

Hi,

I'm trying to use multiple UARTs on the STM32F446 Nucleo board.

I used STM32CubeMX to generate code that initializes all available UARTs and USARTs at 115200 baud and the MCU to run at 180MHz.

```
void my_putc(UART_HandleTypeDef* huart, char c) {
    while (!(huart->Instance->SR & USART_FLAG_TXE));
    huart->Instance->DR = c;
}

void my_puts(UART_HandleTypeDef* huart, const char* s) {
    while (*s) {
        my_putc(huart, *s);
        ++s;
    }
}

int main(void) {

    /* Reset of all peripherals, Initializes the Flash interface and the Systick. */
    HAL_Init();

    /* Configure the system clock */
    SystemClock_Config();

    /* Initialize all configured peripherals */
    MX_GPIO_Init();
    MX_USART1_UART_Init();
    MX_USART2_UART_Init();
    MX_USART3_UART_Init();
    MX_UART5_Init();
    MX_UART4_Init();
    MX_USART6_UART_Init();

    /* USER CODE BEGIN WHILE */
    while (1) {
        my_puts(&huart1, "Hello UART1\n");
        my_puts(&huart2, "Hello UART2\n");
        my_puts(&huart3, "Hello UART3\n");
        my_puts(&huart4, "Hello UART4\n");
        my_puts(&huart5, "Hello UART5\n");
        my_puts(&huart6, "Hello UART6\n");
    }
}

void SystemClock_Config(void) {

    RCC_OscInitTypeDef RCC_OscInitStruct;
    RCC_ClkInitTypeDef RCC_ClkInitStruct;

    __PWR_CLK_ENABLE();

    __HAL_PWR_VOLTAGESCALING_CONFIG(PWR_REGULATOR_VOLTAGE_SCALE1);

    RCC_OscInitStruct.OscillatorType = RCC_OSCILLATORTYPE_HSI;
    RCC_OscInitStruct.HSISState = RCC_HSI_ON;
    RCC_OscInitStruct.HSICalibrationValue = 16;
    RCC_OscInitStruct.PLL.PLLState = RCC_PLL_ON;
    RCC_OscInitStruct.PLL.PLLSource = RCC_PLLSOURCE_HSI;
    RCC_OscInitStruct.PLL.PLLM = 8;
    RCC_OscInitStruct.PLL.PLLN = 180;
    RCC_OscInitStruct.PLL.PLLP = RCC_PLLP_DIV2;
    RCC_OscInitStruct.PLL.PLLQ = 2;
    RCC_OscInitStruct.PLL.PLLR = 2;
```

```

HAL_RCC_OscConfig(&RCC_OscInitStruct);

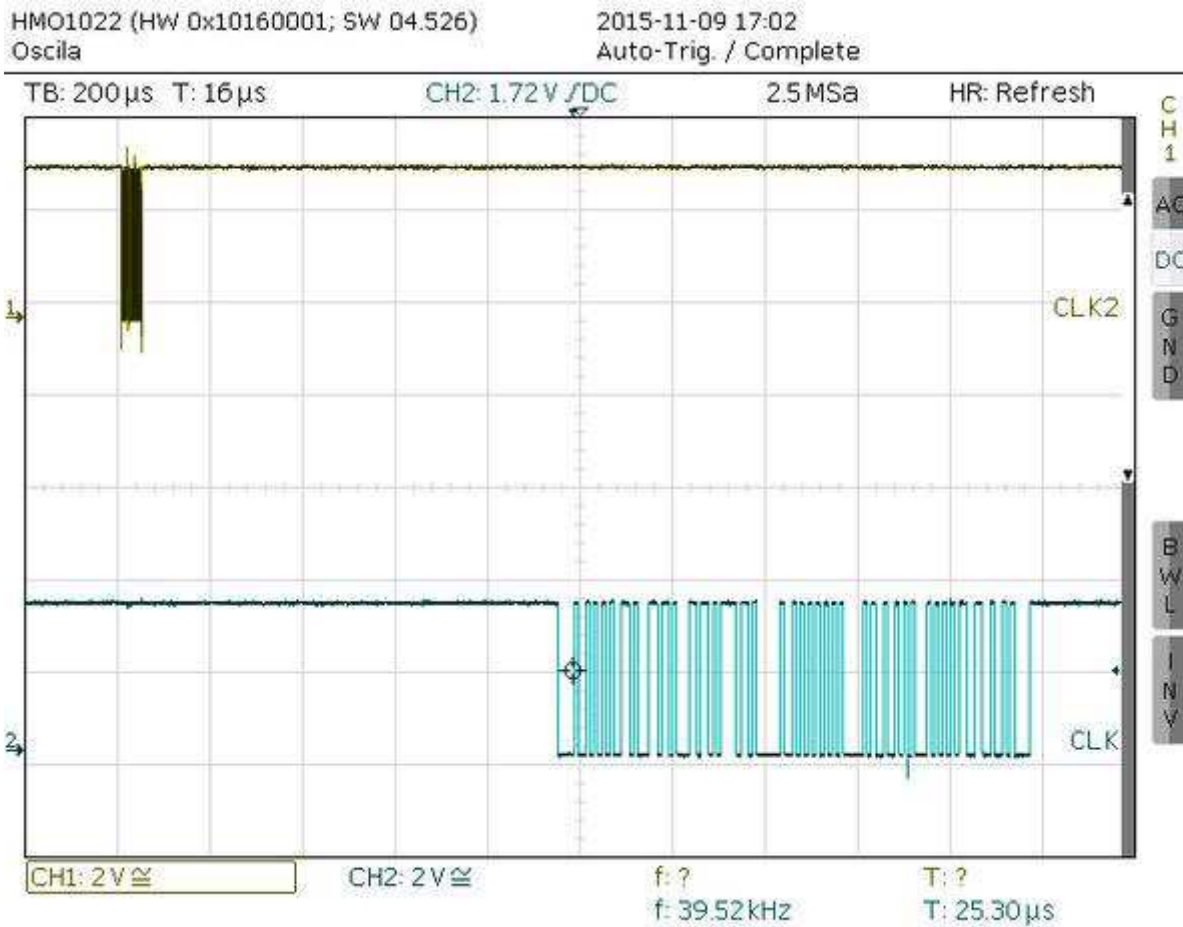
HAL_PWREx_ActivateOverDrive();

RCC_ClkInitStruct.ClockType = RCC_CLOCKTYPE_SYSCLK | RCC_CLOCKTYPE_PCLK1 | RCC_CLOCKTYPE_PCLK2;
RCC_ClkInitStruct.SYSCLKSource = RCC_SYSCLKSOURCE_PLLCLK;
RCC_ClkInitStruct.AHBCLKDivider = RCC_SYSCLK_DIV1;
RCC_ClkInitStruct.APB1CLKDivider = RCC_HCLK_DIV4;
RCC_ClkInitStruct.APB2CLKDivider = RCC_HCLK_DIV1;
HAL_RCC_ClockConfig(&RCC_ClkInitStruct, FLASH_LATENCY_3);
}

```

However I only receive output on UART2 and UART3, all other UARTs are silent.

When connecting a scope it turns out that the other UARTs are much faster (the yellow line is UART6, the blue line UART3).



Why is that? What can I do to make them usable? They are all initialized in the same way (see usart.c).