

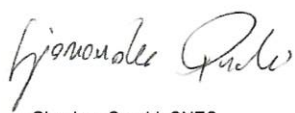



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|--|----------|---|---|--|-------------------|---------------|
|  | | APPLICATION FOR ESCC QUALIFICATION APPROVAL | | | | Page 1 |
| | | Component Title: RF CABLE ASSEMBLY, 2.92MM CONNECTORS, LOW POWER, 50 OHMS, FLEXIBLE CABLE, DC TO 32 GHZ, BASED ON TYPE AXOWAVE 44SLQ Executive Member: CNES Date: 12/05/2022 | | | | Appl. No. 383 |
| Components (including series and families) submitted for Qualification Approval | | | | | | 1 |
| ESCC COMPONENT NO. | VARIANTS | RANGE OF COMPONENTS | BASED ON | TEST VEHICLE / S | COMPONENT SIMILAR | |
| 3408/004 | 01,02,03 | Frequency range DC-32GHz | 2.92 mm connector type | 3408004 02 01000 0 | | |
| | | Straight and swept Cable assembly for flexible Ø4.4mm | | | | |
| | | VSWR max Integrated of the cable is qualified up to 300 Mrad | | | | |
| | | Temperature range: -55°C to +125°C | | | | |
| Component Manufacturer Axon Cable SA | | Location of Manufacturing Plant Route de Chalon 51210 Montmirail France | | ESCC Specification used for Qualification Generic: ESCC3408 Issue: 2 Detail/s: 3408/004 Issue: 1 | | |
| Qualification Report Reference and date: 20043-QTR-0001-AXON Test Report N°4764A, 21002-QTR-A01-11-Axon with Appendixes 2, 3 and 5, PV476A-APPENDIX 1 to 21, Date: 23/12/2021 | | | PID used for manufacturing Qualification Lot Ref No: CNES-PID-19-Axon' Issue: 1 Date: 05/02/2021 | | | |
| PID changes since start of qualification None <input type="checkbox"/> Minor* <input checked="" type="checkbox"/> Major* <input type="checkbox"/> (* Details not published, provided in confidential annex 2.) | | | Current PID Verified by J-B Sauveplane, CNES Name of Executive Representative Ref No: CNES-PID-19-Axon' Issue: 2 Date: 19/05/2022 | | | |
| Current Manufacturing facilities surveyed by: J-B Sauveplane, CNES 26/11/2019 (Name of Executive Responsible) (Date) Audit Report AXOCOM-AUD-2019 | | | | | | 9 |
| Report Reference Satisfactory: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Explain CNES line visit performed on 17/05/2022 with no additional points to raise | | | | | | |
| Quality and Reliability Data Evaluation testing performed Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Report Ref. No.: PV3961A Date: 31/01/2018 Equivalent Data: TEST REPORT N°4438, ISSUE C, 4/10/2020 Certification: | | | | Failure analysis, DPA, NCCS available Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (supply data) Ref Nos. and purpose: PV4764A-Appendix17_DPA, issue 1, 15/02/2022 | | |

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|  | <p align="center">APPLICATION FOR ESCC QUALIFICATION APPROVAL</p> <p>Component Title: RF CABLE ASSEMBLY, 2.92MM CONNECTORS, LOW POWER, 50 OHMS, FLEXIBLE CABLE, DC TO 32 GHZ, BASED ON TYPE AXOWAVE 44SLQ</p> <p>Executive Member: CNES</p> | <p align="center">Page 2</p> <p>Appl. No. 383</p> |
| <p>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 13; that the reports and data are available at the ESCC Executive and therefore applies for ESCC qualification status to be given to the component(s) listed herein.</p> <p>Date: 19/05/2022</p> <div style="text-align: right;">  Giandrea Quadri, CNES (Signature of the Executive Coordinator) </div> | | |
| <p>Continuation of Boxes above: (Only non-confidential comments)</p> | | |

Box 10: Additional data collected before to start the qualification campaign, tests performed on the basis of the ESCC 3408 issue 2 Box 7: PID updated to be in compliance with the issue 3 of the ESCC 3408

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| | Component Title: RF CABLE ASSEMBLY, 2.92MM CONNECTORS, LOW POWER, 50 OHMS, FLEXIBLE CABLE, DC TO 32 GHZ, BASED ON TYPE AXOWAVE 44SLQ | | Appl. No. |
| Executive Member: CNES | Date: 12/05/2022 | | 383 |

Non compliance to ESCC requirements: 13


| No.: | Specification | Paragraph | Non compliance |
|------|---------------|-----------|----------------|
| | | | |


Additional tasks required to achieve full compliance for ESCC qualification or rationale for acceptability of noncompliance: 14

Executive Manager Disposition 15

Application Approval: Yes ☒ No ☐
 Action / Remarks:

Date:


