



VENTURE
one



Powered by
**Technology
Innovation
Institute**

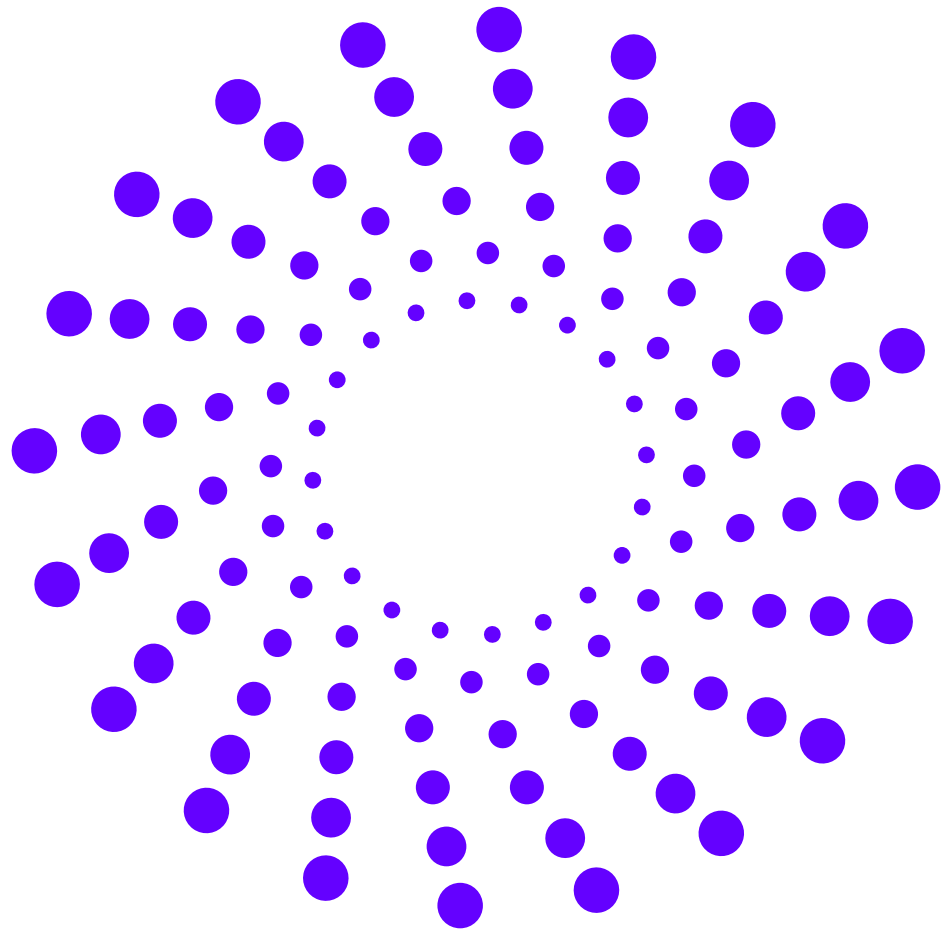
EMC Service

Ensuring Compliance & Performance in Electromagnetic Environments

**FROM
RESEARCH
TO REALITY**

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Our Company

VentureOne is the dynamic commercialization arm of Abu Dhabi's Advanced Technology Research Council (ATRC). We bridge the crucial gap between groundbreaking research and market viability, propelling Abu Dhabi's advanced technology R&D ecosystem forward.

We are dedicated to accelerating the commercialization of ATRC's applied research arm, the Technology Innovation Institute (TII), by pioneering research breakthroughs and delivering transformative solutions to our valued partners across the public and private sectors. Our unparalleled value proposition is the result of combining cutting-edge research and profound technical expertise, fostering innovation that truly impacts and enhances the lives of real people.

Tech Services of VentureOne

We offer access to state-of-the-art technologies, research labs, and subject matter experts that can help transform your ideas into real-world applications.

Electromagnetic Compatibility (EMC)

Our activities, linked to Electromagnetic Compatibility and Interference, are to support the local industries to increase their EMC performance. Our services include pre-compliance testing capabilities, or technical support and expertise.

