

RF & DC

RELIABILITY

TEST BENCH

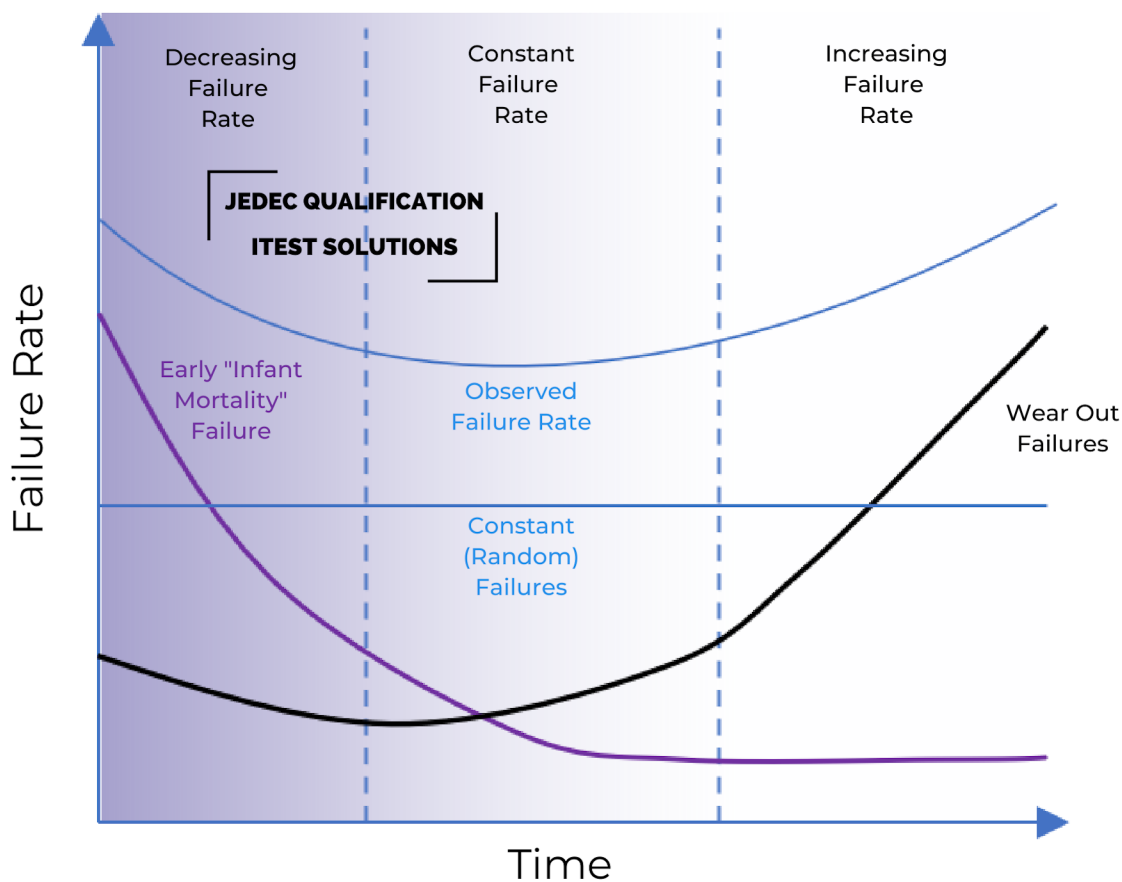


The long-term reliability of AlGaIn/GaN high electron mobility transistors (HEMTs) technology remains a challenge that must be addressed to provide rapid industrialization of this technology.

To evaluate the reliability and robustness of AlGaIn/GaN HEMT devices, normalized tests such as MIL-STD or JEDEC are usually applied to qualify the technology for foundries.

However, a way to increase the lifetime of AlGaIn/GaN HEMTs is to understand the failure mechanisms which could occur in these devices when used in a stress level close to real mission profiles.

