



APPLICATION FOR EXTENSION OF ESCC QUALIFICATION APPROVAL

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Component Title: RF CABLE ASSEMBLY, SMA 50 OHMS, 2.2mm FLEXIBLE CABLE, DC TO 22GHz BASED ON TYPE 8s-SMA
Executive Member: ESA Date: 25/05/2021

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 |
|--------------------|------------|--------------------------------|----------|------------------------|-------------------|
| 3408/002 | 01 thru 06 | Conn1 SMA male straight plug | 8S-SMA | 8SS01S71; 8SS01S01; | |
| | 07 thru 11 | Conn1 SMA male 90° clip plug | 8S-SMA | 8SZF8S02; | |
| | 12 thru 15 | Conn1 SMA male 90° box plug | 8S-SMA | | Y |
| | 19 thru 20 | Conn1 SMA female straight jack | 8S-SMA | | Y |
| | 21 | Conn1 SMA female bulkhead jack | 8S-SMA | 8SY04R42 | |

| | | |
|---|---|---|
| Component Manufacturer W.L.GORE & ASSOCIATES (UK) LTD 2 | Location of Manufacturing Plant(s) 3 Dundee Technology Park Mariner Drive, DD21JA Dundee Scotland, United Kingdom | Date of original qualification approval: Date: 25/04/2019 Certificate Ref No. 358 4 |
|---|---|---|

| | | | |
|---|----------------------------|---|---|
| ESCC Specifications used for Maintenance of qualification testing: Generic: ESCC 3408 Detail(s): ESCC 3408/002 5 | Issue: 02 Issue :02 | 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 checked="" type="checkbox"/> Yes <input type="checkbox"/> (Supply details) 6 | Qualification Extension Report reference and date: WLG-01533 7 |
|---|----------------------------|---|---|

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 |
|------------------------------------|--------------------|-----|-----------|--------------------|
| Not provided 34080021200096 | Acceptance Testing | | Feb 2020 | |
| Not provided 34080021200120 | Acceptance Testing | | Feb 2020 | |
| Not provided 34080021200160 | Acceptance Testing | | Feb 2020 | |
| Not provided 34080021200104/270 | Acceptance Testing | | Apr 2020 | |
| Not provided 34080021200104/90 | Acceptance Testing | | Apr 2020 | a/a |

| | |
|---|--|
| PID changes since start of qualification 9 None <input type="checkbox"/> Minor* <input checked="" type="checkbox"/> Major* <input type="checkbox"/> *Provide details in box: <u>Removed variant 04:09:13;16;17;18;</u> | Current PID Verified by: <u>Cathy Bames</u> <u>UKSA Rep</u> 10 Cathy Bames, (UKSA Rep) Name of Executive Representative Ref No: WLG-01320 Issue: Rev 02 Date: 25/05/2021 Rev Date: 25/05/2021 |
|---|--|

| | |
|---|---------------------------------------|
| Current Manufacturing facilities surveyed by: <u>L.Farhat ESA Fernando Martinez ESA</u> on <u>02/04/2018</u> (Name of Executive Representative) (Date) | 11 |
| Satisfactory: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Explain Findings from 8-9 Feb and 23-24 Nov 2017 closed out in April 2018 | |
| Report Reference: <u>CA report MTSL CA 0002318 (Jan 2018)</u> | |



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

Ref. No's and purposes: Periodic Testing completed in the report with DPAs completed

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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 UKSA as the responsible Executive Member for ESCC qualification status to be extended to the component(s) listed herein.

Date: 16/8/2021


(Signature of the Executive Coordinator)
Cathy Barnes, UKSA Rep

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Continuation of Boxes above:

