

		APPLICATION FOR ESCC QUALIFICATION APPROVAL			Page 1
		Component Title: AXOMACH AND SPACEFIBRE CABLE ASSEMBLIES Executive Member: CNES			Date: 18/01/2024
Components (including series and families) submitted for Qualification Approval					1
ESCC COMPONENT NO.	VARIANTS	RANGE OF COMPONENTS	BASED ON	TEST VEHICLE / S	COMPONENT SIMILAR
3409001	01	Connector codes 01, 02, 03, 09, 17	AxoMach	See annex 1	Connector codes 04, 05, 06, 07, 08, 12 to 16
3409001	01	Connector codes 10, 18	SpaceFibre	See annex 1	Connector code 11
Component Manufacturer Axon' Cable		Location of Manufacturing Plant Route de Châlons, 51210 Montmirail, France		ESCC Specification used for Qualification Generic: 3409 Issue: 1 Detail/s: 3409/001 Issue: 6	
Qualification Report Reference and date: 17035-QTR-0001-AXON, 17035-QTR-0002-AXON, 17035-QTR-0003-AXON, 17035-QTR-0004-AXON (1 per group) Date: 22/09/2023			PID used for manufacturing Qualification Lot Ref No: CNES-PID-20 Issue: 1 Date: 03/02/2020		
PID changes since start of qualification None <input type="checkbox"/> Minor* <input checked="" type="checkbox"/> Major* <input type="checkbox"/> (* Details not published, provided in confidential annex 2.)			Current PID Verified by <u>G. Quadri, CNES</u> Name of Executive Representative Ref No: CNES-PID-20 Issue: 2 Date: 22/07/2022		
Current Manufacturing facilities surveyed by: <u>Jean-Baptiste SAUVEPLANE (CNES), Denis LACOMBE (ESA), François NOUALS (CNES)</u> (Name of Executive Responsible)					9
12/06/2019 (Date)					
AXON-AUD-2019					
Report Reference Satisfactory: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Explain Some actions were needed on Axon's side, all actions are now closed					
Quality and Reliability Data Evaluation testing performed Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Report Ref. No.: 07072-TR-MDSA HDR -01 issue D; 07072-TR-MDSA HDR02A-Axon' ED.1, Rev.1 Date: 18/12/2012 Equivalent Data: Certification:			Failure analysis, DPA, NCCS available Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (supply data) Ref Nos. and purpose: 2-C-AXO-2-01 Shielding effectiveness degradation: DCR 1598, 1599 and 1600 issued to modify the detailed specification accordingly		
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The undersigned hereby certifies on behalf of the ESCC Executive, that the above information is correct; that the appropriate documentation has been evaluated; that full compliance to all ESCC requirements is evidence except as stated in box 13; that the reports and data are available at the ESCC Executive and therefore applies for ESCC qualification status to be given to the component(s) listed herein.

Date: 18/01/2024

Gianandrea Quadri

G. QUADRI, CNES

(Signature of the Executive Coordinator)

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Continuation of Boxes above: (Only non-confidential comments)

Box 1: In conjunction with application No. C219 dealing with AXOMACH AND SPACEFIBRE

Box 4: refer to appendix A of ESCC 3409/001 issue 6 for agreed deviations CONNECTORS AND ACCESSORIES



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Non compliance to ESCC requirements:

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No.:	Specification	Paragraph	Non compliance

Additional tasks required to achieve full compliance for ESCC qualification or rationale for acceptability of noncompliance:

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Executive Manager Disposition

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Application Approval: Yes No

Action / Remarks:

Date:

B. Schade: Head of the Product Assurance and Safety Department



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ANNEX 1: LIST OF TESTS DONE TO SUPPORT QUALIFICATION

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Tests conducted in compliance with:

- ESCC 3409 generic specification; Chart F4 (for ESCC/QPL parts);
- ~~Of PID-TFD~~ (for ESCC/QML parts)

Tests vehicle identification/description:

