

# Test Report

DIGITOUCH TECHNOLOGIES PVT LTD

REPORT NUMBER: 4786748819- NABL-S1

PROJECT NUMBER: 4786748819



T1431, T1432, T2215,  
T2216, T2233, T2234


Location (a)  
UL India Lab,  
UL India Pvt Limited,  
Laboratory building,  
Kalyani Platina  
Campus, Sy.no.129/4,  
EPIP Zone, Phase II,  
Whitefield,  
Bangalore – 560 066

.....  
Location (b)  
UL India Pvt Limited,  
413 Sector-8, IMT  
Manesar, Gurgaon.

**TEST DISCIPLINE: ELECTRICAL****General details**

|                                       |   |   |                  |
|---------------------------------------|---|---|------------------|
| <b>Customer</b>                       | DIGITOUCH TECHNOLOGIES PVT LTD,#32,Annapoorneshwari Industrial Estate, Near Konanakunte Cross,Doddakalasangra,Kanakapura Road ,Bangalore -560062,India.   |   |                  |
| <b>Manufacturer</b>                   | DIGITOUCH TECHNOLOGIES PVT LTD, ,#32,Annapoorneshwari Industrial Estate, Near Konanakunte Cross,Doddakalasangra,Kanakapura Road ,Bangalore -560062,India. |   |                  |
| <b>Brand</b>                          | 9 ELECTRIC  |   |                  |
| <b>Program</b>                        | NABL  |   |                  |
| <b>Test Lab Location</b>              | (a) UL Bangalore  | <b>Refer to Cover page for the Location address</b> |                  |
| <b>Item Under Test</b>                | IP 54   |   |                  |
| <b>Type / Model</b>                   | THERMO PLASTIC DISTRIBUTION BOARD   |   |                  |
| <b>Number of samples</b>              | 01  |   |                  |
| <b>Sample Identification</b>          | 2023178   |   |                  |
| <b>Serial Number (If any)</b>         | --  |   |                  |
| <b>Condition of IUT on receipt</b>    | Good  |   |                  |
| <b>Date of Receipt</b>                | 23 December 2014  |   |                  |
| <b>Applicable Standard</b>            | IEC 60529 ED:2.2(2013-08)   |   |                  |
| <b>Date of Testing (Start date )</b>  | 29 December 2014  | <b>End Date</b>                                     | 29 December 2014 |
| <b>Lab general* ambient condition</b> | <b>Temperature in °C</b>  |   | 23±5°C           |
|                                       | <b>Relative humidity in %</b>   |   | <70%             |
| <b>Date of Reporting</b>              | 29 December 2014  |   |                  |
| <b>Test In-charge</b>                 | Karthikeyan.M   |   |                  |

# Fill in the rows with information or add hyphen (-)

|   |  |
|---|--|
| <br>Project Engineer | <br>Lab Manager |
| <b>Reviewed by</b>  | <b>Authorized signatory</b>  |

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**Description of Item:**

One sample of Thermo plastic distribution board was submitted for testing.

**Test Method:**

**Considered Category II enclosures as per Standard declaration:**

Category 1: Enclosures where the normal working cycle of the equipment causes reductions. In air pressure within the enclosure below that of the surrounding air, for Example, due to thermal cycling effects.

Category 2: Enclosures where no pressure difference relative to the surrounding air is present. The enclosure under test is supported in its normal operating position inside the test chamber, but is not connected to a vacuum pump. Any drain-hole normally open shall be left open for the duration of the test. The test shall be continued for a period of 8 h.

**Test conditions for first characteristic Numeral 5**

The talcum powder used shall be able to pass through a square-meshed sieve the nominal wire diameter of which is 50 µm and the nominal width of a gap between wires 75 µm. The amount of talcum powder to be used is 2 kg per cubic meter of the test chamber volume. It shall not have been used for more than 20 tests.

**Acceptance conditions for first characteristic Numeral 5**

The protection is satisfactory if, on inspection, talcum powder has not accumulated in a quantity or location such that, as with any other kind of dust, it could interfere with the correct operation of the equipment or impair safety. Except for special cases to be clearly specified in the relevant product standard, no dust shall deposit where it could lead to tracking along the creepage distances.

