



## Process Change Notice #1512214

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<b>PCN Date:</b> 12/21/2015		<b>Effective Date:</b> 3/25/2016									
<b>Title:</b> EM357x,8x,9x Assembly site addition											
<b>Originator:</b> Paranidharan	<b>Phone:</b> +65-65117735	<b>Dept:</b> Supplier Management									
<b>Customer Contact:</b> Kathy Haggar	<b>Phone:</b> (512) 532-5261	<b>Dept:</b> Sales									
<b>PCN Type:</b> <table border="0"><tr><td><input type="checkbox"/> Datasheet</td><td><input type="checkbox"/> Foundry</td><td><input type="checkbox"/> Packing</td></tr><tr><td><input type="checkbox"/> Product Revision</td><td><input checked="" type="checkbox"/> Assembly</td><td><input type="checkbox"/> Labeling</td></tr><tr><td><input type="checkbox"/> Discontinuance</td><td><input type="checkbox"/> Test</td><td><input type="checkbox"/> Other</td></tr></table>			<input type="checkbox"/> Datasheet	<input type="checkbox"/> Foundry	<input type="checkbox"/> Packing	<input type="checkbox"/> Product Revision	<input checked="" type="checkbox"/> Assembly	<input type="checkbox"/> Labeling	<input type="checkbox"/> Discontinuance	<input type="checkbox"/> Test	<input type="checkbox"/> Other
<input type="checkbox"/> Datasheet	<input type="checkbox"/> Foundry	<input type="checkbox"/> Packing									
<input type="checkbox"/> Product Revision	<input checked="" type="checkbox"/> Assembly	<input type="checkbox"/> Labeling									
<input type="checkbox"/> Discontinuance	<input type="checkbox"/> Test	<input type="checkbox"/> Other									
<b>Last Order Date:</b> NA											
<b>PCN Details</b>											
<b>Description of Change:</b> Silicon Labs is pleased to announce the successful addition of SPIL (Siliconware Precision Industries C., Ltd.) as an additional assembly site for the EM357x, EM358x & EM359x products. SPIL is an existing assembly site for Silicon Labs, and is certified to ISO9001, ISO14001 and ISO/TS16949. SPIL address: Siliconware Precision Industries Co., Ltd. No. 153, Sec. 3, Chung Shan Road, Tantzsu, Taichung, Taiwan 427, R. O. C Tel: 886-4-2534-1525 Fax: 886-4-2533-0639  Both SPIL 48QFN-7x7 & 56QFN-8x8 are qualified as MSL2 which is the same as that of ASE-CL (Chung Li) packages.  As of the effective date of the PCN, Silicon Labs may assemble from either of the qualified Assembly sites.											
<b>Reason for Change:</b> Increase assembly capacity to ensure dual sourcing.											
<b>Impact on Form, Fit, Function, Quality, Reliability:</b> There is no change in Form, Fit, Function, Quality and Reliability.											



## Process Change Notice #1512214

**Product Identification:**

EM355-RT  
EM355-RTR  
EM355-IRT  
EM355-IRTR  
EM3555-RT  
EM3555-RTR  
EM3555-IRT  
EM3555-IRTR  
EM356-RT  
EM356-RTR  
EM357-ZRT  
EM357-ZRTR  
EM357-IRT  
EM357-IRTR  
EM3581-IRT  
EM3581-IRTR  
EM3582-IRT  
EM3582-IRTR  
EM3585-IRT  
EM3585-IRTR  
EM3586-IRT  
EM3586-IRTR  
EM3587-IRT  
EM3587-IRTR  
EM3588-IRT  
EM3588-IRTR

**Last Date of Unchanged Product:** 3/25/2016

**Qualification Samples:**

Available upon request



## Process Change Notice #1512214

Specific conditions of acceptance of this change will be considered on a case by case basis if written notice is submitted within 30 days of this notice. To request further data or inquire about this notification, please contact your local Silicon Labs sales representative. A list of Silicon Labs sales representatives is available at [www.silabs.com](http://www.silabs.com).

In some cases rejection of a change notice may impact Silicon Labs product pricing, delivery, quality, or reliability.

### Customer Early Acceptance Sign Off:

Customers may approve early PCN acceptance by completing the information below:

Early Acceptance:    Date: \_\_\_\_\_

                                 Name: \_\_\_\_\_

                                 Company: \_\_\_\_\_

Email your early Acceptance approval to: [katherine.hagggar@silabs.com](mailto:katherine.hagggar@silabs.com)

**Qualification Data:**

EM357x:

**EM35x Qualification Report**



W7101F1 - Product Qualification Report Record

Rev. H

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Part Rev A3, TSMC Fabrication, ASECL and SPIL Assembly							
Test Name	Test Condition	Qualification	Lot ID or Start	Fail/Pass or End	Notes	Summary	Status
<b>Test Group A – Accelerated Environment Stress Tests ASECL Assembly</b>							
HAST	JA110 130 °C, 85%RH Vcc=3.6V, 96 hours	3 lots, N=>25	Q034974 Q034806 Q034946	0/30 0/27 0/30	1	3 lots 0/87	Pass
Temp Cycle	JA104 Cond C: -65 °C to 150 °C 500 cycles	3 lots, N=>25	Q034843 Q034643 Q034676	0/27 0/27 0/27	1	3 lots 0/81	Pass
HTSL	JA103 150 °C, 1000hr	3 lots, N=>25	Q034677 Q034644 Q034804	0/27 0/27 0/27	1	3 lots 0/81	Pass
<b>Test Group A – Accelerated Environment Stress Tests SPIL Assembly</b>							
HAST	JA110 130 °C, 85%RH Vcc=3.6V, 96 hours	3 lots, N=>25	Q036875 Q036874 Q036873	0/25 0/25 0/25	1	3 lots 0/75	Pass
Temp Cycle	JA104 Cond C: -65 °C to 150 °C 500 cycles	3 lots, N=>25	Q036920 Q036919 Q036918	0/25 0/25 0/25	1	3 lots 0/75	Pass
HTSL	JA103 150 °C, 1000hr	3 lots, N=>25	Q037010 Q037015 Q037016	0/25 0/25 0/25	1	3 lots 0/75	Pass
<b>Test Group E – Electrical Verification</b>							
ESD-HBM	JA114	1 lot, N=>3	Q034472 Q034471	0/6 0/6		2 lots 0/12	Max Pass 2KV
ESD-CDM	JC101	1 lot, N=>3	Q034621 Q034474 Q037045	0/6 0/6 0/6		3 lots 0/18	Max Pass 2KV
Latch Up	JESD78 ±100mA	1 lot, N=>3	Q034619 Q034483 Q034620 Q034482	0/6 0/6 0/6 0/6	Hot temp Hot temp Ambient Ambient	4 lots	Pass

**Notes:**

1. Parts are Pre-conditioned at MSL 2/ 260 °C

This report applies to the following part numbers:

EM357-RT/RTR	EM341-RT/RTR	EM346-RT/RTR
EM351-RT/RTR	EM342-RT/RTR	

EM358x:

## EM358x Qualification Report



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### Part Rev A3, TSMC Fabrication, ASECL and SPIL Assembly

Test Name	Test Condition	Qualification	Lot ID or Start	Fail Pass or End	Notes	Summary	Status
<b>Test Group A – Accelerated Environment Stress Tests ASECL Assembly</b>							
HAST	JA110 130°C, 85%RH Vcc=3.6V, 96 hours	3 lots, N=>25	Q035159 Q035158 Q035157	0/27 0/26 0/27	1	3 lots 0/80	Pass
Temp Cycle	JA104 Cond C: -65°C to 150°C 500 cycles	3 lots, N=>25	Q033928 Q033896 Q034083	0/30 0/30 0/30	1	3 lots 0/90	Pass
HTSL	JA103 150°C, 1000hr	3 lots, N=>25	Q033929 Q033897 Q034084	0/30 0/30 0/30	1	3 lots 0/90	Pass
<b>Test Group A – Accelerated Environment Stress Tests SPIL Assembly</b>							
HAST	JA110 130°C, 85%RH Vcc=3.6V, 96 hours	3 lots, N=>25	Q037427 Q037428 Q037429	0/25 0/25 0/25	1	3 lots 0/75	Pass
Temp Cycle	JA104 Cond C: -65°C to 150°C 500 cycles	3 lots, N=>25	Q037017 Q037018 Q037019	0/25 0/25 0/25	1	3 lots 0/75	Pass
HTSL	JA103 150°C, 1000hr	3 lots, N=>25	Q037010 Q037015 Q037016	0/25 0/25 0/25	1	3 lots 0/75	Pass
<b>Test Group B – Accelerated Lifetime Simulation Tests</b>							
HTOL	JA108 T <sub>J</sub> ≥ 125°C, Dynamic Vcc=3.6V, 1000 hours	3 lots, N=>77	Q034339 Q034741 Q034797	0/84 0/80 0/81		3 lots 0/245	Pass
LTOL	JA108 T <sub>A</sub> = -10°C, Dynamic Vcc=3.6V, 1000 hours	1 lot, N=>32	Q034281	0/40		2 lots 0/40	Pass
ELFR	JA108 T <sub>J</sub> ≥ 125°C, Dynamic Vcc=3.6V, 48 hours	3 lots, N=>500	Q035188 Q034358 Q033985 Q034798	0/541 0/500 0/500 0/500		4 lots 0/2041	Pass
<b>Test Group E – Electrical Verification</b>							
ESD-HBM	JA114	1 lot, N=>3	Q033812 Q035089	0/13 0/15		2 lots 0/28	Max Pass 2KV
ESD-CDM	JC101	1 lot, N=>3	Q033811 Q035090 Q037046	0/12 0/15 0/15		3 lots 0/42	Max Pass 2KV
Latch Up	JESD78 ±200mA	1 lot, N=>3	Q033813 Q035091	0/6 0/6		2 lots 0/12	Pass

Notes:

1. Parts are Pre-conditioned at MSL 2/ 260°C

This report applies to the following part numbers:

EM3581-RT/RTR	EM3586-RT/RTR
EM3582-RT/RTR	EM3587-RT/RTR
EM3585-RT/RTR	EM3588-RT/RTR

EM359x:

## EM359x Qualification Report



W7101F1 - Product Qualification Report Record Rev. H

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### Part Rev A3, TSMC Fabrication, ASECL and SPIL Assembly

Test Name	Test Condition	Qualification	Lot ID or Start	Fail/Pass or End	Notes	Summary	Status
Test Group A – Accelerated Environment Stress Tests ASECL Assembly							
HAST	JA110 130°C, 85%RH Vcc=3.6V, 96 hours	3 lots, N=>25	Q035159 Q035158 Q035157	0/27 0/26 0/27	1	3 lots 0/80	Pass
Temp Cycle	JA104 Cond C: -65°C to 150°C 500 cycles	3 lots, N=>25	Q035162 Q035161 Q035160	0/27 0/27 0/27	1	3 lots 0/81	Pass
HTSL	JA103 150°C, 1000hr	3 lots, N=>25	Q035165 Q035164 Q035163	0/27 0/27 0/27	1	3 lots 0/81	Pass
Test Group A – Accelerated Environment Stress Tests SPIL Assembly							
HAST	JA110 130°C, 85%RH Vcc=3.6V, 96 hours	3 lots, N=>25	Q037427 Q037428 Q037429	0/25 0/25 0/25	1	3 lots 0/75	Pass
Temp Cycle	JA104 Cond C: -65°C to 150°C 500 cycles	3 lots, N=>25	Q037029 Q037030 Q037031	0/25 0/25 0/25	1	3 lots 0/75	Pass
HTSL	JA103 150°C, 1000hr	3 lots, N=>25	Q037026 Q037027 Q037028	0/25 0/25 0/25	1	3 lots 0/75	Pass
Test Group B – Accelerated Lifetime Simulation Tests							
HTOL	JA108 T <sub>j</sub> ≥ 125°C, Dynamic Vcc=3.6V, 1000 hours	3 lots, N=>77	Q034339 Q034741 Q034797	0/84 0/80 0/81		3 lots 0/245	Pass
LTOL	JA108 T <sub>A</sub> = -10°C, Dynamic Vcc=3.6V, 1000 hours	1 lot, N=>32	Q034281	0/40		2 lots 0/40	Pass
ELFR	JA108 T <sub>j</sub> ≥ 125°C, Dynamic Vcc=3.6V, 48 hours	3 lots, N=>500	Q035188 Q034358 Q033985 Q034798	0/541 0/500 0/500 0/500		4 lots 0/2041	Pass
Test Group E – Electrical Verification							
ESD-HBM	JA114	1 lot, N=>3	Q035100			1 lot 0/15	Max Pass 2KV
ESD-CDM	JC101	1 lot, N=>3	Q037046 Q037045 Q035101			3 lots 0/45	Max Pass 2KV
Latch Up	JESD78 ±100mA	1 lot, N=>3	Q035102			1 lot 0/6	Pass

**Notes:**

1. Parts are Pre-conditioned at MSL 2/ 260°C

This report applies to the following part numbers:

EM3591-RT/RTR	EM3596-RT/RTR
EM3592-RT/RTR	EM3597-RT/RTR
EM3595-RT/RTR	EM3598-RT/RTR