

5G sub-6 GHz cellular infrastructure FEMs using 8SW RF SOI

Differentiate with superior LNA and switch performance



8SW is the industry's first fully qualified high-volume RF SOI foundry solution manufactured on 300 mm wafers.



**Supply
assurance**

High-volume, globally distributed GF manufacturing facilities.



Sleek, already-available 5G mobile devices cannot deliver the blazing-fast download speeds, ultra-low latency and high data throughput that immersive user experiences like 8K HD video streaming and AR/VR require unless the cellular infrastructure they rely on keeps pace. The race is on to deploy, expand and future-proof these networks to ensure 5G lives up to its full potential.

The 8SW RF SOI solution from GlobalFoundries (GF®) delivers best-in-class switch and low-noise amplifier (LNA) performance for 5G sub-6 GHz cellular infrastructure front-end modules (FEMs). Take advantage of these benefits to develop network hardware that delivers the capacity, speed and responsiveness new 5G applications and services demand.

8SW at a glance

Platform	Key features
130 nm PD-SOI	<ul style="list-style-type: none"> • Low noise figure & high gain (LNA figure of merit > 200) • Low switch $R_{on} \cdot C_{off}$ (< 90 fs) • High linearity • Small digital footprint, low power logic (1.8 V/1.2 V SC library)



Extend coverage:

8SW combines best-in-class switch $R_{on} \cdot C_{off}$ with LNA noise figure, gain and linearity benefits for high RF receiver sensitivity and high signal quality, over a broad range.



Handle 5G complexity and performance demands:

Get 5G-ready performance by adding the switch arms or modes needed for multimode operation without worrying about loss or isolation impacts and take advantage of the thick copper top-level metals available in 8SW to boost signal amplification and quality.



Maximize power efficiency:

Deliver power-efficient system-level hardware by leveraging 8SW's low-voltage standard cell libraries and LNA gate length (L_{eff}) options that enable better gain/linearity without affecting power consumption.



Boost your ROI:

Get the most from your investments by taking advantage of 8SW's 300 mm manufacturing, advanced processing and controls and more area for test sites and design variations for customer optimization.



Meet demand, faster:

Capitalize on GF's globally distributed fabs and comprehensive post-fab RF turnkey services that enable you to tap into unrivaled RF expertise built on two decades of experience to meet supply demands and accelerate time to market.

LEARN MORE

GF knows RF. Learn how our extensive cellular infrastructure and SATCOM solutions portfolio can help you extend your 5G leadership at globalfoundries.com/contact-us

Contact Us



GF 5G cellular infrastructure and SATCOM solutions

22FDX™ RF	22FDX RF+	45RFSOI
Superior performance with highest level of integration and up to 20 dBm P_{sat} (with power combiners) for 5G mmWave cellular infrastructure and SATCOM FEMs and beamformers	Superior performance with digital and RF enhancements that deliver 30% better IL and $R_{on} \cdot C_{off}^\dagger$ for 5G mmWave cellular infrastructure and SATCOM FEMs and beamformers	Superior performance with high P_{sat} (up to 23 dBm) for 5G mmWave cellular infrastructure and SATCOM FEMs and beamformers
8SW RF SOI	SiGe HP	
Outstanding performance for 5G sub-6 GHz cellular infrastructure FEMs	High performance and efficiency with $P_{sat} > 23$ dBm for 5G sub-6 GHz and mmWave cellular infrastructure and SATCOM discrete power amplifiers	

[†] Compared to 22FDX RF.