

EMULATION ZONE MICROCIRCUIT EMULATION CENTER



Volume 5, Issue 2

Welcome to our latest edition of the Emulation Zone Newsletter. In this issue we are pleased to announce that we have achieved our 1000th GEM parts listing on DLA's Qualified Manufacturers List (QML); ensuring the availability of military grade product from our U.S. based, captive, trusted facility. We also review a new GEM success story for the Rolling Airframe Missiles (RAM) Guided Missile Weapon System (GMWS); which enabled the customer to maintain production support while securing a permanent solution to replace an obsolete microcircuit. Finally, check out the latest GEM parts list available for download from our web site.

SRI International, as the prime contractor for the Defense Logistics Agency's (DLA) Generalized Emulation of Microcircuits (GEM) & Advanced Microcircuit Emulation (AME) Programs, provides technical solutions for microcircuit obsolescence. Our mission is to maintain and consistently develop obsolete microcircuit manufacturing capability for DLA and its DMSMS customer base to support U.S. military weapons systems and readiness. The programs deliver a permanent solution to microcircuit obsolescence that can be utilized during any phase of the weapon systems life cycle.

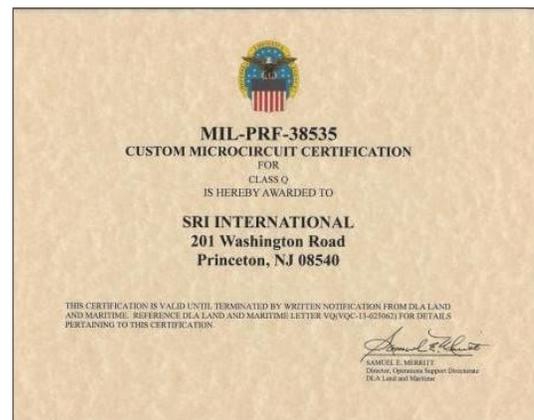
GEM Reaches 1000 QML Parts Listing Milestone

Qualified Manufacturers List (QML) is a certification issued by the Defense Logistics Agency (DLA) for parts that have been manufactured in a QA-certified technology flow that is capable of producing military-grade microcircuits in compliance to the performance requirement of MIL-PRF-38535. Microcircuits achieve "QML" status upon successful demonstration of the certified technology flow and compliancy to a device military specification. The DLA sourcing and qualification division (VQ) reviews all testing and qualification data before certifying as QML and listing a device on the [Standard Microcircuit Cross-Reference \(SMCR\)](#).

The SMCR is a publicly available database which lists all DLA supported microcircuits, used on various weapon systems, that are compliant with Standard Microcircuit Drawings, M38510 Slash Sheet specifications, and DLA Vendor Item Drawings. The SMCR provides information on the microcircuit suppliers (vendors) and the latest version of the controlling specification. It also provides the DLA National Stock Number (NSN) for microcircuits actively supported by DLA.

There are instances where a microcircuit on the QML has no vendor listed as a source. In many cases when this situation occurs, and based on demand, the GEM Program has designed and manufactured an emulation of the original microcircuit. **We have recently added our "1000" QML-Q part listing on the DLA QML.** Since 1997 a total of 1000 microcircuits have been designed, manufactured in our captive foundry, qualified, and listed on the QML. Every microcircuit has been available on a continuous basis and none have ever been removed from the list.

The GEM Program is currently working on several GEM parts which will be listed on the SMCR when the qualification is completed. If you have a need for a microcircuit which has no source, submit your request to geminfo@sri.com for a possible GEM placement.



DEFENSE LOGISTICS AGENCY DLA Land and Maritime Standard Microcircuit Cross-Reference

