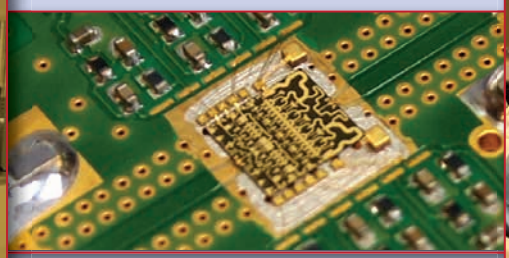
FABS and LABS

OMMIC Lets Expertise Do the Talking



Based close to open countryside on the outskirts of Paris, conversations at OMMIC are undertaken in French but for 35 years the company has endeavoured to speak its customers' language and use its background in III-V materials, design and processing to provide innovative solutions.

Founded in January 2000 by Philips, OMMIC is an independent SME that supplies MMIC circuits, foundry services and epitaxial wafers based on III-V (GaAs, GaN and InP) materials for telecommunication, space and defense applications.

OMMIC's portfolio of MMICs, includes LNAs from 5 to 160 GHz and power amplifiers from 8 to 46 GHz as well as corechips and control functions. Corechips are based on the integration in a single die of digital phase shifters, digital attenuators, LNAs, MPAs and switches for phased array antenna applications.

In 2015 OMMIC began providing fully plastic QFN corechips in C-Band to large radar companies and at the end of the year will release X-Band corechips packaged in plastic QFN offering better integration. The company also proposes a full solution for 94 GHz radar and passive imaging including a matched zero bias diode detector RTID.

OMMIC supplies InP, GaN and GaAs based MMIC circuits and services to the telecom, space and defense markets and MOCVD based epitaxial wafers to the commercial market. On-site epitaxy serves high-performance low-cost PHEMT, MHEMT and HBT epitaxial wafer supply to large volume GaAs fabs.

The company has three principal HEMT processes in full production and has been introducing other processes including MHEMT and HBT. These services enable cut-off frequencies as high as 400 GHz via the MHEMT technology. The latest processes include 100 nm GaN-on-silicon. Another newly released process is D025PHS which is a 250 nm PHEMT D mode, enabling high power from C to X-Band (12 W at 10 GHz).

OMMIC also supplies epitaxial wafers to the commercial market in 3, 4 and 6-inch formats using production MOVPE. This activity includes PHEMT containing up to 25 percent Indium in the GaInAs layer as well as HBT structures.

The company has an aggressive roadmap to develop and introduce advanced technologies based on III-V compounds. This means moving to shorter gate lengths, optimizing the channel Indium content for the PHEMT and MHEMT processes, smaller emitters and using antimonides for the InP DHBT.

The short gate length technologies include 70 nm 70 percent In MHEMTs, soon to be followed by 40 nm with the D004IH process. With the 100 nm GaN/Si and D025PHS process OMMIC is targeting power applications from X to E-Band. The roadmap will lead to the development of sub 60 and 40 nm GaN/Si(C) to target greater power at W-Band and higher frequencies.

Currently, the company has started first runs of D01GH 100 nm GaN on Si and the first pizza mask (MPW) will be launched in June 2015. This process is not only dedicated to Ku to E-Band power amplifier design but also for robust LNAs. At the end of 2015 a Satcom HPA (27 to 32 GHz Psat>8 W) will be released using this 3.3 W/mm GaN process.

Clearly, OMMIC's activities are impressive in any language.