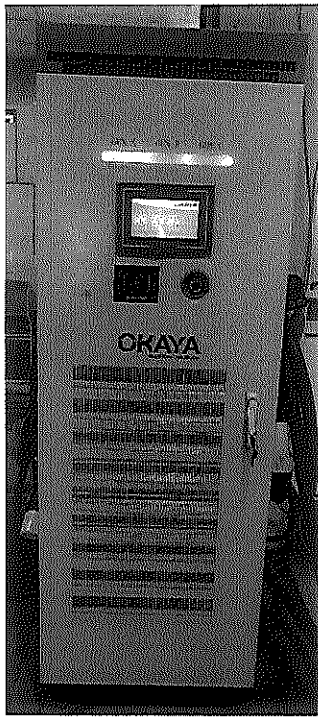


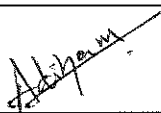

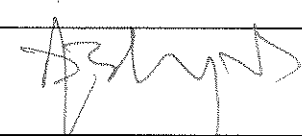
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## TEST REPORT

Report No. ARAI/AED/20192020/3000007654/CT/2046

Dated: 28-FEB-2020

1.0	Name and Address of the Customer	OKAYA Power Pvt. Ltd. D-7, Udyog Nagar, Rohtak Road, New Delhi-110041, India	
2.0	Customer Letter Reference	E-mail dated: 7 <sup>th</sup> June 2019	
3.0	Test Objective	Verification of 142kW DC fast charger	
4.0	Condition of the Test Component	The test components were received in good condition.	
5.0	Description of the Device Under Test (DUT)		
5.1	Charger	Make	Okaya Power Pvt. Ltd.
		Type	DC fast charger – 142 kW
		Sr. No.	190507001142
		Model No.	EVADC-S-150751000-EJ-TCEG
			

		
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## 6.0 DUT Details:

DUT is a DC EV charger with a maximum output capacity of 142kW. Charger is a floor mounted charger that operates on 3 phase, 5 wire AC supply and is provided with 2 independent DC outputs and one AC output:

1. CCS2 – 200-1000\* Vdc, 142 kW max.
2. CHAdeMo – 200-1000\* Vdc, 142 kW max.
3. AC Type 2 – 22 kW Max.

All guns can be used in Parallel for charging. In case of DC output for parallel operation each gun can deliver output power up to 60kW.

The charger will be supplied with Offline and Online authentication modes.

In Online mode, each charge point is authenticated by RFID card or through mobile app and makes the charger available for use.

In Offline mode, the charge point can be plugged to the vehicle without a mobile app. RFID cards or Fixed password may be provided to start the charging process.

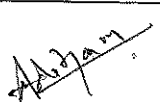

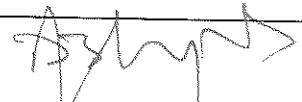
The charger is equipped with a surge protection device and an RCD which prevents leakage current above 30 mA.

The charger has an in-built metering system for the DC and AC outlets. The charging session details from Charge Initiation to Charge Termination along with energy consumption details are sent via OCPP 1.6J.

The charger is provided with a touch panel of resolution 800x480 pixels.

Each connector is provided with 5 colour LED indicators:

1. First LED out of the 5 LED's is Blue and always on: Standby state
2. All LED's are Blue and always on: Charger gun connected
3. All LED's are Blue and flashing: Charging state
4. Fault Red light is always on: Fault state

		
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**7.0 Summary of EVSE**



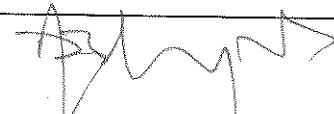
Sr. No	Parameters	Observation	Result
General Requirements			
1	EVSE Type	CCS2.0 + CHAdeMO + Type 2 AC	Complies
2	Energy Transfer Mode	Conductive	
3	Charging mode	CHAdeMO / CCS2 - Mode 4, AC – Type -2 Mode-3	Provided
System Structure			
1	Regulation Method	Regulated D.C. EV charging station with combination of CVC or CCC but not simultaneously	Provided
2	Isolation	Each output isolated from each other with proper insulation	Satisfactory
4	Power supply	D.C. EV charging station connected to A.C. mains	Provided
5	DC output voltage rating	200-1000 V	Provided
6	AC output voltage rating	380-480 V	Provided
7	Charge control communication	Communicate by digital and analog signals	Provided
8	Interface inter-operability	Inter-operablewith any EV supporting CCS2.0 or CHAdeMO or AC Type-2 (for each gun respectively)	Complies
Output Requirements			
2	Number of Outputs	3	Provided
3	Output Connectors	3 output connectors	Provided
4	Output Connector Compatibility	CCS2.0: IEC 61851-23 / -24, IEC 62196-3 CHAdeMO: IEC 61851-23 / -24, JEVS G 105, Rev. 1.2 compliant AC: IEC-61851-22, IEC 62196-2 Mode 3, Type 2	Provided
Environmental Requirements			
1	Ambient Temperature Range	-10°C to 55°C	Based on Manufacturer's declaration and test conducted, it complies the requirements.
2	Ambient Humidity	5 to 95%	
3	Ambient Pressure	86 kpa to 106 kpa	
4	Storage Temperature	0 to 60°C	
Mechanical Requirements			
1	Ingress Protection	IP 54	Vide Report no. SHL/161/2019-2020/3000007654/RT/09
<div>Adityam</div> <div>A A MURUMKAR RESEARCH ENGINEER</div>		<div>Bulay</div> <div>A B MULAY GENERAL MANAGER</div>	<div>Ashwini</div> <div>A A DESHPANDE Sr. Dy. DIRECTOR &amp; HoD</div>

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			35; Dated 28.02.2020
3	Cooling	Air Cooled	Fans are provided. Complies.
5	Dimension(W*H*D) / Weight	600 x 1800 x 800 mm 300 kg	Verified
<b>Communication Requirements</b>			
1	Communication between EVSE and Vehicle	As specified by CCS(ISO and DIN) protocol, CHAdeMO protocol and Type 2 AC	Verified and Complies
2	Communication interface between charger and central management system(CMS)	All of: Ethernet, Wi-Fi, and 2G/3G/4G	Provided
3	Communication between EVSE and Central Server	Open Charge Point Protocol (OCPP) 1.6 protocol or higher versions compatible to OCPP 1.6. Metering: Grid responsive metering	Verified and Complies
<b>Protection &amp; Safety Requirements</b>			
1	Safety Parameters	Over current, under voltage, over voltage, Residual current, Surge protection, Short circuit, Earth fault at input and output, Input phase reversal, Emergency shut-down with alarm, Over temperature, Protection against electric shock	Verified
<b>Marking of EVSE</b>			
1	Marking Requirements	The EVSE is provided with appropriate marking plate.	Complies, based on markings on the charger.

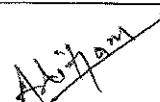
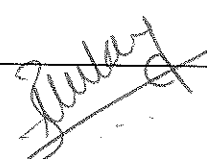
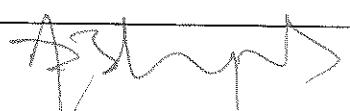
		
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**8.0 Test Results:**

Sr. No	Test Title	Annex No.	Complies (Yes/No/ N/A)	Result
1.0	Safety functions Verification			
	Earth Presence Detection(Socket-EVSE)	01	Yes	No deviation was observed. Pass
	Earth Continuity Check(EVSE-EV)			
	Over Current and Short-Circuit Protection			
	Leakage Current Protection (RCD)			
	Dielectric Withstand Voltage			
2.0	Mechanical Stability			
	Mechanical impact	--	Yes	No deviation was observed. Pass
	IP Testing (IP54)		Yes,	Vide Report no. SHL/161/2019-2020/3000007654/RT/0935: Dated 28.02.2020
3.0	Climatic Environmental Tests			
	Ambient air temperature	02	Yes	No deviation was observed. Pass
	Ambient humidity			
4.0	EMC Verification			
	General Compliance	--	Yes	Pass
	Immunity to electrostatic discharge	03		
	Electrical Fast Transient/Burst Immunity Test	04		
	Surge Immunity Test	05		
	Radiated Emission	06		

		
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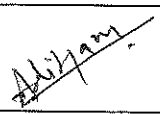
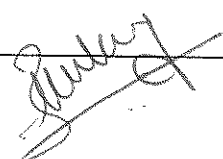
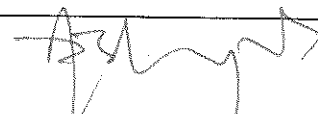
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**9.0 Result:**

142kW DC Combo EV Charger **EVADC-S-150751000-EJ-TCEG** meets the requirements when tested as per clause no. 8 of this report.

This test report pertains only to the components / parts / assemblies / vehicles etc., actually tested at ARAI in the presented condition based on the documents / information produced / submitted by the customer. The issuance of this test report alone does not indicate any measure of approval, certification, supervision, control of quality surveillance by ARAI of the product. No extract, abridgement or abstraction from this test report shall be published or used to advertise the product without the written consent of the Director, ARAI, who reserves the absolute right to agree or reject all or any of the details of any items of publicity for which consent may be sought. ARAI is in no way responsible for any misuse of copying of any design / type / system in connection with entire vehicle/components/parts and assemblies. Breach of any statutory provision of Indian laws or laws of other countries, will be the sole responsibility of the customer and ARAI shall not be liable for any claims or damages, made by the party, whatsoever. The customer shall alone be liable for the same and undertakes to indemnify ARAI in this regard. Further, the ARAI has the right to initiate cancellation / withdrawal of the certificate / report issued, in case of any fraud, misrepresentation, when it surfaces and comes in the knowledge of ARAI. The appropriate local courts at Pune shall have the jurisdiction in respect of any dispute, claim or liability arising out of this report.

