

Exens Solutions
High Power Testing for Space

TOGETHER FOR EXCELLENCE



THERMAL
VACUUM



COMPONENT
UNDER TEST



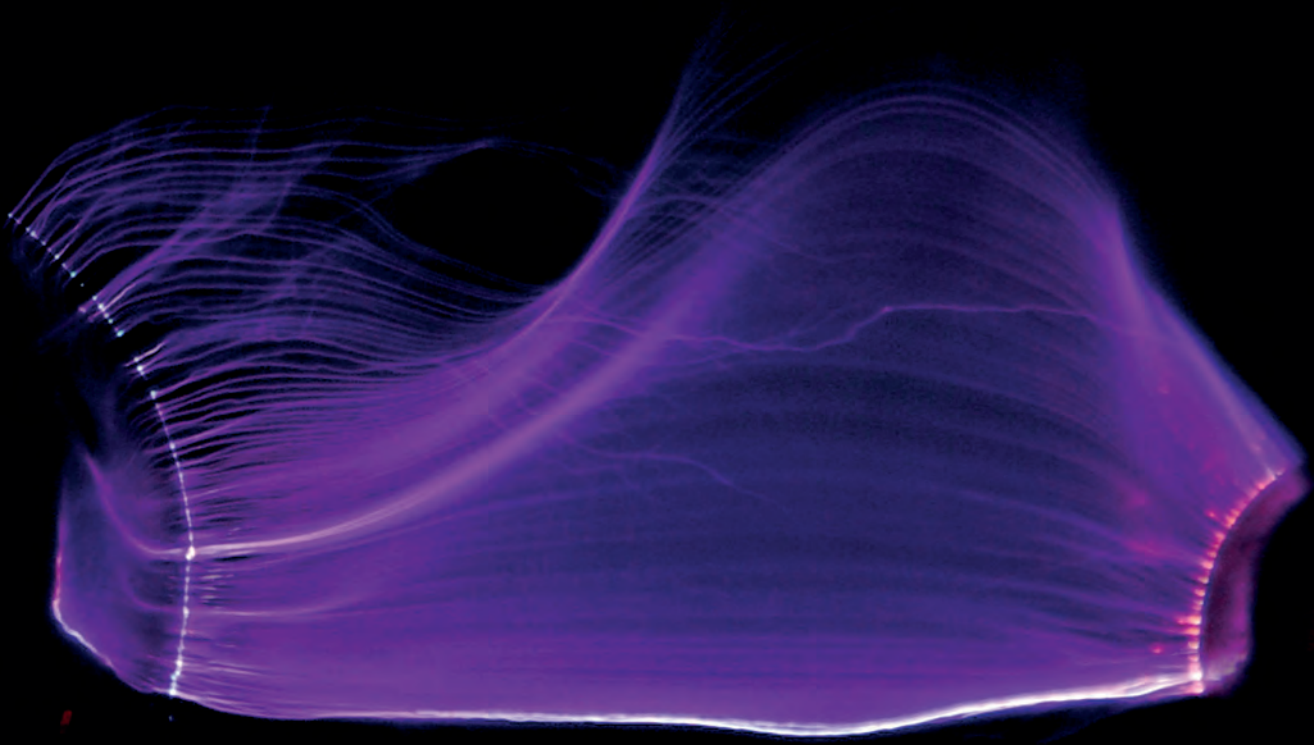
CORONA /
MULTIPACTOR
TEST



HIGH POWER



ELECTRON GUN



Exens Solutions

High Power Testing for Space

Since 1974, Exens Solutions has been the partner of excellence for satellite OEMs worldwide. Hundreds of satellites using Exens Solutions sub-systems, equipment and components have been or are due to be launched

Exens Solutions is mastering by design and experience, the critical effects of high power RF and microwave signals under vacuum.

Now, Exens Solutions is offering its expertise and capabilities as a service to the space industry. You have a requirement for High Power, Multipactor, Intermodulation, Corona test ? Exens Solutions can surely handle this test for you.



Thermal Vacuum Chamber

HIGH POWER TESTING CAPABILITY FROM DC TO Ka

Exens Solutions has the capability to perform power test on RF sub-systems, equipment and components from DC up to Ka band, 200W up to 1kW and more upon request.

All tests can be performed in CW frequency or pulsed signal and can be performed at ambient pressure or under vacuum. Thermal vacuum chambers are available with a temperature range from -40°C up to 125°C at 10⁻⁵ torr.

