



RF communication RF mobile ICs & discretes product portfolio

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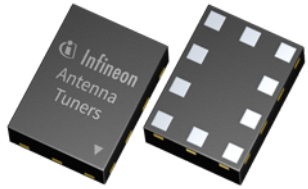
Content

Antenna tuners	3
RF cross switches	4
RF switches	5
Cellular LNAs	6
GNSS LNAs	7
RF transistors	8
RF schottky diodes	9



Antenna tuners

Optimizing antenna efficiency in 5G and IoT applications



Antenna tuning switches

Aperture tuning:

- Tuning an antenna to a specific frequency band for optimized efficiency

Impedance tuning:

- Optimizing signal transmission to the antenna by compensating frequency and environmental effects

Target applications

- Smartphones, laptops, tablets and wearables
- Various battery powered cellular applications
- Industrial applications, e.g. asset tracking, smart metering

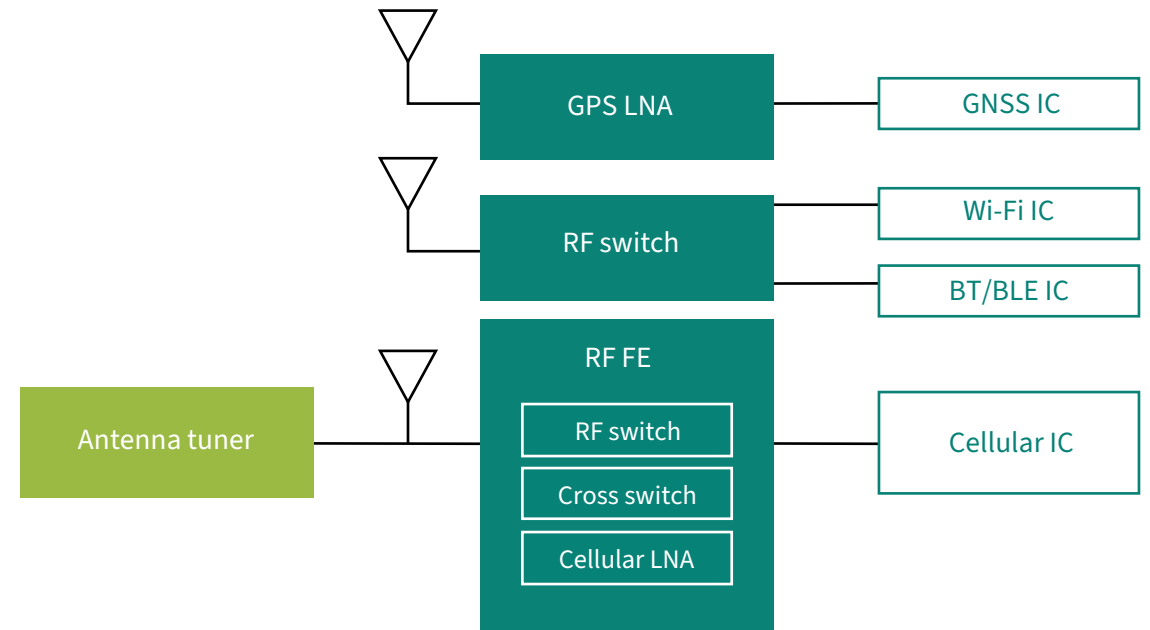
Features

- Frequency range up to 8.25 GHz
- MIPI and GPIO control modes
- Best-in-class harmonics
- Low current consumption
- Compact footprint

Benefits

- Improved antenna performance
- Increased design flexibility
- Higher power efficiency
- Cutting edge Ron x Coff figure of merit

Block diagram



Useful links

[Antenna tuner portfolio](#)

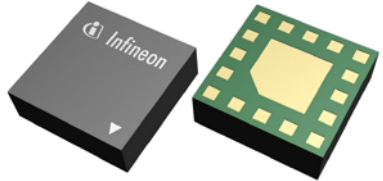
[RF product selection guide](#)

[Antenna Tuner Simulator ATS Guide / Tool](#)



RF cross switches

Select and swap to the best performing antenna for optimized system efficiency



RF cross switches

- High performance family of RF switches ideal for antenna swapping and efficient RF signal routing for power efficient wireless systems

