



Authorized
Test Lab
Lab Code 20150714-00

CTIA EMBEDDED PACK SUMMARY REPORT

CTIA PROJECT NUMBER: LPRR092336

**Shenzhen BAK Technology Co., Ltd.
RT410/T10**

The device noted above has been evaluated per the procedures specified in the current versions of the CTIA Battery Program Management Document (BPMD) and the CTIA Certification Requirements Document (CRD). The statements and observations in this report are accurate and true to the best of our knowledge and belief. The information contained within this report is confidential property of the client company noted above. All rights reserved.

SGS North America, Inc.
620 Old Peachtree Road, Suite 100
Suwanee, GA 30024 USA

Original Issue Date: 12.22.2020
Current Revision Date: n/a

Reviewed and Released by:

A handwritten signature in red ink, appearing to read 'Rodney Grimes', written over a horizontal line.

Rodney Grimes

REVISION HISTORY

Revision	Date	Justification
0	12.22.2020	Original Issue

SUMMARY INFORMATION

1	Supplier name	Shenzhen BAK Technology Co., Ltd
2	Model number	RT410/T10
3	Revision	V0
4	Ratings:	3.8V 3000mAh
5	Cell(s)	Zhengzhou BAK Electronics Co., Ltd. Model: V635061P
6	Testing and Review date(s)	11.19.2020 – 12.21.2020
7	IEEE 1725 and CRSL versions	IEEE 1725: 2011 CRSL Version: 170601 CRD Version: 2.11
8	Summary of review	Embedded Pack meets all Certification requirements.
9	Person(s) who conducted the review.	Jerry Xiao / Sunny Guan Rodney Grimes
10	Contact point	Rodney Grimes rodney.grimes@sgs.com 770.570.1832
11	Laboratory Lab accreditation identifier CATL Authorization Code	SGS-CSTC Standards Technical Services Co., Ltd. (Shenzhen) CNAS L2929 20150714-00

Revision
170601

Vendor Company Name	Shenzhen Bak Technology Co., Ltd
Vendor Address	No.2216, Tianan cyber times town, Tianan cyber
Vendor City	Shenzhen
Vendor State	Guangdong
Vendor Zip/Postal Code	518000
Vendor Country	China
Vendor Contact Name	Alex Liu
Vendor Contact Work Phone	86 13682557166
Vendor Contact Mobile Phone	86 13682557166
Vendor Contact Email	sale5@bak-tech.com
CTIA CERTIFICATION PROJECT NUMBER (FROM WEBSITE)	LPRR092336

	Model	Revision	Rated Capacity (mAh) and Voltage (V)	Cell Vendor	Cell CTIA Request	Cell Model
Pack1	RT410/T10	V0	3.8 V / 3000 mAh	Zhengzhou BAK Electronics Co., Ltd.	Yes	V635061P

	Manufacturing Site Name	Full Address (street, city, state/province, country, postal code, etc.)
PackLoc1	DongGuan ZeYuan Energy Co., Ltd.	Industrial Park, No. 18, Longjiang Road, Xiekeng Village, Qingxi, Dongguan, Guangdong, China
PackLoc2		
PackLoc3		
PackLoc4		
PackLoc5		

NOTICE: Copyright © 2006 CTIA - The Wireless Association © All rights reserved.

Certification Requirements Status List & Worksheets for IEEE-1725 Compliance
Section 5: Battery Pack Validation

CTIA Project Number:	LPRR092336
Org Name (CATL):	SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch
Reviewed By:	Sunny Guan / Jerry Xiao
Checked By:	Rodney Grimes
Release Date (CATL):	12/22/2020

