



To Date Progress Report on Test Optimization For Associated QPL and QML Manufacturers

**March 2015
DLA Land and Maritime-VQ**

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Progress Report on Test Optimization

23 March 2015

General specifications that specify Statistical Process Control (SPC) requirements: 53

General specifications that permit full optimization of tests (e.g., reduction/deletion/modification): 4

General specifications that permit reduction in frequency of periodic inspection tests or deletion of selected tests: 28

The following general specifications permit full optimization of tests (e.g., reduction/deletion/modification):

- MIL-PRF-38535 Microcircuits - QML
- MIL-PRF-38535 Appendix "A" Microcircuits - QPL
- MIL-PRF-38534 Hybrid - QML
- MIL-PRF-19500 Semiconductors - QML

The following specifications allow for the reduction of the frequency of periodic tests or the deletion of selected tests:

QPL Capacitors

QPL Resistors

MIL-PRF-20	MIL-PRF-39018	MIL-PRF-122	MIL-PRF-39009
MIL-PRF-39001	MIL-PRF-39022	MIL-R-22684	MIL-PRF-39015
MIL-PRF-39003	MIL-PRF-55365	MIL-PRF-914	MIL-PRF-39035
MIL-PRF-39006	MIL-PRF-55681	MIL-R-39005	MIL-PRF-55182
MIL-PRF-39014	MIL-PRF-83421	MIL-R-9007	MIL-PRF-55342
MIL-PRF-49137		MIL-PRF-39017	MIL-PRF-83401

Crystal

Fuse

Relay

MIL-PRF-3098	MIL-PRF-23419	MIL-PRF-28750
	MIL-PRF-19207	

Printed Circuit Boards/Printed Wiring Boards

MIL-PRF-31032

The following QPL manufacturers have reduced the frequency of periodic inspection tests:

<u>Manufacturers</u>	<u>Specifications</u>	<u>Test Reduced</u>	<u>Date</u>
ATC	MIL-PRF-55681	Humidity Thermal Shock and Immersion Voltage Temperature Limits	Jul 93
AVX (Myrtle Beach)	MIL-PRF-20	Temperature Coefficient and Capacitance Drift Shock (specified pulse) Vibration (high frequency) Thermal Shock and Immersion Cycling Terminal Strength Marking Legibility Resistance to Solvents	Jun 95
AVX (Myrtle Beach)	MIL-PRF-39014	Voltage Temperature Limits Vibration (high frequency) Immersion Shock (specified pulse) Terminal Strength Marking Legibility Resistance to Solvents	Jun 95
Cooper Bussmann Goldshore, MD	MIL-PRF-15160	Exempt from testing current carrying capacity Terminal Strength Overload Interrupt	Sep 93
Component Research	MIL-C-83241	Reduced frequency from 6 months to 3 Years	Mar 95
Dearborn Electronics			Mar 95
Electronic Concepts			Mar 95
		Salt Spray Immersion Resistance to Soldering heat Moisture Resistance Dielectric Absorption Terminal Strength Resistance to Solvents	

<u>Manufacturers</u>	<u>Specifications</u>	<u>Test Reduced</u>	<u>Date</u>
Cornell Dubilier	MIL-PRF-39018	Reduced frequency from 2 months to 3 years: Stability Shock Terminal Strength Salt Spray Thermal Shock and Immersion Surge Voltage Barometric Pressure Reverse Voltage Aging High Temperature Verification	Jun 94
Dale	MIL-PRF-55342	Adhesion Low Temperature Operation Short Time Overload Resistance to Temperature Characteristic	May 94
Dale	MIL-PRF-55182	Resistance to Temperature Characteristic	Jan 95
Dale	RNR55, 57, 60, 70	Resistance to Solvents Visual and Mechanical Examination	Jan 95
Dale	MIL-R-22684	Short Time Overload Resistance to Temperature Characteristic Dielectric Withstanding Voltage	Jun 94
Dale	MIL-PRF-39017	Short Time Overload Resistance to Solvents Resistance to Temperature Characteristic	Jun 94
Dale	MIL-PRF-83401	Terminal Strength Short Time Overload Insulation Resistance Dielectric Withstanding Voltage Thermal Shock Low Temperature Storage High Temperature Exposure Resistance to Solvents Resistance to Temperature Characteristic	Jun 94

<u>Manufacturers</u>	<u>Specifications</u>	<u>Test Reduced</u>	<u>Date</u>
Dearborn Electronics Electronic Concepts	MIL-C-39022	Reduced frequency from 2 months to 3 years Subgroup 1A Salt Spray, Immersion Subgroup 1B Resistance to Soldering Heat Moisture Resistance Subgroup 1C Terminal Strength Resistance to Solvents	Mar 95 Feb 98
Dearborn Electronics Electronic Concepts	MIL-C-55514	Reduced frequency from 6 months to 3 years: Resistance to Soldering Heat High (frequency vibration) Shock (specified pulse)	Mar 95 Aug 94
IRC Shallcross	MIL-R-39005	Dielectric Withstanding Voltage Insulation Resistance Low Temperature Storage Low Temperature Operation Terminal Strength Short Time Overload Thermal Shock Resistance to Soldering Heat Shock (specified pulse) Vibration (high frequency)	Dec 94
Kemet	MIL-PRF-39003	Shock Vibration Thermal Shock and Immersion Marking Legibility Resistance to Solvents Temperature Coefficient and Capacitance Drift	Oct 93
Kemet	MIL-PRF-55681	Voltage Temperature Limits Thermal Shock and Immersion Humidity	Oct 93

<u>Manufacturers</u>	<u>Specifications</u>	<u>Test Reduced</u>	<u>Date</u>
Kemet	MIL-PRF-39014	Voltage Temperature Limits Vibration Immersion Shock Terminal Strength Marking Legibility Resistance to Solvents	Nov 93
Kemet	MIL-PRF-39003	Reduced frequency from 3 months to 1 year: Shock Vibration Thermal Shock and Immersion Resistance to Solvents Resistance to Soldering Heat Moisture Resistance Sleeving	Dec 93
Kemet	MIL-PRF-55365	Thermal Shock Resistance to Solvents	Dec 93
Kemet	MIL-PRF-49137	<i>Group C-1 from 6 months to 1 year on 12 units</i> TM 213 Mechanical Shock TM 204 Vibration TM 107 Thermal Shock All Tests from MIL-STD-202	Jan 98
Kemet	MIL-PRF-49137	<i>Group C-2 from 6 months to 3 years on 18 units</i> TM 210 Resistance to Solder Heat TM 211 Terminal Strength TM 106 Moisture Resistance All Tests from MIL-STD-202	Jan 98
Kemet	MIL-PRF-49137	<i>Group C-3 from 6 months to 1 year on 10 units</i> TM 215 Resistance to solvents Test from MIL-STD-202	Jan 98
Kemet	MIL-PRF-49137	<i>Group C-4 from 6 months to 1 year on 25 units</i> TM 108 Life test Test from MIL-STD-202	Jan 98