Target applications

- Mobile devices, tablets, laptops
- CPE, 5G routers
- M2M/IoT modules

Features

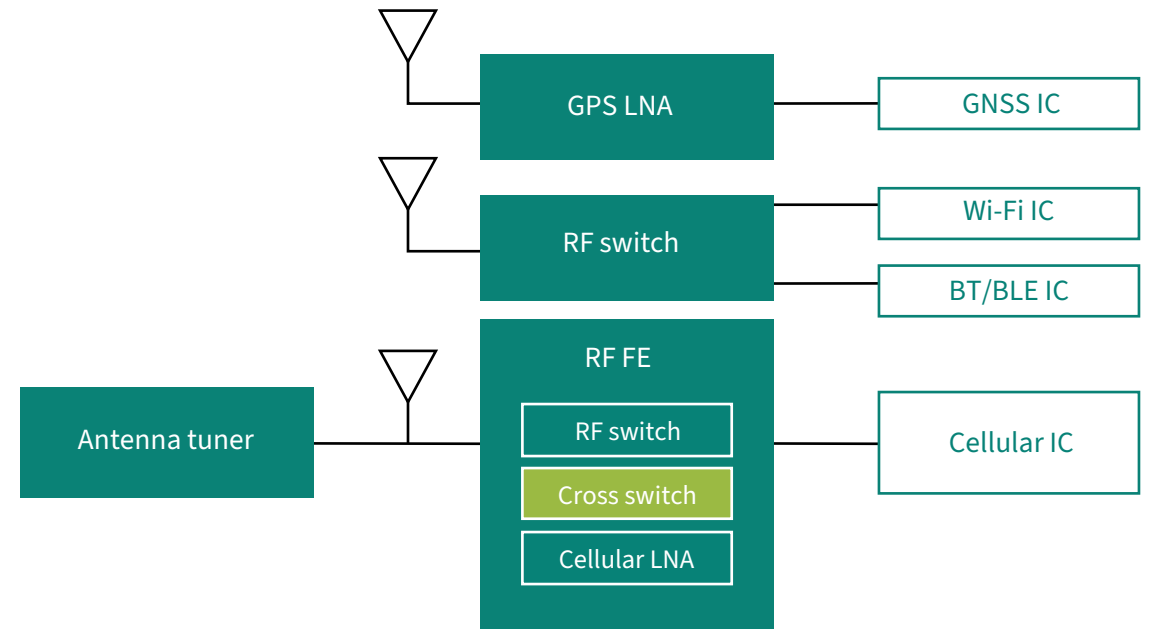
- Up to sub-7.125 GHz specified
- Fast switching speed
- Best-in-class insertion loss performance
- High RF power-handling capability
- Flexible supply voltage support 1.2V/1.8V
- MIPI and GPIO variants
- Software and hardware programmable

Benefits

- Efficient use of frequency through antenna swapping and dynamic signal routing
- Higher power efficiency
- Improved antenna performance and signal reception
- Increase data rates
- BOM savings



Block diagram



Useful links

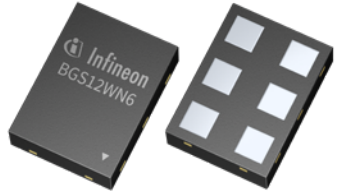
[RF cross switch portfolio](#)

[RF product selection guide](#)



RF switches

Highest RF design flexibility and performance for wireless systems



RF switches

- Compact RF ICs for antenna selection or signal routing (Tx/Rx switching) allowing design flexibility, more features, and system optimization

Target applications

- Mobile devices, tablets, laptops
- Wearables, hearables
- Smart home appliances
- CPE, Wi-Fi / 5G routers
- M2M / IoT modules

