Product Change Notification / NTDO-03WCVB135

Date:

02-Jan-2022

Product Category:

Bluetooth Silicon

PCN Type:

Manufacturing Change

Notification Subject:

CCB 4657 Final Notice: Implement MSL 1 for BM83SM1 device family available in 50L MODULE (32x15x2.5mm) package assembled at UMEC assembly site.

Affected CPNs:

NTDO-03WCVB135_Affected_CPN_01022022.pdf
NTDO-03WCVB135_Affected_CPN_01022022.csv

Notification Text:

PCN Status: Final Notification

PCN Type: Manufacturing Change

Microchip Parts Affected: Please open one of the files found in the Affected CPNs section.
Note: For your convenience Microchip includes identical files in two formats (.pdf and .xls)

Description of Change: Implement MSL 1 for BM83SM1 device family available in 50L MODULE (32x15x2.5mm) package assembled at UMEC assembly site.

Pre and Post Change Summary:

	Pre Change	Post Change

Assembly Site	UMEC	UMEC
MSL Level	MSL 3	MSL 1

Impacts to Data Sheet: None

Change Impact None

Reason for Change: To improve productivity by upgrading to MSL 1.

Change Implementation Status: In Progress

Estimated First Ship Date: January 14, 2022 (date code: 2203)

Note: Please be advised that after the estimated first ship date customers may receive pre and post change parts.

Time Table Summary:

	May 2021					**>**	**January 2022**				
Workweek	19	20	21	22	23		01	02	03	04	05
Initial PCN Issue Date	X										
Qual Report Availability							X				
Final PCN Issue Date							X				
Estimated Implementation Date									X		

Method to Identify Change: Traceability code, MSL label

Qualification Report: Please open the attachments included with this PCN labeled as PCN_#_Qual_Report.

Revision History: May 6, 2021: Issued initial notification.
January 2, 2022: Issued final notification. Attached the qualification report. Provided estimated first ship date to be on January 14, 2022.

The change described in this PCN does not alter Microchip's current regulatory compliance regarding the material content of the applicable products.

Attachments:

PCN_NTDO-03WCVB135_Qual_Report.pdf

Please contact your local Microchip sales office with questions or concerns regarding this notification.

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QUALIFICATION REPORT SUMMARY

RELIABILITY LABORATORY

PCN #: NTDO-03WCVB135

Date:
December 16, 2021

Implement MSL 1 for BM83SM1 device family available in 50L MODULE (32x15x2.5mm) package assembled at UMEC assembly site

Purpose	Implement MSL 1 for BM83SM1 device family available in 50L MODULE (32x15x2.5mm) package assembled at UMEC assembly site
CN	ES357992
QUAL ID	R2100830 rev. A
MP CODE	ZY0237XZXM01
Part No.	BM83SM1-00AA
Bonding No.	A-066162 Rev. B
CCB No.	4657

Package

Type 50L Module

BOM:

