

Hi,
I am trying to communicate with MCP23016 by i2c and i am using STM32F103RB with uVision 4.
The problem is that if I send 0x40 is the same if I send 0x41. Its the red mark on the code.

My code is:

```
void I2C_Configuration(void)
{
    I2C_InitTypeDef  I2C_InitStructure;
    GPIO_InitTypeDef  GPIO_InitStructure;

    RCC_APB2PeriphClockCmd(RCC_APB2Periph_GPIOB, ENABLE);
    RCC_APB1PeriphClockCmd(RCC_APB1Periph_I2C1, ENABLE);

    /* Configure I2C1 pins: SCL and SDA */
    GPIO_InitStructure.GPIO_Pin =  GPIO_Pin_6 | GPIO_Pin_7;
    GPIO_InitStructure.GPIO_Speed = GPIO_Speed_50MHz;
    GPIO_InitStructure.GPIO_Mode = GPIO_Mode_AF_OD;
    GPIO_Init(GPIOB, &GPIO_InitStructure);

    /* Enable I2C1 reset state */
    RCC_APB1PeriphResetCmd(RCC_APB1Periph_I2C1, ENABLE);
    /* Release I2C1 from reset state */
    RCC_APB1PeriphResetCmd(RCC_APB1Periph_I2C1, DISABLE);

    /* I2C configuration */
    I2C_InitStructure.I2C_Mode = I2C_Mode_I2C;
    I2C_InitStructure.I2C_DutyCycle = I2C_DutyCycle_2;
    I2C_InitStructure.I2C_OwnAddress1 = I2C1_SLAVE_ADDRESS7;
    I2C_InitStructure.I2C_Ack = I2C_Ack_Enable;
    I2C_InitStructure.I2C_AcknowledgedAddress = I2C_AcknowledgedAddress_7bit;
    I2C_InitStructure.I2C_ClockSpeed = 100000;
    /* Apply I2C configuration after enabling it */
    I2C_Cmd(I2C1,ENABLE);
    I2C_Init(I2C1, &I2C_InitStructure);
}
```

```
unsigned int read_MCP(u8 WriteAddress, u8 cmdByte, u8 ReadAddress, u8 NumByteToRead) {

    int lsbdata, msbdata;
    unsigned int ldata;
