



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

November 02, 2018

Mr. Pradeep Ravipati
Sr. Quality Manager,
Microsemi SoC Corp, a wholly owned subsidiary of Microchip Technology Inc.
3870 N. 1st Street
San Jose, CA 95134

Dear Mr. Ravipati:

Re: Laboratory Suitability for MIL-STD-883; FSC 5962; VQC-19-033212; Tran

Microsemi SoC Products Group, a wholly owned subsidiary of Microchip Technology Inc, has demonstrated to the DLA Land and Maritime compliance with MIL-STD-883, the test standard for integrated circuits. This letter VQC-19-033212, is affective as of November 02, 2018 is supersede the previous letter that was issued to Microsemi SoC Products Group on November 15, 2017, for the facilities, test methods and conditions shown on the enclosure. All testing must be performed in accordance with MIL-PRF-38535, MIL-STD-883 test methods and the specific test conditions as specified here in and as outlined in the company Quality Management Plan.

This laboratory suitability is subject to the conditions in DoD 4120.24-M, Defense Standardization Program.

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 If warranted, it may be withdrawn by DLA Land and Maritime at any time.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. The QML manufacturer shall be responsible to make all necessary arrangement with offshore facilities to grant DLA audit team access to these facilities to perform on site audit to the MIL-PRF-38535 and MIL-STD-883 requirements. Offshore facilities are subject to all of the conditions of MIL-PRF-38535 and MIL-STD-883.

Sincerely,

MICHAEL S. ADAMS
Chief
Custom Devices Branch

Enclosure

cc:

DLA Land and Maritime -VQC (Scott Thomas)
DLA Land and Maritime -VQC (Philip Patterson)
Microsemi SoC Corp – (Pradeep Ravipati)

Enclosure to DLA Land and Maritime-VQ (VQC-19-033212)

Test Method	Description	Microsemi SoC Products Group, 3870 N. 1st St. San Jose, CA 95134	e2v Aerospace and Defense (Formerly QP Semiconductor) 765 Sycamore Dr., Milpitas, CA 95035	RQE, 511A Los Coches Street, Milpitas, CA 95035	Kyocera America, Inc., 8611 Balboa Ave., San Diego, CA 92123	Amkor Technology P1 ⁻³ KM-22 East Service Road So. Super Highway, Muntinlupa, Philippines	EAG (formerly Seal laboratories) 250 N. Nash St. El Segundo, CA 90245	Micross (Formerly Hirel Micro), 1804 McCarthy Blvd. Milpitas, CA 95035	Six Sigma, 905 Montague Expressway, Milpitas, CA 95035	ICE Engineering Inc., 2310 Lundy Ave., San Jose, CA 95131	Nanolab, San Jose, CA	Evans Analytical group 2710 Walsh Ave., Santa Clara, CA 95051	Evan Analytical Group, 810 Kifer Rd., Sunnyvale, CA 94086	Riga Analytical, 3375 Scott Blvd., Ste 132 Santa Clara, CA 95054	Microsemi Analog Mixed Signal Group, 11861 Western Ave, Garden Grove, CA 92840
5007	Wafer lot acceptance	X													
1004	Moisture Resistance		X		X			X							
1005	Steady State Life Test	X		X						X		X			
1009	Salt Atmosphere		A		A			A							
1010	Temperature Cycling		C		C	C		C							
1011	Thermal Shock		B		B			B							
1014	Seal		A ₁ A ₂ C ₁		A ₁ A ₂ C ₁	A ₁ A ₂ C ₁ C ₃		A ₁ A ₂ C ₁	A ₁ A ₂ C ₁						
1015	Burn-in Test	X		X						X		X			
1018	Internal Water Vapor						X								
2001	Constant Acceleration		A-E		A-E	A- E		A-E							
2002	Mechanical Shock		B					B							
2003	Solderability		X		X	X		X	X						
2004	Lead Integrity		B ₂		B ₂			B ₂							
2007	Vibration, Variable Frequency		A		-			A							
2009	External Visual	X	-		X	X		-							
2010	Internal Visual		-		A, B	A, B		-							
2011	Bond Strength		D		D	D		D							
2012	Radiography						X ⁻¹								
2013	Internal Visual		X ⁻⁴					X ⁻⁴							

	Inspection for DPA														
2014	Internal Visual & Mechanical		X ⁻⁴					X ⁻⁴							
2015	Resistance to Solvents	X	X		X	X		X							
2016	Physical Dimension		X		X	-		X	X ⁻¹ (CGA)						
2018	SEM Inspection of Metallization									X ⁻¹		X ⁻¹		X ⁻¹	
2019	Die Shear Strength		X		X	X		X							
2020	PIND		A		A	-		A							
2021	Glassivation Layer Integrity		-	X ⁻¹	X ⁻¹			X ⁻¹		X ⁻¹		X ⁻¹			
2025	Adhesion of Lead Finish		X		X			X							
2027	Substrate Attach Strength		X		X	X									
2028	PGA Destructive Lead Pull Test		X		X			X							
2031	Flip chip pull off test				X										
2036	Resistance to Soldering Heat	-	-	-	-	-	-	B	-	-	-	-	-	-	-
3015	ESD Sensitivity Classification											X ⁻¹			
2038	Solder Column Pull								X ⁻¹						
No Test Method	Electrical Test	X ⁻¹													
No Test Method	Wafer probe, Parametric Test	X ⁻¹													
No Test Method	Failure Analysis									X ⁻¹		X ⁻¹	X ⁻¹	X ⁻¹	
No Test Method	Back Grinding														
No Test Method	TID Testing														
MIL-STD-1580B	DPA						X ⁻⁴								

	Mechanical													
2015	Resistance to Solvents												X	
2016	Physical Dimension												X	
2018	SEM Inspection of Metallization					X ⁻¹								
2019	Die Shear Strength												X	
2020	PIND												A, B	
2021	Glassivation Layer Integrity													
2025	Adhesion of Lead Finish												X	
2027	Substrate Attach Strength												X	
2028	PGA Destructive Lead Pull Test												X	
2031	Flip chip pull off test													
2036	Resistance to Soldering Heat													
3015	ESD Sensitivity Classification													
2038	Solder Column Pull													
No Test Method	Electrical Test													
No Test Method	Wafer probe, Parametric Test									X ⁻¹				
No Test Method	Failure Analysis					X ⁻¹								
No Test Method	Back Grinding				X ⁻¹									X ⁻¹
No Test Method	TID Testing											X ⁻²⁻⁴		
MIL-STD 1580B	DPA									X ⁻⁴				

NOTES:

- ⁻¹ currently does not have laboratory suitability from DLA. Microsemi is responsible to perform site audits/internal audits/self-assessment evaluations of this facility as applicable
- ⁻² currently does not have laboratory suitability from DLA. Since this is a government facility, site audits/self-assessment evaluations of this facility are waived
- ⁻³ Supplier (Amkor Technology, located in PH) is discontinued from June 2018. Shipping product that was procured as last time build.
- ⁻⁴ currently does not have laboratory suitability from DLA. Microsemi is responsible to perform site audits/internal audits/self-assessment evaluations of this facility as applicable. This is not required or covered under the MIL PRF 38535 QML certification/qualification program (Self-imposed).