

Fact Sheet

# Low Noise Amplifiers



## Overview

The Freescale low noise amplifier (LNA) portfolio offers solutions to meet future design needs in a wide range of applications. Two technologies serve the LNA portfolio, each with distinct advantages for their applications. Our new GaAs E-pHEMT LNAs serve wireless infrastructure, small cell base station and many general wireless applications. Advanced SiGe technology is utilized in LNAs designed for wireless communication, cellular, consumer, automotive and industrial applications. Combining high performance with unique features and application-specific design tools, Freescale LNAs enable new design opportunities and shorten the design cycle.

## GaAs LNA

Part Number	Frequency Range (MHz)	Test Frequency (MHz)	Small Signal Gain (dB)	Noise Figure (dB)	P1dB (dBm)	OIP3 (dBm)	Supply Voltage (V)	Supply Current (mA)	Package
MML20211H	1400–2800	2140	18.6	0.65	21.3	33	5	60	DFN 2 × 2
MML09211H	400–1400	900	21.3	0.52	22	32.6	5	60	DFN 2 × 2
MML09212H	400–1400	900	37.5	0.52	22.8	37	5	150	QFN 3 × 3
MMG20241H	450–3800	2655	17.8	2.1	23.9	38	5	78	SOT-89
MML20242H	1400–2800	2140	34	0.57	24	39.5	5	160	QFN 3 × 3
MMG15241H	500–2800	2600	14.4	1.3	24	40.6	5	85	SOT-89
MML09231H	700–1400	900	17.2	0.36	24.5	37.4	5	55	DFN 2 × 2
MMG20271H9	1500–2700	2140	16	1.7	27.5	43.1	5	215	SOT-89

\* Nominal supply current is fully adjustable

## SiGe LNA

Part Number	Frequency Range (MHz)	Test Frequency (MHz)	Gain (dB)	Noise Figure (dB)	P1dB (dBm)	OIP3 (dBm)	Supply Voltage (V)	Supply Current (mA)	Package
MBC13917	100–2500	434	27	2.3	2.2	10.9	2.1–3.3	4.7	MLPD-6
MBC13916N	100–2500	900	19	1.25	2.5	11	2.7–5	4.7	SOT-343R
MC13850	400–2500	1960	14.9	1.75	4	24.5	2.3–3	9.9, 4.7	MLPD-8
MC13851	1000–2500	1960	18	1.35	8	17.1	2.3–3	3.8	MLPD-8
MC13852	400–1000	900	18.2	1.2	9.6	13.1	2.3–3	4.4	MLPD-8
MBC13720N	400–2500	900	20	1.2	11.5	22	2.3–3	5, 11	SOT-363

## Target Applications

- GSM, LTE, W-CDMA, TD-SCDMA, CDMA base station receivers
- Smart energy (IEEE® 802.15.4 ZigBee®)
- Small cell receivers
- Automotive
- GPS
- WLAN
- Two-way radio
- Remote control



Freescale offers comprehensive global in-region support to help you with your design.

Contact your local Freescale sales office or authorized Freescale distributor for additional information and sample availability.

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