APPLICATION FOR EXTENSION OF ESCC QUALIFICATION APPROVAL

Component Title: Capacitors, Ceramic, Chip, Type I, sizes 0402 to 2220

Executive Member: CNES Date: 08/01/2024

Appl. No. 323E

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
3009/003 3009/004 3009/005	06 06 06	All values 16V to 100V	CEC2 02S CEC4 02S CEC6 02S	3009003061001JE 300900406222JE 300900506103KE	See box 14 for qualified ranges.
3009/006 - 3009/022 3009/037 -	06 - 06 06 -	All values 16V to 100V	CEC7 02S - CEC12 02S CEC14 02S -	300900606333FC 3009006065622FA 300902206220KC 30090370615C0KE 30090400l6800JA	
3009/040	01 to 06	All values 16V to 100V	CEC2 04S to CEC14 04S	300900402102JC 300904005223FC	
3009/042 - 3009/040	06 - 13	All values 10V to 50V	CEC19 02S - CEC19 04S	3009042066C80CX 30090420615C0FX	

2 Component Manufacturer

EXXELIA SAS

3 Location of Manufacturing Plant(s)

EXXELIA
1, rue des Temps Modernes
77600 CHANTELOUP EN BRIE
FRANCE

4 Date of original qualification approval:

Date: 24/10/2012

Certificate Ref No. 323

5 ESCC Specifications used for Maintenance of qualification testing:

Generic: 3009 Issue: 4

Detail(s):		Issue:
	3009/0033	8
	009/004	7
	3009/005	7
	3009/006	6 & 7
	3009/022	7
	3009/0373	3
	009/040	3 & 4
	3009/042	3

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:

CEC2 02 S 1nF +-5% 100V lot MG313211100721 220186 i.B
CEC2 04 S 1nF +-5% 50V lot MG313220400333 220605 i.B
CEC4 02S 2.2nF ±5% 100V lot MG313220200639 220485 i.B
CEC6 02 S 10nF +-10% 100V lot MG313220100658 220593 i.B
CEC6 04 S 22nF ±1% 50V lot MG313220300622 220426 i.B
CEC7 02 S 33nF +-1% 50V lot MG313211200322 220430 i.B
CEC7 02 S 56.2nF +-1% 25V lot MG313220100463 230094 i.B
CEC12 02 S 220pF ±10% 50V lot MG313211100427 220183 i.B
CEC14 02 S 15pF+-10% 100V lot MG313220100501 22-0604 i.B
CEC14 02 S 680pF +-5% 25V lot MG313220700600 220754 i.B
CEC19 02 S 6.8pF +-0.25pF 16V lot MG313210900721 220812 i.B
CEC19 02 S 15pF +-5% 16V lot MG313210800122 220072 i.B

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
AIRBUS DEFENCE AND SPACE LTD ALTER TECHNOLOGY TUV ANTWERP SPACE NV APCON AEROSPACE & DEFENCE BHARAT ELECTRONICS LTD COBHAM MICROWAVE DA DESIGN OY DASSAULT AVIATION OHB SYSTEM SAFRAN ELECTRONICS & DEFENSE SPUR ELECTRON LTD SWEDISH INSTITUTE OF SPACE PHYSICS SYRLINKS TERMA A/S TESAT-SPACECOM GMBH UND CO KG THALES ALENIA SPACE XI'AN WELLKING ELECTRONIC HK LTD	-	-	Lots delivered from April 2022 to September 2023	Total 20 605 parts

9 PID changes since start of qualification

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

10 Current PID Verified by: L. Fontaine, CNES

Name of Excutive Representative

Ref No: PID 623.03.390
Issue: Rev L Date: 02/06/2021
Rev Date: 01/07/2023

11 Current Manufacturing facilities surveyed by: D. Lacombe, ESA & L. Fontaine, CNES on 13/10/2023

(Name of Executive Representative) (Date)

Satisfactory: Yes ☒ No ☐ Explain

Report Reference: 2023.0016237 ESCC Audit Report EXXELIA Chanteloup-En-Brie

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Failure Analysis, DPA, NCCS available: Yes ☒ No ☐ (Supply data) 1CETE202 (Closed)

Ref. No's and purposes: **1CETE202**: Inhomogeneous thickness of the Ni sublayer down to a not enough thickness to allow a compliant wettability, due to a basket maintenance policy subjected to operator assessment. 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: 08/01/2024

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

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Continuation of Boxes above:

Box 1, Range of Components :

