

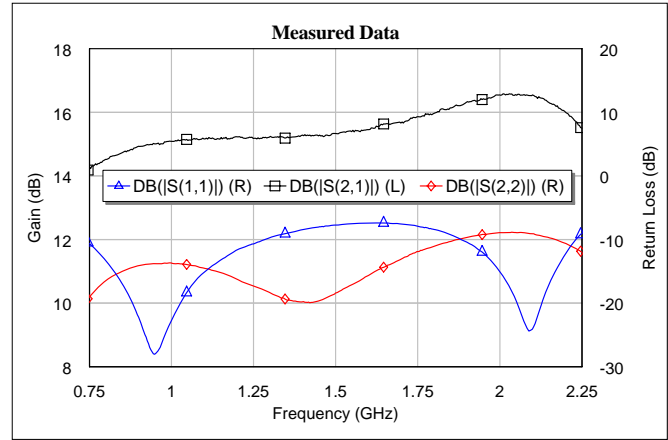


Summary

The FH1 is a high linearity ¼-Watt GaAs MESFET targeted for 2nd and 3rd generation wireless mobile infrastructure as well as other applications requiring high linearity. The device **does not** require a negative supply voltage and can be biased directly off a standard +5V supply. This application note examines the performance of the FH1 tuned over a broad 800 – 2200 MHz frequency bandwidth. This allows the user to use a same matching circuitry with the FH1 for all three targeted mobile infrastructure center frequencies: 900, 1900, & 2140 MHz.

Measured RF Performance

Frequency	MHz	900	1900	2140
S21 – Gain	dB	14.9	16.3	16.4
S11 – Input Return Loss	dB	-22.2	-10.4	-18.2
S22 – Output Return Loss	dB	-14.1	-9.7	-9.6
Output P1dB	dBm	+22.1	+22.4	+22.1
Output IP3 (+9 dBm / tone, 1 MHz spacing)	dBm	+40.7	+42.0	+41.0
Noise Figure	dB	2.4	2.6	2.8
Device / Supply Voltage	V	+5		
Supply Current	mA	138		



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

