Prüfbericht-Nr.: *Test report no.:*			Seite 1 von 7 *Page 1 of 7*
Absatz *Clause*	**Anforderungen - Prüfungen /** *Requirements - Tests*	**Messergebnisse – Bemerkungen /** *Measuring results - Remarks*	**Ergebnis** *Result*
	Prüfdurchführung / Prüfablauf *Test procedure*		
1	**General**	--	P ☒ F ☐ N/A ☐ N/T ☐
2	**Performance Test**	--	P ☒ F ☐ N/A ☐ N/T ☐
6	**Compliance**	--	P ☒ F ☐ N/A ☐ N/T ☐

.

Copy of marking plate:

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.

Absatz *Clause*	**Anforderungen - Prüfungen /** *Requirements - Tests*	**Messergebnisse – Bemerkungen /** *Measuring results - Remarks*	**Ergebnis** *Result*
1	**General requirements**		P ☐ F ☐ N/A ☐ N/T ☐
1.1	**Construction**		
	- Each battery should have an independent control and protection for current, voltage, temperature and any other parameter required for safety. - Unless battery is intended for building into an end product, mechanical protection shall be provided for cells, cell connections and control circuits within the battery should be provided to prevent damage as a result of intended use and reasonably foreseeable misuse. -For mechanical protection of cells provided by end product, battery manufacturer shall aware the battery dimensions limitation, battery dimensions shall not exceed limitation of appliance battery compartment, even considering expansion caused by charge-discharge cycling - Battery cases and cells shall incorporate a pressure relief mechanism or shall be so constructed that they will relieve excessive internal pressure at a value and rate that will preclude rupture, explosion and self-ignition. If encapsulation is used to support cells within an outer case, the type of encapsulant and the method of encapsulation shall neither cause the battery to overheat during normal operation nor inhibit pressure relief. - Internal wiring, terminal contacts and insulation should be sufficient to withstand the maximum anticipated current, voltage and temperature requirements. The size and shape of the terminal contacts shall ensure that they can carry the maximum anticipated current. - For battery consisting of series-connected cells or cell blocks, cells should have closely matched capacities, be of the same design, be of the same chemistry and be from the same manufacturer.		
1.2	**Marking**		

Absatz *Clause*	**Anforderungen - Prüfungen /** *Requirements - Tests*	**Messergebnisse – Bemerkungen /** *Measuring results - Remarks*	**Ergebnis** *Result*
	Cell or battery shall carry clear and durable markings giving the following information in appropriate language: - Chemical system, Li-ion, Rechargeable Li etc.; - Polarity, it's no need to be marked when battery has no designation for prevent reverse polarity connections; - Date of manufacture (which may be in code); - Name or identification (e.g. trademark) of manufacturer or supplier; - Rated capacity; - Nominal voltage. - Appropriate caution (in text and/or symbol, explanation of symbol's significance shall be provided in user manual or specification)		
1.3	**Parameter measurement tolerances and sample status**		
	The overall accuracy of controlled or measured values, relative to the specified or actual values, shall be within the following tolerances: a) ± 1 % for voltage; b) ± 1 % for current; c) ± 1 % for capacity; d) ± 2 °C for temperature; e) ± 0,1 % for time; f) ± 0,1 mm for dimensions. These tolerances comprise the combined accuracy of the measuring instruments, the measurement techniques used, and all other sources of error in the test procedure.		
	It's recommend that: Performance tests in this document are made, using cells or batteries that are stored for not more than two months (60 days), under conditions specified by the cell or battery manufacturer. Safety tests in this document are made, using cells or batteries that are stored for not more than six months, under conditions specified by the cell or battery manufacturer.		
2	**Performance Test**	Test sample: 2 pcs	
2.1	**Cycle life**		

Absatz *Clause*	**Anforderungen - Prüfungen /** *Requirements - Tests*	**Messergebnisse – Bemerkungen /** *Measuring results - Remarks*	**Ergebnis** *Result*
	Fully discharged samples according to cl.2.1.1 shall be tested as follows. Step 1: charging cell or battery with manufacturer specified charge method; Step2: Stand in fully charged condition for 5~10min; Step 3: discharging samples with 0.2 I_t A to final voltage, or with a more adverse condition (e.g. higher current) if client requests. Step 4: stand in fully discharged condition for 5~10min; Repeat step 1~4 for N cycles (total N+1 cycles are conducted), N shall not less than 599, or may be higher as client requests. After above step, cycled samples output shall be assessed according to IEC 61960-3:2017, cl.7.3.1, output value shall not less than 80% of rated capacity. For pouch cell or battery that without a rigid enclosure, the size of cycled samples shall not exceed manufacturer specified max dimensions or expansion rate. **Manufacturer's documentation or test data can be provided to demonstrate compliance ahead lab completed all cycles (In this case, at least 180 cycles test with specified method should be done in internal lab to verify with manufacturer's data).**		
2.2	**Cycle life (accelerated test procedure)**		

Absatz *Clause*	**Anforderungen - Prüfungen /** *Requirements - Tests*	**Messergebnisse – Bemerkungen /** *Measuring results - Remarks*	**Ergebnis** *Result*
	Fully discharged samples according to cl.2.1.1 shall be tested as follows. Step 1: charging cell or battery with manufacturer specified charge method(X I_t A, required by manufacturer); Step2: Stand in fully charged condition for 5~10min; Step 3: discharging samples with Y I_t A(required by manufacturer) to final voltage, or with a more adverse condition (e.g. higher current) if client requests. Step 4: stand in fully discharged condition for 5~10min; Repeat step 1~4 for N cycles (total N+1 cycles are conducted), N shall not less than 599, or may be higher as client requests. After above step, cycled samples output shall be assessed according to IEC 61960-3:2017, cl.7.3.1, output value shall not less than 70% of rated capacity. For pouch cell or battery that without a rigid enclosure, the size of cycled samples shall not exceed manufacturer specified max dimensions or expansion rate. Manufacturer's documentation or test data can be provided to demonstrate compliance ahead lab completed all cycles (In this case, at least 180 cycles test with specified method should be done in internal lab to verify with manufacturer's data).	Charge 10 It A Discharge 5 It A 3000 cycles	
3	**Compliance**		P ☐ F ☐ N/A ☐ N/T ☐
	Product that evaluated in this report shall comply with the safety aspects of the IEC/EN 62133-2. When it's not available or applicable, product that evaluated in this report shall complies with mandatory safety requirements according to target market requests.		

--End of test report--