Available (May Use Date)	1-Jun-17
Active (Must Use Date)	31-Oct-17

Revision
170601

CRD Section	Name	Purpose	Recognition				COMPLETED BY SUBSYSTEM VENDOR		Does Evidence Support Compliance?	COMPLETED BY CATL
			Category	Type	CATL Action	Alternate Method Permitted	(Y-N-NA)	Location of Evidence		
							Compliant?	Filename	Subsystem Vendor Notes	Comments
4.18	Overcurrent Protection Device	To confirm that cells qualified with ancillary protection measures are employed at the pack level with such measures intact.	CATL	Product	Test	No	Y			Y Tested and complied. (Rpt: SZES201000668801)
5.1	Traceability	Ensure that the vendor has a traceability plan that includes traceability of the cell.	CATL	Product	Review	No	Y	Battery pack specification.pdf cell and battery production traceability.pdf		Y
5.2	Part Number	Ensure part number is identified on battery pack	CATL	Product	Test	No	Y			Y Tested and complied. (Rpt: SZES201000668801)
5.3	Voltage	Ensure typical voltage of pack is identified on battery pack.	CATL	Product	Test	No	Y			Y Tested and complied. (Rpt: SZES201000668801)
5.4	Chemistry	Ensure chemistry of battery pack (is identified and correct on the battery pack).	CATL	Product	Test	No	Y			Y Tested and complied. (Rpt: SZES201000668801)
5.5	Pack Vendor Identification	Ensure Host or Pack Vendor identified properly.	CATL	Product	Test	No	Y			Y Tested and complied. (Rpt: SZES201000668801)
5.6	Circuit Layout	Ensure adequate runner spacing, soldering pad area size, and distance between solder pads as well as separation between traces.	Declaration				Y			Y Shenzhen BAK Technology Col, Ltd. Declaration (Dated 2020-12-11)
5.9	Component Specifications	Ensure battery pack components meet minimum and maximum temperature requirements with adequate margin and protection circuit components are rated for operating range of -25°C to +85°C.	Declaration				Y			Y Shenzhen BAK Technology Col, Ltd. Declaration (Dated 2020-12-11)
5.11	Limit Output Current (External Short-Circuit Considerations)	Validate performance of battery pack short circuit protection.	CATL	Product	Test	No	Y			Y Tested and complied. (Rpt: SZES201000668801)
5.12	Pack Mechanisms	Ensure pack has at least one method to limit current from cells independent of the cell separator shutdown mechanism.	CATL	Product	Review	No	Y	Battery pack specification.pdf		Y Protection circuit and PTC were used.
5.14	Thermal Sensor Design	Validate that a thermal sensor either in the battery pack and/or host monitors cell temperature and enables the system to limit operation within the cell's thermal specifications.	CATL	Product	Test	No	Y			Y Tested and complied. (Rpt: SZES201000668801)
5.19	Protection, System Overcharge	Identify that the combination of the cell and pack has at least one overvoltage protection function.	CATL	Product	Review	No	Y	Battery pack specification.pdf		Y Protection circuit was used.
5.22	Pack Overcurrent Protection Requirement	Validate performance of pack discharge overcurrent protection	CATL	Product	Test	No	Y			Y Tested and complied. (Rpt: SZES201000668801)
5.25	Electrical Cell Connections	Ensure connections directly to cells are not soldered.	Declaration				Y			Y Shenzhen BAK Technology Col, Ltd. Declaration (Dated 2020-12-11)
5.26	Cell Vent Mechanism	Ensure that the battery pack construction does not prevent cell gases from escaping.	CATL	Product	Review	No	Y	Battery pack specification.pdf		Y Battery pack is not sealed
5.27	Host Requirement	Ensure connector / terminal adheres to host device mechanical considerations.	Declaration				Y			Y Shenzhen BAK Technology Col, Ltd. Declaration (Dated 2020-12-11)
5.28	ESD	Validate the ability of the pack to withstand ESD.	CATL	Product	Test	No	Y			Y Tested and complied. (Rpt: SZES201000668801)

Certification Requirements Status List & Worksheets for IEEE-1725 Compliance
Section 5: Battery Pack Validation

CTIA Project Number:	LPRR092336
Org Name (CATL):	SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch
Reviewed By:	Sunny Guan / Jerry Xiao
Checked By:	Rodney Grimes
Release Date (CATL):	12/22/2020

Available (May Use Date)	1-Jun-17
Active (Must Use Date)	31-Oct-17

Revision
170601

CRD Section	Name	Purpose	Recognition				COMPLETED BY SUBSYSTEM VENDOR			COMPLETED BY CATL	
			Category	Type	CATL Action	Alternate Method Permitted	(Y-N-NA)	Location of Evidence		Does Evidence Support Compliance?	Comments
							Compliant?	Filename	Subsystem Vendor Notes		
5.29	Welding	Ensure welding is only occurring in areas designated by cell vendor.	Declaration				Y			Y	Shenzhen BAK Technology Col, Ltd. Declaration (Dated 2020-12-11)
5.30	Cell Shorts	Ensure assembly process avoids cell and battery pack short-circuit.	Declaration				Y			Y	Shenzhen BAK Technology Col, Ltd. Declaration (Dated 2020-12-11)
5.31	Foreign Objects	Ensure assembly process prevents foreign objects from contacting cell or protection circuit.	Declaration				Y			Y	Shenzhen BAK Technology Col, Ltd. Declaration (Dated 2020-12-11)
5.32	Soldering Process	Ensure adequate means have been provided to prevent solder balls, flashes, bridges, and foreign debris from being introduced during the soldering process.	Declaration				Y			Y	Shenzhen BAK Technology Col, Ltd. Declaration (Dated 2020-12-11)
5.33	Reworked Cells	Ensure cells salvaged from batteries that are recovered / returned from end users are not used to manufacture battery packs. Review SOP for returned Materials or products.	Declaration				Y			Y	Shenzhen BAK Technology Col, Ltd. Declaration (Dated 2020-12-11)
5.34	Circuit Care	Ensure precautions have been taken to avoid damage to protection devices and circuits. Review SOP for handling of safety and/or critical components and devices.	Declaration				Y			Y	Shenzhen BAK Technology Col, Ltd. Declaration (Dated 2020-12-11)
5.35	Pack Component Care	Ensure precautions have been taken to avoid damage to conductors and insulators, for example, from sharp edges, burrs, pinching, or kinking.	Declaration				Y			Y	Shenzhen BAK Technology Col, Ltd. Declaration (Dated 2020-12-11)
5.36	Welding Care	Ensure precautions have been taken to avoid damage to cells, protective circuit module, and battery pack housing during housing assembly (ultrasonic welding, over molding, etc.). Review SOP for pack assembly.	Declaration				Y			Y	Shenzhen BAK Technology Col, Ltd. Declaration (Dated 2020-12-11)
5.37	ESD	Ensure precautions have been taken to avoid damage to protection circuits and other devices from ESD during handling. Review SOP for ESD protection throughout the assembly process.	CATL	Product	Review	No	Y	ESD prevention SOP.pdf		Y	
5.38	Pack Testing During Production	Ensure that all protection circuit operations shall be directly or indirectly verified at the pack level and 100% of shipped battery packs are tested / verified. Review SOP to ensure that battery pack testing is clearly defined.	CATL	Product	Review	No	Y	SOP for PCM production test working instruction.xlsx		Y	
5.39	Quality Control	Ensure critical processes have a quality control and maintenance plan. Review quality and process control document.	Declaration				Y			Y	Shenzhen BAK Technology Col, Ltd. Declaration (Dated 2020-12-11)