BONDING DIAGRAM DWG NO: A-066162 REV: B

ITEM	DESCRIPTION	MATERIAL	MANUFACTURER	PART #	PRIMARY COMPONENT	PKG SIZE	VALUE 1	VALUE TOL	VALUE UOM 1	VALUE 2	VALUE UOM 2
C1	CAPACITOR CER 1UF 6.3V 20% X5R 0201	CERAMIC	MURATA	GRM033R60J105MEA2D	Yes	201	1	0.200	uF	6.3	V
C2	CAPACITOR CER 1UF 6.3V 20% X5R 0201	CERAMIC	MURATA	GRM033R60J105MEA2D	Yes	201	1	0.200	uF	6.3	V
C3	CAPACITOR CER 1UF 6.3V 20% X5R 0201	CERAMIC	MURATA	GRM033R60J105MEA2D	Yes	201	1	0.200	uF	6.3	V
C4	CAPACITOR CER 2PF 50V C0G NP0 0201	CERAMIC	MURATA	GJM0335C1H2R0BB01	Yes	201	2	0.100	pF	50	V
C5	CAPACITOR CER 3PF 50V C0G NP0 0201	CERAMIC	MURATA	GJM0335C1H3R0BB01	Yes	201	3	0.100	pF	50	V
C6	CAPACITOR CER 1.4PF 50V C0G/NP0 0201	CERAMIC	MURATA	GJM0335C1H1R4BB01	Yes	201	1.4	0.100	pF	50	V
C7	INDUCTOR FIXED 3.6NH 400MA 300 MOHM	CERAMIC	MURATA	LQP03TN3N6B02	Yes	201	3.6	0.000	nH	400	mA
C8	CAPACITOR CER 1UF 6.3V 20% X5R 0201	CERAMIC	MURATA	GRM033R60J105MEA2D	Yes	201	1	0.200	uF	6.3	V
C9	CAPACITOR CER 1UF 6.3V 20% X5R 0201	CERAMIC	MURATA	GRM033R60J105MEA2D	Yes	201	1	0.200	uF	6.3	V
L2	INDUCTOR CER 10UH K 360MA 2.4X1.65X1.3(0805)	CERAMIC	ZENITHTEK	ZWP-0805-100K	Yes	805	10	1.000	uH	360	mA
L3	INDUCTOR CER 10UH K 360MA 2.4X1.65X1.3(0805)	CERAMIC	ZENITHTEK	ZWP-0805-100K	Yes	805	10	1.000	uH	360	mA
L4	RESISTOR SMD 0 OHM JUMPER 1/20W 0201	CERAMIC	YAGEO	RC0201JR-070RL	Yes	201	0	0.000	OHMS	0.05	WATT
L5	CAPACITOR CER 4.8PF 50V C0G NP0 0201	CERAMIC	MURATA	GJM0335C1H4R8BB01	Yes	201	4.8	0.100	pF	50	V
R1	RESISTOR TKF 0R 0.05W SMD 0201	CERAMIC	YAGEO	RC0201JR-070RL	Yes	201	0	0.000	OHMS	0.05	WATT
R3	RESISTOR SMD 0 OHM JUMPER 1/16W 0402	CERAMIC	YAGEO	RC0201JR-070RL	Yes	402	0	0.000	OHMS	0.0625	WATT
R5	RESISTOR SMD 1K OHM 1% 1/16W 0402	CERAMIC	YAGEO	RC0402FR-071KL	Yes	402	1	0.010	K OHMS	0.0625	WATT
R8	INDUCTOR FIXED 2.8NH 500MA 200 MOHM	CERAMIC	MURATA	LQP03TN2N8B02	Yes	201	2.7	0.100	nH	500	mA
U1	IC BT5511 BGA 5.5X5.5MM IS2083B		MICROCHIP	IS2083BM	Yes	5.5X5.		0.000			
X1	CRYSTAL 16M 9PF 10PPM 3.2X2.5 SMD		TST	TZ3077C	Yes	3.2X2.		0.000			
C10	CAPACITOR CER 1UF 6.3V 20% X5R 0201	CERAMIC	MURATA	GRM033R60J105MEA2D	Yes	201	1	0.200	uF	6.3	V
C11	CAPACITOR CER 1UF 6.3V 20% X5R 0201	CERAMIC	MURATA	GRM033R60J105MEA2D	Yes	201	1	0.200	uF	6.3	V
C12	CAPACITOR CER 1UF 6.3V 20% X5R 0201	CERAMIC	MURATA	GRM033R60J105MEA2D	Yes	201	1	0.200	uF	6.3	V
C13	CAPACITOR CER 1UF 6.3V 20% X5R 0201	CERAMIC	MURATA	GRM033R60J105MEA2D	Yes	201	1	0.200	uF	6.3	V
C16	CAPACITOR CER 1UF 6.3V 20% X5R 0201	CERAMIC	MURATA	GRM033R60J105MEA2D	Yes	201	1	0.200	uF	6.3	V
C18	CAPACITOR CER 1UF 6.3V 20% X5R 0201	CERAMIC	MURATA	GRM033R60J105MEA2D	Yes	201	1	0.200	uF	6.3	V
C19	CAPACITOR CER 1UF 6.3V 20% X5R 0201	CERAMIC	MURATA	GRM033R60J105MEA2D	Yes	201	1	0.200	uF	6.3	V
C20	CAPACITOR CER 10PF 50V J 0402 NPO	CERAMIC	WALSIN	CC0402JRNPO9BN100	Yes	402	10	0.500	pF	50	V
C21	CAPACITOR CER 10PF 50V J 0402 NPO	CERAMIC	WALSIN	CC0402JRNPO9BN100	Yes	402	10	0.500	pF	50	V
C22	CAPACITOR CER 1UF 6.3V 20% X5R 0201	CERAMIC	MURATA	GRM033R60J105MEA2D	Yes	201	1	0.200	uF	6.3	V
C23	CAPACITOR CER 10UF 6.3V M 0603 X5R	CERAMIC	WALSIN	CC0603MRX5R5BB106	Yes	603	10	0.200	uF	6.3	V
C24	CAPACITOR CER 10UF 6.3V M 0603 X5R	CERAMIC	WALSIN	CC0603MRX5R5BB106	Yes	603	10	0.200	uF	6.3	V
C25	CAPACITOR CER 10UF 6.3V M 0603 X5R	CERAMIC	WALSIN	CC0603MRX5R5BB106	Yes	603	10	0.200	uF	6.3	V

Project: bond_diagram Version: 6.0 Event: Bonding Diagram (pcbnd04011100s2) Process: Module SS/Page: Body

