



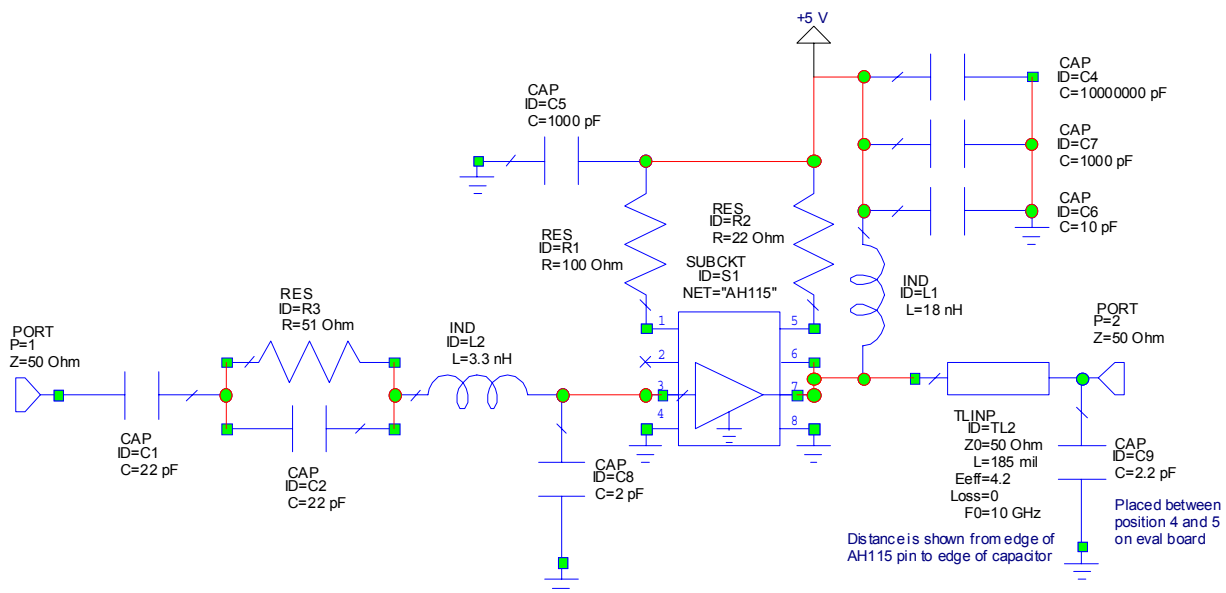
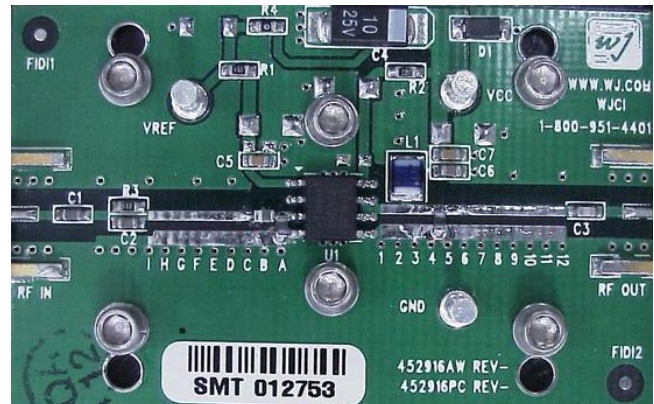
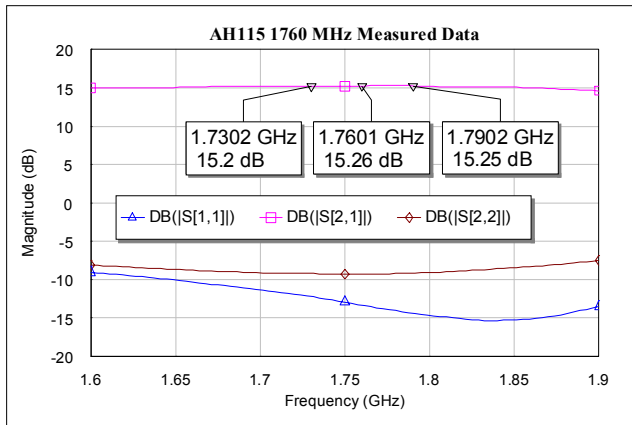
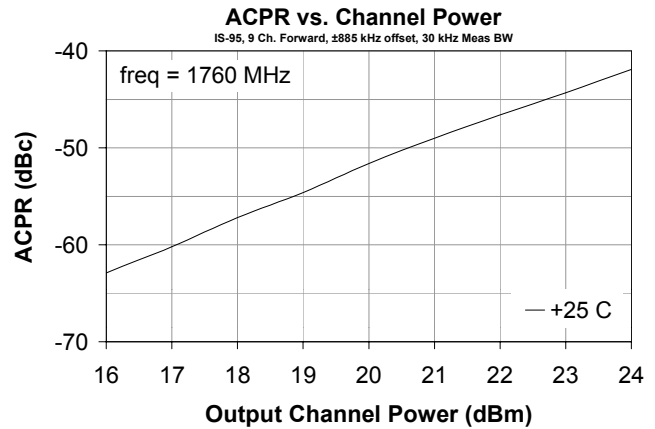
Summary

The WJ AH115 amplifier can provide reasonable linearity while also providing greater than +28 dBm of 1-dB compressed power at 1760 MHz. Greater than 15 dB of gain is achieved with a gain flatness of less than ±0.1 dB across a 60 MHz bandwidth. The device can operate directly from a +5 V supply, consuming only around 250 mA under small-signal operation. Although measurements were performed only at 1.76 GHz, it would be reasonable to expect similar performance from 1.65 to 1.9 GHz.

An existing AH115 evaluation board can be modified for optimal performance at 1.76 GHz. An AH115-PCB1960 was modified in this example. The only changes required were the input tuning components (L2 and C8 shown below) and the output tuning component (C9). The input trace had to be cut on the original evaluation for placement of the series input inductor. Components C2 and R3 are used to allow the circuit to achieve unconditional stability at all frequencies.

Typical RF Performance

Frequency	1760 MHz
S21 – Gain	15.3 dB
S11 – Input Return Loss	-13 dB
S22 – Output Return Loss	-9 dB
Output P1dB	+28.7 dBm
Output IP3 (+12 dBm / tone, 1 MHz spacing)	+42.6 dBm
IS-95 Channel Power (@-45 dBc ACPR, -885 kHz offset)	+22.7 dBm
Noise Figure	5.1 dB
Device / Supply Voltage	+5 V
Device / Supply Current	255 mA



Specifications and information are subject to change without notice