
	<p align="center">APPLICATION FOR ESCC CAPABILITY APPROVAL (or its EXTENSION):</p> <p>CAPABILITY DOMAIN: Technology Specification for a Mixed Signal ASIC Based on Rad-Hard XH018 IP Library</p> <p>Executive Member: DLR Date: 26.01.2024</p>			Page 1 Appl. No. 387
<p>Capability domain submitted for approval 1</p>				
<p>Capability Domain Description</p>	<p>Capability Abstract Number</p>	<p>Based on Technology</p>	<p>Test Structures</p>	<p>Component Proposed for Qualification</p>
<p>Scope of the capability domain is the supply chain for a RF/Mixed-Signal ASIC, based on an IP library, specially designed against radiation effects. This library is called HARD Library, derived from Hard Against Radiation by Design Library</p>	<p>Attached as Appendix: 7000/SPAC/IMST_RD_020, Version 1.3</p>	<p>HARD Library: XH018 Process from XFAB</p>	<p>ESCC Detail Spec 9202/084, issue 2</p>	<p>CMOS, mixed signal ASIC, based on a Rad-Hard XHO18 IP library</p> <p>Type Number: RHXH10002A</p>
<p>Component Manufacturer</p> <p>IMST GmbH Carl-Friedrich-Gauss-Str. 2-4, 47475 Kamp-Lintfort, Germany</p>	<p>Location of manufacturing plant(s)</p> <p>IMST GmbH Carl-Friedrich-Gauss-Str. 2-4, 47475 Kamp-Lintfort, Germany</p>	<p>ESCC Specifications used for Capability Approval</p> <p>Generic: ESCC 2439000, Issue 2 ESCC 9000, Issue 11 Details: ESCC 9202/084, Issue 1</p>		
<p>Report reference:</p> <p>Qualification Precap Report: Precap Report SPACII_IMST-PCI-DLR-01-2021, rev. 1 Date: 17/12/2020</p> <p>Qualification Test Report: 7000/6140424/IMST_TR_100, Issue: 1.1 Date: 2022/07/22</p>	<p>PID used for manufacturing Approval Testing Lot</p> <p>Reference No.: 7700/6140424/IMST_RD_000</p> <p>Issue: 3.0 Date: 2020/12/10</p>			
<p>PID Changes since start of Capability Approval</p> <p>None <input type="checkbox"/> Minor* <input checked="" type="checkbox"/> * provide details in Box 12 Major* <input type="checkbox"/></p>	<p>Current PID Verified by: B. Gökgöz,DLR Name of Executive Representative</p> <p>Ref. No.: 7700/6140424/IMST_RD_000 Issue: 3.3 Date: 2024/01/24</p>			
<p>Current Manufacturing Facilities and Quality System audited by:</p> <p>B. Gökgöz, DLR, D. Lacombe, 19./20.07.2022 IMST-AUD-SPAC-2022 ESA Date Report Reference Number</p> <p>Name of Executive Representative Corrective Actions Closed Out: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Satisfactory: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>				
<p>Quality and Reliability Data</p> <p>Evaluation testing performed Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>Report Ref. No.: Evaluation Test report: IMST_TR_001, rev. 2.1 date: 27.08.2018</p> <p>Failure Analysis, DPA, NCCS: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (supply data)</p> <p>Ref. Nos. and purpose:</p> <p>CA & DPA:</p> <ul style="list-style-type: none"> - CA (Evaluation) 08C16_A97 - DPA (Evaluation, new glue) 08D18_602 - CA (Qualification) 08C20_396 - extended DPA (Qualification) QA0004865 <p>NCCS:</p> <ul style="list-style-type: none"> - NC1DPCX801, date 20/12/2018 - NC1DIMS901, date 07/05/2019 - NC2DIMS102, date 11/10/2021 				

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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 evidenced except as stated in box 13; that the reports and data are available at the ESCC Executive and therefore applies for ESCC Capability Approval status to be given to the capability domain defined herein.

Date:

Burak Goekgoez

Digital signiert von Burak Goekgoez
 DN: C=DE, S=Nordrhein-Westfalen, L=Köln, O=Deutsches Zentrum fuer Luft- und Raumfahrt e.V. (DLR), SN=Goekgoez, G=Burak, CN=Burak Goekgoez
 Grund: Ich bin der Verfasser dieses Dokuments
 Ort: Bonn
 Datum: 2024.02.02 15:23:14+01'00'
 Foxit PDF Editor Version: 13.0.1

(Signature of the Executive Coordinator)


Continuation of Boxes above:

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Continuation of Box 7:

Documentation Change Notice

Date	Version	Section	Description of changes
2021-02-16	3.1	Cover sheet	QSA Executive changed to ESCC Executive
2021-02-16	3.1	Figure 4-1, Table 3-4, Table 4-17, Table 4-19	Service provider for first screening steps up to PIND has been allocated to FSL
2022-08-02	3.2	Chap. 1.1: Reference List	Reference List Update
2022-07-29	3.2	Chap. 4.1: Supplier Audit Programme	Introduction of Supplier Audit Programme
2022-07-29	3.2	Chap. 5.1: Change Management	Reorganisation of chapter and strengthening role of ESCC-Executive
2022-07-29	3.2	Chap. 6 Test Equipment	Introducing calibration on demand for testing equipment
2022-07-29	3.2	Chap. 4.4.2: Figures 4-4, 4-5 updated, 4-6 new figure	Reflect recent changes to manufacturing facilities (inside IMST); R114 (Baseband laboratory) added (burn-in and electrical testing)
2022-07-29	3.2	Chap. 4.4.5, Chap. 4.6	No repair and rework on flight/qualified ESCC items Word "draft" (for package) erased
2022-08-02	3.2	Fig. 3-2 Order Flow Chart	Applicability of Standards, Check for most recent changes;
2022-09-20	3.2	Chap. 4.4.5 PASS/FAIL criteria	Addition of "assembly procedures", addressing die-attach issues (change of test method from MIL-STD-883 TM2010 to TM2017 for preforms (exception)
2022-10-14	3.2	Chap. 5.1 Change Management	Detailed definition of ESCC Chief Inspector and ESCC Executive role;
2023-12-08	3.3	Chap. 8	LVDS speed information changed
2023-12-20	3.3	Chap. 9.4	ESCC 2049000 has been added as attachment
2023-12-20	3.3	Chap. 1	Note on changed wire bonding rules after qualification design given
2024-01-24	3.3	Chap. 1.1	Reference list updated
2024-01-24	3.3	Chap. 4.3.1	Note added on compliance check / decision at FDR

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Non compliance to ESCC requirements: 13

No.:	Specification	Paragraph	Non compliance

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


Executive Manager Disposition: 15

Application Approval: Yes No

Action/Remarks:

IMST agrees to send 3 samples coming from the first customer lot to ESTEC lab for DPA.

Date:



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

