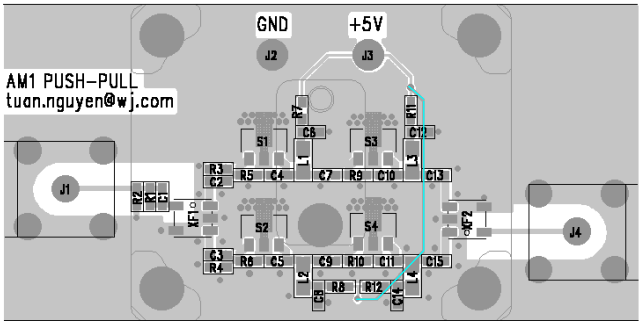
Summary

The WJ AM1 can be used in cascade and in a push-pull configuration to produce a module with 20 dB of flat-gain and excellent performance for CATV applications while only drawing a total of 300 mA of current on a +5 V supply. Better than 1.5:1 VSWR is achieved at both the input and output ports with high linearity performance (OIP2 and OIP3). The high CSO and CTB measurements of 80 dBc at +32 dBmV / channel output power (77 channels) makes this module ideal for CATV line-amplifier solutions.

Measured RF Performance

Frequency	MHz	50	100	200	400	800
S21 – Gain	dB	20.3	20.6	20.7	20.4	20.1
S11 – Input R.L.	dB	-15	-22	-23	-15	-10
S22 – Output R.L.	dB	-12	-14	-15	-15	-18
Output IP3	dBm	+35.5	+36.5	+37.5	+39	+39.5
Output IP2	dBm	+65	+65	+68	+71	+71
CTB	dBc	-80				
CSO	dBc	-82				
Voltage	V	+5				
Total Current	mA	300				

OIP3 and OIP2 are measured at +2 dBm / tone.
CSO and CTB are measured with +32 dBmV / channel, 77 channels, flat-loaded from 50-550 MHz.
Each AM1 device draws a typical 75 mA.



The board material is .028" FR4 (ε_R = 4.8).
A 0 Ω jumper is used on R1, R3, and R4. They are not required in the final design.
The following components were not loaded and are not required: R2, C1, C2, and C3.