

CHAMBERS FACT™ 5 EMC ANECHOIC CHAMBERS



FACT 5

- 9 kHz to 40 GHz Frequency Range
- Emissions and Immunities Measurements
- Full Compliance Testing for Radiated Emissions:
 - ANSI C63.25
 - FCC Parts 15 and 18
 - EN 50147-2
 - CISPR 11 / EN55011
 - CISPR 16 / EN55016
 - CISPR 22 / EN55022
 - CISPR 32/EN55032
 - VCCI V-3 / 2003.04
 - SAE J551
 - SAE J1113
- (Requires Chamber Modification to Accommodate Full Vehicle)
- Full Compliance Testing for Radiated Immunity:
 - IEC 61000-4-3 / EN61000-4-3
 - SAE J551
 - SAE J1113
- Eligible for FCC 3m Class B Facility Filing
- Available NSA Performance Options (May Require Chamber Modification):
 - 4.0 dB
 - Plus 3.5 dB
 - Premium 3.0 dB
- Available as a Turnkey System

ETS-Lindgren's FACT 5 Meter EMC Chambers, for Full Compliance testing, offer the semi-anechoic radiated emissions (RE) and fully anechoic radiated immunity (RI) compliance test capability for most international EMC compliance regulations. FACT 5 Chambers offer the ability to perform RE testing at a 5-meter distance while preserving the ability to perform full compliance testing of applicable 3-meter standards. Results obtained with 5-meter distance have better correlation to those obtained at a 10-meter distance than the ones measured at 3-meter distance.

FACT 5 chambers achieve their broadband performance using a unique arrangement of hybrid and ferrite tile absorber. The design was modeled using the proprietary numerical electromagnetic software responsible for creating chambers that set new standards for anechoic performance

Radiated Emissions Testing

ETS-Lindgren's FACT 5 chambers are designed to provide customers with more standardized solutions for different quiet zone diameters and performance options. This will provide users more flexibility to choose which solution works best for their individual needs. The available quiet zone sizes are available up to 3 meters in diameter.

FACT 5 chambers can be used to perform full compliance testing for ANSI C63.25, FCC Parts 15 and 18, EN 50147-2, CISPR 11/EN 55011, CISPR 16/EN55016, CISPR 22/EN55022, CISPR 32/EN55032, VCCI V-3/2003.04, SAE J551 and SAE J1113. ETS-Lindgren guarantees that the performance of Normalized Site Attenuation (NSA) testing according to ANSI C63.25.2 with 5 meter test distance, is 4.0 dB for STANDARD chamber, 3.5 dB for STANDARD PLUS chamber and 3.0 dB for PREMIUM chamber over the frequency range of 30 MHz to 1 GHz. The guaranteed performance for Site VSWR (sVSWR) test per CISPR 16-1-4 (ANSI C63.25.1) for frequency range of 1 GHz to 18 GHz is < 6.0 dB, regardless which performance option is selected below 1 GHz. The guaranteed performance for Normalized Site Insertion Loss (NSIL) test per CISPR 16-1-4 for frequency range of 9 kHz to 30 MHz is 4.0 dB for different test distances according to the chamber size.

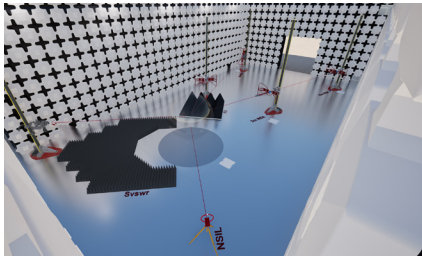
Radiated Immunity Testing

FACT 5 chambers can also be used to perform full compliance testing for IEC 61000-4-3/EN61000-4-3, SAE J-551 requirements. At 3 meter test distance lengths, Field Uniformity (FU) of 0 to 6 dB can be achieved over the frequency range of 80 MHz to 18 GHz. The test aperture for FU is a vertical plane of 1.5 m x 1.5 m at an elevation of 0.8 m to 2.3 m above the ground plane, following the field uniformity test procedure of IEC 61000-4-3. Additionally, used absorber material can safely withstand continuous field intensity of up to 200 V/m and intermittent field intensity of up to 500 V/m. This safely exceeds the field intensity requirements of commercial RI tests

