



**Govt. of India**  
Ministry of Electronics & I.T., STQC Directorate  
**ELECTRONICS TEST AND DEVELOPMENT CENTRE, MOHALI**  
B-108, Industrial area, Phase- VIII, Mohali (PB)-160071



### TEST REPORT

Report No.	Unique Lab Report No.	Dated	Page No.
ETDC(MH)/T&M/097	ULR- TC5465200000021F	12-05-2020	1 of 6

- 1. Indentor's Address** : M/s. Okaya Power Private Limited,  
Rohtak Road, Peera Garh, New Delhi  
Delhi-110041  
(SRF No. 18183 dt. 08.11.2019)
- 2. Description of item(s)**
- 2.1 **Nomenclature** : SMF VRLA Battery (12V/120Ah)
- 2.2 **Manufacturer** : Sunoxx International
- 2.3 **Model** : OB 120-12
- 2.4 **Sr. No.** : IQLNS10201358387, IQLNS10201358388,  
IQLNS10201358389, IQLNS10201358390,  
IQLNS10201358391, IQLNS10201358392
- 2.5 **Brand Name, if any** : **OKAYA**
- 2.6 **Quantity of Samples** : Six
- 3. Sample(s) received on** : 08-11-2019
- 4. Condition of sample(s) on receipt** : Good
- 5. Date(s)/Period item(s) tested** : 08-11-2019 to 08-05-2020
- 6. Location where test(s) carried out** : ETDC Mohali  
(With name and address)
- 7. Reference of test method(s) used** : JIS C 8702 -1: 2009 and Indenter's
- 8. Applicable product specification(s)** : JIS C 8702 -1: 2009
- 9. Deviation(s), exclusion(s), addition(s) in test method(s)** : Nil
- 10. Environmental conditions**
- 10.1 **Temperature** : 25°C ± 10°C
- 10.2 **Humidity** : 45% to 70%
- 11. Statement with regard to compliance** : Refer to test results (Test Data)

**12. Major Equipment Used**

S. no.	Nomenclature	Make	Model	Cal. Validity
1.	Electronic Load	Digitronics	750W	May, 2021
2.	Multimeter (Digital)	Rishabh	15S	April, 2021
3.	Vibration Machine	Sarswati Dynamic	SEV 100	July, 2020
4.	Clamp meter	Meco	3600	Nov, 2020
5.	Measuring Tape	Freemans	15M	Nov, 2020
6.	Weighting Scale	Modern Business	SNEW-100	July, 2020
7.	Stop Watch	Timeter	J-23	Feb, 2021

Tested/Prepared by

Approved by

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**13. RESULTS SUMMARISED:**

Sr. No.	Test Stage	Test Requirements (Cl. Ref. of specs.)	Test Condition	Test Data	Pass/Fail/Status	Remarks/Ux. (if any)														
13.1	Visual Examination	JIS C 8702-1: 2009	There shall not be any deformation of body and cracks / corrosion on the terminals of the samples (Sealed Lead Acid Battery).	No defects observed.	Pass	-														
13.2	Marking Item	JIS C 8702-1: 2009, Cl. 4.3	The sample shall be marked with relevant details : a) Type Designation b) Nominal Voltage (n x 2.0 V) c) Rated Capacity (20 Hr. rate) d) Manufacturer	SMF VRLA Battery 12V (6x2V) 120 Ah Okaya Power Ltd.	Pass	-														
13.3	Marking Polarity	JIS C 8702-1: 2009, Cl. 4.4	Positive and negative terminals of the sample shall be marked with symbols (+) and (-) respectively.	Positive (+) with Red colour Negative (-) with Black colour	Pass	-														
13.4	Classification	JIS C 8702-2: 2009, Cl. 4 and Indenter's	Following parameters shall be determined in respect of the sample- a) Mass shall be measured.	<table border="1"> <thead> <tr> <th>Sample No.</th> <th>Mass</th> </tr> </thead> <tbody> <tr><td>1.</td><td>42.48 kg</td></tr> <tr><td>2.</td><td>41.83 kg</td></tr> <tr><td>3.</td><td>42.31 kg</td></tr> <tr><td>4.</td><td>42.96 kg</td></tr> <tr><td>5.</td><td>42.87 kg</td></tr> <tr><td>6.</td><td>42.90 kg</td></tr> </tbody> </table>	Sample No.	Mass	1.	42.48 kg	2.	41.83 kg	3.	42.31 kg	4.	42.96 kg	5.	42.87 kg	6.	42.90 kg	-	-
Sample No.	Mass																			
1.	42.48 kg																			
2.	41.83 kg																			
3.	42.31 kg																			
4.	42.96 kg																			
5.	42.87 kg																			
6.	42.90 kg																			
			b) Dimension shall be measured	Dimension is as below- Length: 480 mm Width : 243 mm Height: 170 mm	-	-														
			c) Nominal Voltage of DUT shall be 12 V.	Nominal Voltage: 12V	Pass	-														
			d) The sample shall either be Prismatic or Cylindrical.	Prismatic	Pass	-														

