APPLICATION FOR EXTENSION OF ESCC QUALIFICATION APPROVAL

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Component Title: Capacitors, Fixed, Surface Mount, D.C Self-Healing, Non-Inductive, Polyterephtalate Dielectric, Based on Type PM948S/94S, PM907S/90S

Appl. No. 353Crev1

Executive Member: CNES Date: 26/11/2025

1 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
3006 026	01 to 04 05 to 08	22nF to 47µF – 50V to 630V	PM948S PM948NS	PM948S 6.8µF 170V PM948S 10µF 170V	
3006 024	01 to 04	100nF to 47µF - 50V to 400V	PM94S	PM94NS 12µF 63V PM94NS 3.9µF 250V PM94NS 33µF 50V PM94S 1.2µF 400V	
3006 025	01 to 32	82nF to 100µF - 50V to 1250V	PM907S/RxS/NS	PM907S 4.7µF 400V PM907S 5.6µF 630V PM907S 10µF 630V PM907S 12µF 200V PM907S 33µF 170V	
3006/020	01 to 21	220nF to 150µF – 50V to 630V	PM90S	PM90S 33µF 100V PM90S 22µF 100V PM90S 39µF 50V PM90S 56µF 100V	

2 Component Manufacturer

EXXELIA

3 Location of Manufacturing Plant(s)

105, rue du Général Leclerc
67441 MARMOUTIER
FRANCE

4 Date of original qualification approval:

Date: 24/03/2016

Certificate Ref No. 338

5 ESCC Specifications used for Maintenance of qualification testing:

Generic: 3006 Issue: 4

Detail(s): 3006/026 Issue: 6
3006/025 Issue: 8
3006/024 Issue: 13
3006/020 Issue: 11

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:

Test Reports
210716/201141/201294/200851/220113/220270/220083/210951/211000/201060/210088/210982/220239/210837/210569
PM 94 NS 4 10µF +-10% 100V MG312240900093 250347 i.A
PM 907 S 22µF+-10% 100V MG312230600388 250350 i.A
PM 948 S3 2.2µF ±10% 400V MG312230200287 250355 i.A
PM90 S 4.7µF ±10% 400V MG312230600363 250345 i.A
PM90 S 10µF ±10% 250V MG312240100190 250349 i.A
PM94 S4 47µF ±10% 50V MG312230500189 250346 i.A
PM907 BA S 33µF ±10% 170V MG312231100312 250348 i.A
PM948 S4 27µF ±10% 63V MG312230700106 250354 i.A

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
PM90S	B (46%) C (54%)			5945 pièces
PM907S	B (18%) C (82%)			6105 pièces
PM94S	B (9%) C (91%)			9315 pièces
PM948S	B (15%) C (85%)			19197 pièces

9 **PID** changes since last maintenance of qualification

None ☐
Minor* ☐
Major* ☒ *Provide details in box: 19

10 Current **PID** Verified by: CNES
Name of Excutive Representative

Ref No: 912.18.390
Issue: I Date: 22/05/2018
Rev Date: 01/11/2025

11 Current Manufacturing facilities surveyed by: CNES on 04/09/2025
(Name of Executive Representative) (Date)

Satisfactory: Yes ☒ No ☐ Explain

Report Reference: 2025.0009723 ESCC Visit Report EXXELIA Marmoutier_appendix

Component title: Capacitors, Fixed, Surface Mount, D.C Self-Healing, Non-Inductive, Polyterephtalate Dielectric, Based on Type PM948S/94S, PM907S/90S

Executive Member: CNES Date: 26/11/2025

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Failure Analysis, DPA, NCCS available: Yes ☒ No ☐ (Supply data) NCCS 1CETE201 (closed)

Ref. No's and purposes: 1CETE201 (closed) : EXXELIA detected variations in the Insulation Resistance measurements performed at ambient at nominal voltage specifically throughout the production of PM948S 170V 12µF film capacitors. Implementation of process adjustments within the process window of the current PID were validated and NCCS was closed.

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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.

Signature numérique de Fontaine Lya Date : 2025.11.26 10:02:17 +01'00'

Date: 26/11/2025

(Signature of the Executive Coordinator)

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Continuation of Boxes above:

Box 6.: Some procurement sometimes use specifications agreed with EXXELIA (EFD documents as shown in Annex 1). These documents are similar to ESCC formats and data issued from lots manufactured against these EXXELIA specifications are accepted as relevant to the purpose of maintaining ESCC qualification.

