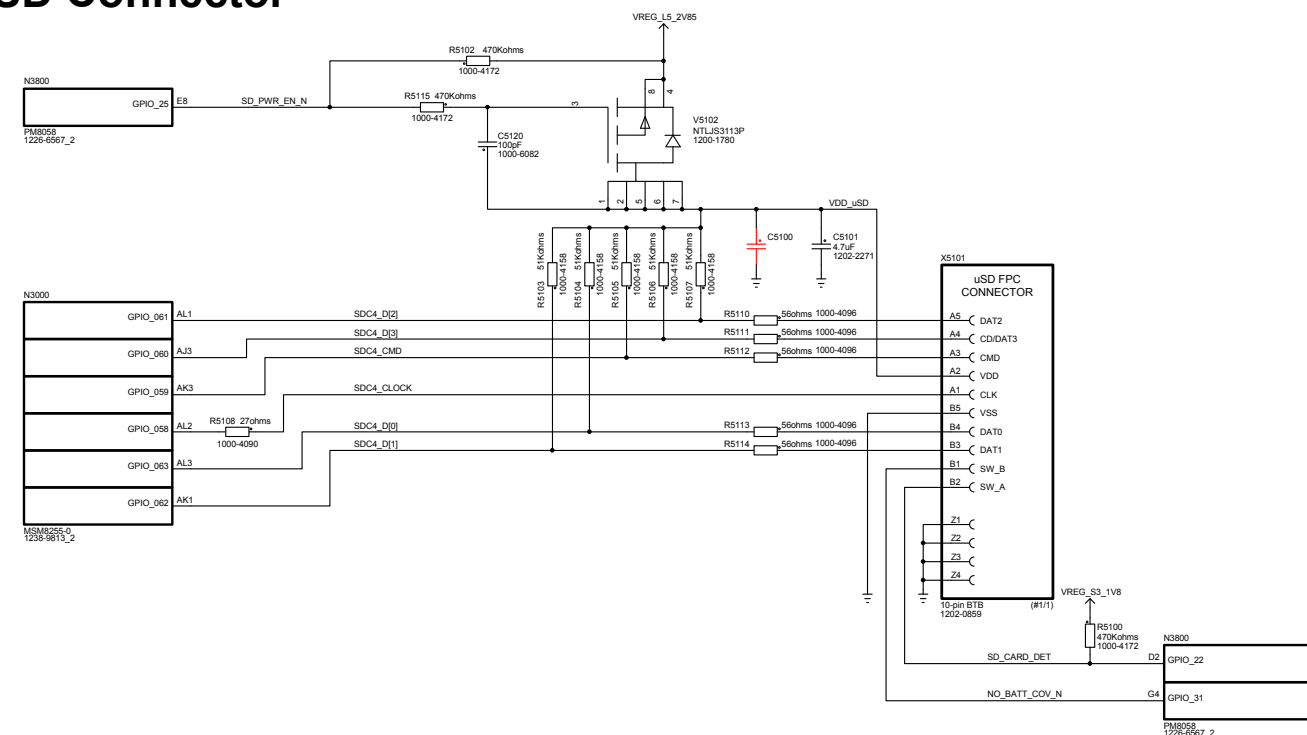
- I2C Interface:**
  - I2C\_SDA is connected to pin 7 (SDO).
  - I2C\_SCL is connected to pin 8 (SDI/SDA).
- Power and Ground:**
  - Pin 3 (GND) is connected to ground.
  - Pin 2 (VDD) is connected to VREG\_L10\_2V5.
  - Pin 9 (VDD\_IO) is connected to VREG\_L18\_1V8.
- Interrupt:**
  - Pin 4 (INT) is connected to the ACC\_INT pin of the microcontroller (MSM8225-0 1239-0813\_2).
- Other Pins:**
  - Pin 5 (CSB) is connected to the AH1 pin of the microcontroller.
  - Pin 12 (NC) is connected to ground.
  - Pin 11 (NC) is connected to ground.
  - Pin 10 (NC) is connected to ground.
  - Pin 1 (NC) is connected to ground.