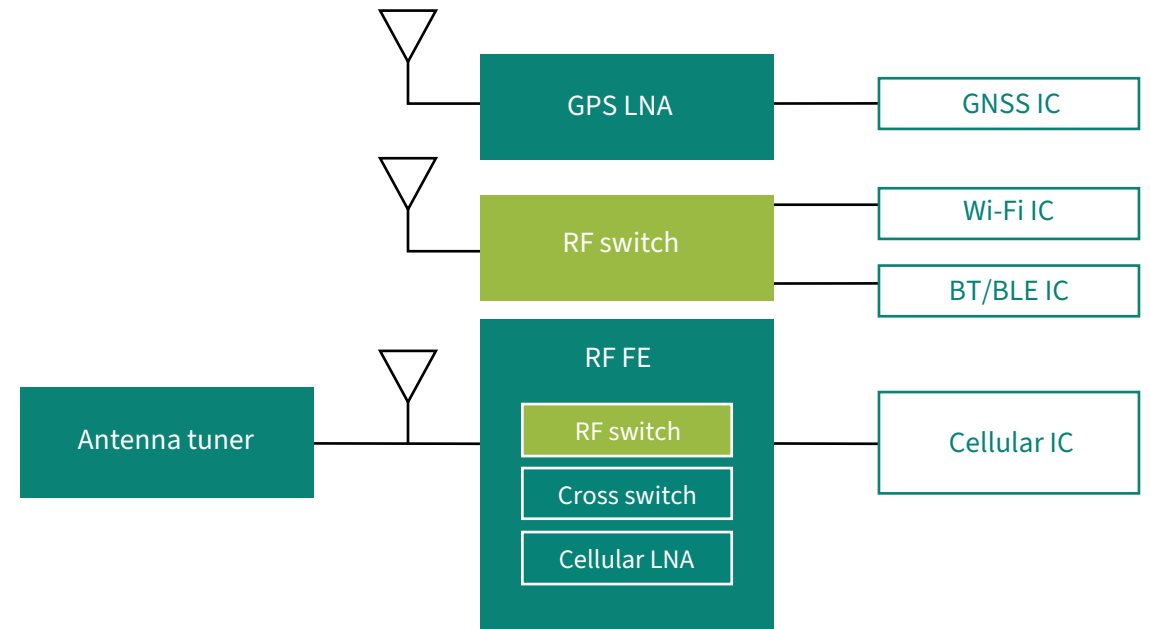
Features

- Wideband applicable up to 9 GHz
- Fast switching speed
- Low insertion loss
- High RF power-handling +38 dBm
- MIPI and GPIO variants
- Low current consumption

Benefits

- Simplify system design
- BOM savings help reduce signal losses
- Efficient (re-)use of frequency through switching
- Increased data rates
- Power efficiency

Block diagram



Useful links

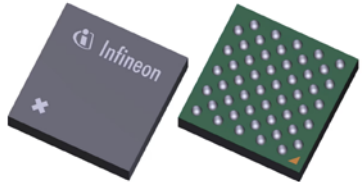
[RF switch portfolio](#)

[RF product selection guide](#)



Cellular LNAs

Optimizing mobile signals and band support in 5G and IoT



LNA Bank

- Providing flexible multi-band support, optimizing power consumption

MIPI Cellular LNA

- Efficiently integrating with transceivers for improved performance

Target applications

- Smartphones and mobile devices
- Tablets and Laptops
- Wearables
- Cellular IoT home appliances

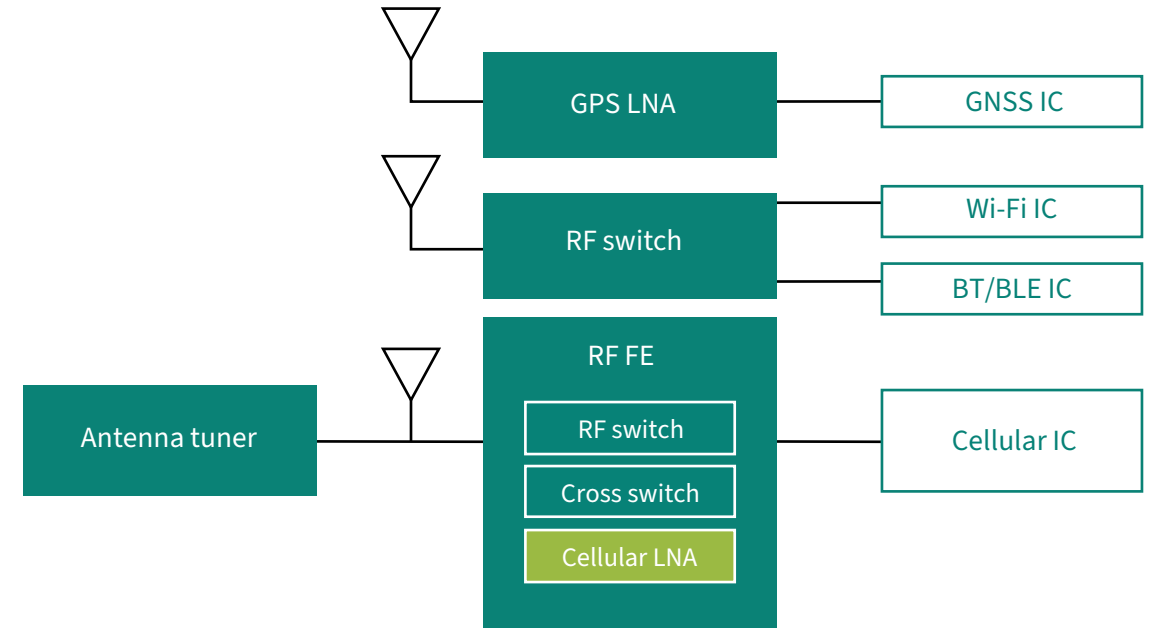
Features

- 0.6 to 7.2 GHz coverage
- Low Noise Figure
- High Gain
- High Linearity
- MIPI and GPIO control modes

