## **Rochester Institute of Technology**

## **Real Time and Embedded Systems: UART Demo**

## **Overview:**

Using provided demo code do bi-directional communication with the STM32 Discovery board.

## **Procedure:**

- 1. Download the UART\_demo.zip folder and unzip it to a folder on your Z drive.
- 2. Open the project file using the Keil uVision 5 IDE.
- 3. Build the project and observe that there are no errors and no warnings.
- 4. On the Options menu for Target 1 check that ST-Link Debugger is selected:

Options for Target 'Target 1'		22
Device Target Output Listing User	C/C++ Asm Linker Debug Utilities	
O Use Simulator with restrictions	Settings Use: ST-Link Debugger	✓ Settings
Limit Speed to Real-Time		

5. Then select the Settings button next to the ST-Link Debugger selection and check that the Connect & Reset Options setting is "under Reset":

Cortex-M Target Driver Setup	
Debug Trace Flash Download	
Debug Adapter	
Serial Number:	
HW Version:	
FW Version:	
Port: SW 💌	
Max Clock: 1.8MHz	
Debug Connect & Reset Options	
Connect: under Reset 💌 F	

- 6. Connect the STM32 board to a USB port.
- 7. Using the Load button in the uVision IDE download the code to your STM32.
- 8. Set up a terminal session to connect to your STM32. Refer to the STM32 UART Connection document for instructions.
- 9. Observe output on the puTTY terminal. You may need to press the Reset button on the board to get it running.
- 10. Swap the commented sections of code in the main.c file to now try out providing commands through the puTTY terminal to your program.
- 11. Show that you have accomplished this to your instructor or Course Assistant.