"The ability of equipment or a system to function satisfactorily in its electromagnetic environment without introducing intolerable electromagnetic environment without introducing intolerable electromagnetic disturbances to anything in that environment."

IEC 60050 - Section 161
International Electrotechnical Vocabulary (IEV)

Our Mission

At VentureOne - EM Services, you can test your equipment for multiple EMC international standards.

Mission LAB:

Realize engineering/prequalification EMC test for systems and subsystems.

Write the associated reports to be distributed to the Customer/End-User.

Perform tests with complete impartiality and independence.

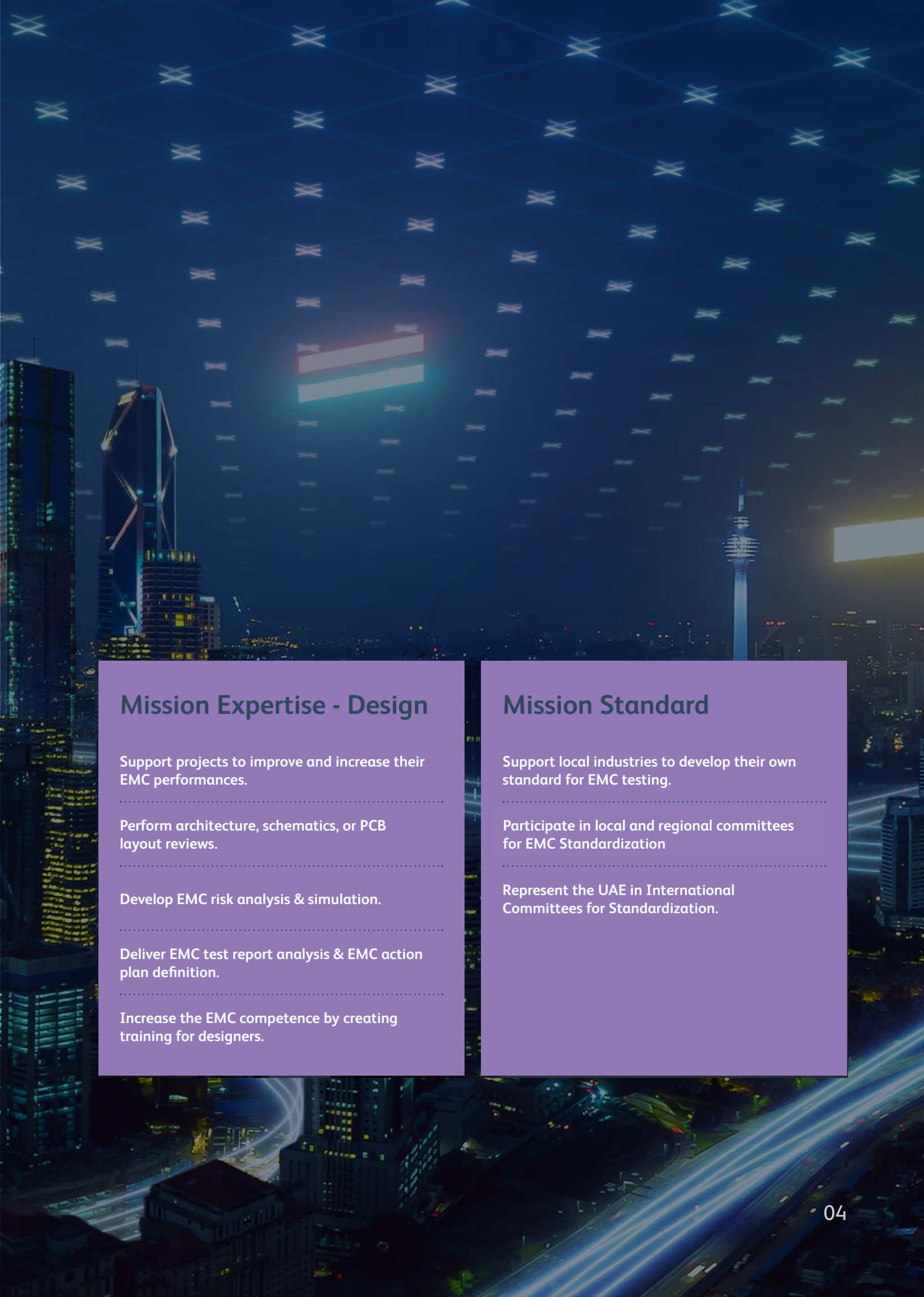
Offer test facilities for engineering tests/troubleshooting tests.