Benefits

- Enhanced weak signals
- Improved multi-band reception
- Reduced signal noise

Block diagram



Useful links

[Cellular LNA portfolio](#)

[Multi-purpose LNA portfolio](#)

[RF product selection guide](#)



GNSS LNAs

Boosting GNSS performance and signal in 5G and wearables



Low Power GPS LNA

- Extending battery life and reducing heat generation in portable devices

High Linearity GPS LNA

- Improving receiver sensitivity against strong interfering signals

Dualband GPS LNA

- Reducing multipath errors in challenging environments for position accuracy

Target applications

- Smartphones and mobile devices
- Wearables
- Home appliances

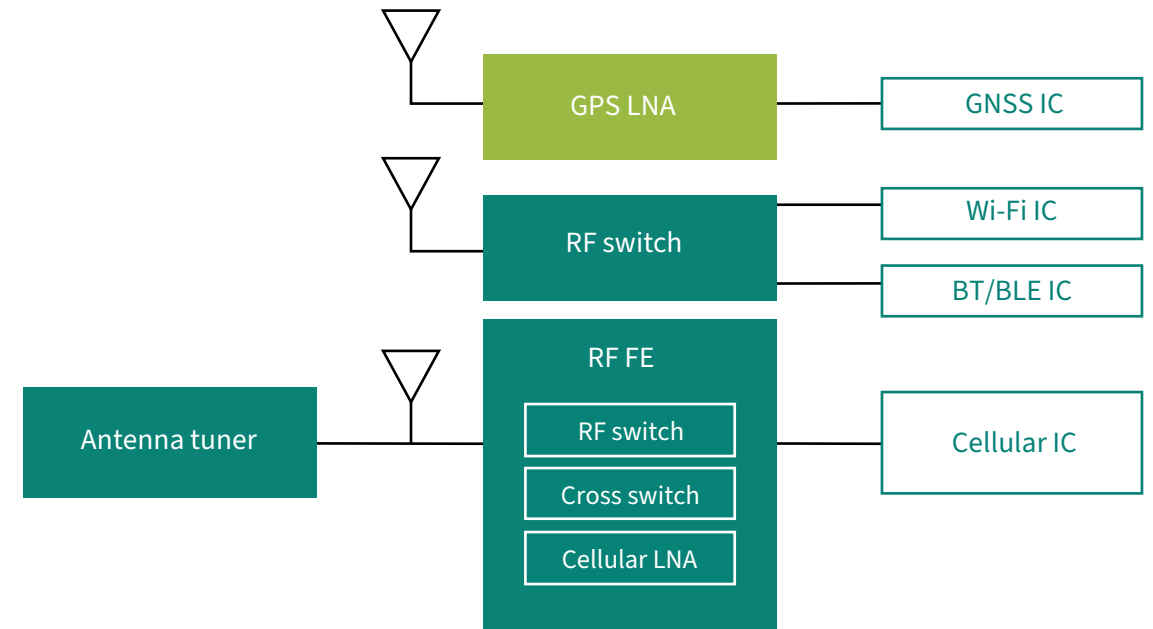
Features

- L1 and L2/L5 bands covered
- Low noise figure
- High gain
- Low current consumption
- High linearity
- GPIO control

Benefits

- Enhanced location accuracy
- Improved signal sensitivity
- Reduced interference impact

Block diagram



Useful links

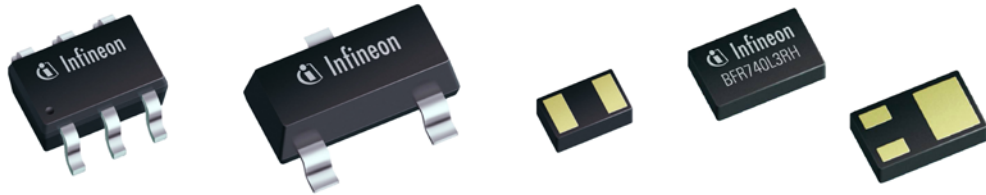
[GNSS LNA portfolio](#)

[RF product selection guide](#)



RF transistors

Flexibility and reliability for long-standing RF wireless systems



RF transistors

– Our versatile SiGe:C NPN transistor portfolio offers flexible and adaptable devices that deliver best-in-class RF performance to a wide range of market applications

