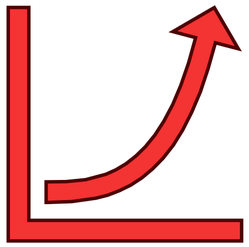
DIGITAL BROADCAST

6th Generation Mosfets and Planar modules: the efficiency makes the difference!

The importance of transmitter efficiency

One of the most important aspect to consider, in order to evaluate a transmitter, it's the efficiency: higher efficiency means lower energy costs (at same output power level the AC power consumption is lower) and lower cooling system costs (due to lower heat dissipation).

HIGHER EFFICIENCY → **LOWER ENERGY COSTS**



LOWER COOLING COSTS

Efficiency improvement: main factors

The main factors that play an important role in this efficiency improvement strategy are:

- Innovation of the RF modules using latest technology devices;
- Reduction of accessory units in the transmitter rack including such features in the modulator (RDS or stereo coders, remote control units, etc);
- Reduction of the transmitter dimensions when possible (in terms of consumption, a compact unit is better than a modular one);
- Reduction of all possible losses inside the transmitter (use of passive elements, optimization of the modules connections).

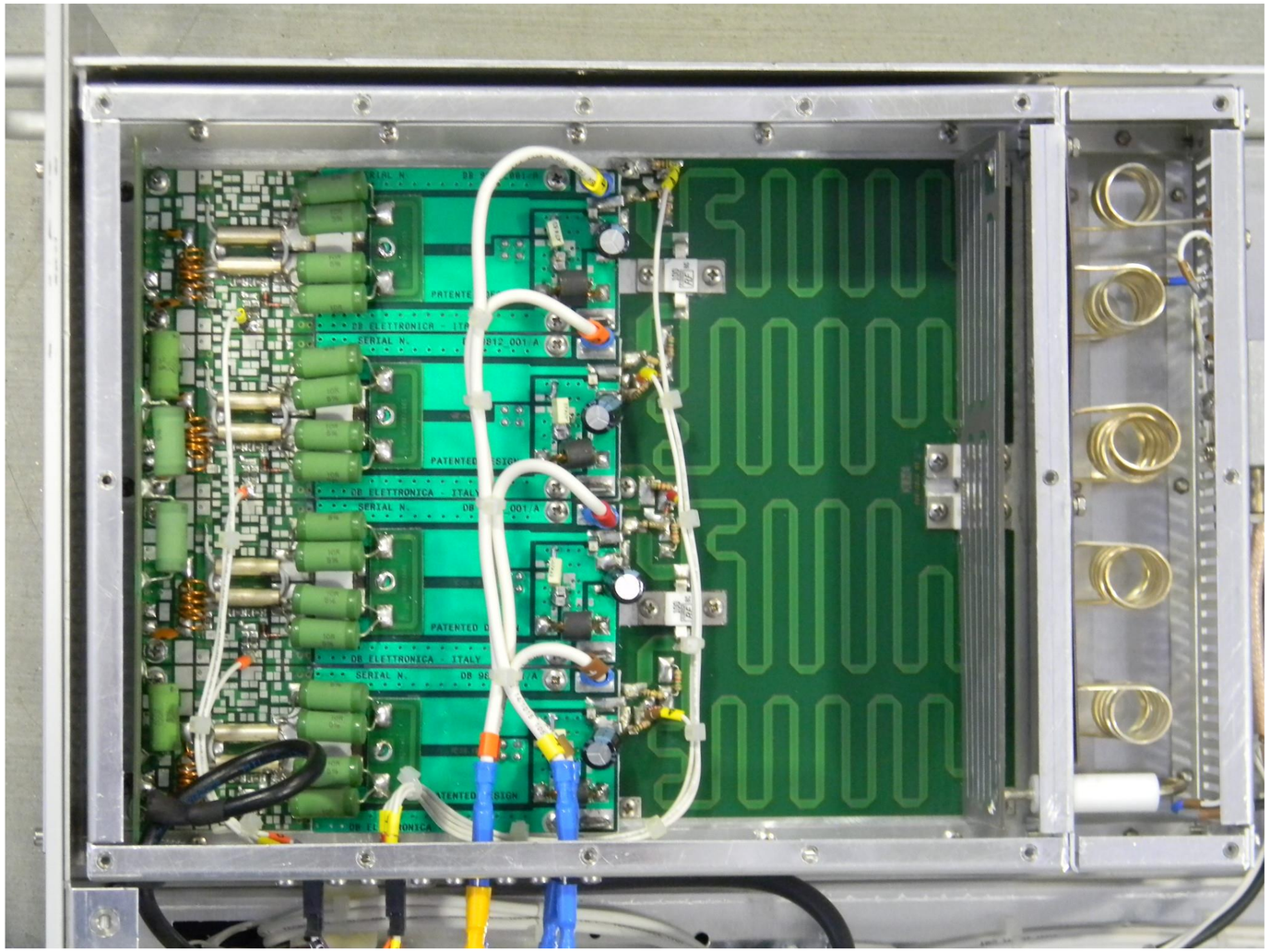
DB Elettronica transmitters are developed