**Place of Issue: Pune**

		
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Dated: 28-FEB-2020

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## ANNEXURE 01

### 1.1 TEST SPECIFICATIONS

TEST DETAILS	Safety Function Verification as PER AIS-138 (PART1):2017 STANDARD.
TEST DATE	9 <sup>th</sup> August 2019

### 1.2 LABORATORY ENVIRONMENT TEST CONDITIONS


Ambient temperature	+ 26.5°C.	----	Relative humidity	48.5%RH.	----
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### 1.3 DUT SUPPLY VOLTAGE DETAILS

A.C. Supply voltage	415V A.C. System	Current Consumption
A.C. Mains supply	(415, ±5 ) V <input checked="" type="checkbox"/>	< 50A

### 1.4 TEST RESULTS



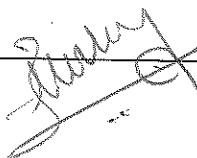
S.No	Test Title	Description	Observations
1	Earth Presence Detection(Socket-EVSE)	The EVSE should detect the vehicle chassis ground. Charging Should not start if there is no Earth detection. Also, the charging should be stopped if there Earth presence detection is lost during charging.	EVSE complies with the following point.  Verified
2	Earth Continuity Check(EVSE-EV)	The EVSE earth pin should be have continuity with the vehicle chassis when the coupler is inserted. This is to ensure safety in situations where the vehicle chassis is exposed to hazardous high voltage.	Verified
3	Over Current and Short-Circuit Protection	The EVSE should have active protection against an unlikely event like short-circuit and over-current.	EVSE has multiple stages of protection in the form of circuit breakers, contactors and programmable safety limits which restricts current to safe operating limits.  Verified

  
**MAHESH PADMANABH**  
**TEST ENGINEER**

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4	Leakage Current Protection (RCD)	Residual current device should cut off the supply whenever the current through user accessible parts (enclosure) is measured to be more than 30 mA as per AIS-138 part1.	RCD is present in the EVSE for all 3 outputs to vehicle ensuring safety. Component datasheet was referred as well. Verified
5	Dielectric Withstand Voltage	AC withstand test is performed as per AIS138 - Part1. The voltage level used is 2kV rms as the equipment is class I as only basic protective bonding is used.	EVSE complies with the requirement. There was no anomaly in the functionality post-test was observed.

		
<b>MAHESH PADMANABH</b> ENGINEER	<b>A B MULAY</b> GENERAL MANAGER	<b>A A DESHPANDE</b> Sr. Dy. DIRECTOR & HoD

End of Annexure 01




<b>ANNEXURE 02</b>	
<b>Climatic Environmental Tests</b>	
<b>2.0</b>	<b>Reference Standard: AIS 138</b>

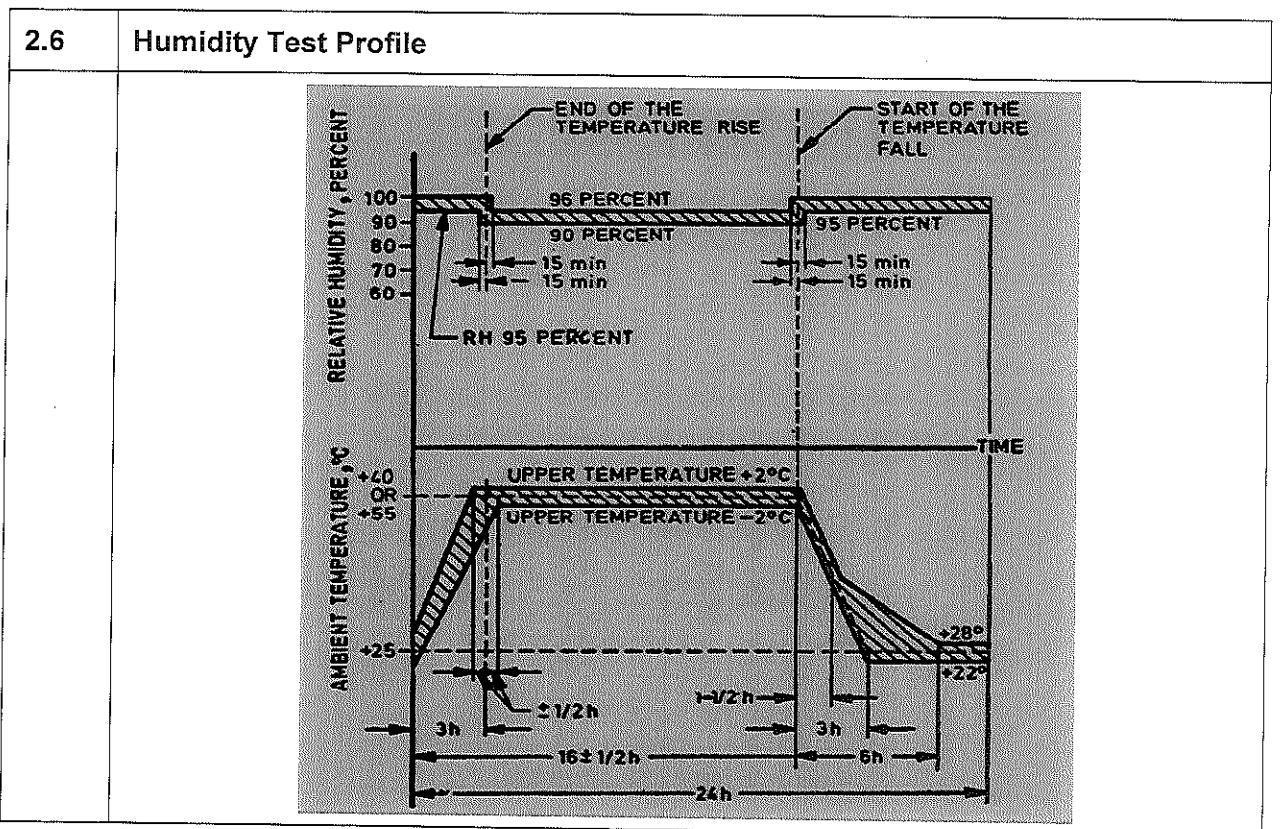
<b>2.1</b>	<b>Test Procedure:</b>
	The DUTs were placed in the temperature and humidity cyclic chamber and subjected to the Climatic Environmental Tests as given below :

<b>2.2 Ambient Air Temperature</b>		
<b>Test Reference:</b> 60068-2-14/ IS 9000 (Part 14) - sec 2.		
<b>Temperature at the Start of Test</b>	25°C	
<b>Test Temperature</b>	0°C	55°C
<b>Test Duration</b>	1 h	1 h
<b>Ramp Rate</b>	1°C per min	
<b>No. of Cycles</b>	2	
<b>DUT Condition</b>	Power ON with output loading for maximum power and current.	
<b>Ambient Temperature</b>	27°C	
<b>Test Start Date</b>	09-07-2019	
<b>Test End Date</b>	09-07-2019	

<b>2.3</b>	<b>Acceptance Criteria:</b>
<b>2.3.1</b>	There shall be no visual deterioration to the DUT.
<b>2.3.2</b>	No deviation in functionality must be observed during and after the test.
<b>2.4</b>	<b>Test Observation:</b>
<b>2.4.1</b>	No visual deterioration was observed on the DUT at the end of the test.
<b>2.4.2</b>	No deviation in functionality was observed during and after the test.

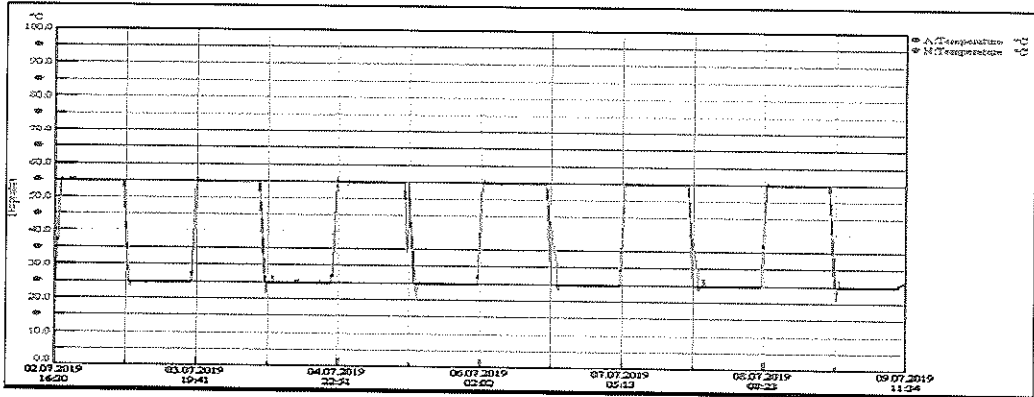
 <b>V. P. AHER</b> <b>TEST ENGINEER</b>
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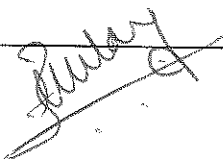

<b>2.5 Ambient Humidity</b>	
<b>Test Reference:</b> The test shall be carried out in accordance with IEC 60068-2-30/ IS 9000(Part 5 /Sec 2), test Db, at 55°C for six cycles.	
Temperature at the Start of Test	25°C
Test Temperature	55°C
Relative Humidity (RH)	95%
No. of Cycles	6
DUT Condition	Power ON with output loading for maximum power and current.
Ambient Temperature	27°C
Test Start Date	02-07-2019
Test End Date	09-07-2019



  
**V. P. AHER**  
**TEST ENGINEER**

<b>2.7</b>	<b>Test Condition:</b>
	<ul style="list-style-type: none"> <li>Insulation Resistance test was carried before and after humidity test. The test was carried out immediately after Humidity test at room temperature.</li> <li>A test voltage of 500 V DC for duration of 60 seconds was applied between all terminals mated together.</li> </ul>
<b>2.8</b>	<b>Acceptance Criteria:</b>
	<ul style="list-style-type: none"> <li>There shall be no visual deterioration to the DUT.</li> <li>No deviation in functionality must be observed during and after the test.</li> <li>The insulation resistance shall be <math>&gt;1 \text{ M}\Omega</math></li> </ul>
<b>2.9</b>	<b>Test Observation:</b>
	<ul style="list-style-type: none"> <li>No visual deterioration was observed on the DUT at the end of the test.</li> <li>No deviation in functionality was observed during and after the test.</li> <li>Electrical verification at 240 VAC was conducted after the test and was found OK at ambient temperature.</li> <li>After the test, the insulation resistance found more than 100 <math>\text{M}\Omega</math> and was observed within the limits of acceptance criteria.</li> </ul>

