APPLICATION FOR EXTENSION OF ESCC QUALIFICATION APPROVAL

Page 1

Component Title: RF CABLE ASSEMBLY, SMA 50 OHMS, 2.2mm FLEXIBLE CABLE, DC TO 22GHz BASED ON TYPE 8S-SMA

Appl. No. 358C

Executive Member: ESA Date: 06/06/2025

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
3408/002	01 thru 06 12;14;	Conn1 SMA male straight plug Conn2 SMA male 90° box plug	8S-SMA	8SS01S71; +Control	
	07 thru 11	Conn1 SMA male straight plug Conn2 SMA female straight jack	8S-SMA	8SS01S02; x2	
	07 thru 11 15;19;20;21	Conn1 SMA male 90° clip plug Conn2 SMA female bulkhead jack	8S-SMA	8SY04R42 x1	

2 Component Manufacturer

W.L.GORE &ASSOCIATES (UK) LTD

3 Location of Manufacturing Plant(s)

Dundee Technology Park
Mariner Drive, DD21JA Dundee
Scotland, United Kingdom

4

Date of original qualification approval:

Date:
25/04/2019

Certificate Ref No.
358

5

ESCC Specifications used for Maintenance of qualification testing:

Generic: 3408 Issue: 04

Detail:
3408/002 issue 3

6

Deviations to LVT testing and Detail Specification used:

No ☒ Yes ☐ (details in Box 15)

Deviation from current Specifications:

No ☒ Yes ☐ (Supply details)

7

Qualification Extension Report reference and date: WLG-01671 July 2023
WLG-01847 June 2025

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
-	Acceptance Testing		Feb 2020 to April 2025	Total of 265 parts

9 **PID** changes since start of qualification

None ☐
Minor* ☒
Major* ☐

*Provide details in box:
See Appendix 1

10

Current **PID** Verified by: Cathy Chandler
Name of Executive Representative

Ref No: WLG-01320
Issue: Rev 03 Date: 06/06/2025
Rev Date: 06/06/2025

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Current Manufacturing facilities surveyed by: Joaquin Jiminez; Denis Lacombe on 16/04/2025
(Name of Executive Representative) (Date)

Satisfactory: Yes ☒ No ☐

Report Reference: ESA-TECEDC-AUD-RP-2025-001249

12

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

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

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

Date: 08/08/2025

Chandler

(Signature of the Executive Coordinator)

Appendix 1:
Observations and recommendations from audit at Gore 2025:

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PID WLG-01320 Rev.2 25/05/2021

1. SMA 90deg clip pin with 8S cable:

a. B max is 17mm in detailed spec escc3408/002 iss3, but B max is 21.1mm in PID.

b. E max is 30.5mm in detailed spec escc3408/002 iss3, but E max is 31.8mm in PID.

c. D is 26.7 BSC in detailed escc3408/002 iss3, but 27.7 in PID

Please, update the PID with the correct dimensions. Please perform dimension check in at least ten RF cable assembly units with SMA 90° clip and provide the measurement data.

2. For information:

- Clean Room class ISO 7 (ISO 14644-1) is equivalent to US FED STD 209E class 10,000.
- Clean Room class ISO 8 (ISO 14644-1) is equivalent to US FED STD 209E class 100,000

Please state in the PID the correct the clean room class that you have (both with equivalent ISO 14644-1 and FED STD 209E classes).

For information, right now, in the PID, it is wrongly written: Par 3.9 (page 14/58) Class 100 000 Clean Room (ISO 14644-1Class 7).

3. Please update par 2.3 (page 8/58)with organigram overview (if changed)

4. Please update par 2.4 (page 9/59) with detailed organigram.

5. Par 4.1.3 page 36/58: Gore New Garden (380 Starr Rd Landenberg Pennsylvania) is closed, correct? Update with address of supplier (Fair Hill? Paper Mill?). Also please provide a current CoC image, with the correct supplier.

