

## Senior Capstone Design

Project: Infrasonic Wildfire Detector

Team: FireWatch

Primary Author: FireWatch Team

Date: 10/22/2020

### Design Validation Plan & Results (DVP&R)

Requirement	Test	Test Subject	Target Date	Result	Recommendation
Will survive a 20 foot drop.	Drop 20 ft and inspect.	Shell prototype with weight inside.	3/20/21	TBD	TBD
Will survive a 20 foot drop.	Solid Model Simulation	CAD model	11/10/20	TBD	TBD
Send Messages between 1 Smart Node and 1 Dumb Node	Generate random test messages to send between Smart and Dumb nodes. Keep a running count of messages sent vs received.	Smart, Dumb nodes	12/1/20	TBD	TBD
Send Messages between 1 Smart Node and 2 Dumb Nodes	Generate random test messages to send between Smart and Dumb nodes. Keep a running count of messages sent vs received.	Smart, Dumb nodes	12/8/20	TBD	TBD
Send Messages between 1 Smart Node "The Internet"	Generate random test messages to send between Smart and Internet. Keep a running count of messages sent vs received.	Smart nodes	1/18/20	TBD	TBD
Infrasonic sensor can detect 1 - 5 Hz sound waves (crown fires)	Generate and detect an infrasonic sound wave	Infrasound Sensor	2/1/20	TBD	TBD
Infrasonic sensor can detect 1 kHz - 5 kHz sound waves (surface fires)	Generate and detect an infrasonic sound wave	Infrasound Sensor	2/1/2020	TBD	TBD
Bonus: Sensor detects an actual fire	Light a fire and see readings	Infrasound Sensor and Nodes	4/10/21	TBD	TBD