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Non compliance to ESCC requirements:

No.:	Specification	Paragraph	Non compliance
1			

16

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

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Executive Manager Disposition

Application Approval: Yes X No ☐

Action / Remarks:

Date: 30/11/2025

A. Zadeh: Head of the Avionics and EEE Division

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

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Tests conducted in compliance with:

- ESCC 3006 generic specification; Chart V (for ESCC/QPL parts);
- Or PID-TFD (for ESCC/QML parts)

Tests vehicle identification/description:

PM90S 33µF 100V (3006020 22 336KE) DC 2124 PM90S 22µF 100V (3006020 01 226KE) DC 2039 PM90S 39µF 50V (3006020 01 396KC) DC 2042 PM90S 56µF 100V (3006020 07 566KE) DC 2026	PM94NS 12µF 63V (3006024 03 126KD) DC 2203 PM94NS 3.9µF 250V (3006024 04 395KH) DC 2212 PM94NS 33µF 50V (3006024 04 336KC) DC 2202 PM94S 1.2µF 400V (3006024 04 125KK) DC 2142
PM907S 4.7µF 400V (3006025 04 475KK) DC 2143 PM907S 5.6µF 630V (3006025 07 565KZ) DC 2037 PM907S 10µF 630V (3006025 08 106KZ) DC 2052 PM907S 12µF 200V (3006025 04 126KG) DC 2142 PM907S 33µF 170V (3006025 06 336KF) DC 2209	PM948S 6.8µF 170V (3006026 03 685KF) DC 2137 PM948S 10µF 170V (3006026 04 106MF) DC 2121

Detail Specification reference: 3006/020 Iss. 7, 3006/024 Iss.8, 3006/025 Iss.5, 3006/026 Iss.4, EFD 516.95.390 Iss.H, EFD 573.00.390 Iss. F

Chart V	Test	Tick when done	Conditions	Date Code	Tested Qty	No. of Rejects	Comments if not performed. Comments on Rejection
Environmental / Mechanical Subgroup (Column 1)	Robustness of Teminations	☒	IEC 68-2-21	2124 2203 2142 2037 2052	4 4 4 2 2	0	(*) Replaced with Adhesion as per para 4.2.4 (c) of 3006/026 for variants 01 to 04
	Resistance to Soldering Heat	☒	IEC 68-2-20	2124 2203 2142 2037 2052	4 4 4 2 2	0	
	Climatic Sequence	☒	ESCC 3006, Para. 9.14	2124 2203 2142 2037 2052	4 4 4 2 2	0	
	Seal Test	☐	IEC 68-2-17	-	-		Not Applicable
Environmental / Mechanical Subgroup (Column 2)	Rapid Change of Temperature	☒	IEC 68-2-14	2124 2203 2142 2037 2052	4 4 4 2 2	0	
	Vibration	☒	IEC 68-2-6	2124 2203 2142 2037 2052	4 4 4 2 2	0	
	Shock or Bump	☒	ESCC 3006, Para. 9.13	2124 2203 2142 2037 2052	4 4 4 2 2	0	
	Climatic Sequence	☒	ESCC 3006, Para. 9.14	2124 2203 2142 2037 2052	4 4 4 2 2	0	
	Seal Test	☐	IEC 68-2-17	-	-		Not Applicable

Endurance Subgroup	Operating Life	☒	ESCC 3006, Para. 9.16	2124 2039 2042 2026 2203 2212 2202 2142 2037 2052 2209 2137 2121	16 16 16 16 16 16 16 16 8 8 8 8 8	0	
	Electrical Measurements during Endurance Testing	☒	ESCC 3006, Para. 9.6.5	2124 2039 2042 2026 2203 2212 2202 2142 2037 2052 2209 2137 2121	16 16 16 16 16 16 16 16 8 8 8 8 8	0	
Electrical Subgroup (Electrical Measurements)	High and Low Temperature Stability	☒	ESCC 3006, Para. 9.15	2124 2039 2042 2026 2203 2212 2202 2142 2143 2037 2052 2142 2137 2121	6 6 6 6 6 6 6 6 6 3 3 6 3 3	0	
	Electrical Measurements at Room Temperature	☒	ESCC 3006, Para. 9.6.4	2124 2039 2042 2026 2203 2212 2202 2142 2143 2037 2052 2142 2137 2121	6 6 6 6 6 6 6 6 6 3 3 6 3 3	0	
	External Visual Inspection	☒	ESCC 20500	2124 2039 2042 2026 2203 2212 2202 2142 2143 2037 2052 2142 2137 2121	6 6 6 6 6 6 6 6 6 3 3 6 3 3	0	

Electrical Subgroup (Assembly / Capability Tests	Solderability	☒	IEC 68-2-20	2124 2039 2042 2026 2203 2212 2202 2142 2143 2037 2052 2142 2137 2121	4 4 4 4 4 4 4 4 4 2 2 4 2 2	0	
	Permanence of Marking	☒	ESCC 24800	2124 2039 2042 2026 2203 2212 2202 2142 2143 2037 2052 2142 2137 2121	4 4 4 4 4 4 4 4 4 2 2 4 2 2	0	

Chart V	Test	Tick when done	Conditions	Date Code	Tested Qty	No. of Rejects	Comments if not performed. Comments on Rejection
Additional Tests		☐					
		☐					
		☐					

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.