



Verification Procedure & Results Document No.: 3167-10108 rev A

Test Case ID: 008, Ver-CG-50	Test Case Name: Post-recovery Evaluation, Atlantic	Test Plan Document No.: 3167-10000	Test Plan Rev.: 2-00	Test Date:
Test Director (Print Name)	Signature	Design Engineer	Approval Signature John S. Dingess (in lieu of electronic signature)<TWR>	Date 9/29/2011
Test Conductor (Print Name)	Signature	System Engineer	Approval Signature Ed Dever (in lieu of electronic signature)	Date 9/30/2011
Witnessed by (Print name)	Signature	QA/QC Engineer	Approval Signature <i>George Dussault</i> (In lieu of electronic signature)	Date 10/03/2011

Test Class	<input checked="" type="checkbox"/> Performance	<input checked="" type="checkbox"/> Behavioral	<input type="checkbox"/> Reliability	<input type="checkbox"/> Endurance / Longevity	<input type="checkbox"/> Survivability	<input type="checkbox"/> Safety
-------------------	---	--	--------------------------------------	--	--	---------------------------------

Test Description
In this test case, power consumption and travel speed will be used to predict endurance and total range for the glider based on complete deployment data.

Requirements Addressed
L4-CG-GD-RQ-91, L4-CG-GD-RQ-126, L4-CG-GD-RQ-171, L4-CG-GD-RQ-128, L4-CG-GD-RQ-76, L4-CG-GD-RQ-82

Test Setup The glider has been recovered from the Atlantic Shelf area deployment. Power and data usage will be compared to telemetered data and used to project endurance and total range for the glider.	Test Artifacts Spreadsheets for power, data, and range calculations
---	---

Test Procedure				Test Results		
Step No.	Instructions	Expected Results (Accept Criteria)	Requirement ID	Test Data	Pass/Fail	Notes
8.1	Compare the total data storage used during the deployment (scaled for any accelerations in usage caused by nonstandard flight or data-collection protocols) to that projected for a full deployment interval	Based on data requirements extrapolated from data collected during deployment, the 2GB capacity for each of the science and engineering Persistors will be sufficient to store all data collected during a deployment interval.	L4-CG-GD-RQ-91			Deployment interval for this phase of testing (Pioneer) is 3 months
8.2	Compare the total power used during the deployment (scaled for any accelerations in usage caused by nonstandard flight or data-collection protocols) to that projected for a full deployment interval	Based on power requirements extrapolated from power usage during deployment, the 78 DD lithium primary battery capacity will be sufficient to power the glider during a deployment interval.	L4-CG-GD-RQ-126			Deployment interval for this phase of testing (Pioneer) is 3 months.
8.3	Use the calculated glider speed for 'standard' flight segments and the calculated flight time per deployment (essentially, full deployment time minus time spent in telemetry sessions) to determine the glider range.	Based on calculated speed during standard flight segments, the total glider range during a deployment will be >1800km.	L4-CG-GD-RQ-128			Deployment interval for this phase of testing (Pioneer) is 3 months.
8.4	Calculate the time available for emergency low-power glider operation after the end of a normal deployment interval, compare to emergency needs.	The glider will be able to maintain emergency low-power operation for 60 days after the end of a deployment interval.	L4-CG-GD-RQ-76			Emergency needs will be defined. The reserve battery power supply was designed for 60 day emergency needs
8.5	Calculate the total power required for a full deployment interval at full (i.e. nominal sensor usage and nominal flight parameters) functionality. Compare to usage (total coulomb count and residual battery voltage).	Based on power requirements extrapolated from power usage during deployment, the 78 DD lithium primary battery capacity will be sufficient to power the glider	L4-CG-GD-RQ-82			

Test Procedure				Test Results		
Step No.	Instructions	Expected Results (Accept Criteria)	Requirement ID	Test Data	Pass/Fail	Notes
		during a deployment interval.				