



Verification Procedure & Results

Test Procedure Document No.: 3166-50104	Test Procedure Rev.: 1-00
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Test Case Name: Surface Mooring - End to End Demonstration		Test Plan Document # 3166-50000	Test Plan Rev.: 1-03	Test End Date:
Test Conductor (Print Name)	Signature	Design Engineer (Print Name) N/A	Approval Signature	Date
Test Director (Print Name)	Signature	System Engineer (Print Name) Sheri N. White	Approval Signature	Date 2015-03-03
Witnessed by (Print name)	Signature	QA/QC Engineer (Print Name) Gary Cook	Approval Signature	Date 2/26/2015
DOORS Verification Procedure ID Ver-CG-84	DOORS Verification Event ID CG-VE-3018	Test Results Reviewed	QA:	Date

Test Description
Data from deployed moorings will be examined to verify the requirements. The data are present on the shore station and will be used to verify mooring operations as well as the required 'end to end' operational flow between the moorings and the shore station.

Requirements Addressed
 L4-CG-PC-RQ-75: Platform Controllers shall be capable of initiating communications based on a predefined schedule.
 L4-CG-PC-RQ-76: Platform Controllers shall be capable of autonomous operation based on one or more predefined missions.
 L4-CG-PC-RQ-133 Full Function Platform Controllers shall be capable of Ethernet communications between CEs and high-speed telemetry components.
 L4-CG-PC-RQ-254: WHOI Platform Controllers shall be capable of serial communications between CEs and telemetry components.
 L4-CG-PC-RQ-691: WHOI Platform Controllers shall support low-speed satellite communication capability.
 L4-CG-PC-RQ-692: WHOI Platform Controllers on Surface Buoys shall support high-speed satellite communication capability.
 L4-CG-PC-RQ-732: Platform Controllers shall have the capability to send platform status and data to the OMC over a telemetry link.
 L4-CG-PC-RQ-793: Platform Controllers shall monitor and record data/status from telemetry components.
 L4-CG-PC-RQ-833: WHOI Platform Controllers shall interface to radio telemetry components per ICD 3102-10001.
 L4-CG-PC-RQ-865: Platform Controllers shall be capable of transmitting platform status information to the OMC via any available telemetry channel.

Test Setup
None.
Use the actual data from deployed moorings

Test Artifacts
Test Artifacts consist of the Pass/Fail results for steps contained within this procedure.
See "Telem ICD" tab for verification of 'per ICD' requirements
Record any shore station files used for verification here

Test Procedure 3166-50104 Rev 1-00			Test Results			
Step#	Instructions	Expected Results	Requirement ID	Observed Results	Pass/Fail	Notes
1	Look at the "Detailed Status" page for a deployed Surface Mooring and note the telemetry schedule for Fleet Broadband and Iridium.					

Test Procedure 3166-50104 Rev 1-00				Test Results		
Step#	Instructions	Expected Results	Requirement ID	Observed Results	Pass/Fail	Notes
2	Look at a recent "syslog" file for CPM1 and confirm that the telemetry sessions were initiated by the Platform Controller per the predefined schedule		L4-CG-PC-RQ-75 L4-CG-PC-RQ-76 L4-CG-PC-RQ-133 L4-CG-PC-RQ-732 L4-CG-PC-RQ-865			
3	Look at a recent "syslog" file for CPM1 and confirm that telemetry data and status are recorded by the Platform Controller		L4-CG-PC-RQ-793			
4	Look at the "Detailed Status" page for a deployed Surface Mooring and note the schedules instruments.					
5	Look at recent "syslog" files for DCLs and confirm that the instruments were operated autonomously by the Platform Controller per the predefined schedule		L4-CG-PC-RQ-76 L4-CG-PC-RQ-133 L4-CG-PC-RQ-732			
6	Look at a recent Iridium log. Confirm that CE status has been received on the shore station via Iridium (a serial interface device)		L4-CG-PC-RQ-254 L4-CG-PC-RQ-691 L4-CG-PC-RQ-692 L4-CG-PC-RQ-732 L4-CG-PC-RQ-793 L4-CG-PC-RQ-865			
7	Look at the "Detailed Status" page for a deployed Surface Mooring and select "SBD" at the top of the page. Confirm platform status messages are being seen hourly on shore via SBD (a serial interface device)		L4-CG-PC-RQ-254 L4-CG-PC-RQ-865			
8	See <u>Telem ICD</u> tab for verification of 'per ICD' requirement		L4-CG-PC-RQ-833			
9						
10						

Controller to Telemetry Interface
ICD 3102-10001 Ver 1-01 04-13-2011

	ISU			SBD			RFM			WiFi			GPS		
	Section	Requirement	Verification	Section	Requirement	Verification	Section	Requirement	Verification	Section	Requirement	Verification	Section	Requirement	Verification
Connector & Cable	3.2.1.1	8 pin subcon		3.3.1.1	4 pin subcon		3.5.1.1	6 pin subcon		3.6.1.1	8 pin subcon ethernet		3.7.1.1	5 pin subcon	
Power	3.2.1.2	12 vdc		3.3.1.2	5 vdc		3.5.1.2	24 vdc		3.6.1.2	24 vdc		3.7.1.2	3.3 vdc	
Grounding	3.2.1.3	at Ground plate		3.3.1.3	at Ground plate		3.5.1.3	at Ground plate		3.6.1.3	at Ground plate		3.7.1.3	at Ground plate	
Isolation	3.2.1.4	Power and communication signals are electrically isolated from all other platform subsystems AND PC monitors electrical leakage to seawater		3.3.1.4	Power and communication signals are electrically isolated from all other platform subsystems AND PC monitors electrical leakage to seawater		3.5.1.4	Power and communication signals are electrically isolated from all other platform subsystems AND PC monitors electrical leakage to seawater		3.6.1.4	Power and communication signals are electrically isolated from all other platform subsystems AND PC monitors electrical leakage to seawater		3.7.1.4	Power and communication signals are electrically isolated from all other platform subsystems AND PC monitors electrical leakage to seawater	
Operation	3.2.1.5	- Power & RS232 thru Master PIC - voltage and current monitoring		3.3.1.5	Supervisor control		3.5.1.5	CPM control - unpowered after preset time if not used		3.6.1.5	CPM control - powered coincidentally with the RFM		3.7.1.5	CPM control - One of the two GPS will be powered at all times	
Logical Data	3.2.3	AT command set		3.3.3	AT command set		3.5.3	wireless serial port		3.6.3	ethernet		3.7.3	NEMA 0183	

	FBB		
	Section	Requirement	Verification
Electrical	3.4.1	Remote on/off	
	3.4.1	24 vdc	
Mechanical	3.4.1	Ground ADU to BDU	
	3.4.2	Mounted with vendor provided kit.	
Logical	3.4.3	10/100 base-T	