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

| | | |
|---|---|-------------------------|
|  | APPLICATION FOR ESCC QUALIFICATION APPROVAL Component Title: RF CABLE ASSEMBLY, 2.92MM CONNECTORS, LOW POWER, 50 OHMS, FLEXIBLE CABLE, DC TO 32 GHZ, BASED ON TYPE AXOWAVE 44SLQ Executive Member: CNES Date: 12/05/2022 | Page 4 Appl. No. 383 |
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ANNEX 1: LIST OF TESTS DONE TO SUPPORT QUALIFICATION 16

Tests conducted in compliance with:

- ESCC 3408 generic specification; Chart F4 (for ESCC/QPL parts);
- Or PID-TFD (for ESCC/QML parts)

Tests vehicle identification/description:

| | |
|---------------------------------------|--|
| 3408004 02 01000 0 P862482B QM 1 to 5 | 3408004 02 01000 0 P860226 S/N 1 to 10 |
| | |

Detail Specification reference: ESCC 3408/004

| 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 | 2123 | 4 | 0 | |
| | Cable Retention Force | <input checked="" type="checkbox"/> | As specified in Detail Specification | 2123 | 3 | 0 | |
| | Ageing | <input checked="" type="checkbox"/> | MIL-STD-202 Test Method 108 | 2123 | 3 | 0 | |
| | Mating Endurance | <input checked="" type="checkbox"/> | ESCC Generic Specification No. 3402 | 2123 | 3 | 0 | |
| | Bending | <input checked="" type="checkbox"/> | As specified in Detail Specification | 2123 | 3 | 0 | |
| | Vibration (Random and Sine) | <input checked="" type="checkbox"/> | MIL-STD-202 Test Method 214 & 204 | 2123 | 3 | 0 | |
| | Thermal Stability of Insertion Loss | <input checked="" type="checkbox"/> | As specified in Detail Specification | 2123 | 3 | 0 | |
| | Temperature Cycling II (200 cycles) | <input checked="" type="checkbox"/> | As specified in Detail Specification | 2123 | 3 | 0 | |
| | Thermal Stability of Insertion Loss | <input checked="" type="checkbox"/> | As specified in Detail Specification | 2123 | 3 | 0 | |
| | Ageing | <input type="checkbox"/> | MIL-STD-202 Test Method 108 | | | | Not applicable for low power C.A. (similarity with ESCC 34008/003, see certificate 365) |
| | Vibration (Random and Sine) | <input type="checkbox"/> | MIL-STD-202 Test Method 214 & 204 | | | | Not applicable for low power C.A. (similarity with ESCC 34008/003, see certificate 365) |
| | Temperature Cycling I (25 cycles) | <input type="checkbox"/> | As specified in Detail Specification | | | | Not applicable for low power C.A. (similarity with ESCC 34008/003, see certificate 365) |
| | Corona | <input type="checkbox"/> | As specified in Detail Specification | | | | Not applicable for low power C.A. (similarity with ESCC 34008/003, see certificate 365) |
| | RF Power Handling | <input type="checkbox"/> | As specified in Detail Specification | | | | Not applicable for low power C.A. (similarity with ESCC 34008/003, see certificate 365) |
| | Multipaction | <input type="checkbox"/> | ECSS-E-20-01 | | | | Not applicable for low power C.A. (similarity with ESCC 34008/003, see certificate 365) |
| | RF Power Cycling | <input type="checkbox"/> | As specified in Detail Specification | | | | Not applicable for low power C.A. (similarity with ESCC 34008/003, see certificate 365) |

| | | | | | | | |
|--|----------------------------|-------------------------------------|------------------------------|------|---|---|--|
| | Shielding Effectiveness | <input checked="" type="checkbox"/> | IEC Publication No. 61726 | 2123 | 3 | 0 | |
| | | | | | | | |



APPLICATION FOR ESCC QUALIFICATION APPROVAL

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Component title:

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Executive Member:

Date:

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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 | 2123 | 3 | 0 | |
| | External Visual Inspection | <input checked="" type="checkbox"/> | ESCC Basic Specification No. 20500 | 2123 | 3 | 0 | |
| | Radiographic Inspection | <input checked="" type="checkbox"/> | ESCC Basic Specification No. 20900 | 2123 | 3 | 0 | |
| | Destructive Physical Analysis | <input checked="" type="checkbox"/> | ESCC Basic Specification No. 21001 | 2123 | 2 | 0 | |
| Column 3 1 TV | Radiation | <input type="checkbox"/> | As specified in Detail Specification | | | | Not performed because of similarity with ESCC3408003 already qualified (see certificate 365 and test report 11012-QTR-A02-Axon' Ed. 1, rev.1), complement done for dielectric layer investigation purpose (see additional test section) |
| Column 4 1 TV | Permanence of Marking | <input checked="" type="checkbox"/> | ESCC Basic Specification No. 24800 | 2123 | 1 | 0 | |
| | Mating and Unmating Forces | <input checked="" type="checkbox"/> | ESCC Generic Specification No. 3402 | 2123 | 1 | 0 | |
| | Coupling Proof Torque | <input checked="" type="checkbox"/> | ESCC Generic Specification No. 3402 | 2123 | 1 | 0 | |
| | Crimp Contact Tensile Strength | <input type="checkbox"/> | ECSS-Q-ST-70-26 | | | | Not applicable |
| Additional Tests | Radiation | <input checked="" type="checkbox"/> | Till 20 MRad with intermediate steps at 1, 3, 6, 10 Mrad | 2036 | 9 | 0 | |
| | | <input type="checkbox"/> | | | | | |
| | | <input type="checkbox"/> | | | | | |