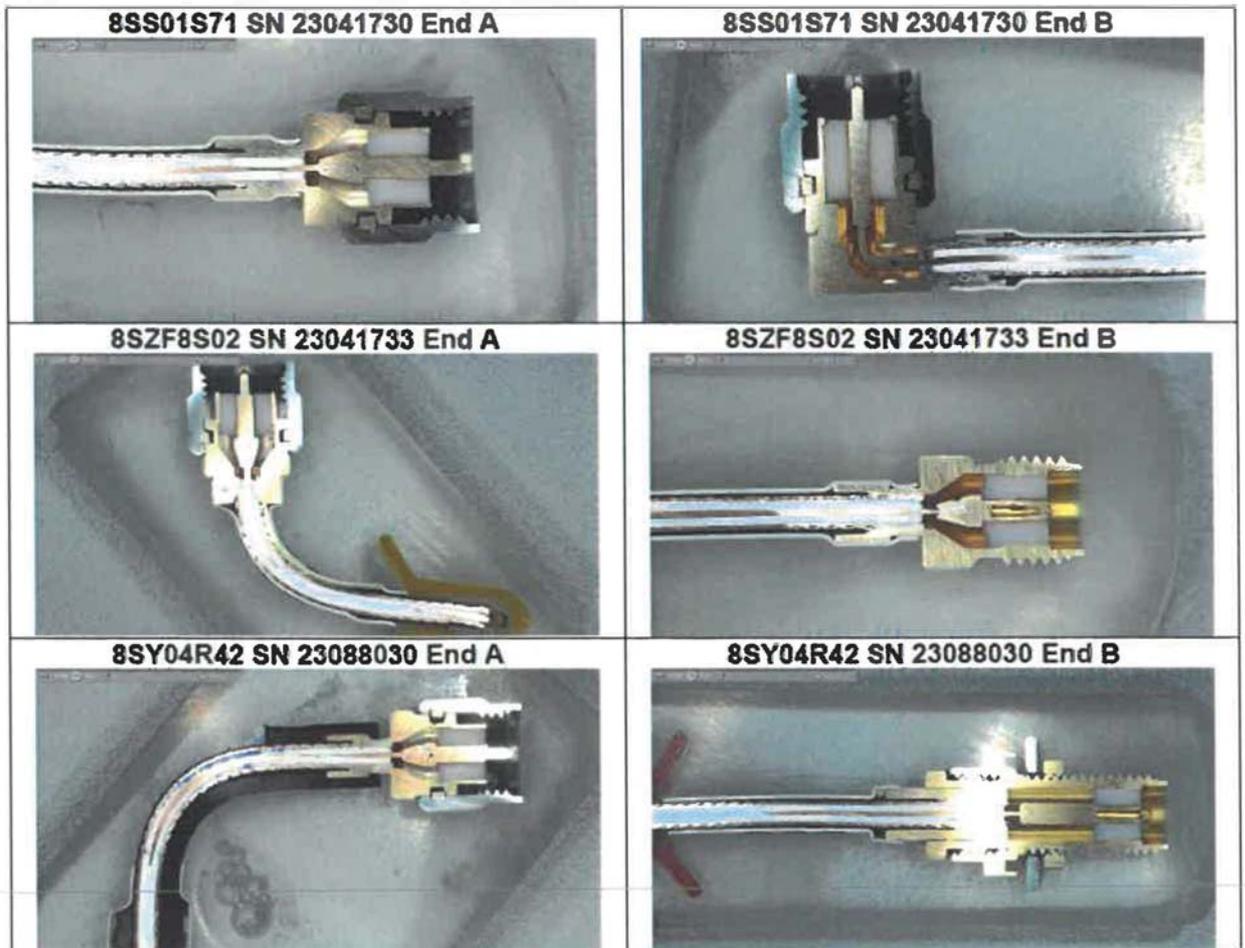


Fig 9 Microsections of the 8S Cable Assemblies



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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:

Britta Schade Digitally signed by Britta Schade
Date: 2021.08.31 14:48:56 +02'00'

B. Schade: Head of the 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 3408 generic specification; Chart F4 B (for ESCC/QPL parts);
- Or PID-TFD (for ESCC/QML parts)

Tests vehicle identification/description:

See Periodic Test Report WLG-01533 samples from DC2109

| | |
|----------------|----------------|
| Variant 3 x 2 | Variant 17 x 1 |
| Variant 11 x 1 | Variant 1 x 1 |