    int timeout=0;
    int indice;

    while(I2C_GetFlagStatus(I2C1, I2C_FLAG_BUSY));

    I2C_GenerateSTART(I2C1, ENABLE); /* Send I2C1 START condition */
    while(!I2C_CheckEvent(I2C1, I2C_EVENT_MASTER_MODE_SELECT)); /* Test on I2C1 EV5 and clear
it */

    I2C_Send7bitAddress(I2C1, 0x40, I2C_Direction_Transmitter);
    while(!I2C_CheckEvent(I2C1, I2C_EVENT_MASTER_TRANSMITTER_MODE_SELECTED)); /* Test on EV6 and
clear it */
    I2C_ClearITPendingBit(I2C1, I2C_EVENT_MASTER_BYTE_TRANSMITTED);

    I2C_SendData(I2C1, GP0); //CONFIGURA PARA LEITURA
    while(!I2C_CheckEvent(I2C1, I2C_EVENT_MASTER_BYTE_TRANSMITTED));

    I2C_GenerateSTOP(I2C1, ENABLE);
    DelayUs(100);
```

```

I2C_GenerateSTART(I2C1, ENABLE); /* Send I2C1 START condition */
while(!I2C_CheckEvent(I2C1, I2C_EVENT_MASTER_MODE_SELECT)); /* Test on I2C1 EV5 and clear
it */

I2C_Send7bitAddress(I2C1, 0x41, I2C_Direction_Transmitter);
while(!I2C_CheckEvent(I2C1, I2C_EVENT_MASTER_TRANSMITTER_MODE_SELECTED)); /* Test on EV6 and
clear it */
I2C_ClearITPendingBit(I2C1, I2C_EVENT_MASTER_BYTE_TRANSMITTED);

while(!I2C_GetFlagStatus(I2C2, I2C_FLAG_RXNE));
lsbdata = I2C_ReceiveData(I2C2);
I2C_ClearITPendingBit(I2C1, I2C_FLAG_RXNE);

while(!I2C_GetFlagStatus(I2C2, I2C_FLAG_RXNE));
msbdata = I2C_ReceiveData(I2C2);
I2C_ClearITPendingBit(I2C1, I2C_FLAG_RXNE);

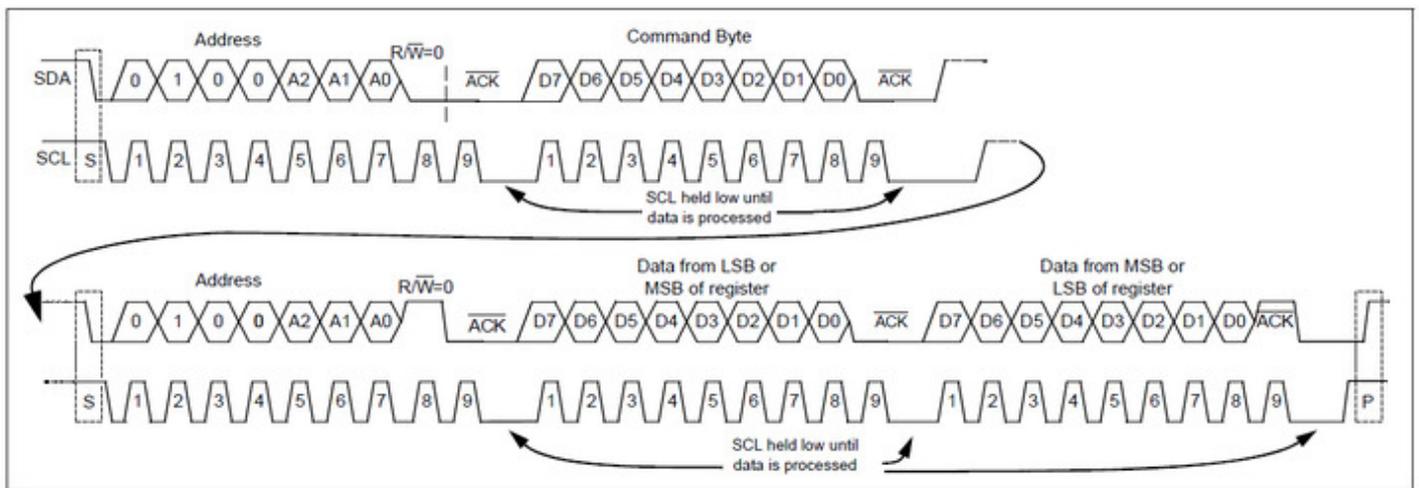
I2C_GenerateSTOP(I2C1, ENABLE);

ldata = (msbdata<<8);
ldata = ldata + lsbdata;

return(ldata);
}

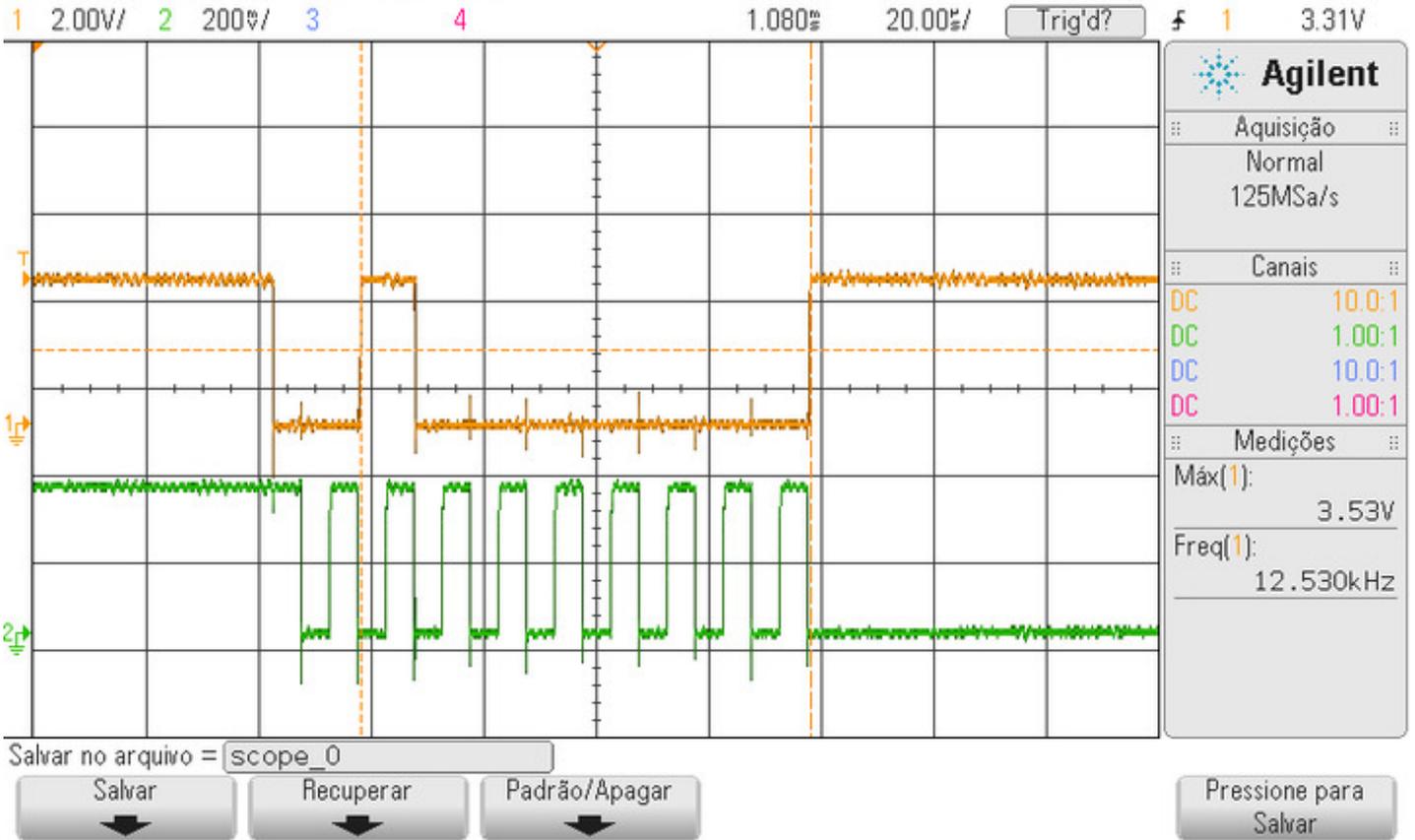
```