Mission Expertise - Test

Tailor each test plan to minimize unnecessary costs and over-testing.

Handle the test plan activity to define the appropriate testing procedures.

Increase the EMC competence by training.



Mission Expertise - Design

Support projects to improve and increase their EMC performances.

Perform architecture, schematics, or PCB layout reviews.

Develop EMC risk analysis & simulation.

Deliver EMC test report analysis & EMC action plan definition.

Increase the EMC competence by creating training for designers.

Mission Standard

Support local industries to develop their own standard for EMC testing.

Participate in local and regional committees for EMC Standardization

Represent the UAE in International Committees for Standardization.

Our Chambers



Semi-Anechoic Chamber - SAC

Our SAC offers the possibility to perform pre-compliance EMC tests for systems, subsystems, or platforms up to the size of a vehicle. We are able to perform Emission and Susceptibility testing up to 18 GHz, field intensity up to 100 kV/m and fast transient electromagnetic measurements with sub-nanosecond rise times.

Key features:

Dimensions of 22.6m (L) x 17.6m (W) x 6.5m (H) working up to 18GHz

Hybrid Absorbers: Ferrite tiles & Absorbers

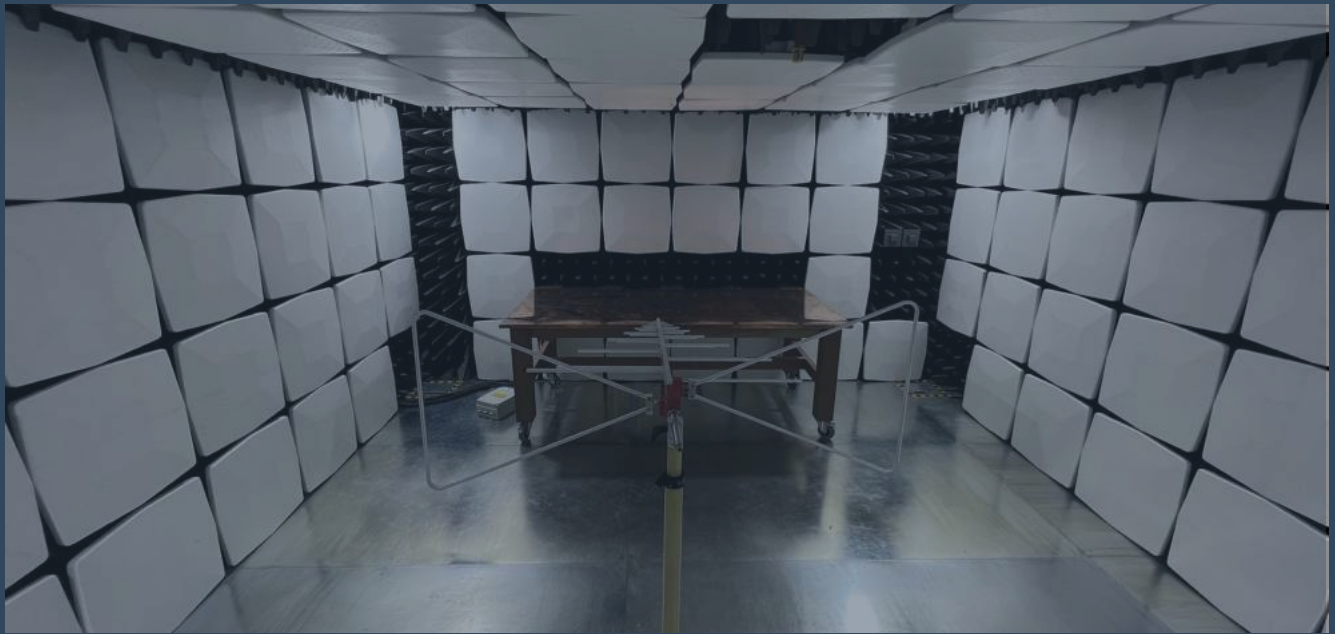
Shielding effectiveness of 100 dB up to 18 GHz

Turn Table with speed: 0.1 to 0.5rpm, rotating angle +400° /-200°, positioning accuracy +/- 0.5°, maximum load of 100 Tons

Hanging system for a maximum load of 10 Tons

Test Table for subsystems up to 500 kgs

Radiated Emission and Immunity for Electric and Magnetic Field for multiple standards (MIL-STD-461G, IEC/EN 61000, ISO 11452, CISPR16/CISPR25)



Low Noise Semi-Anechoic Chamber

The semi-anechoic chamber has been optimized for hosting Emanation Security-like applications with a minimum signal isolation capability of 120 dB up to 10 GHz. It is used in EMC testing for emission purposes.

Key features:

Dimensions of 6.5m (L) x 6.5m (W) x 3.2m (H)

Shielding effectiveness of 120 dB up to 10 GHz

Test Table for subsystems up to 500 kgs

Conducted and Radiated Emissions for multiple standards (MIL-STD-461G, IEC61000, DO160, CISPR16/CISPR25)

Our Chambers



Pulsed Power Laboratory

Our high-voltage laboratory can host large, pulsed-power generators used to drive different applications reaching sub-nanosecond rise times and peak voltages in the range of 500kV. It is used in EMC testing for immunity purposes, which includes ESD and Indirect Lightning tests.

Key features:

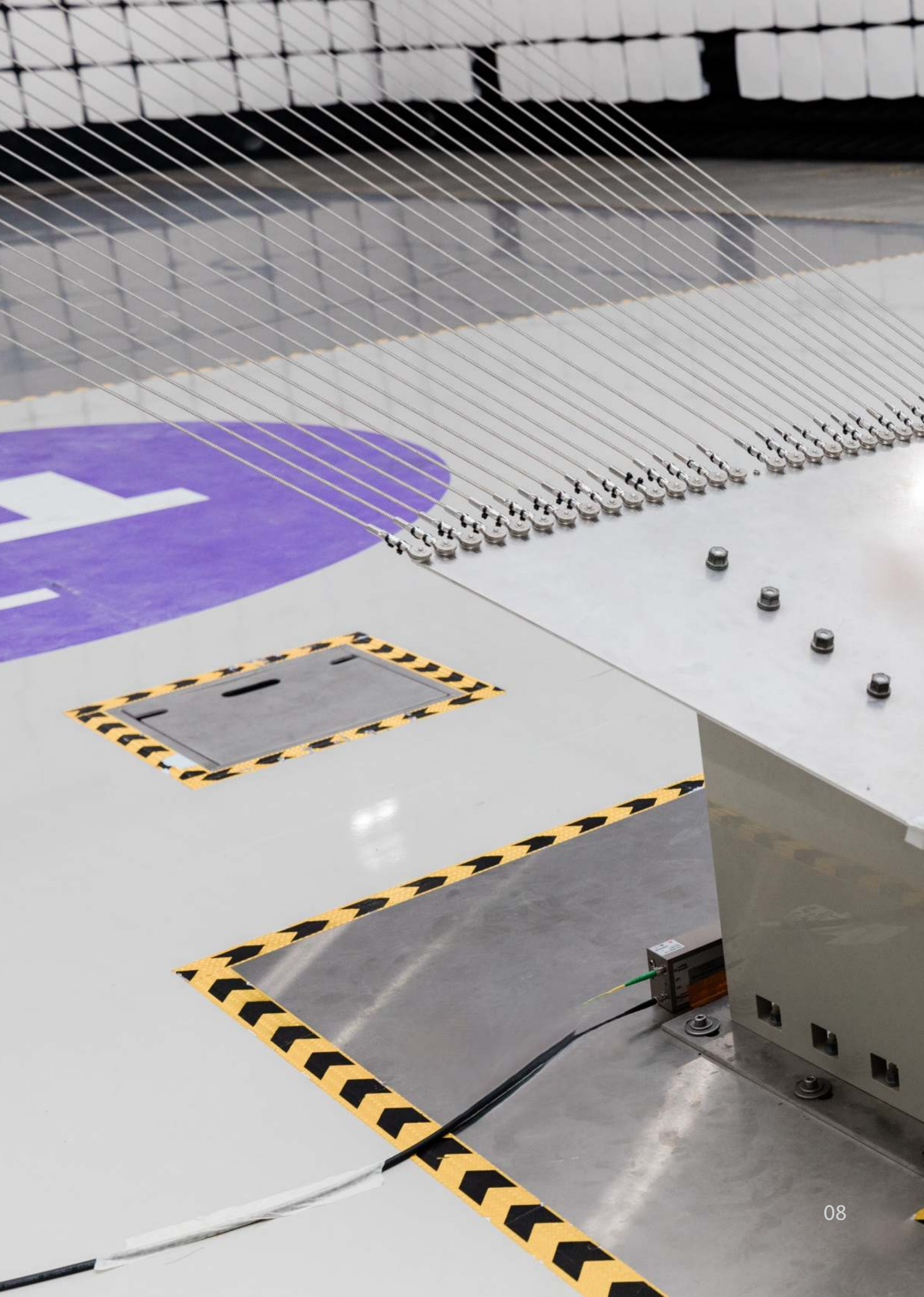
Dimensions of 17.6m (L) x 15.0m (W) x 7.0m (H)

Shielding effectiveness of 100 dB up to 18 GHz

Test Table for subsystems up to 500 kgs

Conducted Immunity for multiple standards (MIL-STD-461G, DO160, ISO11452)

Transient Immunity for multiple standards (MIL-STD-461G, DO160, IEC61000, ISO10605, AECTP250)

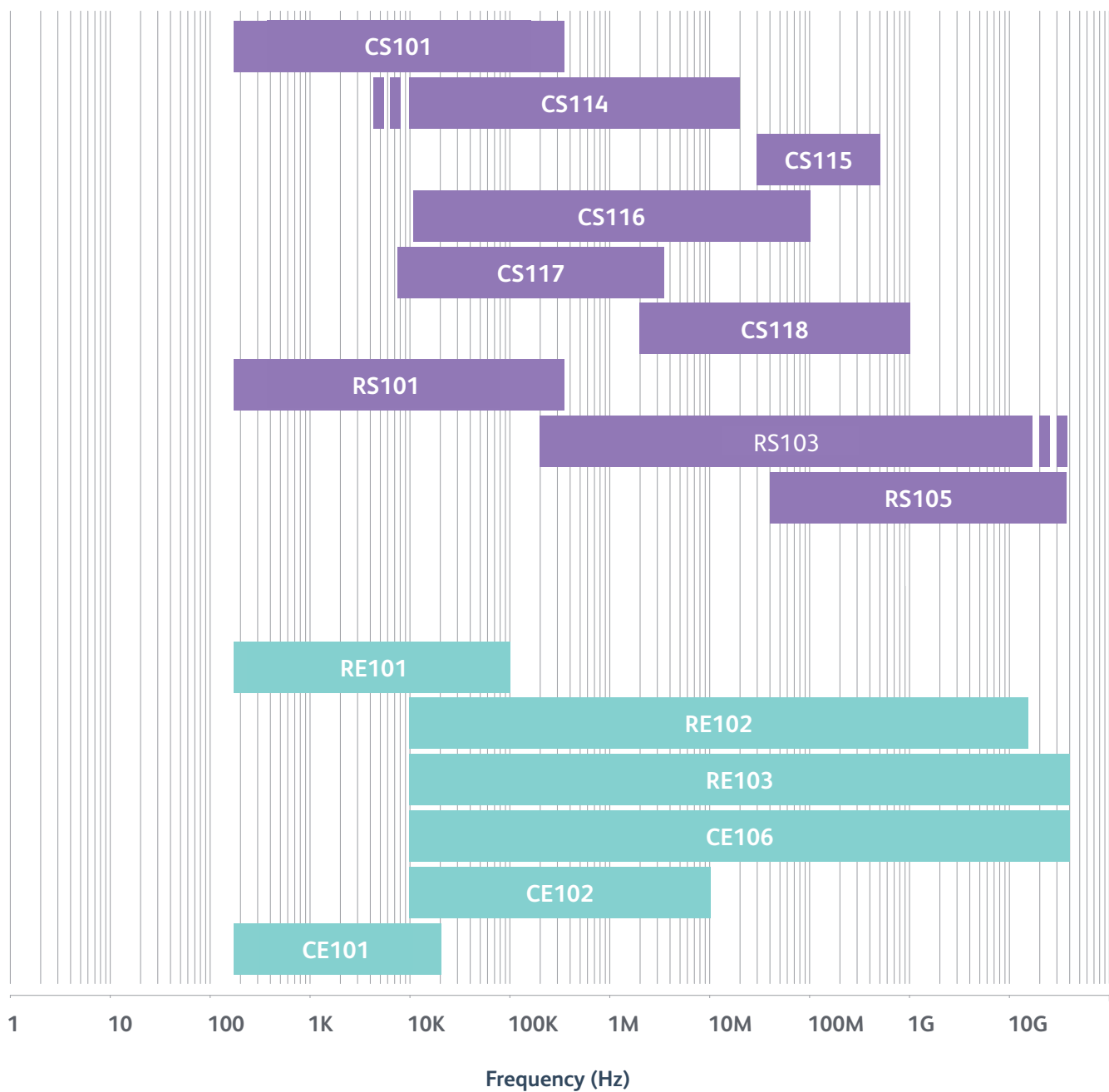


Our Capabilities

MIL-STD-461G

Radiated Emission & Radiated Susceptibility			
RE101	Radiated Emissions, Magnetic Field	RS101	Radiated Susceptibility, Magnetic Field
RE102	Radiated Emissions, Electric Field	RS103	Radiated Susceptibility, Electric Field
RE103	Radiated Emissions, Antenna Spurious and Harmonic Outputs	RS105	Radiated Susceptibility, Transient Electromagnetic Field
Conducted Emission & Conducted Susceptibility			
CE101	Conducted Emissions, Audio Frequency Currents, Power Leads	CS101	Conducted Susceptibility, Power Leads
CE102	Conducted Emissions, Radio Frequency Potentials, Power Leads	CS114	Conducted Susceptibility, Bulk Cable Injection
CE106	Conducted Emissions, Antenna Port	CS115	Conducted Susceptibility, Bulk Cable Injection, Impulse Excitation
		CS116	Conducted Susceptibility, Damped Sinusoidal Transients, Cables, and Power Leads
Transient Tests: Electrostatic Discharges and Lightning			
CS117	Conducted Susceptibility, Lightning Induced Transients, Cables, and Power Leads	CS118	Personnel Borne Electrostatic Discharge

EMC Tests Frequency Coverage



Our Capabilities

EMI - EMISSION

Conducted Emission testing for current and voltage



MIL-STD-461G
CE101 / CE 102 / CE 106

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EMI Receiver: 1Hz – 44 GHz

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Current Probes: 30 Hz to 500 MHz