Thermal chambers : ambient pressure

-55°C/+150°C

-60°C / +180°C

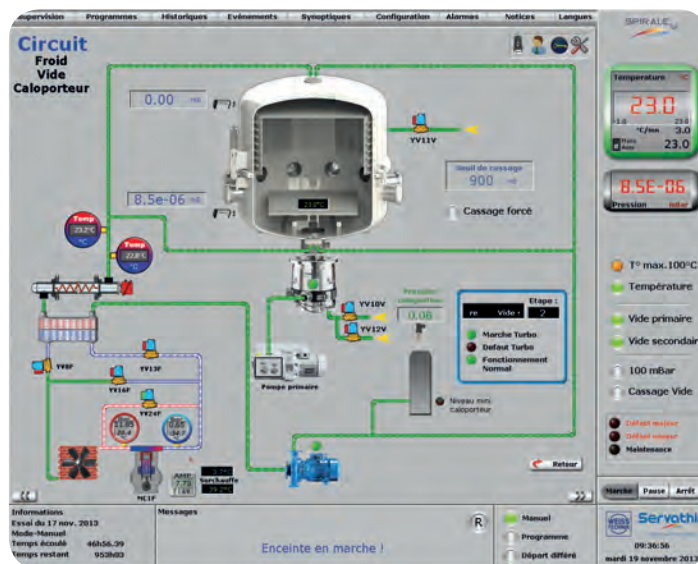
Thermal vacuum chambers

-40°C / +90°C (10⁻⁵ Torr)

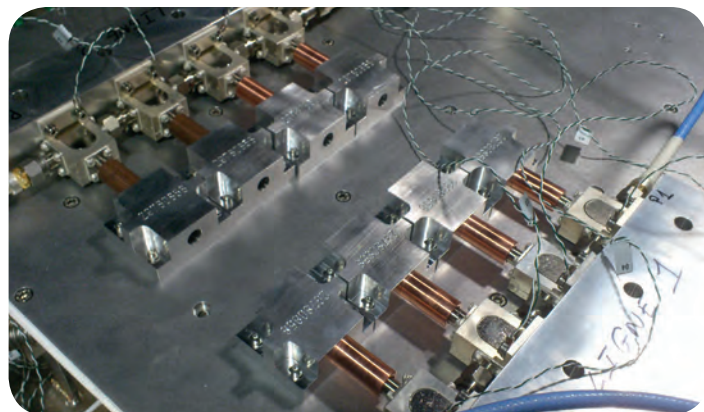
-40°C / +125°C (10⁻⁵ Torr)

