



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/155 | ULR-TC5465181000000021P | 24-10-2018 | 1 of 7 |

1. Indentor's Address

: M/s Okaya Power Pvt. Ltd.
D-7, Udyog Nagar, Rohtak Road
(Near Peeragarhi Metro Station)
New Delhi - 110041
(SRF No. 17763 dt. 20.02.2018)



2. Description of item(s)

- 2.1 **Nomenclature** : SMF / VRLA Battery (12V/65Ah)
2.2 **Make/Model** : Okaya/ OB-65-12
2.3 **Sr. No.** : Sample No.1 to 6 (Refer remarks 1)
2.4 **Manufactured by** : Okaya Power Pvt. Ltd.
2.5 **Quantity** : Six

3. Sample(s) received on

: 20.02.2018

4. Condition of sample(s) on receipt

: Good

5. Date(s)/Period item(s) tested

: 22.02.2018 to 20.03.2018

6. Location where test(s) carried out (With name and address)

: ETDC Mohali

7. Reference of test method(s) used

: JIS C 8702 -1: 2009 and Indentor's.

8. Applicable product specification(s)

: JIS C 8702 -1: 2009 and Indentor's.

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. Statement on uncertainty in measurement

: Not Applicable.

13. Major Equipment Used

| S. no. | Nomenclature | Make | Model | Cal. Validity |
|--------|----------------------|------------------|----------|---------------|
| 1. | Electronic Load | Digitronics | 750W | May, 2019 |
| 2. | Multimeter (Digital) | Rishabh | 15S | April, 2019 |
| 3. | Vibration Machine | Sarswati Dynamic | SEV 100 | July, 2019 |
| 4. | Clamp meter | Meco | 3600 | Nov, 2018 |
| 5. | Measuring Tape | Freemans | 15M | Nov, 2018 |
| 6. | Weighting Scale | Modern Business | SNEW-100 | July, 2019 |
| 7. | Stop Watch | Timeter | J-23 | Feb, 2019 |

Tested by

Approved by

Issued by



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/155 | ULR-TC546518100000021P | 24-10-2018 | 2 of 7 |

14. RESULTS SUMMARISED:

| Test Stage | Test Requirements (Cl. Ref. of specs.) | Test Condition | Test Data | Pass/ Fail (Qty.) | Uncertainty (Where applicable) | | | | | | | | | | | | | | |
|------------------------------|--|--|---|------------------------------|-----------------------------------|----|----------|----|----------|----|----------|----|----------|----|----------|----|----------|---|---|
| 1. Visual Examination | JIS 8702-1 | There shall not be any deformation of body and cracks / corrosion on the terminals of the sample (Sealed Lead Acid Battery). | No defects observed | Pass | - | | | | | | | | | | | | | | |
| 2. Marking | | | | | | | | | | | | | | | | | | | |
| 2.1 Polarity (Cl: 4.4) | JIS-C 8702-2 (Cl. 6.1) and JIS 8702-1 (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 | - | | | | | | | | | | | | | | |
| 2.2 Designation (Cl: 4.3) | JIS 8702-2 (Cl. 6.2) and JIS C 8702-1 (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) 65Ah Okaya Power Pvt. Ltd. | Pass Pass Pass Pass | - | | | | | | | | | | | | | | |
| 2.3. Additional Information | JIS C 8702-1 (Cl.4.3) | Following parameters shall be determined in respect of the sample: a) Mass (Kg) b) Dimension (LxWxH) (cm) c) Charging Current / Voltage | <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Sample No</th> <th style="text-align: left;">Mass(Kg)</th> </tr> </thead> <tbody> <tr><td>1.</td><td>22.96 kg</td></tr> <tr><td>2.</td><td>22.96 kg</td></tr> <tr><td>3.</td><td>22.96 kg</td></tr> <tr><td>4.</td><td>22.98 kg</td></tr> <tr><td>5.</td><td>23.00 kg</td></tr> <tr><td>6.</td><td>23.06 kg</td></tr> </tbody> </table> L : 350 mm W: 167 mm H: 180 mm Standby Use: 13.5 V to 13.8 V Initial current: 13 A Cycle use: 14.6 V to 14.8 V | Sample No | Mass(Kg) | 1. | 22.96 kg | 2. | 22.96 kg | 3. | 22.96 kg | 4. | 22.98 kg | 5. | 23.00 kg | 6. | 23.06 kg | - | - |
| Sample No | Mass(Kg) | | | | | | | | | | | | | | | | | | |
| 1. | 22.96 kg | | | | | | | | | | | | | | | | | | |
| 2. | 22.96 kg | | | | | | | | | | | | | | | | | | |
| 3. | 22.96 kg | | | | | | | | | | | | | | | | | | |
| 4. | 22.98 kg | | | | | | | | | | | | | | | | | | |
| 5. | 23.00 kg | | | | | | | | | | | | | | | | | | |
| 6. | 23.06 kg | | | | | | | | | | | | | | | | | | |

