

|                                                                                                  |               | <b>APPLICATION FOR EXTENSION OF ESCC QUALIFICATION APPROVAL</b>                                                                                                                                                                          |                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Page 1            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
|                                                                                                                                                                                   |               | Component Title: Capacitors, Ceramic, Type II, types CNC 31 to CNC 34                                                                                                                                                                    |                                          | Appl. No. 315F                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                   |
| Executive Member: CNES                                                                                                                                                            |               | Date: 10/04/2024                                                                                                                                                                                                                         |                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                   |
| Components (including series and families) submitted for Extension of Qualification Approval: <span style="float: right;">1</span>                                                |               |                                                                                                                                                                                                                                          |                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                   |
| ESCC COMPONENT NO.                                                                                                                                                                | VARIANTS      | RANGE OF COMPONENTS                                                                                                                                                                                                                      | BASED ON                                 | TEST VEHICLE / S                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | COMPONENT SIMILAR |
| 3001/037                                                                                                                                                                          | 01 to 04      | All values, 16 and 25V                                                                                                                                                                                                                   | CNC3xNE                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | X                 |
|                                                                                                                                                                                   | 05 to 08      | All values, 16 and 25V                                                                                                                                                                                                                   | CNC3xPE                                  | 300103705106KX<br>300103705126KX<br>300103706106KX<br>300103707156KX x3<br>300103707226KX<br>300103707336KX                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                   |
|                                                                                                                                                                                   | 09 to 12      | All values, 16 and 25V                                                                                                                                                                                                                   | CNC3xPLE                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                   |
|                                                                                                                                                                                   | 13 to 16      | All values, 16 and 25V                                                                                                                                                                                                                   | CNC3xLE                                  | 300103705126KK<br>300103715156KX<br>300103715226KX                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                   |
| Component Manufacturer<br>EXXELIA Technologies <span style="float: right;">2</span>                                                                                               |               | Location of Manufacturing Plant(s) <span style="float: right;">3</span>                                                                                                                                                                  |                                          | Date of original qualification approval: <span style="float: right;">4</span>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                   |
|                                                                                                                                                                                   |               | 1, rue des Temps Modernes<br>77600 CHANTELOUP EN BRIE<br>FRANCE                                                                                                                                                                          |                                          | Date: 15/11/2011<br><br>Certificate Ref No. 315                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                   |
| ESCC Specifications used for Maintenance of qualification testing: <span style="float: right;">5</span>                                                                           |               | Deviations to LVT testing and Detail Specification used: <span style="float: right;">6</span>                                                                                                                                            |                                          | Qualification Extension Report reference and date: <span style="float: right;">7</span>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                   |
| Generic: 3001 Issue 4 & 5<br>Detail(s): 3001/037 Issue 4                                                                                                                          |               | No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> (supply details in Box 15)<br><br>Deviation from current Specifications:<br><br>No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> (Supply details) |                                          | CNC31 LE 12µF +-10% 16V lot MG313210300286 210713 i.B<br>CNC31 PE 10µF+-10% 16V lot MG313210200033 210613 i.B<br>CNC31 PE 12µF+-10% 16V lot MG313220400578 220695 i.B<br>CNC32 PE 10µF +-10% 16V lot MG313211200761 230149 i.B<br>CNC33 LE 15µF +-10% 16V lot MG313211100692 220726 i.B<br>CNC33 LE 22µF +-10% 16 V lot MG313201200557 210001 i.B<br>CNC33 PE 15µF ±10% 16V lot MG313210900529 220358 i.B<br>CNC33 PE 15µF ±10% 16V lot MG313220100541 220722 i.B<br>CNC33 PE 15µF ±10% 16V lot MG313230300221 230278 i.B<br>CNC33 PE 22µF +-10% 16V lot MG313201200612 210609 i.B<br>CNC33 PE 33µF+-10% 16V lot MG313210100460 210758 i.B |                   |
| Summary of procurement or equivalent test results during current validity period in support of this application (those to ESCC listed first) <span style="float: right;">8</span> |               |                                                                                                                                                                                                                                          |                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                   |
| User Name                                                                                                                                                                         | Testing Level | LAT                                                                                                                                                                                                                                      | Date code                                | Quantity Delivered                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                   |
| TESAT Spacecom (G)<br>Thales Alenia Sp. (It.)<br>DELTATEC                                                                                                                         |               | -                                                                                                                                                                                                                                        | Deliveries from March 2022 to March 2024 | 2 594 parts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                   |
| PID changes since start of qualification <span style="float: right;">9</span>                                                                                                     |               | Current PID Verified by: <span style="float: right;">10</span>                                                                                                                                                                           |                                          | L. Fontaine, CNES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                   |
| None <input type="checkbox"/><br>Minor* <input checked="" type="checkbox"/><br>Major* <input type="checkbox"/> *Provide details in box: <span style="float: right;">19</span>     |               | Ref No: 640.03.390<br>Issue: I<br>Rev Date: 01/11/2023                                                                                                                                                                                   |                                          | Name of Executive Representative<br><br>Date: 22/04/2024                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |
| Current Manufacturing facilities surveyed by: <span style="float: right;">11</span>                                                                                               |               |                                                                                                                                                                                                                                          |                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                   |
|                                                                                                                                                                                   |               | L. Farhat, ESA and L. Fontaine, CNES on 13/10/2023                                                                                                                                                                                       |                                          | (Name of Executive Representative) (Date)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                   |
| Satisfactory: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Explain Review of ceramic activities                                                            |               | Report Reference: 2023.0016237 ESCC Audit<br>Report EXXELIA Chanteloup-En-Brie                                                                                                                                                           |                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                   |



