

RF AMPLIFIER

Available as: QBH-1505PM, 4 Pin TO-8 (T4)
 QBH-5105PM, 4 Pin 0.450" Surface Mount (SM3)
 QBH-9-1505PM, SMA Connectorized Housing (H1)

MODEL QBH-1505PM

Features

- Ultra Low Phase Noise Performance
- Superior Gain Stability
- **High Output Power: +28 dBm Typical**
- Environmental Screening Available

Specifications

CHARACTERISTIC	TYPICAL Ta = 25 °C	MIN/MAX Ta = -55 °C to +85 °C
Frequency	10 - 1000 MHz	10 - 1000 MHz
Gain (dB)	13.0	12.0 Min.
Gain Flatness (dB)	±0.25	±0.75 Max.
Power @ 1 dB Comp. (dBm) (10-500 MHz)	28.0	25.5 Min.
(500-1000 MHz)	26.5	25.0 Min.
Reverse Isolation (dB)	17	15 Max.
VSWR In	1.5:1	2.0:1 Max.
Out	1.5:1	2.0:1 Max.
Noise Figure (dB)	6.0	9.0 Max.
Power Vdc	+12	+12
mA	195	210 Max.

Note: Care should always be taken to effectively ground the case of each unit.
 (Measured in a 50 Ohm system @ +12 Volts DC nominal unless otherwise noted)

Revision 3-13-2017 (Added QBH-5105PM)

Typical Intermodulation Performance at 25 °C

Second Order Harmonic Intercept Point +46 dBm (Typ.)
 Second Order Two Tone Intercept Point +40 dBm (Typ.)
 Third Order Two Tone Intercept Point +34 dBm (Typ.)

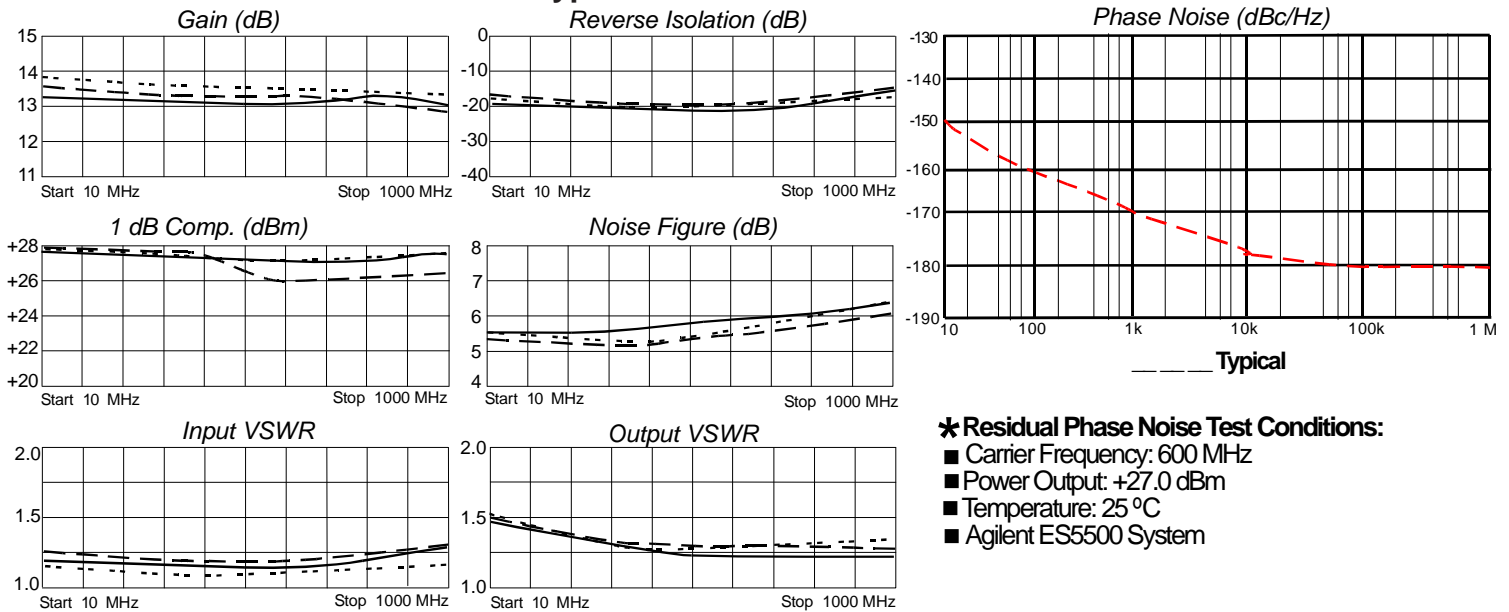
Absolute (No Damage) Maximum Ratings

Ambient Operating Temperature -55°C to +100 °C
 Storage Temperature -62°C to +125 °C
 DC Voltage +15 Volts
 Continuous RF Input Power +13 dBm
 Short Term RF Input Power 50 Milliwatts (1 Minute Max.)
 Maximum Peak Power 0.1 Watt (3 µsec Max.)

Guaranteed Phase Noise Performance (dBc/Hz)

Frequency	Typical	Guarantee
10 Hz	-150	-145
100 Hz	-160	-155
1 kHz	-170	-165
10 kHz	-177	-172
100 kHz	-180	-175
1 MHz	-180	-175

Typical Performance Data



* Residual Phase Noise Test Conditions:

- Carrier Frequency: 600 MHz
- Power Output: +27.0 dBm
- Temperature: 25 °C
- Agilent ES5500 System

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

Linear S-Parameters Data

FREQ. MHz	-- S11--		-- S21--		-- S12--		-- S22--	
	Mag	Ang	Mag	Ang	Mag	Ang	Mag	Ang
10	0.11	-61.9	4.70	-172.3	0.11	8.8	0.23	151.8
250	0.02	-83.6	4.66	116.7	0.11	-34.4	0.14	148.5
500	0.01	-171.7	4.55	54.5	0.12	-70.5	0.14	124.8
750	0.02	126.7	4.49	-7.5	0.13	-109.3	0.15	97.0
1000	0.05	15.7	4.51	-70.8	0.14	-151.2	0.13	40.7
1200	0.12	-44.2	4.58	-123.8	0.15	173.5	0.13	-25.7
1300	0.16	-70.8	4.60	-151.8	0.15	155.1	0.14	-68.5



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