6. Please, update ECSS-Q-70 08 to ECSS-Q-ST-70-61(pages 12, 14 and 50/58)

7. Par. 3.15, page 15/58: "...Manufacturing Summary Report shown in Section 3.13". However, section 3.13 is outgassing. Maybe the correct section is 5.3? Please correct and update.

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: 30/08/2025

A. Zadeh: Head of the Avionics and EEE Division

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

Tests conducted in compliance with:

- ESCC 3408 generic specification; Chart F4 **B** (for ESCC/QPL parts);
- Or PID-TFD Click here to enter text. (for ESCC/QML parts)

Tests vehicle identification/description:

See Periodic Test Report WLG-01847

Variant 3 x 2	Variant 17 x1
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	☒	IEC Publication No. 61726	March 2025	5	0	
	Cable Retention Force	☐	As specified in Detail Specification				Not required for Chart F4B – Periodic Testing
	Ageing	☐	MIL-STD-202 Test Method 108				Not required for Chart F4B – Periodic Testing
	Mating Endurance	☐	ESCC Generic Specification No. 3402				Not required for Chart F4B – Periodic Testing
	Bending	☐	As specified in Detail Specification				Not required for Chart F4B – Periodic Testing
	Vibration (Random and Sine)	☐	MIL-STD-202 Test Method 214 & 204				Not required for Chart F4B – Periodic Testing
	Thermal Stability of Insertion Loss	☒	As specified in Detail Specification	April 2025	4	0	
	Temperature Cycling II (100 cycles)	☒	As specified in Detail Specification	April 2025	4	0	
	Thermal Stability of Insertion Loss x2	☒	As specified in Detail Specification	April 2025	4	0	
	Ageing	☐	MIL-STD-202 Test Method 108				Not required for Chart F4B – Periodic Testing
	Vibration (Random and Sine)	☐	MIL-STD-202 Test Method 214 & 204				Not required for Chart F4B – Periodic Testing
	Temperature Cycling I (25 cycles)	☐	As specified in Detail Specification				Not required for Chart F4B – Periodic Testing
	Corona	☐	As specified in Detail Specification				Not required for Chart F4B – Periodic Testing
	RF Power Handling	☐	As specified in Detail Specification				Not required for Chart F4B – Periodic Testing
	Multipaction	☐	ECSS-E-20-01				Not required for Chart F4B – Periodic Testing
	RF Power Cycling	☐	As specified in Detail Specification				Not required for Chart F4B – Periodic Testing
	Shielding Effectiveness	☒	IEC Publication No. 61726	May 2025	5	0	

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	☒	As specified in Detail Specification	May 2025	4	0	
	External Visual Inspection	☒	ESCC Basic Specification No. 20500	May 2025	5	0	
	Radiographic Inspection	☒	ESCC Basic Specification No. 20900	May 2025	5	0	
	Destructive Physical Analysis	☒	ESCC Basic Specification No. 21001	June 2025	3	0	
Column 3 1 TV	Radiation	☐	As specified in Detail Specification				Not required for Chart F4B – Periodic Testing
Column 4 1 TV	Permanence of Marking	☐	ESCC Basic Specification No. 24800				Not required for Chart F4B – Periodic Testing
	Contact Capability	☒	ESCC Generic Specification No. 3402	March 2025	13		This s from Chart F3
	Coupling Proof Torque	☒	ESCC Generic Specification No. 3402	May 2025	1		This s from Chart F3
	Crimp Contact Tensile Strength	☐	ECSS-Q-ST-70-26				NA
Additional Tests	Rf interface Gauging	☒		Feb 2025	5		This s from Chart F3
	Length and Weight	☒		Feb 2025	5		This s from Chart F3
	Microsectioning of strands	☒		March 2025	1		Sample cable

Periodic Tesing completed to Chart F4B for Extension of ESCC qualification

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.