Thermal base plate : ambient pressure

-20°C / + 100 °C



TVAC remote control



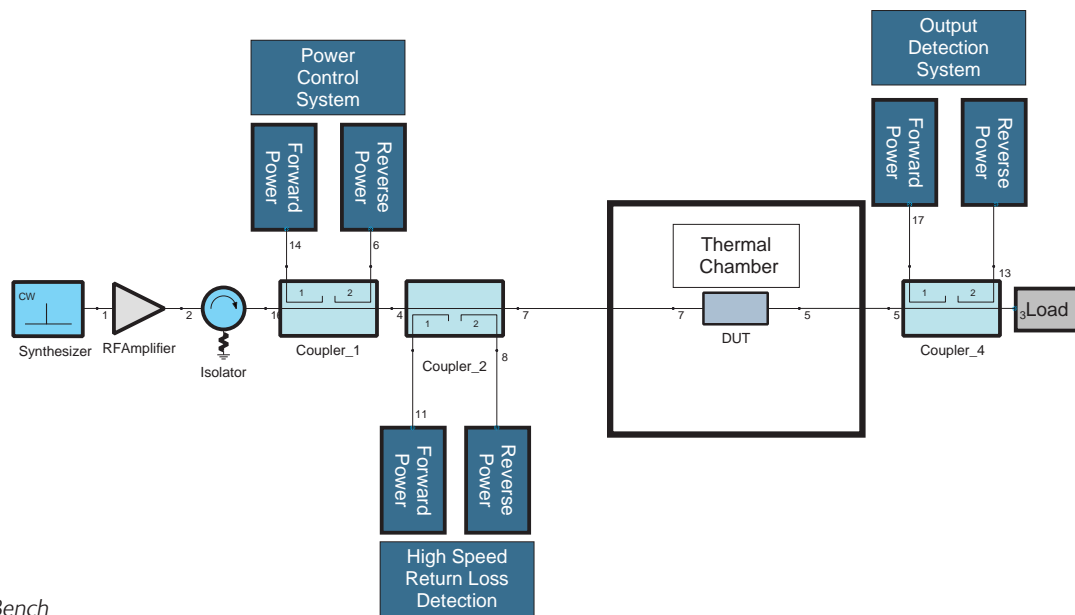
Circulators under test



C band Power Amplifier

HIGH POWER TEST: VACUUM AND AMBIENT PRESSURE

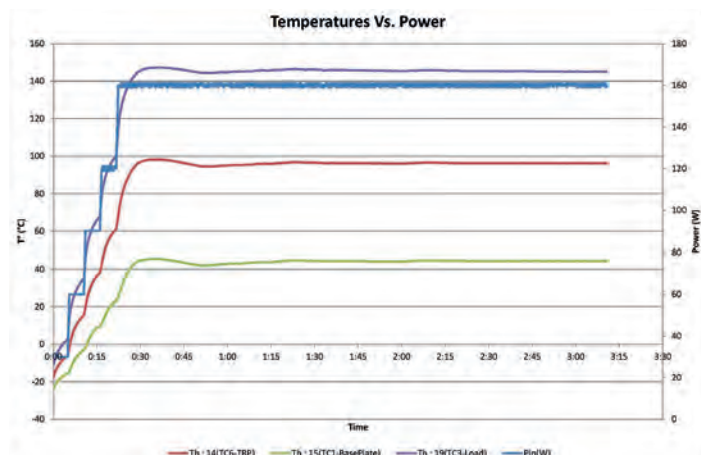
Device under test will undergo high power tests in order to confirm its ability to handle stringent requirements. These tests can be performed at ambient pressure or under vacuum. Record and monitoring of key parameters is performed during the test : input/output power, return losses, temperature, pressure... Test benches are adapted for each type of device under test.



High Power Test Bench

Recorded parameters:

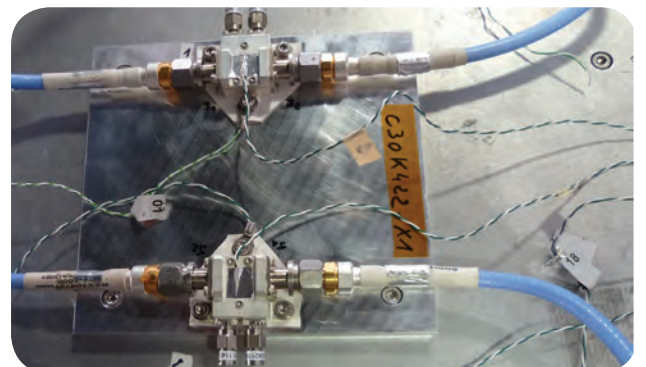
Pin
Pout
TRP (thermal reference point)
Temperatures
Pressure



