3.2 Evaluation of Adequacy of Testing

The adequacy of the testing was evaluated on 2 criteria:

- Functional correctness
- Requirement coverage

At the unit level, the testing was considered adequate since all the specified movement requirements were consistently satisfied. This included verifying that every movement step in a generated path was of the fixed step size, each turn was of a valid angle size, and that no-fly zones were strictly avoided. Successful execution of these functional tests provides confidence that the core movement logic behaves correctly, and that the requirements were covered successfully.

Integration level tests were evaluated as adequate through confirmation of valid 2D paths being generated upon combination of movement units. Correct interaction with the external ILP REST service was also adequate as comparing the size of retrieved datasets with manually verified source data consistently provided results that indicated data was being retrieved and handled correctly. These tests ensure that integration between modules and with external systems functions as expected and covers the specified integration requirements.

The system level tests were found to be adequate as tasks consistently produced valid JSON outputs and completed within the 30 second time frame. This allows us to see that the system functions as expected and that the system level requirements were covered.

Formal code coverage metrics were not used. Instead, adequacy was judged based on whether all selected requirements were exercised and validated by the testing.