



APPLICATION FOR EXTENSION OF ESCC TECHNOLOGY FLOW QUALIFICATION

Component Title: Molded SMD Custom Magnetics Components, Toroidal (TO) or Linear (CCM Winding Technology)

Executive Member: CNES

Date: 11/08/2021

Page 1

Appl. No.

356A

Technology Flow submitted for qualification

1

Summary Description of Technology flow	Detailed Technology Flow Description No.	BASED On Technology	Test Structures	Components Proposed for Qualification
The Technology Flow covers custom magnetic components at Exxelia, Illange, France. See more information in "QML CCM TO.pdf"*****	These SMD inductors, chokes and transformers use toroidal winding (TO technology) or linear winding (CCM technology) assembled on a lead frame and molded with epoxy resin.	CCM (Types 4, 5, 6, 20 and 25) TO (Types 10, 12, 16, 20, 25, 30, 36)	CCM5, CCM20 and CCM 25	3201 011 var. 01 to 05 3201 012 var. 01 to 07

Component Manufacturer	2	Location of Manufacturing Plant	3	ESCC Specification used for Qualification	4
Exxelia SAS		13, Parc d'activités du Beau Vallon, F-57110 Illange		Generic: 3201 Issue 7 Detail/s: 3201/011 issue 1 3201/012 issue 1	

Qualification Report Reference and date:	5	PID used for manufacturing Qualification Lot	6
PV21-04-30VOQ CCM.pdf		Ref No: PID 101 Issue: Issue 3 Date: 01/07/2014	
Date: 21/04/2021			

PID changes since Original Qualification or last extension of Qualification.	7	Current PID Verified by:	8
None <input type="checkbox"/> Minor <input checked="" type="checkbox"/> Major <input type="checkbox"/>		C. Doucet, CNES	
		Name of Agency Representative	
		Ref No: PID 100 (*) for TO and PID 101 (**) for CCM	
		Issue: (*) Issue 3 / (**) Issue 4	
		Date: 01/03/2021	

Current Manufacturing facilities surveyed by:	9
C. Doucet and B. Marty, CNES; S. Hernandez, D. Lacombe and F. Martinez, ESA	on 12/07/2017
(Name of Agency Responsible)	(Date)
Satisfactory: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Corrective Actions closed out Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>

Quality and Reliability Data	10
Evaluation testing performed Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Failure analysis, DPA, NCCS available Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Report Ref. No.: "Rapport Evaluation" Date: 01/09/2017	(supply data) See TRB MoM AQ 186031, 09/07/2021
Equivalent Data:	Ref. Nos. and purpose:
Certification:	



APPLICATION FOR ESCC TECHNOLOGY FLOW QUALIFICATION

Component Title: Molded SMD Custom Magnetics Components, Toroidal (TO) or Linear (CCM Winding Technology)

Executive Member: CNES

Date: 11/08/2021

Page 2

Appl. No.

356A

11

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: 12/08/2021


JP BUSSEBOT

((Signature of the Executive Coordinator))

12

Box 5 : See deliveries in appendix



APPLICATION FOR ESCC TECHNOLOGY FLOW QUALIFICATION

Component Title: Molded SMD Custom Magnetics Components, Toroidal (TO) or Linear (CCM Winding Technology)

Executive Member: CNES

Date: 11/08/2021

Page 3

Appl. No.

356A

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:

TO Technology was not tested for Maintenance of Qualification due to the lack of customer' demand, the certificate extension should require LVT to be performed for each new order

14

Executive Manager Disposition

15

Application Approval: Yes No

Action / Remarks:

Date:

Britta Schade Digitally signed by Britta Schade
Date: 2021.10.07 18:32:12 +02'00'

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



APPLICATION FOR EXTENSION OF ESCC QUALIFICATION APPROVAL

Component Title: Molded SMD Custom Magnetics Components, Toroidal (TO) or Linear (CCM Winding Technology)

Executive Member: CNES

Date: 11/08/2021

ANNEX : LIST OF TESTS DONE TO SUPPORT EXTENSION OF QUALIFICATION

18

Tests conducted in compliance with:

- ESCC 3201 generic specification; Chart F4 (for ESCC/QPL parts);
- Or PID-TFD (for ESCC/QML parts)

Tests vehicle identification/description:

3201 011 02 MSASF12-0 DC 2047	3201 011 04 MB0F580 DC 2047	3201 011 05 MSASF25-0 DC 2047
3201 011 02 MSASF16-0 DC 2049	3201 011 04 MS0G895B DC 1835	3201 011 05 MS0J259A DC 2047

Detail Specification reference: ESCC 3201/011

Chart F4	Test	Tick when done	Conditions	Date Code	Tested Qty	No. of Rejects	Comments if not performed. Comments on Rejection
Environmental / Mechanical Subgroup (Column 1)	Mechanical Shock	<input checked="" type="checkbox"/>	MIL-STD-202	See above	6 x 2 samples	0	
	Vibration	<input checked="" type="checkbox"/>	MIL-STD-202	See above	6 x 2 samples	0	
	Immersion	<input type="checkbox"/>	MIL-STD-202				N/A (See Para 2.1.1.1 of ESCC 3201/011)
	Moisture resistance	<input checked="" type="checkbox"/>	ESCC 3201, Para 8.13	See above	6 x 2 samples	0	
	External Visual Inspection	<input checked="" type="checkbox"/>	ESCC 20500	See above	6 x 2 samples	0	
Environmental / Mechanical Subgroup (Column 2)	Thermal Shock	<input checked="" type="checkbox"/>	MIL-STD-202	See above	6 x 2 samples	0	
	Barometric Pressure	<input type="checkbox"/>	MIL-STD-202				N/A (See Para 2.1.1.1 of ESCC 3201/011)
	Temperature Rise	<input checked="" type="checkbox"/>	ESCC 3201, Para. 8.7	See above	6 x 2 samples	0	
	Overload	<input checked="" type="checkbox"/>	ESCC 3201, Para. 8.8	See above	6 x 2 samples	0	
	Resistance to Soldering Heat		ESCC 3201, Para. 8.9	See above	6 x 2 samples	0	
Endurance Subgroup	Operating Life	<input checked="" type="checkbox"/>	ESCC 3201, Para. 8.14	See above	6 x 3 samples	0	
	Electrical Measurements during Endurance Testing	<input checked="" type="checkbox"/>	ESCC 3201, Para. 8.3	See above	6 x 3 samples	0	
	External Visual Inspection	<input checked="" type="checkbox"/>	ESCC 20500	See above	6 x 3 samples	0	
	Permanence of Marking	<input checked="" type="checkbox"/>	ESCC 24800	See above	6 x 3 samples	0	
Assembly / Capability Subgroup	Solderability	<input checked="" type="checkbox"/>	ESCC 3201, Para. 8.16	See above	6 x 1 samples	0	
	Terminal Strength	<input checked="" type="checkbox"/>	ESCC 3201, Para. 8.17	See above	6 x 1 samples	0	



APPLICATION FOR EXTENSION OF ESCC QUALIFICATION APPROVAL

Component title: **Molded SMD Custom Magnetics Components, Toroidal (TO) or Linear (CCM Winding Technology)**

Executive Member: **CNES**

Date: **11/08/2021**

Page 6

Appl. No.

356A

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.