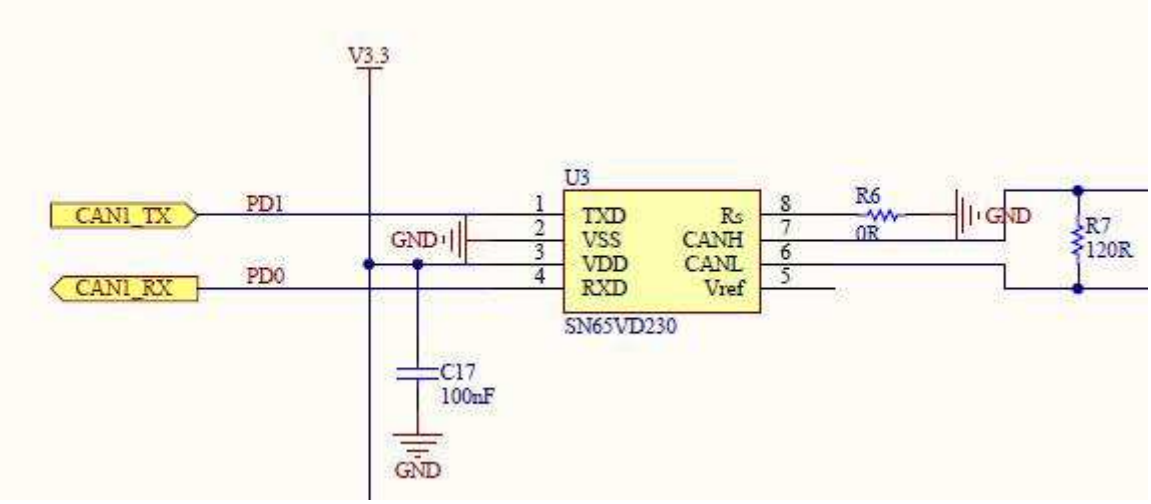
Hi all,

I am working on a project with stm32f407 and i want to communicate to stm32f407 boards with each other using can communication. I am using sn65hvd transceiver and i made this scheme :



i am using 2 circuit like this. Their CANH and CANL are connected other CANH and CANL. i think there is no problem with transceiver part. Probably i am doing something wrong with the code. Here is my code, can anyone tell me where am i doing wrong?
I am using can1 tx pb9, and can1 rx pb8. First stm32's tx and rx go receiver and 2 transceiver's canh and canl are common; then output of other transceiver (tx and rx) go other stm32's pb8 and pb9.