[illegible]

# μSD Connector

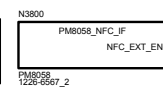
The schematic diagram illustrates the electrical connections for a μSD connector. Key components and connections include:

- Microcontroller (N3800):** GPIOs are connected to the SD card signals:
  - GPIO\_28 (E8) to SD\_PWR\_EN\_N
  - GPIO\_061 (A1) to SDC4\_D[2]
  - GPIO\_060 (A3) to SDC4\_D[3]
  - GPIO\_059 (AK3) to SDC4\_CMD
  - GPIO\_058 (A2) to SDC4\_CLOCK
  - GPIO\_063 (A13) to SDC4\_D[0]
  - GPIO\_062 (AK1) to SDC4\_D[1]
- Power Regulation:**
  - VREG\_L5\_2V85 is regulated by a voltage divider (R5102, 470Kohms) and a MOSFET driver (VS102, NTLUS3113P).
  - VDD\_uSD is connected to the SD card's VDD pin.
- Signal Conditioning:**
  - Resistors R5104, R5105, R5106, and R5107 are used for signal conditioning on the SDC4 data lines.
  - Resistors R5110, R5111, R5112, R5113, and R5114 are used for signal conditioning on the uSD FPC connector pins.
- Capacitors:**
  - C5100, C5101, and C5120 are used for decoupling and timing.
- Connectors:**
  - uSD FPC CONNECTOR (XS101) with pins A5 (DAT2), A4 (CD/DAT3), A3 (CMD), A2 (VDD), A1 (CLK), B5 (VSS), B4 (DAT0), B3 (DAT1), B1 (SW\_B), and B2 (SW\_A).
  - 10-pin BTB connector (J111) connecting the uSD FPC connector to the SD card.