PSI MASK NUMBER	PACKAGE CODE	PRODUCT PART NUMBER	ASSEMBLY SITE
ZY023	XZX	BM83S	UMEC

rTEM	OESCRIPTION	MAttRIAL	MAHUFACTURtR	PAAT#	PRIMARY COMPOHENT	PKG SIZE	VALUE1	VALUE TOI.	VALUE UOM1	VALUE2	VALUE UOM1
	CAPAC.lloACER 1UFO.:/'I:ZO,,,}(!)R020t	CERMOC	MURATA	GRM033R6GJ100MEAZD	V..	201	n	0.200	uf	63	V
C, 1	C\PACfTORCEA 1\JF0-3Vlot.X!IA0201	CERAMIC	MURATA	GRJ.1033R60J105MEA20	V..	201	n	**0.200**	uF	6.3	V
ao	CAPN;n,OA:CEA :/(NCOG NPO0201	CERAMJC	MURATA	GJM0336CtH3ROBBOt	V..	201	p	0.100	pf	• •	V
C31	CAPACfl'ORCfR 1VF6 Q201	CERAMIC	MURATA	GRt.<>33R60J10C5MEA20	Ye,	201	n	0.200	uF		V
C32	CAPACllORCEA tUF"6.3\I X5A0201	CERAMJC	MURATA	ORM033A.60J106MEA20	Ye,	201	n	0.200	uf	6.3	V
	CAPACfIORC:(ROIHCOGkf'OOI'OI	CERAMIC	.K>HANSON TECH	08V4T	No	201		0.100	pf		V
	CAPACfIORCEA 6tNCOG HPO0201	CERAMIC	JOHANSON TECH.	2 V4T	No	201	0	0.100	pf	• •	V
CIA	IHDIJCIORFIXED!.CINH-tOIMA.300MCN.-	CERAMIC	TOK CORP.	MH00603P3N66TOOO	Yes	201	P •	**0000**	nH	•ao	mA
W.	H)UCTOR CER tOUHK 300MA1.4XU6X1.:l(OI0:5,)	CERAMIC	GOTRENO OGV	CJNLC2012PR 1001<	No		no	I **000**	vH	**360**	mA
	IHOUCTOA CEA tCIJH ICIOOtM2.-0Ct eo,xI l(OeOO)	CERAMIC	GOTRENO TECHNOI..OGY	GNLC2012PR--100)(	**No**		tO	1.000	uH	• • •	mA
PGII	BMn.fRA +-\AYER tOZIWINI<NESS!IOMMc 1-W.OOEN FA£E	FR-4	GO!OROAO	**8M83**	V..	15X32		**0.000**		• •	
se,	IEL.DiHOCAS!!U.11MMX.WiL6MMXHI,-_,..		TAbHEHG CHEHC	8M6ol SttELDCASE	V..	21.1X1		**0.000**			
C3I"	CN'AQTOR 3PF-Wt/ COONPOWOt	CERAMIC	JOttANSON TECH	250ROOl.3R08V4T	No	201	>	0,100	pf		V

PSIMASKNUMBER	PACKAGECOOE	PROOOCTPARTNUMBER	ASSEMBLY SITE
ZY023	XZX	8M83S	UMEC

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
UMEC221700001.000	TC14921183932.000	2129CS4
UMEC221700002.000	TC14921183932.000	2129CSA
UMEC221700003.000	TC14921183932.000	2129CSB

Result [X] Pass [ ] Fail [ ] _____

50L Module assembled by UMEC is qualified the Moisture/ Reflow Sensitivity Classification Level 1 at 260°C reflow temperature per IPC/JEDEC J-STD-020D standard.

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS	Result	Remarks
Precondition Prior Perform Reliability Tests (At MSL Level 1)	**Electrical Test:** +25°C System: ANRITSU	JESD22-A113	72 (0)	72		Good Devices
	Bake 150°C, 24 hrs System: CHINEE			72		
	85°C/85%RH Moisture Soak 168 hrs. System: TABAI ESPEC			72		
	3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243		72 (0)	72	Pass	
	Electrical Test: +25°C System: ANRITSU		72 (0)	0/72	Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
Temp Cycle	**Stress Condition:** -40°C to +125°C, 500 Cycles System: VOTSCH, VT7012S2	JESD22-A104		24		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C System: ANRITSU		24(0)	0/24	Pass	8 units / lot
	Stress Condition: -40°C to +125°C, 1000 Cycles System: VOTSCH, VT7012S2			24		
	Electrical Test: +25°C System: ANRITSU		24(0)	0/24	Pass	
UNBIASED-HAST	**Stress Condition:** +130°C/85%RH, 96 hrs. System: HAST 6000X	JESD22-A118		24		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C System: ANRITSU		24(0)	0/24	Pass	8 units / lot
Unbiased High Temperature / Humidity	**Stress Condition:** +130°C/85%RH, 500 hrs. System: HAST 6000X	JESD22-A110		24		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C System: ANRITSU		24(0)	0/24	Pass	8 units / lot
	Stress Condition: +130°C/85%RH,1000 hrs. System: HAST 6000X			24		
	Electrical Test: +25°C System: ANRITSU		24(0)	0/24	Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
High Temperature Storage Life	**Stress Condition:** Bake 150°C, 504 hrs System: CHINEE_CNSS-3	JESD22-A103		24		8 units / lot
	Electrical Test: +25°C System: ANRITSU		24(0)	0/24	Pass	
	Stress Condition: Bake 150°C, 1008 hrs System: CHINEE_CNSS-3			24		
	Electrical Test: +25°C System: ANRITSU		24(0)	0/24	Pass	

Affected Catalog Part Numbers (CPN)

BM83SM1-00AA
BM83SM1-00AB
BM83SM1-00TA
BM83SM1-00TB