<b>2.9</b>	<b>Test Observation:</b>
	

		
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## ANNEXURE 03

### 3.1 TEST SPECIFICATIONS

TEST DETAILS	IMMUNITY TO ELECTROSTATIC DISCHARGE (ESD) TEST AS PER AIS 138 Part (1) STANDARD.
TEST DATE	09-AUG-2019

### 3.2 DUT OPERATING CONDITIONS

DUT MODE OF OPERATION	FULL OPERATING <input checked="" type="checkbox"/>	PARTIAL OPERATING <input type="checkbox"/>	POWER OFF STATE <input type="checkbox"/>
DIAGNOSTIC TOOLS CONNECTED	CAN BUS CONV. <input type="checkbox"/>	USB BUS CONV. <input type="checkbox"/>	RS232 BUS CONV. <input type="checkbox"/>

### 3.3 MONITORING OF DUT

PASS/FAIL criteria automatically controlled by EMC Software <input type="checkbox"/>	PASS/FAIL criteria manually controlled by Operator <input checked="" type="checkbox"/>
PASS/FAIL criteria not verified <input type="checkbox"/>	PASS/FAIL criteria controlled and evaluated by the Customer <input type="checkbox"/>

### 3.4 LABORATORY ENVIRONMENT CONDITIONS

TEMPERATURE	25.3 °C	HUMIDITY	51.0%
ATMOSPHERIC PRESSURE	960 kPa/mbar		

### 3.5 SETUP DETAILS

DUT SETUP DETAILS	STATUS	REMARK
a) Test setup was done according to	IEC 61000-4-2	---
b) Test table surface	Wooden <input type="checkbox"/> Metallic <input checked="" type="checkbox"/>	---
c) Whether DUT and the wiring harness of the DUT was 5 cm above the ground plane?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	---
d) Whether DUT was grounded (GND) or isolated (ISO) from the ground plane?	GND <input type="checkbox"/> ISO <input checked="" type="checkbox"/>	---
e) Whether HCP/VCP was connected to earth with two 470kΩ at both the ends of the wire.	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	---
f) Whether the ground wire of the ESD generator was connected to HCP	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	---



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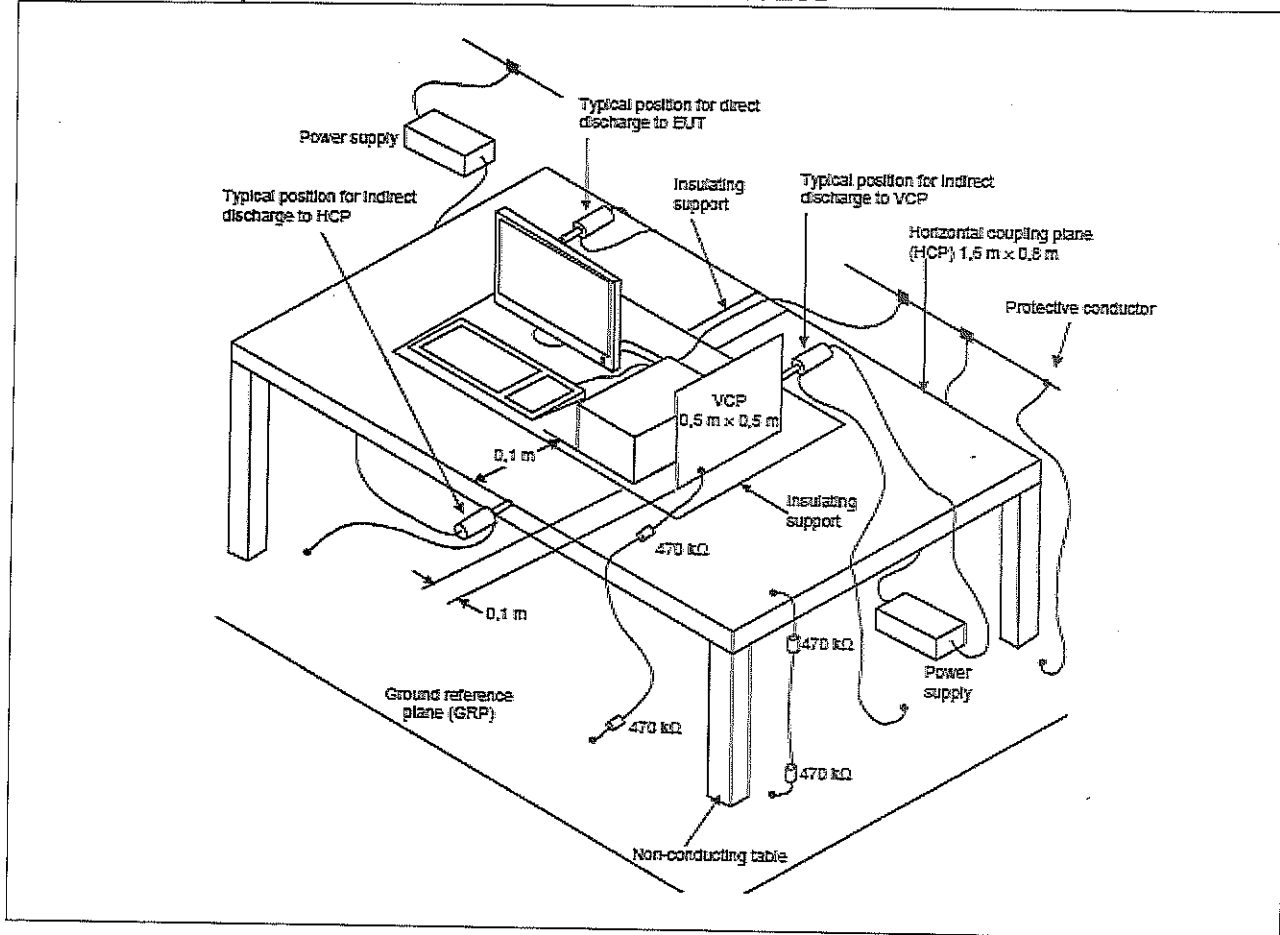
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### 3.6 EUT SUPPLY VOLTAGE DETAILS

A.C. Supply voltage	400V A.C. System (3 Phase)	Current Consumption
A.C. Mains supply	400VL-L <input checked="" type="checkbox"/>	< 5 Amp.
D.C. Supply voltage	12/24/48V D.C. System	Current Consumption
D.C. Supply (L= Positive Line and PE= Negative Line)	(12, $\pm 1$ ) V <input type="checkbox"/>	---
	(24, $\pm 1$ ) V <input type="checkbox"/>	---
	(48, $\pm 1$ ) V <input type="checkbox"/>	---

### 3.7 TEST SETUP DIAGRAM

#### 3.7.1 Test Setup for Power ON for Direct and Indirect ESD

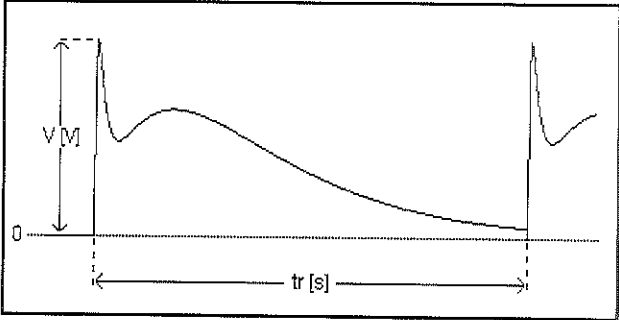


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TEST ENGINEER**

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3.8 TEST PARAMETERS			
DUT status	Powered <input checked="" type="checkbox"/>	Unpowered <input type="checkbox"/>	
Discharge type	Air Discharge <input checked="" type="checkbox"/>	Contact Discharge <input checked="" type="checkbox"/>	
Severity level	Contact Discharge: $\pm 4\text{kV}$ Air Discharge: $\pm 8\text{kV}$		
tr	1ns		
Pulse polarity	Positive <input checked="" type="checkbox"/>	Negative <input checked="" type="checkbox"/>	
Human body model	330 $\Omega$ /150pF <input checked="" type="checkbox"/>	2K $\Omega$ /150pF <input type="checkbox"/>	2K $\Omega$ /330pF <input type="checkbox"/>
ESD pulse waveform			
Discharge points	<p><b>Indirect ESD :</b> Contact ESD to object placed or installed near the EUT shall be simulated by applying the discharges of the ESD generator to a coupling plane in Contact discharge mode to HCP &amp; VCP</p> <p><b>Direct ESD:</b> Contact ESD applicable to all metallic part which accessible to the user &amp; Air ESD applicable to all non metallic part of the DUT.</p>		

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TEST ENGINEER**

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### 3.9 TEST OBSERVATIONS

DUT Status	Type of Discharge	Severity Level	Human Body Model	No. of Discharges per Test Point and Recovery Time	Observation
Powered ESD	Direct Discharge				
	Contact Discharge	$\pm 4$ kV	150 PF/330 $\Omega$	$\pm 10$ & 5s	No deviation was observed in DUT functionality. <b>Performance Criteria A</b>
	Air Discharge	$\pm 8$ kV	150 PF/330 $\Omega$	$\pm 10$ & >5 s	No deviation was observed in DUT functionality. <b>Performance Criteria A</b>