The protection is satisfactory if no deposit of dust is observable inside the enclosure at the end of the test.

**Compliance Criteria**

The Visual inspection talcum powder has not accumulated in a quantity or location such that, as with any other kind of dust, it could interfere with the correct operation of the equipment or impair safety. Operation of the equipment or impair safety. Except for special cases to be clearly specified in The relevant product standard, no dust shall deposit where it could lead to tracking along the Creepage distances.

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**B) Test Condition for second characteristic numeral 4 with oscillating tube or spray nozzle**

The test is made using one of the two test devices described in figure 4 and in figure 5 in accordance with the relevant product standard.

a) Conditions when using the test device as in figure 4 (oscillating tube):

The oscillating tube has spray holes over the whole 180° of the semicircle. The total flow rate is adjusted as specified in table 9 and is measured with a flow meter.

The tube is caused to oscillate through an angle of almost 360°, 180° on either side of the vertical, the time for one complete oscillation ( $2 \times 360^\circ$ ) being about 12 s. The duration of the test is 10 min.

If not specified otherwise in the relevant product standard, the support for the enclosure under test is perforated so as to avoid acting as a baffle and the enclosure is sprayed from every direction by oscillating the tube to the limit of its travel in each direction.

**Acceptance conditions**

After testing in accordance with the appropriate requirements mentioned above the enclosure shall be inspected for ingress of water. It is the responsibility of the relevant technical committee to specify the amount of water which may be allowed to enter the enclosure and the details of a dielectric strength test, if any.

In general, if any water has entered, it shall not:

- be sufficient to interfere with the correct operation of the equipment or impair safety;
- Deposit on insulation parts where it could lead to tracking along the creepage distances;
- Reach live parts or windings not designed to operate when wet;
- accumulate near the cable end or enter the cable if any.

If the enclosure is provided with drain-holes, it should be proved by inspection that any water which enters does not accumulate and that it drains away without doing any harm to the equipment.

For enclosures without drain-holes, the relevant product standard shall specify the acceptance conditions if water can accumulate to reach live parts.

**Test methodology adopted**

Testing of mechanical Enclosure as per IEC 60529, Degree of Protection Required by Enclosure Edition 2.1 – Revision Date 2009/10/01

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## Master Equipment and Calibration details

| Test Equipment | Model No.      | Serial No.    | Manufacturer             | Calibration status (Valid up to) |
|----------------|----------------|---------------|--------------------------|----------------------------------|
| SW07           | HS-30W         | --            | CASIO                    | 5 November 2015                  |
| WC01           | QUARTZ OLC-103 | --            | AJANTA                   | 11 November 2015                 |
| DCT01          | AERIAL-2000-I  | CME/066/09-10 | CM ENVIROSYSTEMS PVT.LTD | Support Equipment                |
| RTC01          | AQUA-3500-IXX  | CME/065/09-10 | CM ENVIROSYSTEMS PVT.LTD | Support Equipment                |
| TP07           | --             | --            | STANLEY                  | 09 August 2015                   |

## Test Observation (If any)

| Test No. | Test Name                            | Results  |
|----------|--------------------------------------|--|
| 1        | Visual Inspection Test (Before IP54) | Satisfactory, No trace of dust & water found inside.   |
| 2        | Visual Inspection Test (After IP54)  | IP X4: There were no water particles found inside the product.<br>IP 5X: No trace of Dust particles were found inside the product. |

## Test Results

| Test Parameter          | Standard & Clause Number       | Sample ID | Date of testing  | Result |
|-------------------------|--------------------------------|-----------|------------------|--------|
| Dust & Rain test(IP 54) | IEC 60529& CL NO:13.5 & 14.2.4 | 2023178   | 29 December 2014 | P      |