APPLICATION FOR ESCC QUALIFICATION APPROVAL

Component Title: RF CABLE ASSEMBLY, 2.92MM CONNECTORS, LOW POWER, 50 OHMS, FLEXIBLE CABLE, DC TO 32 GHZ, BASED ON TYPE AXOWAVE 44SLQ

Executive Member: CNES

Date: 12/05/2022

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C215

ANNEX 2 : CONFIDENTIAL DATA

PID changes details

None ☐
Minor ☐
Major ☐

17

Noncompliance 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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Additional Comments

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| | | | |
|--|--|---|----------------------|
|  | APPLICATION FOR ESCC QUALIFICATION APPROVAL | | Page 7 |
| | Component Title: RF CABLE ASSEMBLY, 2.92MM CONNECTORS, LOW POWER, 50 OHMS, FLEXIBLE CABLE, DC TO 32 GHZ, BASED ON TYPE AXOWAVE 44SLQ | Executive Member: CNES Date: 12/05/2022 | Appl. No. 383 |
| NOTES ON THE COMPLETION OF THE APPLICATION FORM FOR ESCC QUALIFICATION APPROVAL | | | |
| ENTRIES | | | |
| Form Heading | shall indicate:— the title of the component as given in its detail specification or the name of the series or family; — the entering date; — the serial number and the suffix of the form. | | |
| Box 1 | shall provide details given in table; in particular there shall be listed - the variants or range of variants; the range of components by using the ESCC code for values tolerances, etc.; the designation given in detail specification as 'based on'; —under Test Vehicle enter either a cross or the specific characteristic capable to identify the component tested; — under component similar enter a cross. | | |
| Box 2 and 3 | Manufacturer's name and location of plant where the components were manufactured and tested. | | |
| Box 4 | Generic and detail specifications used during qualification program. | | |
| Box 5 | Reference to test report(s) submitted in support of application. | | |
| Box 6 | Enter details to identify the PID that was applicable at the time the qualification lot was manufactured. | | |
| Box 7 | If the PID was evolved after qualification lot manufacture, adequate details of such evolution shall be provided together with reasons for changes. Major changes shall be clearly marked. | | |
| Box 8 | The box serves to identify the current PID and the Executive Representative that has verified it together with the date of this occurrence. | | |
| Box 9 | This box can be completed only after a physical visit to the plant to confirm that the practices, procedures, materials, 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 10 | Details entered shall be sufficient to evidence that an evaluation program according to ESCC Basic Specification No. 22600 has been performed and that the results thereof are summarized in the survey and test reports. If the evaluation program has not been carried out according to established ESCC documents, the applicant Executive Representative shall provide alternative data and declare its assessed degree of satisfactory compliance with the ESCC basic requirements. Reference shall be made to the reports on Destructive Physical Analysis (DPA), Failure Analysis and Non conformance (NCCS) issued during the Evaluation and/or Qualification Phase. | | |
| Box 11 | Enter the name of the Executive Coordinator and the signature. | | |
| Box 12 | To be used when there is a need to expand any of the boxes from 1 through 10. Identify box affected and reference the Box 12 in the relevant Box. Box 12 can be broken into 12a, 12b, etc. if several Boxes have to be expanded. | | |
| Box 13 | Fill table as requested. | | |
| Box 14 | Fill in any additional tasks required to achieve full compliance. | | |
| Box 15 | All Executive recommendations on the application itself, special conditions or restrictions, modifications of the QPL or ESCC QML entry, letters to the manufacturer, etc. shall be entered clearly in Box 15, signed by the ESA Representative. | | |
| Box 16 | Fill in Table as requested. | | |
| Box 17 | Confidential details of PID changes shall be provided. | | |
| Box 18 | State noncompliance with reference to specification(s) and paragraph(s). To simplify reference in Box 18 each nonconformance shall be sequentially numbered. If relevant state 'None' | | |
| Box 19 | Any additional action deemed necessary by the Executive Representative 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 nonconformance. | | |
| Box 20 | Additional Comments | | |