to grant an efficiency higher than 70% in all units!

Cold-Fet™ technology

We started with the licensed Cold-fet™ technology: RF boards realized with discrete components that gave 300W output in FM band.

This allowed the first step from the Tube transmitters to the Solid State transmitters (high power in compact dimensions).

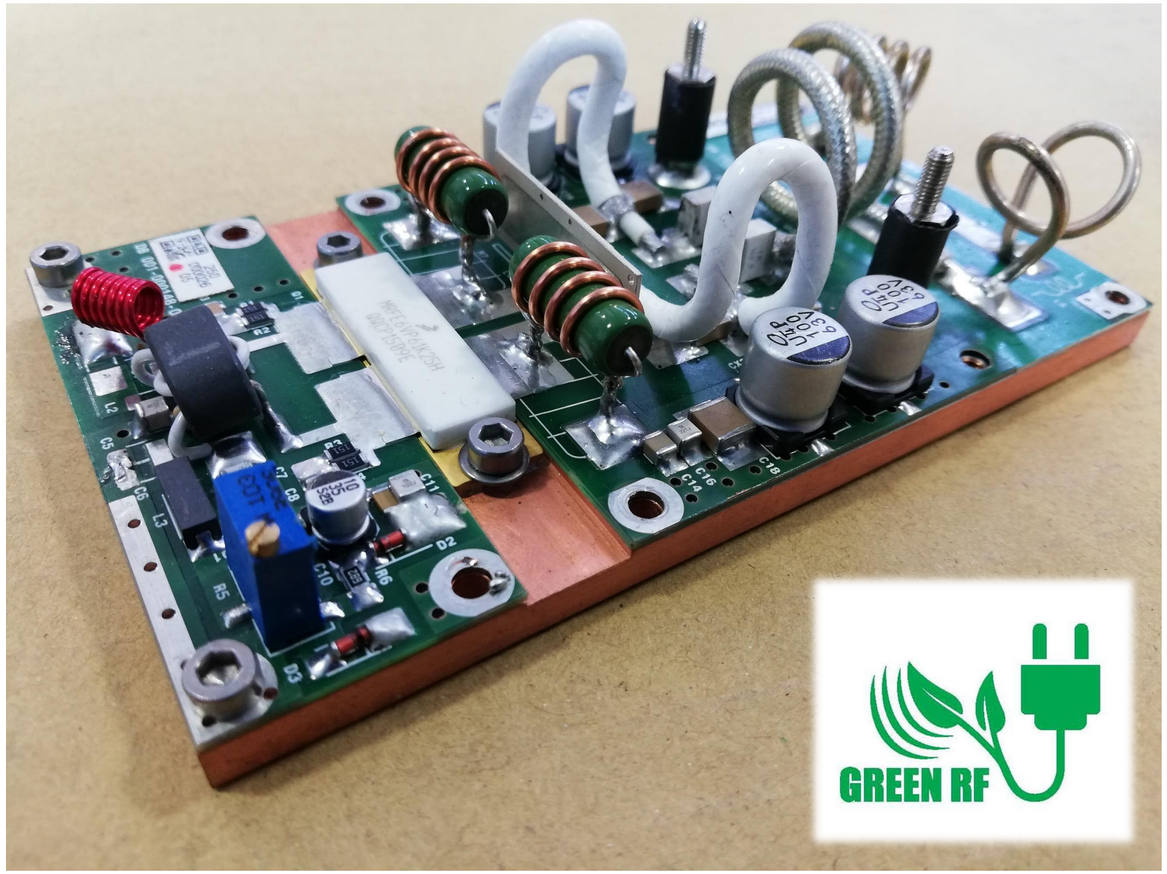


6th Generation Mosfets

Since more than 7 years, the use of 6th Generation Mosfets in DB Elettronica RF modules has increased the DC to RF efficiency up to 85%, with a drastic reduction of energy consumption.