Here is my code of receiver stm32

```
#include "can_control.h"
#include "stm32f4_discovery.h"
#include <stdint.h>


#define CAN_CLK                   RCC_APB1Periph_CAN
#define CAN_RX_PIN                GPIO_Pin_8
#define CAN_TX_PIN                GPIO_Pin_9
#define CAN_GPIO_PORT             GPIOB
#define CAN_GPIO_CLK              RCC_AHBPeriph_GPIOB
#define CAN_AF_PORT               GPIO_AF_4
#define CAN_RX_SOURCE             GPIO_PinSource8
#define CAN_TX_SOURCE             GPIO_PinSource9

CanTxMsg TxMessage;
CanRxMsg RxMessage;


static
void CAN_Config(void)
{

  GPIO_InitTypeDef  GPIO_InitStructure;
  NVIC_InitTypeDef  NVIC_InitStructure;
  CAN_InitTypeDef        CAN_InitStructure;
  CAN_FilterInitTypeDef  CAN_FilterInitStructure;

  /* CAN GPIOs configuration **************************************************/

  /* Enable GPIO clock */
  RCC_AHB1PeriphClockCmd(RCC_AHB1Periph_GPIOB, ENABLE);
```

```
/* Connect CAN pins to AF7 */
GPIO_PinAFConfig(GPIOB, GPIO_PinSource8, GPIO_AF_CAN1);
GPIO_PinAFConfig(GPIOB, GPIO_PinSource9, GPIO_AF_CAN1);

/* Configure CAN RX and TX pins */
GPIO_InitStructure.GPIO_Pin = CAN_RX_PIN;
GPIO_InitStructure.GPIO_Mode = GPIO_Mode_AF;
GPIO_InitStructure.GPIO_Speed = GPIO_Speed_50MHz;
GPIO_InitStructure.GPIO_OType = GPIO_OType_PP;
GPIO_InitStructure.GPIO_PuPd  = GPIO_PuPd_UP;
GPIO_Init(GPIOB, &GPIO_InitStructure);

GPIO_InitStructure.GPIO_Pin = CAN_TX_PIN;
GPIO_InitStructure.GPIO_Mode = GPIO_Mode_AF;
GPIO_InitStructure.GPIO_Speed = GPIO_Speed_50MHz;
GPIO_InitStructure.GPIO_OType = GPIO_OType_PP;
GPIO_InitStructure.GPIO_PuPd  = GPIO_PuPd_UP;
GPIO_Init(GPIOB, &GPIO_InitStructure);



/* NVIC configuration *******************************************************/
NVIC_InitStructure.NVIC_IRQChannel = CAN1_TX_IRQn;
NVIC_InitStructure.NVIC_IRQChannelPreemptionPriority = 0x0;
NVIC_InitStructure.NVIC_IRQChannelSubPriority = 0x0;
NVIC_InitStructure.NVIC_IRQChannelCmd = ENABLE;
NVIC_Init(&NVIC_InitStructure);

/* CAN configuration ********************************************************/
/* Enable CAN clock */
RCC_APB1PeriphClockCmd(RCC_APB1Periph_CAN1, ENABLE);

/* CAN register init */
CAN_DeInit(CAN1);
CAN_StructInit(&CAN_InitStructure);

/* CAN cell init */
CAN_InitStructure.CAN_TTCM = DISABLE;
CAN_InitStructure.CAN_ABOM = DISABLE;
CAN_InitStructure.CAN_AWUM = DISABLE;
CAN_InitStructure.CAN_NART = ENABLE;
CAN_InitStructure.CAN_RFLM = DISABLE;
CAN_InitStructure.CAN_TXFP = ENABLE;
CAN_InitStructure.CAN_Mode = CAN_Mode_Normal;
CAN_InitStructure.CAN_SJW = CAN_SJW_1tq;

/* CAN Baudrate = 500kbps (CAN clocked at 48 MHz) */
CAN_InitStructure.CAN_BS1 = CAN_BS1_6tq;
CAN_InitStructure.CAN_BS2 = CAN_BS2_5tq;
CAN_InitStructure.CAN_Prescaler = 16;
CAN_Init(CAN1, &CAN_InitStructure);

// 48Mhz / ( 8 * ( 1 + 6 + 5) ) = 500Kbps
// 48Mhz / 96

/* CAN filter init */
CAN_FilterInitStructure.CAN_FilterNumber = 0;
```

```
  CAN_FilterInitStructure.CAN_FilterMode = CAN_FilterMode_IdMask;
  CAN_FilterInitStructure.CAN_FilterScale = CAN_FilterScale_32bit;
  CAN_FilterInitStructure.CAN_FilterIdHigh = 0x0000;
  CAN_FilterInitStructure.CAN_FilterIdLow = 0x0000;
  CAN_FilterInitStructure.CAN_FilterMaskIdHigh = 0x0000;
  CAN_FilterInitStructure.CAN_FilterMaskIdLow = 0x0000;
  CAN_FilterInitStructure.CAN_FilterFIFOAssignment = 0;
  CAN_FilterInitStructure.CAN_FilterActivation = ENABLE;
  CAN_FilterInit(&CAN_FilterInitStructure);

  /* transmit */
  TxMessage.StdId = 0x321;
  TxMessage.ExtId = 0x11;
  TxMessage.RTR = CAN_RTR_DATA;
  TxMessage.IDE = CAN_ID_STD;
  TxMessage.DLC = 8;


  /* Enable FIFO 0 message pending Interrupt */
  CAN_ITConfig(CAN1, CAN_IT_FMP0, ENABLE);

}

void DelayInt(void)
{
    volatile int i = 1000000;

    while(i--);
}

uint8_t CanSendRes = 0;



void CanControlInit(void)
{


    uint8_t TransmitMailbox = 0;

    CAN_Config();



    CAN_Receive(CAN1, CAN_FIFO0, &RxMessage);




}
```

