171023170 Adding Second Assembly & Test Source C8051F85x, C8051F86x, & EFM8BB1 QFN20

PCN Issue Date: 10/23/2017 **Effective Date:** 1/26/2018

PCN Type: Assembly; Test

Description of Change

Silicon Labs is pleased to announce the successful qualification of Advanced Semiconductor Engineering ChungLi (ASECL) as an additional IC assembly and test site for C8051F85x, C8051F86x, and EFM8BB1 in QFN20 packages. ASECL is an existing IC assembly supplier for Silicon Labs, certified and registered to ISO9001, ISO14001 and TS16949.

After the PCN effective date, Silicon Labs will ship product from either qualified assembly site.

Reason for Change

Capacity expansion

Impact on Form, Fit, Function, Quality, Reliability

There is no impact on fit, function, quality, or reliability. The form has changed to include Cu wire bonds.

Product Identification

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EFM8BB10F4G-A-QFN20
EFM8BB10F4G-A-QFN20R
EFM8BB10F4I-A-QFN20
EFM8BB10F4I-A-QFN20R
EFM8BB10F8G-A-QFN20
EFM8BB10F8G-A-QFN20R
EFM8BB10F8I-A-QFN20
EFM8BB10F8I-A-QFN20R
EFM8BB10F2G-A-QFN20
EFM8BB10F2G-A-QFN20R
EFM8BB10F2I-A-QFN20
EFM8BB10F2I-A-QFN20R
EFM8BB10M1039F8GM-A
EFM8BB10M1039F8GM-AR
EFM8BB10M1069F8GM-A
EFM8BB10M1069F8GM-AR
EFM8BB10P1012F2GM-A
EFM8BB10P1012F2GM-AR
EFM8BB10P1072F4GM-A
EFM8BB10P1072F4GM-AR
C8051F850-C-GM
C8051F850-C-GMR
C8051F850-C-IM
C8051F850-C-IMR
C8051F851-C-GM
C8051F851-C-GMR
C8051F851-C-IM
C8051F851-C-IMR
C8051F852-C-GM
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C8051F852-C-GMR
C8051F852-C-IM
C8051F852-C-IMR
C8051F853-C-GM
C8051F853-C-GMR
C8051F853-C-IM
C8051F853-C-IMR
C8051F854-C-GM
C8051F854-C-GMR
C8051F854-C-IM
C8051F854-C-IMR
C8051F855-C-GM
C8051F855-C-GMR
C8051F855-C-IM
C8051F855-C-IMR
CF850P1102CGM
CF850P1102CGMR
```

Last Date of Unchanged Product: 1/26/2018

Qualification Samples

Available on request.

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 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: PCNEarlyAcceptance@silabs.com

User Registration