Thanks to this change in RF design, we have reached an overall AC to RF efficiency over 70%.

The GREEN RF™ technology was born: a combination of the 65:1 devices with the world-famous patented COLD-FET™ technology.



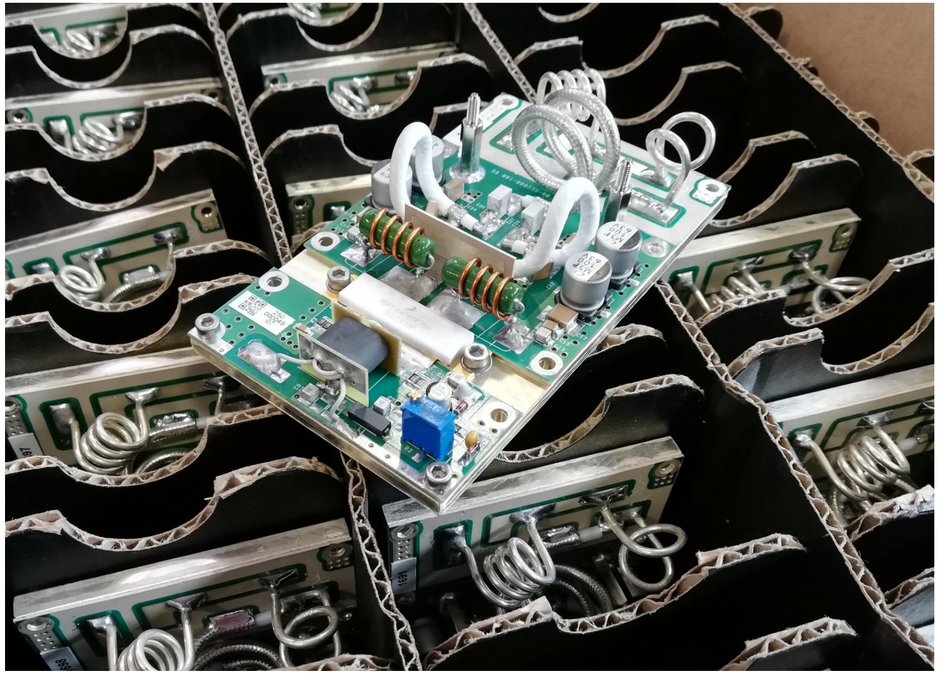
6th Generation Mosfets

The basic RF module, used for medium and high-power transmitters, incorporates microstrip technology and LDMOS device to grant ruggedness and reliability.

With more than 1100W power capability, this pallet can be used in compact 1kW transmitter or it can be combined with other ones to have higher power FM amplifiers only adding power splitters and output combiners.

