

# INTERNATIONAL CENTRE FOR AUTOMOTIVE TECHNOLOGY

[A Division of NATRiP Implementation Society (NATIS), Govt. of India]

## TEST REPORT

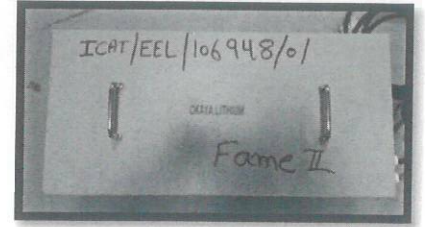
Non-Transferable

Test Report No.: C T 0 G P 8 1 7 4




Date: 14.08.2020

- 1.0 NAME AND ADDRESS OF THE CUSTOMER : M/s. Okaya Power Private Limited  
H-19, Udyog Nagar, Rohtak Road -110041  
New Delhi INDIA
- 1.1 NAME AND ADDRESS OF THE MANUFACTURER : Same as serial No. 1.0
- 2.0 CUSTOMER LETTER REF. : CCTNOKYAPHEEL106948 Dated 14-July-2020
- 3.0 DESCRIPTION OF DEVICE UNDER TEST (DUT):

DUT Name	Battery Pack, 60V
Battery Type	Lithium Battery
Battery Capacity(Ah)	140AH (Ah in 3 hrs)
Rated Voltage	60V DC
Id/Model No.	LFP60140E
Quantity	01 No. of Battery Pack (ICAT/EEL/106948/01)
Trade Name	OKAYA






- 4.0 DATE OF RECEIPT OF SAMPLE : 04.08.2020
- 5.0 CONDITION OF SAMPLE: No physical damage observed.
- 6.0 TEST OBJECTIVE:  
To validate the Performance Requirements of Traction Battery as per ISO 12405-4:2018(E) as amended upto date.
- 7.0 TEST METHOD: Test method referred from ISO 12405-4:2018(E) as amended upto date.
- 8.0 ANY DEVIATION FROM TEST METHOD: No
- 9.0 FUNCTIONAL VERIFICATION: Functional verification done and battery was found satisfactory.
- 10.0 CONCLUSION:  
The battery specified in Sr.No.3.0 of this test report met all the test requirements when tested as per ISO 12405-4:2018(E) amended upto date as mentioned in Annexure-I of this report.
- 11.0 TEST DESCRIPTION: Please refer the Annexure-I of this report.
- 12.0 DATE OF PERFORMANCE OF TEST: Please refer the Annexure-I of this report.
- 13.0 TEST RESULTS: Please refer the Test requirements and Results in Annexure-I of this report.
- 14.0 LOCATION OF TEST: ICAT CENTRE-I

Prepared By	Checked By	Approved By
		
UDIT KAUL Dy. Manager	MAHENDAR PAL Asst. General Manager	PAMELA TIKKU Sr. General Manager



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<p>Prepared By</p> <div style="text-align: center; font-size: 2em; margin-top: 20px;">  </div>		<p>Checked By</p> <div style="text-align: center; font-size: 2em; margin-top: 20px;">  </div>	
<p><b>UDIT KAUL</b> Dy. Manager</p>		<p><b>MAHENDAR PAL</b> Asst. General Manager</p>	<p>Page 02 of 03 [106948]</p>




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Date: 14.08.2020

Annexure – I

1.0 TEST REQUIREMENTS AND RESULTS:

1.0	<b>Test Specification</b>	
1.1	Test Details	To measure Energy Content of the battery pack
1.2	Reference Standard	ISO 12405-4:2018(E)
1.3	Test Date	06.08.2020 to 11.08.2019.
2.0	<b>Preparation of battery pack:</b> <ol style="list-style-type: none"> <li>The battery pack was physically inspected for normal functionality and interface with the battery cycler.</li> <li>Test equipment was programmed to operate within safe operating limits as per the specification of the battery pack. Active over current protection device was enabled.</li> <li>Test environment was conditioned to RT i.e. (25 ± 2) ° C.</li> </ol>	
3.0	<b>Test Procedure:</b> <ol style="list-style-type: none"> <li>Three continuous pre-conditioning cycles were performed, with charging as per manufacturer recommendation* (Not more than 8 hours) and discharge by C/3 rate after sufficient rest period for thermal equilibrium.</li> <li>Standard charge (SCH) on the battery pack followed by 60 min rest period was performed.</li> <li>Standard cycle (SC) consisting of Standard discharge (SDCH) and Standard charge(SCH) were performed.</li> <li>The battery pack was discharged at C/3 rate to determine Energy content in KWh.</li> </ol> <p>*Note: As per manufacturer's recommendation vehicle charger was used to charge the battery pack.</p>	
4.0	<b>Test Equipment</b>	
4.1	Battery Pack Cycler: <b>Regenerative Charge and Discharge Tester ID:ICAT/EEL/BC/P/03</b>	
5.0	Manufacturer declared energy content of the battery = <b>8.4 KWh (C/3)</b>	
6.0	The measured C/3 battery energy is <b>8.440 kWh</b>	
7.0	<b>Test Results:</b> The measured energy content <b>8.440 kwh</b> is within ±5% of the declared energy content of the battery, hence manufacturer declared value of <b>8.4 KWh</b> is taken as rated energy content of the battery.	

Prepared By		Checked By	
			
UDIT KAUL Dy. Manager		MAHENDAR PAL Asst. General Manager	Page 03 of 03 [106948]