

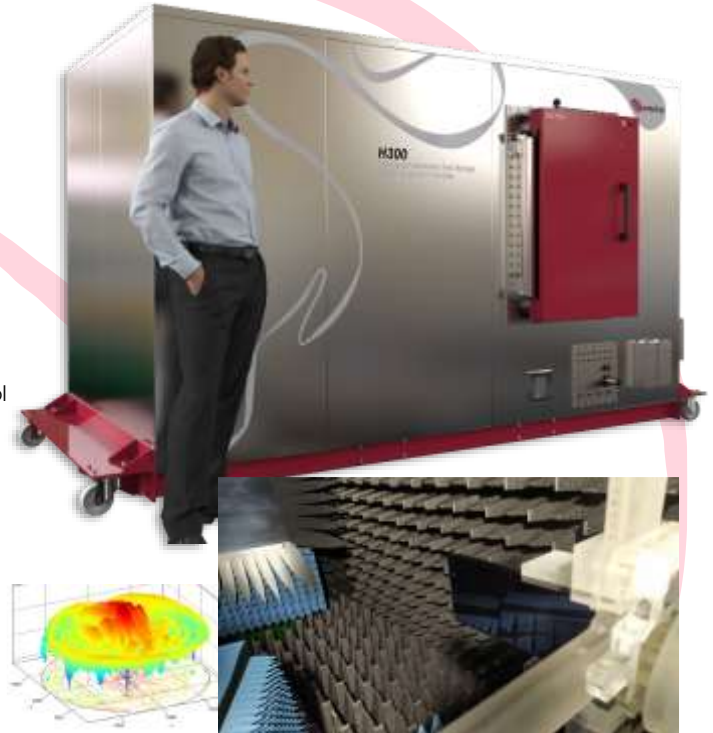
## H300 – Medium-size Anechoic Chamber

### Sub-6GHz and mm-Wave 5G OTA testing - 3GPP/CTIA/PTCRB-ready

0.6/3 GHz to 40/67/110 GHz

#### Main Features

- Dimensions: 3.45 m (L) x 1.80 m (W) x 1.99 m (H)
- CATR, DFF and SNF configurations
- Mains power: 100-240 VAC 50-60 Hz
- 5G with FR1, FR2 and FR1+FR2 OTA testing
- 3GPP TR38.810 ready for 5G OTA Testing
- Listed in PTCRB
- MIMO Graphic User Interface (GUI) for Windows OS
- Fully automated measurements and test instrument control
- 36 cm quiet zone and 8 Kg (extensions up to 60 cm and 50 Kg)
- Serrated reflector, lateral feed
- Climatic chamber for temperature and humidity test set and control [-40 to 90°C with  $\pm 0.5^\circ\text{C}$  & 10% to 95% RH with  $\pm 0.5\%$  to  $\pm 3\%$ ]
- Smartphone, tablet and laptop holders
- USB-PD 3.0 connection interface available
- Passive and Active SISO/MIMO measurements
- Time-domain measurements
- Windows, Android, iOS, Mac OS, Linux, UWP and Tizen UE apps
- Selected by leading US carrier
- RF isolation (shielding): > 80 dB
- 5G OTA KPIs with 0.5 dB STD repeatability
- Cat1/Cat2/Cat3 5G OTA Testing
- Vendor declaration of antenna size not needed
- GigE/DB9/FO/USB/Waveguide penetrations (optional)
- AC/DC filters for DUT power supply (optional)