Then here is my code of transmitter Stm32

```
#include "can_control.h"
#include "stm32f4_discovery.h"
#include <stdint.h>


#define CAN_CLK                   RCC_APB1Periph_CAN
#define CAN_RX_PIN                GPIO_Pin_8
```

```
#define CAN_TX_PIN                GPIO_Pin_9
#define CAN_GPIO_PORT             GPIOB
#define CAN_GPIO_CLK              RCC_AHBPeriph_GPIOB
#define CAN_AF_PORT               GPIO_AF_4
#define CAN_RX_SOURCE             GPIO_PinSource8
#define CAN_TX_SOURCE             GPIO_PinSource9

CanTxMsg TxMessage;
CanRxMsg RxMessage;


static
void CAN_Config(void)
{

  GPIO_InitTypeDef  GPIO_InitStructure;
  NVIC_InitTypeDef  NVIC_InitStructure;
  CAN_InitTypeDef        CAN_InitStructure;
  CAN_FilterInitTypeDef  CAN_FilterInitStructure;

  /* CAN GPIOs configuration **************************************************/

  /* Enable GPIO clock */
  RCC_AHB1PeriphClockCmd(RCC_AHB1Periph_GPIOB, ENABLE);

  /* Connect CAN pins to AF7 */
  GPIO_PinAFConfig(GPIOB, GPIO_PinSource8, GPIO_AF_CAN1);
  GPIO_PinAFConfig(GPIOB, GPIO_PinSource9, GPIO_AF_CAN1);

  /* Configure CAN RX and TX pins */
  GPIO_InitStructure.GPIO_Pin = CAN_RX_PIN;
  GPIO_InitStructure.GPIO_Mode = GPIO_Mode_AF;
  GPIO_InitStructure.GPIO_Speed = GPIO_Speed_50MHz;
  GPIO_InitStructure.GPIO_OType = GPIO_OType_PP;
  GPIO_InitStructure.GPIO_PuPd  = GPIO_PuPd_UP;
  GPIO_Init(GPIOB, &GPIO_InitStructure);

  GPIO_InitStructure.GPIO_Pin = CAN_TX_PIN;
  GPIO_InitStructure.GPIO_Mode = GPIO_Mode_AF;
  GPIO_InitStructure.GPIO_Speed = GPIO_Speed_50MHz;
  GPIO_InitStructure.GPIO_OType = GPIO_OType_PP;
  GPIO_InitStructure.GPIO_PuPd  = GPIO_PuPd_UP;
  GPIO_Init(GPIOB, &GPIO_InitStructure);



  /* NVIC configuration *******************************************************/
  NVIC_InitStructure.NVIC_IRQChannel = CAN1_RX0_IRQn;
  NVIC_InitStructure.NVIC_IRQChannelPreemptionPriority = 0x0;
  NVIC_InitStructure.NVIC_IRQChannelSubPriority = 0x0;
  NVIC_InitStructure.NVIC_IRQChannelCmd = ENABLE;
  NVIC_Init(&NVIC_InitStructure);

  /* CAN configuration ********************************************************/
  /* Enable CAN clock */
  RCC_APB1PeriphClockCmd(RCC_APB1Periph_CAN1, ENABLE);

  /* CAN register init */
  CAN_DeInit(CAN1);
```

```
  CAN_StructInit(&CAN_InitStructure);

  /* CAN cell init */
  CAN_InitStructure.CAN_TTCM = DISABLE;
  CAN_InitStructure.CAN_ABOM = DISABLE;
  CAN_InitStructure.CAN_AWUM = DISABLE;
  CAN_InitStructure.CAN_NART = ENABLE;
  CAN_InitStructure.CAN_RFLM = DISABLE;
  CAN_InitStructure.CAN_TXFP = ENABLE;
  CAN_InitStructure.CAN_Mode = CAN_Mode_Normal;
  CAN_InitStructure.CAN_SJW = CAN_SJW_1tq;

  /* CAN Baudrate = 500kbps (CAN clocked at 48 MHz) */
  CAN_InitStructure.CAN_BS1 = CAN_BS1_6tq;
  CAN_InitStructure.CAN_BS2 = CAN_BS2_5tq;
  CAN_InitStructure.CAN_Prescaler = 16;
  CAN_Init(CAN1, &CAN_InitStructure);

  // 48Mhz / ( 8 * ( 1 + 6 + 5) ) = 500Kbps
  // 48Mhz / 96

  /* CAN filter init */
  CAN_FilterInitStructure.CAN_FilterNumber = 0;
  CAN_FilterInitStructure.CAN_FilterMode = CAN_FilterMode_IdMask;
  CAN_FilterInitStructure.CAN_FilterScale = CAN_FilterScale_32bit;
  CAN_FilterInitStructure.CAN_FilterIdHigh = 0x0000;
  CAN_FilterInitStructure.CAN_FilterIdLow = 0x0000;
  CAN_FilterInitStructure.CAN_FilterMaskIdHigh = 0x0000;
  CAN_FilterInitStructure.CAN_FilterMaskIdLow = 0x0000;
  CAN_FilterInitStructure.CAN_FilterFIFOAssignment = 0;
  CAN_FilterInitStructure.CAN_FilterActivation = ENABLE;
  CAN_FilterInit(&CAN_FilterInitStructure);

  /* transmit */
  TxMessage.StdId = 0x321;
  TxMessage.ExtId = 0x11;
  TxMessage.RTR = CAN_RTR_DATA;
  TxMessage.IDE = CAN_ID_STD;
  TxMessage.DLC = 8;


  /* Enable FIFO 0 message pending Interrupt */
  CAN_ITConfig(CAN1, CAN_IT_FMP0, ENABLE);

}

void DelayInt(void)
{
    volatile int i = 1000000;

    while(i--);
}

uint8_t CanSendRes = 0;

void CanControlInit(void)
{
  uint32_t i = 0;
  uint8_t TransmitMailbox = 0;
```

```
    CAN_Config();




      TxMessage.StdId = 0x321;
      TxMessage.ExtId = 0x11;
      TxMessage.RTR = CAN_RTR_DATA;
      TxMessage.IDE = CAN_ID_STD;
      TxMessage.DLC = 8;
      TxMessage.Data[0] = 0xFF;
      TxMessage.Data[1] = 0xFF;
      TxMessage.Data[2] = 0xFF;
      TxMessage.Data[3] = 0xFF;
      TxMessage.Data[4] = 0xAA;
      TxMessage.Data[5] = 0xBB;
      TxMessage.Data[6] = 0xCB;
      TxMessage.Data[7] = 0x24;

    while(1)
    {

      CAN_Transmit(CAN1, &TxMessage);
    }



}
```

When i look at my pb9(tx pin) at scop, i cant see anything meaningfull, i think its just noise. i guess i'm doing something so wrong and cant see it, please help me about my problem i will be so appreciated. (Sorry about my bad english and this long writing :))