

### New EMI/EMC Test Facility at Metering And Utility Automation Division(MUAD):

The laboratory has state-of-art technology for EMI/EMC test for EV Charger, Smart Meter, Telecom instrument & other Electrical appliances. The test is possible as per IEC 61000-4 series & IS 17017-21 for development assistance test.

Sl.No.	Name of the Test	Standard	Range/Capabilities
1.0	Ring Wave Immunity test	IEC 61000-4-12	100 kHz & 1MHz Up to $\pm 6.0$ kV
2.0a	Power Frequency Magnetic Field immunity test	IEC 61000-4-8,	Level 1: 3 A/m (Residential, commercial, light industrial) Level 2: 10 A/m (Industrial) Level 3: 30 A/m (Severe industrial)
		Test Orientation	Horizontal and vertical orientations for 0°, 90°, 180°, 270° directions of magnetic field
2.0b	Test for immunity to conducted, common mode disturbance	IEC 61000-4-16,	0HZ – 150 kHz.
2.0c	Test for immunity to conducted, common differential mode disturbance & signalling in the frequency range for AC power ports.	IEC 61000-4-19	2kHz- 150kHz
3.0	Damped Oscillatory magnetic field Immunity test (Slow Damped)	IEC 61000-4-10, IEC 61000-4-18	100 kHz & 1 MHz
4.0a	Voltage dips, short interruptions & voltage variations on dc. input power port immunity tests	IEC 61000-4-29	Voltage Dips: 0%-0.5 & 1 cycle, 40%-10/12 cycle, 70%-25/30 cycle, 80%-250/300 cycles. Short interruptions: 0%-250/300 cycles. Voltage variation: 70%-25/30 cycles
4.0b	Voltage dips, short interruptions and voltage variations immunity tests for equipment with	IEC 61000-4-34	Voltage Dips : 0%-0.5 & 1 cycle, 40%-10/12 cycle, 70%-25/30 cycle, 80%-250/300 cycles.

	mains current more than 16A per phase		Short interruptions: 0%-250/300 cycles. Voltage variation: 70%-25/30 cycles
5.0	Conducted Emission	CISPR14,22/FCC	9kHz. – 30 MHz. Power line/Signal Line/ Telecom Port/ LISN/AMN for both direct and Current Clamp & Voltage Probe
6.0	Surge Immunity Test/Telecom test	IEC61000 4-5	Combination Wave: 1.2/50 $\mu$ s open-circuit voltage, 8/20 $\mu$ s short-circuit current  Surge Voltage: 0.5 kV, 1 kV, 2 kV, 4 kV (depending on equipment type and environment)
7.0	Immunity to conducted disturbance induced by radio frequency field	IEC61000 4-6	150kHz- 400MHz Up to 63A per phase for AC port
8.0	Impulse Magnetic Field Test	IEC61000 4-9	Field Strength: 1 A/m,10 A/m, 100 A/m,
9.0	Electrostatic Discharge Immunity Test	IEC61000 4-9	Contact Discharge: 2 kV, 4 kV, 6 kV, 8 kV; Air Discharge: 2 kV to 15 kV
10.0	Electrical Fast Transient Burst Immunity Test	IEC61000 4-4	Power Lines: 0.5 kV, 1 kV, 2 kV, 4 kV; Signal Lines: 0.25 kV to 2 kV
11.0	Radiated Radio Frequency Electro Magnetic Field Immunity Test	IEC61000 4-3 IEC61000 4-20	1 V/m, 3 V/m,10 V/m, 30 V/m, 50 V/m; Frequency Range: 80 MHz to 6 GHz
12.0	Limitation of Voltage Changes, Voltage fluctuations and flicker in public low voltage supply system	IEC61000 3-3	<16A per phase
13.0	Limitation of Voltage Changes, Voltage fluctuations and flicker in public low voltage supply system	IEC61000 3-11	>16A to <75per phase
14.0	Limits for Harmonic Current Emission	IEC61000 3-2	<16A per phase
15.0	Limits for Harmonic Current Emission	IEC61000 3-12	>16A to <75per phase