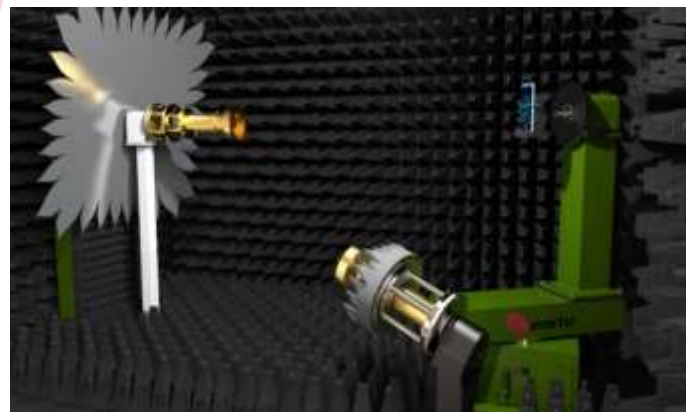


#### Measurement system

The EMITE H300 5G OTA Test System comprises a medium-size anechoic chamber, with default Compact Antenna Test Range (CATR) with a precision reflector, a lateral-positioned tower and feed antenna system for the frequency range 3 to 110 GHz, a 3D AuT/DuT fully-automated 0.03°-accurate positioning system for up to 8kg DUTs with a 36cm quiet zone (can be extended to 60cm and 50Kg) and an additional direct far field feed antenna for the range 600 MHz to 6 GHz. Capable of testing beamforming and 5G signaling Key Performance Indicators including Total Radiated Power (AC TRP), Effective Isotropic Radiated Power (EIRP), Error Vector Magnitude (EVM), Effective Isotropic Sensitivity (EIS), Frequency Error, Occupied Bandwidth (OBW), Adjacent Channel Leakage Power Ratio (ACLR) and Spectrum Emission Mask (SEM), among others. The H300 is the only OTA test system in the market capable of testing FR1+FR2 bands combinations in a simultaneous manner. With unheard-off reflector-manufacturing accuracies, which results into extremely good phase accuracies, the H300 can be connected to a gNodeB emulator for active OTA measurements of 5G devices. With a variety of Operating Systems at the 5G UE, time-domain uplink and downlink FTP/TCP/UDP Throughput and latency measurements are also readily available.

The H300 OTA CATR + DFF + SNF Test Range provides complete 3D performance assessment for 5G devices and antennas from 0.6 up to 110 GHz, capable of supporting 5G Sub-6 GHz (from 410 MHz to 7.125 GHz) and mmWave (24.25 to 52.6 GHz) standardized OTA testing in accordance to 3GPP TR38.810, TR37.842 and TR38.101, VzW OTA Test Plan and PTCRB.

Aerospace-used technology is built into our H300 test range. With serrated reflectors providing unique 15 $\mu\text{m}$  peak-to-peak roughness and high accuracy 0.03° positioners, with both roll over azimuth and roll over elevation, the H300 is undoubtedly a best-in-its-type chamber, and the only one in the market capable of testing FR1 Sub-6 GHz and FR2 mmWave frequencies in a simultaneous manner. Additionally, an optional climatic enclosure allows for 5G OTA testing under controlled temperature (from -40 to 90°C) and humidity (from 10% to 98% RH) conditions.



IFF-CATR, DFF and NTF-SNF permitted OTA Test Methods as per 3GPP TR 38.810 allow for a unique combination of features over the widest frequency range in the market.

