



# BGA728L7

A low-power, gain-step, broadband MMIC LNA for portable and mobile TV systems

Mobile TV function is a key feature for next generation cellular phones and portable devices such as notebook and multimedia players. Often a low noise amplifier (LNA) is required at the antenna input of these systems to improve the reception sensitivity and dynamic range. As a result, the users can enjoy premium picture quality.

Based upon Infineon's leading SiGe technology, the BGA728L7 offers very flat gain curve and best-in-class RF performance. The 1.8V capability, the mini-size leadless package and the extremely low external part count have made it an ideal choice for RF engineers to develop a power-and-space-saving tuner front-end within a short design cycle.

## Applications

Low noise amplifier (LNA) for portable and mobile TV systems such as

- CMMB
- DMB-TH
- DVB-H
- DVB-T
- ISDB-T
- MediaFLO
- T-DMB
- TMMB

## Features

- Supporting VHF III, UHF and L-bands
- Supporting 1.8V, 2.8V and 3.3V systems
- Supporting time-slicing systems
- Offering high gain mode for excellent noise figure, and low gain mode for high linearity
- Input and output pre-matched to 50 Ohm
- Housed in leadless TSLP-7-1 package of size 2.0 x 1.3 x 0.4mm<sup>3</sup> only
- On-chip 1kV HBM ESD protection
- Only 2-4 external parts necessary

Performance Table

		Unit	High-Gain mode	Low Gain mode
Voltage range	$V_{cc}$	V	1.5 - 3.6	1.5-3.6
Working frequency range	$F_{bw}$	MHz	170-1675	170-1675
Current consumption	$I_{cc}$	mA	5.8	0.5
Power gain	$ S_{21} $	dB	16	-5
Gain flatness	$\Delta S_{21} $	dB	< 1.0	<1.0
Noise figure	NF	dB	1.3	5.5
Input compression point	$IP_{1dB}$	dBm	-10	3.5
3rd order input intercept point	$IIP_3$	dBm	-7	16
Switching time	$T_{GS}$	μs	< 3.5	< 3.5

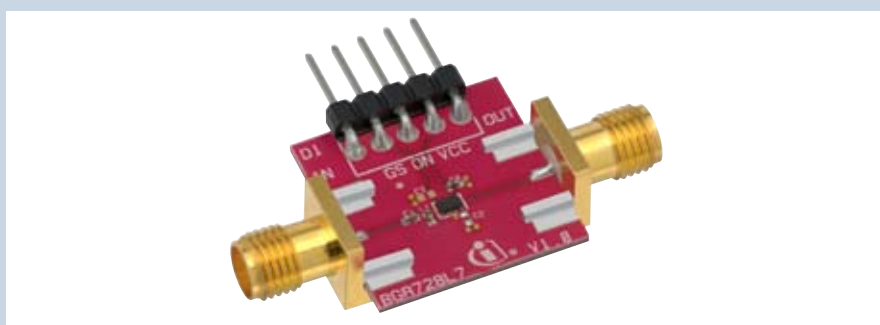
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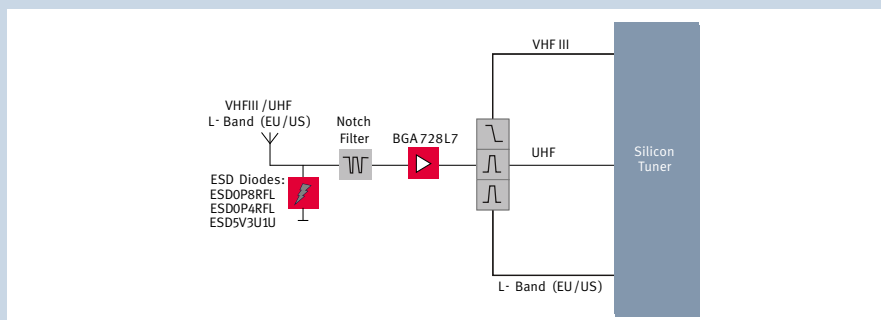
## Application Example



## Evaluation Board of BGA728L7



## Application Diagram for a Mobile TV Tuner



## Product Summary

Type	Description	Package
BGA728L7	Gain-step, broadband SiGe MMIC LNA	TSLP-7-1
ESD0P4RFL or ESD0P8RFL or ESD5V3U1U-02LRH	RF ESD protection diodes	TSLP-4-7 TSLP-4-7 TSLP-2-7

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