Style	Detail Spec.	Model	Variants	Capacitance Range (pF)	Rated Volt. (V)	Tolerance (pF, ±%)
0805	**3009/003** **3009/040**	**CEC2 02S** **CEC2 04S**	**06 02**	**1 to 2 700** **1 to 2 200** **1 to 1 800** **1 to 1 200**	**16** **25** **50** **100**	**< 10pF** **0,25 – 0,5 – 1 (pF)** **≥ 10pF** **1, 2, 5, 10 (%)**
1210	**3009/004** **3009/040**	**CEC4 02S** **CEC4 04S**	**06 04**	**10 to 15 000** **10 to 12 000** **10 to 12 000** **10 to 6 800**	**16** **25** **50** **100**	
1812	**3009/005** **3009/040**	**CEC6 02S** **CEC6 04S**	**06 05**	**100 to 33 000** **100 to 27 000** **100 to 22 000** **100 to 12 000**	**16** **25** **50** **100**	
2220	**3009/006** **3009/040**	**CEC7 02S** **CEC7 04S**	**06 06**	**470 to 68 000** **470 to 56 000** **470 to 47 000** **470 to 27 000**	**16** **25** **50** **100**	
1206	**3009/022** **3009/040**	**CEC12 02S** **CEC12 04S**	**06 03**	**1 to 6 800** **1 to 5 600** **1 to 5 600** **1 to 3 900**	**16** **25** **50** **100**	
0603	**3009/037** **3009/040**	**CEC14 02S** **CEC14 04S**	**06 01**	**1 to 1 000** **1 to 680** **1 to 560** **1 to 330**	**16** **25** **50** **100**	
0402	**3009/042** **3009/040**	**CEC19 02S** **CEC19 04S**	**06 13**	**1 to 330** **1 to 120** **1 to 100** **1 to 82**	**10** **16** **25** **50**	

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

ANNEX 1: LIST OF TESTS DONE TO SUPPORT EXTENSION OF QUALIFICATION 18

Tests conducted in compliance with:

- ESCC 3009 generic specification; Chart V (for ESCC/QPL parts);
- Or PID-TFD (for ESCC/QML parts)

Tests vehicle identification/description:

CEC2 02S 1nF 5% 100V	3009003061001JE	DC2215	CEC7 02 S 56.2nF 1% 25V	3009006065622FA	DC2305
CEC2 04 S 1nF 5% 50V	300900402102JC	DC2226	CEC12 02 S 220pF 10% 50V	300902206220KC	DC2211
CEC4 02 S 2.2nF 5% 100V	300900406222JE	DC2228	CEC14 02 S 15pF 10% 100V	30090370615C0KE	DC2237
CEC6 02 S 10nF 10% 100V	300900506103KE	DC2239	CEC14 02 S 680pF 5% 25V	3009040016800JA	DC2248
CEC6 04 S 22nF 1% 50V	300904005223FC	DC2220	CEC19 02 S 6.8pF 0.25pF 16V	3009042066C80CX	DC2141
CEC7 02 S 33nF 1% 50V	300900606333FC	DC2225	CEC19 02 S 15pF 1% 16V	30090420615C0FX	DC2206

Detail Specification reference: 3009/004/005/006/037/040, EFD 703.06.390 issue D

Chart F4	Test	Tick when done	Conditions	Date Code	Tested Qty	No. of Rejects	Comments if not performed. Comments on Rejection
Environmental / Mechanical Subgroup	Mounting	☒	IEC 60384-1, 4.33	2228 2239 2220 2225 2211	20 20 20 20 20	0	
	Rapid Change of Temperature	☒	IEC 60068-2-14	2228 2239 2220 2225 2211	20 20 20 20 20	0	
	Steady State Humidity	☒	ESCC 3009, Para. 8.2	2228 2239 2220 2225 2211	20 20 20 20 20	0	
	Visual Inspection	☒	ESCC 3009, Para. 8.5	2228 2239 2220 2225 2211	20 20 20 20 20	0	
Endurance Subgroup	Mounting	☒	IEC 60384-1, 4.33	2215 2226 2228 2239 2220 2225 2305 2211 2237 2141 2206	10 10 10 10 10 10 10 10 10 10 10	0	
	Operating Life	☒	ESCC 3009, Para. 8.9	2215 2226 2228 2239 2220 2225 2305 2211 2237 2141 2206	10 10 10 10 10 10 10 10 10 10 10	0	1 000H

Electrical Subgroup	Mounting	☒	IEC 60384-1, 4.33	2215 2226 2228 2220 2225 2305 2211 2248 2141 2206	3 3 3 3 3 3 3 3 3 3	0	
	Capacitance-Temperature Characteristics	☒	ESCC 3009, Para. 8.10	2215 2226 2228 2220 2225 2305 2211 2248	3 3 3 3 3 3 3 3	**0**	
	Robustness of Terminations	☒	ESCC 3009, Para. 8.7	2215 2226 2228 2220 2225 2305 2211 2248 2141 2206	3 3 3 3 3 3 3 3 3 3	**0**	
Ass. / Capab. Subgroup	Solderability	☒	IEC 60068-2-58	2215 2226 2228 2220 2225 2211 2141 2206	3 3 3 3 3 3 3 3	**0**	
	Permanence of Marking	☐	ESCC 24800	2215 2226 2228 2220 2225 2211 2141 2206	3 3 3 3 3 3 3 3	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.