Turnkey Systems

ETS-Lindgren can supply a fully integrated test system for your needs. With ETS-Lindgren, you work alongside a single, accountable partner with a proven track record of success. At systems level, our integrated RF measurement solutions are specifically designed to meet the requirements of a particular test standards. Our objective is always the same when we are designing the test system: listen carefully to our clients requirements, and then respond with proven solutions that minimize risk and assure success.

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- FACT MultiAx available. Please see Options for details.

Standard Configuration

- Shielded Chamber
- Anechoic Absorber

Options

- Turnkey Package Including Turntable, Positioners, Instrumentation and Test and Measurement Software
- Normalized Site Insertion Loss (NSIL) | CISPR 16-1-4 | 9 kHz to 30 MHz
- Normalized Site Attenuation (NSA) | ANSI C63.25.2, CISPR 16-1-4 | 30 MHz to 1GHz
- Site Voltage Standing Wave Ratio (sVSWR) | ANSI C63.25.1 | CISPR 16-1-4 | 1 GHz to 18 GHz
- Site Voltage Standing Wave Ratio (sVSWR) | CISPR 16-1-4 | 1 GHz to 18 GHz
- Field Uniformity (FU) | IEC 61000 4-3 | 80 MHz to 18 GHz

FACT 5 MultiAx Option

The optional FACT 5 MultiAx configuration is designed for laboratories requiring multiple measurement orientations and flexible EMC validation workflows within a single chamber installation. ETS-Lindgren's proven FACT MultiAx option reduces chamber reconfiguration requirements between measurement types while still supporting:

- Radiated emissions measurements from 30MHz to 1 GHz, at 3.0m test distance, for a 1.5m diameter, 2.0m high quiet zone, with up to 2 independent measurement axis (e.g. one for H polarization and one for V polarization).
- Radiated emissions measurements from 1GHz to 18GHz, at 3.0m test distance, for a 1.5m diameter, 2.0m high quiet zone, with permanent or semi-permanent absorber floor patch installations.
- Radiated immunity measurements from 80MHz to 18GHz, at 3.0m test distance, for a 1.5m wide, 1.5m high test area, with permanent or semi-permanent absorber floor patch installations.

These configurations are intended to help maintain consistent measurement setups across validation and compliance activities while improving overall laboratory efficiency. Available FACT MultiAx capabilities vary based on chamber geometry, absorber layout, quiet zone dimensions, floor construction, and specific measurement requirements. For more information, contact our local ETS-Lindgren representative.

Technical Specifications

Electrical	
Frequency Range	9 KHz to 40 GHz
Path Length	5 Meter
ANSI C63.25.2 Normalized Site Attenuation	30 MHz to 40 GHz
Physical	
Overall Dimensions ¹	12.05 m L x 7.87 m W x 6.30 m H (39.50 ft x 25.10 ft x 20.80 ft)
Shielded Room Internal Dimensions ¹	11.60 m H x 7.30 m W x 5.60 m H (38.06 ft x 23.11 ft x 18.45 ft)

¹: Chamber dimensions may vary depending on the MultiAx option selected. Contact your local ETS-Lindgren representative for more information.

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Individual Model Specifications

Electrical	Quiet Zone	Normalized Site Attenuation
FACT 5-2.0	2.0 m	4.0 dB
FACT 5-2.0 Plus	2.0 m	3.5 dB
FACT 5-3.0	3.0 m	
FACT 5-3.0 Plus	3.0 m	3.5 dB
FACT 5-3.0 Premium	3.0 m	3.0 dB
FACT 5-4.0	4.0 m	
FACT 5-4.0 Plus	4.0 m	
FACT 5-4.0 Premium	4.0 m	