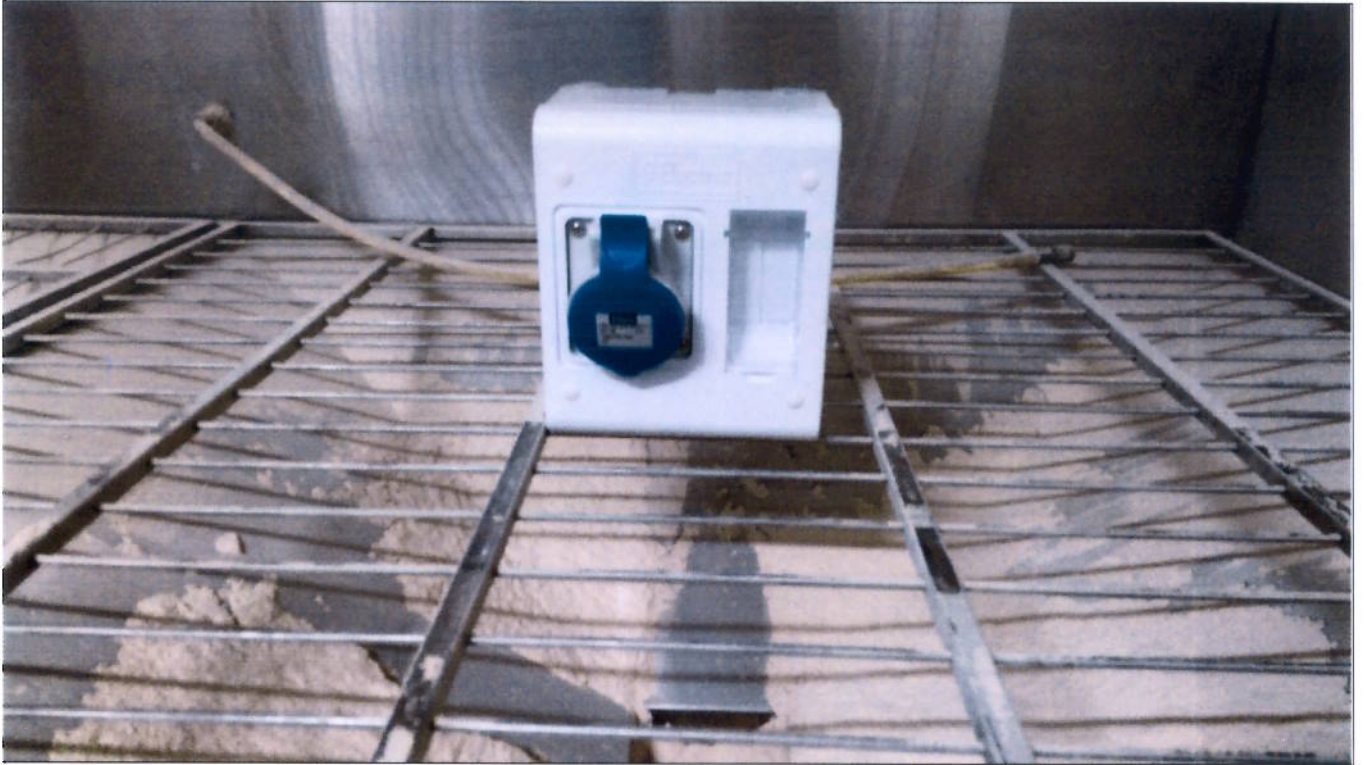
**P: Meets the requirements**    **F: Does not meet the requirement**    **NA: Not applicable**