<p>[TV1 – P568742] Assembly of : Connector 340108903B + Cable assembly 3409001 with connector codes 03 & 09 (340900101571583) + Saver 340109003B + Cable assembly 3409001 with connector codes 03 & 17 & 01 & 02 (340900101571584) + Connectors 340108906B & 340108901B</p>	<p>CA – TV1-1</p> <p>CA – TV1-2</p> <p>Colour codes: — QFX086 — SC25SP cable</p> <p>340108903B 340900101571583 340109003B 340900101571584 340108906B 340108901B</p>
<p>[TV2 – P568743] Assembly of : Connector 340108904B + Cable assembly 3409001 with connector codes 10 & 18 (340900101571585) + Saver 340109007B + Cable assembly 3409001 with connector codes 10 (340900101571586) + Connector 340108908B</p>	<p>CA – TV2-1</p> <p>CA – TV2-2</p> <p>Colour codes: — QFX086 — SC25SP cable</p> <p>340108904B 340900101571585 340109007B 340900101571586 340108908B</p>
<p>[TV3 – P568744] Assembly of connector 340108902B with blanking plate 340109005B</p>	
<p>[TV4 – P568745] Cable assembly 3409001 with connector codes 17 (340900101568745)</p>	
<p>[TV5 – P568746] Assembly of 3409001 pigtail, with connector code 01 (340900101571587), with connector 340108901B</p>	
<p>[TV6 – P568747] Assembly of 3409001 pigtail, with connector code 02 (340900101571588), with connector 340108902B</p>	
<p>[TV7 – P568748] Assembly of 3409001 pigtail, with connector code 03 (340900101571589), with saver 340109003B and connector 340108903B</p>	
<p>[TV8 – P568749] Assembly of 3409001 pigtail, with connector code 10 (340900101571590), with saver 340109007B and connector 340108904B</p>	

Detail Specification reference: 3409/001, 3401/089, 3401/090

IMPORTANT NOTE: Configuration of test vehicles was adapted depending on the test performed (use of complete TV or use of individual parts of TV (for instance, subharnesses of TV referred as TV1.1, TV1.2, TV2.1, TV2.2, savers and PCB connectors)). Thus date codes and tested quantity may vary depending on test configurations used for Chart F4 Column 2 and 4. Refer to complementary annex for detailed description of test configurations.

Chart F4	Test	Tick when done	Conditions	Date Code	Tested Qty	No. of Rejects	Comments if not performed. Comments on Rejection
Column 2 3 TVs	Shielding Effectiveness	<input checked="" type="checkbox"/>	IEC Publication No. 61726	19/38, 19/45, 20/02	6	0	
	Cable Retention Force	<input checked="" type="checkbox"/>	As specified in Detail Specification	19/38, 19/45, 20/02	6	0	
	Ageing	<input checked="" type="checkbox"/>	MIL-STD-202, Test Method 108	20/09	6	0	
	Mating Endurance	<input checked="" type="checkbox"/>	ESCC Generic Specification No. 3401	20/09	3	0	
	Contact Retention (in Insert)	<input checked="" type="checkbox"/>	ESCC Generic Specification No. 3401	19/32, 19/38, 19/34, 19/23, 20/02	12	0	
	Bending	<input checked="" type="checkbox"/>	As specified in Detail Specification	19/38, 19/45, 20/02	6	0	
	Vibration (Random and Sine)	<input checked="" type="checkbox"/>	MIL-STD-202 Test Method 214 & 204	20/09	6	0	
	Temperature Cycling (200 cycles)	<input checked="" type="checkbox"/>	As specified in Detail Specification	20/09	3	0	
	Thermal Stability and Skew	<input checked="" type="checkbox"/>	As specified in Detail Specification	20/09	3	0	
	Shielding Effectiveness	<input checked="" type="checkbox"/>	IEC Publication No. 61726	19/38, 19/45, 20/02	6	6	Refer to 2-CNES-AXO-2-01 and DCR 1598, 1599, 1600
	Electrical Measurements at Room, High and Low Temperatures	<input checked="" type="checkbox"/>	As specified in Detail Specification	20/09	3	0	
	External Visual Inspection	<input checked="" type="checkbox"/>	ESCC Basic Specification No. 20500	20/09	3	0	
	Radiographic Inspection	<input checked="" type="checkbox"/>	ESCC Basic Specification No. 20900	20/09	3	0	
	Destructive Physical Analysis	<input type="checkbox"/>	ESCC Basic Specification No. 21001				
Column 3 1 TV	Radiation	<input checked="" type="checkbox"/>	As specified in Detail Specification	19/48	4	0	



