	APPLICATION FOR EXTENSION OF ESCC QUALIFICATION APPROVAL	Page 1 Appl. No. 324C			
Component Title: Capacitors, Ceramic, Chip, Type II, sizes 0402 to 2220		Date: 24/04/2020			
Executive Member: CNES					
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
3009/008 - 3009/039 - 3009/009 3009/039	06 & 07 - 02 & 14 - 06 & 07 04 & 16	All values 16V to 100V	CNC2 02S - CNC2 04S - CNC4 02S CNC4 04S	- - 300903902-104KA 300903902-154KX - 300903904-474KX 300903916-334KC	See box 14 for qualified ranges.
3009/010 3009/039 3009/011 - 3009/039	06 & 07 05 & 17 06 & 07 - 06 & 18	All values 16V to 100V	CNC6 02S CNC6 04S CNC7 02S - CNC7 04S	300901006-474JA - 300901106-105KA 300901107-395KX	
3009/023 3009/039 3009/038 3009/039	06 & 07 03 & 15 06 & 07 01 & 13	All values 16V to 100V	CNC12 02S CNC12 04S CNC14 02S CNC14 04S	- 300903915-154KC 300903806-223JA	
3009/039 3009/043	25 & 26 06	All values 10V to 50V All values 10V to 50V	CNC19 04S CNC19 02S	- 300904306-332KC	
Component Manufacturer EXXELIA Technologies		Location of Manufacturing Plant(s) EXXELIA 1, rue des Temps Modernes 77600 CHANTELOUP EN BRIE FRANCE		Date of original qualification approval: Date: 24/10/2012 Certificate Ref No. 324	
ESCC Specifications used for Maintenance of qualification testing: Generic: 3009 Issue: 4 Detail(s): 3009/010 Issue: 5 3009/011 5 3009/038 4 3009/039 4 3009/043 3		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 type="checkbox"/> Yes <input checked="" type="checkbox"/> (Supply details)		Qualification Extension Report reference and date: Reports 17/0674 & 19/1117 – CNC2 04S 150nF, 16V Reports 18/0578 & 19/1121 – CNC12 04S 150nF, 50V Reports 18/0809 & 19/1112 – CNC7 02S 1µF, 25V Reports 18/0914 & 19/1113 – CNC7 02S 3.9µF, 16V Reports 18/1290 & 19/1118 – CNC14 02S 22nF, 25V Reports 18/1308 & 19/1120 – CNC4 04S 330nF, 50V Reports 18/1440 & 19/1115 – CNC4 04S 470nF, 16V Reports 18/1498 & 19/1116 – CNC2 04S 100nF, 25V Reports 18/1656 & 19/1114 – CNC6 02S 470nF, 25V Reports 19/0086 & 19/1119 – CNC14 04S 100nF, 16V Report 18/1367-A – CNC19 02S 3.3nF 50V	
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	
Thales Alenia Space TERMA TESAT SD Solutions Ltd SAC (India) ...	-	-	Lots delivered in 2017 / 2018 / 2019	381 200 pièces (60% 0603, 23% 0805 9% 1206, 5% 1210, 1.6% 0402 1.5% 2220 0.6% 1812)	
PID changes since start of qualification None <input type="checkbox"/> Minor* <input checked="" type="checkbox"/> Major* <input type="checkbox"/> *Provide details in box:		Current PID Verified by: CNES Name of Executive Representative Ref No: PID 624.03.390 Issue: Rev J Date: 02/08/2018 Rev Date: 01/08/2018			
19					
Current Manufacturing facilities surveyed by: ESA, CNES on 28/11/2018 11					
(Name of Executive Representative) (Date)					
Satisfactory: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Explain New DL1 Line					
Report Reference: See MoM CNES/DSO/AQ/CQ-2018.0022700 dated December 2018					



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

Ref. No's and purposes: NCCS 1CETE901 Failure of a CNC2 02S 47nF 100V DC 1720 during thermal vacuum test on equipment (delamination observed) – Open in July 2019, not yet concluded but tests and analysis at project level did not show a lot related anomaly
NCCS 2CETE902 Delay in implementing maintenance testing and issuing maintenance reports (Closed and appended)
NCCS 2CETE001 Open in March 2020, Production failed delivering CNC6 50V and 100V X7R products – Until investigations are performed, corresponding 50V and 100V ranges are limited to 2C1 ranges (different ceramic) on all chip sizes

