



IC/SoC Design and Mixed Signal IP

Leaders in Advanced Node Design

S3 Group is the Connected Consumer Technology® company with over 21 years experience in the IC design market supporting leading semiconductor and system clients to deliver complex IC products to market on time.

With over 80 designs delivered at 90nm, 65nm and 45nm to date, clients reduce their design risk by engaging early with S3 Group thereby avoiding costly respins and accelerating time-to-revenue. By focusing on complex, power efficient Mixed Signal SoCs, S3 Group offers clients best in class IP methodologies, integration, re-use, design and verification techniques while providing critical mass and flexible teams for large SoC design projects.

S3 Group's investments in partnerships with industry leaders, such as **TSMC, UMC, Global Foundries, SMIC, IBM, Cadence and Synopsys**, also ensure that our teams working on client projects have the best of IP, foundry and EDA available.



S3 Group's fully managed teams operate out of **three state-of-the-art silicon evaluation laboratories in Ireland (Dublin and Cork) and Lisbon, Portugal**. These teams deliver complete product or chip integration programs while professional consultants provide strategic insight to the most appropriate methodologies, techniques and tools for client specific requirements.

High Performance Mixed Signal IP

Mixed Signal IP is becoming a critical bottleneck for most SoC designs in terms of IP availability, IP performance, power dissipation, die area and design lead time. **S3 Group addresses these market needs by delivering silicon proven, high-performance analog blocks and sub-systems targeting high-volume SoCs for consumer applications, thereby enabling our customers to differentiate their end-products, reduce design risk and accelerate time-to-revenue.**

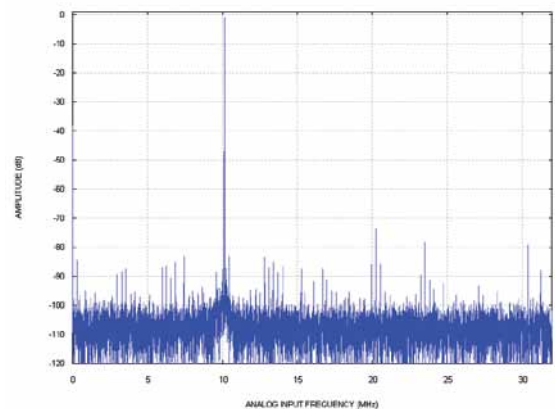
S3 Group has developed an extensive portfolio of **high-performance mixed-signal IPs in the world's leading foundries**, including:

- ▶ ADC, DAC, PLL, Analog Front-End and Power Management IPs
- ▶ Over 170 different IPs from 0.18um to 40nm nodes
- ▶ More than 120 silicon proven IPs
- ▶ Over 50 IPs in 65nm and 40nm

Target applications include, among others:

- ▶ Wireless Networking – WLAN 802.11 a/b/g and n
 - Wireless Networking – WiMAX Fixed and Mobile, LTE
 - Wireline Networking – DoCSIS, MoCA, PowerLine Communications
 - Digital Broadcast: Mobile TV – DVB-T/S/H, DMB, DAB
 - Digital Broadcast: Digital Radio, Satellite Communications
 - Digital Video – RGB, YUV, SD, HD
- ▶ Digital Imaging
- ▶ Radiation Hardened IPs for Space Applications
- ▶ General Instrumentation

S3 Group's high-performance IPs have been licensed by leading IDM and fabless companies and can be readily customized to meet customer specific requirements. **S3 Group is an official IP partner of TSMC and UMC.**



10-bit 80MS/s ADC Featuring 9.2-bit ENOB and 19mW over 1.2V



IP Evaluation (TQFP64)

