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European Space Agency

ESA-VSC laboratories

→ EUROPEAN HIGH POWER RF SPACE LABORATORY

→ EUROPEAN HIGH POWER SPACE MATERIALS LABORATORY

→ ESA-VSC EUROPEAN HIGH POWER RF SPACE LABORATORY

The ESA-VSC European High Power RF Space Laboratory is the ESA Laboratory specialized in RF breakdown phenomena (Multipactor, Corona and Power Handling) and passive inter-modulation (PIM).

The laboratory, located in the Mediterranean city of Valencia (Spain), relies on three class 10,000 (ISO 7 category) clean rooms with a total working area of 300 sqm.

The facility includes several high vacuum chambers and dedicated state-of-art high power RF test beds operating over a wide frequency range from 435 MHz up to 39.5 GHz.

An additional asset of this laboratory is the know-how of the team as well as the diagnostic capabilities which are essential in mitigating these destructive phenomena.

→ ESA-VSC EUROPEAN HIGH POWER SPACE MATERIALS LABORATORY

The ESA-VSC European High Power Space Materials Laboratory is specialized on investigating novel materials and surface treatments that could enhance the RF power capabilities in modern satellites.

The laboratory, located in the city of Burjassot (Spain), relies on an ISO 8 – 100,000 class – clean room with a total working area of 75 sqm.

This modern laboratory is complementary to the ESA-VSC European High Power RF Space Laboratory.

Physics and engineering merge to mitigate the destructive breakdown phenomena providing Secondary Electron Emission Yield (SEY) measurement, outgassing and venting rates, masses spectroscopy, X-Ray and ultra-violet photoelectron spectroscopy of the materials used for manufacturing the satellite RF components.

→ THE ESA-VSC JOINT LABORATORIES PROVIDE FAST-RESPONSE TO ESA PROJECTS

Corona

Multipactor

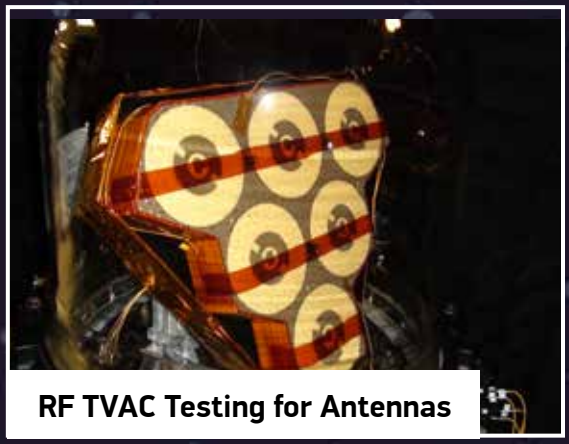
Passive Intermodulation

S AND EUROPEAN INDUSTRY WITH HIGHLY SPECIALIZED EQUIPMENT AND KNOW-HOW

Power Handling

On Site High Power RF Measurements

Customized Passive RF Hardware



RF TVAC Testing for Antennas

Environmental and Bake-Out Testing

Venting

Software for Equipment Control

SEY

Low Power Measurements

Metal Coating

→ BEING PART OF THE ESA'S LABORATORIES, THE CO

X-Ray and UV Photoelectron Spectroscopy

Outgassing

NFIDENTIALITY AND INDEPENDENCE OF THE TEST RESULTS ARE GUARANTEED

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