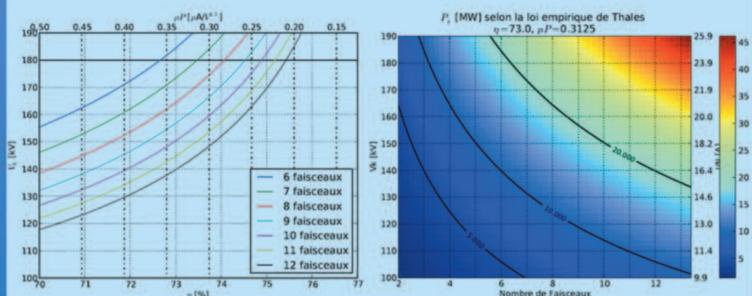
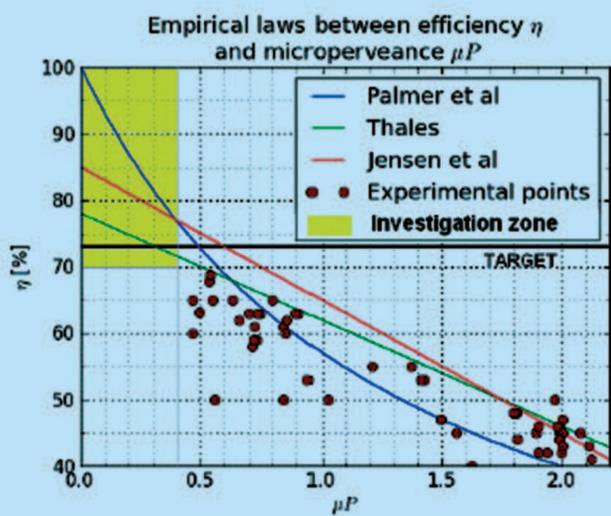


Overview of high power/high efficiency RF sources developments at Thales Electron Devices

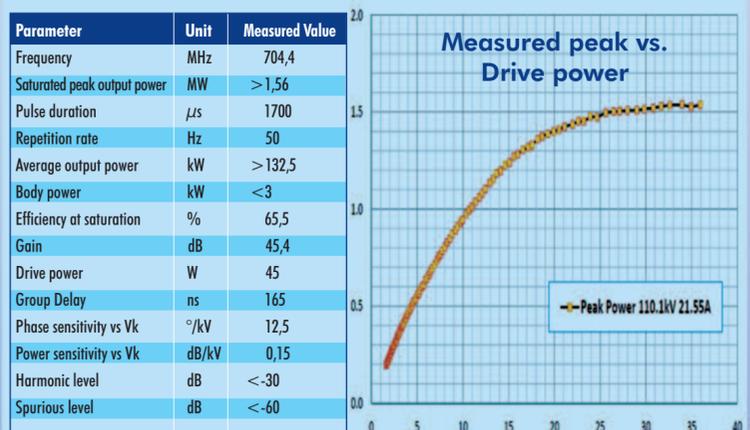
R. MARCHESIN; S. BETHUYS; Ph. THOUVENIN; A. BEUNAS; M. GREZAUD
Thales Electron Devices

Thales ED has an experience of more than fifty years in high power RF tubes design and manufacturing, from klystrons and grid tubes amplifiers to gyrotrons oscillators.

Namely, one of the future large scale linacs main challenges is to reduce the large electrical power consumption (in the TWh per year order of magnitude). To make these facilities more environmental friendly and power efficient, research and development is encouraged at Thales ED to increase RF sources electrical to RF power conversion and capability to deliver efficient RF solutions for long pulse and CW applications for the next decade.



TH2182 Klystron at 704 MHz operated in SPL configuration



TH595 Tetrodes recombination to enable 400kW (3.5ms-14Hz)

Thales recent tubes R&D efforts

TH2182 klystron at 704MHz 1.5MWp 66% for ESS
TH595 tetrode at 352MHz 400kWp 67% for ESS
TH1803 MBK at 999.5MHz 20MWp 70% for CLIC