

SAMSUNG SDI 	UN 38.3 Transport Certificate	Created by: Minyeol Han
		Version: V1.0
		Date: 2019-12-04
Document no.: VT003274055		

UN 38.3 Transport Certificate

Proof of Validation

SAMSUNG SDI Co., Ltd. hereby certifies that the product is validated in accordance with the test manual of the UN Transport; Dangerous goods 38.3.

Product Information

Manufacturer : Samsung SDI **SDI Model Name :** PA0110NS001A
Address : 150-20, Gongse-ro, Giheung-gu, Yongin-si, Gyeonggi-do, Republic of Korea
Phone number : +82-31-8006-3100 **E-mail:** sdimaster@samsung.com
Web-site : http:// www.samsungsdi.co.kr

Classification : Lithium-ion Secondary Battery Small
Nominal capacity : 11 Ah **Nominal voltage :** 13.5 V
Watt hour : 148.5 kWh **mass :** 4.0 kg

Test Result

Source of Test Condition & Criteria

UN Transport of Dangerous Goods; Manual of Tests and Criteria - 6th rev Amend #1; Section 38.3

Test Laboratory

Internal test laboratory at Samsung SDI Co., Ltd.

Address : 163, Bangudae-ro, Samnam-myeon, Ulju-gun, Ulsan, Republic of Korea

Phone number : +82-70-7142-7411

E-mail : heedong.park@samsung.com

Web-site : http:// www.samsungsdi.co.kr

Test Result

Lithium-ion batteries tested proven to meet the requirement of each applicable test in the UN manual.

Test Item	Test Result	Test Date	Remark
T.1 Altitude simulation	Pass	2019-09-27 ~ 2019-10-07	-
T.2 Thermal shock	Pass	2019-09-12 ~ 2019-09-23	-
T.3 Vibration	Pass	2019-09-23 ~ 2019-10-05	-
T.4 Mechanical shock	Pass	2019-09-27 ~ 2019-10-07	-
T.5 External short circuit	Pass	2019-11-26 ~ 2019-11-29	-
T.6 Impact / Crush	Not Applicable	Not Applicable	Cell Only
T.7 Overcharge	Not Applicable	Not Applicable	Pack Only (Information)
T.8 Forced discharge	Not Applicable	Not Applicable	Cell Only

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Product Information

Customer	Project Name	Part Number
FCA	[11Ah] 12V Pack	521117570
Customer Stage	Document Name	
D sample	11Ah_Pack_12V_4S1P_UN_38.3_Transport_Certificate	

DUT (Device under Test) Information

Sample/Module	Cell	Stack	HW	SW
D sample	Series	N/A	H20	X136
DUT S/N				
1cycle : PA1020419A111052KFWM, PA1020419A111057KFWM PA1020419A111042KFWM, PA1020419A111041KFWM				
50cycles : PA1020419A110990KFWM, PA1020419A111019KFWM PA1020419A110995KFWM, PA1020419A110996KFWM				
Sample Amount		Production Place		
8		SDI (Ulsan)		

Test Information

Test Engineer (T1 – T4)	Test Engineer (T5)	Test Place
Heedong Pack	Kyuyoung Kim	SDI (Ulsan)
Test Result	Summary of Result	
Passed	• 4 DUTs at first cycle and 4 DUTs at 25cycles were under tests T.1 Altitude Simulation, T.2 Thermal test, T.3 Vibration, T.4 Shock, T.5 External short circuit. All of 4 DUTs passed the criteria.	

Approval Record

Created by	Approved by
	
2019-12-04/ (Test Engineer) Minyeol Han	2019-12-04/ (Part Leader, Validation) Kyoungsoo Seo

Released for Development Phase									
A sample	<input type="checkbox"/>	B sample	<input type="checkbox"/>	C sample	<input type="checkbox"/>	D sample	<input checked="" type="checkbox"/>	Series	<input type="checkbox"/>