<u>Manufacturers</u>	<u>Specifications</u>	<u>Test Reduced</u>	<u>Date</u>
McCoy	MIL-PRF-3098	Reduced frequency from 12 months to 36 months Solderability Shock Vibration Thermal Shock Seal Salt Spray Moisture Resistance Terminal Strength Visual and Mechanical Aging	Sep 98
M-Tron	MIL-PRF-3098	Reduced frequency from 12 months to 36 months Solderability Shock Vibration Thermal Shock Seal Salt Spray Moisture Resistance Terminal Strength Visual and Mechanical Aging	Aug 98
MSI Mini Systems Inc.	MIL-PRF-55342	Group B : Reduced Frequency from weekly to annually: Short Time overload Adhesion	Jul 95
MSI Mini Systems Inc.	MIL-PRF-55342	Group C: Reduced Frequency from monthly to annually Thermal Shock Low Temperature Operations High Temperature Exposure	Mar 96
State of the Art	MIL-PRF-55342	Adhesion Short Time Overload Resistance to Temperature Characteristic	Jun 93
State of the Art	MIL-PRF-55342	Thermal Shock Low Temperature Operation High Temperature Exposure	Jul 93

<u>Manufacturers</u>	<u>Specifications</u>	<u>Test Reduced</u>	<u>Date</u>
SEMCO	MIL-PRF-39001	Vibration Shock Terminal Strength	Dec 93
SEMTECH	MIL-PRF-19500	Alternate flow for HTRB Burn-in for JANTX and JANTXV for /420 and /427 devices (3A rectifiers) Increased voltage from 80% rated V_{Rwm} to 100 % rated V_{Rwm} Burn-In Time reduced from 96 to 48 Hr.	May 08
Vishay	MIL-PRF-55182	Shock Vibration	Feb 94

The following QML-38534 manufacturers have reduced repetitive PI testing by eliminating the following end-of-line tests:

<u>Manufacturers</u>	<u>Specification</u>	<u>Test deleted</u>	<u>Date</u>
Aeroflex Microelectronic Solutions	MIL-PRF-38534	Group B: Die Shear, Solderability , Internal Visual and Mechanical, Group D: Thermal Shock, Stabilization Bake , Lead Integrity, Fine and Gross Leak, Salt Atmosphere, Metal Package Isolation.	Aug 94
Analog Devices Incorporated	MIL-PRF-38534	Same group B and D listed above	Mar 94
Avago Technologies	MIL-PRF-38534	Same group B and D listed above	Jul 93
BAE Systems Electronic & Integrated Solutions	MIL-PRF-38534	Same group B and D listed above	Oct 96
BI Technologies Corporation	MIL-PRF-38534	Same group B and D listed above	Nov 93
C-MAC MicroTechnology	MIL-PRF-38534	Same group B and D listed above	Aug 90
Cirrus Logic-APP Tucson	MIL-PRF-38534	Same group B and D listed above	Jul 90
CMC Electronics Incorporated	MIL-PRF-38534	Same group B and D listed above	Mar 02
Cobham Sensor Systems	MIL-PRF-38534	Same group B and D listed above	Oct 93
Data Device Corporation	MIL-PRF-38534	Same group B and D listed above	Jan 90
EADS Astrium Limited	MIL-PRF-38534	Same group B and D listed above	Oct 08
EMS Technologies	MIL-PRF-38534	Same group B and D listed above	Jan 93
International Rectifier Aerospace & Defense (CA)	MIL-PRF-38534	Same group B and D listed above	May 06
International Rectifier Aerospace & Defense (MA)	MIL-PRF-38534	Same group B and D listed above	Nov 08
Interpoint Corporation	MIL-PRF-38534	Same group B and D listed above	Sep 91
Interpoint Taiwan Corporation	MIL-PRF-38534	Same group B and D listed above	Sep 97
L-3 Communications Cincinnati Electronics	MIL-PRF-38534	Same group B and D listed above	Jan 92
Lockheed Martin Missiles and Fire Control	MIL-PRF-38534	Same group B and D listed above	Apr 98
M. S. Kennedy Corporation	MIL-PRF-38534	Same group B and D listed above	Jul 95
Micro-Precision Technologies, Inc.	MIL-PRF-38534	Same group B and D listed above	Nov 98
Micropac Industries, Incorporated	MIL-PRF-38534	Same group B and D listed above	Nov 95
Micross Components, Austin	MIL-PRF-38534	Same group B and D listed above	Jan 99
Murata Power Solutions Incorporated	MIL-PRF-38534	Same group B and D listed above	Aug 93
Natel Carson City Operations	MIL-PRF-38534	Same group B and D listed above	Jul 92
Natel Engineering Company, Inc.	MIL-PRF-38534	Same group B and D listed above	Jan 90
National Hybrid, Incorporated	MIL-PRF-38534	Same group B and D listed above	Jul 93
Pantronix Corporation	MIL-PRF-38534	Same group B and D listed above	Apr 06
Robins AFB	MIL-PRF-38534	Same group B and D listed above	Nov 99
Sensitron Semiconductor	MIL-PRF-38534	Same group B and D listed above	July 98
Solitron Devices, Incorporated	MIL-PRF-38534	Same group B and D listed above	Sep 92

Spectrum Microwave (Worcester)	MIL-PRF-38534	Same group B and D listed above	Feb 06
Teledyne Cougar Incorporated	MIL-PRF-38534	Same group B and D listed above	May 98
Teledyne Microelectronic Technologies	MIL-PRF-38534	Same group B and D listed above	Nov 89
VPT Incorporated	MIL-PRF-38534	Same group B and D listed above	Feb 08
White Electronic Designs Corporation	MIL-PRF-38534	Same group B and D listed above	Mar 98
Woodward MPC Incorporated	MIL-PRF-38534	Same group B and D listed above	May 95

Note:

These test elimination were accomplished by each of the listed manufacturers when they chose to utilize in-line PI testing rather than end-of-line PI testing. The Group B tests listed above represent only part of the group B tests. The remainder are replaced with additional in-process tests/inspections or have always had the option of being eliminated by in-process testing. The group D tests listed above are all of the group D tests, thereby completely eliminating group D. The date listed is the approximate date of either switching to in-line PI from end-of-line PI testing or entrance into the program performing in-line PI testing.

All QML-38534 manufacturers have replaced repetitive Group A testing with an in-line test setup verification. The manufacturers were once required to perform a separate Group A test following the screening test, but are now permitted to perform the Group A test as a screening test, thus eliminating repetitive Group A tests. This includes approximately 41 qualified manufacturers.