Detail Specification reference: ESCC3408/002

| Chart F4 | Test | Tick when done | Conditions | Date Code | Tested Qty | No. of Rejects | Comments if not performed. Comments on Rejection |
|-------------------------|--|-------------------------------------|--------------------------------------|------------|------------|----------------|--|
| Column 1 6 TVs | Shielding Effectiveness | <input checked="" type="checkbox"/> | IEC Publication No. 61726 | March 2021 | 5 | 0 | |
| | Cable Retention Force | <input type="checkbox"/> | As specified in Detail Specification | | | | Not required for Chart F4B – Periodic Testing |
| | Ageing | <input type="checkbox"/> | MIL-STD-202 Test Method 108 | | | | Not required for Chart F4B – Periodic Testing |
| | Mating Endurance | <input type="checkbox"/> | ESCC Generic Specification No. 3402 | | | | Not required for Chart F4B – Periodic Testing |
| | Bending | <input type="checkbox"/> | As specified in Detail Specification | | | | Not required for Chart F4B – Periodic Testing |
| | Vibration (Random and Sine) | <input type="checkbox"/> | MIL-STD-202 Test Method 214 & 204 | | | | Not required for Chart F4B – Periodic Testing |
| | Thermal Stability of Insertion Loss | <input checked="" type="checkbox"/> | As specified in Detail Specification | March 2021 | 4 | 0 | |
| | Temperature Cycling II (100 cycles) | <input checked="" type="checkbox"/> | As specified in Detail Specification | April 2021 | 4 | 0 | |
| | Thermal Stability of Insertion Loss x2 | <input checked="" type="checkbox"/> | As specified in Detail Specification | May 2021 | 4 | 0 | |
| | Ageing | <input type="checkbox"/> | MIL-STD-202 Test Method 108 | | | | Not required for Chart F4B – Periodic Testing |
| | Vibration (Random and Sine) | <input type="checkbox"/> | MIL-STD-202 Test Method 214 & 204 | | | | Not required for Chart F4B – Periodic Testing |
| | Temperature Cycling I (25 cycles) | <input type="checkbox"/> | As specified in Detail Specification | | | | Not required for Chart F4B – Periodic Testing |
| | Corona | <input type="checkbox"/> | As specified in Detail Specification | | | | Not required for Chart F4B – Periodic Testing |
| | RF Power Handling | <input type="checkbox"/> | As specified in Detail Specification | | | | Not required for Chart F4B – Periodic Testing |
| | Multipaction | <input type="checkbox"/> | ECSS-E-20-01 | | | | Not required for Chart F4B – Periodic Testing |
| | RF Power Cycling | <input type="checkbox"/> | As specified in Detail Specification | | | | Not required for Chart F4B – Periodic Testing |
| Shielding Effectiveness | <input checked="" type="checkbox"/> | IEC Publication No. 61726 | May 2021 | 5 | 0 | | |



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| Chart F4 | Test | Tick when done | Conditions | Date Code | Tested Qty | No. of Rejects | Comments if not performed. Comments on Rejection |
|-------------------|--|-------------------------------------|--------------------------------------|------------|------------|----------------|--|
| Column 1 6 TVs | Electrical Measurements at Room, High and Low Temperatures | <input checked="" type="checkbox"/> | As specified in Detail Specification | May 2021 | 4 | 0 | |
| | External Visual Inspection | <input checked="" type="checkbox"/> | ESCC Basic Specification No. 20500 | May 2021 | 5 | 0 | |
| | Radiographic Inspection | <input checked="" type="checkbox"/> | ESCC Basic Specification No. 20900 | | 5 | 0 | |
| | Destructive Physical Analysis | <input checked="" type="checkbox"/> | ESCC Basic Specification No. 21001 | May 2021 | 3 | 0 | |
| Column 3 1 TV | Radiation | <input type="checkbox"/> | As specified in Detail Specification | | | | Not required for Chart F4B – Periodic Testing |
| Column 4 1 TV | Permanence of Marking | <input type="checkbox"/> | ESCC Basic Specification No. 24800 | | | | Not required for Chart F4B – Periodic Testing |
| | Mating and Unmating Forces | <input checked="" type="checkbox"/> | ESCC Generic Specification No. 3402 | | | | This s from Chart F3 |
| | Coupling Proof Torque | <input checked="" type="checkbox"/> | ESCC Generic Specification No. 3402 | | | | This s from Chart F3 |
| | Crimp Contact Tensile Strength | <input type="checkbox"/> | ECSS-Q-ST-70-26 | | | | NA |
| Additional Tests | Rf interface Gauging | <input checked="" type="checkbox"/> | | March 2021 | | | This s from Chart F3 |
| | Length and Weight | <input checked="" type="checkbox"/> | | March 2021 | | | This s from Chart F3 |
| | Microsectioning of strands | <input checked="" type="checkbox"/> | | March 2021 | | | Sample cable |

Periodic Tesing completed to Chart F4B for Extension of ESCC qualification

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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. |