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LISNs: 5 μ H and 50 μ H

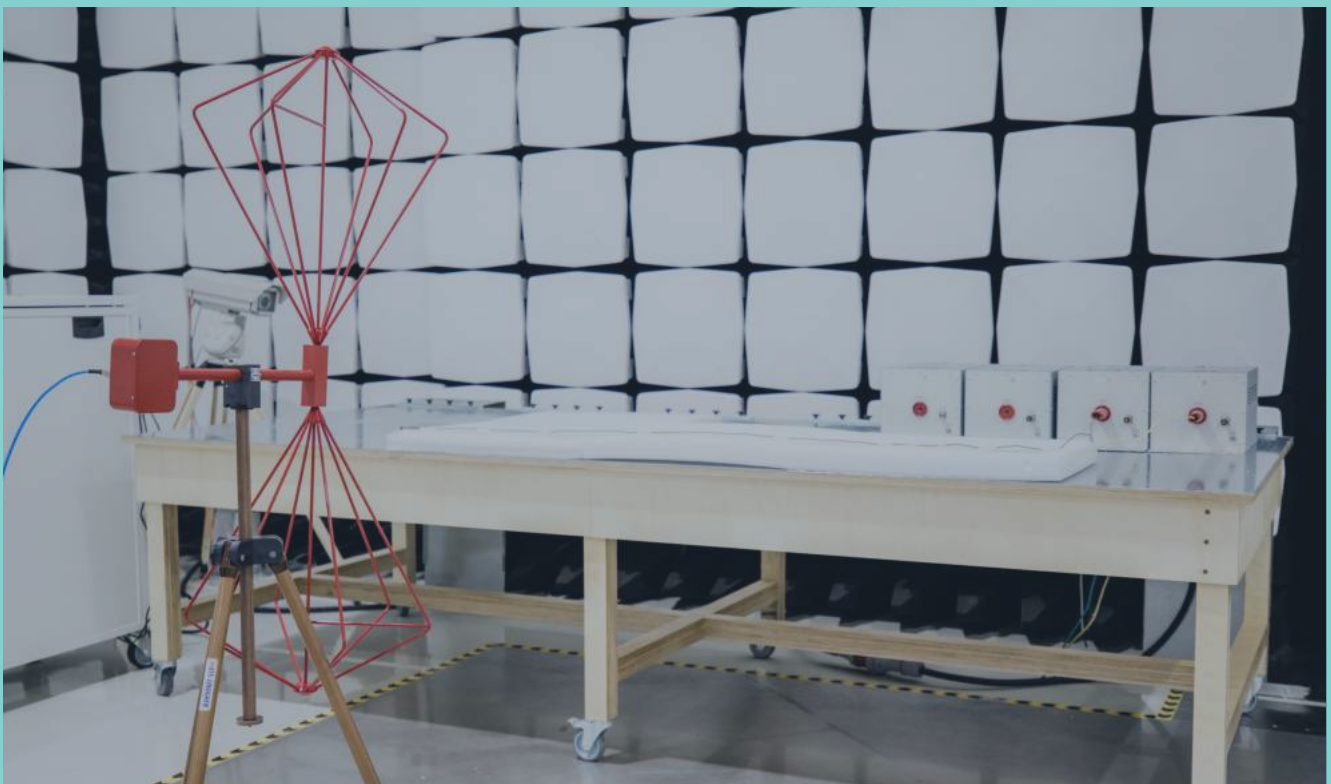
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Attenuators 20/30/40 dB // 10/100/1000W

.....
Directional Couplers: 40/50 dB // 10kHz up to 40 GHz

.....
Tunable RF Notch Filter up to 80 dB
.....

