Transmission Power Monitoring System Test Plan

Test 1: Secure access to Raspberry Pi dashboard

Preconditions:

- Make sure all parts of the system are online.

Test Actions:

1. Visit the Raspberry Pi dashboard in the browser. (http://hostname:4001/ui)
2. You will then be prompted for a username and password.
3. Enter the username.
4. Enter the password.
5. Then click sign in.

Expected Outcomes:

- You should be asked to sign in and then once signed in you should be able to see the Raspberry Pi dashboard.

Results and Comments:

Test 2: Are all sensors providing readings to the Raspberry Pi

Preconditions:

- Test 1 has been completed.

Test Actions:

1. Look at the sensor values section of the dashboard.

Expected Outcomes:

- You should be able to see a reading for power in watts, a reading for volts in volts, a reading for temperature in degrees celsius, and a coefficient value.

Results and Comments:

Test 3: Set the site name

Preconditions:

- Test 2 has been completed.

Test Actions:

1. Enter the name of the site into the site name input in the site configuration section.

Expected Outcomes:

- You should see the site name update in the site configuration section of the dashboard.

Results and Comments:

Test 4: Set the transmitter name

Preconditions:

- Test 3 has been completed.

Test Actions:

1. Enter the name of the transmitter into the transmitter name input in the site configuration section.

Expected Outcomes:

- You should see the transmitter name update in the site configuration section of the dashboard.

Results and Comments:

Test 5: Set site longitude

Preconditions:

- Test 4 has been completed.

Test Actions:

1. Enter the sites longitude into the site longitude input in the site configuration section.

Expected Outcomes:

- You should see the sites longitude update in the site configuration section of the dashboard.

Results and Comments:

Test 6: Set site latitude

Preconditions:

- Test 5 has been completed.

Test Actions:

1. Enter the sites latitude into the site latitude input in the site configuration section.

Expected Outcomes:

- You should see the sites latitude update in the site configuration section of the dashboard.

Results and Comments:

Test 7: Set the coefficient

Preconditions:

- Test 6 has been completed.

Test Actions:

1. Enter the coefficient into the coefficient input in the testing sensor configuration section.

Expected Outcomes:

- You should see the coefficient in the sensor values section of the dashboard update to the coefficient entered.

Results and Comments:

Test 8: Secure access to Grafana dashboard

Preconditions:

- Test 7 has been completed.
- Open a new browser tab.

Test Actions:

1. Visit the Grafana dashboard in the browser. (http://hostname:3001)
2. You will then be prompted for a username and password.
3. Enter the username.
4. Enter the password.
5. Then click sign in.
6. Then click on the ArqivaTempTransmitter dashboard.

Expected Outcomes:

- You should be asked to sign in and then once signed in you should be able to see the Grafana dashboard including a list of arqiva sites, a map of sites displaying power level and site locations, and a graph displaying power levels of each transmitter.

Results and Comments:

Test 9: View data for Rowridge site

Preconditions:

- Test 8 has been completed.

Test Actions:

1. Click on Rowridge in the list of sites.

Expected Outcomes:

- You should be able to see the antenna 3 section expanded displaying the power level, temperature, and temperature history.

Results and Comments:

Test 10: View data Antenna 1 on Rowridge site

Preconditions:

- Test 9 has been completed.

Test Actions:

1. Click on the > to expand the Antenna 1 section.

Expected Outcomes:

- You should be able to see the antenna 1 section expanded displaying the power level, temperature, and temperature history.

Results and Comments:

Test 11: End to end change of input temperature

Preconditions:

- Test 10 has been completed.

Test Actions:

1. Open the tab with the Raspberry Pi dashboard.
2. Set the input temperature to 30 degrees celsius.
3. Set the output temperature to 65 degrees celsius.
4. Set the flow rate to 50 liters per second.
5. Set the coefficient to 0.0034.
6. Open the tab with the Grafana dashboard.
7. Set a timer for 5 minutes and wait for it to beep.

Expected Outcomes:

- After 5 minutes you should see the input temperature change to 30 degrees celsius, the output temperature change to 65 degrees celsius, the flow rate change to 50 liters per second, and then power output will change to 360 watts.

Results and Comments: