

0.5 – 4.0GHz Low Noise Amplifier

The AQLA005040-0P8 is a low noise amplifier covering 0.5GHz to 4.0GHz. It boasts a noise figure of 0.8dB typical and exhibits high linearity across the passband.

Key Features:

- High Output Power 20dBm Typical
- High Linearity and Low Noise Figure
- Convenient AC Power Input (AC110V/220V)
- Integrated Heat Sink and Fan

Product Specifications

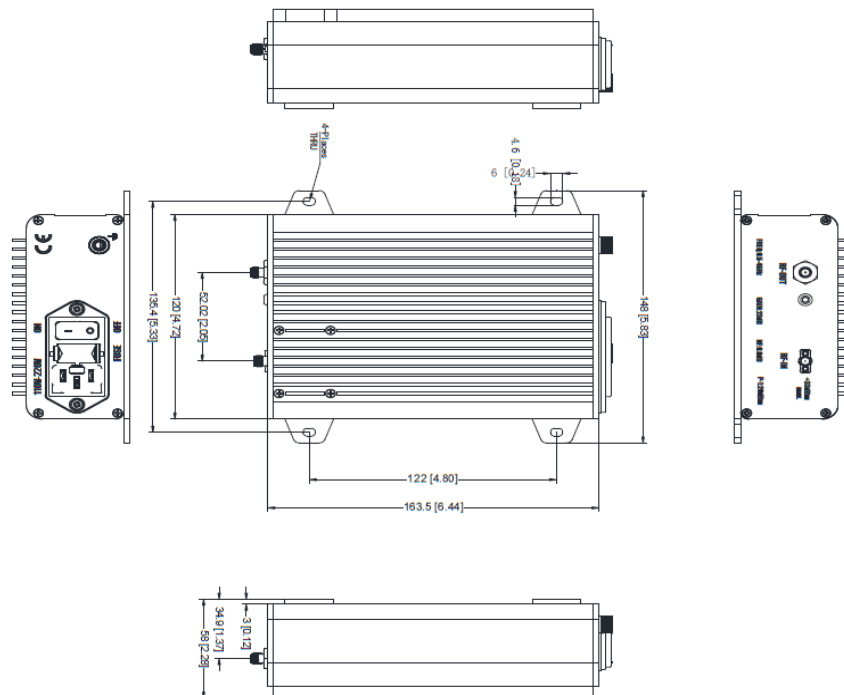
Parameter	Min	Typ	Max	Units
Frequency Range	0.5	-	4.0	GHz
Noise Figure	-	0.8	1.5	dB
Gain	17	23	26	dB
Gain Flatness	-	±2.5	±3.5	dB
Gain Variation over Operating Temperature	-	±0.5	-	dB
Output Power for 1dB Compression (P1dB)	14	20	-	dBm
Saturated Output Power (Psat)	-	21	-	dBm
Output Third Order Intercept (OIP3)	-	35	-	dBm
RF Input Power	-	-	33	dBm
Isolation	-	-30	-	dB
Input VSWR		2.0	3.0	:1
Output VSWR		1.8	2.2	:1
Operating voltage	110	220	240	V _{AC}
Supply Current	-	60	-	mA
Input/Output Connector	SMA Female			

Mechanical and Environmental Specifications

Dimension	163.5 x 120 x 58 mm (excluding connectors and mounting flange)
Material/Finish	Aluminum / Gray Paint
Operating Temperature	-40°C to -85°C
Storage Temperature	-50°C to -105°C
Altitude	30,000 ft (Epoxy Sealed Controlled Environment)
	60,000 ft. 1.0psi min (Hermetically Sealed Un-controlled environment) (Optional)
Vibration	25gRMS (15 degrees 2KHz) endurance, 1 hour per axis
Humidity	100% RH @ 35°C, 95% RH @ 40°C
Shock	20G for 11msec half sine wave, 3 axis both directions

Outline Drawing

All Dimensions in mm (inches); Outline Tolerances ± 0.5 (0.02)



Operating Procedure

Biasing Up Procedure

- Step 1 Connect the input and output with 50 Ohm source and load with in-band return loss better than 10dB.
- Step 2 Connect AC Plug
- Step 3 Flip switch to “ON” position

Power Down Procedure

- Step 1 Flip switch to “OFF” Position
- Step 2 Remove AC Plug
- Step 3 Remove RF Connection



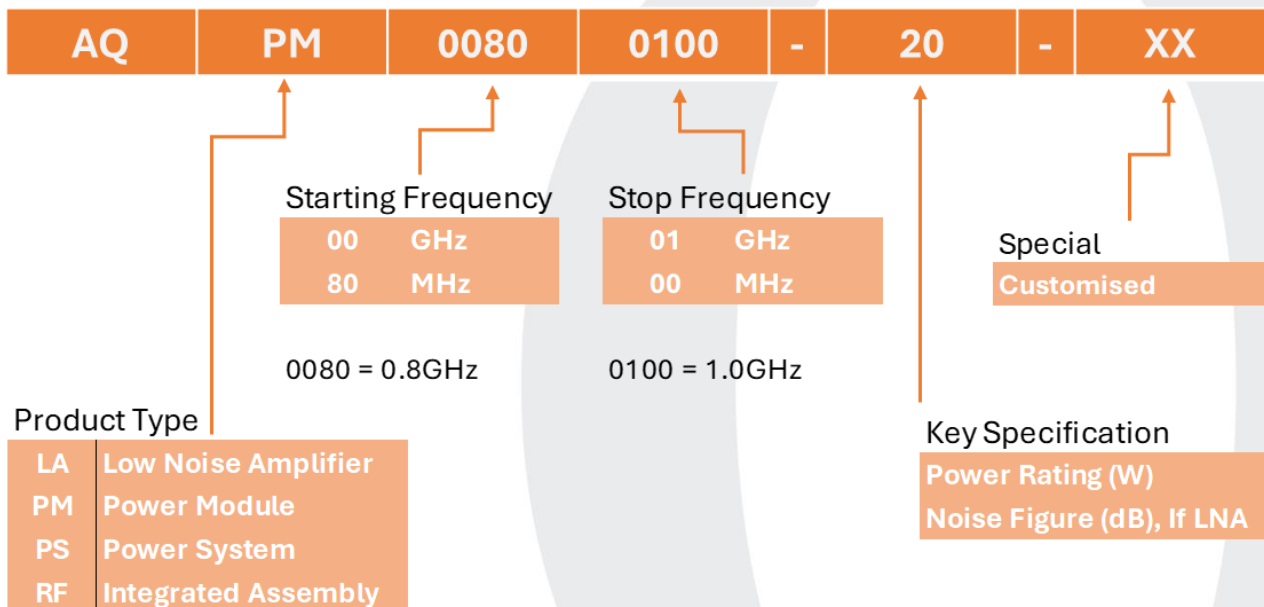
Documentation and Test Reports

All arQana Products are delivered with Electrical Test Report and Certificate of Conformance as standard. arQana can provide additional testing for any of our existing products according to your requirements. Please contact us for a discussion.

Customization

arQana can fully design or configure any of our existing products according to your specifications. Please contact us for a discussion.

Part Numbering



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Document Revision History

Date	Description	Version	Done by
27 Dec 23	• Document Creation.	1.0	QST
21 Jan 24	• Remove Page Numbering.	2.0	QST
31 Jul 24	• New Datasheet Format. • Updated MPN from AQLA0050004000-0P8 to AQLA005040-0P8.	3.0	QST

