ESCC	APPLICATION FOR ESCC TECHNOLOGY FLOW QUALIFICATION EXTENSION Component Title: Custom Magnetics (Inductors, Chokes and Transformers) Executive Member: ESCC / ESA Date: 31/05/2022	Page 1 Appl. No. 364A

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 Flux/SA for the domain as described in FT08699015-5, PID and QML document.	It includes customized inductors, chokes and transformers. Combined Magnetics family (sub-assemblies) are not included into the domain.	Inductors, chokes and transformers.	Air coils	Various topologies covering the domain. List included into the test report FT08699027-1 and into the PID. Summary provided into box 12.

Component Manufacturer — 2
Flux A/S

Location of Manufacturing Plant — 3
Industrivangen 5
4550 Asnaes
Denmark

ESCC Specification used for Qualification — 4
Generic: ESCC3201 issue 7
Detail/s: ESCC3201/013 issue 3

Qualification Report Reference and date: — 5
FT08699027-1
Date: 29/04/2022

PID used for manufacturing Qualification Lot — 6
Ref No: FT088699015
Issue: 5
Date: 27/10/2020

PID changes since Original Qualification or last extension of Qualification. — 7
None ☐
Minor* ☒
Major* ☐
Domain extended on power level resulting from ESCC Qualification performed on 5kW PPU Planar under GSTP Contract included in released ESCC3201/013 Revision 3.

Current PID Verified by: A. Pesce,ESA — 8
Name of Executive Representative
Ref No: FT088699015
Issue: 5
Date: 27/10/2020

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Current Manufacturing facilities surveyed by: A. Pesce, ESA on 05/12/2019
(Name of Executive Responsible Agency) (Date)
Satisfactory: Yes ☒ No ☐ Corrective Actions closed out Yes ☒ No ☐ N/A ☐
Report: FLU-AUD-1219 action plan 08782241-2, closure verified during teleconference 3rd February 2019,

Quality and Reliability Data — 10
Evaluation testing performed Yes ☐ No ☒
Report Ref. No.: Date:
Equivalent Data: Design, Manufacturing and test heritage for space

Failure analysis, DPA, NCCS available Yes ☐ No ☐
CA on 5 different topologies
Reports CA0004175 and CA CA0004176.
Flux CA reply: report 08699023

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

Date: 25/08/2022

Anastasia Pesce Digitally signed by Anastasia Pesce Date: 2022.08.26 10:18:48 +02'00'

((Signature of the Executive Coordinator)

Continuation of Boxes above: 12

Test vehicles:

Evaluation Sample	Flux Part No	Description	Quantity
Q1	12041036-1-C	Toroid - Flying Leads	5
Q2	12271019-1-C	Toroid - Flying Leads	5
Q3	12060006-1-C	Toroid on Carrier	5
Q4	12139002-1-c	Toroid on Carrier (Potted)	5
Q5	14110233-1-C	RM	5
Q6	14220168-1-C	RM	5
Q7	14260119-1-C	EFD	5
Q8	14300044-2-C	IM	5
Q9	14890203-1-C	SMT	5
Q10	14221035-1-C	Planar	5
Q11	12391001-2-c	Hi Power Inductor	5
Q12	14391002-1-C	Hi Power Transformer	5
Q13	14320247-1-C	500W SMPS Transformer	5

Qualification testing performed:

	Group and Test	Sample 1	2	3	4	5	Method (Para)	Requirement (Para)
Environmental/Mechanical Groups.	Electrical characteristics	✓	✓				5.7.1	5.7.2
	Mechanical Shock	✓	✓				5.10.1	5.10.2
	Vibration (random	✓	✓				5.9.1	5.9.2
	Moisture Resistance	✓	✓				5.15.1	5.15.2
	Electrical characteristics	✓	✓				5.7.1	5.7.2
	Thermal Shock	✓	✓				5.17.1	5.17.2
	Partial Discharge (Hi Power Transformer only)	✓	✓				5.13.1	5.13.2
	Temperature Rise (selected units)	✓					5.18	
	Overload	✓	✓				5.16.1	5.16.1
	Induced Voltage	✓	✓				5.5.1	5.5.2
	Dielectric Withstanding Voltage (at	✓	✓				5.6.1	5.6.2
	Electrical characteristics	✓	✓				5.7.1	5.7.2

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Non compliance to ESCC requirements:

No.:	Specification	Paragraph	Non compliance

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

N/A

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Executive Manager Disposition

Application Approval: Yes ☒ No ☐

Action / Remarks:

Date:

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

	Visual Inspection	✓	✓				5.2.2.1	5.2.2.2
	Resistance to soldering heat	✓	✓				5.3.1	5.3.2
	DPA	✓					5.14.1	5.14.2
Endurance	Life			✓	✓	✓	5.11.1	5.11.2
Endurance	Permanence of Marking			✓	✓	✓	5.8.1	5.8.2
Endurance	Electrical characteristics			✓	✓	✓	5.7.1	5.7.2
Endurance	Visual Inspection			✓	✓	✓	5.2.2.1	5.2.2.2
Assembly	Solderability					✓	5.3.1	5.3.2
Assembly	Terminal Strength					✓	5.4.1	5.4.2
Assembly	Visual Inspection					✓	5.2.2.1	5.2.2.2
Sample Size = 5								Failures Allowed = 0