Local shielding for EMC

Bottleneck
► Low inductive layout
► Avoid Power-Drive interaction
► Low CM EMI generation

Principle of operation
A 3D PCB sandwich of a three-dimensional “sandwich” type layout for lateral GaN components

Powergan Step
► The principle of a three-dimensional “sandwich” type layout for lateral GaN components validated and carried out on a PCB demonstrator, with packaged chips.
► A concept of shielding by the DC bus between the floating point of the semiconductors and the potential of reference (radiators) was implemented and made it possible to validate a reduction of the electromagnetic interferences.
► Implementation of a numerical simulation.

Advantage
► Compensation of conducted emissions in the frequency band from 100kHz to several hundred kHz
► Significantly reduce the passive filtering effort, and the volume of the necessary components

Future developments
► Symmetrical layout
► Integrated EMI filters