Thanks to this system, it is possible to carry out long-duration ageing tests on AlGaIn/GaN HEMTs for radar applications in RF pulsed mode with different conditions (temperature, gain compression...)



STRESS	STANDARD REFERENCE	ABBR	TEST CONDITIONS	COOL-DOWN	DURATION	ACCEPTANCE CRITERIA
RF Biased Life Test	JESD226	RFBL	≥ 125°C	55°C	1000 hrs	≤ 1 dB and/or ≤ 10%

International Standard : JESD226

THE RF AND DC RELIABILITY TEST BENCH

is designed to test power amplifier in rf and dc mode

TEMPERATURE

Temperature can be adjusted from 55°C to 200°C. Lower temperatures capabilities are possible on request.

RF/PA

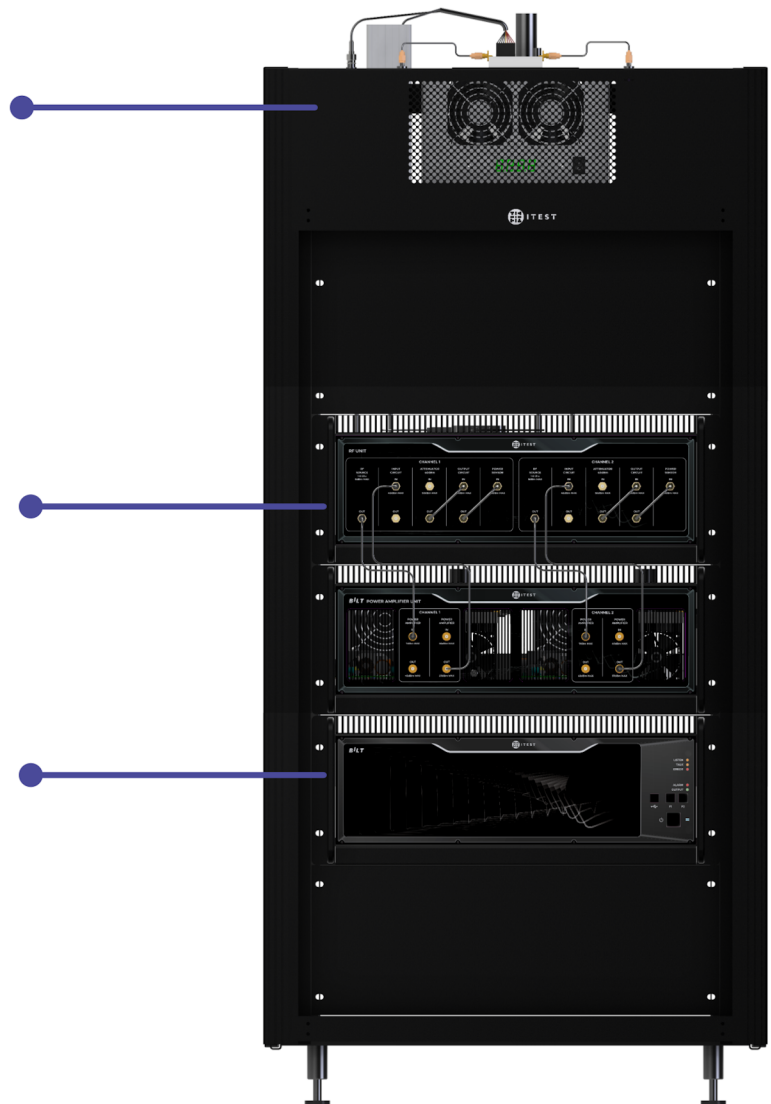
The RF Power Unit is designed for S-band application with up to 500W of RF output power and a 30 dB dynamic range RF source.

The RF units can be swapped or Mixed to address different Frequency ranges and power.

PULSED - SMU

The DC power supply on the Drain can go up to 120 Volt and 30A in CW & pulsed mode.

Voltage and current are monitored during the Quiescent and Pulse.



All the parameters are set up and measured by our Easystress software. Data can be exported to different formats for post-measurement analysis.