

# Market Report: PSiP & PwrSoC – Power Density Goes Mainstream 2017 – 2025



## An Anagenesis Market Analysis With Technology & Product Benchmarking by LTEC



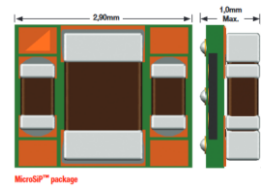
A 2020 market report covering miniature power supplies – their progress and opportunities  
(max. 1" or 25.4 mm in any dimension; min. of 0.004 amperes/mm<sup>3</sup>)

### Power Supply in a Package (PSiP)

- Stable number of players despite M&A
- Highest level development community support ever
- Outgrown traditional POL market; new ones are surprising
- Improved technology pushes  $I_{out}$  and current density envelopes
- Reasonable and stable pricing and margins
- Revenue growth outpaces most other power supply offerings
- GaN adoption in PSiPs is struggling – Needs key catalysts & accelerators
- Advanced integration is more effective when it enables better thermal performance
- New products are less scattered and more applications driven



**Encapsulated PSiP**  
Murata 12 A MonoBlock POL  
10.5 x 9.0 x 5.6 mm

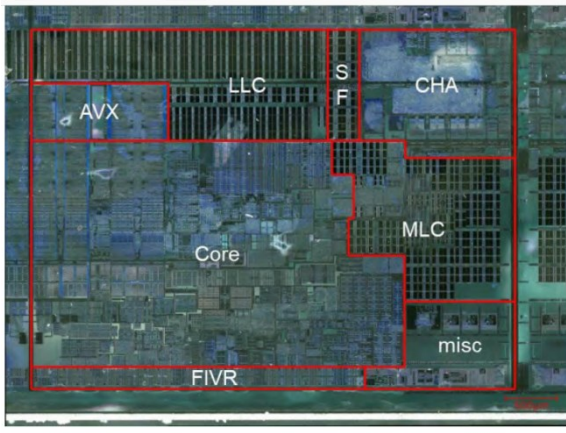


**Miniature open-constructed PSiP**  
Texas Instruments 6 MHz 600 mA POL MicroSiP™  
2.3 mm X 2.9 mm X 1 mm

### Modular PwrSoC

Learn about Progress

### Granular PwrSoC



**Intel Granular Xeon Processor  
with Fully Integrated Voltage Regulator (FIVR)**

### Power Supply on a Chip (PwrSoC)

- PwrSoC investment and start-ups outpace PSiPs
- More PSiP players are adding resources for better PwrSoC development positioning
- Granular efficiency improvements compel modular versions to seek the same applications
- New global heterogeneous integration community to accelerate PwrSoC
- Intense drive to create cost-competitive integrated power passives
- Key advancement - merchant integrated magnetics now commercially available
- New integration opportunities causing fabs to re-invent themselves
- Most significant barrier is business structure despite technical challenges

## Content

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New in this report; LTEC Content Highlights

### Chapter II – Executive Summary

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Control Method, Power Switches, Power Magnetics, Power Capacitors, & Packaging

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Control Method, Semiconductor Switches, Integrated Magnetics, Integrated Capacitors, and Packaging

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PwrSoC Forecasts

(Modular & Granular)

### Chapter IX – Business Success Recommendations

To the Component Suppliers, Manufacturers, Users,

### Appendices

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### The Anagenesis/LTEC Difference

**Anagenesis** is the leading analysis team for PSiP and PwrSoC markets since 2007, with in-depth research offering a unique perspective. Moreover, we have the engineering expertise and business relationships to capture the PSiP and PwrSoC viewpoint. Customers say our reports are "deeply impressive" and "have details unavailable anywhere else." Our repeat business and referrals validate high customer satisfaction.

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### Conferences we will be attending

**PwrSoC 2020  
Corridor Webinar Series**  
November 5, 10, 12  
A 2-hr session each date  
<http://pwrsocevents.com>

**APEC 2021**  
Phoenix Convention  
Center, Phoenix, AZ  
March 21-25, 2021  
<https://apec-conf.org>

**2021 3D-PEIM Symposium**  
University of Osaka,  
Osaka, Japan, June 22–24  
<http://www.3d-peim.org>

**PwrSoC 2021 Workshop**  
University of Pennsylvania,  
Philadelphia, October 24–27  
<http://pwrsocevents.com>

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