Total Record Count: 1000

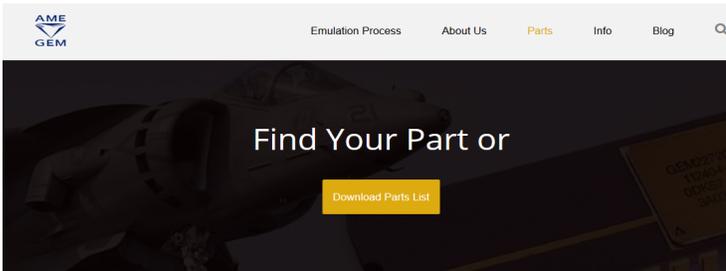
CAGE Code: 0DKS7

QPL: QML-38535



A New GEM Parts List is Now Available

Our GEM parts list has been updated and now has over 27,000 parts listed. By visiting our web site at www.gemes.com, you can either download the entire GEM parts list or do a part number search for your specific part. These are categorized as either “Emulation Available”, or “Emulation Capable”. The “Emulation Available” status means that an emulated device fully compliant to the part number has been successfully manufactured and qualified. In some cases the requirements of a variation of the part (ex: package type, lead finish, etc.) will need to be reviewed in detail to determine if the previously emulated device fully conforms to the requirements of the variation. Minor modifications to the existing design or screening may be required. An “Emulation Capable” status means that based on the part requirements and the currently available GEM arrays and technologies, this part is highly likely to be successfully emulated. The procurement specification of the part number are reviewed to make a final determination. If you do not see your part number listed, no problem. Just contact us at geminfo@sri.com and we would be happy to review your part to see if it is an Emulation candidate.



GEM'S Parts List

Search:

Part Number ^	Generic P/N ^	GEM P/N ^	Description ^	Status ^
M38510/02305BCC	54H04	GEM026	GATE, INVERTER, HEX	Emulation Available
M38510/02305BCX	54H04	GEM026	GATE, INVERTER, HEX	Emulation Available
M38510/02305BDA	54H04	GEM026	GATE, INVERTER, HEX	Emulation Available
M38510/02305BDB	54H04	GEM026	GATE, INVERTER, HEX	Emulation Available

Upcoming Conferences/Tradeshows

- **DMC 2020, December 7-10th, Orlando, FL - Postponed (date July 12th - 16th).**
- **Dixie Crow Symposium, March 21st - 24th 2021, Robins AFB, Georgia**
- **GOMAC, March 29th - April 1st 2021, Charleston, SC**

All planned conferences and tradeshows for the remainder of 2020 have been cancelled due to the Covid19 Pandemic. In lieu of attending in-person events we are scheduling virtual Emulation program introduction/briefings. Please contact us at geminfo@sri.com to schedule your virtual briefing today!

CONTACT US



Visit the Emulation program at www.gemes.com, or contact us at geminfo@sri.com. A complete GEM [parts list](#) is available at our website. Also, you can download previous newsletter editions at this site. Remember, GEM microcircuits are NEVER discontinued!

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Success Story – GEM Helps to Maintain Production



Close in Weapons Systems (CIWS) are used by the military as a last line of defense for detecting and destroying adversary short range missiles. There are two types of CIWS: gun-based systems (with rotating turrets) and missile-based systems. Examples of each are the Phalanx CIWS and the Rolling Air Frame Missile, Guided Missile Weapon System (RAM GMWS), for which Raytheon is the primary provider. These weapon systems have been in service for over twenty-five years. Maintaining legacy systems such as these means you will undoubtedly encounter microcircuit obsolescence.

Raytheon encountered such an issue while trying to support a production contract for RAM GMWS. The problematic microcircuit, a generic 325 TTL High-Noise Immunity (HiNIL) NAND, was discontinued by Microsemi. It was used on multiple circuit card assemblies which were common to both RAM GMWS and Phalanx. After exhausting residual inventory and aftermarket sources, Raytheon reached out to the GEM program for support.

The SRI team reviewed the microcircuit procurement specification (a Specification Control Drawing in this case) and determined that a similar design had already been completed, only minor modifications to the test program would be required. Parts were ultimately manufactured utilizing one of our many standard gate base arrays (3.0 μm BiCMOS, +15V power supply capability) we maintain in inventory.

SRI delivered parts well ahead of schedule and Raytheon was pleased with the microcircuit performance. Oscar Torres, Raytheon Systems Obsolescence Manager for RAM commented, “...SRI provided RAM the opportunity to maintain production without a costly redesign of the Circuit Card Assembly (CCA) to which this component applied. I’ll also add that the professionalism and especially SRI’s communication was excellent. You provided prompt responses to all internal and Customer questions and technical data upon request.”

To date we have delivered 359 units. Also, in addition to the Phalanx and RAM GMWS, DLA identified four other weapons systems that use this part (three applications for the Navy and one for the Army). A solution now exists should the need arise.

