DEFENSE LOGISTICS AGENCY
LAND AND MARITIME
POST OFFICE BOX 3990
COLUMBUS, OH 43218-3990

Kevin McCarville
Vorago Technologies
1501 S. MoPac Expressway, Suite 350
Austin, TX 78746-7673

September 25, 2024

Dear Mr. McCarville:

Re: Laboratory Suitability for MIL-STD-883; FSC 5962; VQC-24-038983; Tran

Vorago Technologies has demonstrated to the DLA Land and Maritime compliance with MIL-STD-883, the test standard for integrated circuits. Vorago Technologies is granted laboratory suitability, effective immediately, for the facilities, test methods and conditions shown on the enclosure. All testing must be performed in accordance with MIL-PRF-38535 and MIL-STD-883 test methods. Any deviation or modification to MIL-PRF-38535, the test methods/conditions listed in this letter must be approved in writing from the Qualifying Activity (QA) for MIL-PRF-38535, DLA-VQC.

This letter is issued in conjunction with the QML certification letter DLA Land and Maritime VQC-24-038983 effective on September 03, 2024.

This Laboratory Suitability is subject to the policies, procedures, and conditions of the Defense Standardization Program, as published in the manual DoD 4120.24-M and SD-6.

This laboratory suitability is valid until terminated by written notice from DLA Land and Maritime. If warranted, it may be withdrawn by DLA Land and Maritime at any time. Each of these facilities is subject to an audit by DLA Land and Maritime with a minimum notice.

If you have any questions, please contact Mr. Tran (614) 692-0606.

Sincerely,

ADAMS.MICHAEL.S.1230230427 Digitally signed by ADAMS.MICHAEL.S.1230230427 Date: 2024.09.26 06:37:18 -04'00'

MICHAEL S. ADAMS
Chief
Custom Devices Branch

Enclosure

Enclosure to DLA Land and Maritime-VQC-24-038983

For Hermetic Packages

TEST	Method	GA	ORS	ECR	CTS	EAG	iTest	ML	HiRel
Moisture Resistance	1004	X		X					
Steady State Life Test	1005 (A-E)	X							
Stabilization Bake	1008 (A-D)	X							
Salt Atmosphere	1009 (A-D)	X							
Temperature Cycling	1010 (A-C)	X							
Thermal Shock	1011 (A-C)	X							
Seal	1014 (A1, A2, C1)	X							
Burn-in	1015 (A-E)	X							
Internal Gas Analysis (IGA)	1018	ORS	X						
Constant Acceleration	2001 (A-E)	X							
Mechanical Shock	2002 (B)	X							
Solderability	2003	X							
Lead Integrity	2004 (A, B1, B2, D)	X							
Vibration, Variable Frequency	2007 (A)	X							
External Visual	2009	X							
Internal Visual	2010 (A-B)	X							
Bond Strength	2011 (D)	X							
Radiography	2012			X (non-film)					
Resistance to Solvents	2015	X							
Physical Dimensions	2016	X							
Die Shear Strength	2019	X							
PIND	2020 (A)	X							
SEM (destructive)	2018	X							X
Lid Torque	2024	X							
Adhesion of Lead Finish	2025	X							
Substrate Attach Strength	2027	X							

ESDS Classification	3015 & JS-001 JS-002					X			
TEST	**Method**	**GA**	**ORS**	**ECR**	**CTS**	**EAG**	**iTest**	**ML**	HiRel
Wafer Lot Acceptance	5007			X					
Resistance to Soldering Heat	2036	X							
ESDS Classification	3015 & JS-001 JS-002					X		X	
Hot solder Dip		X							
Device Marking		X							
Electrical Test	MIL-STD-883 paragraph 4.5				X		X		
Wafer Probe					X				
Radiation Test									

Subcontractors:

1. Golden Altos (GA) Corporation
   44061 Old Warm Springs Blvd
   Fremont, CA 94538, USA

2. Oneida Research (ORS)
   8811 American Way Suite 100
   Englewood, CO 80112, USA

3. Oneida Research (ORS)
   8282 Halsey Road
   Whitesboro, NY 13492, USA

4. ECR
   916 Commercial St.
   Palo Alto, CA 94303, USA

5. Tessolve DTS Inc.
   4210 S. Industrial Dr. Suite 140
   Austin, TX 78744, USA

6. Eurofins EAG (Former CTS)
   2875NW Parkway
   Santa Clara, CA 9505, USA
   Contact is Alvaro Silva
   1-800-366-3867

7. EAG Labs
   15 Morgan Irvine, CA 92618
   and 1708 McCarthy Blvd.
   Milpitas, CA 95035 USA

8. iTest Inc.
   1905 Tarob Ct
   Milpitas, CA 95035, USA

9. Minotaur Labs (ML)
   7931 E. Pecos Rd, Suite 171
   Mesa, AZ 85212, USA

10. HiRel Labs
    6116 N. Freya St
    Spokane, WA 99217, USA

11. TSMC
    Taiwan Semiconductor
    Manufacturing Company
    (TSMC) Fab 6 (.13u CL013LP
    FSG (1.5V/3.3V process)
    (approved for last time buy one time only and currently have wafer bank in Vorago inventory)

Radiation Test labs Used by Vorago for QML-38535 qualification:

1. TID
   Air Force Research Lab, Kirtland Air force Base, 2000 Wyoming Blvd SE, Albuquerque NM, USA.

2. TID
   University of Mass, One University Ave, Lowell, Mass, USA.

3. SEE Heavy Ion
   Texas A&M University, Luedecke Bldg., 120 Spence, College Station, TX, USA

4. SEE Heavy Ion
   Lawrence Berkley Labs, 1 Cyclotron Rd, Berkley, CA, USA.

Note:

1. TSMC
   Taiwan Semiconductor Manufacturing Company (TSMC) Fab 6 (.13u CL013LP), FSG (1.5V/3.3V process)
   (approved Vorago for last time buy one time only and currently is using wafers bank in Vorago inventory. No new buy from TSMC wafer foundry).

2. Die purchased from Infineon (Cypress Semiconductor QML qualified CMOS technology/SMD die) wafer is manufactured at TI wafer foundry, DMOS 5

wafer fab line located in Richardson, TX, USA. Infineon qualified this die with their own SMD for QML-38535, class level Q & V.

3. First Vorago QML products is a stack die with Vorago die on the bottom and Cypress die stack on top assembled in 176 lead, CQFP hermetic package using JM7000 Epoxy as die attach medium, Gold (Au) wire, seam seal, gold lead final finish.