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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: 30/04/2020

JP. BUSSENOT

(Signature of the Executive Coordinator)

Continuation of Boxes above:

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Box 1, Range of Components :

Style	Detail Spec.	Model	Variants	Capacitance Range (pF)	Rated Volt. (V)	Tolerance (±%)
0805	3009/008	CNC2 02S	06	6 800 to 150 000	16	5, 10, 20
				6 800 to 100 000	25	
				100 to 47 000	50	
				68 to 10 000	100	
	3009/039	CNC2 04S	07	6 800 to 390 000	16	
				6 800 to 150 000	25	
				100 to 47 000	50	
				68 to 10 000	100	
1210	3009/009	CNC4 02S	02	6 800 to 150 000	16	5, 10, 20
				6 800 to 100 000	25	
				100 to 47 000	50	
				68 to 10 000	100	
	3009/039	CNC4 04S	14	6 800 to 390 000	16	
				6 800 to 150 000	25	
				100 to 47 000	50	
				68 to 10 000	100	
1812	3009/009	CNC4 02S	06	33 000 to 560 000	16	5, 10, 20
				33 000 to 330 000	25	
				2 200 to 220 000	50	
				2 200 to 56 000	100	
	3009/039	CNC4 04S	07	33 000 to 820 000	16	
				33 000 to 560 000	25	
				2 200 to 220 000	50	
				2 200 to 56 000	100	
2220	3009/010	CNC6 02S	04	33 000 to 560 000	16	5, 10, 20
				33 000 to 330 000	25	
				2 200 to 220 000	50	
				2 200 to 56 000	100	
	3009/039	CNC6 04S	16	33 000 to 820 000	16	
				33 000 to 560 000	25	
				2 200 to 220 000	50	
				2 200 to 56 000	100	
1812	3009/010	CNC6 02S	06	100 000 to 1 200 000	16	5, 10, 20
				100 000 to 680 000	25	
				3 900 to 470 000	50	
				3 900 to 120 000	100	
	3009/039	CNC6 04S	07	100 000 to 1 800 000	16	
				100 000 to 1 200 000	25	
				3 900 to 470 000	50	
				3 900 to 120 000	100	
2220	3009/011	CNC7 02S	05	100 000 to 1 200 000	16	5, 10, 20
				100 000 to 680 000	25	
				3 900 to 470 000	50	
				3 900 to 120 000	100	
	3009/039	CNC7 04S	17	100 000 to 1 800 000	16	
				100 000 to 1 200 000	25	
				3 900 to 470 000	50	
				3 900 to 120 000	100	
2220	3009/011	CNC7 02S	06	150 000 to 2 700 000	16	5, 10, 20
				150 to 1 500 000	25	
				22 000 to 1 000 000	50	
				22 000 to 270 000	100	
	3009/039	CNC7 04S	07	150 000 to 3 900 000	16	
				150 000 to 2 200 000	25	
				22 000 to 1 000 000	50	
				22 000 to 270 000	100	

	3009/039	CNC7 04S	06	150 000 to 2 700 000 150 to 1 500 000 22 000 to 1 000 000 22 000 to 270 000	16 25 50 100	
			18	150 000 to 3 900 000 150 000 to 2 200 000 22 000 to 1 000 000 22 000 to 270 000	16 25 50 100	
1206	3009/023	CNC12 02S	06	10 000 to 270 000 10 000 to 180 000 470 to 82 000 470 to 27 000	16 25 50 100	5, 10, 20
			07	10 000 to 1 000 000 10 000 to 270 000 470 to 82 000 470 to 27 000	16 25 50 100	
	3009/039	CNC12 04S	03	10 000 to 270 000 10 000 to 180 000 470 to 82 000 470 to 27 000	16 25 50 100	
			15	10 000 to 1 000 000 10 000 to 270 000 470 to 82 000 470 to 27 000	16 25 50 100	
	0603	CNC14 02S	06	390 to 33 000 390 to 22 000 10 to 10 000 10 to 2 700	16 25 50 100	
			07	390 to 100 000 390 to 33 000 10 to 10 000 10 to 2 700	16 25 50 100	
		CNC14 04S	01	390 to 33 000 390 to 22 000 10 to 10 000 10 to 2 700	16 25 50 100	
			13	390 to 100 000 390 to 33 000 10 to 10 000 10 to 2 700	16 25 50 100	
0402	3009/043	CNC19 02S	06	68 to 12 000 68 to 8 200 68 to 5 600 68 to 3 300	10 16 25 50	5, 10, 20
	3009/039	CNC19 04S	25	68 to 12 000 68 to 8 200 68 to 5 600 68 to 3 300	10 16 25 50	

