

SMA661AS – the best low noise amplifier for all GPS products

Fully-integrated GPS LNA



Due to its superior RF performance, the fully-integrated SMA661AS from **STMicroelectronics** is the leading solution for GPS LNA implementation in cell phones and personal navigation devices.

The SMA661AS embeds the matching network and the power down function to avoid the requirement for an external switch. Housed in an ultra miniature SOT666 plastic package, the SMA661AS requires just one external capacitor, minimizing PCB footprint, and is powered by ST's high performance RF SiGe 70GHz technology.

Key features

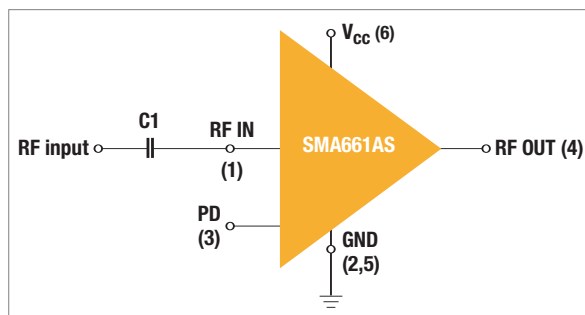
- Suitable for all GPS applications
- High gain (17dB)
- Low noise figure (1.4dB)
- Embedded matching networks
- Power down function
- Temperature compensated
- Unconditionally stable
- 70GHz SiGe technology
- Housed in SOT666 package (1.65 x 1.2 x 0.57mm)

Main application

- Suitable for all GPS applications

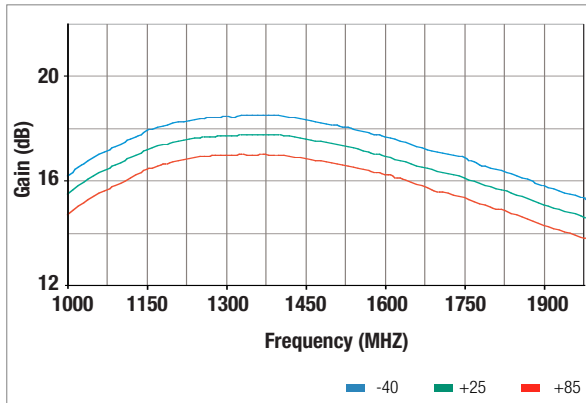
Benefits

- Smallest GPS LNA footprint for cell phones and personal navigation devices
- No external power down switch is required
- Cost-effective solution
- Easy application implementation



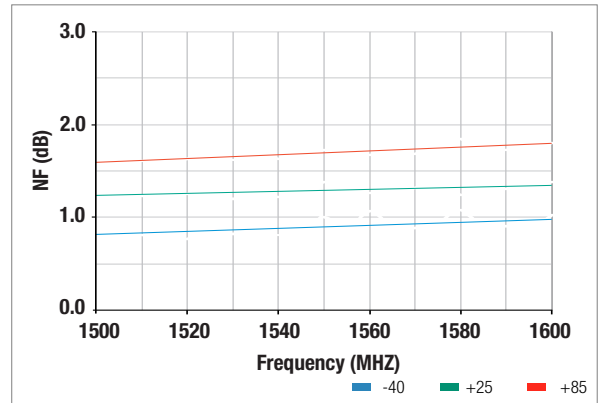
Application circuit

Power gain vs frequency



Power Gain is very stable over the temperature range.

Noise figure vs frequency @ V_{CC} 2.7V



Max NF value over temperature and frequency doesn't exceed 1.8dB.

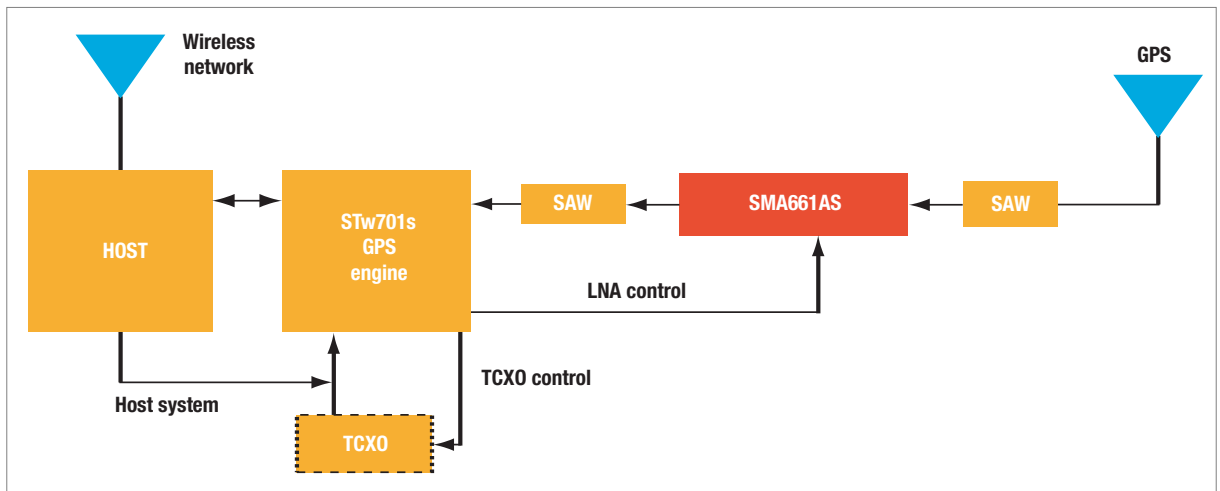
Additional features

- The I_{CC} variation vs temperature is less than 1mA (8mA typ.)
- Input/output return loss value greater than 10dB
- Very stable S parameters over the temperature range
- Outstanding IIP3 value (3.3dBm)



SMA661AS evaluation board

Wireless handheld with GPS



The SMA661AS is the ideal companion chip for STw701s single-chip GPS engine which embeds SiRFStarIII-LT DSP core.



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Full product information at www.st.com