



190403491 Addendum to PCN 180216170 Adding 2nd Assembly & Test F85x, F86x, BB1 QFN20

PCN Issue Date: 4/3/2019

Effective Date: 7/9/2019

PCN Type: Assembly; Test

Description of Change

This addendum is to add the C8051F850 Y grade part numbers as part of PCN 180216170 Adding Second Assembly & Test Source C8051F85x, C8051F86x, EFM8BB1 QFN20.

"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

Including additional OPNs that were left out from the original PCN.

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

C8051F850-C-YM
C8051F850-C-YMR
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
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: 7/9/2019

Qualification Samples

Available on request.

Customer Response

Lack of acknowledgment of the PCN within 30 days constitutes acceptance of the change, Ref. JEDEC-J-STD-046.

To request further data or inquire about this notification, please contact your Silicon Labs sales representative. A list of Silicon Labs sales representatives is available at <http://www.silabs.com>.

Customers may approve early PCN acceptance by emailing approval, along with PCN # to PCNEarlyAcceptance@silabs.com

User Registration

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Qualification Data

See attached qualification reports below.

C8051F85x.86x AEC-Q100 Qualification Report



W7101F1 - Product Qualification Plan and Report Record Rev. G

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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 - 24-QSOP - UTACTH CuPd Wire							
THB	JA101 85°C, 85%RH Vcc=3.6V, 1000 hours	3 lots, N=>77	Q34377	0/79	1		
			Q34374	0/80	1	3 lots	
			Q34090	0/80	1	0/239	Pass
UHAST	JA110 130°C, 85%RH Vcc=3.6V, 96 hours	3 lots, N=>77	Q34376	0/80	1		
			Q34373	0/80	1	3 lots	
			Q34089	0/80	1	0/240	Pass
Temp Cycle	JA104 Cond C: -65°C to 150°C 500 cycles	3 lots, N=>77	Q34375	0/80	1		
			Q34372	0/80	1	3 lots	
			Q34088	0/80	1	0/240	Pass
HTSL	JA103 150°C, 1000hr	1 lot, N=>45	Q34120	0/81	1		
			Q34432	0/85	1	2 lots 0/166	Pass
Test Group A - Accelerated Environment Stress Tests - 20-QFN-3x3 - UTACTH Au Wire							
HAST	JA110 130°C, 85%RH Vcc=3.6V, 96 hours	3 lots, N=>77	Q34390	0/80	1		
			Q34384	0/80	1	3 lots	
			Q34193	0/80	1	0/240	Pass
UHAST	JA110 130°C, 85%RH Vcc=3.6V, 96 hours	3 lots, N=>77	Q34386	0/80	1		
			Q34383	0/80	1	3 lots	
			Q34184	0/80	1	0/240	Pass
Temp Cycle	JA104 Cond C: -65°C to 150°C 500 cycles	3 lots, N=>77	Q34385	0/80	1		
			Q34382	0/80	1	4 lots	
			Q34192	0/80	1	0/317	Pass
			Q-40860	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

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Prepared on: 23-Feb-17

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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 130°C, 85%RH Vcc=3.6V, 96 hours	3 lots, N=>77	Q035864	0/80	1	3 lots	Pass
			Q035863	0/80	1		
			Q035862	0/80	1		
UHAST	JA110 130°C, 85%RH Vcc=3.6V, 192 hours	3 lots, N=>77	Q035861	0/84	1	3 lots	Pass
			Q035859	0/85	1		
			Q035858	0/81	1		
Temp Cycle	JA104 Cond C: -65°C to 150°C 500 cycles	3 lots, N=>77	Q035857	0/85	1	3 lots	Pass
			Q035856	0/78	1		
			Q035855	0/85	1		
HTSL	JA103 150°C, 1000hr	1 lot, N=>45	Q035854	0/30	1	3 lots	Pass
			Q035847	0/30	1		
			Q035846	0/30	1		
Test Group A - Accelerated Environment Stress Tests - 16-SOIC - UTACTH Au Wire							
HAST	JA110 130°C, 85%RH Vcc=3.6V, 96 hours	3 lots, N=>77	Q34364	0/78	1	3 lots	Pass
			Q34361	0/80	1		
			Q34191	0/80	1		
UHAST	JA110 130°C, 85%RH Vcc=3.6V, 96 hours	3 lots, N=>77	Q34363	0/80	1	3 lots	Pass
			Q34359	0/80	1		
			Q34189	0/78	1		
Temp Cycle	JA104 Cond C: -65°C to 150°C 500 cycles	3 lots, N=>77	Q34362	0/80	1	3 lots	Pass
			Q34360	0/80	1		
			Q34190	0/80	1		
HTSL	JA103 150°C, 1000hr	1 lot, N=>45	Q34334	0/50	1	1 lots	Pass
						0/50	

