



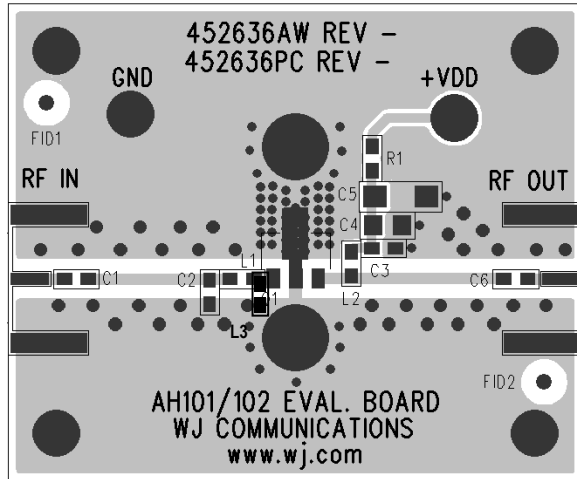
Application Note

AH102 1100 - 2200 MHz Reference Design

Summary

The AH102 is a high linearity 1/2-Watt MMIC amplifier targeted for 2nd and 3rd generation wireless mobile infrastructure as well as other applications requiring high output power. At 0.8 GHz, the class A amplifier typically has 14 dB gain, +27 dBm P1dB, and +46 dBm OIP3 when biased off its recommended standard +9V supply. While typical applications for most amplifiers are usually fairly narrowband and only consist of 20% or less bandwidth, **this application note examines the performance of the AH102 tuned over a broad 1100 – 2200 MHz frequency bandwidth.**

Circuit Board Material: .014" Getek ML200DSS ($\epsilon_r = 4.2$), 1 oz copper
The main microstrip line has a line impedance of 50 Ω .



Measured RF Performance

Frequency	GHz	1.1	1.7	1.9	2.1
S21 – Gain	dB	13.6	12.9	12.8	12.7
S11 – Input Return Loss	dB	-12.4	-11	-12.9	-19
S22 – Output Return Loss	dB	-21	-12.4	-11.1	-11.1
Output P1dB	dBm	+26	+25.9	+25.5	+25.7
Output IP3 (+10 dBm / tone, 1 MHz spacing)	dBm	+44	+45	+44	+43
Device / Supply Voltage	V	+9			
Supply Current	mA	200			

