APPLICATION FOR EXTENSION OF ESCC QUALIFICATION APPROVAL

Component Title: CONNECTORS, ELECTRICAL, RECTANGULAR, MICROMINIATURE, BASED ON TYPE MDM

Executive Member: CNES Date: 30/08/2022

Appl. No. 140R Rev1

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
3401/029	01 & 02	Layout : 9 - 15 - 21 - 25 - 31 - 37 - 51 Contacts Non removable crimp contacts Terminations typ FR171, FR171M1, and FR171M2	MDM	See Annex 1 page 4	MDMA
3401/041	01 to 07	Terminaison type : AWG 26: ESCC 390101302, ESCC 390100256, ESCC 390101203 2.5 A AWG 28: ESCC 390101301, ESCC 390100261, ESCC 390101202 1.5A AWG 25 - Uninsulated rigid wire-bent and straight PCB,2.5A			
3401/032	03, 04, 07 to 17	Nickel or Gold Plated Shells Operating Temperature Range (°C): -55 to +125			

2 Component Manufacturer

C&K Connect

3 Location of Manufacturing Plant(s)

2, rue Berthollet
39100 DOLE - France

4

Date of original qualification approval:
Date: 10/10/1986

Certificate Ref No. 140

5

ESCC Specifications used for Maintenance of qualification testing:

Generic: 3401 Issue: 5

Detail(s): 3401/029 Issue: 19
3401/041 8
3401/032 12

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:

D220030C of 18 January 2022

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
See appendix				

9

PID changes since start of qualification

None ☐
Minor* ☒
Major* ☐

*Provide details in box:

10

Current **PID** Verified by: F. Nouals, CNES
Name of Excutive Representative

Ref No: CS-FR010
Issue: 7 rev R Date: 04/08/2022
Rev Date: 30/06/2021

11

Current Manufacturing facilities surveyed by: F. Nouals, CNES on 15/09/2021
(Name of Executive Representative) (Date)

Satisfactory: Yes ☒ No ☐ Explain

Report Reference: CRIM du 15/09/21

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

Ref. No's and purposes:

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: 30/08/2022

G.Quadri, CNES

(Signature of the Executive Coordinator)

Continuation of Boxes above:

14

This revision refers to the extension of the range of components related to terminations FR171, FR171M1, and FR171M2,whose qualification is presented in this application (see box 18). The issue 19 of the detailed specification ESCC 3401/029 deals with this extension as well.

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:

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 3401 generic specification; Chart V (for ESCC/QPL parts);
- Or PID-TFD [redacted] (for ESCC/QML parts)

Tests vehicle identification/description: Page 4/37 of document D220030C

SAMPLES QUALIFICATION CHART IV: GROUP I

Traceability	N°	Connector Description	C&K Part Number	Date Code	Nb of Contacts / Contact Type / Ref	C&K Part Number	Wire Type	Crimp Tool	Locator	Selector Position	Accessories
Appendix 3	1.1 & 1.2	340102901B 9SFR171M2	C115366-1477C	2208B	9 cts MDM Skt 90° Mounting on PCB, 1,905 PCB termination pitch with metal brackets	/	/	/	/	/	Screwlock Sub Assembly (PCB Mounting) 340103211B C115366-9222C
Appendix 4		340107701B MDMA9P-FO	C115373-2100C	2206A	9 cts Twist Pin 340107803B	C331-8754-000H	AWG 26	M22520/2-01	CK-MDMA-P	/	Screw Sub Assembly 340103207B C115366-9218C
Appendix 5	1.3 & 1.4	340102901B 9SFR171M2	C115366-1477C	2208B	9 cts MDM Skt 90° Mounting on PCB, 1,905 PCB termination pitch with metal brackets	/	/	/	/	/	Screwlock Sub Assembly (Rear Panel Mounting) C115366-9227C
Appendix 6		340107701B MDMA9P-FO	C115373-2100C	2206A	9 cts Twist Pin 340107803B	C331-8754-000H	AWG 26	M22520/2-01	CK-MDMA-P	/	Screw Sub Assembly 340103207B C115366-9218C
Appendix 7	1.5 & 1.6	340102901B 31SFR171M2	C115366-1485C	2207A	31 cts MDM Skt 90° Mounting on PCB, 1,905 PCB termination pitch with metal brackets	/	/	/	/	/	Screwlock Sub Assembly (PCB Mounting) 340103211B C115366-9222C
Appendix 8		340107701B MDMA31P-FO	C115373-2108C	2212A	31 cts Twist Pin 340107803B	C331-8754-000H	AWG 26	M22520/2-01	CK-MDMA-P	/	Screw Sub Assembly 340103207B C115366-9218C
Appendix 9	1.7 & 1.8	340102901B 31SFR171M2	C115366-1485C	2207A	31 cts MDM Skt 90° Mounting on PCB, 1,905 PCB termination pitch with metal brackets	/	/	/	/	/	Screwlock Sub Assembly (Rear Panel Mounting) C115366-9227C
Appendix 10		340107701B MDMA31P-FO	C115373-2108C	2212A	31 cts Twist Pin 340107803B	C331-8754-000H	AWG 26	M22520/2-01	CK-MDMA-P	/	Screw Sub Assembly 340103207B C115366-9218C

FIL ESA SCC3901-002-56 AWG26

For vibration tests, all contacts from the mated connectors are wired in serie to detect micro-cutting.
Connectors 1.1 to 1.8 tested in rear panel mounting and PCB mounting with Screws & Female Screwlock appropriate.

