### Southern New Hampshire University

### Module 7-1 Project Two

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### CS-350 – T3345

February 19, 2023

Throughout the duration of this course, there were many projects and milestones done with the CC3220SF. One of the components on this board is a TMP006 temperature sensor which can measure the surrounding temperature. The main purpose of the thermostat project is to program the board to light the onboard LED whenever the temperature that is measured by the TMP006 is equal to the temperature that is set by the user with the buttons on the left and right sides of the board. TI's hardware architecture uses the I2C protocol to communicate with the TMP006 temperature sensor. The Analog-to-Digital converter is supported by the microchip and freescale architectures.

There are three different architectures within the CC3220SF that the onboard thermostat can use to connect to the cloud via wifi. TI's hardware architecture includes a wifi module that supports the 802.11 b/g/n standard, while the Microchip and Freescale architectures include wifi modules that support the 802.11 b/g/n and 802.11 a/b/g/n/ac standards.

The Flash and RAM available on each architecture support the size and complexity of the code that can be executed on the thermostat since each of the three outlined hardware architectures provides different amounts of memory. TI's hardware architecture provides up to 512 KB of Flash memory and 96 KB of RAM, while Microchip's hardware architecture provides up to 2 MB of Flash memory and 256 KB of RAM. The Freescale hardware architecture provides up to 1 MB of Flash memory and 128 KB of RAM.

As this course is coming to an end, I have realized that every assignment and milestone done in this course has compiled into this final project. Although I was able to use what I have learned in the previous weeks, I still ran into a few problems while trying to complete the assigned tasks of this final project. My first issue was trying to match the “gpiointerrupt.syscfg” configuration exactly as pictured on the Thermostat Lab Guide but I disregarded the notice to omit a few configurations.