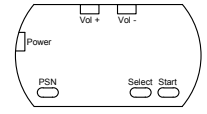
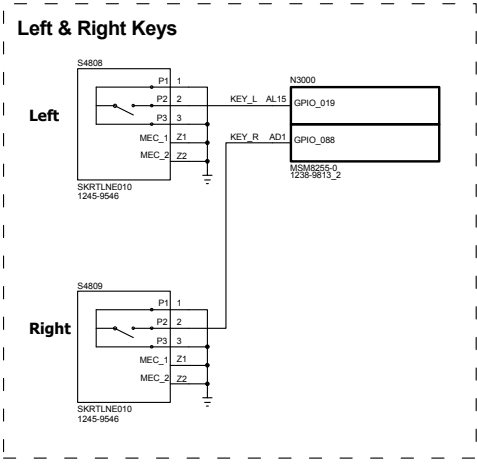
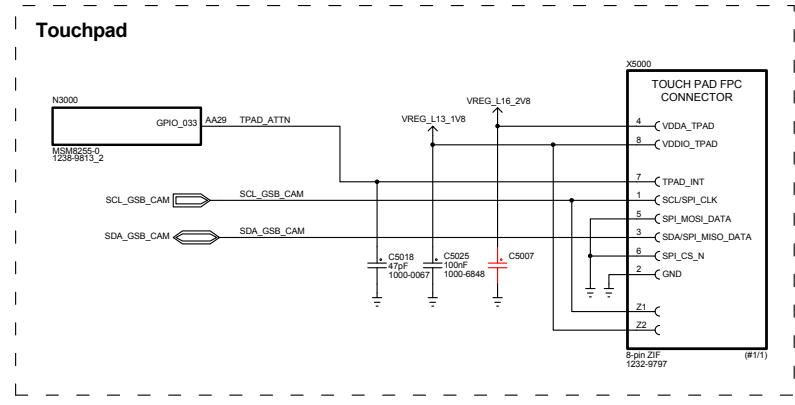
