

Holter Updates Extend Battery Backup

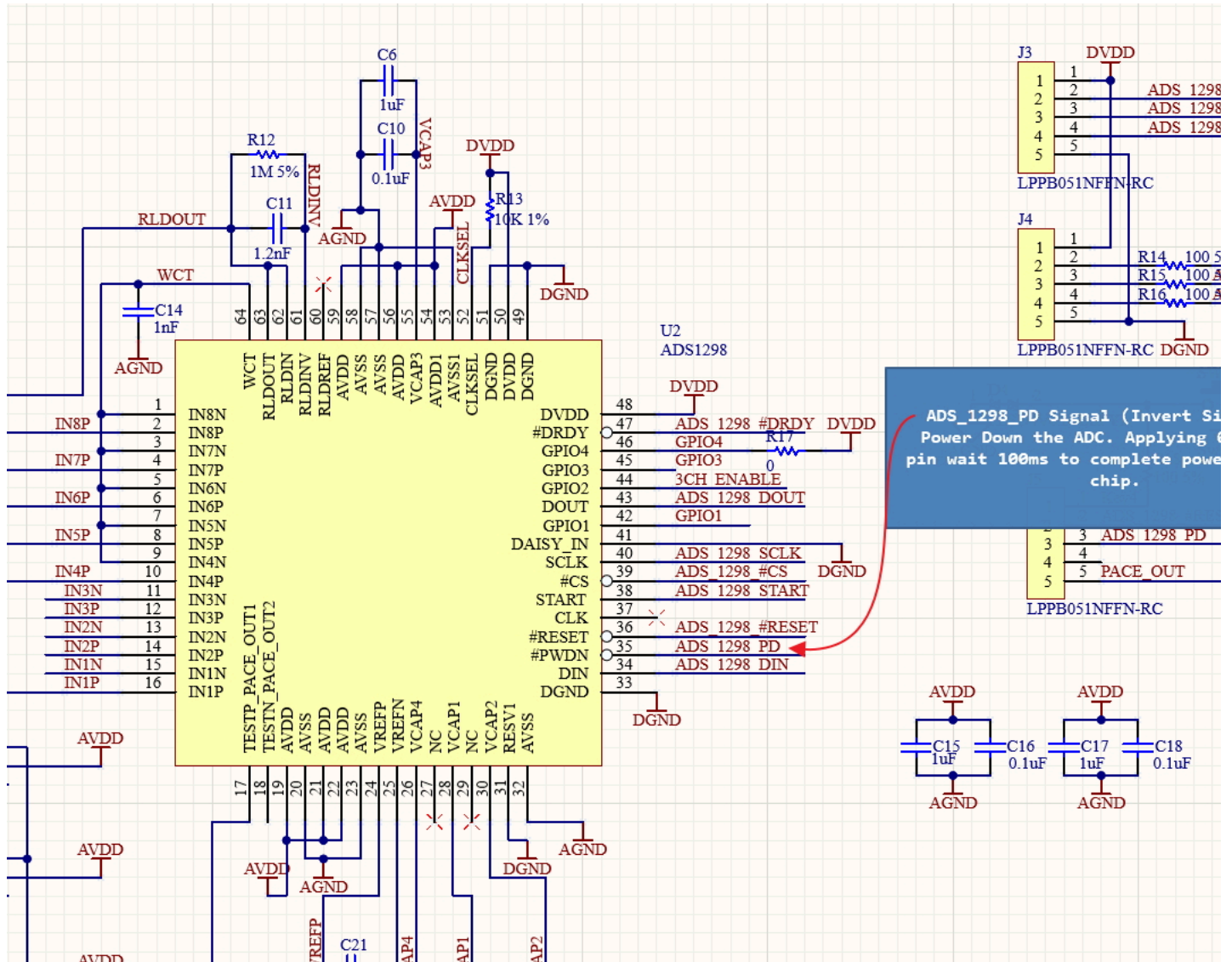
Deep Sleep Backup Mode On Power Off

This code updates is under testing on the Holter Device with Bluetooth Module.