Tested by

Approved by

Issued by





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/155 | ULR-TC5465181000000021P | 24-10-2018 | 4 of 7 |

14. RESULTS SUMMARISED:

| Test Stage | Test Requirements (Cl. Ref. of specs.) | Test Condition | Test Data | Pass/Fail (Qty.) | Uncertainty (Where applicable) |
|--|--|--|--|------------------|--------------------------------|
| 7. Resistance to Shock (Sample No. 1) | JIS C 8702-1 (Cl. 5.12 & 7.12) | 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. There shall not be any deformation, mechanical damage, breaking on the sample | Conducted. No visual defects deformation, mechanical damage, breaking on the sample observed. | Pass | - |
| 8. Maximum Permissible Current (Sample No.3) | JIS C 8702-1 (Cl. 5.5) | 1)Fully charged sample shall be discharged at a constant current 130 A (40 x I ₂₀) for 300sec. After the discharge, sample shall be recharged and it shall be discharged at a constant current of 130A (40*(I ₂₀)) upto an end point terminal voltage of 8.04 V (6*1.34 V). The discharge duration shall not be less than 150 sec | Conducted 921 sec | Pass | - |
| 9. Storage Characteristics (Sample No. 3) | JIS C 8702-1 (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 3.25 A (I ₂₀) upto an end point terminal voltage of 10.5V. The capacity shall not be less than 75% of the rated capacity | 84.51 % | Pass | - |



Tested by

Approved by

Issued by



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/155 | ULR-TC5465181000000021P | 24-10-2018 | 5 of 7 |

14. RESULTS SUMMARISED:

| Test Stage | Test Requirements (Cl. Ref. of specs.) | Test Condition | Test Data | Pass/ Fail (Qty.) | Uncertainty (Where applicable) |
|---|---|--|---|-------------------------|-----------------------------------|
| 10. Capacity Test after Charge Acceptance, after Deep Discharge (Sample No.3) | JIS C 8702- 1 Cl. 5.6 | A suitable load resistor which can draw a current of $130A \pm 10\%$ ($40 \times I_{20}$) shall be connected across the fully charged sample and it shall be stored for 360Hrs. After the storage period, the load resistor shall be disconnected from the sample and sample shall be recharged at constant voltage (UC) as per 6.1A for a period of 48Hrs with Initial charging current between $26A$ ($6 \times I_{20}$ to $10 \times I_{20}$). After the charging period, the sample shall remain open circuited for 5 to 24Hrs and then shall be discharged at $3.25A$ (C_{20}). The observed capacity of the sample shall not be less than 75% of the rated capacity. | Capacity: 117% | Pass | - |
| 11. Gas Recombination Characteristics | JIS C 8702- 1:2009 Cl. 5.10 & 7.9 | 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 | Conducted Efficiency of Gas Recombination: 99.3% | Pass | - |



Tested by

Approved by

Issued by



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/155 | ULR-TC546518100000021P | 24-10-2018 | 6 of 7 |

15. Additional Remarks:

1. Serial Number of the samples-

| Sample No | Serial No |
|-----------|------------------|
| 1 | IAAHS03201051723 |
| 2 | IAAHS03201051724 |
| 3 | IAAHS03201051726 |
| 4 | IAAHS03201051727 |
| 5 | IAAHS03201051728 |
| 6 | IAAHS03201051729 |

2. Device Under Test (DUT) photograph enclosed as Annexure-1.
3. This report superseded to earlier issue interim report.



[Signature]
Tested by

[Signature]
Approved by

जगदीश कुमार/JAGDISH KUMAR
वैज्ञानिक 'डी' /Scientist 'D'
संचार एवं सूचना प्रौद्योगिकी मंत्रालय
Ministry of Comm. & Info. Technology
भारत सरकार, एटिडीसी उपरोक्टोपेट, इंदौर रोड, मोहाली (पंजाब)
Govt of India, STQC Directorate Centre, ETDC, Mohali (Pb.)

[Signature]
Issued by

विनय राजपूत VINAY RAJPUT
वैज्ञानिक 'सी' / Scientist 'C'
संचार एवं सूचना प्रौद्योगिकी मंत्रालय
Ministry of Comm. & Info. Tech
भारत सरकार, इटीडीसी मोहाली
Govt. of India, ETDC, Mohali (Pb.)



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/155 | ULR-TC5465181000000021P | 24-10-2018 | 7 of 7 |

Annexure-I



Figure-I



Figure-II



(Handwritten Signature)

Issued by
(Customer Service Cell)