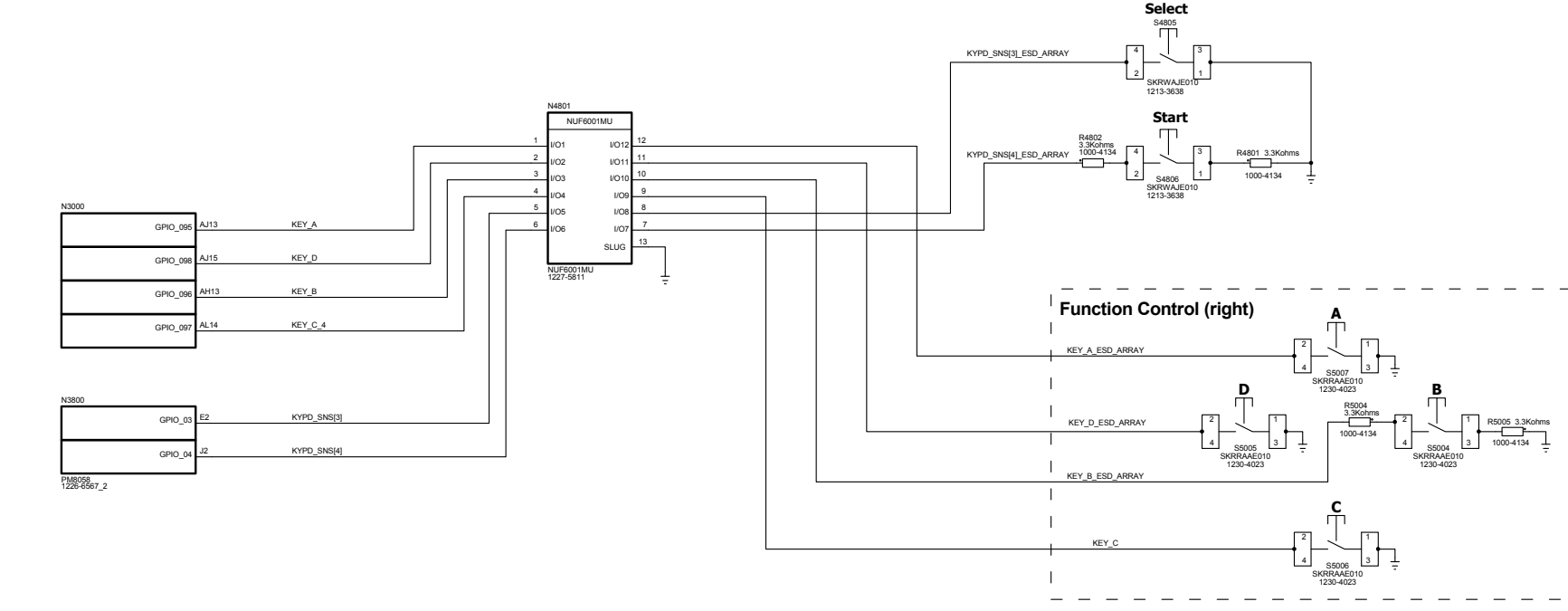
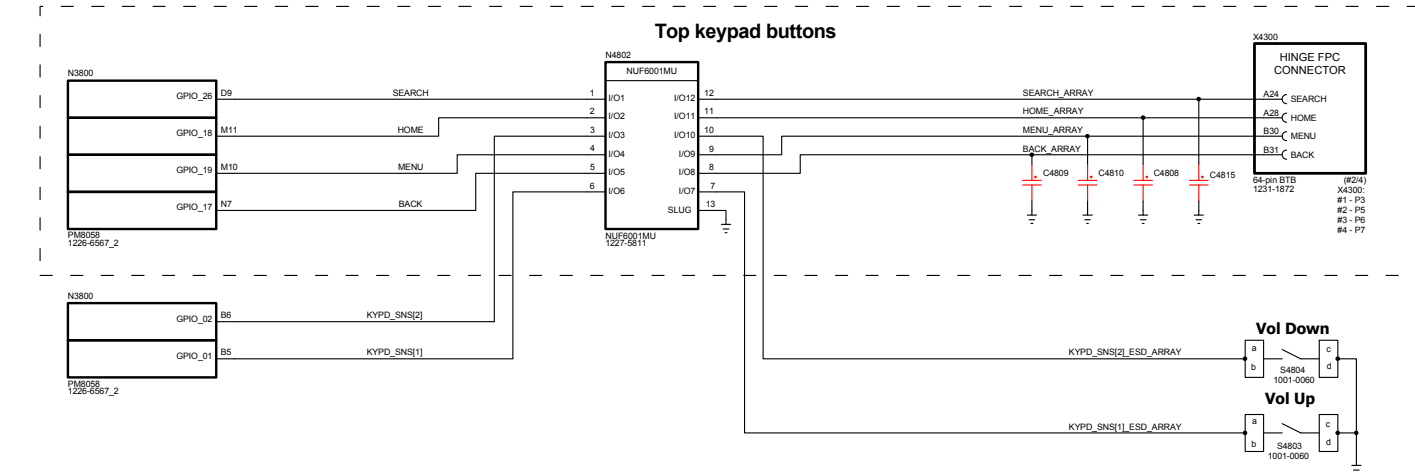
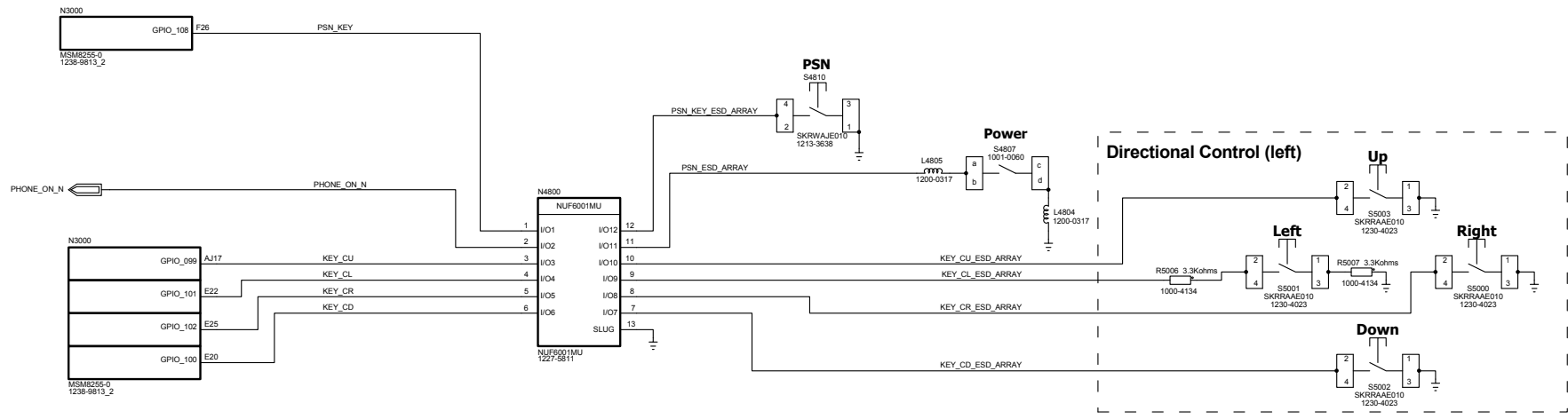