The following manufacturers have successfully implemented a Technical Review Board (TRB) as described in appendix A of MIL-PRF-38534 and are authorized to optimize tests:

<u>Manufacturer</u>	<u>Specification</u>	<u>Date of Completion</u>
Analog Devices Incorporated	MIL-PRF-38534	Sep 95
BAE Systems Electronic & Integrated Solutions	MIL-PRF-38534	Apr 96
Cobham Sensor Systems	MIL-PRF-38534	Aug 95
Data Device Corporation	MIL-PRF-38534	Jan 99
EADS Astrium Limited	MIL-PRF-38534	Apr 07
Lockheed Martin Missiles and Fire Control	MIL-PRF-38534	Jul 98
Micross Components, Austin	MIL-PRF-38534	Dec 98
Teledyne Cougar Incorporated	MIL-PRF-38534	May 98

The following QML-38534 manufacturers have been approved to eliminate, reduce, or modify the following tests:

<u>Manufacturer</u>	<u>Specification</u>	<u>Test optimized</u>	<u>Date</u>
Aeroflex Microelectronic Solutions	MIL-PRF-38534	Aeroflex will perform the in-line group B bond pulls of C.6.3.2.4 at Aeroflex rather than at Cirtek, when Cirtek does the wire bonding.	Feb 06
Avago Technologies	MIL-PRF-38534	Substitute destructive bond pull rather than non-destructive bond pull during process control requirements.	Sep 90
Avago Technologies	MIL-PRF-38534	Eliminate PIND	May 02
Avago Technologies	MIL-PRF-38534	Eliminate internal water-vapor content testing for parts assembled with a particular junction compound.	Sep 02
Analog Devices	MIL-PRF-38534	Passive element evaluation: eliminate tests and alternate flow	TRB
Analog Devices	MIL-PRF-38534	Substrate evaluation: alternate flow	TRB
Analog Devices	MIL-PRF-38534	Adhesive evaluation: alternate flow	TRB
BAE Systems Electronic & Integrated Solutions	MIL-PRF-38534	Variation of sample sizes during wirebond process control.	Nov 98
Cirrus Logic- APP Tucson	MIL-PRF-38534	Perform constant acceleration after burn-in.	Jun 90
Cirrus Logic- APP Tucson	MIL-PRF-38534	Replace sample socket checks with 100% device check at burn-in.	Jun 02
CMC Electronics Incorporated	MIL-PRF-38534	Perform temperature aging prior to solderability on a 6 month basis rather than every package lot.	Mar 02
Cobham Sensor Systems	MIL-PRF-38534	Permit in-line processing data from element suppliers.	Apr 95
Cobham Sensor Systems	MIL-PRF-38534	Use MIL-STD-202 instead of MIL-STD-883 for fine and gross leak.	Jun 95
Cobham Sensor Systems	MIL-PRF-38534	Temperature cycle screening: alternate timing, temperature, cycles.	Sep 96

<u>Manufacturer</u>	<u>Specification</u>	<u>Test optimized</u>	<u>Date</u>
Data Device Corporation	MIL-PRF-38534	Alternate active element evaluation of one product	Nov 95
Data Device Corporation	MIL-PRF-38534	No screening of sample devices when doing alternate IC evaluation option of paragraph C.3.6 of MIL-PRF-38534.	Aug 96
Data Device Corporation	MIL-PRF-38534	Reduce frequency of solderability testing at incoming inspection on packages with solder dipped leads.	Nov 96
Data Device Corporation	MIL-PRF-38534	Reduction of incoming testing for active and passive components.	Jul 97
Data Device Corporation	MIL-PRF-38534	Move the sequence of fine and gross leak testing on packages with brazed leads.	Oct 97
Data Device Corporation	MIL-PRF-38534	Alternate element evaluation for ASICs and memory.	Apr 98
Data Device Corporation	MIL-PRF-38534	Alternate visual inspection for tantalum capacitors.	May 98
Data Device Corporation	MIL-PRF-38534	Eliminate solderability testing on packages with solder dipped leads.	Oct 98
Data Device Corporation	MIL-PRF-38534	Perform skip-lot testing on electrical tests and wire pull tests for certain active components: DDC P/Ns J PRIME (0.8) 9437-0214-8111 and J PRIME (1.25) 9437-0214-2101.	Mar 99
Data Device Corporation	MIL-PRF-38534	Adhesive attached "wet stage" verification of manually dispensed adhesive in lieu of "50% of die perimeter" criteria described in paragraph 3.1.2a of test method 2017 of MIL-STD-883.	Sep 99
Data Device Corporation	MIL-PRF-38534	Allow polymer attached die to be replaced up to three times.	Apr 00
Data Device Corporation	MIL-PRF-38534	Reduction of element evaluation for Beta transformers.	Dec 01
Data Device Corporation	MIL-PRF-38534	Remove wirebond inspection during internal visual inspection and reduce the magnification levels.	Apr 02
Data Device Corporation	MIL-PRF-38534	Burn-in time reduced to 48 hours for selected parts.	Jun 02

<u>Manufacturer</u>	<u>Specification</u>	<u>Test optimized</u>	<u>Date</u>
Data Device Corporation	MIL-PRF-38534	Oven dry after steam aging for solderability testing.	Jun 07
EMS Technologies	MIL-PRF-38534	Move RGA testing in- line	Jul 99
International Rectifier Aerospace & Defense (CA)	MIL-PRF-38534	Alternate method for selecting samples for element evaluation for IR internal part number 401X-0001, which is not available with traceability to the individual wafer.	Nov 09
Interpoint Corporation	MIL-PRF-38534	Eliminate leak testing following lead forming of “soft lead” packages.	May 98
*Crane Interpoint Corporation Redmond Washington	MIL-PRF-38534	DLAM approved two alternate methods for visual inspection of the DB1 assembly on SMFL and SMFLHP DC-DC converters . Reference VQH-15-029320, CN # 046212 1 TM 2017 MIL-STD-883 3.1.4 of reference (g), which prohibits components from overhanging the edge of a substrate. Approved alternate method allows thick film chip resistors mounted on the DB1 assembly to overhang the edge of the DB1 daughterboard by up to 0.006 inches 2. TM 2032 section 3.2.2.a of reference (h), requires at least 0.001 inches of separation between operating metallization and the edge of thick film passive elements. Approved alternate method eliminates any specified distance between the metallization and the edge of the substrate for the R12 and R33 resistors on the DB1 assembly. .	March 2015
Crane Interpoint Corporation Redmond Washington	MIL-PRF-38534	Alternate method to exceed the polymeric cure temperature after final seal per 38534 par E.4.2.2 Reference letter DSCC-VQH-04-6745	July 2004
L-3 Communications Cincinnati Electronic	MIL-PRF-38534	Alternate method for PIND acceptance criteria, applies to Class H and Class D only.	Jan 04

<u>Manufacturer</u>	<u>Specification</u>	<u>Test optimized</u>	<u>Date</u>
L-3 Communications Cincinnati Electronic	MIL-PRF-38534	Allow to exceed epoxy cure temperature after final seal, applies to Classes K, H and D.	Jan 08
Lockheed Martin Missiles and Fire Control	MIL-PRF-38534	Eliminate electrical testing at element evaluation for certain active devices.	Dec 98
Lockheed Martin Missiles and Fire Control	MIL-PRF-38534	Subgroup 3 package evaluation tests will be periodic rather than every lot for LCCs.	Dec 98
Micropac Industries, Inc	MIL-PRF-38534	Perform element evaluation in accordance with MIL-PRF-19500 in lieu of MIL-PRF-38534 for certain semiconductor die to be used in Class H and Class K.	Nov 06
M. S. Kennedy Corporation	MIL-PRF-38534	Reduction of element evaluation tests for active and passive components.	Jun 96
M. S. Kennedy Corporation	MIL-PRF-38534	Reduce frequency of resistance to solvents and physical dimension at group B.	Oct 96
M. S. Kennedy Corporation	MIL-PRF-38534	Further reduction of element evaluation for active devices, passive devices, and substrates.	Aug 99
M. S. Kennedy Corporation	MIL-PRF-38534	Reduce burn-in time from 160 hours to 48 hours for MSK0041.	May 01
M. S. Kennedy Corporation	MIL-PRF-38534	Test technician to verify electrical test set up and run a known good device instead of QA or QA designate.	Oct 06
M. S. Kennedy Corporation	MIL-PRF-38534	During burn-in, operator will verify quiescent current instead of performing a random socket check for continuity.	Oct 06
M. S. Kennedy Corporation	MIL-PRF-38534	Allow getter in qualification parts.	Jan 07
M. S. Kennedy Corporation	MIL-PRF-38534	Alternate Method Approval, Exceeding Epoxy Cure Temperature after Sealing, Hybrid Microcircuits	July 13
Micropac Industries, Incorporated	MIL-PRF-38534	For certain semiconductor elements, perform element evaluation in accordance with the requirements of Table G-II of MIL-PRF19500 in lieu of table C-II of MIL-PRF-38534.	Nov 06

<u>Manufacturer</u>	<u>Specification</u>	<u>Test optimized</u>	<u>Date</u>
Micross Components, Austin	MIL-PRF-38534	Use a combination of incoming, group B, and group D testing to meet the requirements for integrated substrate/package evaluation.	Apr 06
Micross Components, Austin	MIL-PRF-38534	In place of incoming inspection to MIL-PRF-38534 for integrated circuits, the die used in hybrids are the same as approved for MIL-PRF-38535 SMDs.	May 06
Micross Components, Austin	MIL-PRF-38534	Performing visual inspection, destructive pull test, and ball shear at various times in place of the process machine/operator evaluation requirements of par. C.4.2 of MIL-PRF-38534.	Jun 06
Murata Power Solutions Incorporated	MIL-PRF-38534	Use of MRB for element evaluation.	May 98
Natel Carson City Operations	MIL-PRF-38534	Allow less than 0.040 inch between glass-to-metal seals and package sealing surface for on package for class H.	Aug 06
National Hybrid, Incorporated	MIL-PRF-38534	No repeat of fine/gross leak.	Feb 96
National Hybrid, Incorporated	MIL-PRF-38534	For certain active devices, some final electrical tests are performed during element evaluation and not repeated.	Nov 98
National Hybrid, Incorporated	MIL-PRF-38534	Eliminate nondestructive bond pull test on compound bonds if rework or repair.	Nov 01
National Hybrid, Incorporated	MIL-PRF-38534	Allow alternate brushes for resistance to solvents testing.	June 02
National Hybrid, Incorporated	MIL-PRF-38534	Exceeding the polymeric cure temperature of particle getter.	July 04
National Hybrid, Incorporated	MIL-PRF-38534	Alternate process flow for co-fired ceramic packages.	Jun 10
Teledyne Cougar Incorporated	MIL-PRF-38534	Alternate element evaluation flow for parallel plate capacitors.	May 98
Teledyne Cougar Incorporated	MIL-PRF-38534	Alternate element evaluation flow for end-terminated capacitors.	May 98

<u>Manufacturer</u>	<u>Specification</u>	<u>Test optimized</u>	<u>Date</u>
VPT Incorporated	MIL-PRF-38534	Eliminate testing of Q during element evaluation of inductors and transformers.	Apr 03
VPT Incorporated	MIL-PRF-38534	For Class H products, an allowance of up to 50% non-conductive 5011 epoxy coverage on thick film resistors, reference 3.1.9.b of TM 2017.	May 07
White Electronic Designs Corporation	MIL-PRF-38534	Eliminate temperature age at solderability test on parts with solder leads.	Apr 98
White Electronic Designs Corporation	MIL-PRF-38534	20 (1) sample at element evaluation specific SRAM ICs.	Oct 98
White Electronic Designs Corporation	MIL-PRF-38534	Integral Substrate/Package evaluation: Replace 100% leak test with sample of 3(0).	May 00
White Electronic Designs Corporation	MIL-PRF-38534	For element evaluation, replace 100% visual of Samsung active components with 1.0% Normal Inspection Level II AQL.	Mar 01

The following QML-38535 manufacturers have been approved by their Technical Review Board (TRB) to optimize (reduce/modify/delete) the following tests:

<u>Manufacturer</u>	<u>Specification</u>	<u>Test optimized</u>	<u>Date</u>
Aeroflex, Colorado Springs (COS)	MIL-PRF-38535	100% non-destructive bond pull eliminated Q and V levels	Nov 94
Aeroflex, Colorado Springs (COS)	MIL-PRF-38535	Temperature Cycles adjusted from 10 to 40 for Q flows	Jul 00
Aeroflex, Colorado Springs (COS)	MIL-PRF-38535	Temperature Cycles adjusted from 10 to 40 for V flows	Sep 03
Aeroflex, Colorado Springs (COS)	MIL-PRF-38535	Group A electrical performed in line	Feb 97
Aeroflex, Colorado Springs (COS)	MIL-PRF-38535	B1 Resistance to Solvents performed as weekly in-line monitor	Dec 03
Aeroflex, Colorado Springs (COS)	MIL-PRF-38535	B2 Bond strength performed each assembly lot and after D3	Nov 94
Aeroflex, Colorado Springs (COS)	MIL-PRF-38535	B3 Solderability is a weekly monitor	Nov 94

<u>Manufacturer</u>	<u>Specification</u>	<u>Test optimized</u>	<u>Date</u>
Aeroflex, Colorado Springs (COS)	MIL-PRF-38535	Group C will use the same accelerated stress conditions as described in burn-in. Class V receives a second accelerated burn-in instead of a life test	Jul 96
Aeroflex, Colorado Springs (COS)	MIL-PRF-38535	Each Class T wafer lot receives a 45 piece life test to accelerated conditions. Class Q – 45 piece life test, periodic based on maturity, can be satisfied by Class V test.	Sep 99
Aeroflex, Colorado Springs (COS)	MIL-PRF-38535	Group D package selection – the rotation for selecting packages will be based on what is in process.	Oct 03
Aeroflex, Colorado Springs (COS)	MIL-PRF-38535	D1 physical dimensions eliminated (using supplier control and data)	Sep 94
Aeroflex, Colorado Springs (COS)	MIL-PRF-38535	D2 lead integrity eliminated. (Use supplier data for gold lead finish package. Supplier performs receiving inspection functional test on each package family)	Sep 94
Aeroflex, Colorado Springs (COS)	MIL-PRF-38535	D3 Moisture resistance eliminated (TM 1004)	Aug 96
Aeroflex, Colorado Springs (COS)	MIL-PRF-38535	D5 Salt Atmosphere eliminated	Jun 99
Aeroflex, Colorado Springs (COS)	MIL-PRF-38535	D6 internal water vapor content is eliminated (representative packages are sampled in-line on a quarterly basis)	Sep 94
Aeroflex, Colorado Springs (COS)	MIL-PRF-38535	D7 adhesion of lead finish is eliminated (uses supplier process control data for gold lead finish and UTMC process control data for solder lead finish)	Sep 94
Aeroflex, Colorado Springs (COS)	MIL-PRF-38535	Static 1& 2 burn-in for class V eliminated	Jul 96
Aeroflex, Colorado Springs (COS)	MIL-PRF-38535	Accelerated burn-in beyond the present time/temperature regression called out in table 1 of MIL-STD-883 TM 1015 is used for both class Q and V products.	Jul 96
Aeroflex, Colorado Springs (COS)	MIL-PRF-38535	Eliminated delta calculation on CMOS devices with QIDD delta requirement.	Aug 96

<u>Manufacturer</u>	<u>Specification</u>	<u>Test optimized</u>	<u>Date</u>
Aeroflex, Colorado Springs (COS)	MIL-PRF-38535	Internal Visual (TM 2010) Class V criteria modified. Classes Q & T optimized inspection for catastrophic defects	Mar 97 Jul 00
Aeroflex, Colorado Springs (COS)	MIL-PRF-38535	PIND single pass only for all Q & V products Allowance for two parts to be simultaneously tested	Aug 97 Sep 99
Aeroflex, Colorado Springs (COS)	MIL-PRF-38535	Percent defective allowed after burn in may be increased up to 10%	May 98
Aeroflex, Colorado Springs (COS)	MIL-PRF-38535	Class T PDA for select Samsung memory devices has been increased to 10%	Sep 03
Aeroflex, Colorado Springs (COS)	MIL-PRF-38535	Established new step coverage criteria for TM 2018	Dec 98
Aeroflex, Colorado Springs (COS)	MIL-PRF-38535	Elimination of constant acceleration on all class Q & V lines	Mar 99
Aeroflex, Colorado Springs (COS)	MIL-PRF-38535	PIND allowance for simultaneous placement of two devices on the transducer for selected parts.	Sep 99
Aeroflex, Colorado Springs (COS)	MIL-PRF-38535	Established new step coverage criteria for TM 2018	Dec 98
Analog Devices	MIL-PRF-38535	Eliminated - 100% fine leak screen on QML-Q TO and solder seal (side braze, LCC, flat pack, LDCC, JLCC, ceramic) packages at Manila Philippines facility. (QML-Q level)-Wilmington.	Feb7
Analog Devices	MIL-PRF-38535	Reduction - Burn-in from 160 hours to 48 hours on complimentary Bipolar wafer fabrication line. (QML-Q level)-Wilmington.	Jul 97
Analog Devices	MIL-PRF-38535	Eliminated - 100% gross leak screen on all packages assembled at Manila Philippines facility. (QML-Q level)-Wilmington.	Aug 96
Analog Devices	MIL-PRF-38535	Eliminated – 100% Group B tests on all packages assembled at Manila Philippines facility. (QML-Q level)-Wilmington.	Oct 96

<u>Manufacturer</u>	<u>Specification</u>	<u>Test optimized</u>	<u>Date</u>
Analog Devices	MIL-PRF-38535	Eliminated – 100% Group D periodic tests on all packages assembled at Manila Philippines facility. (QML-Q level)-Wilmington & Santa Clara	Oct 96 Wilmington Dec 02 Santa Clara
Analog Devices	MIL-PRF-38535	Reduction of 100% burn-in from 160 to 48 hours for military products on the BIMOS process at the Wilmington MA facility.	Jan 02
Analog Devices	MIL-PRF-38535	Replace Group B-3 Solderability Testing with setup samples for Class B/Q solder lead finish devices at the Santa Clara facility.	Apr 02
Analog Devices	MIL-PRF-38535	Eliminated Alternate Group B2 - Resistance to Solvents is being replaced with a monitor whose frequency is twice per shift and 2 units per solvents - Santa Clara. (B & Q level)	Jun 02
Analog Devices	MIL-PRF-38535	Eliminated - QCI/TCI Class B and Q Group B5 Testing (Bond Strength Test, Mil STD 883 Method 2011) - Santa Clara. Monitor will be retained.	Aug 02
Analog Devices	MIL-PRF-38535	Eliminated – 100% Non Destructive Bond Pull test for QML V level product assembled at the Manila Philippines facility. - Santa Clara	Dec 02
Analog Devices	MIL-PRF-38535	Utilizing the alternate method of Nondestructive Bond Pull IAW paragraph 3.2 of MIL-STD-883 Test Method 2023 at the Manila Philippines facility. - Greensboro	Nov 10
Atmel Nantes	MIL-PRF-38535	Performance of fine and gross leak prior to lead trim and form, on multi-layer packages, for both class Q and V.	Jun 00
Atmel Nantes	MIL-PRF-38535	Centrifuge eliminated for all solder seal and glass seal packages. Replaced with monitor.	Jun 00
Atmel-Nantes	MIL-PRF-38535	Eliminated Non Destructive Bond Pull	Oct 00
Atmel-Nantes	MIL-PRF-38535	Alternate criteria for internal wire separation, Test Method 2010 Internal visual. 1 Megabit SRAM 5962-89898.	Apr 01
BAE Systems	MIL-PRF-38535	T1B test eliminated (all logic C4 and wire bond single chip modules)	Mar 95

<u>Manufacturer</u>	<u>Specification</u>	<u>Test optimized</u>	<u>Date</u>
BAE Systems	MIL-PRF-38535	Static burn-in for class V flow eliminated (all except FPGA/PROM and 2 μ products)	Sep 95
BAE Systems	MIL-PRF-38535	Eliminated non-destruct wirebond pull	Dec 98
BAE Systems	MIL-PRF-38535	Removed Stabilization bake	Dec 98
BAE Systems	MIL-PRF-38535	Elimination of PIND	Dec 98
Cypress	MIL-PRF-38535	Burn-in reduction from 80 hours to 12 hours on selected SRAM devices (CY7C122 series) End of Life	Aug 96
Cypress	MIL-PRF-38535	Burn-in reduction from 80 hours to 12 hours on selected programmable logic products (CY7C322 series) End of Life	May 01
Cypress	MIL-PRF-38535	Burn-in reduction from 80 hours to 12 hours on the universal bus transceiver (CY7B933LMB). End of Life	May 01
Cypress	MIL-PRF-38535	Burn-in reduction from 80 hours to 12 hours on selected programmable logic products. (CY7C341, 342, 343, 344, 346 series) End of Life	May 01
Cypress	MIL-PRF-38535	Group D coverage is expanded from 26 to 52 weeks for selected military products End of Life	Sep 96
Cypress	MIL-PRF-38535	For clock product Programmability test at the end of process flow. 12 (2) eliminated Group A electrical test following the programmability test 10 (0) eliminated. Test now performed at wafer probe. End of Life	Jun 97
Cypress	MIL-PRF-38535	Burn-in reduction from 80 hours to 12 hours (for 5962-8859402, 03 WA, CY7C122-35DMB CY7C122-25DMB devices) End of Life	Jan 97

<u>Manufacturer</u>	<u>Specification</u>	<u>Test optimized</u>	<u>Date</u>
Cypress	MIL-PRF-38535	Burn-in reduction from 80 hours to 12 hours (contact DLA Land and Maritime or Cypress for list of part number(s) affected. Only PAL devices affected) End of Life	Sep 96
Cypress	MIL-PRF-38535	Burn-in reduction from 105 Hours at 5.75V to 24 hours at 6.6V for part number 7C344A in Fab 2 (SMD 5962-9061101 programmable logic device, UV erasable 32 macrocell) End of Life	Jun 97
Cypress	MIL-PRF-38535	Burn-in reduction from 105 hours at 140 °C to 18 hours at 140 °C. 5962-93144, 5962-92062 End of Life	Sep 97
Cypress	MIL-PRF-38535	Burn-in elimination on Programmable Logic Device 5962-88670 Cypress Number 7C322X/F from Fab 2. End of Life A process screen of write/bake ¹ /read/erase and an early failure rate process monitor ² is in effect. Re-qualification will be performed with major fab changes. 1. 250 deg C for 8 hrs 2. 150 deg C for 48hr (3 month samples taken from the same process technology family per fabrication site) End of Life	Sep 00
Cypress	MIL-PRF-38535	Elimination of Group A Hot and Cold temperature testing for the following 5962 Cypress SMDs 99519, 99521, 99522, 99523, 99524, 99525, 99526, 97599, 96896, 97598 End of Life	May 02 Aug 03
Cypress	MIL-PRF-38535	Burn-In Elimination 5962-99519 - 99526, Ultra-37K 0.5 u products Programmable logic devices. Based on QTP-004201 End of Life	Oct 00

<u>Manufacturer</u>	<u>Specification</u>	<u>Test optimized</u>	<u>Date</u>
Cypress	MIL-PRF-38535	Burn-In reduction to 24 hrs 5962-87650,87636,88734,88735 Military PROMs Cypress series 291/235/245 Based on QTP-96132 End of Life	Dec 96
Cypress	MIL-PRF-38535	Burn-In reduction to 24 hrs 5962-93112 , 94112 Clock Buffer, Programable Sku Based on QTP-013005 and QTP-013004 End of Life	Sep 01
Cypress	MIL-PRF-38535	Burn-In reduction to 80 hrs 5962-89817 End of Life	Sep 01
e2v Semiconductor	MIL-PRF-38535	Elimination of constant acceleration on all class Q devices	Jun 98
Honeywell Aerospace	MIL-PRF-38535	Group A: Class Q and V: Group A electrical is eliminated with Final Electrical including all Group A subgroups.	Nov 90
Honeywell Aerospace	MIL-PRF-38535	Group B: Class Q and V, Solderability has been substituted with incoming inspection. Class Q: Remaining tests for single chip packages reduced to quarterly in lieu of every lot. Class V: Sampling selection minimum of 2 devices in accordance with Appendix B.4.2.b of MIL-PRF-38535 Rev E (empty package or electrical rejects), number of wires and leads remain the same 22(0).	Nov 90 Nov 98 Nov 98

<u>Manufacturer</u>	<u>Specification</u>	<u>Test optimized</u>	<u>Date</u>
Honeywell Aerospace	MIL-PRF-38535	<p>Group D:</p> <p>Subgroup 1: Physical dimensions substituted with incoming package supplier evaluation</p> <p>Subgroup 2: Lead Integrity substituted with incoming package supplier evaluation</p> <p>Subgroup 3: 48 hour window eliminated after moisture resistance.</p> <p>Subgroup 5: All tests substituted with incoming package supplier evaluation on solder sealed packages</p> <p>Subgroup 7 : Adhesion of lead substituted with incoming package supplier evaluation</p>	Nov 90
Honeywell Aerospace	MIL-PRF-38535	Burn-in time reduced with elevated voltage for all devices.	Nov 98
Honeywell Aerospace	MIL-PRF-38535	Utilizing the alternate method of Nondestructive Bond Pull in accordance with paragraph 3.2 of TM2023.	Nov 93
Honeywell Aerospace	MIL-PRF-38535	<p>For 75um bond pad pitch, paragraph 3.2.2(a) of TM2010 Cond A has been reduced to within a 10 mil radial distance from the perimeter of the bond on the die the separation shall be 1 mil minimum.</p> <p>For 75um bond pad pitch, paragraph 3.2.2(e) of TM2010 Cond A has been replaced with wire(s) crossing wire(s) is allowed as long as the separation exceeds 2 wire diameter.</p>	Nov 08
IDT	MIL-PRF-38535	Group A test elimination on all military devices	Jun 98
Intersil	MIL-PRF-38535	Package grouping for group D sampling for Q and V products (contact DLA Land and Maritime or Harris for more details)	Nov 95
Intersil	MIL-PRF-38535	Substitute die attach as a criteria for microcircuits definition for group C in lieu of 6 month criteria (all Q level products)	Feb 96

<u>Manufacturer</u>	<u>Specification</u>	<u>Test optimized</u>	<u>Date</u>
Intersil	MIL-PRF-38535	Burn-in reduction for Class B/Q and S/V for 64K PROMS @ 125°C from 240 hours to 160 hours class V and 160 hours to 120 hours class Q @ 135°C from 180 hours to 120 hours class V and 120 hours to 80 hours class Q	May 97
Intersil	MIL-PRF-38535	Wafer lot acceptance for thermal stability (CV measurements) is modified for class S. Lot size increased to all products run through continuous vacuum metal deposition. Stringent monitor of the gate oxide performed. CV measurements are performed during maintenance cycle.	Apr 97
Intersil	MIL-PRF-38535	Gross Leak testing is eliminated for Class Q and V. Fine leak is performed immediately after centrifuge for class V. Applicable for solder sealed/ side brazed packages assembled at Palm Bay, Florida and Kuala Lumpur (Feb 99), Malaysia facilities. As of Seal Date code "0815", all Class "V", "S" and Condition "A" product sealed on or after 6 th April 2008 in Palm Bay, will receive a 100 % Gross Leak Test.	Aug 97
Intersil	MIL-PRF-38535	Lead finish will no longer be a QCI window-grouping factor.	Apr 98
Intersil	MIL-PRF-38535	Class V life test results may be used as an approved reference for a lesser QML grade. Applies only for wafers of the same diffusion lot.	Apr 98
Intersil	MIL-PRF-38535	Assembly process monitors are used in lieu of Group B wire strength test (Subgroup 5a for Q and subgroup 2c for V level). Applies at Kuala Lumpur and Palm Bay facilities.	Sep 98
Intersil	MIL-PRF-38535	Group A Test Elimination Palm Bay (Class Q/B and Class V/S Product) for Select Products	Sep 98

<u>Manufacturer</u>	<u>Specification</u>	<u>Test optimized</u>	<u>Date</u>
Intersil	MIL-PRF-38535	Elimination of Group A testing for devices electrically screened at Palm Bay Florida Facilities. Process monitors instituted on electrical test equipment to ensure accuracy and repeatability.	Feb 99
Intersil	MIL-PRF-38535	Elimination of Group A testing for devices electrically screened at Kuala Lumpur Facilities. Process monitors instituted on electrical test equipment to ensure accuracy and repeatability.	Jul 99
Linear Technology	MIL-PRF-38535	Fabrication process technology for Group C coverage. Most complex technology or SEC assignment. Performed every Fab quarter	Oct 95
Linear Technology	MIL-PRF-38535	FA on catastrophic failures only on lots that fail PDA. Engineering will continue to determine Post B/I (screening) failures are either parametric or catastrophic in order to calculate the two PDA's (5% total and 3% catastrophic)	Oct 95
Linear Technology	MIL-PRF-38535	Kester 135 Type R is used for flux in Solderability test which is worst case due to lower activation levels than the Type 1 flux of J-STD-002.	June 10
Linear Technology	MIL-PRF-38535	In lieu of random sample testing of boards per MIL-STD-883 Burn in TM 1015, LT Singapore shall maintain SPC records for results of board certifications and be alert to wear out or other indicators. 6 month board checks will still be performed per LTC specs as documented in the QM plan.	June 99
Linear Technology	MIL-PRF-38535	MIL-STD-883 TM5005 Table IIa TM5005 Group B for Class S, Subgroup 4c (Lid Torque). Sample size used is 5/0. This test is performed at group D testing as allowed per Footnote 2/ of Table IIa TM 5005. 2/ Not required for qualification or quality conformance inspections where group D inspection is being performed on samples from the same inspection lot.	June 05
Linear Technology	MIL-PRF-38535	LTC's RH product has a minimum of 4000 angstroms of SiO ₂ and no nitride layer. Approval for our process technology is via DLA Land and Maritime letter VQC-11-021784/mg from Michael Adams dated March 4, 2011.	March 11

<u>Manufacturer</u>	<u>Specification</u>	<u>Test optimized</u>	<u>Date</u>
TISVA (National Semiconductor)	MIL-PRF-38535	DS16F95 DS26F31 and 32 DS96F172 thru 175 Level S/V only Minimum percentage of the metallization cross sectional area required over the passivation steps in Method 2018, SEM Inspection, reduced from 50% to 30% for Method 5007, Wafer Lot Acceptance.	Jun 97
TISVA (National Semiconductor)	MIL-PRF-38535	All part numbers for Level S/V only Method 5007, parts a. and c., Thermal Stability test (C-V plot) reduced from each wafer lot to pre-designated maintenance events of the sputter metal deposition system (e.g. venting, etc.)	Oct 99
TISVA (National Semiconductor)	MIL-PRF-38535	Metal can packages (TO-3,5,39,46) Level B/Q only M2001, Constant Acceleration eliminated for screen.	Jun 96
TISVA (National Semiconductor)	MIL-PRF-38535	Specific part numbers for Level S/V only Ultrasonic inspection per Method 2030 is being performed instead of Radiography on ceramic package with a copper-tungsten heat slug.	Nov 06
TISVA (National Semiconductor)	MIL-PRF-38535	DS26LS31 for Level B/Q only Burn-in reduced from inspection lot screen to fab lot sample. Life test frequency increased from yearly to quarterly and will use non-burned-in parts.	Jul 00
TISVA (National Semiconductor)	MIL-PRF-38535	LM124 LM139 Level B/Q only Burn-in reduced from inspection lot screen to fab lot sample. Life test frequency increased from yearly to quarterly and will use non-burned-in parts.	Aug 00 Jan 01

<u>Manufacturer</u>	<u>Specification</u>	<u>Test optimized</u>	<u>Date</u>
TISVA (National Semiconductor)	MIL-PRF-38535	LM124, LM124A Level B/Q only Screen for A-2, A-3 final electricals moved prior to burn-in	Oct 02
TISVA (National Semiconductor)	MIL-PRF-38535	JL111, LM111 Level B/Q only Burn-in reduced from inspection lot screen to fab lot sample. Life test frequency increased from yearly to quarterly and will use non-burned-in parts.	Jun 02
TISVA (National Semiconductor)	MIL-PRF-38535	LM158 Level B/Q only Burn-in reduced from inspection lot screen to fab lot sample. Life test frequency increased from yearly to quarterly and will use non-burned-in parts.	Nov 02
TISVA (National Semiconductor)	MIL-PRF-38535	DS96F173 and 175 Level B/Q only Burn-in reduced from inspection lot screen to fab lot sample. Life test frequency increased from yearly to quarterly and will use non-burned-in parts.	Aug 02
TISVA (National Semiconductor)	MIL-PRF-38535	JL148, LM148 Level B/Q only Burn-in reduced from inspection lot screen to fab lot sample. Life test frequency increased from yearly to quarterly and will use non-burned-in parts.	Nov 02
TISVA (National Semiconductor)	MIL-PRF-38535	LM139, LM139A Level B/Q only Screen for A-2, A-3 final electricals moved prior to burn-in.	Jan 03
TISVA (National Semiconductor)	MIL-PRF-38535	LM741 Level B/Q only Burn-in reduced from inspection lot screen to fab lot sample. Life test frequency increased from yearly to quarterly and will use non-burned-in parts.	Jun 03

<u>Manufacturer</u>	<u>Specification</u>	<u>Test optimized</u>	<u>Date</u>
TISVA (National Semiconductor)	MIL-PRF-38535	LM136A Level B/Q only Screen for A-2, A-3 final electricals moved prior to burn-in	Oct 05
		LM136 Screen for 25 deg C, -55 deg C,+125 deg C and temperature coefficient testing will be performed prior to burn-in.	May 06
		LM148 Screen for -55 deg C, 125 deg moved prior to burn-in	June 06
TISVA (National Semiconductor)	MIL-PRF-38535	LM723 Level B/Q only Burn-in reduced from inspection lot screen to fab lot sample. Life test frequency increased from yearly to quarterly and will use non-burned-in parts.	Nov 03
TISVA (National Semiconductor)	MIL-PRF-38535	DS26LS31 Level B/Q only Burn-in reduced from inspection lot screen to fab lot sample. Life test frequency increased from yearly to quarterly and will use non-burned-in parts.	Dec 05
TISVA (National Semiconductor)	MIL-PRF-38535	LM117, JL117 LM119 Level B/Q only Burn-in reduced from inspection lot screen to fab lot sample. Life test frequency increased from yearly to quarterly and will use non-burned-in parts.	May 08
ON Semiconductor - Pocatello	MIL-PRF-38535	Leverage off QML Plastic reliability monitors for Group C requirement	Jan 97
ON Semiconductor - Pocatello	MIL-PRF-38535	Post burn-in electrical test window extended from 96 hours to 336 hours.	Jun 97
ON Semiconductor - Pocatello	MIL-PRF-38535	Leverage off generic/commercial Data for Group B requirements. Reduced from every inspection lots to every 3 months.	May 98
ON Semiconductor - Pocatello	MIL-PRF-38535	Burn-in reduction from 80 hours to 20 hours at 150 ⁰ C, or from 160 hours to 42 hours at 125 ⁰ C	May 98

<u>Manufacturer</u>	<u>Specification</u>	<u>Test optimized</u>	<u>Date</u>
ON Semiconductor - Pocatello	MIL-PRF-38535	Final electrical test, room temperature performed in lieu of hot and cold temperature on properly guard banded test programs. A sample Group A test is performed at cold and hot.	May 98
ST Microelectronics	MIL-PRF-38535	Eliminated Nondestructive Bond pull	Oct 00
Texas Instruments	MIL-PRF-38535	D-8, lid torque eliminated (all cerdip, cerflat glass sealed packages all classes)	Oct 93
Texas Instruments	MIL-PRF-38535	100% burn-in eliminated (all TTL, LS, STTL products line. All package configurations.) <u>Level B/Q only</u>	Jun 94
Texas Instruments	MIL-PRF-38535	constant acceleration eliminated (all products in the 8, 14, 16, 20 pin DIP) <u>Level B/Q only</u>	Jun 94
Texas Instruments	MIL-PRF-38535	temperature cycles eliminated (all products in the 8, 14, 16, 20 pin DIP) <u>Level B/Q only</u>	Jun 94
Texas Instruments	MIL-PRF-38535	100% high magnification inspection eliminated (TTL, LS, STTL, ALS HCMOS, F, AS, and 55 series products lines. All package configurations) <u>Level B/Q only</u>	Jun 94
Texas Instruments	MIL-PRF-38535	100% burn-in on certain linear products eliminated (contact TI or DLA Land and Maritime for specific linear products) <u>Level B/Q only</u>	Sep 94
Texas Instruments	MIL-PRF-38535	Group A sample testing of alpha V_{IO} , alpha I_{IO} and various noise tests on certain linear products eliminated (contact TI or DLA Land and Maritime for specific linear products)	Sep 94
Texas Instruments	MIL-PRF-38535	Final electrical, 25 °C (ALS, AS, FAST, 54ABT32316 parent device types eliminated) <u>Level B/Q only</u>	Nov 95
Texas Instruments	MIL-PRF-38535	100% burn-in (HCMOS, all packages) eliminated <u>Level B/Q only</u>	Feb 95

<u>Manufacturer</u>	<u>Specification</u>	<u>Test optimized</u>	<u>Date</u>
Texas Instruments	MIL-PRF-38535	100% burn-in (ALS, AS, FAST) eliminated <u>Level B/Q only</u>	Aug 95
Texas Instruments	MIL-PRF-38535	100% temperature cycle (all CPAK) eliminated <u>Level B/Q only</u>	Aug 95
Texas Instruments	MIL-PRF-38535	100% constant acceleration (all CPAK) eliminated <u>Level B/Q only</u>	Aug 95
Texas Instruments	MIL-PRF-38535	100% -55 °C screening and group A (HC and HCT) eliminated <u>Level B/Q only</u>	Mar 95
Texas Instruments	MIL-PRF-38535	100% -55 °C screening (ABT, AC, ACT, BCT) eliminated <u>Level B/Q only</u>	Aug 96
Texas Instruments	MIL-PRF-38535	Burn-in reduction on 4 Meg DRAM <u>Level B/Q only</u>	Aug 96
Texas Instruments	MIL-PRF-38535	Physical dimensions (D1), moisture resistance (D3), insulation resistance (D3) (for all ceramic packages in Taiwan and Singapore facilities) eliminated	Oct 96
Texas Instruments	MIL-PRF-38535	Class V Eliminated read and record data	May 00
Texas Instruments	MIL-PRF-38535	Class V X-Ray (monitor only, for glass-frit seal)	May 00
Texas Instruments	MIL-PRF-38535	Class V Eliminated Non-Destructive Bond Pull	May 00
Texas Instruments	MIL-PRF-38535	Class V Eliminated PIND and Centrifuge on all flip chip mounted die.	May 00
Texas Instruments	MIL-PRF-38535	100% burn-in (selected DSP/MCU) eliminated <u>Level B/Q only</u>	June 96

<u>Manufacturer</u>	<u>Specification</u>	<u>Test optimized</u>	<u>Date</u>
Texas Instruments	MIL-PRF-38535	100% -55degC screening (selected DSP/MCU) eliminated Level B/Q only	June 98
Texas Instruments	MIL-PRF-38535	100% X-ray eliminated on welded lid parts.	Oct 07
Texas Instruments	MIL-PRF-38535	QCI Group B Subgroup 1 Class V Physical Dimensions and Internal Water Vapor Performed as part of Generic Group D QCI by package family within 36 week window.	Aug 00
Texas Instruments	MIL-PRF-38535	QCI Group B Subgroup 2 Class V Resistance to Solvents, Bond Strength and Die shear are done as part of Generic group B QCI by package family by week of seal. Main body 38535 group B. Internal visual and mechanical is covered by 100% pre-cap inspection.	Aug 00
Texas Instruments	MIL-PRF-38535	QCI Group B Subgroup3 Class V Solderability performed as part of Generic Group B QCI by package family per week of seal.	Aug 00
Texas Instruments	MIL-PRF-38535	QCI Group B Subgroup 4 Class V Lead Integrity, Seal are performed as part of generic group D QCI by package family within 36 week window. Lid torque testing eliminated for all package families	Aug 00
Texas Instruments	MIL-PRF-38535	QCI Group B Subgroup5 Class V End point electrical, Steady State Life and End point electrical performed as part of Wafer Lot Acceptance by wafer lot	Aug 00
Texas Instruments	MIL-PRF-38535	QCI Group B Subgroup 6 Class V End-point electrical, temp cycle, constant acceleration, seal and endpoint electrical parameters performed as part of generic Group D QCI by package family within 36 week window	Aug 00
Xilinx	MIL-PRF-38535	Cold and room temp electrical testing eliminated for 0.35 um, XC4000XL device family, with hot guard-banded test limits.	Mar 98

<u>Manufacturer</u>	<u>Specification</u>	<u>Test optimized</u>	<u>Date</u>
Xilinx	MIL-PRF-38535	Burn-In has been eliminated on the following product. XC3020, XC3042, XC3090 XC3142A, XC3190A, XC3195A XC4003A, XC4005, XC4010, XC4013 XC4005E, XC4010E, XC4013E, XC4025E	Jul 99

* Indicates changes from the previous report

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