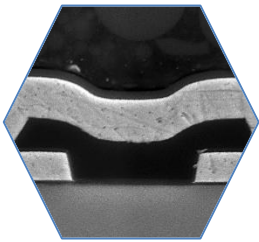


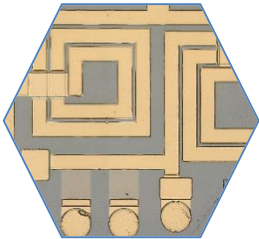
MACOM NPA1008 RF Power Amplifier with GaN-on-Si HEMT

Discover the MACOM wideband RF GaN Power Amplifier for general purpose, optimized for 20–2700 MHz operation.



The Radio-Frequency (RF) GaN market is experiencing an impressive growth. Yole Développement expects that the overall GaN RF market will reach \$2B by 2024, driven by two main applications: telecom infrastructure and defense.

Detailed optical and Scanning Electron Microscope pictures and cross-sections with Energy-Dispersive X-ray analysis are included to reveal MACOM’s technical choices at the microscopic level of the GaN-on-Si HEMT and the passive input match dies. These technical analyses are made together with corresponding patent analyses.



Thanks to its higher power output at high frequencies and smaller footprint, GaN is increasingly adopted by the RF industry. Compared to existing silicon LDMOS and GaAs solutions, GaN devices are able to deliver the power efficiency level required for next-generation high frequency telecom networks in which power amplifiers play an important role.

The report provides an estimation of the production costs of the HEMT, the passive die, and the package as well as the estimated selling price of the component.

Title: MACOM NPA1008 RF Power Amplifier with GaN-on-Si HEMT

Pages: 108

Date: October 2019

Format: PDF & Excel file

System Plus Consulting unveils MACOM’s technical choices in its GaN Wideband Power Amplifier NPA1008, from die design to packaging.

The NPA1008 is a wideband integrated GaN power amplifier optimized for 20-2700 MHz operation. It is ideally suited for general purpose narrowband to broadband applications in test and measurement, defense communications, land mobile radio and wireless infrastructure.

In this report, System Plus Consulting presents a deep teardown analysis of the NPA1008.

COMPLETE TEARDOWN WITH

- Detailed optical and SEM photos
- Precise measurements
- Material EDX analysis
- Patent analysis
- Manufacturing process flow
- Supply chain evaluation
- Manufacturing cost analysis
- Estimated selling price

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AUTHORS

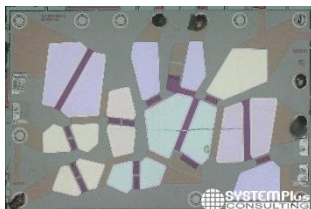


Amine Allouche is part of System Plus Consulting's Power Electronics and Compound Semiconductors team. Amine holds a Master's degree focused on Micro and Nano-technologies for integrated Systems.

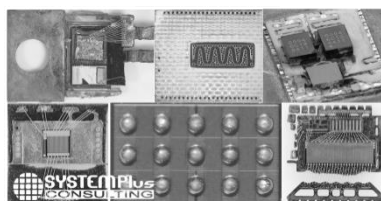


Guillaume Chevalier has joined System Plus Consulting in early 2018 to perform physical analyses. He holds a two-year university degree in technology of physical measurements and instrumentation technics.

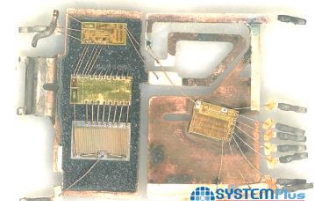
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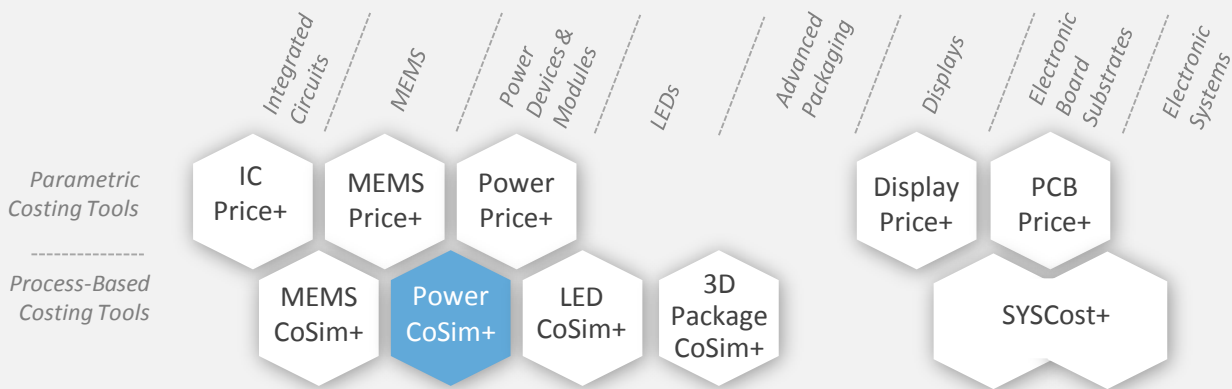


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Power CoSim+

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ABOUT SYSTEM PLUS CONSULTING

WHAT IS A REVERSE COSTING®?

Reverse Costing® is the process of disassembling a device (or a system) in order to identify its technology and calculate its manufacturing cost, using in-house models and tools.



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