Register today to create your account on Silabs.com. Your personalized profile allows you to receive technical document updates, new product announcements, “how-to” and design documents, product change notices (PCN) and other valuable content available only to registered users. **http://www.silabs.com/profile**

Qualification Data

See attached qualification reports below.

C8051F85x.86x AEC-Q100 Qualification Report

SILICON LABS

W7101F1 - Product Qualification Plan and Report Record **Rev. G**

C8051F85x.86x Rev C, GSMC Fabrication, UTACTH and ASECL Assembly except as noted							
Test Name	**Test Condition**	**Qualification**	**Lot ID or Start**	**Fail/Pass or End**	**Notes**	**Summary**	**Status**
Test Group A - Accelerated Environment Stress Tests - 24-QSOP - UTACTH CuPd Wire							
THB	JA101		Q34377	0/79	1		
	85°C, 85%RH	3 lots, N=>77	Q34374	0/80	1	3 lots	
	Vcc=3.6V, 1000 hours		Q34090	0/80	1	0/239	Pass
UHAST	JA110		Q34376	0/80	1		
	130°C, 85%RH	3 lots, N=>77	Q34373	0/80	1	3 lots	
	Vcc=3.6V, 96 hours		Q34089	0/80	1	0/240	Pass
Temp Cycle	JA104		Q34375	0/80	1		
	Cond C: -65°C to 150°C	3 lots, N=>77	Q34372	0/80	1	3 lots	
	500 cycles		Q34088	0/80	1	0/240	Pass
HTSL	JA103		Q34120	0/81	1		
	150°C, 1000hr	1 lot, N=>45	Q34432	0/85	1	2 lots	
						0/166	Pass
Test Group A - Accelerated Environment Stress Tests - 20-QFN-3x3 - UTACTH Au Wire							
HAST	JA110		Q34390	0/80	1		
	130°C, 85%RH	3 lots, N=>77	Q34384	0/80	1	3 lots	
	Vcc=3.6V, 96 hours		Q34193	0/80	1	0/240	Pass
UHAST	JA110		Q34386	0/80	1		
	130°C, 85%RH	3 lots, N=>77	Q34383	0/80	1	3 lots	
	Vcc=3.6V, 96 hours		Q34184	0/80	1	0/240	Pass
Temp Cycle	JA104		Q34385	0/80	1		
	Cond C: -65°C to 150°C	3 lots, N=>77	Q34382	0/80	1	4 lots	
	500 cycles		Q34192	0/80	1	0/317	Pass
			Q40860	0/77	1		
HTSL	JA103						
	150°C, 1000hr	1 lot, N=>45	Q34342	0/50	1	1 lots	
						0/50	Pass

Approved by: Vincent Hidajat 1 of 4 Prepared on: 23-Feb-17

C8051F85x.86x AEC-Q100 Qualification Report

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C8051F85x.86x Rev C, GSMC Fabrication, UTACTH and ASECL Assembly except as noted							