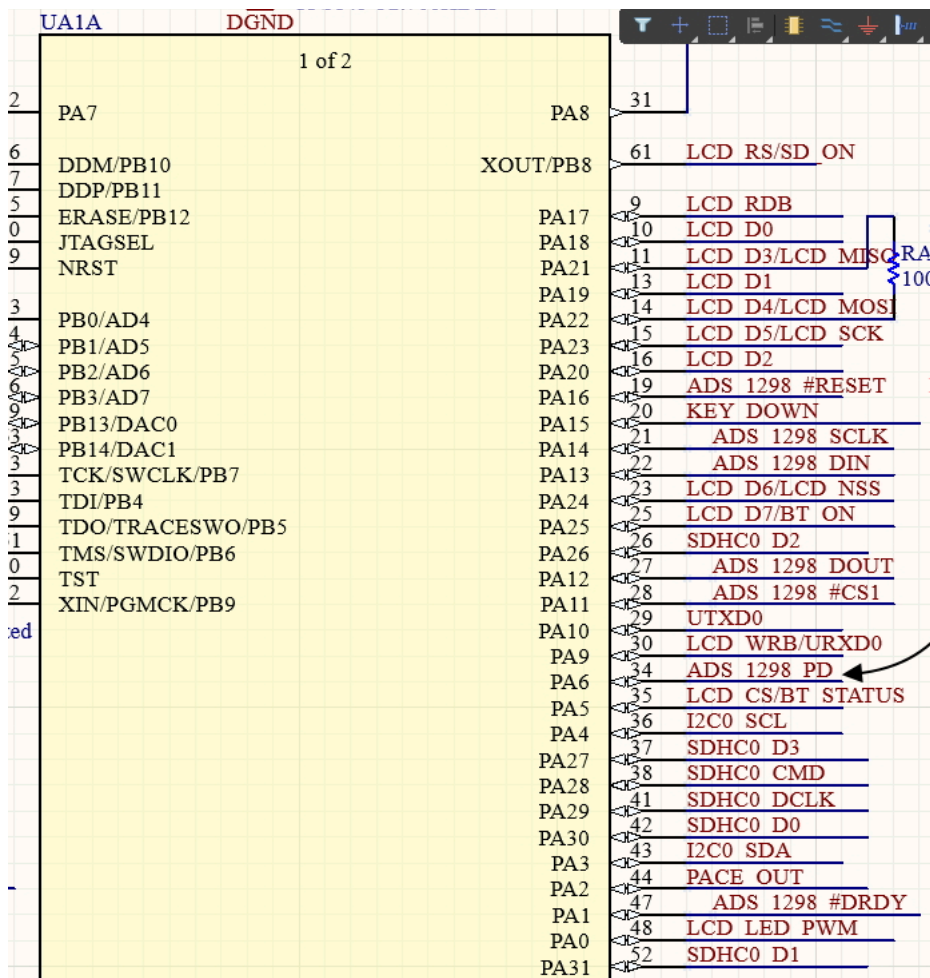
The code puts the ADS1298 into power down mode when the Holter is powered off.

Also power down the LCD.

This reduces the current consumption to about 6mA in power off mode.



Main CPU Pin Assignment to power down ADS-1298 ADC.



Apply the following code changes to the Holter Firmware.

File Location:

D:\Projects\Cardicode600H\Development\Firmware\Cardicode600H\src\trismed\drivers\

SupplyController.c

```

1  void enter_backup_mode(void) {
2
3  LCD_PWR_OFF();
4  delay_ms(100);
5  SET_SD_OFF();
6  delay_ms(100);
7  CLR_ADS1298_PWD;
8  delay_ms(150);
9
10 // 1. Enable Wakeup Input 12 (PB2)
11 // SUPC_WUIR_WKUPEN12_ENABLE: Enable wake up
12 // SUPC_WUIR_WKUPT12_LOW: Wake up on Low Level (can also be HIGH)
13 SUPC->SUPC_WUIR = SUPC_WUIR_WKUPEN12_ENABLE | SUPC_WUIR_WKUPT12_LOW;
14 // 2. Enter Backup Mode
15 // This turns off the main voltage regulator.
16 // The device will reset upon waking up!
17 pmc_enable_backupmode();
18 }

```

A new function `void enter_backup_mode(void)` has been added to the SupplyController.c file.

The function puts the ADS1298 into power down mode by clearing the PWD pin.

Then it enables the Wakeup Input 12 (PB2) to wake up the CPU from backup mode.

Note that Wakeup Input 12 (PB2) is connected to the SW2 Button on the Holter Device.
Finally, it calls the `pmc_enable_backupmode()` function to enter backup mode.

Centre Position Baseline

Apply the following code changes to the Holter Firmware.

File Location: D:\Projects\HT60FW\Cardicode600H\src\trismed\gui\gui-ecg.c Line: 89

```
1 // Jibon Update For Single Channel Holter to place the ecg signal at center
2 if (currentEcgChannels == ecgCh_1)
3 {
4     ipunto += plots_info[lchannel].baseY;
5 }
```

Line : 121

```
1 // Jibon Update For Single Channel Holter to place the label at center
2 if (currentEcgChannels == ecgCh_1)
3 {
4     ly = ECG_Y_OFFSET + 1 * ECG_PLOT_HEIGHT + 14;
5 }
```

Holter Testing

After code changes, Holter tested with 12 channel for 1 hour and 1 channel for 24 hours.