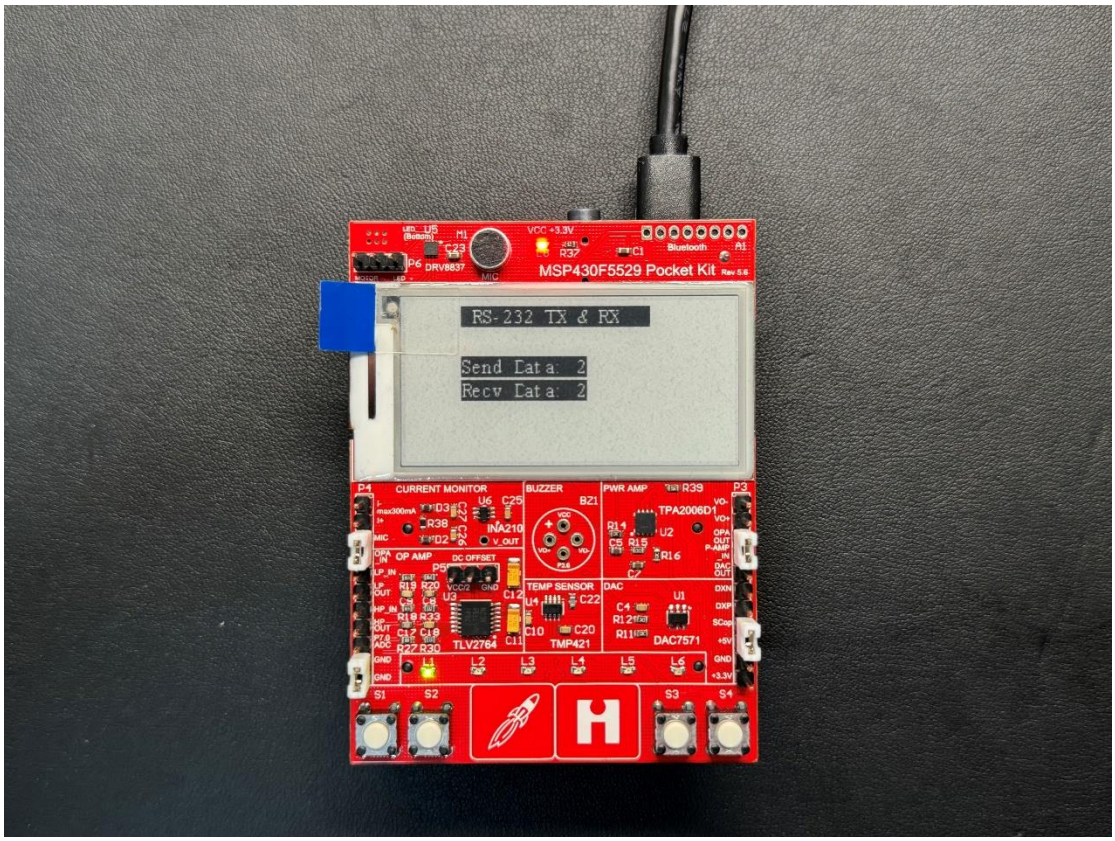
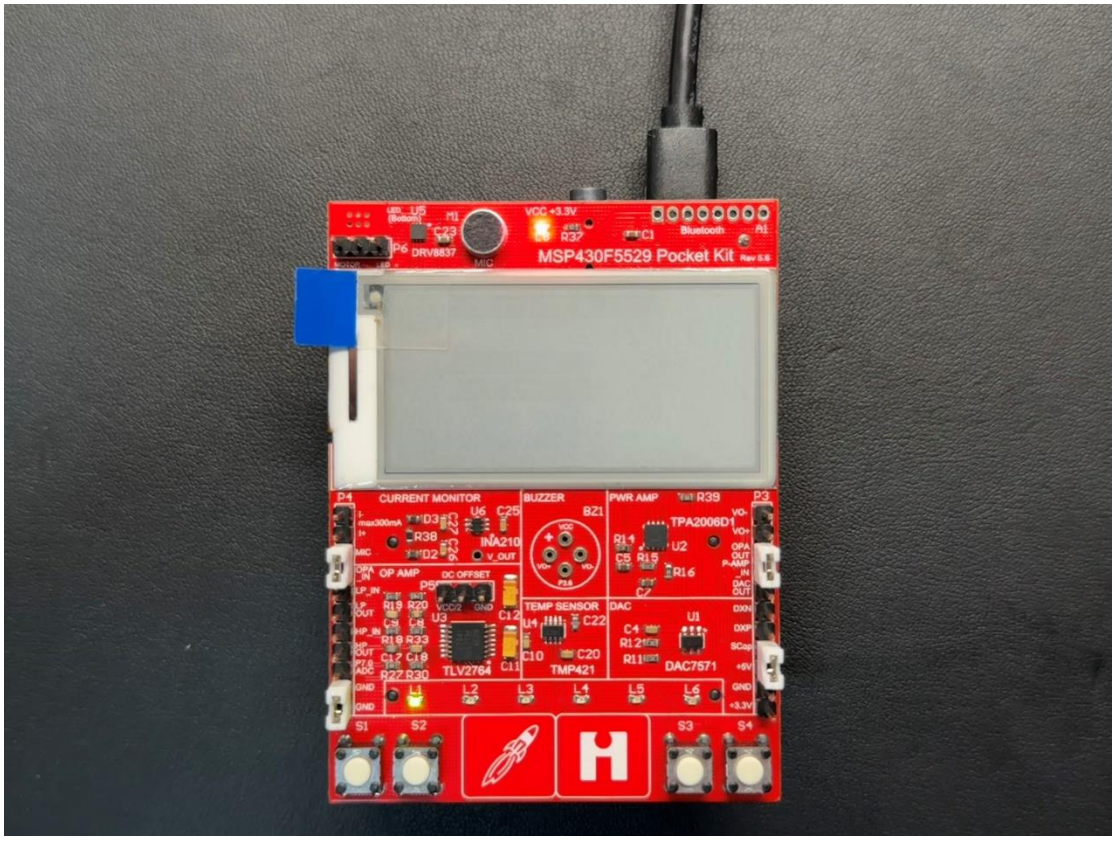
EE 215 Microprocessors LAB #7