Test Name	Test Condition	Qualification	Lot ID or Start	Fail/Pass or End	Notes	Summary	Status
Test Group A - Accelerated Environment Stress Tests - 20-QFN-3x3 - ASECL CuPd Wire							
HAST	JA110		Q035864	0/80	1		
	130°C, 85%RH	3 lots, N=>77	Q035863	0/80	1	3 lots	
	Vcc=3.6V, 96 hours		Q035862	0/80	1	0/240	Pass
UHAST	JA110		Q035861	0/84	1		
	130°C, 85%RH	3 lots, N=>77	Q035859	0/85	1	3 lots	
	Vcc=3.6V, 192 hours		Q035858	0/81	1	0/250	Pass
Temp Cycle	JA104		Q035857	0/85	1		
	Cond C: -65°C to 150°C	3 lots, N=>77	Q035856	0/78	1	3 lots	
	500 cycles		Q035855	0/85	1	0/248	Pass
HTSL	JA103		Q035854	0/30	1		
	150°C, 1000hr	1 lot, N=>45	Q035847	0/30	1	3 lots	
			Q035846	0/30	1	0/90	Pass
Test Group A - Accelerated Environment Stress Tests - 16-SOIC - UTACTH Au Wire							
HAST	JA110		Q34364	0/78	1		
	130°C, 85%RH	3 lots, N=>77	Q34361	0/80	1	3 lots	
	Vcc=3.6V, 96 hours		Q34191	0/80	1	0/238	Pass
UHAST	JA110		Q34363	0/80	1		
	130°C, 85%RH	3 lots, N=>77	Q34359	0/80	1	3 lots	
	Vcc=3.6V, 96 hours		Q34189	0/78	1	0/238	Pass
Temp Cycle	JA104		Q34362	0/80	1		
	Cond C: -65°C to 150°C	3 lots, N=>77	Q34360	0/80	1	3 lots	
	500 cycles		Q34190	0/80	1	0/240	Pass
HTSL	JA103						
	150°C, 1000hr	1 lot, N=>45	Q34334	0/50	1	1 lots	
						0/50	Pass

C8051F85x.86x AEC-Q100 Qualification Report

SILICON LABS

W7101F1 - Product Qualification Plan and Report Record **Rev. G**

C8051F85x.86x Rev C, GSMC Fabrication, UTACTH and ASECL Assembly except as noted							
Test Name	**Test Condition**	**Qualification**	**Lot ID or Start**	**Fail/Pass or End**	**Notes**	**Summary**	**Status**
Test Group B - Accelerated Lifetime Simulation Tests							
HTOL			Q34435	0/15	6		
	JA108		Q34434	0/84	6		
	125°C, Dynamic	3 lots, N=>77	Q34753	0/99	6	4 lots	
	Vcc=3.6V, 1000 hours		Q34773	0/88	6	0/286	Pass
ELFR	AEC-Q100-008		Q34414	0/809			
	125°C, Dynamic	3 lots, N=>800	Q34752	0/826		3 lots	
	Vcc=3.6V, 48 hours		Q34012	0/829		0/2464	Pass
HTDR			Q34432	0/85	6		
	AEC-Q100-005		Q34433	0/15	6		
	150°C, 1000 hours	3 lots, N=>77	Q34775	0/99	6	7 lots	
			Q34774	0/100	6	0/579	Pass
			Q35080	0/86	8		
			Q35081	0/87	8		
			Q35249	0/107	8		