Certification Requirements Status List & Worksheets for IEEE-1725 Compliance
Section 5: Battery Pack Validation

CTIA Project Number:	LPRR092336
Org Name (CATL):	SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch
Reviewed By:	Sunny Guan / Jerry Xiao
Checked By:	Rodney Grimes
Release Date (CATL):	12/22/2020

Available (May Use Date)	1-Jun-17
Active (Must Use Date)	31-Oct-17

Revision
170601

CRD Section	Name	Purpose	Recognition				COMPLETED BY SUBSYSTEM VENDOR		COMPLETED BY CATL	
			Category	Type	CATL Action	Alternate Method Permitted	(Y-N-NA)	Location of Evidence	Does Evidence Support Compliance?	Comments
5.40	Cell Care	Ensure no damage to cell enclosure or cell case and critical cell design elements during welding and other operations. Review SOP for handling of safety and/or critical components and devices.	Declaration				Y		Y	Shenzhen BAK Technology Col, Ltd. Declaration (Dated 2020-12-11)
5.42	Cell Chemistry	Ensure no cells from significantly different electrochemical systems are used to manufacture battery packs.	CATL	Product	Review	No	Y	Battery pack specification.pdf	Y	
5.44	Qualification of New Pack Designs	Ensure new pack designs have passed specified tests identified by the vendor before qualification as a production pack.	Declaration				Y		Y	Shenzhen BAK Technology Col, Ltd. Declaration (Dated 2020-12-11)
5.45	Qualification of Production Packs	To establish that qualification requirements continue to be met throughout production, and are properly characterized, optimized and controlled.	Declaration				Y		Y	Shenzhen BAK Technology Col, Ltd. Declaration (Dated 2020-12-11)
5.46	Battery Transportation Regulations	Ensure manufacturer / supplier complies with transportation regulatory testing requirements including the appropriate sections of UN Manual of Tests and Criteria.	CATL	Product	Review	No	Y	UN38.3 test report.pdf	Y	
9.4	Battery Pack Identification	Determine that the vendor has a means of identification within a battery pack to allow verification, by said vendor, of the battery pack and cells.	CATL	Product	Review	No	Y	Battery pack specification.pdf	Y	battery label in last page of battery specification, and also coding on internal cell
9.2 (2 of 4)	Ensuring Supply Chain Security	To ensure that adequate security of supply chain is in place and that security audit plan exists and is being followed.	Declaration				Y		Y	Shenzhen BAK Technology Col, Ltd. Declaration (Dated 2020-12-11)
9.3 (2 of 4)	Avoiding Defective Parts	To ensure that adequate security of supply chain, including defective components, is in place and that a security audit plan exists and is being followed. Ensure defective components do not re-enter the supply chain.	Declaration				Y		Y	Shenzhen BAK Technology Col, Ltd. Declaration (Dated 2020-12-11)
10.1 (1 of 2)	Component Requirement	Determine by analysis that all system components used in design under test comply with this standard.	Declaration				Y		Y	Shenzhen BAK Technology Col, Ltd. Declaration (Dated 2020-12-11)
10.2 (2 of 4)	Record Keeping	Determine that applicant ensures that all subordinate defined components of the system are compliant to this standard.	Declaration				Y		Y	Shenzhen BAK Technology Col, Ltd. Declaration (Dated 2020-12-11)
10.3 (2 of 4)	Quality System Requirements	Determine that vendor's quality system meets requirements of ISO-9000:2000 or latest revision.	CATL	Product	Review	No	Y	ZeYuan ISO9001 cert.pdf	Y	ISO 9001:2015 compliant.

Note: Although 10.3 refers to a site authorization, it is listed here as a "Product" requirement to simplify implementation of the review.