RF MODULE TECHNICAL SPECIFICATIONS

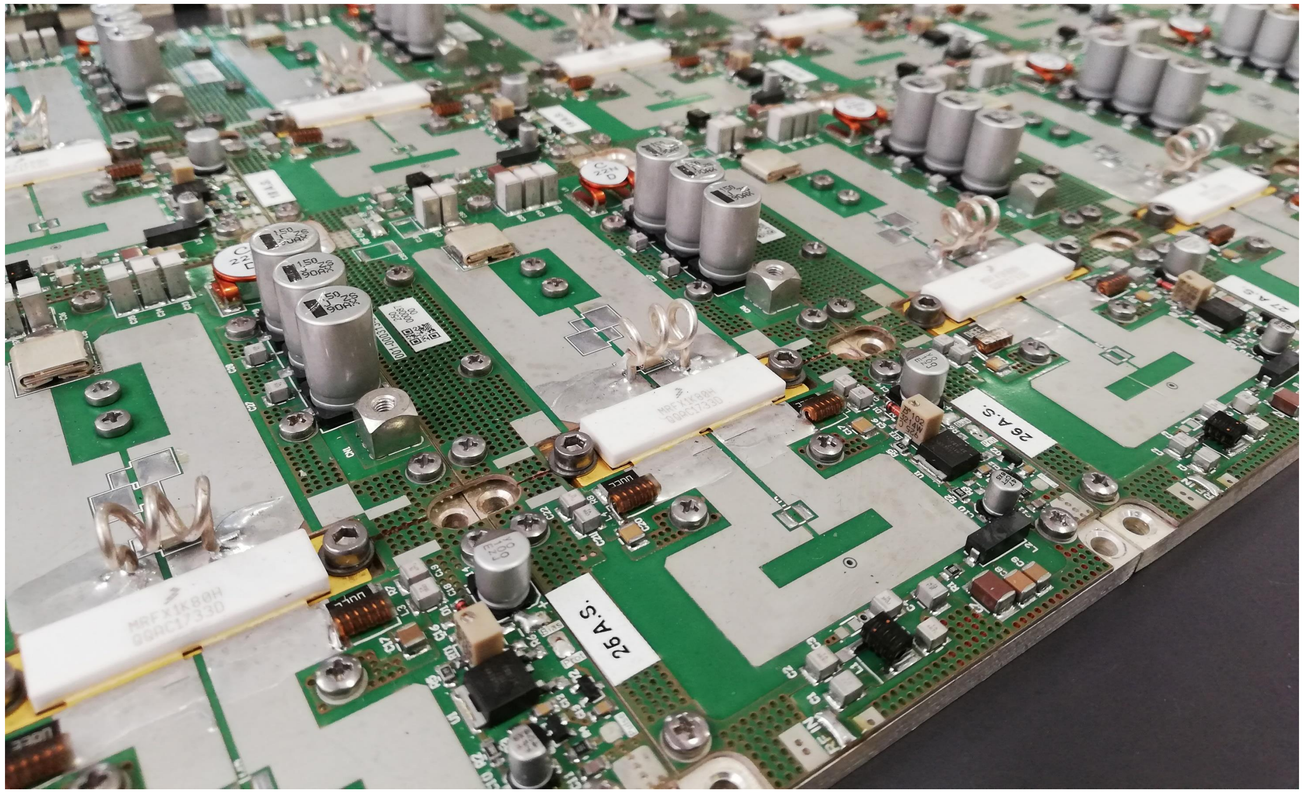
Frequency range	87.5 ÷ 108 MHz
Power output (Min)	1100W
Typ. Gain	20.4 dB
Typ efficiency	> 80%
Temperature range	-10 ÷ +60 °C
Max VSWR	65:1
Supply voltage	+48 VDC



Planar RF Modules

Now DB Elettronica is working one step over: the design of new planar modules combined with more rugged and resistant semi-conductors.

The result is an RF module more powerful and with improved reliability, with MOSFETS able to resist to high VSWR and high thermal stress.