High Power Test Plots



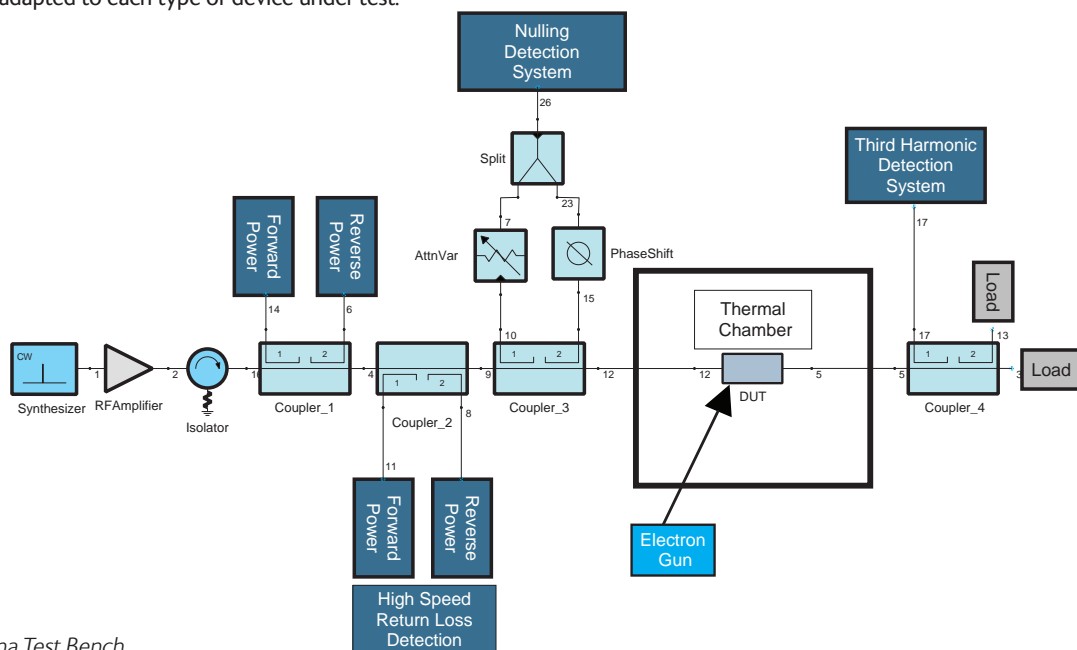
Waveguides Couplers



Coaxial Couplers

MULTIPACTOR & CORONA TESTS

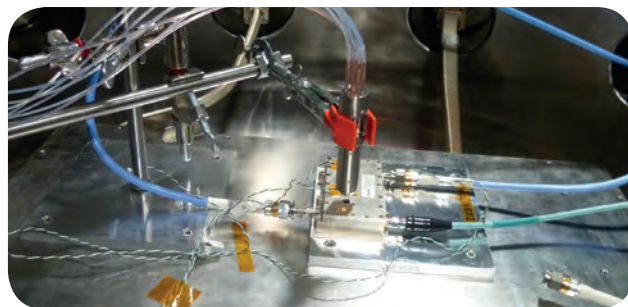
Multipactor and corona tests are done in accordance with ESA rules. An electron gun is used to perform these tests. All parameters are recorded and monitored: input/output power, return losses, temperature, pressure, nulling detection... Tests can be performed in CW mode or pulsed mode. Test benches are adapted to each type of device under test.



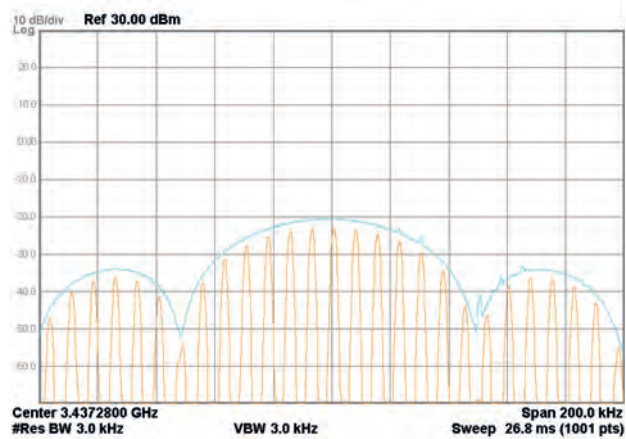
Multipactor/Corona Test Bench

Recorded parameters:

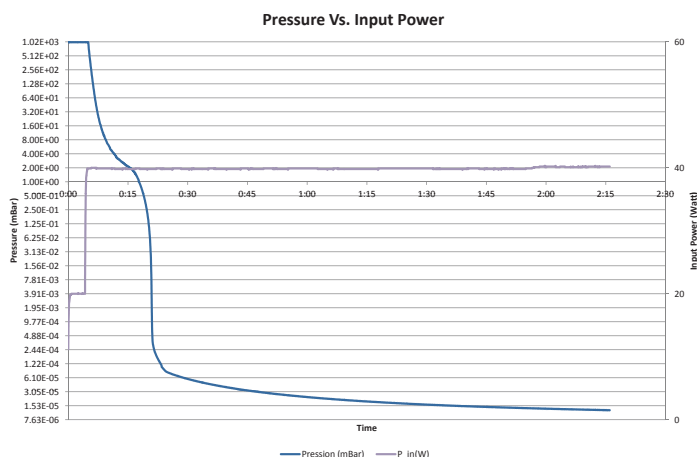
Pin
Pout
TRP (thermal reference point)
Temperatures
Pressure
Nulling plots



Electron gun



Multipactor Test Plots (Nulling)