EMI - EMISSION

Radiated Emission testing for Electric and Magnetic Field



MIL-STD-461G
RE 101 / RE 102 / RE 103

EMI Receiver: 1Hz – 44 GHz

Magnetic Field Antenna: 30 Hz - 100 kHz

Electric Field Antenna: 30Hz to 40 GHz

Attenuators 20/30/40 dB // 10/100/1000W

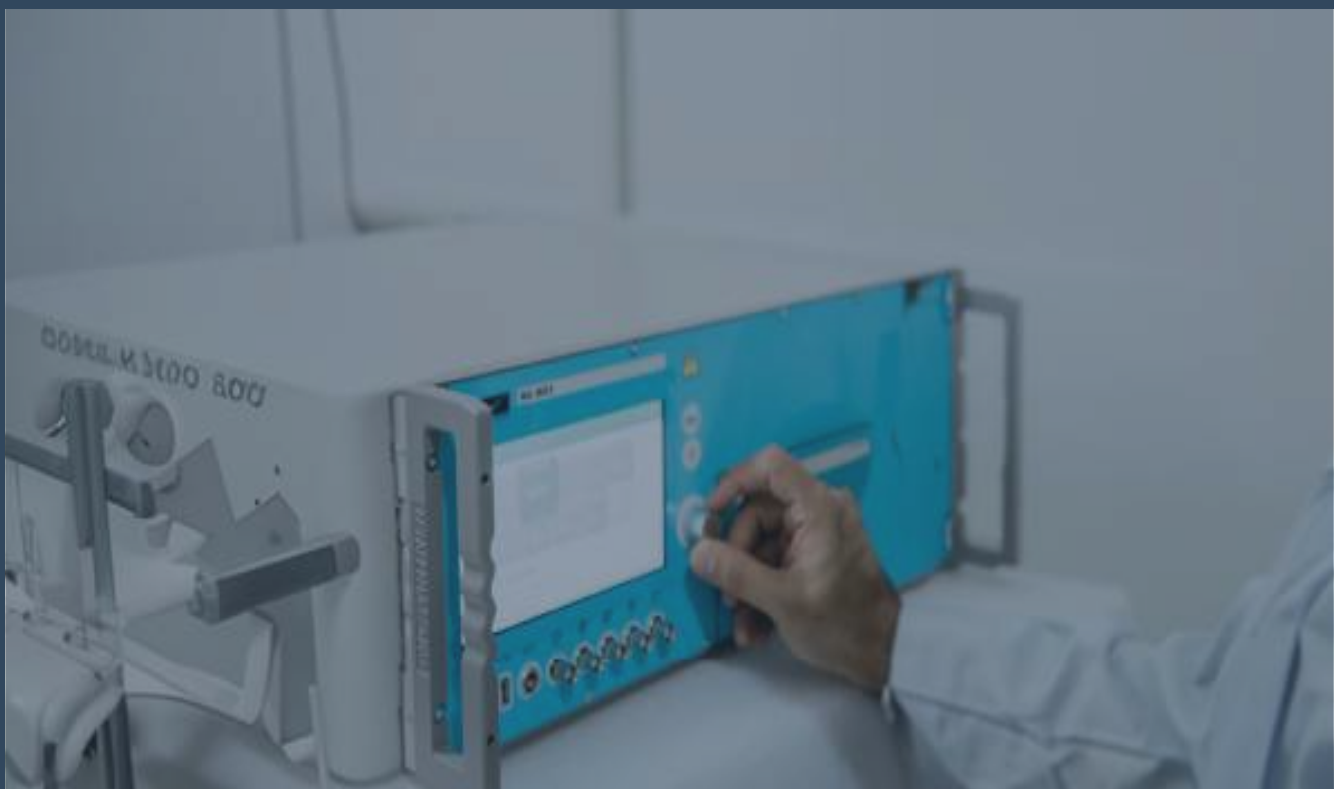
Directional Couplers: 40/50 dB // 10kHz up to 40 GHz

Tunable RF Notch Filter up to 80 dB

Our Capabilities

EMS - IMMUNITY

Conducted Susceptibility testing for Electric and Magnetic Field



MIL-STD-461G

CS 101 / CS 114 / CS 115 / CS 116 / CS 117

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High Voltage Probe 25 MHz bandwidth

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Signal Generator: 8 kHz- 3 GHz

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Amplifier: 4kHz – 400 MHz: 140W

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Injection Current probe: 10kHz – 400 MHz

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Measurement Current probe: 10kHz – 500 MHz
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EMS - IMMUNITY

Radiated Immunity testing for Electric and Magnetic Field



MIL-STD-461G
RS 101 / RS 103 / RS 105

.....
Signal generator: 9kHz up to 20 GHz
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Field Sensor: 2MHz up to 18 GHz
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Amplifiers: 2kW up to 1 GHz – 200W up to 18 GHz
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Antennas: 10 kHz to 18 GHz
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NEMP generator: up to 520 kV
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NEMP field generator: up 120 kV/m
.....

Our Capabilities

EMS - IMMUNITY

Electrostatic Discharges and Lightning



MIL-STD-461G
CS 117 / CS118

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ESD up to 30kV for personal born
.....

ESD up to 300 kV for Helicopter born
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Waveforms 1, 2, 3, 4, 5A, and 6 up to level 3
.....

EMC Service



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