

# JPL Hardware Requirements Certification Review – SPIRE Element #D-31102

Assembly/Subsystem		PEM		Section		Date		
SPIRE		Martin Herman		386		5 January, 2005		
Dwg. Rev.	Nomenclature	Serial No.	Model	Type	Final IR No.	Mass (grams)* Actual (meas/calc'd**)/ Requirement.		
A	Thermal Control, SPIRE	002	PFM		923811	24.2 g / 26 g *Requirement is for 300mK mass, total mass is 81.6g including GSE bracket. ** based on sub-assembly measurements		
Check applicable answer and give necessary explanation in remarks column		Y	N	N	Data Attachments			Signature Approval & Date
		e	o	/	(Package Sec. #)			
		s	A		14. Latest Top Assembly Drawings			Cog E
1. Are all drawings and specifications complete, approved, released and frozen?		x			<input checked="" type="checkbox"/> Attached <input type="checkbox"/> None (Sec. 4) <input type="checkbox"/> Attached <input checked="" type="checkbox"/> None			<i>Mick ... 1-5-05</i>
2. Do the released drawings and specifications reflect all approved changes?		x			15. List of open ECRs			PEM
3. Is hardware identical to other hardware delivered? If no, provide difference list.				x	<input type="checkbox"/> Attached <input checked="" type="checkbox"/> None 16. Waivers			<i>Martin ...</i>
4. Does the hardware meet the requirement of its functional requirements, specifications, waivers and/or ICDs? If no, provide difference list.		x			<input checked="" type="checkbox"/> Attached <input type="checkbox"/> None (Sec. 5) 17. Open MRBs			QA Engineer
5. Have all IR discrepancies and MRBs been dispositioned and agreed to by Engineering/ QA?		x			<input type="checkbox"/> Attached <input checked="" type="checkbox"/> None 18. Open P/FRs on this HW			<i>Scott Hughes</i>
6. Is complete as-built list information included in the build book?		x			<input type="checkbox"/> Attached <input checked="" type="checkbox"/> None 19. Open P/FRs on similar HW			<i>A ... 1-2-05</i>
7. Have all required environmental tests & analyses been completed?		x			<input type="checkbox"/> Attached <input checked="" type="checkbox"/> None 20. Handling Document			Mission Assurance Mgr.
8. Is all required assembly and/or subsystem level functional testing complete?		x			<input type="checkbox"/> Attached <input checked="" type="checkbox"/> None (Sec. 6) 21. Shortage List			Project
9. Have all piece parts, processes and materials been approved by JPL?		x			<input type="checkbox"/> Attached <input checked="" type="checkbox"/> None 22. Requirements Verification Matrix			<i>Margaret ...</i>
10. Does this hardware meet all contamination control requirements?		x			<input checked="" type="checkbox"/> Attached <input type="checkbox"/> None (Sec. 7) 23. Qualification Status			PI
11. Are all required shipping containers, shipping procedures, and special handling procedures ready?		x			<input type="checkbox"/> Attached <input checked="" type="checkbox"/> None (Sec. 8) 24. Connector Mate / Demate Log			Also see section 3
12. Is additional work required to bring this hardware to flight readiness?				x	<input checked="" type="checkbox"/> Attached <input type="checkbox"/> None (Sec. 9) 25. Operation Log			
13. Is this hardware acceptable for flight?		x			<input checked="" type="checkbox"/> Attached <input type="checkbox"/> None (Sec. 9) 26. ICDs			MICD to be issued later, hardware interface is based on RAL-provided preliminary design.
Remarks					All mechanical and assembly drawings released. Load Resistor is captured in JPL document D-23200.  First hardware of this type delivered  See attached summary matrix (section3)  See test summary matrix (section 7)			

# JPL Hardware Requirements Certification Review – SPIRE Element #D-31103

Assembly/Subsystem		PEM		Phone		Section		Date	
SPIRE		Martin Herman		(818) 354-8541		386		5 January, 2005	
Drawing/ Part No.	Dwg. Rev.	Nomenclature	Serial No.	Model	Type	Final IR No.	Mass (grams)* Actual** / Requirement.	Signature Approval & Date	
10217660-1	A	Thermal Control, SPIRE	003	FS		923811	24.7 g / 26 g *Requirement is for 300mK mass, total mass is 81.5g including GSE bracket. ** based on sub-assembly measurements.	Cog E <i>Mark Weibel 1-6-05</i> PEM <i>Martin Herman 1/6/05</i> QA Engineer <i>Scott Hughes 1-6-05</i> Environments/Reliability <i>A-1-05</i> Mission Assurance Mgr. <i>A-1-05</i> Project <i>Margaret C. Jung</i> PI <i>Martin Herman 1/6/05 p. 10</i>	
Check applicable answer and give necessary explanation in remarks column		Y		N		Data Attachments		Signature Approval & Date	
		e		o		(Package Sec. #)			
		s		/		14. Latest Top Assembly Drawings			
1. Are all drawings and specifications complete, approved, released and frozen?		x				<input checked="" type="checkbox"/> Attached <input type="checkbox"/> None (Sec. 4) <input type="checkbox"/> Attached <input checked="" type="checkbox"/> None			
2. Do the released drawings and specifications reflect all approved changes?		x				15. List of open ECRs			
3. Is hardware identical to other hardware delivered? If no, provide difference list.				x		<input type="checkbox"/> Attached <input checked="" type="checkbox"/> None 16. Waivers			
4. Does the hardware meet the requirement of its functional requirements, specifications, waivers and/or ICDs? If no, provide difference list.		x				<input checked="" type="checkbox"/> Attached <input type="checkbox"/> None (Sec. 5) 17. Open MRBs			
5. Have all IR discrepancies and MRBs been dispositioned and agreed to by Engineering/ QA?		x				<input type="checkbox"/> Attached <input checked="" type="checkbox"/> None 18. Open P/FRs on this HW			
6. Is complete as-built list information included in the build book?		x				<input type="checkbox"/> Attached <input checked="" type="checkbox"/> None 19. Open P/FRs on similar HW			
7. Have all required environmental tests & analyses been completed?		x				<input type="checkbox"/> Attached <input checked="" type="checkbox"/> None 20. Handling Document			
8. Is all required assembly and/or subsystem level functional testing complete?		x				<input checked="" type="checkbox"/> Attached <input type="checkbox"/> None (Sec. 6) 21. Shortage List			
9. Have all piece parts, processes and materials been approved by JPL?		x				<input type="checkbox"/> Attached <input checked="" type="checkbox"/> None 22. Requirements Verification Matrix		Also see section 3	
10. Does this hardware meet all contamination control requirements?		x				<input checked="" type="checkbox"/> Attached <input type="checkbox"/> None (Sec. 7) 23. Qualification Status			
11. Are all required shipping containers, shipping procedures, and special handling procedures ready?		x				<input checked="" type="checkbox"/> Attached <input type="checkbox"/> None (Sec. 8) 24. Connector Mate / Demate Log			
12. Is additional work required to bring this hardware to flight readiness?				x		<input checked="" type="checkbox"/> Attached <input type="checkbox"/> None (Sec. 9) 25. Operation Log			
13. Is this hardware acceptable for flight?		x				<input checked="" type="checkbox"/> Attached <input type="checkbox"/> None (Sec. 9) 26. ICDs <input type="checkbox"/> Attached <input checked="" type="checkbox"/> None		MICD to be issued later, hardware interface is based on RAL-provided preliminary design.	