APPLICATION FOR EXTENSION OF ESCC QUALIFICATION APPROVAL

Page 1

Component Title: RF CABLE ASSEMBLY, 2.92MM CONNECTORS, LOW POWER, 50 OHMS, FLEXIBLE CABLE, DC TO 45 GHZ BASED ON TYPE AXOWAVE SL34SQ

Appl. No. 365A

Executive Member: Date: 16/01/2023

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Components (including series and families) submitted for Extension of Qualification Approval:

ESCC COMPONENT NO.	VARIANTS	RANGE OF COMPONENTS	BASED ON	TEST VEHICLE / S	COMPONENT SIMILAR
3408/003	1 to 3	Frequency range DC-45 GHz	2.4 mm type	3408003 02 01000 0 JS576-01	
		Straight and swept cable assembly for flexible Ø4.4mm		J3408003 02 01000 0 S576-02 to 05	
		VSWR max Integrated of the cable is qualified up to 300 Mrad			
		Temperature range: -55°C to +125°C			

2 Component Manufacturer

Axon Cable SA

3 Location of Manufacturing Plant(s)

Route de Chalon 51210 Montmirail France

4

Date of original qualification approval:

Date: 01/02/2020

Certificate Ref No. 365

5

ESCC Specifications used for Maintenance of qualification testing:

Generic: 3408 Issue: 3

Detail(s): 3408/003 Issue : 2

6

Deviations to LVT testing and Detail Specification used:

No ☒ Yes ☐ (supply details in Box 15)

Deviation from current Specifications:

No ☒ Yes ☐ (Supply details)

7

Qualification Extension Report reference and date:

21049-QTR-0001 TEST REPORT n°4909A, 21/10/2022

8

Summary of procurement or equivalent test results during current validity period in support of this application (those to ESCC listed first)

Project Name	Testing Level	LAT	Date code	Quantity Delivered

9

PID changes since start of qualification

None ☐

Minor* ☒

Major* ☐ *Provide details in box:

10

Current **PID** Verified by: G. Quadri, CNES

Name of Excutive Representative

Ref No: CNES-PID-18-Axon

Issue: 03 Date: 29/12/2022

Rev Date: 06/01/2023

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Current Manufacturing facilities surveyed by: JB Sauveplane, CNES on 17/05/2022

(Name of Executive Representative) (Date)

Satisfactory: Yes ☒ No ☐ Explain

Report Reference: AXOCOM-AUD-2019

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	Executive Member: Date: 16/01/2023	365A

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Failure Analysis, DPA, NCCS available: Yes ☒ No ☐ (Supply data)

Ref. No's and purposes: 2-C-AXO-2-02 closed,; 1-C-AXO-2-03 open (see box 14)

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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 15;) - that the reports and data are available at the ESCC Executive and therefore applies on behalf of CNES as the responsible Executive Member for ESCC qualification status to be extended to the component(s) listed herein.

Date: 16/01/2023

G. QUADRI

(Signature of the Executive Coordinator)

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Continuation of Boxes above:

Box 9: minor changes on the PID mainly nduced by new issues of the generic ESCC 3408 and the detailed spec ESCC 3408/003
Box 11: line visit performed on 22/05/2022 with no additional remark to the former audit carried out on 2019
Box 12:
NCSS 2-C-AXO-2-02 has to with an important delay with the qualification extension
NCSS 1-C-AXO-2-03 refers to an issue of the reapetability and reproductibility test bench for Shielding Effectiveness Maesurements in the band 18-45 GHz. the issue is well detected on the control test vehicle. This allows to understand the evolutions observed on the other test vehicles submitted to the chart F4B. An investigation is currently ongoing to try to catch the causes of this lack of reproductibility of this bench , but, being the test outsourced, it is not guaranteed to get a solution for this problem. This issue does not impact the overall quality and reliability of the parts under tests which do not shoiw any variation or evolution on all the other parameters.

15

Non compliance to ESCC requirements:

No.:	Specification	Paragraph	Non compliance

16

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

17

Executive Manager Disposition

Application Approval: Yes ☒ No ☐

Action / Remarks:

Date:

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

ANNEX 1: LIST OF TESTS DONE TO SUPPORT EXTENSION OF QUALIFICATION

Tests conducted in compliance with:

- ESCC 3408 generic specification; Chart F4 (for ESCC/QPL parts);
- Or PID-TFD (for ESCC/QML parts)

Tests vehicle identification/description:

3408003 02 01000 0 JS576-01	J3408003 02 01000 0 JS576-02 to 05

Detail Specification reference: ESCC 3408/003 issue 2

Chart F4B	Test	Tick when done	Conditions	Date Code	Tested Qty	No. of Rejects	Comments if not performed. Comments on Rejection
Column1 4 TVs	Shielding Effectiveness	☒	IEC Publication No. 61726	2225	4	0	
	Thermal Stability of Insertion Loss	☒	As specified in Detail Specification	2225	4	0	
	Temperature Cycling I (100 cycles)	☒	As specified in Detail Specification	2225	4	0	
	Thermal Stability of Insertion Loss	☒	As specified in Detail Specification	2225	4	0	
	RF Power Handling	☒	As specified in Detail Specification	2225	4	0	
	RF Power Cycling	☒	As specified in Detail Specification	2225	4	0	
	Shielding Effectiveness	☒	IEC Publication No. 61726	2225	4	3*	*See NCSS 1-C-AXO-2-03, issue on test bench measurement reapeatability and reproductibility which enhanced jeopardized results
	Electrical Measurements at Room, High and Low Temperatures	☒	As specified in Detail Specification	2225	4	0	
	Coupling Proof Torque	☒	ESCC Generic Specification No. 3402	2225	4	0	
	Mating and Unmating Forces	☒	ESCC Generic Specification No. 3402	2225	4	0	
	External Visual Inspection	☒	ESCC Basic Specification No. 20500	2225	4	0	
	Permanence of Marking	☒	ESCC Basic Specification No. 24800	2225	4	0	
	Radiographic Inspection	☒	ESCC Basic Specification No. 20900	2225	3	0	
	Destructive Physical Analysis	☒	ESCC Basic Specification No. 21001	2225	3	0	

Chart F4	Test	Tick when done	Conditions	Date Code	Tested Qty	No. of Rejects	Comments if not performed. Comments on Rejection
Column 2 1 TV	Control	☒	As specified in Detail Specification	2225	1	0	

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

ENTRIES

Form heading	shall indicate: - the title of the component as given in its detail specification or the name of the series, family; - the Executive Member; - the entering date; - the certificate number and its sequential suffix.
Box 1	shall provide details given in the table; in particular there shall be listed: - the variants or range of variants; - the range of components (the ESCC code is recommended to indicate the values or values range, the tolerance, the voltage, etc); the designation given in the detail specification as 'base on'; - under Test Vehicle enter either an ESCC code or the specific characteristic capable of identifying the component tested (e.g., voltage of coil for a relay); - under component similar enter a cross if relevant.
Box 2; 3 and 4	As per QPL entry; otherwise, an explanation of the changes must be supplied.
Box 5	Will show the ESCC Generic and Detail specifications, including issue number and revision letter, current at the time the tests reported were performed. If the specifications are different from those current on the date of the application, see Box 6.
Box 6	Will show the deviations from the Generic and Detail Specifications listed in Box 5, in particular deviations from testing. In case of deviations this must be listed in Box 15. In case the referenced specification in Box 5 have currently a different issue and/or revision indicate also whether the test data deviates or not from such current documents.
Box 7	Must reference the report(s) supplied in support of the application.
Box 8	Should provide the details of procurement to the full ESCC System, documentation of all of which should already have been delivered to the ESCC Executive under the terms of the relevant Generic Specification. An appropriate table has been drawn in this box.
Box 9	If the PID evolved after the Original Qualification or after the last Extension of Qualification, adequate details of such evolution shall be provided together with the reasons for the changes. Major changes shall be clearly marked.
Box 10	Identify the current PID issue status, date and actual date of verification. The date of verification of the current PID should be arranged as close as possible to the required date of extension.
Box 11	This box can be completed only after a physical visit to the plant to confirm that no unexplained changes occurred and that the practices, procedures, material, 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 12	Provide details of, or reference to, any Destructive Physical Analysis (DPA) and Failure Analysis reports as well as any Nonconformance(s) (NCCS) occurred during the qualification validity period, stating if established corrective action have produced satisfactory results.
Box 13	Enter only the name of the Executive Member (i.e., CNES, DLR, ESTEC, etc.) and the signature of the responsible Executive Coordinator.
Box 14	To be used when there is a need to expand any of the boxes from 1 through 12. Identify box affected and reference the Box 14 in the relevant Box. Box 14 can be broken into 14a, 14b, etc. if several boxes have to be expanded.
Box 15	Fill in Table as requested.
Box 16	Any additional action deemed necessary by the Executive Member 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 noncompliance.
Box 17	All Executive Manager recommendations on the application itself, special conditions or restrictions, modifications of the QPL or QML entry, letters to the manufacturer, etc. shall be entered clearly in Box 19, signed by the representative for ESA, and dated.
Box 18	Fill in Table as requested.
Box 19	Confidential Details of PID changes including those of a confidential nature, shall be provided.
Box 20	State noncompliance with reference to specification(s) and paragraph(s). To simplify reference in Box 16 each nonconformance shall be sequentially numbered. If relevant state 'None'.
Box 21	Any additional action deemed necessary by the Executive Member 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 noncompliance.
Box 22	Additional Comments.