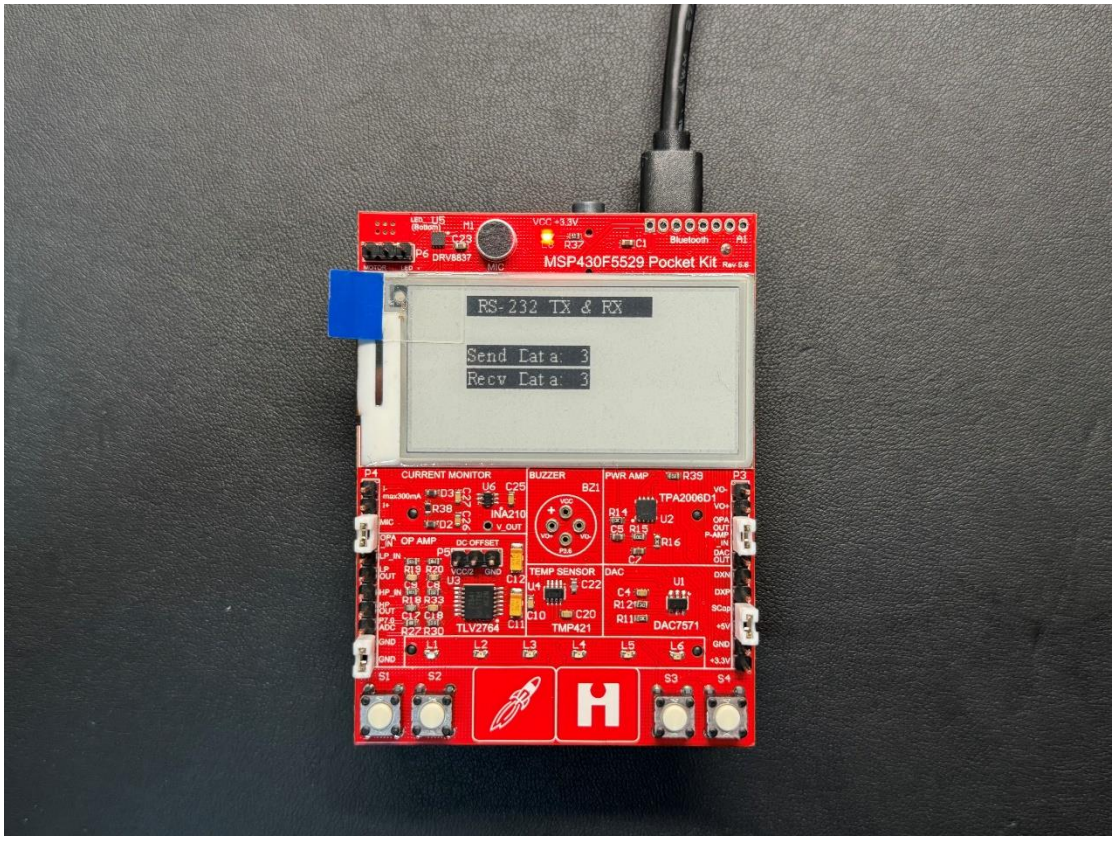
Student name：Li Xianzhe
Student ID number：2022214880

Display on the E-ink screen

The display will flash in black and white a few times, then show the total amount of data transferred, and then loop above. The amount of data sent and received each time is incremented by one.




MSP430F5529 Pocket Kit
CURRENT MONITOR
BUZZER
PWR AMP
OP AMP
TEMP SENSOR
DAC
INA210
TPA2006D1
TLV2764
TMP421
DAC7571


RS-232 TX & RX
Send Data: 3
Recv Data: 3
MSP430F5529 Pocket Kit
CURRENT MONITOR
BUZZER
PWR AMP
OP AMP
TEMP SENSOR
DAC
INA210
TPA2006D1
TLV2764
TMP421
DAC7571

Explanation in detail

1. The RS232 interface is initialized in the USART.C file:

(1) Initialize the I/O ports P4.4 and P4.5, and select UCA1 TXD/RXD for peripheral functions

(2) Configure the UCA1CTL1 registers, reset USCI, and set the SMCLK clock for a specific baud rate to occur

(3) Configure the UCA1BR0 register, and set the baud rate to 115200

(4) Cancel the reset

(5) UCA1 accepts interrupts are enabled

2. At the same time, TIMERA is also initialized:

(1) The clock is SMCLK, compare mode, and the counter is cleared at the beginning

(2) Comparator interrupt enabled

(3) The comparison value is set to 50,000, which is equivalent to a time interval of 50ms

3. The functions defined in USART.C are declared in the USART.H file