Box 7. Qualification Extension Report

EXXELIA report 18/1367 dated October 2018 (supplemented with rev A dated July 2019) is part of the qualification of 50V 0402 (CNC19) range, testing performed on parts manufactured in the DL1 line

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Non compliance to ESCC requirements:

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No.:	Specification	Paragraph	Non compliance

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

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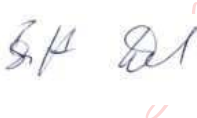
Executive Manager Disposition

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Application Approval: Yes ☒ No ☐

Action / Remarks:

Date:

 Digitally signed by
Britta Schade
Date: 2020.06.09
09:39:18 +02'00'

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



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

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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:

300903902-104KA DC 1844	300901006-474JA DC 1848	
300903902-154KX DC 1724	300901106-105KA DC 1822	
300903904-474KX DC 1844	300901107-395KX DC 1826	
300903916-334KC DC 1839	300903913-104KX DC 1847	300904306-332KC Lot V1806L013
300903915-154KC DC 1812	300903806-223JA DC 1837	

Detail Specification reference: 3009/010/011/038/039/043

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	<input checked="" type="checkbox"/>	IEC 60384-1, 4.33	1822 1837 1844 1848 1847 V1806L013	20 20 20 20 20 18 (*)	0	(*) two missing parts
	Rapid Change of Temperature	<input checked="" type="checkbox"/>	IEC 60068-2-14	1822 1837 1844 1848 1847 V1806L013	20 20 20 20 20 18	0	
	Steady State Humidity	<input checked="" type="checkbox"/>	ESCC 3009, Para. 8.2	1822 1837 1844 1848 1847 V1806L013	20 20 20 20 20 18	0	
	Visual Inspection	<input checked="" type="checkbox"/>	ESCC 3009, Para. 8.5	1822 1837 1844 1848 1847 V1806L013	20 20 20 20 20 18	0	
Endurance Subgroup	Mounting	<input checked="" type="checkbox"/>	IEC 60384-1, 4.33	1721 1812 1822 1826 1837 1839 1844 1848 1847 V1806L013	10 10 10 10 10 10 10 + 10 10 20 11 + 10	0	
	Operating Life	<input checked="" type="checkbox"/>	ESCC 3009, Para. 8.9	1721 1812 1822 1826 1837 1839 1844 1848 1847 V1806L013	10 10 10 10 10 10 10 + 10 10 20 11 + 10	0	1 000H id id id id id id id id 2000H (2Un) + 2000H (4Un)
Electrical Subgroup	Mounting	<input checked="" type="checkbox"/>	IEC 60384-1, 4.33	1721 1812 1822 1837 1839 1844 1848 1847 V1806L013	3 3 3 3 3 3 + 3 3 6 6	0	

	Capacitance-Temperature Characteristics	<input checked="" type="checkbox"/>	ESCC 3009, Para. 8.10	1721 1812 1822 1837 1839 1844 1848 1847 V1806L013	3 3 3 3 3 3 + 3 3 6 6	0	Normally done prior to mounting
	Robustness of Terminations	<input checked="" type="checkbox"/>	ESCC 3009, Para. 8.7	1721 1812 1822 1837 1839 1844 1848 1847 V1806L013	3 3 3 3 3 3 + 3 3 6 6	0	
Ass. / Capab. Subgroup	Solderability	<input checked="" type="checkbox"/>	IEC 60068-2-58	1721 1812 1822 1837 1839 1844 1848 1847 V1806L013	3 3 3 3 3 3 + 3 3 6 3	0	
	Permanence of Marking	<input type="checkbox"/>	ESCC 24800				NA

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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.