# NFC Board

The diagram illustrates the components and connections of an NFC Board. At the top left, the text "N3800" is present. Below it, a rectangular box contains two labels: "PM8058\_NFC\_IF" at the top and "NFC\_EXT\_EN" at the bottom. To the right of this box, the label "B15" is positioned above a horizontal arrow pointing to the label "NC". Below the box, the text "PM8058" is written, with "1220-556T\_2" written underneath it.



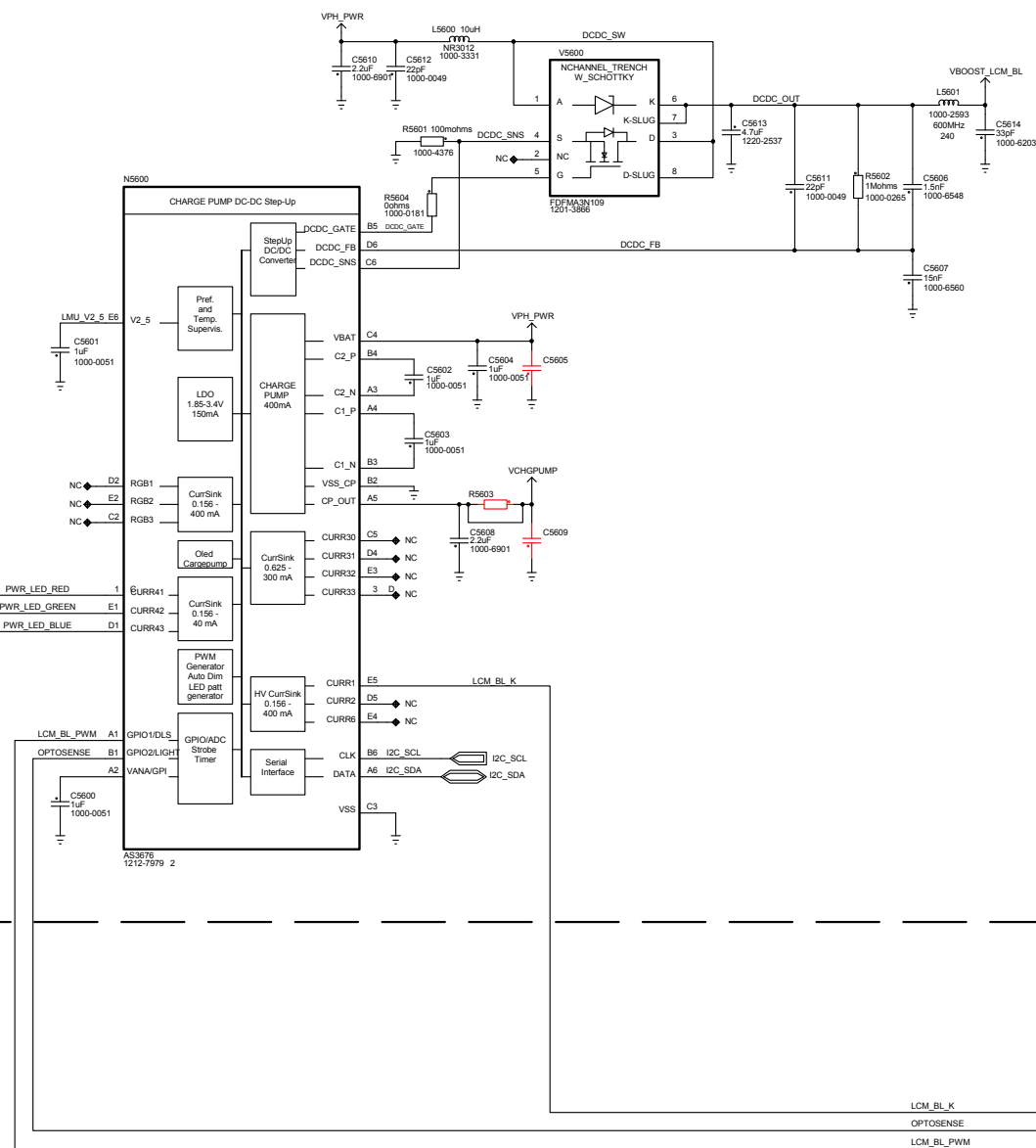
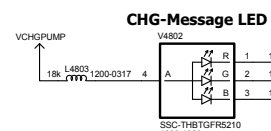
# Keyboard



**Light sensor**

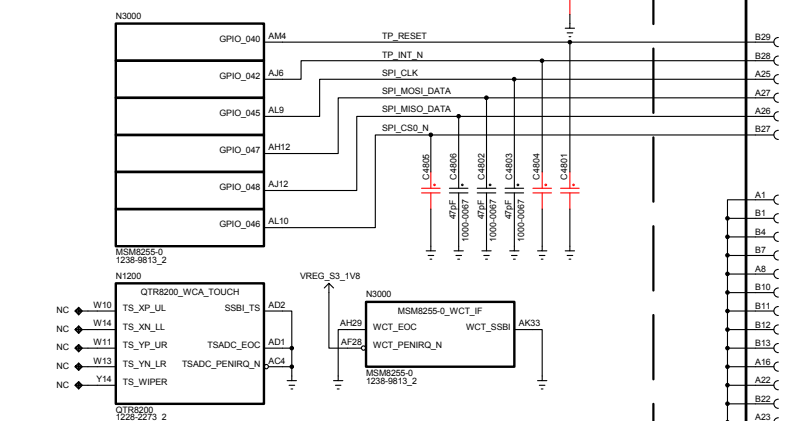
**Torch LED**

# MMI LED

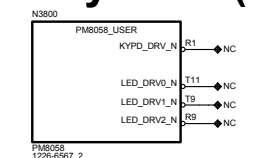


# Touch sensor

The diagram shows the connection of a touch sensor module to an N3000 microcontroller. The N3000 has pins GPIO\_040 (AM1), GPIO\_042 (AJ6), and GPIO\_045 (AL9). The touch sensor module has pins TP\_RESET, TP\_INT\_N, SPI\_CLK, SPI\_MOSI\_DATA, and SPI\_MISO\_DATA. The TP\_RESET pin is connected to the TP\_RESET pin of the module. The TP\_INT\_N pin is connected to the TP\_INT\_N pin of the module. The SPI\_CLK pin is connected to the SPI\_CLK pin of the module. The SPI\_MOSI\_DATA pin is connected to the SPI\_MOSI\_DATA pin of the module. The SPI\_MISO\_DATA pin is connected to the SPI\_MISO\_DATA pin of the module. A VREG\_L20\_3V0 pin is connected to a 3V0 voltage source, which is connected to a capacitor C4807.

