

NJRC's GaAs MMIC W-CDMA Dual LNAs

NJR
NEWS

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NJG1119 & NJG1122

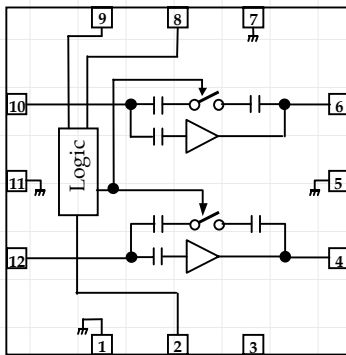
NJG1119 & NJG1122 GaAs MMIC Dual LNAs

NJRC is a leader in GaAs MMIC technology.

General Description

Both the NJG1119 and NJG1122 are Dual band LNA ICs designed for W-CDMA cellular phone of 2.1GHz and 800MHz band. These ICs have an LNA pass-through function to select high or low gain mode. An ultra small and ultra thin package of FFP12-B4 is adopted. They are a mirror-reversed version of the NJG1121.

Pin Configuration



Pin Connection

1. GND
2. VCTL2
3. EXTCAP
4. RFOUT2 (2.1GHz)
5. GND
6. RFOUT1 (800MHz)
7. GND
8. VCTL1
9. VINV
10. RFIN2 (2.1GHz)
11. GND
12. RFIN1 (800MHz)

Truth Table

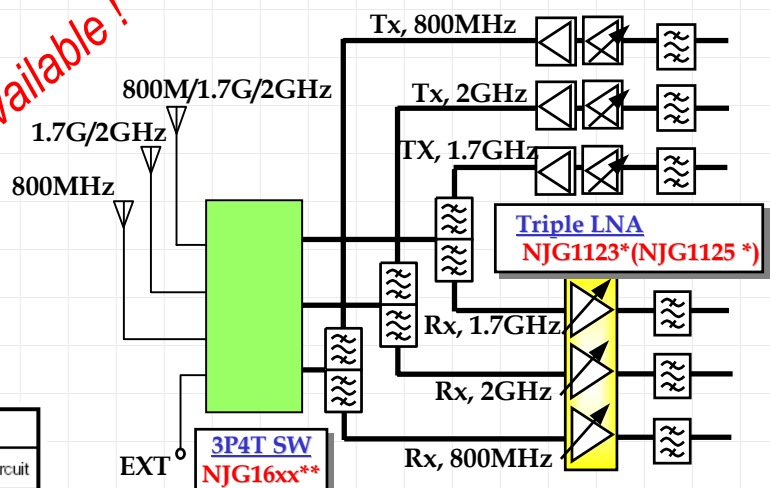
"H" = $V_{CTL(H)}$, "L" = $V_{CTL(L)}$

Control voltage		800MHz band		2.1GHz band	
V_{ctl1} Band select	V_{ctl2} RX ATT	LNA I_{db}	Bypass circuit	LNA I_{db}	Bypass circuit
L	L	OFF	ON	OFF	ON
L	H	OFF	OFF	ON	OFF
H	L	OFF	ON	OFF	ON
H	H	ON	OFF	OFF	OFF

Features

- Low voltage operation: +2.7V typ.
- High gain mode:
 - High gain 14.5 dB typ. @ $f_{RF}=2140MHz$ & 16.0 dB typ. @ $f_{RF}=885MHz$
 - Low noise figure 1.7dB typ. @ $f_{RF}=240MHz$ & 1.45dB typ. @ $f_{RF}=885MHz$
 - High Input IP3 -3.5dBm typ. @ $f_{RF}=2140.0+2140.1MHz/885.0+885.1MHz$
- Low gain mode:
 - Gain -4.0dB typ. @ $f_{RF}=2140MHz$ & -4.5dB typ. @ $f_{RF}=885MHz$
 - Noise figure 4.0dB typ. @ $f_{RF}=2140MHz$ & 4.5dB typ. @ $f_{RF}=885MHz$
 - Input IP3 2.5dBm typ. @ $f_{RF}=2140.0+2140.1MHz$ & 2.0dBm typ. @ $f_{RF}=885.0+885.1MHz$
- Ultra small & ultra thin package: FFP12-B4 (Package size: 2.0x2.0x0.65mm)

Typical Application



* Under Development
** Planning

Single LNA NJG1116B
Dual LNA NJG1119//1122

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