

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

Differentiate with superior LNA and switch performance

The top three 5G sub-6 GHz FEM design companies are using GF 8SW*

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


Approximately 85% of smartphones on the market today have GF solutions inside.‡


Today consumers expect to have lightning-fast download speed and reliable connectivity available at all times and from everywhere. With 5G now opening the door to richer experiences and more types of use cases, consumer expectations and challenges keep growing.


8SW from GlobalFoundries (GF®) delivers best-in-class switch and low-noise amplifier (LNA) performance for premium and high-tier 5G sub-6 GHz mobile front-end modules (FEMs). Leverage these benefits to take the mobile connectivity experience to new levels.


8SW at a glance‡

Platform	Key Features
130 nm PD-SOI	<ul style="list-style-type: none"> • Exceptional noise figure & gain (LNA figure of merit > 200) • World class switch $R_{on} * C_{off}$ • High linearity • Small digital footprint, low power (1.8 V/1.2 V SC library)

Stay connected:
 8SW combines low insertion loss and high RF voltage/power-handling capabilities with best-in-class $R_{on} * C_{off}$ and noise figure benefits for fewer dropped connections to keep consumers texting, talking and sharing—from anywhere.

Enjoy crystal-clear calls:
 With high gain, thick top-level metals and all-copper interconnects, 8SW maximizes signal strength so that consumers can experience reliable and high-quality connections for granted.

Go longer between charges:
 8SW's industry-leading $R_{on} * C_{off}$ and low-voltage standard cell libraries enable chip designers to minimize power consumption, which can help extend battery charges to days instead of hours.

Get the performance you need:
 Leverage 8SW's 5G-optimized features—which industry visionaries are already using in today's leading smartphones—to take the user experience from ordinary to extraordinary.

LEARN MORE

GF 5G cellular radio 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 smartphones	Superior performance with digital and RF enhancements that deliver 30% better IL and $R_{on} * C_{off} †$ for 5G mmWave smartphones	Superior performance with high P_{sat} (up to 23 dBm) for 5G mmWave smartphones
7SW RF SOI	8SW RF SOI	
Great performance for entry and mid-tier 4G LTE and 5G sub-6 GHz smartphones, smart watches and other connected mobile devices	Outstanding performance for premium and high-tier 5G sub-6 GHz smartphones	

Contact Us



GF knows RF. Learn how GF's extensive mobile solutions portfolio strengthens customers' 5G leadership position at gf.com/contact-us

* Based on revenue TAM.
 ‡ Based on independent teardown data. GF has RF content in the top 17 phone brands, which make up ~85% of the smartphone market.
 † Compared to 22FDX RF.

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