Silicon Design Services Leadership

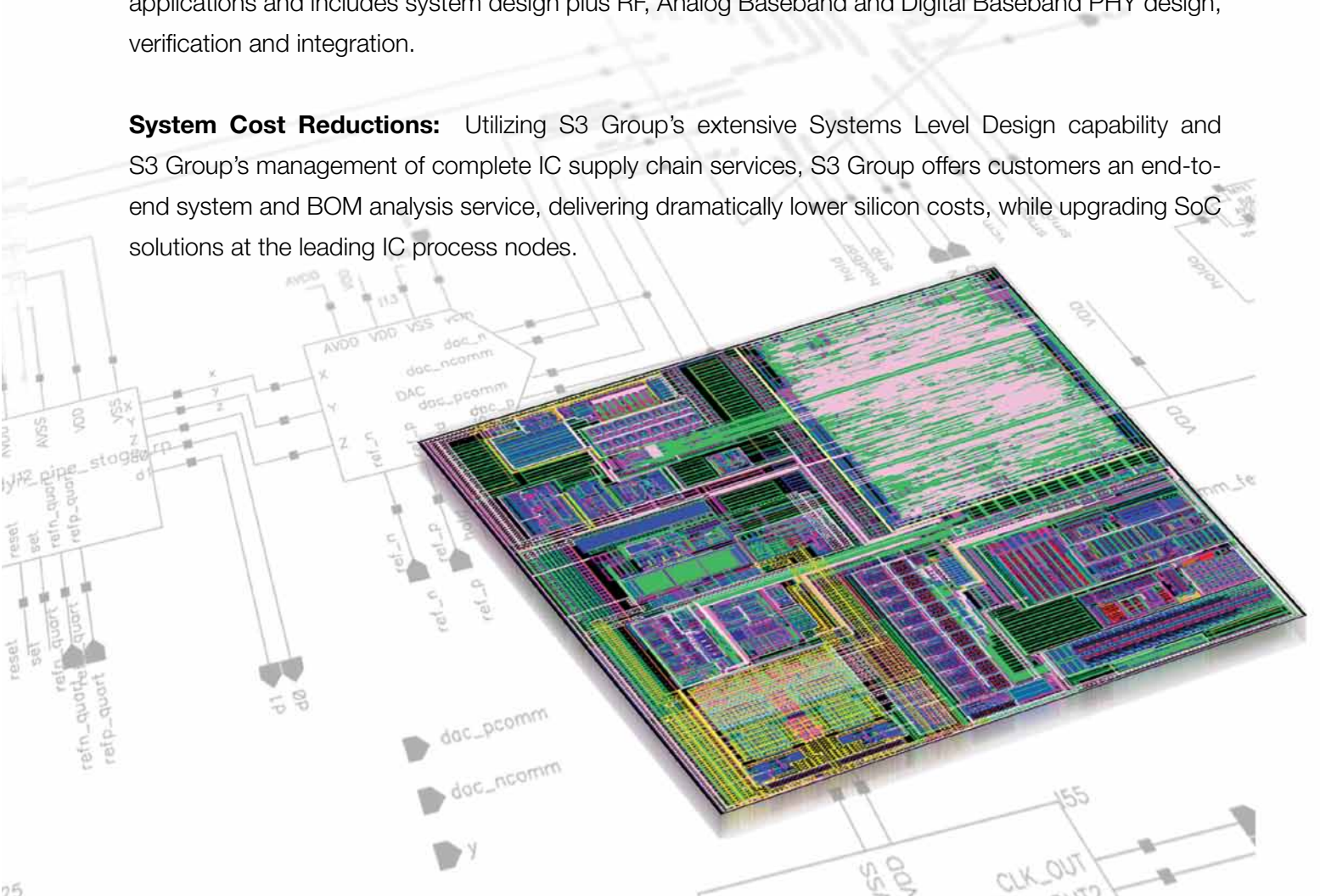
S3 Group has a history of more than 21 years delivering value added design services in the design, integration and implementation of complex Systems on Chip (SoC). S3 Group's team of multi-disciplined IC engineers are focused on mixed-signal, complex, low power SoC development and have the practical experience and knowledge to bring customer requirements to GDSII success.

S3 Group's Silicon Services organization is focused on three strategic application areas ensuring that we are bringing the most advanced design services to where customers need it most;

Low Power Design: Combining architectural low power experience, with the latest in low power EDA support, S3 Group helps customers get the best power performance from their silicon, enabling them to stay at the forefront of low power chip performance which complements the customer's product concepts and provides market differentiation.

Wireless Systems Design: Utilizing S3 Group's wealth of wireless systems IP, S3 Group's world class IP integration/implementation silicon capability, and S3 Group's core mixed-signal and RF wireless applications design experience positions S3 Group as the ideal partner for wireless systems and single chip RF SoC development. S3 Group's wireless experience spans connectivity, cellular and ISM applications and includes system design plus RF, Analog Baseband and Digital Baseband PHY design, verification and integration.

System Cost Reductions: Utilizing S3 Group's extensive Systems Level Design capability and S3 Group's management of complete IC supply chain services, S3 Group offers customers an end-to-end system and BOM analysis service, delivering dramatically lower silicon costs, while upgrading SoC solutions at the leading IC process nodes.





Testimonials

“Achieving a first-pass silicon success on such a highly complex SoC necessitates high expertise and special skills during the backend process. S3 Group proved to be the perfect partner for taping out the PRC6000 in TSMC’s 65nm CMOS. S3 Group committed to Percello’s aggressive schedule and low-power low-cost solution goals. We are very pleased with the cooperation and collaboration between the engineering teams which facilitated our very fast design cycle.”

Rafy Carmon, Vice President of R&D, Percello Ltd.

“We were able to enter volume production rapidly and achieved first-time-right silicon for a best-in-class performance product. The key benefits of engaging with S3 Group were their ability to deliver high performance data converter IP on time against a tight schedule, and crucially first-time-right.”

Keith Riley, Vice President of Engineering, Intellon

“S3 Group delivered a working IC design to us ahead of schedule. Their engineering expertise and skilled program management experience ensured higher levels of cost savings than we anticipated and enabled us to get our 9602 to production and to market faster.”

David Schoen, CTO and Vice President, Product Development, Iridium

“S3 Group achieved first-time-right silicon and helped us to enter volume production within nine months of their IP delivery. The key advantages of working with S3 Group are first-time-right silicon, best-in-class performance, on-time delivery and excellent integration support.”

CTO, I&C Technology

About S3 Group

S3 Group is the Connected Consumer Technology® company, providing products, solutions and professional services to the Digital TV, Telehealth and Semiconductor industries.

For IC designers and product managers, S3 Group delivers a comprehensive portfolio of mixed signal IP and design services for power-efficient single-chip systems. S3 Group’s 90nm, 65nm and 45nm SoC customers are repeat users, who benefit from having the confidence to meet tight time-to-market schedules with reduced design risk.

Founded in 1986, S3 Group is headquartered in Dublin, Ireland with design centers, sales offices and representatives globally.

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