ESCC	APPLICATION FOR EXTENSION OF ESCC QUALIFICATION APPROVAL	Page 1
	Component Title: **Capacitors, Fixed, Reconstituted Mica, High Voltage, based on type HT86PS**	Appl. No.
	Executive Member: CNES Date: 11/12/2023	251L

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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
3006 022	01	See box 14	HT86PS	HT86PS 1nF 12.5kV x3 HT86PS 100pF 12.5kV x3	Values Covered by ESCCSpecification 3006/022
			HT97PS	HT97PS 3nF 12.5kV HT97S 3.3nF 7.5kV HT97PS 33nF 20kV	HT86PS with values covered by ESCCSpecification 3006/022
			SP2009-1S	SP2009-1S 5.6nF 15kV	HT86PS with values Covered by ESCCSpecification 3006/022

2 Component Manufacturer

EXXELIA Technologies

3 Location of Manufacturing Plant(s)

1, rue des Temps Modernes
77 600 CHANTELOUP en BRIE

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Date of original qualification approval:
Date: 01/08/1998

Certificate Ref No.
251

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ESCC Specifications used for Maintenance of qualification testing:

Generic: 3006 Issue: 2

Detail(s): 3006/022 Issue: 5

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Deviations to LVT testing and Detail Specification used:

No ☒ Yes ☐ (supply details in Box 15)

Deviation from current Specifications:

No ☒ Yes ☐ (Supply details)

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Qualification Extension Report reference and date:

Test Reports
HT86PS 1nF +-20% 12.5 kV 33819050097 200052 i.A
HT86PS 1nF ±10% 12,5kV MG313210500156 211031 i.B
HT86PS 1nF ±20% 12.5kV MG313210600140 211030 i.B
HT86PS 100pF ±20% 12.5kV 33819050096 200152 i.A
HT86PS 100pF ±20% 12.5kV MG313201000165 210460 i.A
HT86PS 100pF ±20% 12.5kV MG313210400222 210959 i.A
HT97PS 3nF ±10% 12.5kV MG313210600230 210996 i.A
HT97PS 3,3nF ±10% 7,5kV MG313201100221 210254 i.A
HT97PS 33nF ±10% 20kV 33819050114 200001 i.A
SP2009-1S 5,6nF -10%+30% 15kV 33820070026 201233 i.A

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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)

Project Name	Testing Level	LAT	Date code	Quantity Delivered
Bharat Electronics TLD, RGM S.P.A., TAS WELKING XI'AN				1161 pieces

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PID changes since start of qualification

None ☐

Minor* ☒

Major* ☐ *Provide details in box: 19

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Current **PID** Verified by: Mr. L. Fontaine, CNES
Name of Excutive Representative

Ref No: 423.91.390

Issue: K Date: 13/07/2023

Rev Date: 01/07/2023

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Current Manufacturing facilities surveyed by: Mr. L. Fontaine, CNES on 14/09/2022
(Name of Executive Representative) (Date)

Satisfactory: Yes ☒ No ☐

Report Reference: 2022.0014770-CR-Fontaine-Qualifications -Exxelia-Septembre-2022

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

Ref. No's and purposes: NCCS 2CETE204 : maintenance of qualification was delayed due to a bottleneck of the capacity versus the load. 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.

Date: 11/12/2023

Gianandrea Quadri
G.Quadri, CNES
(Signature of the Executive Coordinator)

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Continuation of Boxes above:

Range of Components: items No 01 to 194 :

Capacitance Range (nF)			Tol. (±%)	UR(kV)
33	to	2 200	10	1.5
15	to	1 500	10	2.5
15	to	1 000	10	3.5
6.8	to	470	10	5.0
2.2	to	220	10	7.5
1.0	to	100	10	10.0
3.3	to	68	10	12.5
1.5	to	33	10	15.0
0.68	to	15	10	20.0

Test vehicules HT86PS values 1nF @ 12,5kV and 100pF @ 15kV available from stock are not strictly within ranges defined in ESCC 3006/022, but were found pertinent, in particular for Environmental / Mechanical testing.
Test vehicules HT97PS and SP2009-1S available from stock are not within the qualified range either, but were accepted to cover HT86PS qualification as worse case.

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

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Executive Manager Disposition 17

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

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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:

HT86PS 1nF 12.5kV (300602201102MJ) DC 2001 HT86PS 1nF 12.5kV (300602201102KJ) DC 2146 HT86PS 1nF 12.5kV (300602201102MJ) DC 2147	HT86PS 100pF 12.5kV (300602201101MJ) DC 2001 HT86PS 100pF 12.5kV (300602201101MJ) DC 2111 HT86PS 100pF 12.5kV (300602201101MJ) DC 2142	HT97PS 3nF 12.5kV DC 2144 HT97PS 3.3nF 7.5kV DC 2110 HT97PS 33nF 20kV DC1948 SP2009-1S 5.6nF 15kV DC2043

Detail Specification reference: EFD 421.91.390 issue N, ESCC 3006/022, iss 5

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	2146 2147	2 2	0	
	Resistance to Soldering Heat	☒	IEC 68-2-20	2146 2147	2 2	0	
	Climatic Sequence	☒	ESCC 3006, Para. 9.14	2146 2147	2 2	0	
	Seal Test	☐	IEC 68-2-17				NA
Environmental / Mechanical Subgroup (Column 2)	Rapid Change of Temperature	☒	IEC 68-2-14	2146 2147	2 2	0	
	Vibration	☒	IEC 68-2-6	2146 2147	2 2	0	
	Shock or Bump	☒	ESCC 3006, Para. 9.13	2146 2147	2 2	0	
	Climatic Sequence	☒	ESCC 3006, Para. 9.14	2146 2147	2 2	0	
	Seal Test	☐	IEC 68-2-17				NA
Endurance Subgroup	Operating Life	☒	ESCC 3006, Para. 9.16	2147 2111 2144 2110 1948 2043	16 16 16 16 16 22	0	1 000H
	Electrical Measurements during Endurance Testing	☒	ESCC 3006, Para. 9.6.5	2147 2111 2144 2110 1948 2043	16 16 16 16 16 22	0	
Electrical Subgroup (Electrical Measurements)	High and Low Temperature Stability	☒	ESCC 3006, Para. 9.15	2001 2147 2001 2111 2142 2144 2110 1948 2043	6 6 6 6 6 6 6 6 2	0	

	Electrical Measurements at Room Temperature	☒	ESCC 3006, Para. 9.6.4	**2001** **2147** **2001** **2111** **2142** 2144 2110 1948 2043	**6** **6** **6** **6** **6** 6 6 6 2	0	
	External Visual Inspection	☒	ESCC 20500	**2001** **2147** **2001** **2111** **2142** 2144 2110 1948 2043	**6** **6** **6** **6** **6** 6 6 6 2	0	
Electrical Subgroup (Assembly / Capability Tests	Solderability	☒	IEC 68-2-20	**2001** **2147** **2001** **2111** **2142** 2144 2110 1948 2043	**4** **4** **4** **4** **4** 4 4 4 2	0	
	Permanence of Marking	☒	ESCC 24800	**2001** **2147** **2001** **2111** **2142** 2144 2110 1948 2043	**4** **4** **4** **4** **4** 4 4 4 2	0	
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.