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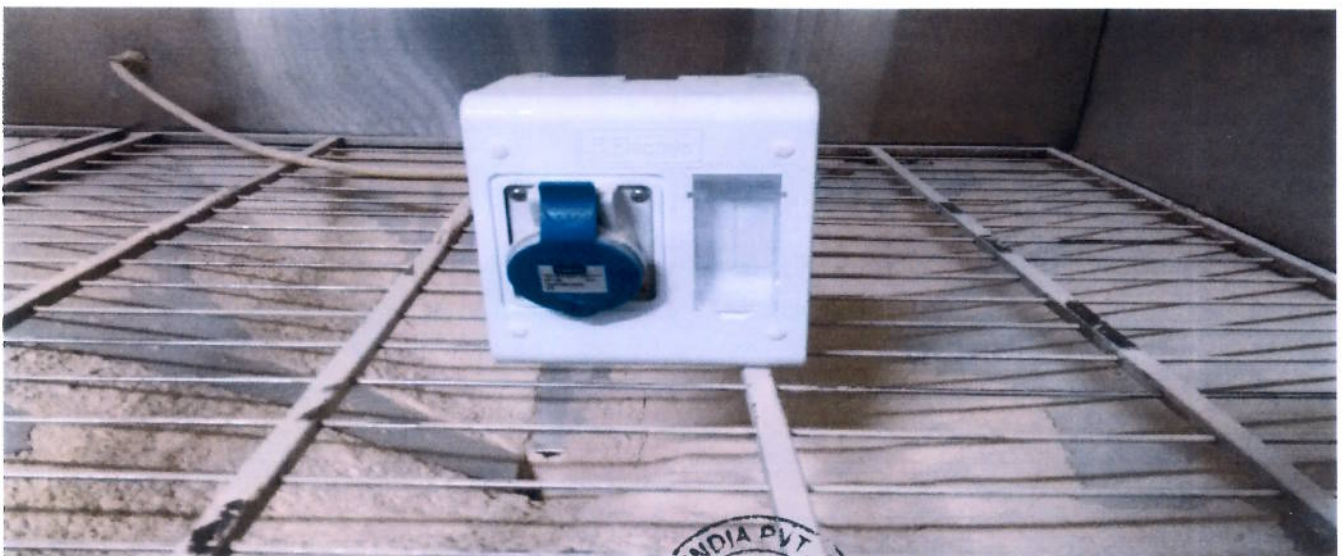


**Photographs (If any)**

Before IP 5X test:



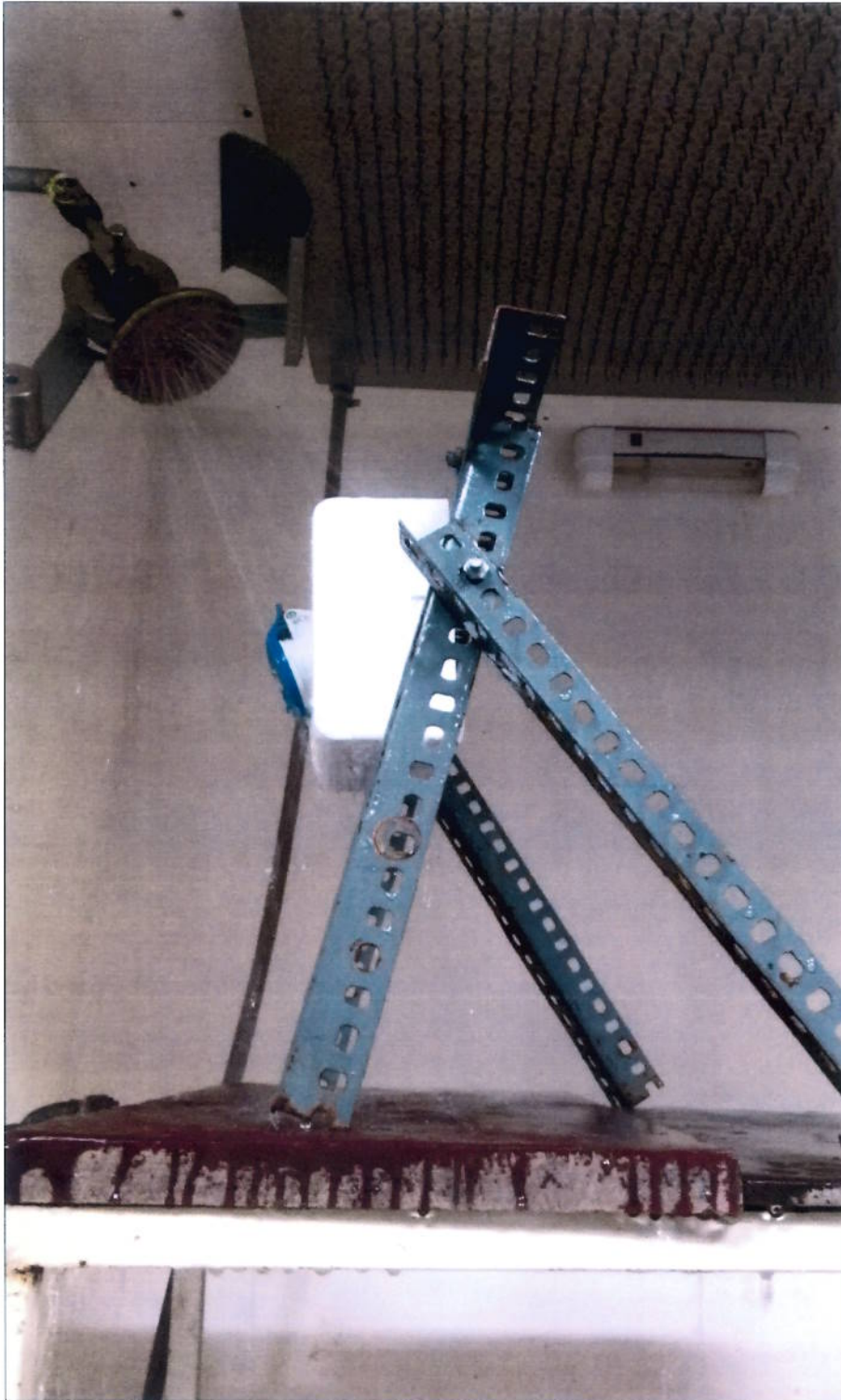
After IP 5X test:



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During IP X4 Test:

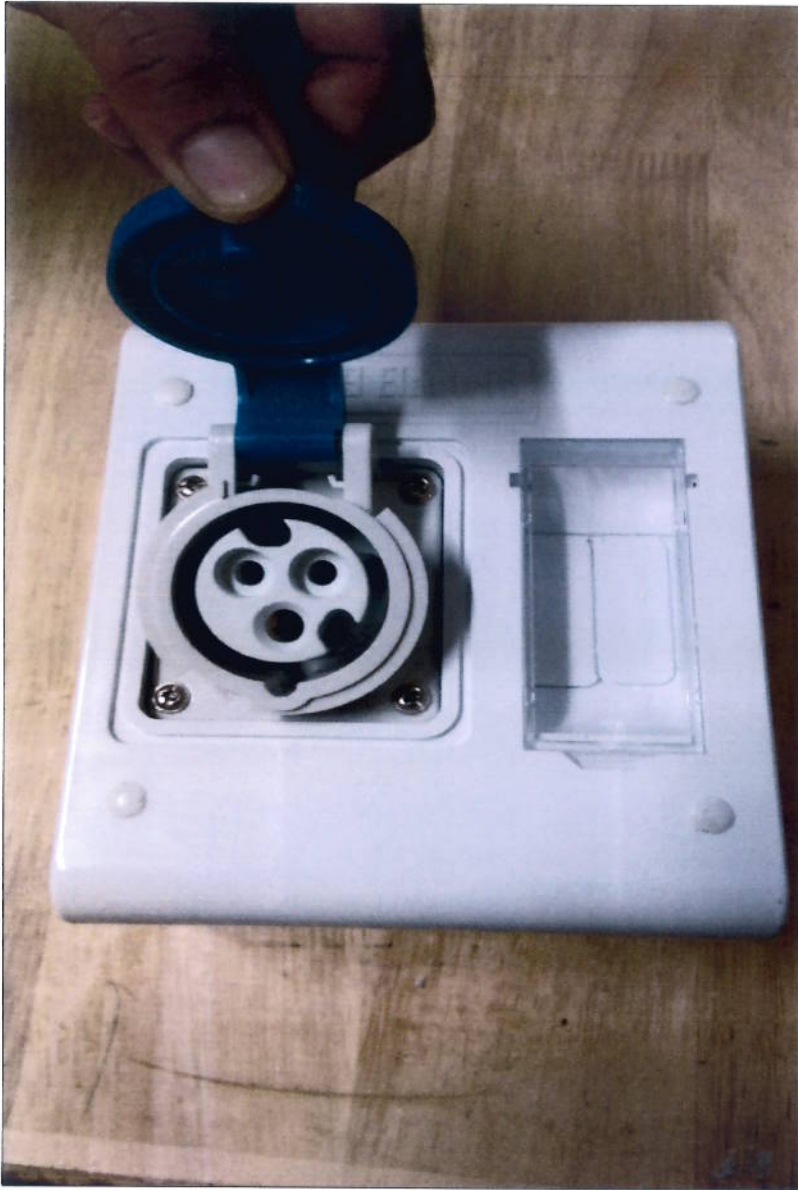


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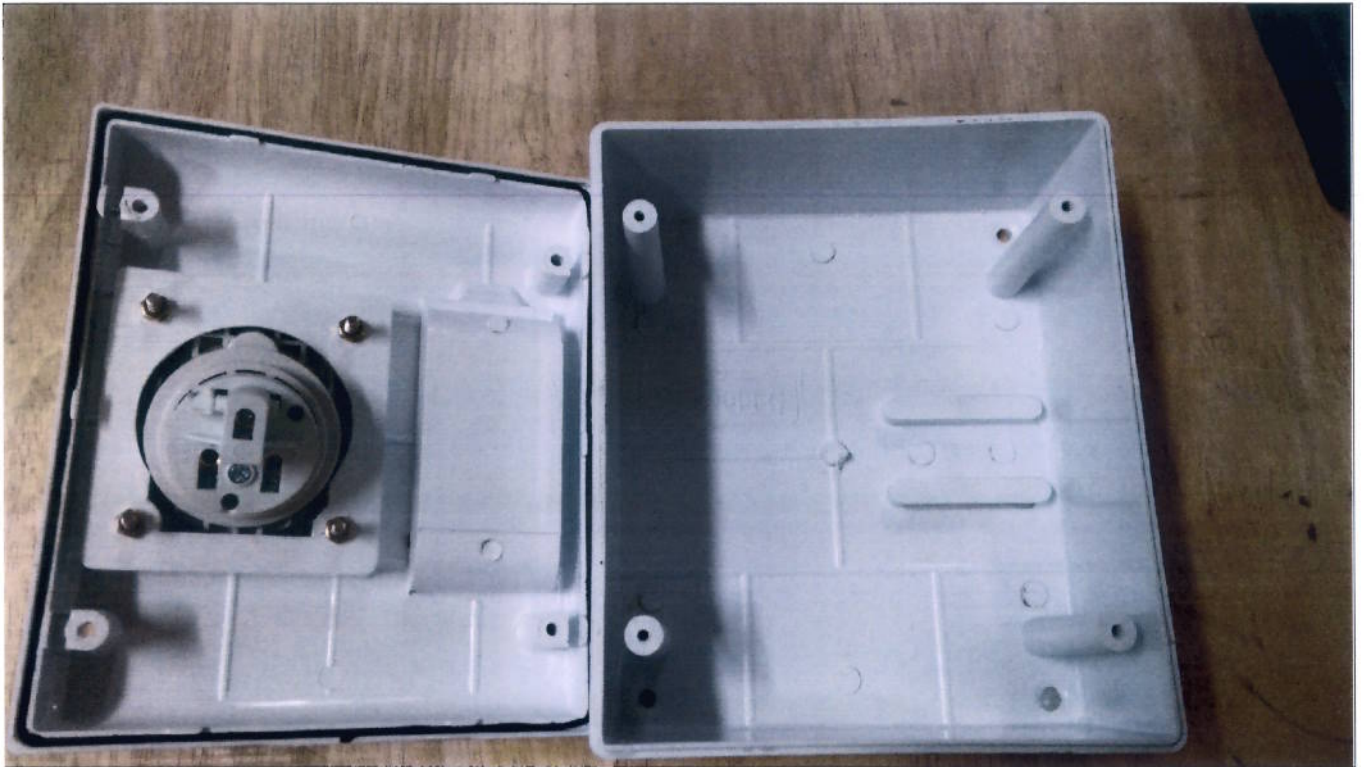
After IP54 Test



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\*\*\*\*\*End of Report\*\*\*\*\*



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