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Component title: AXOMACH AND SPACEFIBRE CABLE ASSEMBLY, AXOMACH AND SPACEFIBRE PCB CONNECTORS, AXOMACH AND SPACEFIBRE ACCESSORIES
 Executive Member: CNES (FR) Date: 22/09/2023

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Chart F4	Test	Tick when done	Conditions	Date Code	Tested Qty	No. of Rejects	Comments if not performed. Comments on Rejection
Column 4 2 TVs	Permanence of Marking	<input checked="" type="checkbox"/>	ESCC Basic Specification No. 24800	19/39, 19/23, 19/32, 20/02, 19/40	20	0	
	Mating and Unmating Forces	<input checked="" type="checkbox"/>	ESCC Generic Specification No. 3401	20/09	8	0	
	Insert Retention (in Shell)	<input checked="" type="checkbox"/>	ESCC Generic Specification No. 3401	19/39, 19/23, 19/32, 20/02, 19/40	20	0	
	Crimp Contact Tensile Strength	<input type="checkbox"/>	ESCC-Q-ST-70-26				Not applicable
Additional Tests		<input type="checkbox"/>					
		<input type="checkbox"/>					
		<input type="checkbox"/>					



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NOTES ON THE COMPLETION OF THE APPLICATION FORM FOR ESCC QUALIFICATION APPROVAL

ENTRIES

- Form Heading** shall indicate:— the title of the component as given in its detail specification or the name of the series or family; — the entering date; — the serial number and the suffix of the form.
- Box 1** shall provide details given in table; in particular there shall be listed - the variants or range of variants; the range of components by using the ESCC code for values tolerances, etc.; the designation given in detail specification as 'based on'; ---under Test Vehicle enter either a cross or the specific characteristic capable to identify the component tested; — under component similar enter a cross.
- Box 2 and 3** Manufacturer's name and location of plant where the components were manufactured and tested.
- Box 4** Generic and detail specifications used during qualification program.
- Box 5** Reference to test report(s) submitted in support of application.
- Box 6** Enter details to identify the PID that was applicable at the time the qualification lot was manufactured.
- Box 7** If the PID was evolved after qualification lot manufacture, adequate details of such evolution shall be provided together with reasons for changes. Major changes shall be clearly marked.
- Box 8** The box serves to identify the current PID and the Executive Representative that has verified it together with the date of this occurrence.
- Box 9** This box can be completed only after a physical visit to the plant to confirm that the practices, procedures, materials, etc. used in manufacturing the components are as described in the PID. This survey shall be carried out in accordance with the requirements of ESCC Basic Specification No. 20200 and its findings shall be recorded.
- Box 10** Details entered shall be sufficient to evidence that an evaluation program according to ESCC Basic Specification No. 22600 has been performed and that the results thereof are summarized in the survey and test reports. If the evaluation program has not been carried out according to established ESCC documents, the applicant Executive Representative shall provide alternative data and declare its assessed degree of satisfactory compliance with the ESCC basic requirements. Reference shall be made to the reports on Destructive Physical Analysis (DPA), Failure Analysis and Non conformance (NCCS) issued during the Evaluation and/or Qualification Phase.
- Box 11** Enter the name of the Executive Coordinator and the signature.
- Box 12** To be used when there is a need to expand any of the boxes from 1 through 10. Identify box affected and reference the Box 12 in the relevant Box. Box 12 can be broken into 12a, 12b, etc. if several Boxes have to be expanded.
- Box 13** Fill table as requested.
- Box 14** Fill in any additional tasks required to achieve full compliance.
- Box 15** All Executive recommendations on the application itself, special conditions or restrictions, modifications of the QPL or ESCC QML entry, letters to the manufacturer, etc. shall be entered clearly in Box 15, signed by the ESA Representative.
- Box 16** Fill in Table as requested.
- Box 17** Confidential details of PID changes shall be provided.
- Box 18** State noncompliance with reference to specification(s) and paragraph(s). To simplify reference in Box 18 each nonconformance shall be sequentially numbered. If relevant state 'None'
- Box 19** Any additional action deemed necessary by the Executive Representative to bring the submitted data to a standard likely to be accepted by the ESCC Executive should be listed herein or the reason(s) to accept the nonconformance.
- Box 20** Additional Comments