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Test Name	Test Condition	Qualification	Lot ID or Start	Fail/Pass or End	Notes	Summary	Status
Test Group B - Accelerated Lifetime Simulation Tests							
HTOL	JA108 125°C, Dynamic Vcc=3.6V, 1000 hours	3 lots, N=>77	Q34435	0/15	6		
			Q34434	0/84	6		
			Q34753	0/99	6	4 lots	
			Q34773	0/88	6	0/286	Pass
ELFR	AEC-Q100-008 125°C, Dynamic Vcc=3.6V, 48 hours	3 lots, N=>800	Q34414	0/809		3 lots	
			Q34752	0/826			
			Q34012	0/829		0/2464	Pass
HTDR	AEC-Q100-005 150°C, 1000 hours	3 lots, N=>77	Q34432	0/85	6		
			Q34433	0/15	6		
			Q34775	0/99	6	7 lots	
			Q34774	0/100	6	0/579	Pass
			Q35080	0/86	8		
			Q35081	0/87	8		
LTDR	AEC-Q100-005 25°C, 1000 hours	3 lots, N=>77	Q34436	0/82	7		
			Q34778	0/100	7		
			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	1 lot, N=>3	Q34457		2		1250 V
			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

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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
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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

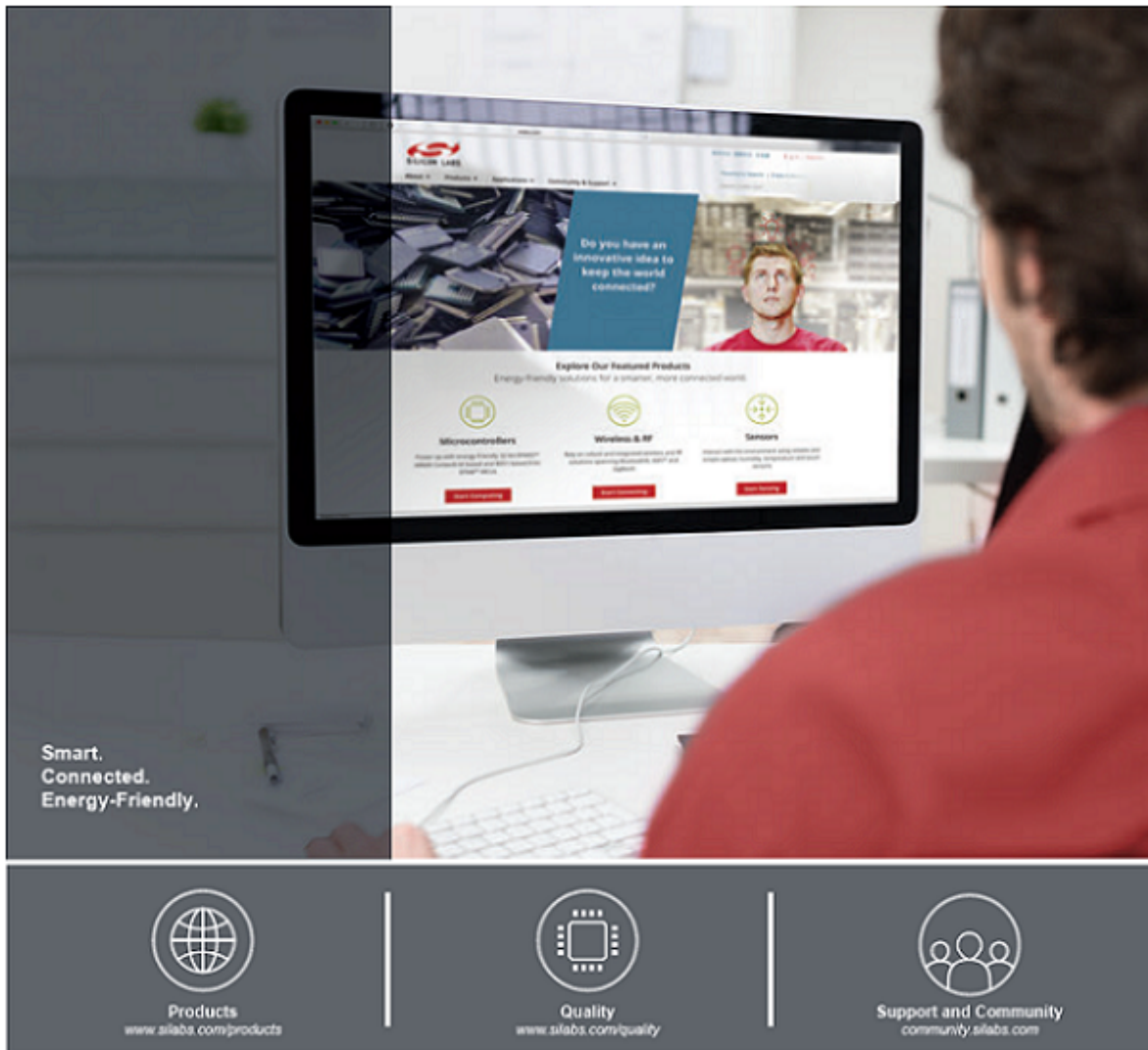
This report applies to the following part numbers:

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			

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