

# RF AMPLIFIER

Available as: QBH-304, 4 Pin TO-8 Tall (080-22502-0001)  
 QBH-9-304, Connectorized Housing (ES E52-1501)

## MODEL QBH-304

### Features

- High Gain: 19.5 dB Typical
- High Power: +8.5 dBm Typical
- Operating Temp. -55 °C to +85 °C
- Environmental Screening Available

### Specifications

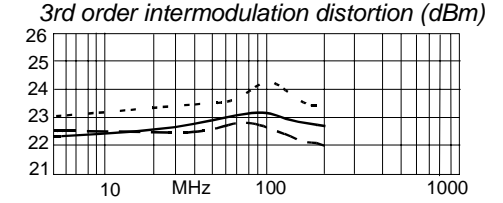
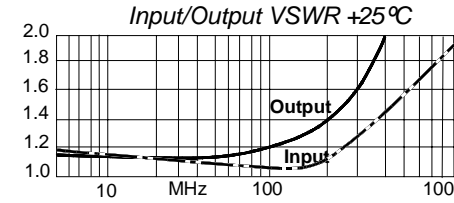
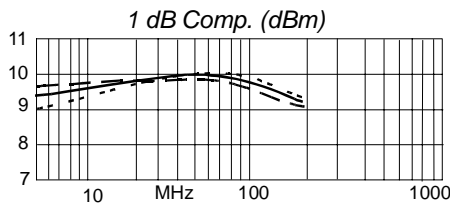
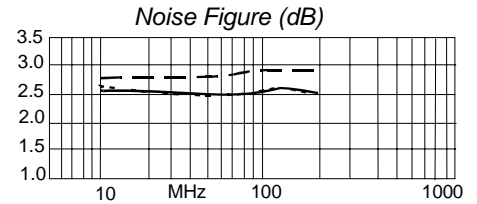
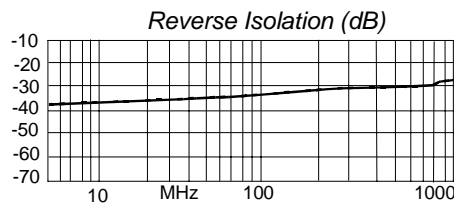
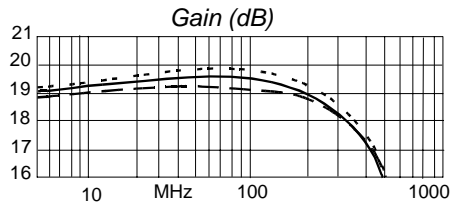
CHARACTERISTIC	TYPICAL Ta = 25 °C	MIN/MAX Ta = -55 °C to +85 °C
Frequency	5 - 200 MHz	5 - 200 MHz
Gain (dB)	19.5 ± 0.5	—
Gain vs. Temperature	—	+0.3/-0.6 Max.
Gain Flatness	0.8	1.2 Max.
Reverse Isolation (dB)	-32	-31 Min.
VSWR In	1.5:1	1.6:1 Max.
VSWR Out	1.5:1	1.6:1 Max.
1 dB Compression (dBm)	+8.5	+7.5 Min.
Output Intercept point		
3rd Order	+20	+19 Min.
2nd Order	+26	+25 Min.
Noise Figure (dB)	3.0	3.4 Max.
Power Vdc	+15	+15
mA	24	25 Max.

### Maximum Ratings

Ambient Operating Temperature ..... -55°C to +125 °C  
 Storage Temperature ..... -65°C to +150 °C  
 Case Temperature ..... +125 °C  
 DC Voltage ..... +19 Volts  
 Continuous RF Input Power ..... +13 dBm  
 Short Term RF Input Power ..... 50 Milliwatts (1 Minute Max.)  
 Maximum Peak Power ..... 0.5 Watt (3 µsec Max.)

Note: Specifications are guaranteed when tested in a 50 Ohm system.  
 Specifications indicated as typical are not guaranteed.

### Typical Performance Data



Legend ——— +25 °C    - - - - +85 °C    - - - - - - - - - -55 °C

### Linear S-Parameters Data

FREQ. MHz	-- S11-- dB    Ang	-- S21-- dB    Ang	-- S12-- dB    Ang	-- S22-- dB    Ang
5	-24.3 140.6	19.1 -171.7	-36.4 17.4	-24.9 99.4
8	-25.3 136.2	19.3 -175.4	-36.1 13.4	-26.2 77.9
10	-26.0 134.3	19.4 -177.0	-36.1 12.0	-26.5 68.8
30	-30.0 119.3	19.7 173.0	-35.3 7.4	-25.8 35.6
50	-31.9 112.6	19.7 165.6	-35.0 7.3	-24.4 27.1
70	-32.8 93.0	19.7 158.5	-34.7 6.4	-23.2 22.4
90	-33.1 68.0	19.7 151.8	-34.4 6.1	-22.0 18.8
150	-28.4 18.1	19.6 132.1	-33.4 4.5	-18.8 7.8
200	-24.4 -15.2	19.5 115.8	-32.6 0.4	-16.5 -3.3



Spectrum Microwave · 2144 Franklin Drive N.E. · Palm Bay, Florida 32905 · PH (888) 553-7531 · Fax (888) 553-7532 03/11/05

www.SpectrumMicrowave.com Spectrum Microwave · 2707 Black Lake Place · Philadelphia, Pennsylvania 19154 · PH (215) 464-4000 · Fax (215) 464-4001