

Enclosure testing

The node will be deployed outside in Rochester's infamously bad weather. Therefore, testing to ensure the node remains intact in extreme weather needs to occur once the weather-proof chamber is completed. Since the enclosure was only recently completed, these tests were not performed in this iteration.

Table 8 - Enclosure Test Descriptors

Test #	Test Name	Description	Reason	Pass Condition
E.1	Temperature Test	The nodes should be placed in a cold environment to simulate Rochester's winter, and a hot environment to simulate Rochester's summer.	Rochester has a variety of weather conditions, that can range to several degrees below zero, and up to almost 100 degrees. The nodes will be outside during these times, and should be able to survive in them.	If all the node's hardware still works after being in the extreme environments, the test passes.
E.2	Rain Test	Water can be sprayed on the enclosure to simulate rain, and a powerful fan can be used to simulate consistent wind. For these tests, paper towels or some kind of other material that reacts to water should be placed inside the enclosure instead of the expensive hardware. This way, if water does	Rochester can have days of rain in a row. The housing needs to be able to keep the water out at all costs, otherwise the hardware might get fried.	If no water gets into the enclosure, the test passes.

		manage to get in, no hardware is damaged.		
E.3	Drop Test	There should be a drop test of 5-6 feet to ensure that the trail node's enclosure is sturdy enough to protect the hardware inside. This can be done by placing a raw egg, or something else cheap and easily breakable, in the enclosure instead of the expensive hardware.	It is possible that while deploying the nodes, they could be dropped. The enclosure should protect the hardware from drops.	If the egg cracks when being dropped, then the enclosure is not sturdy enough, but if the egg is intact, the test passes.
E.4	Fire test	Pack flammable materials inside of the enclosure and set fire to it (with a fire extinguisher near by).	There is a chance that the battery can catch fire. To prevent a forest fire, the enclosure should be able to contain any fire that may occur from the inside.	If the fire stays contained within the enclosure, the test passes.