APPLICATION FOR EXTENSION OF ESCC QUALIFICATION APPROVAL

Component Title: Capacitors, Ceramic, Type II, types CNC 51 to CNC 54

Executive Member: CNES Date: 28/02/2022

Appl. No. 306E

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
3001/038	01 to 04	All values, 50 and 500V	CNC5xNE	CNC53NE 10µF 10% 100V CNC54NE 2.2µF 10% 200V CNC54NE 3.9µF 10% 200V CNC54NE 12µF 10% 100V CNC55NE 10µF 10% 200V CNC55NE 33µF 10% 100V CNC56NE 6.8µF 10% 200V	
	08 to 11	All values, 50 and 500V	CNC5xPE	CNC53PE 2.2µF 20% 200V CNC55PE 33µF 10% 50V	
	15 to 18	All values, 50 and 500V	CNC5xPLE		X
	22 to 25	All values, 50 and 500V	CNC5xLE		X

2 Component Manufacturer

EXXELIA SAS

3 Location of Manufacturing Plant(s)

1, rue des Temps Modernes
77600 CHANTELOUP EN BRIE
FRANCE

4

Date of original qualification approval:
Date: 01/03/2011

Certificate Ref No. 306

5 ESCC Specifications used for Maintenance of qualification testing:

Generic: 3001 Issue: 3, 4

Detail(s): 3001/038 Issue: 4

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 Report 21-0542 iA,
Test Report 20-0421 iB,
Test Report 20-0445 iB,
Test Report 20-1053 iB,
Test Report 21-0432 iB,
Test Report 20-0950 iB,
Test Report 20-0156 iB,
Test Report 21-0543 iA,
Test Report 20-0952 iB,

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

Users Name	Testing Level	LAT	Date code	Quantity Delivered
Sybatron (SG), Thales Alenia Sp (It.) Thales DMS (Fr)		-	Deliveries from March 20 to March 22	1 622 parts
RGM (It.) BHARAT, CENTUM (In.)		-		
EREMS (Fr.) Tubitak Uzay (Tr.)				

9 **PID** changes since start of qualification

None ☒

Minor* ☐

Major* ☐ *Provide details in box:

10 Current **PID** Verified by: JP.Bussenot,CNES

Name of Excutive Representative

Ref No: 644.03.390

Issue: L Date: 21/08/2019

Rev Date: 02/08/2019

11 Current Manufacturing facilities surveyed by: D. Lacombe, ESA and JP Bussenot, CNES on 09/01/2020

(Name of Executive Representative) (Date)

Satisfactory: Yes ☒ No ☐ Explain Review of ceramic activities, new DL1 line

Report Reference: 2020-0023019-CR-Bussenot-RT & Qualifications Céramique-Film-Exxelia-Janvier 2020, 22/01/2020

12

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

Ref. No's and purposes: NC 2CETE101: Late delivery of MoQ reports

13

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: 01/03/2022

JP. BUSSENOT

(Signature of the Executive Coordinator)

14

Continuation of Boxes above:

Box 1 - Test vehicles from available stocks submitted to Chart F4 ESCC 3001 issue 4 as described below:

Type	Lot Date Code	LVT1A	LVT1B	LVT2A	LVT2B	LVT3
CNC55 NE 10µF +/-10% 200 V	MG313210200538 dc 21.11	10	-	-	-	-
CNC53 NE 10µF +/-10% 100 V	MG313210200545 dc 21.11	10	-	-	-	-
CNC55 PE 33µF +/-10% 50 V	E20070016 dc 20.30	-	3	-	-	-
CNC56 NE 6.8µF +/-10% 200 V	E20020012 dc 20.10	-	3	-	-	-
CNC54 NE 2.2µF +/-10% 200 V	E19120049 dc 20.07	-	-	10	-	-
CNC53 PE 2.2µF +/-20% 200 V	E19050135 dc 19.40	-	-	10	-	-
CNC54 NE 12µF +/-10% 100 V	E20060044 dc 20.37	-	-	-	6	-
CNC55 NE 33µF +/-10% 100 V	E20060066 dc 20.37	-	-	-	-	3
CNC54 NE 3.9µF +/-10% 200 V	E19120051 dc 20.11	-	-	-	-	3

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:

Britta Schade

Digitally signed by Britta Schade
Date: 2022.03.31 14:51:33 +02'00'

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 3001 generic specification; Chart F4 (for ESCC/QPL parts);
- PID- (for ESCC/QML parts)
- TFD (for ESCC/QML parts)

Tests vehicle identification/description:

CNC53NE 10µF ±10% 100V DC 2111, 300103801-106KE CNC54NE 2.2µF ±10% 200V DC 2007, 300103802-225KG	CNC55NE 10µF ±10% 200V DC 2111, 300103803-106KG CNC55NE 33µF ±10% 100V DC 2029, 300103803-336KE
CNC54NE 3.9µF ±10% 200V DC 2011, 300103802-395KG CNC54NE 12µF ±10% 100V DC 2037, 300103802-126KE	CNC56NE 6.8µF ±10% 200V DC 2010, 300103804-685KG CNC53PE 2.2µF ±20% 200V DC 1940, 300103808-225KG CNC55PE 33µF ±10% 50V DC 2030, 300103810-336KC

Detail Specification reference: 3001/038

Chart F4	Test	Tick when done	Conditions	Date Code	Tested Qty	N° of Rejects	Comments if not performed. Comments on Rejection
Subgroup 1	Rapid Change of Temperature	☒	IEC 60068-2-14, test Na	2111 2111	10 10	0	
	Steady State Humidity (85/85) 1 000H	☒	ESCC 3001, Para 8.2	2111 2111	10 10	0	
	External Visual Inspection	☒	ESCC 20500	2111 2111	10 10	0	
	Rapid Change Of Temperature	☒	IEC 60068-2-14, test Na	2010 2030	3 3	0	
	Vibration	☒	IEC 60068-2-6, test Fc	2010 2030	3 3	0	
	Shock	☒	IEC 60068-2-27, test Ea	2010 2030	3 3	0	
	External Visual Inspection	☒	ESCC 20500	2010 2030	3 3	0	
Subgroup 2	Operating Life	☒	IEC 60384-1 clause 4.23	2007 1940	10 10	0	
	Capacitance-Temperature Characteristic	☒	ESCC 3001, Para 8.13	2037	6	0	
Subgroup 3	Solderability	☒	IEC 60068-2-20, test Ta	2011 2029	3 3	0	
	Resistance to Soldering Heat	☒	IEC 60068-2-20, test Tb	2011 2029	3 3	0	
	Permanence of marking	☒	ESCC 24800	2011 2029	3 3	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.