

F200 Large Hybrid Reverberation/Anechoic Chamber

Cellular MIMO OTA, W-IoT, SR, MTC, WLAN, VDT-OTA, 5G OTA (DFF, CATR, SNF), EMC, wearables
200 MHz to 6/40/67/110 GHz

The F200 large-size hybrid Reverberation/Anechoic Chamber represents the most versatile and advanced OTA test system in the market today. The F200 can test large form-factor DUTs of up to 2m and 500kg for up to 16x16 MIMO and 10DLCC, including full-body phantoms in a turntable. Test modes include cellular MIMO OTA including 5G OTA with Direct Far Field (DFF); Indirect far Field Compact Antenna Test Range (IFF-CATR) and Spherical Near Field (SNF) for both gNodeBs and 5G UEs as DUTs for a unique frequency bandwidth with an unprecedented level of automation and report.



Main Features

- Dimensions: 5.1 m (L) x 4.1 m (W) x 3.1 m (H)
- Weight < 100 kg/m²
- RC Mode 200 MHz to 6/40 GHz
- RC Test Volume: 1.5 m (L) x 1.5 m (W) x 2.0 m (H)
- RC DUT Weight: up to 300 kg (500kg optional)
- RC silent operation of stirrer and turntable
- AC Mode 200/690 MHz to 6/40/67/110 GHz
- AC Test Sizes: AuTs and DuTs up to 1m and 30kg
- AC DFF, IFF-CATR and NTF-SNF
- AC Manual inside operation through Tablet
- Graphic User Interface (GUI) for Windows OS
- Mains power: 100-240 VAC 50-60 Hz
- DUT plugged-in (100-240 v 16A AC)
- Data interface: USB, Ethernet, FO
- Best isotropy (0.5 dB STD) and repeatability (0.25 dB STD) on the market¹
- Integrated Vector Network Analyzer and eNodeB/gNodeB Emulator control (Anritsu, Rohde & Schwarz, Keysight, National Instruments)
- Compatible with Channel/UE Emulators for



Measurement system

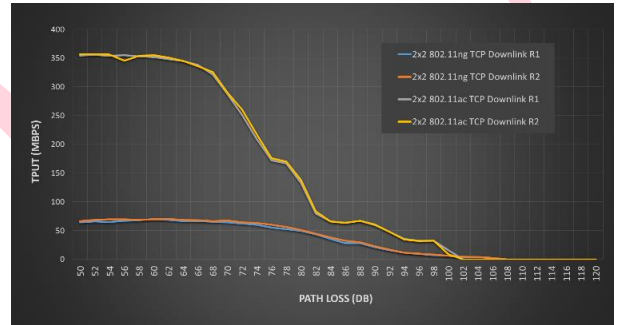
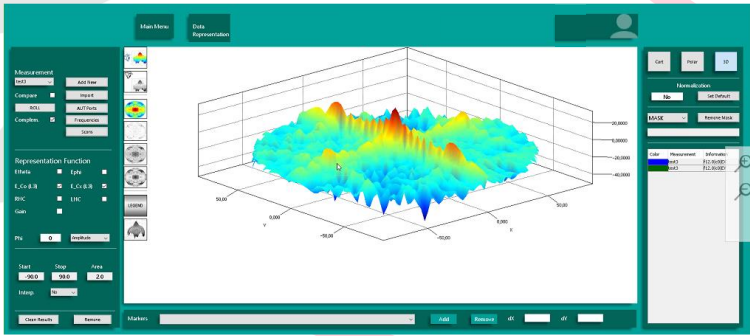
The F-Series large-size hybrid Reverberation & Anechoic Chambers represent the most versatile OTA test system in the market today. With the same unique test features of their E-Series RC and H-Series AC counterparts, they can also test large form-factor devices under test (DUTs) up to 2m and 500 kg with up to 16x16 MIMO x 10DLCC or complex massive MIMO 5G gNodeBs from 200 MHz to 110 GHz. Cellular MIMO OTA, W-IoT (LoRA, Sigfox, LTE-M), Short Range (SR), Machine-Type Communications (MTC), Virtual Drive Testing over the air (VDT-OTA), 5G OTA of gNodeBs and UEs following 3GPP 38.101, 38.521, 37.842, 38.810, 38.104 and 38.141, EMC and wearable device testing can be performed using the F-Series, which is also reverse-convertible from Reverberation into Anechoic and vice-versa, allowing Direct Far Field (DFF), Indirect Far-Field Compact Antenna Test Range (IFF-CATR) and Near-Field to Far-Field Spherical Near Field (NTF-SNF) 3GPP-permitted test methods and Reverberation for 5G OTA in a single chamber. Conversion from RC to AC or vice versa can be performed within half a day.