Target applications

- Active antenna applications
- GNSS navigation systems
- Wi-Fi routers, set-up boxes
- Applications operating <1GHz
- Home automation
- Industrial IoT applications

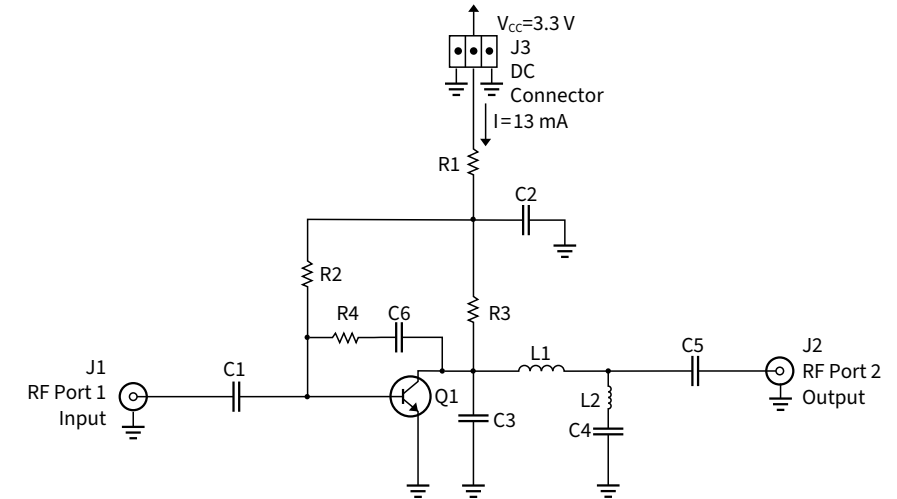
Features

- Wide frequency coverage
- Low Noise Figure, high gain and linearity
- Very low power consumption
- Cost competitiveness

Benefits

- Flexible and customized circuit design
- Energy savings for extended battery life
- System cost reduction
- High quality and reliability for long-life systems

Application example: LiDAR LNA



Useful links

RF transistors portfolio

S-paramter measurements for devices at different biasing levels

[Infineon-RFTransistor-SPAR.zip-SM-v02_20-EN](#) EN

Device libraries for all major simulation softwares

MWO [Infineon-RFTransistor-AWR_MWO_Design_Kit-SM-v02_10-EN](#) EN

ADS [Infineon-RFTransistor-Keysight_ADS_Design_Kit-SM-v02_10-EN](#) EN

SPICE [Infineon-RFTransistor-SPICE.lib-SM-v02_10-EN](#) EN



RF schottky diodes

Simple and cost-effective solution for power detection and mixer applications



RF Schottky diodes

- Silicon low-barrier N-type devices used for highly sensitive power detection and mixer circuits

Target applications

- Consumer electronics, e.g. Wi-Fi routers
- Mobile devices
- 24GHz radar and low-noise block (LNB) system

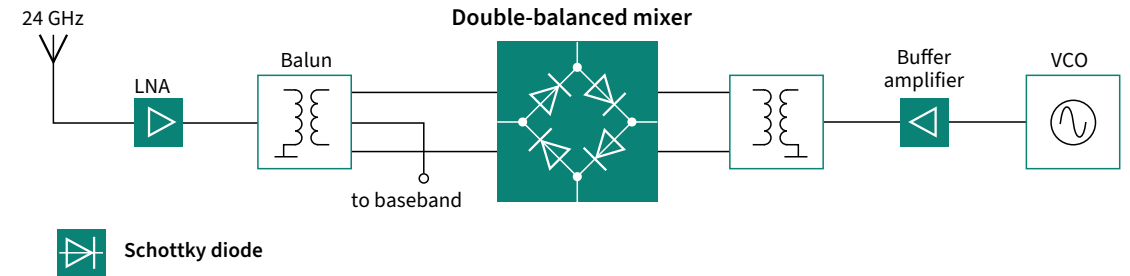
Features

- Low forward voltage drop
- Low junction capacitance
- Various junction diode configurations

Benefits

- Fast switching
- Excellent choice as detector for high frequencies
- Higher linearity and power handling compared to integrated mixers
- Flexibility in circuit design

Application example: 24GHz radar system



Useful links

RF Schottky diode portfolio

Application notes:

[Schottky diode mixer for 5.8GHz radar sensor](#)

[RF and microwave power detection with Schottky diodes](#)

[Design guide for RF transistors and diode in low noise block](#)



Contact

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