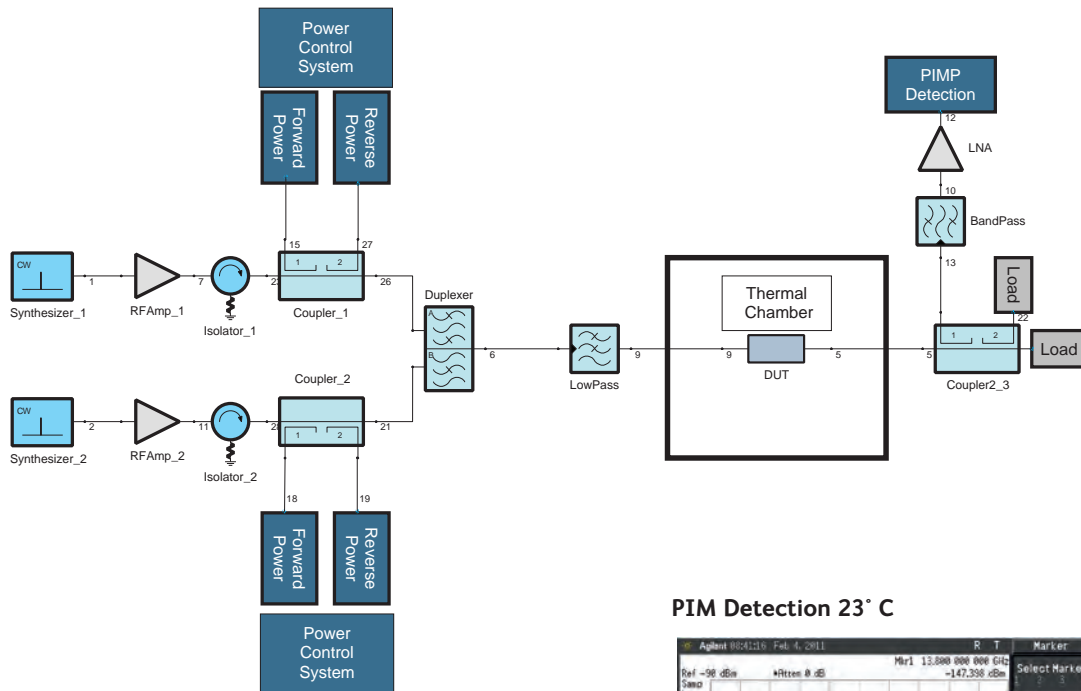
Corona Test Report (Pressure)

Exens Solutions

High Power Testing for Space

INTERMODULATION TESTING

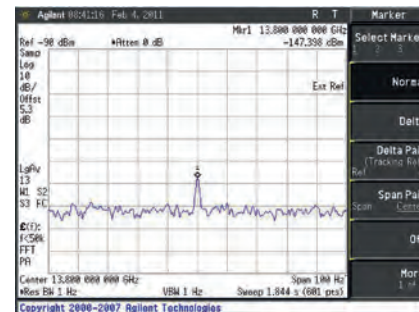
PIM tests are performed to measure the PIM level generated by the device under test. All the parameters are recorded and monitored: input/output power, return losses, temperature and intermodulation level...
Test benches are adapted to each type of device under test.



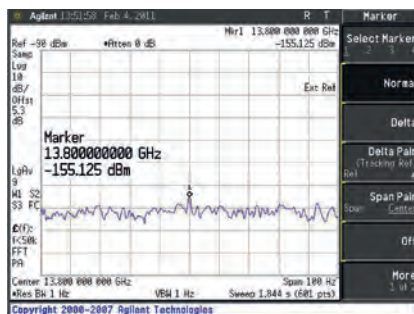
PIM Test Bench

Recorded parameters:
Pin
Temperatures
Intermodulation level

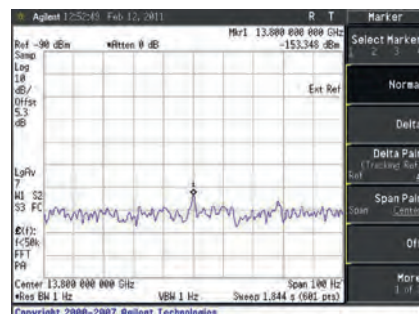
PIM Detection 23° C



PIM Detection Cold



PIM Detection Hot



PIM Detection on Spectrum Analyzer

All test set up and configuration are for information only and are not contractual.
Test set up and procedure to be discussed with customer and adapted to each specific requirement before test.

For further information please contact:

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