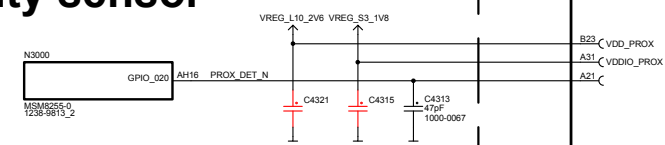


## Keyboard(Back Light)

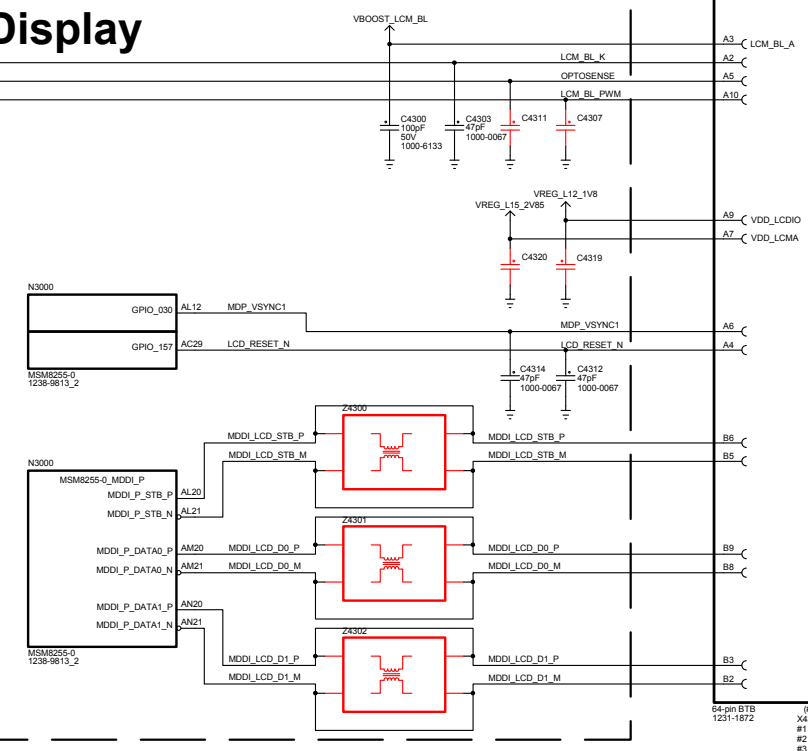


# Proximity sensor

The schematic shows an N3000 proximity sensor module connected to an MSM8255-0 (1238-9613\_2) microcontroller. The sensor's GPIO\_020 pin is connected to the microcontroller's AH16 pin, which is also labeled PROX\_DET\_N. This signal line passes through three capacitors: C4321, C4315, and C4313. The other side of these capacitors are connected to VREG\_L10\_V2V6, VREG\_S3\_1V8, and a common ground point labeled 1000-0067, respectively.

