- Processor::readingProcess():
    - Process current river depth measurement, and send if relevant.

| SCENARIO | Expected OUTCOME | Pass/Fail | Comments | Tested By |
|---|---|---|---|---|
| River level is below ignore threshold | Reading is not sent | Pass | | Dharius |
| River level is above ignore threshold | Reading is processed as normal (sent) | Pass | | Dharius |
| River level is worth sending but LoRaWAN is unavailable | Reading is not sent, and TTN error is logged in SD Card | Pass | | Dharius |
| SD Card is not inserted or full | SD Storage Error is sent alongside measurement | Pass | | Dharius |
| Measurement is ignored 24 times | Still Here message is sent | Pass | | Dharius |
| Measurement above AR Mode threshold | AR Mode is turned on | Pass | | Dharius |
| Measurement falls back below AR Mode threshold | AR Mode is turned off | Pass | | Dharius |
| River level is within expected send thresholds, and SD card and LoRaWAN (joined) is in working order. | Measurement is sent and logged to SD card | Pass | | Dharius |

- Engineering menu trigger
    - Pull up in on the device PCB used to trigger the engineering menu to load.

| SCENARIO | Expected OUTCOME | Pass/Fail | Comments | Tested By |
|---|---|---|---|---|
| Engineering menu circuit board pin is pulled | Engineering menu should be loaded | Pass | | Dharius |
| Engineering menu circuit board pin is pulled whilst device is sleeping | Engineering menu should interrupt the sleep and be loaded | Fail | Removing the pin loads the engineering menu only after the current sensor sleep period has ended (In future need to ensure this is | Dharius |
| Exit engineering menu whilst pin is still pulled off the board | Engineering menu should exit, but instantly be reloaded | Pass | | Dharius |
| Exit engineering menu whilst after pin has been replaced on the board | Engineering menu should exit and the device should go back to normal functions | Pass | | Dharius |

- Engineering menu usage
    - Menu designed for the engineer to manually run debugging functions and make custom changes to the device settings.

| SCENARIO | Expected OUTCOME | Pass/Fail | Comments | Tested By |
|---|---|---|---|---|
| Call menu option 1 | Print current river measurement | Pass | | Dharius |
| Call menu option 2 | Print battery voltage and percentage estimation | Pass | | Dharius |
| Call menu option 5 | Print SD card read and write statuses (failed or success) | Pass | | Dharius |
| Call menu option 6 | Print SD card details and lists files (with file details) | Pass | Prints all details. In future it would be best to filter out some of this to get more of what we would actually want to see (e.g. don't need to see the hidden/trashed files left on the card) | Dharius |
| Call menu option 7 | Asks for new measurement period input, and prints the new changed measurement period (delay) | Pass | | Dharius |
| Call menu option 8 | Open submenu for adjusting AR Mode settings | Pass | | Dharius |
| Call submenu 8's | Ask for new AR | Fail | Menu crashes | Dharius |

| | | | | |
|---|---|---|---|---|
| option 1 | Mode threshold input and make adjustment | | device for unknown reason (might be stuck in while loop waiting for input and never accepting anything given) | |
| Call submenu 8's option 2 | Ask for new AR Mode delay input and make adjustment | Fail | Menu crashes device for unknown reason (might be stuck in while loop waiting for input and never accepting anything given) | Dharius |
| Call menu option 9 | Call recalibrateSensor function and print message when complete | Pass | | Dharius |
| Call menu option 11 | Triggers flash variables not setup. Triggers setup process once restarting device. | Pass | | Dharius |
| Call menu option 12 | Asks for new spread factor and sets it | Failed | Device freezes when typing in new spread factor | Dharius |
| Call menu option 13 | Asks for new App EUI and sets it | Pass | | Dharius |
| Call menu option 14 | Asks for new App Key and sets it | Pass | | Dharius |
| Call menu option 15 | Print the dev EUI message | Pass | | Dharius |
| Call menu option 16 | Sends a test river | Pass | | Dharius |

| | | | | |
|---|---|---|---|---|
| | measurement to the things network | | | |
| Call menu option 17 | Sends a test “Still Here” message to the things network | Pass | | Dharius |
| Call menu option 18 | Sends a test error to the things network | Pass | | Dharius |
| Call exit menu option | Exit engineering menu and return to normal function (print message to confirm this) | Pass | | Dharius |