



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

November 02, 2018

Mr. Bruce Weyer
Vice President
Microsemi SoC Corp. a wholly owned subsidiary of Microchip Technology Inc.
3870 N. 1st Street
San Jose, CA 95134

Dear Mr. Weyer:

Re: Full Certification Class Q and V for MIL-PRF-38535; FSC 5962; VQC-19-033211;
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Microsemi SoC Corp. a wholly owned subsidiary of Microchip Technology Inc, has demonstrated to the DLA Land and Maritime that it complies with MIL-PRF-38535, the performance specification used by the Department of Defense for monolithic integrated circuits that operate in severe environments.

This letter supersedes previous Level Q and V Certification/Qualification letters granted to Microsemi SoC Corp. effective immediately, to reflect the current certification status of your facilities as documented on the Quality Management Program (QMP), document number C-00-QMP, revision 26, dated April 26, 2017.

In addition, the parts that are manufactured using the certified technology flows are being listed on the QML-38535. This will allow Microsemi SoC Corp. to mark parts with "Q" or "QML". These designators have been authorized by the Department of Defense for parts that have been produced to a QML specification, (i.e., one which allows less government oversight), the use of world-wide commercial production lines, reduced finished product testing based on statistical process controls (SPC), and other cost advantages.

Testing must be performed using the facilities and methods listed in the Laboratory Suitability letter DLA Land and Maritime-VQC-19-033212, or at facilities approved by Microsemi SoC Corp.'s Technical Review Board using its MIL-PRF-38535 Quality Management Program Plan.

This certification is subject to the conditions in DoD 4120.24-M, Defense Standardization Program and SD-6.

Any and all of the facilities mentioned on the enclosure are subject to an audit by the Qualifying Activity at any time. 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.

Enclosure to DLA Land and Maritime-VQ (VQC-19-033211)

Approved suppliers/locations: Design, Wafer Fab, Wafer Probe, Assembly & Test, Electrical Test, etc.					
Operation	Supplier	Location	Technologies & QML Products/Service for QML Products	Flow	Notes
Design	Microsemi SoC Corp.	3870 N. 1st Street, San Jose, CA 95134	CMOS, ONO and M2M Antifuse, Flash based Field Programmable Gate Arrays (FPGA)	Class Q & V	
Wafer Fab	Matsushita Electronics Corp (MEC)	1 Koutari Yakemachi Nagaokakyo City Kyoto Japan - DISCONTINUED	0.25u, 0.6u, 0.8u, and 1.0 u CMOS/Antifuse FPGA, ACT1/ACT2/ACT3 E-test/PCM test	Class Q	DLA Fab Audit: DLA (2001)
	Global Foundries(GFM), Formerly Chartered Semiconductor Manufacturing Inc. (CSM)	60 Woodlands, Industrial Park D, Street 2, Singapore 738406	MX, SX	No	DLA Fab Audit: DLA (2002)
			0.35u, 0.45u, and 0.6u CMOS/Antifuse FPGA E-test/PCM test	Class Q	
	United Microelectronics Corp. (UMC)	<p>All products except 65nm: No. 3, Li-Hsin 2nd road, Science based Industrial Park, Hsinchu City, Taiwan, Republic of China</p> <p>All 65nm products: <u>BEOL:</u> No.18 Nanke 2nd Rd., Tainan Science park, shinshih Dist. Tainan City, Taiwan 74147, R.O.C <u>FEOL:</u> UMC Pte. Ltd. No. 3, Pasir Ris Drive 12, Singapore (519528)</p>	RTAX-S/SL & RTAX-D/DL (0.15u) CMOS/Antifuse FPGA	Class Q & V	DLA Fab Audit: DLA (2007, 2013 & 2016) Aerospace (2004, 2007 & 2016) NASA/JPL (2014 & 2016)
			RTSX-SU (0.22u/0.25u) CMOS/Antifuse FPGA	Class Q	
	RT3PE (0.13u) CMOS/Flash FPGA + E-test/PCM test	Class Q			
RTG4 (65nm) CMOS/Flash FPGA + E-test/PCM test	Class Q & V				
BAE Systems, Formerly (Lockheed Martin)	Missile and Space Electronics Information and Electronic Warfare Systems 9300 Wellington Road, Manassas, Virginia 22110 DISCONTINUED	RH1020 RH1280	Class Q & V		
		0.8u CMOS/Antifuse-RHA	Class Q & V		
Wafer Probe	Ardentec	2F., No. 24, Wen-Huah Road, Hsin-Chu Industrial Park, Hu-Kou Hsin-Chu Hsien, 303 Taiwan	Wafer probe (All products)	Class Q	DLA Audit: DLA (2016) Aerospace (2016) NASA/JPL (2016)
	Microsemi SoC Corp.	3850/3870 N 1 st Street, San Jose, CA 95134	Wafer probe (All products)	Class Q & V	
Wafer Bump	Amkor	No 1, Kao-Ping Sec, Chung-Feng Rd, Lungtan Township, Taoyuan County 325, Taiwan R.O.C No 39 Guang-Fu. Hsin-chu Industrial park, Hu-Kou Township, Hsin-chu County 303, Taiwan, R.O.C	Flip chip Technology		DLA Audit: DLA (2016) Aerospace (2016) NASA/JPL (2016)
Assembly and Test	Kyocera America, Inc.	8611 Balboa Avenue, San Diego, CA 92123	Hermetic package assembly for Ceramic Quad Flatpak (CQFP – Wire bond & Flip chip), Land Grid Array (LGA – Wire bond & Flip chip), and Pin Grid Array (CPGA) packages	Class Q & V	Microsemi SoC Corp baseline 1-04-11018
	Amkor Technology Philippines (ATP)	KM-22 East Service Road So. SuperHighway Muntinglupa, Philippines	Ceramic package and selected screen tests (no burn-in) Hermetic package assembly for Ceramic Quad Flatpak (CQFP) and Pin Grid Array (CPGA) packages	Class Q	Microsemi SoC Corp baseline 1-04-11044 DISCONTINUED from June 2018. Last time built product is being shipped. Microsemi have not decided where to assemble their future class Q yet.
	Six Sigma	905 Montague Expressway, Milpitas, CA 95035	Solder column attach, Solderability (dipping, testing, inspection)	Class Q & V	
	BAE Systems, Formerly (Lockheed Martin)	Missile and Space Electronics, Information and Electronic Warfare Systems 9300 Wellington Road, Manassas, Virginia 2110 DISCONTINUED	Assembly, Test, and Burn-In for CQFP, Solder Column Attachment for CGA	Class Q/V Com Lab Suitability	
Electrical Test	Microsemi SoC Corp.	3870 N. 1st Street, San Jose, CA 95134	Electrical test	Class Q and V	All QML devices