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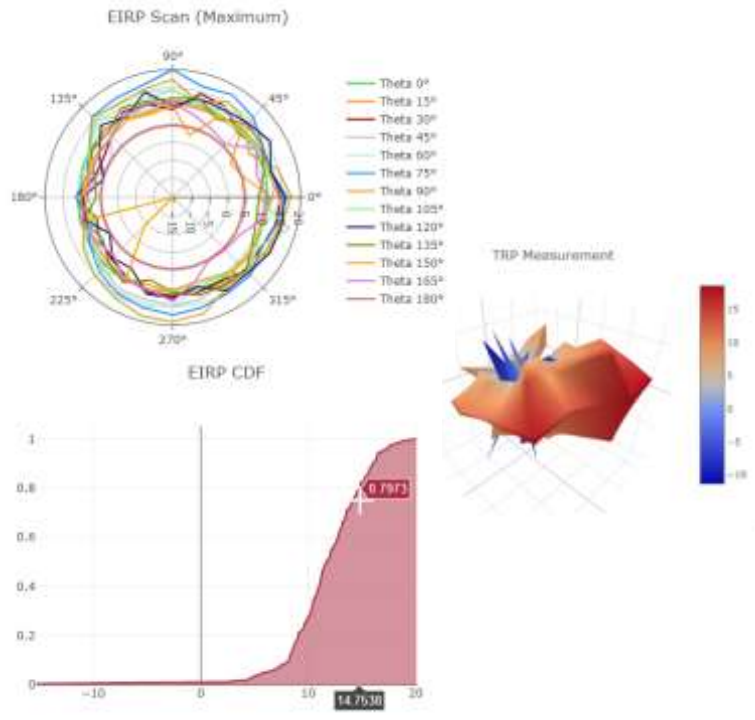
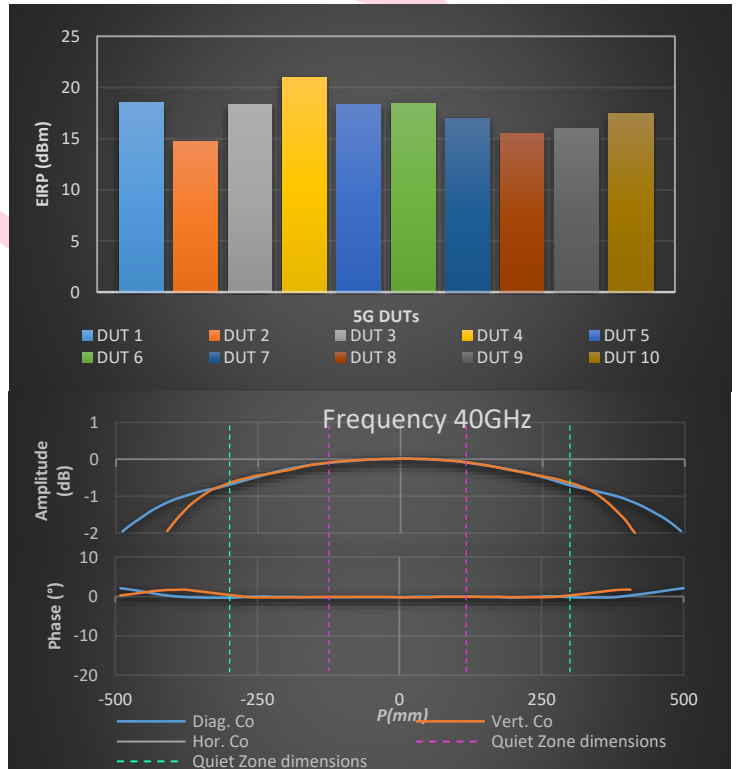
### Unique Features – only with EMITE

- Excellent 15  $\mu\text{m}$  peak-to-peak reflector roughness for high quiet zone phase accuracy
- 36cm QZ with  $<0.5\text{dB}/\pm 5^\circ$  amplitude/phase ripple
- Carbon-loaded polystyrene absorbers, extreme durability
  - No dropping tips, non-hygroscopic
  - Compliant with fire retardant standard ISO 11925-2 class E
- Roll over azimuth and elevation over azimuth
  - Max load 8 kg
- 600 mm x 900 mm door with double-pivoting hinges
- Dual-polarized feed antenna, unique bandwidth
- Typical Accuracies 0.03°
- Standard Backlash 1 to 6 arc min
- Climatic chamber for temperature and humidity control

### Key Performance Indicators

In addition to conventional antenna parameters:

- Effective Isotropic Sensitivity (EIS) @ RX Beam Peak Direction
- Error Vector Magnitude (EVM) @ TX Beam Peak Direction
- In-Band Blocking (IBB) @ RX Beam Peak Direction
- Adjacent Channel Leakage Power Ratio (ACLR)
- Spherical Coverage/CDF of EIRPs
- EIRP @ TX Beam Peak Direction
- Total Radiated Power (AC TRP)
- DL/UL FTP/TCP/UDP Throughput
- Spectrum Emission Mask (SEM)
- Occupied Bandwidth (OBW)
- Beam peak search Rx
- Beam peak search Tx
- Frequency Error
- E2E Latency
- RF Latency
- Throughput



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