In RC Mode, the F200 is able to measure Efficiency, Correlation, Diversity Gain, MIMO Capacity, TRP, TIS, TPUT, CQI, MTS, M2TxDT, throughput and latency of antennas and devices with extreme accuracy, unheard-of repeatability and with the shortest signalling test times in the market using a single and intuitive Graphic User Interface. Unique Smart-Attachment, Smart hand-over, Smart call-drop and Early-stop embedded EMITE algorithms allow for an unprecedented control and automation of your Active OTA measurements using F200, which can be run overnight without human supervision for up to 16x16 and 10DLCC. Coexistence test of 2G/3G/4G/5G and real eNodeB/gNodeB testing or VDT-OTA are also possible. WLAN 802.11abgnacax DL/UL TCP/UDP/FTP TPUT testing can be tested as an optional. Typical testing times are under 1 minute for TRP and 3 minutes for TIS². In-house pre-calibrated isotropy of 0.5 dB and STD deviation of 0.25 dB are typical².

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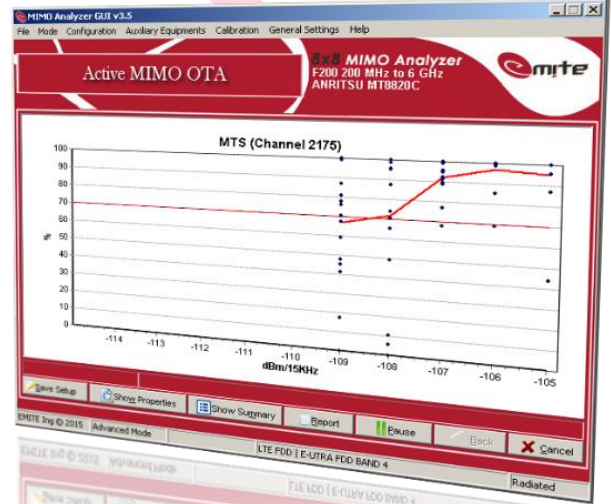
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In AC Mode the F200 can test antennas and devices under test of up to 1m and 180kg, in DFF (with some frequency restrictions on AuT/DuT size), CATR or SNF test modes to provide for antenna parameters and 5G key performance indicators. In addition, the F200 can make use of a DUT climatic chamber for testing wireless OTA under both temperature and humidity conditions. Temperature range from -40 to 90°C with fluctuation about $\pm 0.5^\circ\text{C}$ and heating and cooling change rates of 2°C to 4.5°C per minute, and humidity range from 10% to 98% RH with fluctuations of $\pm 0.5\%$ to $\pm 3\%$ RH are available.

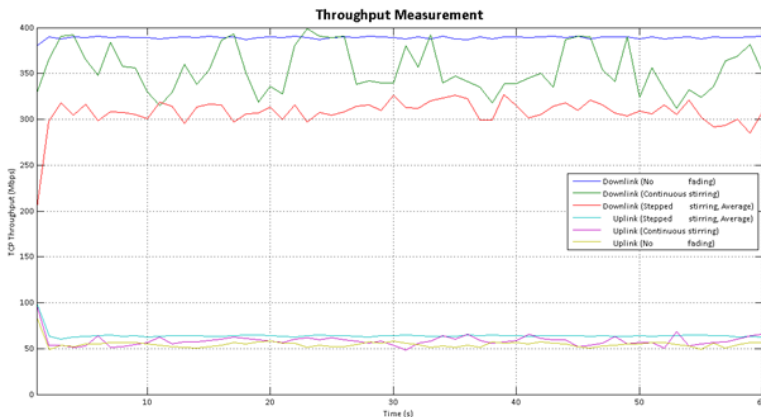


Key Features

- Friendly single Graphic User Interface (GUI) with full automated output monitoring and processing
- Control of user-specified auxiliary equipment
- RC Automated standards, Carrier Test Plans and html reporting
- RC User-defined PASS/FAIL criteria, including combinations for complex carrier test plan automated execution
- Smart-attachment algorithm to keep your device connected at all times
- Smart call-drop algorithm to automatically handle call-drops and recover disconnections
- Smart hand-over algorithm to include different figures of merit, different technologies and different frequency bands within the same test batch
- Overnight batch measurements without human supervision
- Import/Export calibration files facilities



MIMO OTA Throughput Sensitivity (MTS) for an LTE device



DL/UL OTA E2E user-Throughput test of a 5G Stand Alone (SA) UE with a real gNodeB

Optionals

- Chamber length Extension up to 7.1m
- RC Frequency Extension up to 40 GHz
- RC AuT/DuT weight Extension up to 500kg
- RC Extension for EMC Testing (IEC 61000-4-21, RTCA DO-160)
- AC Frequency Extension up to 40/67/110 GHz and down to 200 MHz
- AC motorized floor/upper slide for SNR reduction
- AC AuT/DuT weight Extension up to 180kg
- Shielded window view (1.15m x 0.75m)
- Video camera
- 8h-response Hotline Support
- ISO17025 certified

¹ Using novel source-stirring in LTE @ 751 MHz F200 was selected by CTIA for W-IoT standardization development and Round Robin campaign testing

This data sheet was correct at the time of going to print. The right is reserved to change specifications at any time.

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The products are patent protected.