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**13. RESULTS SUMMARISED:**

Sr. No	Test Stage	Test Requirements (Cl. Ref. of specs.)	Test Condition	Test Data		Pass/Fail/Status	Remarks/Ux. (if any)
				Sample No.	Capacity		
13.5	Capacity Test (C <sub>20</sub> )	JIS C 8702-1: 2009, Cl. 5.1 & 7.1	The Fully charged sample shall be discharged by at a constant current of 6 A $\pm$ 2 % at an ambient temperature of 25°C $\pm$ 2°C till an end point terminal voltage of 10.5V (6x1.75V). The capacity shall be 120 Ah or more.	1	134.5 Ah	Pass	-
				2	133.0 Ah		
				3	132.4 Ah		
				4	142.8 Ah		
				5	133.9 Ah		
				6	139.7 Ah		
13.6	High Rate Discharge Characteristics	JIS C 8702-1: 2009, Cl. 5.2 & 7.2	Fully charged sample shall be discharged at a constant current of 120A (20xI <sub>20</sub> ) upto an end point terminal voltage of 9.6V (6x1.6V).  The discharge duration shall be 27 minutes or more.	Discharge time: 36 minutes		Pass	-
13.7	Storage Characteristics	JIS C 8702-1: 2009, Cl. 5.4 & 7.4	Fully charged sample shall be stored for 120 days. After the period, the capacity test shall be performed at a constant discharge current of 6 A (I <sub>20</sub> ) upto an end point terminal voltage of 10.5 V.  The capacity shall not be less than 75% of the rated capacity.	Capacity : 133%		Pass	-
13.8	Maximum Permissible Current Characteristics	JIS C 8702-1: 2009, Cl. 5.5 & 7.5	Fully charged sample shall be discharged at a constant current 240 A (40 x I <sub>20</sub> ) for 300sec.  After the discharge, sample shall be recharged and it shall be discharged at a constant current of 240 A (40*I <sub>20</sub> ) upto an end point terminal voltage of 8.04 V (6*1.34V). The discharge duration shall not be less than 150 sec.	Discharge duration: 887 sec.		Pass	-

