

**APPLICATION FOR EXTENSION OF ESCC QUALIFICATION APPROVAL**

Component Title: Power Inductors, Moulded, SMD, based on series SESI & CMC

Page 1

Executive Member: CNES

Date: 01/07/2022

Appl. No.

276H rev.1

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

1

ESCC COMPONENT NO.	VARIANTS	RANGE OF COMPONENTS	BASED ON	TEST VEHICLE / S	COMPONENT SIMILAR
3201 009 01B 3201 009 02B 3201 009 03B 3201 009 04B	01 to 08 for SESI and 01, 03, 05 for CMC	3.3 µH to 330 µH 1.5 µH to 2290 µH 1.5 µH to 2290 µH 6.8 µH to 330 µH	SESI 14 SESI 15 SESI 15 W SESI 18	320100901 100M 320100902 6L4M 320100903 102K (*) 320100904 490K	-
3201 009 05B 3201 009 06B 3201 009 07B 3201 009 08B		1.0 µH to 1000 µH 7.0 µH to 2200 µH 35 µH 35 µH	SESI 9.1 SESI 22 SESI 32 WR SESI 32 PR	320100905 4L3M (*) 320100906 640K 320100907 840K (*) -	- - - x
3201 010 01B 3201 010 03B 3201 010 05B		52 µH to 4000 µH 60 µH to 4900 µH 60 µH to 3300 µH	CMC 15 CMC 18 CMC 22	320101001 102 320101003 112 (*) 320101005 741	-

Component Manufacturer Exxelia SAS	2	Location of Manufacturing Plant(s) 16, Parc d'activités du Beau Vallon 57970 Illange (France)	3	Date of original qualification approval: Date: 01/04/2004 Certificate Ref No. 276	4
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ESCC Specifications used for Maintenance of qualification testing: Generic: 3201 Issue: 7 Detail(s): 3201/009 Issue: 14 3201/010 Issue: 5	5	Deviations to LVT testing and Detail Specification used: No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> (supply details in Box 15) Deviation from current Specifications: No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> (Supply details)	6	Qualification Extension Report reference and date: PV21-11-12 VOQ SESI-CMC.pdf November 2021 Additional tests for new glue (EXXELIA ref. UL3002981): Test Reports: - n°2022900715, 22/06/2022 - RME-ADEESS221133EXX-01Av0, 15/04/2022	7
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Summary of procurement or equivalent test results during current validity period in support of this application (those to ESCC listed first)

8

Project Name	Testing Level	LAT	Date code	Quantity Delivered
Livraisons SESI-CMC juillet 2019 à octobre 2021.pdf (appended)				

PID changes since start of qualification None <input type="checkbox"/> Minor* <input checked="" type="checkbox"/> Major* <input type="checkbox"/> *Provide details in box: Regarding maintenance activity	9	Current PID Verified by: C. Doucet, CNES Name of Executive Representative Ref No: PID 58 Issue 11 Rev- SESI & CMC Issue: 11 Date: 30/10/2021 Rev Date: 30/10/2021	10
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Current Manufacturing facilities surveyed by: CNES / ESA on 12/07/2017 (Name of Executive Representative Agency) (Date)	11
Satisfactory: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Explain	
Report Reference: ESCC-AUD-EXM2017-1	



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Page 2

Appl. No.

276H rev.1

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

Ref. No's and purposes:

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: 01/07/2022

Gianandrea Quadri, CNES
(Signature of the Executive Coordinator)

Continuation of Boxes above:



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Page 3
Appl. No.
276H rev.1

Non compliance to ESCC requirements:

15

No.:	Specification	Paragraph	Non compliance

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

16

Executive Manager Disposition

17

Application Approval: Yes No

Action / Remarks:

Date:

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

Box 1:

(* Note that identified test vehicles were manufactured with a new glue (EXXELIA ref. UL3002981) and a new gluing shape as shown in the maintenance report and PID issue 11. This glue and associated gluing shape are not yet formally ESCC qualified since complementary evaluation testing as described in paragraph 2.4 of this PID is expected:

- Random Vibrations : 30gRMS per MIL-STD-202 method 214 condition H,
- Shoks : 500g ¼ sinus 1ms per MIL-STD-202 method 213 condition D,
- Step Stress Shoks : from 500g to the limit of each tested size

As per our agreement with EXXELIA, this new glue and associated process will only be qualified upon satisfactory completion of these additional tests, due by the end of the first quarter of 2022, and approval of a revised application 276 rev1. Parts which might be delivered until formal qualification is achieved will not bear the ESA logo.

01/07/2022: Being the tests successfully achieved, it is right now authorized the use of the ESCC logo for parts delivered using the new glue (EXXELIA ref. UL3002981) and the associated gluing process



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Date: 01/07/2022

Page 4

Appl. No.

276H rev.1

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

18

Tests conducted in compliance with:

- ESCC 3201 generic specification; Chart V (for ESCC/QPL parts);
- Or PID-TFD (for ESCC/QML parts)

Tests vehicle identification/description:

320100901 100M / DC 2107 320100902 6L4M / DC 2109 320100903 102K / DC 2112 (*)	320100904 490K / DC 2114 320100905 4L3M / DC 2112 (*) 320100906 640K / DC 2111
320100907 840K / DC 2112 (*) 320101001102 / DC 2110	320101003 112 / DC 2115 (*) 320101005 741 / DC 2110

(*) See also box 1

Detail Specification reference: 3201/009 and 3201/010

Chart F4	Test	Tick when done	Conditions	Date Code	Tested Qty	No. of Rejects	Comments if not performed. Comments on Rejection
Environmental / Mechanical Subgroup (Column 2)	Mechanical Shock (Specified Pulse)	<input checked="" type="checkbox"/>	ESCC 3201, Para. 8.10	See above	10 x 2	0	
	Vibration	<input checked="" type="checkbox"/>	ESCC 3201, Para. 8.11	/	10 x 2	0	
	Immersion	<input type="checkbox"/>	ESCC 3201, Para. 8.12	/	/	/	NA
	Moisture Resistance	<input checked="" type="checkbox"/>	ESCC 3201, Para. 8.13	/	10 x 2	0	
Environmental / Mechanical Subgroup (Column 1)	Thermal Shock	<input checked="" type="checkbox"/>	ESCC 3201, Para. 8.2	/	10 x 2	0	
	Barometric Pressure	<input checked="" type="checkbox"/>	ESCC 3201, Para. 8.6	/	10 x 2	0	
	Temperature Rise	<input checked="" type="checkbox"/>	ESCC 3201, Para. 8.7	/	10 x 2	0	
	Overload	<input checked="" type="checkbox"/>	ESCC 3201, Para. 8.8	/	10 x 2	0	
	Resistance to Soldering Heat	<input checked="" type="checkbox"/>	ESCC 3201, Para. 8.9	/	10 x 2	0	
Endurance Subgroup	Operating Life	<input checked="" type="checkbox"/>	ESCC 3201, Para. 8.14	/	10 X 3	0	
	Electrical Measurements during Endurance Testing	<input checked="" type="checkbox"/>	ESCC 3201, Para. 9.3.5	/	10 X 3	0	
	Permanence of Marking	<input checked="" type="checkbox"/>	ESCC 3201, Para 8.15	/	10 X 3	0	
Assembly Capability Subgroup	Soledrability	<input checked="" type="checkbox"/>	ESCC 3201, Para. 8.16	/	10 x 1	0	
	Terminal Strength	<input checked="" type="checkbox"/>	ESCC 3201, Para. 8.17	/	10 x 1	0	



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Page 6
Appl. No.
276H rev.1

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.