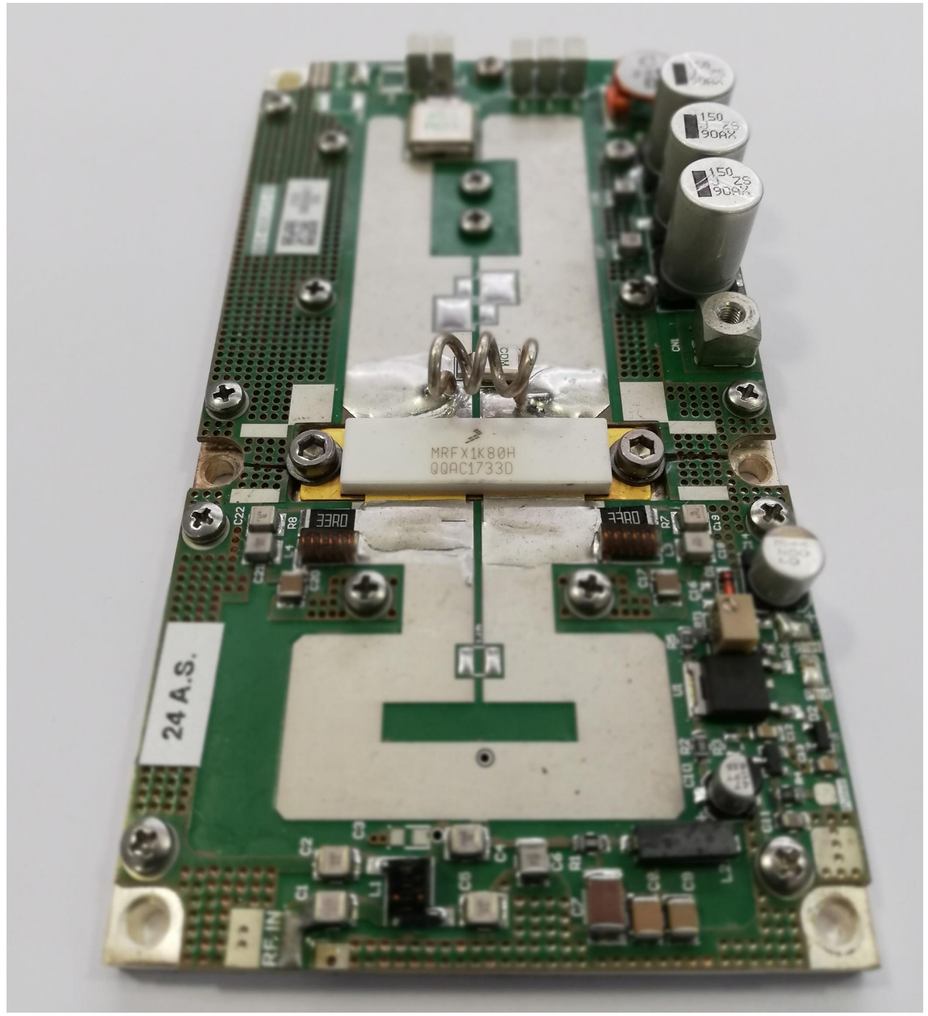
Planar RF Modules

With more than 1500W power capability, this RF Module is suitable not only for FM applications but also to high VSWR industrial, medical, VHF broadcast, aerospace applications.

Reaching a better working point, the DB Elettronica transmitters will be more efficient and more reliable than ever.

RF MODULE TECHNICAL SPECIFICATIONS

Frequency range	87.5 ÷ 108 MHz
Power output (Min)	1500W
Typ. Gain	21 dB
Typ efficiency	> 85%
Temperature range	-10 ÷ +60 °C
Max VSWR	65:1
Supply voltage	+60 VDC



Efficiency = The best strategy

Start now to improve your FM station, don’t choose a transmitter only for its price!

Select the best value / cost ratio that grants you the highest continuity

and reliability: DB Elettronica transmitters!

www.dbbroadcast.com