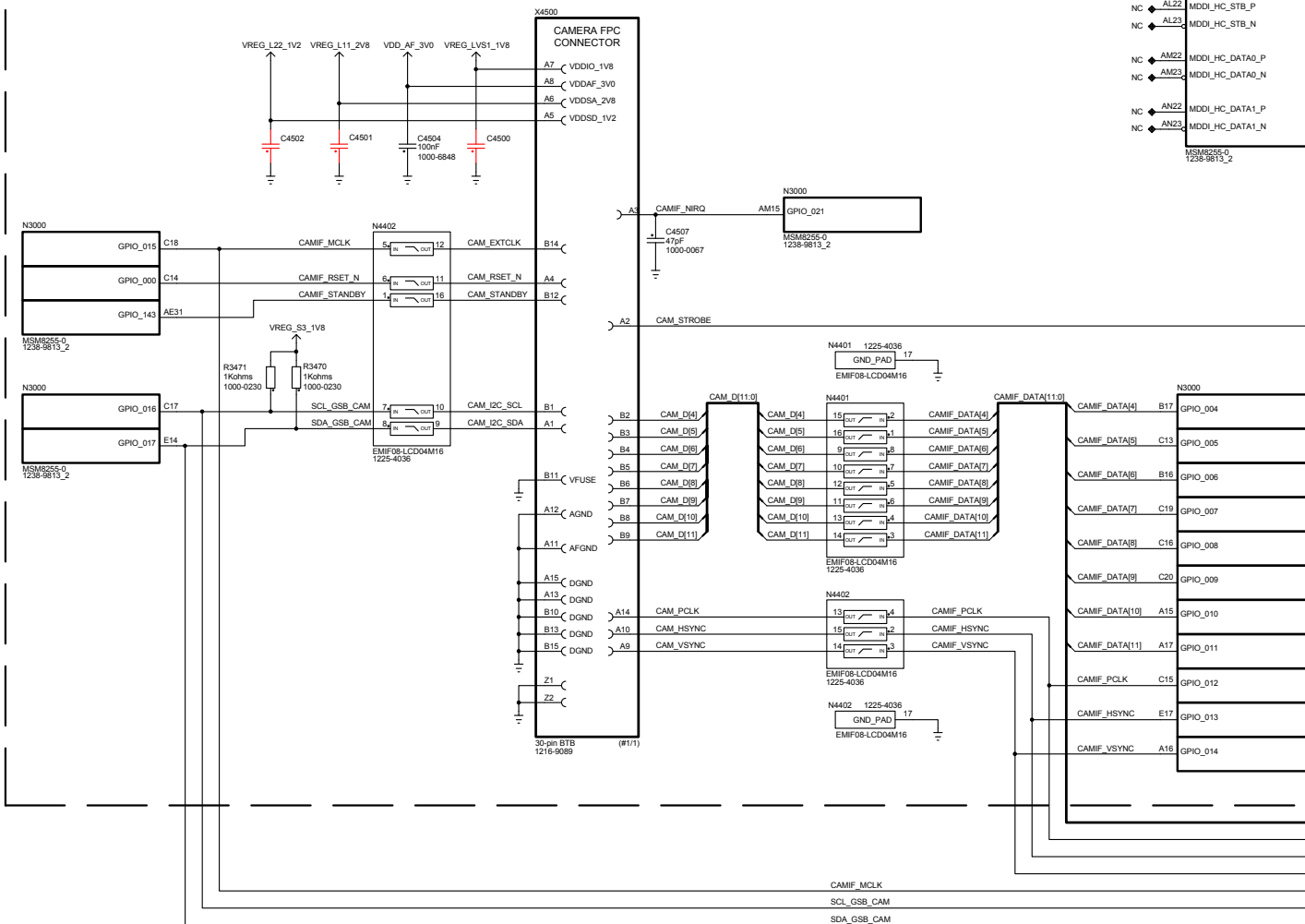


# Display

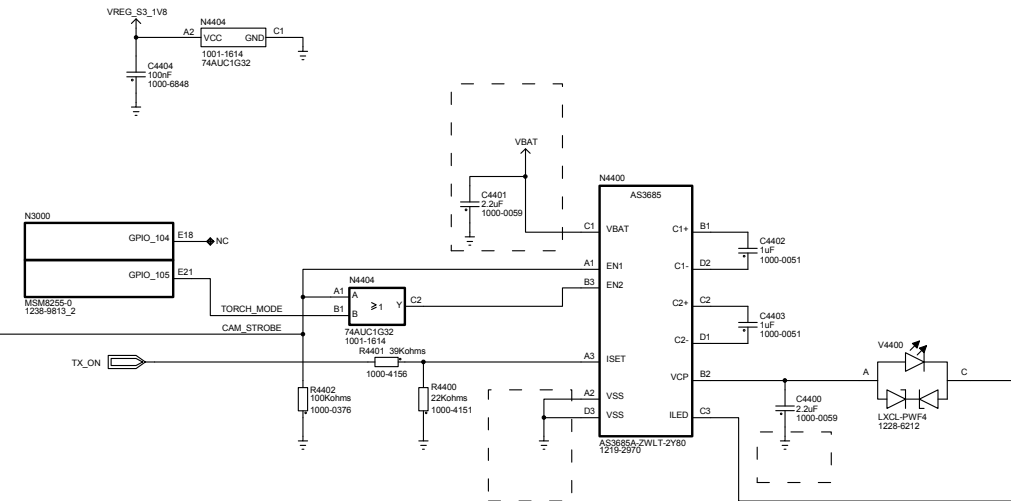




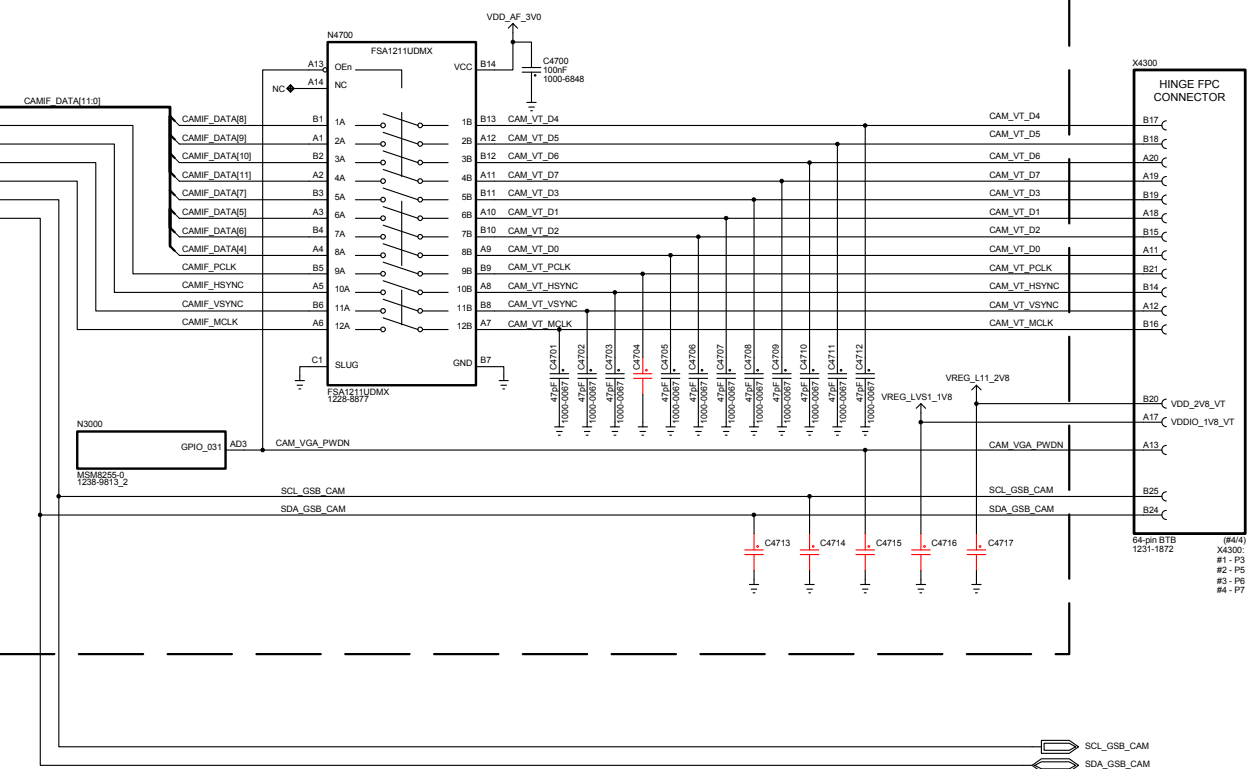
## Main Camera



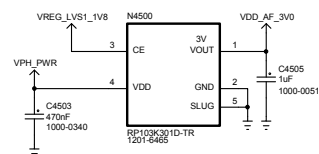
## Flash LED Driver



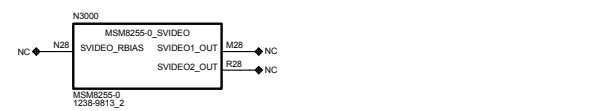
## Sub Camera



## Camera Power



## Analog TV Out



## Revision History

Rev.	Date	Changes / Comments
1	2011-03-03	1 <sup>st</sup> release
2	2011-03-31	Notes update