That's what mcp23016 needs.



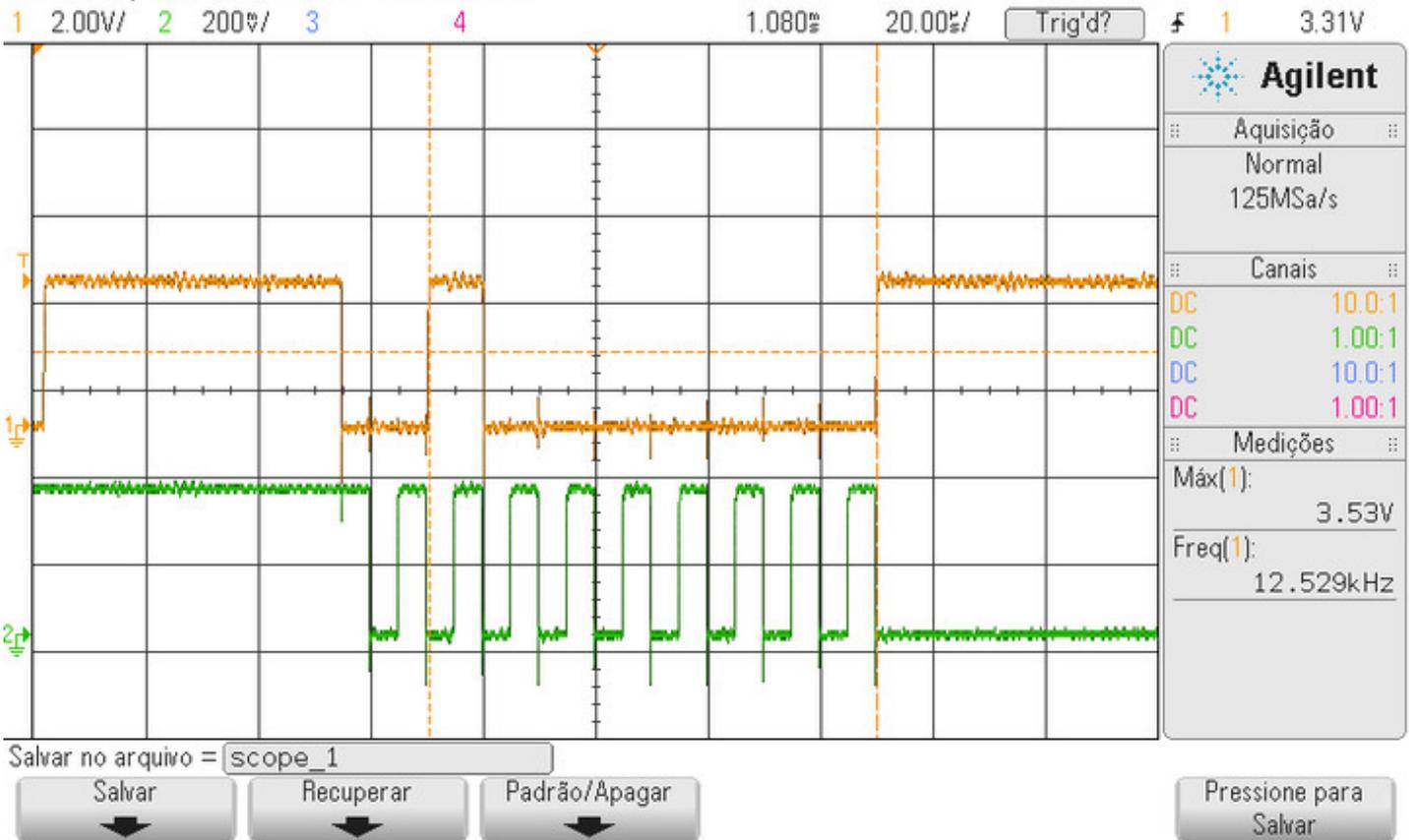
And here the screen shot of 0x40:

DSO-X 2014A, MY52491922: Tue Mar 19 20:11:29 2013



And here the screen shot of 0x41: (nothing changes)

DSO-X 2014A, MY52491922: Tue Mar 19 20:12:00 2013



I also tried another number like 0x48 and 0x49 and its the same too. I dont know what to do. Bye bye