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**13. RESULTS SUMMARISED:**

Sr. No	Test Stage	Test Requirements (Cl. Ref. of specs.)	Test Condition	Test Data	Pass/Fail/Status	Remarks/Ux. (if any)
13.9	Gas Emission Intensity Test-II (Gas Recombinating Efficiency Test )	JIS C 8702-1: 2009, Cl. 7.9.2	The sample shall be tested as under- State of Battery: Fully Charged Charging condition: Battery shall be charged continuously at a constant current of $2 \times I_{20}$ for 48 Hrs.  A gas collecting device shall be installed as specified and within one hour of completion of charging as above, the battery shall be charged at a constant current of $0.1 \times I_{20}$ continuously.  Immediately after lapse of 24 Hr from current passing, collection of gas shall be started. Duration of gas collection: 05 Hrs  Gas Recombinating Efficiency shall be $> 90\%$ .	Gas Recombinating Efficiency: 100%	Pass	-
13.10	Gas Recombination Characteristics (Liquid Leakage Resistance Char.)	JIS C 8702-1: 2009, Cl. 7.10.2	The sample shall be tested as under- State of Battery: Fully Charged Charging condition: Battery shall be charged continuously at a constant current of $4 \times I_{20}$ for 05 Hrs.  Verification of state: The existence of cracks or liquid leakages shall be checked visually and the size shall be measured with Vernier Caliper.	No visual defects, cracks, deformation, mechanical deterioration and no any liquid leakage observed.	Pass	-

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**13. RESULTS SUMMARISED:**

Sr. No	Test Stage	Test Requirements (Cl. Ref. of specs.)	Test Condition	Test Data	Pass/ Fail/ Status	Remarks/ Ux. (if any)
13.11	Resistance to Vibration	JIS C 8702-1: 2009, Cl.5.11	The sample shall be subjected to the following conditions: Frequency : 16.7Hz Amplitude : 4 mm (peak to peak) Duration : 01 Hr continuous Direction : Vertical, Longitudinal and Lateral (x, y & z) State of sample: Fully charged	Conditioned	Pass	-
			After the above test, there shall not be any deformation, mechanical damage, breaking on the sample	No visual defects deformation, mechanical damage, breaking on the sample and no any liquid leakage observed.		
13.12	Resistance to Shock	JIS C 8702-1: 2009, Cl.5.12	The fully charged sample shall be given three falls from a height of 20cm with bottom facing downward on a flat hard wooden plate of 10 mm or more in thickness.	Conditioned	Pass	-
			There shall not be any deformation, mechanical damage, breaking on the sample	No visual defects deformation, mechanical damage, breaking on the sample and no any liquid leakage observed.		

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**14. Interpretation/ Conclusion:**

- i) DUT meets the specified criteria for test mentioned under Cl. 13 (Results summarized), as per JISC 8702-1: 2009.

**15. Remarks:**

- i) Device under test (DUT) Photograph enclosed as Annexure-I  
ii) The result reported in this report pertains to the item tested under the stated condition of measurements and do not apply to other products even through declared to be identical.  
iii) Report shall not be reproduced except in full, without written permission Obtained from Director, ETDC Mohali.  
iv) Serial Number of the samples-

Sample No.	Serial No. of Samples
1	IQLNS10201358387
2	IQLNS10201358388
3	IQLNS10201358389
4	IQLNS10201358390
5	IQLNS10201358391
6	IQLNS10201358392

-----END OF REPORT-----

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Issued by

विनय राजपूत VINAY RAJPUT  
वैज्ञानिक 'सी' / Scientist 'C'  
संचार एवं सूचना प्रौद्योगिकी मंत्रालय  
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Govt. of India, ETDC, Mohali (Pb.)

माला गजड़ा / Mala Gazta  
वैज्ञानिक 'बी' / Scientist 'B'  
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Annexure-I

Test Report No. : ETDC(MH)/T&M/097  
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Figure-I (Front View)

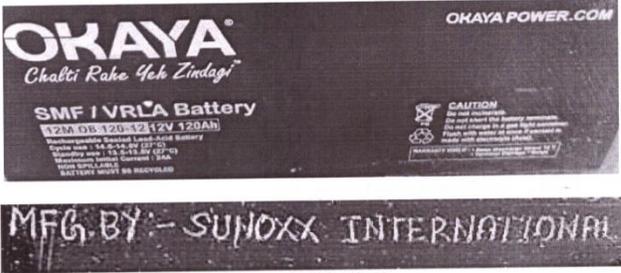


Figure-II (Marking)

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