APPLICATION FOR EXTENSION OF ESCC QUALIFICATION APPROVAL

Component title: Capacitors, Ceramic, Type II, types CNC 31 to CNC 34

Executive Member: CNES

Date: 10/04/2024

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

Ref. No's and purposes: 2 CETE 402 i.A, maintenance of qualification delay 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: 11/04/2024

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

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Continuation of Boxes above:



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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:

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



**APPLICATION FOR EXTENSION OF ESCC QUALIFICATION APPROVAL**

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

Tests vehicle identification/description:

|                                                |                                                |
|------------------------------------------------|------------------------------------------------|
| CNC31 L E 12µF 10% 16V (300103705126KK DC2138) | CNC33 L E 15µF 10% 16V (300103715156KX DC2246) |
| CNC31 P E 10µF 10% 16V (300103705106KX DC2135) | CNC33 L E 22µF 10% 16V (300103715226KX DC2103) |
| CNC31 P E 12µF 10% 16V (300103705126KX DC2245) | CNC33 P E 15µF 10% 16V (300103707156KX DC2220) |
| CNC32 P E 10µF 10% 16V (300103706106KX DC2310) | CNC33 P E 15µF 10% 16V (300103707156KX DC2246) |
| CNC33 P E 15µF 10% 16V (300103707156KX DC2337) |                                                |
| CNC33 P E 22µF 10% 16V (300103707226KX DC2135) |                                                |
| CNC33 P E 33µF 10% 16V (300103707336KX DC2141) |                                                |