LTDR			Q34436	0/82	7		
	AEC-Q100-005		Q34778	0/100	7		
	25°C, 1000 hours	3 lots, N=>77	Q34776	0/100	7	4 lots	
			Q34437	0/15	7	0/297	Pass
Test Group E - Electrical Verification							
ESD-HBM	AEC-Q100-002						
		1 lot, N=>3	Q34017				2000 V
ESD-MM	AEC-Q100-003						
		1 lot, N=>3	Q34018				150 V
ESD-CDM	AEC-Q100-011		Q34457		2		1250 V
		1 lot, N=>3	Q34415		3		1250 V
			Q34481		4		1500 V
			Q35881		5		1500 V
Latch Up	AEC-Q100-004						
	±200mA	1 lot, N=>6	Q34412	125 C			Pass
			Q24413	25 C			
Gate Leakage	AEC-Q100-006						
		1 lot, N=>6	Q34211				Pass

Approved by: Vincent Hidajat 3 of 4 Prepared on: 23-Feb-17

C8051F85x.86x AEC-Q100 Qualification Report

W7101F1 - Product Qualification Plan and Report Record Rev. G

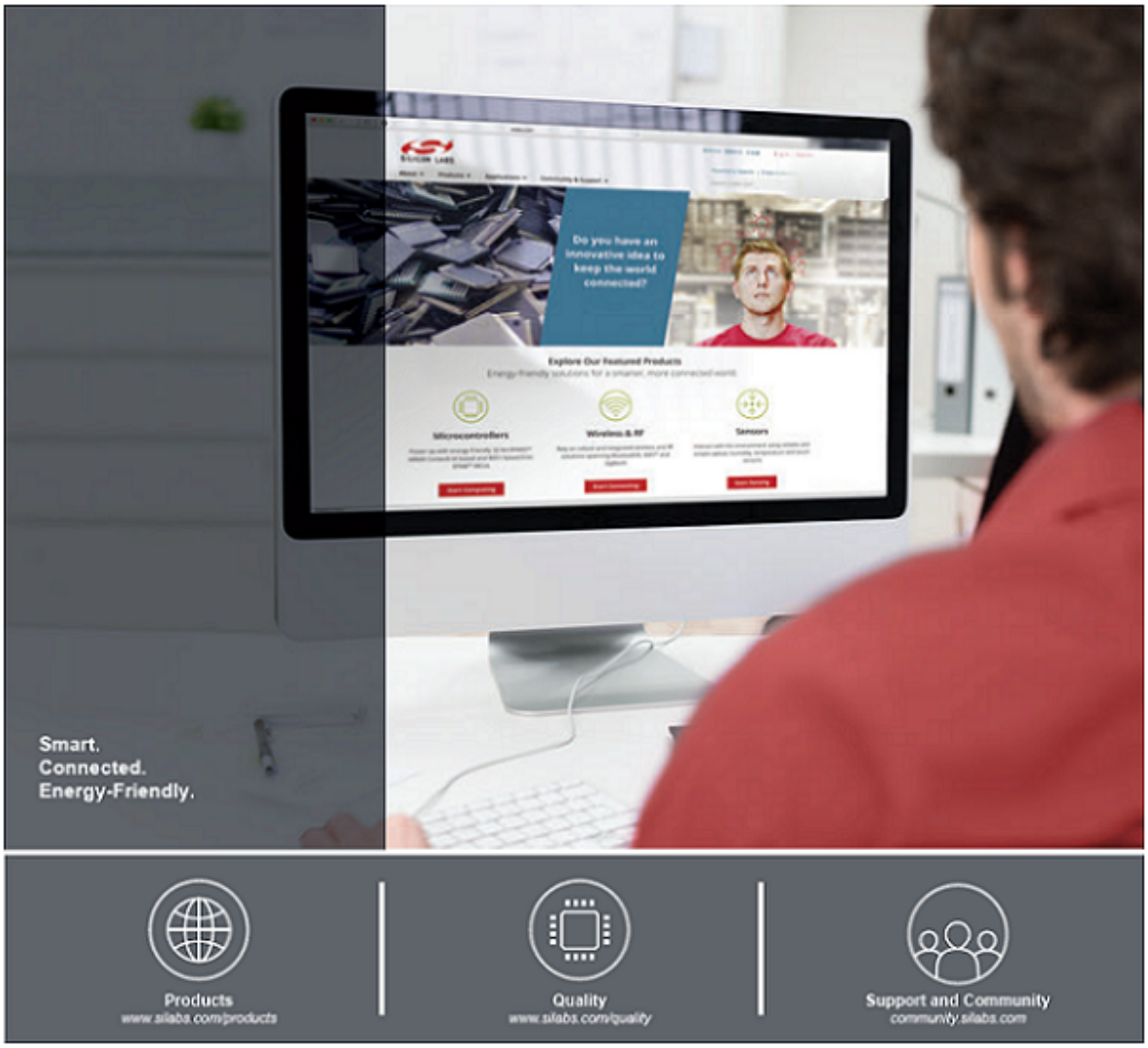
C8051F85x.86x Rev C, GSMC Fabrication, UTACTH and ASECL Assembly except as noted							
Test Name	Test Condition	Qualification	Lot ID or Start	Fail/Pass or End	Notes	Summary	Status

Notes:

1. Parts are Pre-conditioned at MSL2/260°C
2. 16-SOIC
3. 24-QSOP
4. 20-QFN UTACTH
5. 20-QFN ASECL
6. Device are preconditioned with 20K program/erase endurance cycling at 85°C
7. Device are preconditioned with 20K program/erase endurance cycling at 55°C
8. Device are preconditioned with 20K program/erase endurance cycling at 125°C

This report applies to the following part numbers:				
C8051F850-C-GM	C8051F850-C-GU	C8051F850-C-IM	C8051F850-C-IU	C8051F850-C-YM
C8051F851-C-GM	C8051F851-C-GU	C8051F851-C-IM	C8051F851-C-IU	C8051F850-G1DI
C8051F852-C-GM	C8051F852-C-GU	C8051F852-C-IM	C8051F852-C-IU	C8051F850-GDI
C8051F853-C-GM	C8051F853-C-GU	C8051F853-C-IM	C8051F853-C-IU	
C8051F854-C-GM	C8051F854-C-GU	C8051F854-C-IM	C8051F854-C-IU	
C8051F855-C-GM	C8051F855-C-GU	C8051F855-C-IM	C8051F855-C-IU	
C8051F860-C-GS	C8051F860-C-IS			
C8051F861-C-GS	C8051F861-C-IS			
C8051F862-C-GS	C8051F862-C-IS			
C8051F863-C-GS	C8051F863-C-IS			
C8051F864-C-GS	C8051F864-C-IS			
C8051F865-C-GS	C8051F865-C-IS			

Approved by: Vincent Hidajat 4 of 4 Prepared on: 23-Feb-17



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