Contacts référence

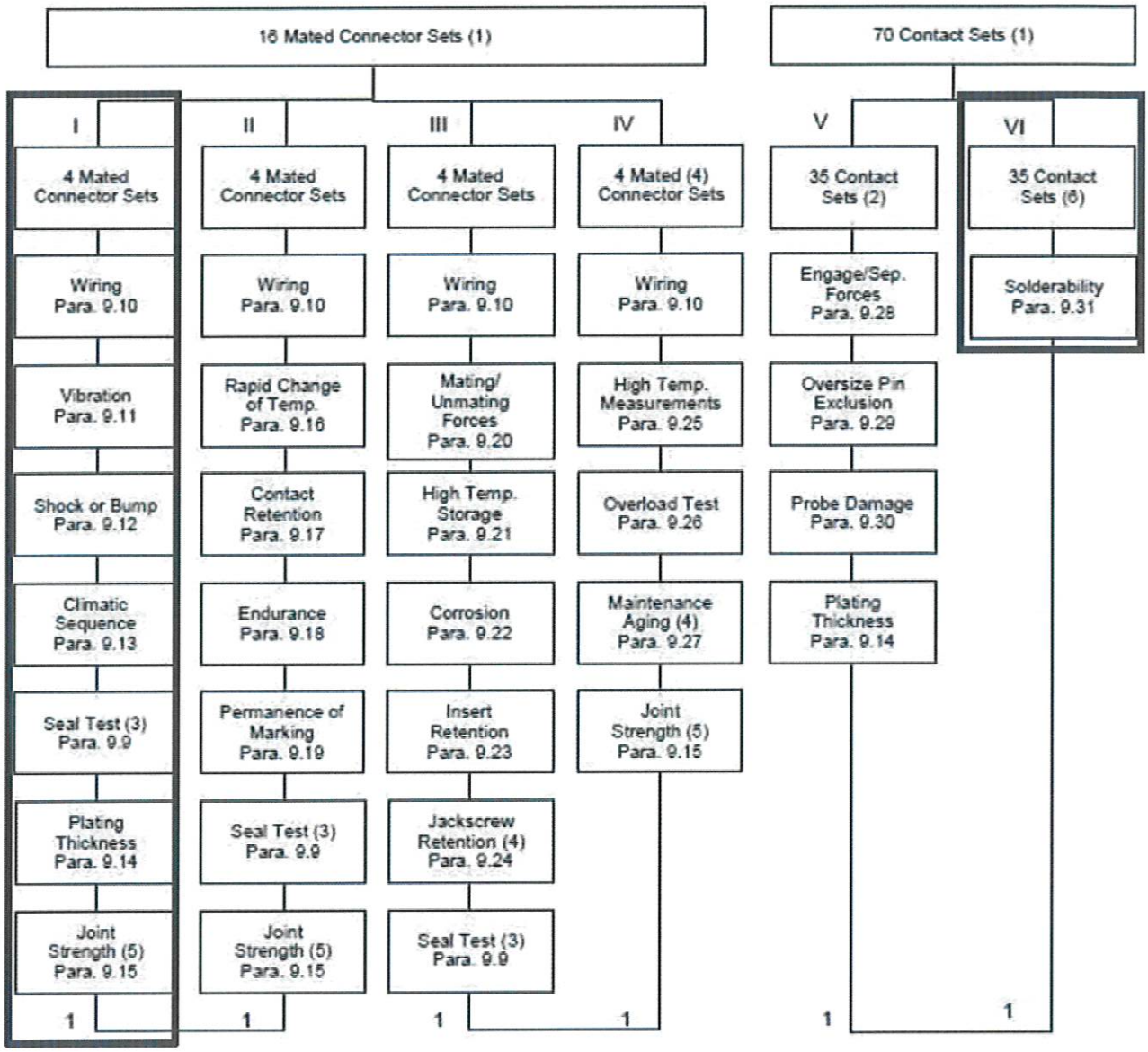
SAMPLES QUALIFICATION CHART IV: GROUP VI

Traceability	Nb	Contact description / reference	C&K Part Number	N° Batch	Date code
Appendix 11	1 to 9	340102901B 9SFR171M2	C115366-1477C	/	2208B
Appendix 12	1 to 31	340102901B 31SFR171M2	C115366-1485C	/	2207A

Detail Specification reference: 34010029

See page 2/37 document D220030C

DEVIATIONS FROM QUALIFICATION TESTS (CHART IV)



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.