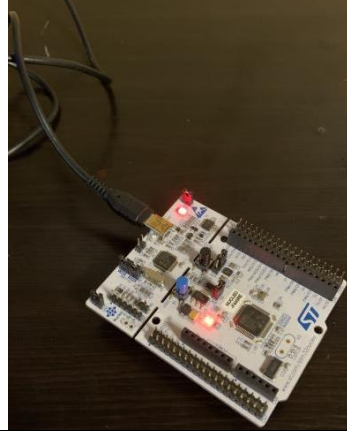
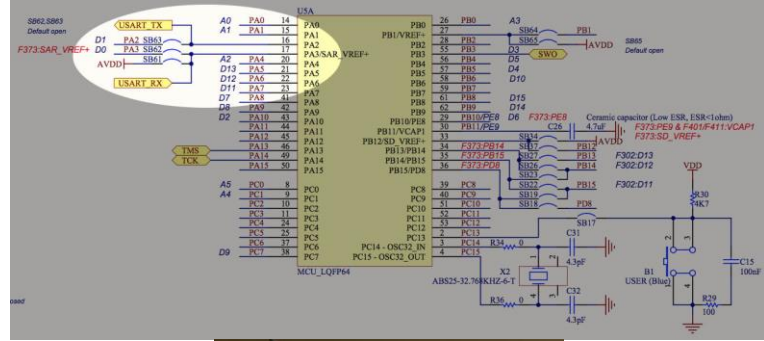


TNC Testing Form (REV1)	
Leaf on the Tree	1.1.1.1
Device Under Test (Testing Tree Number):	USB Cable
Date:	10/31/2020
Person(s) Conducting Experiment:	Kaleb Leon
Signature:	<i>Kaleb L</i>
Experiment Purpose:	Functionality of USB-B mini works in communicating with the PC over serial.
Experiment Procedure:	Plug Nucleo into PC via the USB-B mini cable and run some code to do serial communication and show we can upload code via this cable as well.
Equipment Settings / Software Settings (w Revision):	<p>Nucleo setup on table connected to USB port on PC using the USB-B mini cable</p> <p><u>Software Settings:</u></p> <p>HARDWARE INIT FILE</p> <pre> void configure_system_clock(void) { RCC_OscInitTypeDef RCC_OscInitStruct; RCC_ClkInitTypeDef RCC_ClkInitStruct; __PWR_CLK_ENABLE(); __HAL_PWR_VOLTAGESCALING_CONFIG(PWR_REGULATOR_VOLTAGE_SCALE2); RCC_OscInitStruct.OscillatorType = RCC_OSCILLATORTYPE_HSI; RCC_OscInitStruct.HSISState = RCC_HSI_ON; RCC_OscInitStruct.HSICalibrationValue = 6; RCC_OscInitStruct.PLL.PLLState = RCC_PLL_ON; RCC_OscInitStruct.PLL.PLLSource = RCC_PLLSOURCE_HSI; RCC_OscInitStruct.PLL.PLLM = 16; RCC_OscInitStruct.PLL.PLLN = 336; RCC_OscInitStruct.PLL.PLLP = RCC_PLLP_DIV4; RCC_OscInitStruct.PLL.PLLQ = 7; HAL_RCC_OscConfig(&RCC_OscInitStruct); RCC_ClkInitStruct.ClockType = RCC_CLOCKTYPE_SYSCLK RCC_CLOCKTYPE_PCLK1; RCC_ClkInitStruct.SYSCLKSource = RCC_SYSCLKSOURCE_PLLCLK; RCC_ClkInitStruct.AHBCLKDivider = RCC_SYSCLK_DIV1; RCC_ClkInitStruct.APB1CLKDivider = RCC_HCLK_DIV1; RCC_ClkInitStruct.APB2CLKDivider = RCC_HCLK_DIV1; HAL_RCC_ClockConfig(&RCC_ClkInitStruct, FLASH_LATENCY_2); } </pre> <p>UART CONFIG</p> <pre> UART_HandleTypeDef huart2; ... void MX_USART2_UART_Init(void) { huart2.Instance = USART2; huart2.Init.BaudRate = 115200; huart2.Init.WordLength = UART_WORDLENGTH_8B; huart2.Init.StopBits = UART_STOPBITS_1; huart2.Init.Parity = UART_PARITY_NONE; huart2.Init.Mode = UART_MODE_TX_RX; huart2.Init.HwFlowCtl = UART_HWCONTROL_NONE; HAL_UART_Init(&huart2); } </pre> <p>MAIN CODE</p> <pre> int main(int argc, char* argv[]) { char *msg = "Hello Nucleo Fun!\n\n\r"; HAL_UART_Transmit(&huart2, (uint8_t*)msg, strlen(msg), 0xFFFF); while(1); } </pre>

Testing Diagram /
Picture:



Data Points:

Serial Output

Type the escape character followed by C to get back, or followed by ? to see other options.

Hello Nucleo Fun!

Uploading Code

```
Memory Programming ...
Opening and parsing file: ST-LINK_GDB_server_a08060.srec
File      : ST-LINK_GDB_server_a08060.srec
Size     : 20172 Bytes
Address  : 0x08000000
```

```
Erasing memory corresponding to segment 0:  
Erasing internal memory sectors [0 1]  
Download in Progress:
```

```
File download complete
Time elapsed during download operation: 00:00:00.708
```

Verifying ...

Download verified successfully

```
Debugger connection lost.  
Shutting down...
```

Pass / Fail:

PASS

Interpreted Notes:

The Nucleo seems to be communicated fine with the PC over USB-B mini

Recommendations for Modifications:

N/A