### 3.9.1 TEST OBSERVATIONS

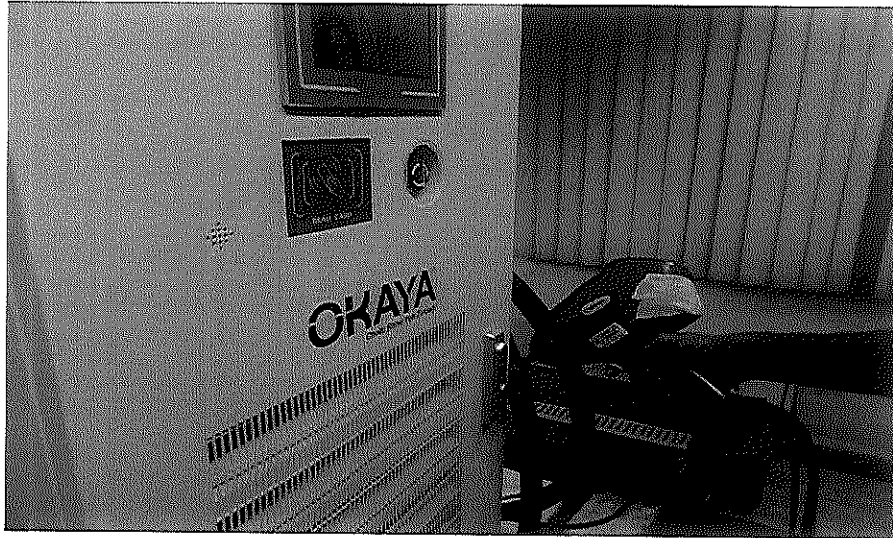
Direct Contact Discharge		
Test Point	Test Level	
	+ 4 KV	- 4 KV
Screws	A	A
Metal Enclosures	A	A
Direct Air Discharge		
Test Point	Test Level	
	+ 8 KV	- 8 KV
Charging Indicator LED	A	A
Power ON, Fault LED	A	A
Emergency Switch	A	A



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**TEST ENGINEER**




**3.10 TEST SETUP PHOTO**

**3.10.2 ESD Pulse Application – Direct Discharge (Contact)**



**3.10.2 ESD Pulse Application – Direct Discharge (Air)**



		
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## ANNEXURE 04

### 4.1 TEST SPECIFICATIONS

TEST DETAILS	ELECTRICAL FAST TRANSIENT/BURST IMMUNITY TEST AS PER AIS-138 (PART1):2017 STANDARD.
TEST DATE	13-AUG-2019

### 4.2 DUT OPERATING CONDITIONS

DUT MODE OF OPERATION	FULL OPERATING <input checked="" type="checkbox"/>	PARTIAL OPERATING <input type="checkbox"/>	POWER ON STATE <input type="checkbox"/>
DIAGNOSTIC TOOLS CONNECTED	CAN BUS CONV. <input type="checkbox"/>	USB BUS CONV. <input type="checkbox"/>	RS232 BUS CONV. <input type="checkbox"/>
REMARKS	TESTS CONDUCTED WITH THE EVSE-DC CONNECTED TO RESISTIVE LOAD OF 5 AMP RATED OUTPUT POWER.		

### 4.3 MONITORING OF DUT

PASS/FAIL criteria automatically controlled by EMC software. <input type="checkbox"/>	PASS/FAIL criteria manually controlled by operator. <input checked="" type="checkbox"/>
PASS/FAIL criteria not verified. <input type="checkbox"/>	PASS/FAIL criteria controlled and evaluated by the customer. <input type="checkbox"/>

### 4.4 LABORATORY ENVIRONMENT TEST CONDITIONS

Ambient temperature	+ 24°C.	----	Relative humidity	57%RH.	----
---------------------	---------	------	-------------------	--------	------

### 4.5 TEST SETUP DETAILS

DUT Setup Details	Status	Remarks
A) Test setup was done according to	IEC 61000-4-4:2012	---
B) Test table surface	Wooden <input type="checkbox"/> Metallic <input checked="" type="checkbox"/>	---
C) Ground reference plane (GRP)	Copper <input type="checkbox"/> Galvanized Steel <input checked="" type="checkbox"/>	≥ 0.65mm thick & min area 1m×1m
D) DUT Type	Table Top <input type="checkbox"/> Floor Standing <input checked="" type="checkbox"/>	---
E) Whether the DUT and all test harness of the DUT was placed (0.1, ±0.01) m, above the ground plane?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Placed on non-conductive, low relative permittivity material.
F) Length of power supply cable of the DUT from EFT generator (0.5, + 0.1) m for Table top DUT and (1.0, ± 0.1) m for Floor standing DUT.	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	---

  
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DUT Setup Details	Status	Remarks
G) Whether DUT was directly grounded (GND) or isolated (ISO) from the ground plane?	GND <input type="checkbox"/> ISO <input checked="" type="checkbox"/>	----
H) Whether the load box was placed on the ground plane?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	----

#### 4.6 DUT SUPPLY VOLTAGE DETAILS

A.C. Supply voltage	440V A.C. System	Current Consumption
A.C. Mains supply	(440, $\pm 5$ ) V <input checked="" type="checkbox"/>	< 10A

#### 4.7 TEST PROCEDURE

##### 4.7.1 Test on Power ports, earth port

4.7.1.1 The test voltage shall be applied simultaneously between a ground plane and each of the power supply terminals, a.c. or d.c., and the protective or function earth port on the EUT cabinet.

4.7.1.2 A ground plane shall be mounted near the EUT and connected to the protective earth conductor at the power mains.

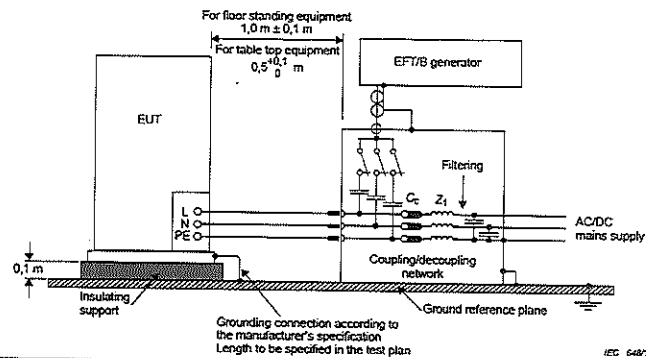
4.7.1.3 The EFT/B generator shall be located on the ground reference plane and connected to the coupling capacitors by a coaxial cable.

4.7.1.4 The Shield of the coaxial cable shall not be connected at the capacitor end. The length of the connection from the coupling capacitor to the ports on the EUT shall be as short as possible.

4.7.1.5 This connection shall be unshielded but well insulated. If a.c./d.c. blocking capacitors are necessary, their capacitance shall be 33 nF. All other connections of the EUT should be in accordance with its functional requirements.

#### 4.8 TRANSIENT IMMUNITY TEST SET UP DETAILS


##### 4.8.1 Test set up for direct coupling of the test voltage to a a.c./d.c. power supply ports/terminal for laboratory type tests.



#### 4.9 TEST LEVELS

##### Power Ports, Earth Port (PE)

Voltage peak (kV)	Repetition frequency (kHz)	Status
2	5	<input checked="" type="checkbox"/>

  
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4.10 TEST PARAMETER OF FAST TRANSIENT/BURST GENERATOR			
Polarity	Positive <input checked="" type="checkbox"/>	Negative <input checked="" type="checkbox"/>	
DC blocking capacitor	(10 ± 2) nF		
Repetition frequency	5 kHz (±20%) <input checked="" type="checkbox"/>	100 kHz (±20%)	<input type="checkbox"/>
Burst duration	(15 ± 3) ms at 5 kHz <input checked="" type="checkbox"/>	(0.75 ± 0.15) ms at 100 kHz	<input type="checkbox"/>
Relation to power supply	Asynchronous <input checked="" type="checkbox"/>		
Burst period (tr)	(300 ± 60)ms <input checked="" type="checkbox"/>		
Rise time (Tr)	(5 ± 1.5) ns <input checked="" type="checkbox"/>		
Pulse width (Tw)	(50 ± 15) ns <input checked="" type="checkbox"/>		

4.11 ELECTRICAL FAST TRANSIENT			
4.11.1 On Power ports, Earth port			
<b>Test Procedure</b>			
Pulse Name:	IEC 61000-4-(2004) : Part 4 (5kHz)		
Test generator:	EFT500N5	Software No.:	000813
		Serial No.:	V0943105282
Software:	iec.control	Version:	5.1.1.0
Coupling network:	CNI503	Serial No.:	
<b>Test Setup</b>			
V:	2000	V	
f:	5	kHz	
td:	15	ms	
tr:	300	ms	
Mode:	Asynchronous		
Polarity:	Alternate		
Coupling:	<div style="display: flex; align-items: center;"> </div> <p>L1, L2, L3, N, PE, L1+L2, L1+L3, L1+N, L1+PE, L2+L3, L2+N, L2+PE, L3+N, L3+PE, N+PE, L1+L2+L3, L1+L2+N, L1+L2+PE, L1+L3+N, L1+L3+PE, L1+N+PE, L2+L3+N, L2+L3+PE, L2+N+PE, L3+N+PE, L1+L2+L3+N, L1+L2+L3+PE, L1+L2+N+PE, L1+L3+N+PE, L2+L3+N+PE, L1+L2+L3+N+PE</p>		
Test duration:	90	s	
Time between Tests:	5	s	

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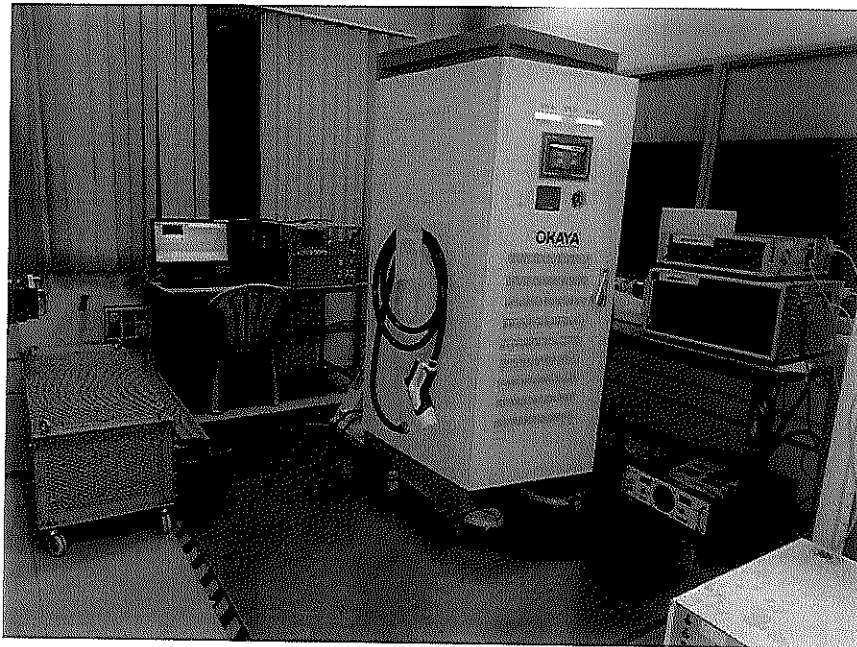
**4.12 TEST OBSERVATION**




**4.12.1 For Power Ports, Earth Port**

Sr. No.	EFT Level (kV)	Coupling	Observation
4.12.1.1	± 2.0	L1, L2, L3, N and PE	No Functional Deviation. Performance Criteria A.
		L1+L2, L1+L3, L1+N, L1+PE, L2+L3, L2+N, L2+PE, L3+N, L3+PE and N+PE	
		L1+L2+L3, L1+L2+N, L1+L2+PE, L1+L3+N, L1+L3+PE, L1+N+PE, L2+L3+N, L2+L3+PE, L2+N+PE and L3+N+PE,	
		L1+L2+L3+N, L1+L2+L3+PE, L1+L2+N+PE, L1+L3+N+PE, L2+L3+N+PE and L1+L2+L3+N+PE	

**4.13 TEST SETUP PHOTO**

**4.13.1 EFT Test setup photo – For Power ports, Earth port**



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<b>ANNEXURE 05</b>	
<b>5.1 TEST SPECIFICATIONS</b>	
TEST DETAILS	SURGE IMMUNITY TEST ON SUPPLY LINE AS PER AIS-138 (PART1):2017 STANDARD.
TEST DATE	14-AUG-2019

<b>5.2 EUT OPERATING CONDITIONS</b>			
EUT MODE OF OPERATION	FULL OPERATING <input checked="" type="checkbox"/>	PARTIAL OPERATING <input type="checkbox"/>	POWER ON STATE <input type="checkbox"/>
DIAGNOSTIC TOOLS CONNECTED	CAN BUS CONV. <input type="checkbox"/>	USB BUS CONV. <input type="checkbox"/>	RS232 BUS CONV. <input type="checkbox"/>
REMARKS	TESTS CONDUCTED WITH THE EVSE-DC CONNECTED TO RESISTIVE LOAD OF 5 AMP RATED OUTPUT POWER.		

<b>5.3 MONITORING OF EUT</b>	
PASS/FAIL criteria automatically controlled by EMC software. <input type="checkbox"/>	PASS/FAIL criteria manually controlled by operator. <input checked="" type="checkbox"/>
PASS/FAIL criteria not verified. <input type="checkbox"/>	PASS/FAIL criteria controlled and evaluated by the customer. <input type="checkbox"/>

<b>5.4 LABORATORY ENVIRONMENT TEST CONDITIONS</b>					
Ambient temperature	+ 24°C.	---	Relative humidity	57%RH.	----

<b>5.5 TEST SETUP DETAILS</b>		
EUT Setup Details	Status	Remarks
A) Test setup was done according to	IEC 51000-4-5:2002	---
B) Test table surface	Wooden <input type="checkbox"/> Metallic <input checked="" type="checkbox"/>	---
C) Ground reference plane	Copper <input type="checkbox"/> Galvanized Steel <input checked="" type="checkbox"/>	---
D) Whether the EUT and all test harness of the EUT was placed (0.1, ± 0.01) m, above the ground plane?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Placed on non-conductive, low relative permittivity material.
E) Length of power cord between the EUT and the coupling/decoupling network shall not exceed 2m in length.	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	For Power port testing
F) Whether EUT was directly grounded (GND) or isolated (ISO) from the ground plane?	GND <input type="checkbox"/> ISO <input checked="" type="checkbox"/>	----
G) Whether the load box was placed on the ground plane?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	----

  
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☒ - Option considered for the test  
☐ - Option not considered for the test

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## 5.6 DUT SUPPLY VOLTAGE DETAILS

A.C. Supply voltage	440V A.C. System	Current Consumption
A.C. Mains supply	(440, $\pm 5$ ) V	< 10 A

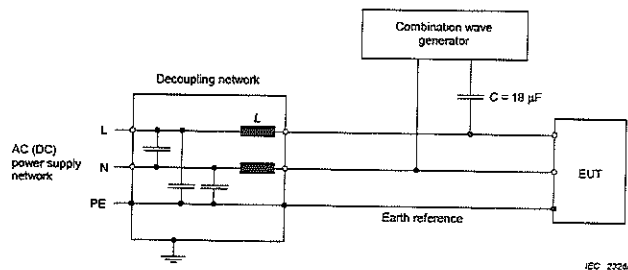
## 5.7 TEST PROCEDURE

The test shall be performed according to the test plan which shall specify the test setup including:

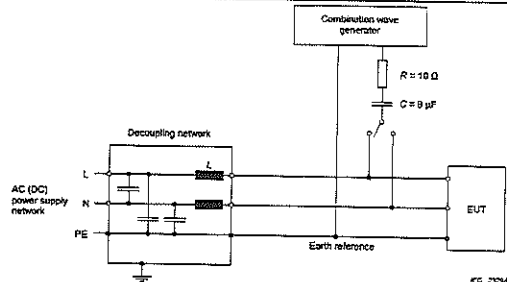
- Test level (voltage),
- Number of surge pulses:  
Number of surge pulses unless otherwise specified by the relevant product standard:  
- for d.c. power ports and interconnection lines five positive and five negative surge pulses; - for a.c. power ports five positive and five negative pulses each at 0°, 90°, 180° and at 270°;
- Time between successive pulses: one minute or less;  
Representative operating conditions of the EUT;
- Locations to which the surges are applied:
- If testing done at rates faster than 1/min cause failures and tests done at 1/min do not, the test done at 1/min prevails.
- When testing line to ground, the lines are tested singly in sequence, if there is no other specification.

## 5.8 TRANSIENT IMMUNITY TEST SET UP DETAILS

### 5.8.1 Test set-up for capacitive coupling on a.c./d.c. lines; line-to-line coupling



### 5.8.2 Test set-up for capacitive coupling on a.c./d.c. lines; line-to-ground coupling



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## 5.9 TEST LEVELS

Open-circuit test voltage ( $\pm 10\%$ ) kV	Test mode	Status
1.0	Differential mode	<input checked="" type="checkbox"/>
2.0	Common mode	<input checked="" type="checkbox"/>

## 5.10 TEST PARAMETER

Waveform parameters	Open-circuit voltage 1.2/50 $\mu$ s		<input checked="" type="checkbox"/>
	Short-circuit current 8/20 $\mu$ s		<input type="checkbox"/>
Polarity	Positive <input checked="" type="checkbox"/>	Negative	<input checked="" type="checkbox"/>
Repetition rate (Time between successive pulses)	1 per min <input checked="" type="checkbox"/>	Faster ( $\leq 1$ min)	<input type="checkbox"/>
Surge applied on	Power lines		<input type="checkbox"/>
	AC Power port <input checked="" type="checkbox"/>	DC Power port	<input type="checkbox"/>
Relation to power supply	Synchronous <input type="checkbox"/>	Asynchronous	<input checked="" type="checkbox"/>
Angle	0° <input type="checkbox"/> 90° <input type="checkbox"/> 180° <input type="checkbox"/> 270° <input type="checkbox"/>		
Coupling with Source/output impedance	Line to Neutral - 2 $\Omega$ <input checked="" type="checkbox"/>		Line to GND - 12 $\Omega$ <input checked="" type="checkbox"/>
	Neutral to GND - 12 $\Omega$ <input checked="" type="checkbox"/>		L+N to GND - 12 $\Omega$ <input checked="" type="checkbox"/>

## 5.11 SURGE

### 5.11.1 Surge Level: $\pm 1$ kV

Test Procedure			
Pulse Name:	IEC 61000-4-(2004) : Part 5		
Test generator:	VCS500	Software No.:	000305
		Serial No.:	0404-03
Pulse (Open circuit)	1.2/50 us	Pulse (Short circuit)	8/20 us
Coupling network:	CNI503	Serial No.:	
Test Setup			
V:	1000	V	
tr:	30	s	
Mode:	Asynchronous		
Polarity:	Alternate		
Coupling:	L1-L2, L1-L3, L2-L3, L1-N, L2-N, L3-N		
Events:	5		

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### 5.11.2 Surge Level: $\pm 2\text{kV}$

Test Procedure			
Pulse Name:	IEC 61000-4-(2004) : Part 5		
Test generator:	VCS500	Software No.:	000305
		Serial No.:	0404-03
Pulse (Open circuit)	1.2/50 us	Pulse (Short circuit)	8/20 us
Coupling network:	CNI503	Serial No.:	
Test Setup			
V:	2000	V	
tr:	30	s	
Mode:	Asynchronous		
Polarity:	Alternate		
Coupling:	L1-PE, L2-PE, L3-PE, N-PE, L1+L2-PE, L1+L3-PE, L2+L3-PE, L1+N-PE, L2+N-PE, L3+N-PE, L1+L2+L3- PE, L1+L2+N-PE, L1+L3+N-PE, L2+L3+N-PE, L1+L2+L3+N-PE		
Events:	5		

### 5.12 TEST OBSERVATION

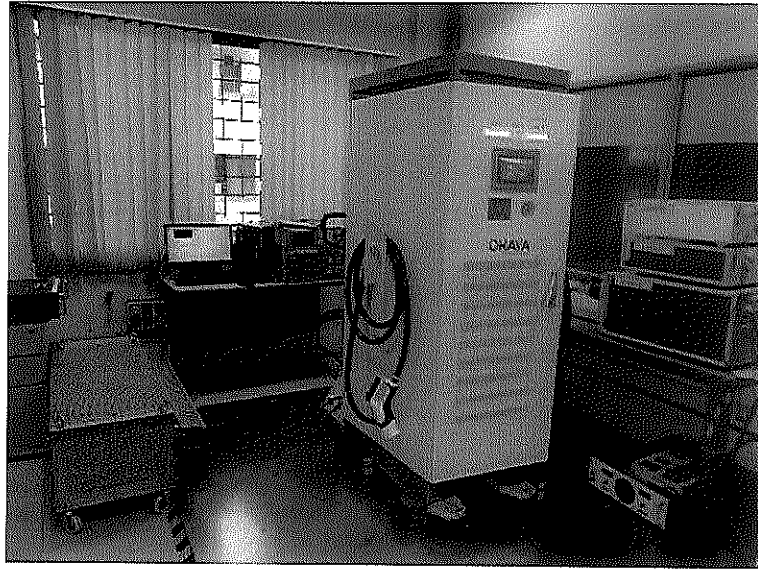
Sr. No.	Surge Details	Coupling	Observation
6.12.1	$\pm 1.0 \text{ kV}$	L1-L2 and L1-L3 L2-L3 and L1-N L2-N and L3-N	No deviation was observed. <b>Performance Criteria A.</b>
6.12.2	$\pm 2.0 \text{ kV}$	L1-PE, L2-PE, L3-PE and N- PE, L1+L2-PE, L1+L3-PE, L2+L3-PE, L1+N-PE, L2+N- PE and L3+N-PE, L1+L2+L3- PE, L1+L2+N-PE, L1+L3+N- PE, L2+L3+N-PE and L1+L2+L3+N-PE	No deviation was observed. <b>Performance Criteria A.</b>




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- ☒ - Option considered for the test  
☐ - Option not considered for the test



5.13 TEST SETUP PHOTO



		
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## ANNEXURE 06

### 6.1 TEST SPECIFICATIONS

TEST DETAILS	RADIATED EMISSION TEST AS PER AIS-138 (PART1):2017 STANDARD.
TEST DATE	21-Aug-2019

### 6.2 DUT OPERATING CONDITIONS

DUT MODE OF OPERATION	FULL OPERATING <input checked="" type="checkbox"/>	PARTIAL OPERATING <input type="checkbox"/>	POWER ON STATE <input type="checkbox"/>
DIAGNOSTIC TOOLS CONNECTED	CAN BUS CONV. <input type="checkbox"/>	USB BUS CONV. <input type="checkbox"/>	RS232 BUS CONV. <input type="checkbox"/>

### 6.3 MONITORING OF DUT


PASS/FAIL criteria automatically controlled by EMC software. <input type="checkbox"/>	PASS/FAIL criteria manually controlled by operator. <input checked="" type="checkbox"/>
PASS/FAIL criteria not verified. <input type="checkbox"/>	PASS/FAIL criteria controlled and evaluated by the customer. <input type="checkbox"/>

### 6.4 LABORATORY ENVIRONMENT TEST CONDITIONS

AMBIENT TEMPERATURE	+ 24.8°C.	Required (23±5)°C.	RELATIVE HUMIDITY	52.3% RH.	---
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### 6.5 TEST SETUP DETAILS

DUT Setup Details	Status	Remarks
A) Test setup was done according to	CISPR 11:2009 Ed.05	---
B) Test table surface	Wooden <input checked="" type="checkbox"/> Metallic <input type="checkbox"/>	Test table height from ground floor (800, ±100)mm.
C) DUT kept in the centre of the table	YES <input type="checkbox"/> NO <input type="checkbox"/>	---
D) Whether DUT was grounded (GND) or isolated (ISO) from the ground plane?	GND <input type="checkbox"/> ISO <input checked="" type="checkbox"/>	---
E) Antenna distance from the wiring harness of the DUT	(3000 ± 10) mm	---
F) Antenna height from the ALSE chamber ground plane during the test	(1000± 10) mm	---
G) Antenna phase centre focused to DUT	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	---



**S B KSHIRSAGAR**  
**TEST ENGINEER**

☒ - Option considered for the test  
☐ - Option not considered for the test

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## 6.6 DUT SUPPLY VOLTAGE DETAILS

A.C. Supply voltage	440V A.C. System	Current Consumption
A.C. Mains supply	(440, $\pm 5$ ) V	< 1 Amp

## 6.7 TEST PROCEDURE

6.7.1 The radiated emissions test setups were in accordance with CISPR 11 or CISPR 22. The equipment under test was set up in the 3-meter anechoic chamber on non-conductive table 80 cm above ground. Cable was folded back and front to form a 30 cm by 40 cm bundle.

6.7.2 The system was setup as described above with the EMI diagnostic software running. The maximum readings were found by varying the height of antenna and then rotating the turntable. Both polarizations of antenna, horizontal and vertical, were measured. The effect of varying the interface cables has been investigated to find the configuration that produces maximum emission. The highest emissions were also analysed in detail by operating the EMI receiver in fixed turn quasi-peak mode to determine the precise amplitude of the emissions. While doing so, the antenna height was varied between 1.0 to 4.0 meters and the turntable was slowly rotated to maximize the emission.

6.7.3 The measurement was carried out using linearly polarized electric field antenna that has nominal 50 $\Omega$  output impedance.

- a) 30 MHz to 200 MHz (Bi-Conical Antenna)
- b) 200 MHz to 1000 MHz (Log-Periodic Antenna)

6.7.4 The phase center of the measuring antenna was 100 mm above the table ground plane for Bi-conical and log periodic antenna. The height of the counterpoise of the rod antenna was +10 /-20 mm relative to the table ground plane and was bounded to it.

6.7.5 From 30 MHz to 1000 MHz, measurement was performed in vertical and horizontal polarization.

## 6.8 TEST PARAMETERS

Frequency range	30 MHz to 1000 MHz			
Scanning receiver parameters	<b>Peak detection</b> <input type="checkbox"/>			
	Frequency range	Bandwidth at -6dB	Step Size	Dwell time
	30 MHz-1000 MHz	120 kHz	50 kHz	5 ms
	<b>Average detection</b> <input type="checkbox"/>			
	Frequency range	Bandwidth at -6dB	Step size	Dwell time
	30 MHz-1000 MHz	120 kHz	50 kHz	5 ms
	<b>Quasi-peak detection</b> <input checked="" type="checkbox"/>			
	Frequency range	Bandwidth at -6dB	Step size	Dwell time
	30 MHz-1000 MHz	120 kHz	50 kHz	1 s
Antenna Systems	<b>Frequency Range</b>	<b>Antenna Used</b>	<b>Polarization</b>	
	0.15 MHz – 30 MHz	1m Vertical monopole	Vertical	<input type="checkbox"/>
	30 MHz- 200 MHz	Biconical antenna	Horizontal	<input checked="" type="checkbox"/>
			Vertical	<input checked="" type="checkbox"/>
	200 MHz-1000 MHz	Log-periodic antenna	Horizontal	<input checked="" type="checkbox"/>
			Vertical	<input checked="" type="checkbox"/>

*S B Kshirsagar*

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TEST ENGINEER**

☒ - Option considered for the test  
☐ - Option not considered for the test

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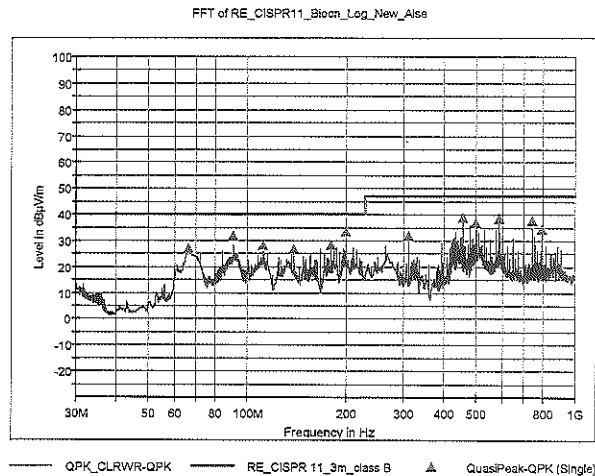
Dated: 28-FEB-2020

## 6.9 TEST OBSERVATION

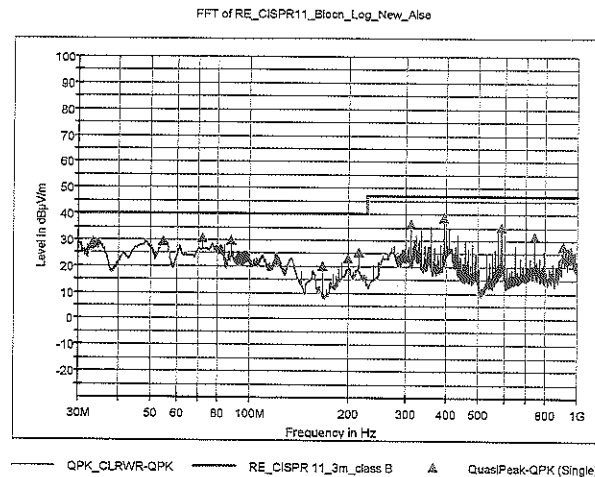
Sr. No.	Frequency Range	Antenna Polarization	Observation
1.9.1	30 MHz-1000 MHz	Horizontal	It meets with limit line Class B
1.9.2	30 MHz-1000 MHz	Vertical	It meets with limit line Class B

## 6.10 MEASUREMENT GRAPH

### 6.10.1 Radiated Emission Graph for Frequency Range 30 MHz-1000 MHz with Biconical and Log-periodic Antenna in Horizontal Polarization



### 6.10.2 Radiated Emission Graph for Frequency Range 30 MHz-2500 MHz with Biconical and Log-periodic Antenna in Vertical Polarization



*Sandeep*

**S B KSHIRSAGAR**  
**TEST ENGINEER**

- ☒ - Option considered for the test
- ☐ - Option not considered for the test

Dated: 28-FEB-2020

## 6.11 TEST RESULT ANALYSIS

### 6.11.1 Analysis of Radiated Emission Test For Frequency Range 30MHz-1000MHz with Antenna in Horizontal Polarization for Limit Line B

Freq.(MHz)	Antenna Height(mm)	Turn Table Position(°)	Limit Line (dBμV/m)	Corrected Result(dBμV/m)	Margin (dB)
66.48	1600	0	40.00	27.03	-12.97
91.02	1700	0	40.00	31.90	-8.10
111.99	1500	315	40.00	28.31	-11.69
139.02	1000	315	40.00	26.85	-13.15
180.00	1000	315	40.00	28.38	-11.62
199.98	1000	315	47.00	33.66	-13.34
311.99	1000	0	47.00	31.96	-15.04
455.99	1500	0	47.00	38.69	-8.31
500.00	1000	0	47.00	36.84	-10.16
589.07	1000	0	47.00	38.32	-8.68
743.99	1000	0	47.00	37.80	-9.20
791.99	1000	0	47.00	34.50	-12.50

Margin \*\*=Corrected QP Level – Limit Line

Corrected QP Level = QP Level + Antenna Corrector Factor + Cable Loss

### 6.11.2 Analysis of Radiated Emission Test For Frequency Range 30 MHz-1000 MHz with Antenna in Vertical Polarization for Limit Line B

Freq.(MHz)	Antenna Height(mm)	Turn Table Position(°)	Limit Line (dBμV/m)	Corrected Result(dBμV/m)	Margin (dB)
33.39	1000	90	40.00	30.08	-9.9
54.51	1000	0	40.00	29.44	-10.6
72.00	1000	45	40.00	31.80	-8.2
87.99	1000	45	40.00	32.88	-7.1
121.53	1000	45	40.00	22.33	-17.7
168.00	1200	0	40.00	23.43	-16.6
199.98	1000	45	40.00	24.09	-15.9
215.99	1000	0	47.00	26.24	-20.8
311.99	1500	0	47.00	36.60	-10.4
392.72	1500	0	47.00	40.82	-6.2
589.07	1300	0	47.00	36.64	-10.4
743.99	1000	0	47.00	32.71	-14.3

Margin \*\*=Corrected QP Level – Limit Line

Corrected QP Level = QP Level + Antenna Corrector Factor + Cable Loss

*S B Kshirsagar*

**S B KSHIRSAGAR  
TEST ENGINEER**

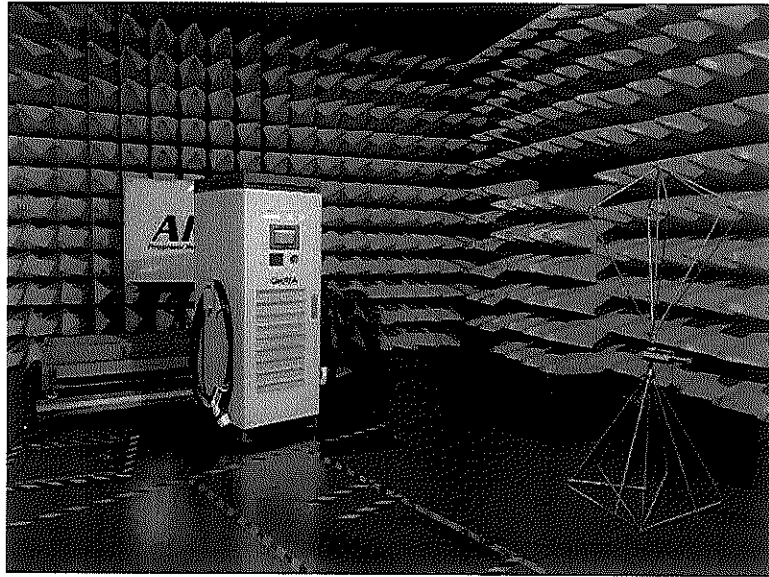
- ☒ - Option considered for the test  
☐ - Option not considered for the test

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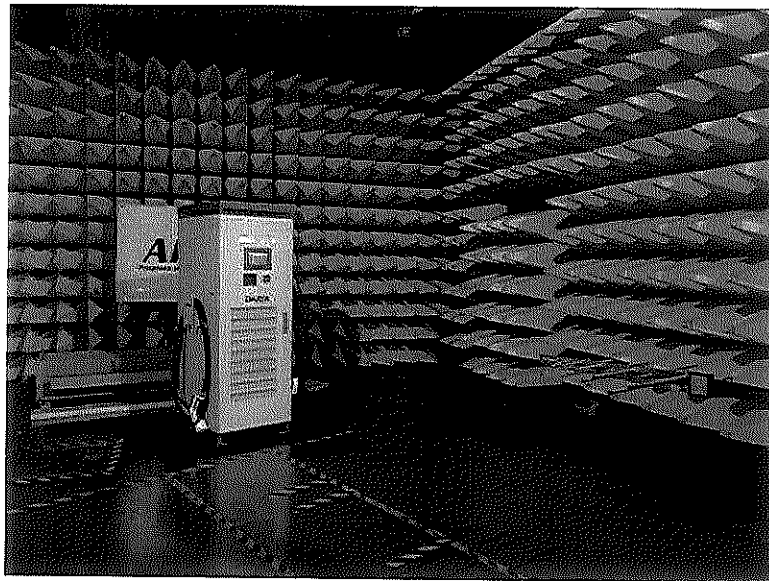
Dated: 28-FEB-2020

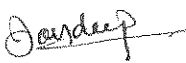


## 6.12 TEST SETUP PHOTO

### 6.12.1 Test Setup Photo with Bi-Conical Antenna Position in Front of DUT.



### 6.12.2 Test Setup Photo with Log-Periodic Antenna Position in Front of DUT.



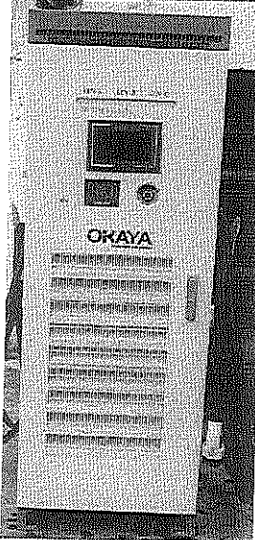
		
S B KSHIRSAGAR ENGINEER	A B MULAY GENERAL MANAGER	A A DESHPANDE Dy. DIRECTOR & HoD

END ANNEXURE-06

- ☒ - Option considered for the test
- ☐ - Option not considered for the test

Annexure No. 06

NON-TRANSFERABLE

TEST REPORT	
No. SHL/161/2019-2020/3000007654/RT/0935	
Date: 28.02.2020	
1.0 NAME AND ADDRESS OF THE CUSTOMER	OKAYA POWER PVT. LTD. D-7, Udyog Nagar, Rohtak Road, New Delhi 1100-41, INDIA
2.0 CUSTOMERS LETTER REF.	E-mail; Dated:-30.05.2019
3.0 DESCRIPTION OF TEST COMPONENT:	
a. Name of The Component	EV ADC Charger
b. Name of The Manufacturer	OKAYA POWER PVT. LTD. D-7, Udyog Nagar, Rohtak Road, New Delhi -110041, INDIA
c. Identification/ Part No.	ELZQA43CN0000215
d. Model/Type No.	EV DC QUICK 3 in 1 CHARGER 142 KW
e. Assembly Drawings No. with Rev. No.	OPG-005-0919-0003; REV. 0
f. Photograph Of The Component	
4.0 TEST OBJECTIVE, REQUIREMENTS:	
To carry out the IP- 54 protection test Category -2 as per IEC 60529.	
4.1 Dust Test for First Numeral '5':	
On inspection after the test as per Clause 13.5 of IEC; 60529, talcum powder should not accumulate in a quantity or location such that, as with any other kind of dust, it could interfere with the correct operation of the equipment.	
4.2 Water Test for Second Numeral '4':	
On inspection after the test in accordance with the requirements as per Clause 14.2.4 and 14.3 of IEC 60529, water entered inside the equipment shall not:	
<ul style="list-style-type: none"> <li>&gt; Be sufficient to interfere with satisfactory operation of the equipment.</li> <li>&gt; Reach live parts or windings not designed to operate when wet.</li> <li>&gt; Accumulate near the conduit hole (cable entry) or enter the cable.</li> </ul>	
5.0 TEST PROCEDURE:	
5.1 Dust Test for First Numeral '5' (as per Clause 13.5 of IEC;60529 and procedure for enclosures of Category - 2 ):	
<ul style="list-style-type: none"> <li>&gt; The equipment under test was supported in it's normal operating position inside the test chamber and not connected to a vacuum pump. Any conduit hole normally open was left open for the duration of the test.</li> <li>&gt; The test was carried out by using apparatus incorporating the principle shown in Figure 2 of IS/IEC 60529-2001, Duration of test was 8 h.</li> </ul>	

Page 1 of 3

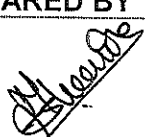




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ARAI Homologation & Technology Centre (ARAI-HTC), Chakan  
ARAI Forging Industry Division (ARAI-FID), Chakan  
ARAI Regional Centre South (ARAI-RCS), Chennai

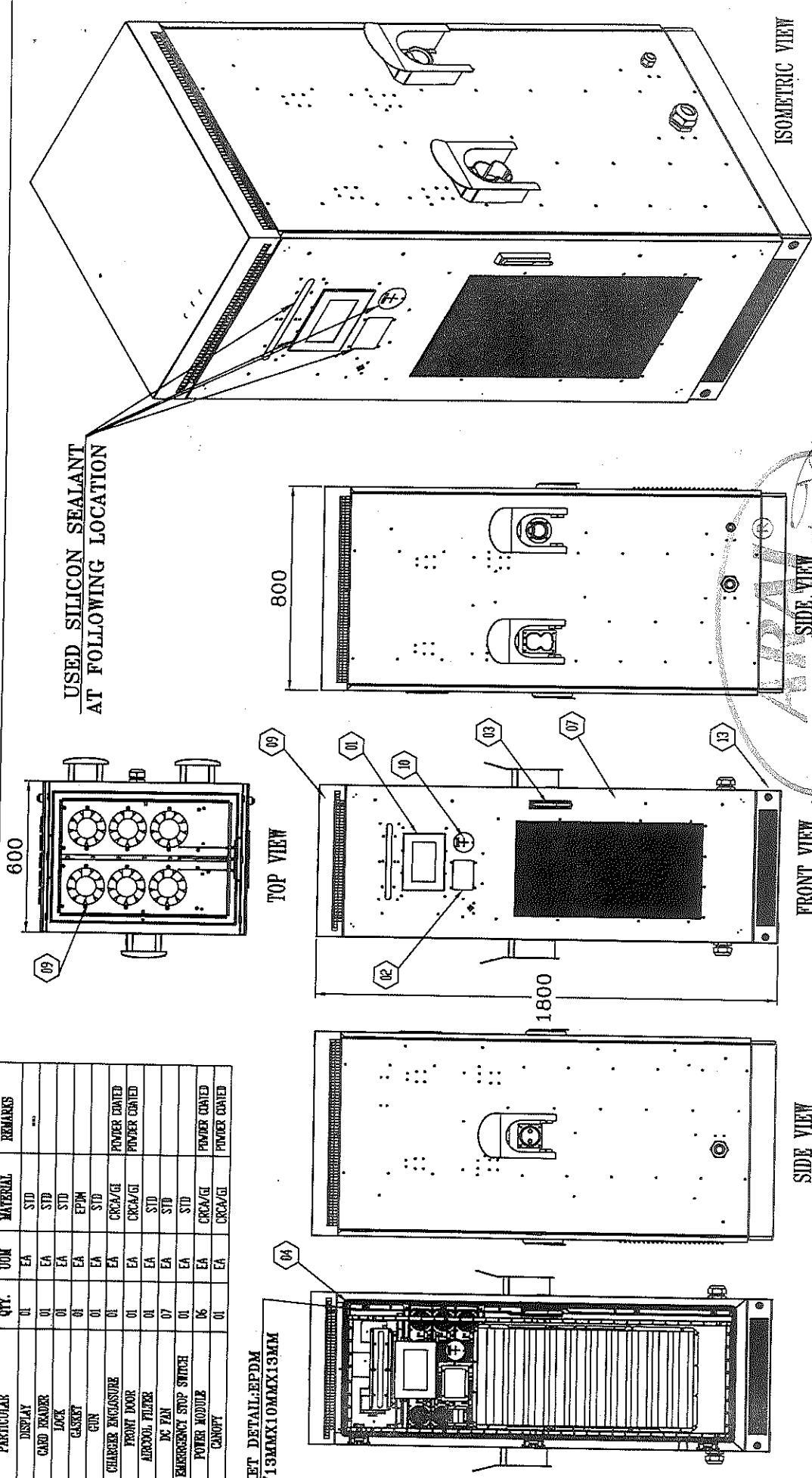
<b>5.2</b>	<b>Water Test for Second Numeral '4' (as per Clause 14.2.4 and 14.3 of IEC 60529):</b> The test was carried out by spraying the equipment from all practicable directions with a stream of water from a standard test nozzle as shown in Figure C6 and observing the following conditions: <ul style="list-style-type: none"> <li>➤ Delivery rate: 10 l/min <math>\pm</math> 5 %</li> <li>➤ Water pressure at the nozzle: Approx. 50 kPa to 150 kPa</li> <li>➤ Duration: 5 min (minimum)</li> <li>➤ Distance from nozzle to equipment surface: 0.5 m</li> </ul>		
<b>6.0</b>	<b>TEST RESULTS:</b>		
<b>6.1</b>	<b>Dust Test for First Numeral '5':</b> No Dust ingress was observed inside the 'EV ADC charger.'		
<b>6.2</b>	<b>Water Test for Second Numeral '4':</b> No Water ingress was observed inside the 'EV ADC charger.'		
<b>7.0</b>	<b>Test Duration</b>	<b>Start Date:-26.11.2019</b>	<b>End Date:-27.11.2019</b>
<b>8.0</b>	<b>CONCLUSION:</b> 'EV ADC charger' as mentioned above sr. no. 3 this report meets test requirements of IP 54 protection Test as per as per of IEC 60529.		
<b>Disclaimer:</b> <ol style="list-style-type: none"> <li>1. ARAI issues Test Reports / Extension Reports / Developmental Test Reports for vehicles/ components/ parts/ assemblies etc. based on the documents produced and/or prototype/ vehicle(s) or sample(s) submitted by the applicant and testing thereof.</li> <li>2. ARAI issues Test Reports / Extension Reports / Developmental Test Reports in compliance to Motor Vehicle Act / Central Motor Vehicles Rules and their provisions as amended from time to time or any other statutory orders under which ARAI is authorised. Other Rules/ Acts are outside the purview/ scope of Test Reports / Extension Reports / Developmental Test Reports.</li> <li>3. Test(s) on prototype/ vehicle(s) or sample(s) is/are carried out on the basis of standard procedures as notified under specific rules / requested by the applicant. Results of such tests are the property of bearer of Test Reports / Extension Reports / Developmental Test Reports. These results cannot be disclosed unless specifically so ordered by Government, Court, etc.</li> <li>4. Unless otherwise supported by a separate Certificate, this Test Reports / Extension Reports / Developmental Test Reports shall not be considered in isolation as valid Type Approval for any vehicle.</li> <li>5. ARAI is not responsible for testing each vehicles/ components/ parts/ assemblies etc. for which Test Reports / Extension Reports / Developmental Test Reports is issued. Further, ARAI is not responsible for ensuring manufacturing quality of the vehicles/ components/ parts/ assemblies etc. for which the Test Reports / Extension Reports / Developmental Test Reports is/are issued.</li> <li>6. ARAI is in no way responsible for any misuse or copying of any design/ type/ system in connection with entire vehicle/ components/ parts and assemblies covered under the Test Reports / Extension Reports / Developmental Test Reports is/are issued.</li> <li>7. Breach of any statutory provision of Indian laws or laws of other countries, will be the sole responsibility of the bearer of Test Reports / Extension Reports / Developmental Test Reports is/are issued and ARAI shall not be liable for any claims or damages. The bearer shall alone be liable for the same, and shall undertake to indemnify ARAI in this regard.</li> <li>8. ARAI has the right, but not under obligation, to initiate cancellation/ withdrawal of the Test Reports / Extension Reports / Developmental Test Reports is/are issued in case of any fraud, misrepresentation, when it surfaces and comes in the knowledge of ARAI.</li> </ol> <p>The appropriate local courts at Pune shall have the jurisdiction in respect of any dispute, claim or liability arising out of this certificate / Report.</p>			
<b>PREPARED BY</b>		<b>CHECKED BY</b>	
 <b>S. N. LONDHE</b> <b>ENGINEER</b>		 <b>A. D. DEKATE</b> <b>DEPUTY GENERAL MANAGER</b>	
<b>Place of Issue: PUNE</b>		<b>APPROVED BY</b>  <b>U. A. KULKARNI</b> <b>DEPUTY DIRECTOR, SHL</b>	
		<b>Date of Issue:</b> <u>28.2.20</u>	



S.NO.	PARTICULAR	QTY.	UOM	MATERIAL	REMARKS
1.	DISPLAY	01	EA	STD	---
2.	CARD READER	01	EA	STD	---
3.	LOCK	01	EA	STD	---
4.	GASKET	01	EA	EPDM	---
5.	GUN	01	EA	STD	---
6.	CHARGER ENCLOSURE	01	EA	CRC/GE	POWDER COATED
7.	FRONT DOOR	01	EA	CRC/GE	POWDER COATED
8.	AIRCOLD FILTER	01	EA	STD	---
9.	DC FAN	07	EA	STD	---
10.	EMERGENCY STOP SWITCH	01	EA	STD	---
11.	POTER MODULE	06	EA	CRC/GE	POWDER COATED
12.	CANOPY	01	EA	CRC/GE	POWDER COATED

GASKET DETAIL:EPDM  
BLACK/13MMX10MMX13MM

USED SILICON SEALANT  
AT FOLLOWING LOCATION



NOTES :-  
# ALL SHARP EDGE SHOULD BE REMOVED.  
# ALL SHARP EDGE SHOULD BE WELDED PROPERLY.  
# ALL DIMENSIONS ARE IN MM.

PLEASE DO NOT SCALE THE DRAWING IN REBUTASK.

WELDING	0-10	11-50	51-120	121-500	501-1000	1001-2000	2001-3050	3051
ALL ROUND WELD	✓	✓	✓	✓	✓	✓	✓	✓
FILLET WELD	✓	✓	✓	✓	✓	✓	✓	✓
SINGLE V-BUTT WELD	✓	✓	✓	✓	✓	✓	✓	✓
SPOT WELD	✓	✓	✓	✓	✓	✓	✓	✓

01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

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OKAYA POWER GROUP D-7 UDYOG NAGAR  
PEERAGARHI NEW DELHI-110041

THE AUTOMOTIVE RESEARCH  
ASSOCIATION OF INDIA

TITLE :-		GAD		NAME	DATE	SIGN.
CONFIGURATION NAME :- 142 KW COMBO DC QUICK CHARGER		DESIGN	CHKD.	APPD.		
MODEL NO :- ELQ443CN0000215		CRC	SHEET THICKNESS	QTY.	01 Nos.	
MATERIAL		DWG.No./PART NO :-	OPG--005--0919--0003			
SCALE :- NTS		SHEET No. 1 - OF - REV. 0				