Detail Specification reference: 3001/037 iss. 4

| Chart F4                   | Test                                   | Tick when done                      | Conditions              | Date Code | Tested Qty | N° of Rejects | Comments if not performed. Comments on Rejection |
|----------------------------|----------------------------------------|-------------------------------------|-------------------------|-----------|------------|---------------|--------------------------------------------------|
| Subgroup 1                 | A                                      | <input checked="" type="checkbox"/> | IEC 60068-2-14, test Na | 2245      | 20         | 0             |                                                  |
|                            |                                        |                                     |                         | 2310      | 10         |               |                                                  |
|                            |                                        |                                     |                         | 2246      | 10         |               |                                                  |
|                            | 2337                                   |                                     |                         | 10        |            |               |                                                  |
|                            | 2135                                   |                                     |                         | 10        |            |               |                                                  |
|                            | Steady State Humidity (85/85) 1 000H   | <input checked="" type="checkbox"/> | ESCC 3001, Para 8.2     | 2245      | 20         | 0             |                                                  |
|                            |                                        |                                     |                         | 2310      | 10         |               |                                                  |
|                            |                                        |                                     |                         | 2246      | 10         |               |                                                  |
|                            | 2337                                   |                                     |                         | 10        |            |               |                                                  |
|                            | 2135                                   |                                     |                         | 10        |            |               |                                                  |
|                            | External Visual Inspection             | <input checked="" type="checkbox"/> | ESCC 20500              | 2245      | 20         | 0             |                                                  |
|                            |                                        |                                     |                         | 2310      | 10         |               |                                                  |
| 2246                       |                                        |                                     |                         | 10        |            |               |                                                  |
| 2337                       | 10                                     |                                     |                         |           |            |               |                                                  |
| 2135                       | 10                                     |                                     |                         |           |            |               |                                                  |
| B                          | Rapid Change Of Temperature            | <input checked="" type="checkbox"/> | IEC 60068-2-14, test Na | 2138      | 6          | 0             |                                                  |
|                            |                                        |                                     |                         | 2245      | 6          |               |                                                  |
|                            |                                        |                                     |                         | 2310      | 3          |               |                                                  |
|                            | 2220                                   |                                     |                         | 6         |            |               |                                                  |
|                            | 2246                                   |                                     |                         | 6         |            |               |                                                  |
|                            | 2337                                   |                                     |                         | 3         |            |               |                                                  |
| Vibration                  | <input checked="" type="checkbox"/>    | IEC 60068-2-6, test Fc              | 2138                    | 6         | 0          |               |                                                  |
|                            |                                        |                                     | 2245                    | 6         |            |               |                                                  |
|                            |                                        |                                     | 2310                    | 3         |            |               |                                                  |
| 2220                       |                                        |                                     | 6                       |           |            |               |                                                  |
| 2246                       |                                        |                                     | 6                       |           |            |               |                                                  |
| 2337                       |                                        |                                     | 3                       |           |            |               |                                                  |
| Shock                      | <input checked="" type="checkbox"/>    | IEC 60068-2-27, test Ea             | 2138                    | 6         | 0          |               |                                                  |
|                            |                                        |                                     | 2245                    | 6         |            |               |                                                  |
|                            |                                        |                                     | 2310                    | 3         |            |               |                                                  |
| 2220                       |                                        |                                     | 6                       |           |            |               |                                                  |
| 2246                       |                                        |                                     | 6                       |           |            |               |                                                  |
| 2337                       |                                        |                                     | 3                       |           |            |               |                                                  |
| External Visual Inspection | <input checked="" type="checkbox"/>    | ESCC 20500                          | 2138                    | 6         | 0          |               |                                                  |
|                            |                                        |                                     | 2245                    | 6         |            |               |                                                  |
|                            |                                        |                                     | 2310                    | 3         |            |               |                                                  |
| 2220                       |                                        |                                     | 6                       |           |            |               |                                                  |
| 2246                       |                                        |                                     | 6                       |           |            |               |                                                  |
| 2337                       |                                        |                                     | 3                       |           |            |               |                                                  |
| Subgroup 2                 | A                                      | <input checked="" type="checkbox"/> | IEC 60384-1 clause 4.23 | 2135      | 10         | 0             |                                                  |
|                            | 2245                                   |                                     |                         | 10        |            |               |                                                  |
| B                          | Capacitance-Temperature Characteristic | <input checked="" type="checkbox"/> | ESCC 3001, Para 8.13    | 2135      | 3          | 0             |                                                  |
|                            |                                        |                                     |                         | 2245      | 3          |               |                                                  |
|                            |                                        |                                     |                         | 2310      | 3          |               |                                                  |
|                            |                                        |                                     |                         | 2103      | 3          |               |                                                  |
|                            |                                        |                                     |                         | 2337      | 3          |               |                                                  |
| Sub group                  | Solderability                          | <input checked="" type="checkbox"/> | IEC 60068-2-20, test Ta | 2245      | 6          | 0             |                                                  |
|                            |                                        |                                     |                         | 2310      | 3          |               |                                                  |
|                            |                                        |                                     |                         | 2337      | 3          |               |                                                  |

|                  |                              |                                     |                         |                              |                  |   |  |
|------------------|------------------------------|-------------------------------------|-------------------------|------------------------------|------------------|---|--|
|                  |                              |                                     |                         | 2141                         | 3                |   |  |
|                  | Resistance to Soldering Heat | <input checked="" type="checkbox"/> | IEC 60068-2-20, test Tb | 2245<br>2310<br>2337<br>2141 | 6<br>3<br>3<br>3 | 0 |  |
|                  | Permanence of marking        | <input checked="" type="checkbox"/> | ESCC 24800              | 2245<br>2310<br>2337<br>2141 | 6<br>3<br>3<br>3 | 0 |  |
| Additional tests |                              | <input type="checkbox"/>            |                         |                              |                  |   |  |
|                  |                              | <input type="checkbox"/>            |                         |                              |                  |   |  |
|                  |                              | <input type="checkbox"/>            |                         |                              |                  |   |  |



APPLICATION FOR EXTENSION OF ESCC QUALIFICATION APPROVAL

Component title: Capacitors, Ceramic, Type II, types CNC 31 to CNC 34

Executive Member: CNES

Date: 10/04/2024

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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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |