AQPM330370P-50

33.0 – 37.0 GHz 50W Power Amplifier

Features

- Small Signal Gain 65dB Typical
- Output Saturation Power 47dBm Typical
- 50 Ohm Matched

Product Specifications

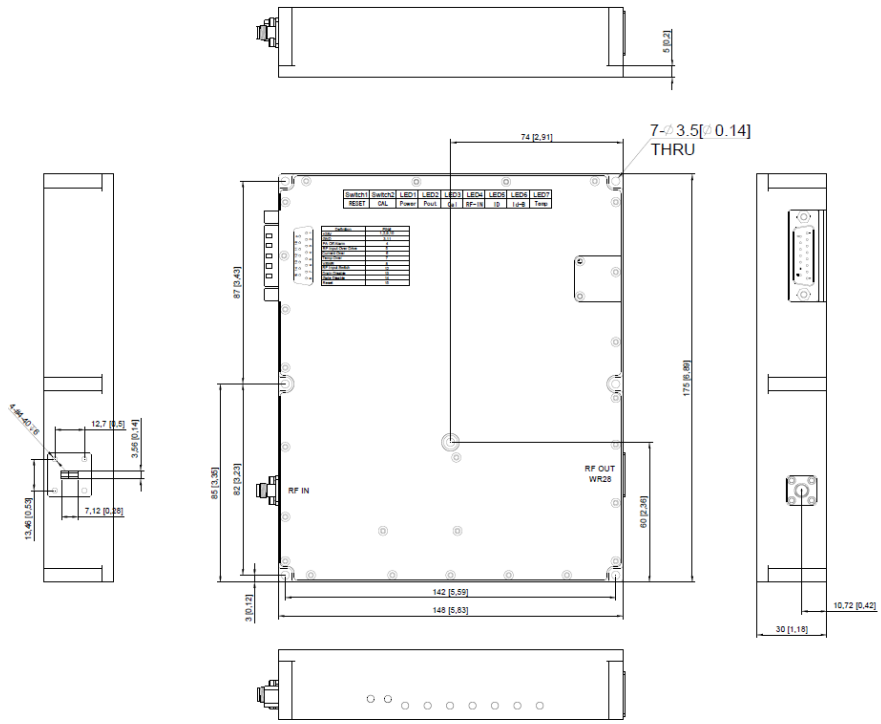
Parameter		Min	Typ	Max	Units
Frequency Range		33.0	-	37.0	GHz
Small Signal Gain		50	65	-	dB
Gain Flatness		-	±3.0	-	dB
Gain Variation over Temperature		-	±3.0	-	dB
Input VSWR		-	2.0	-	:1
Output 1dB Compression Point (P1dB)		-	42	-	dBm
Saturated Output Power (P_{sat}) PW = 1ms, Duty Cycle = 10%		-	47	-	dBm
IM3 (Output Power @ P1dB)		-	-30	-	dBc
Isolation S12 (RF On, IDQ ON)		-	-60	-	dB
Power Added Efficiency (PAE)		-	10	-	%
Switching Speed	Enable	-	250	-	ns
	Disable	-	250	-	ns
Drain Control Speed	Enable	-	500	-	µs
	Disable	-	500	-	µs
Gate Control Speed	Enable	-	500	-	µs
	Disable	-	2000	-	µs

Mechanical Specifications

Supply Current (@P1dB)	+28V@10A
RF Input/Output Connectors	2.92mm Female / WR28
Net Weight (max)	3.5 kg
Weight (including Heat Sink)	6.5 kg

Outline Drawing

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



Environmental Specifications

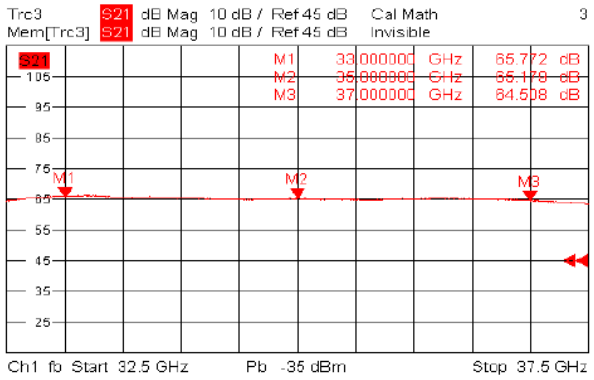
Operating Temperature	-40°C to +70°C (Case Temperature)
Storage Temperature	-50°C to +105°C
Altitude	30,000 ft. (Epoxy Sealed Controlled Environment) 60,000 ft., 1.0psi min (Hermetically Sealed Uncontrolled Environment) (Optional)
Vibration	25gRMS (15 degrees 2KHz) endurance, 1 hour per axis
Humidity	100% RH @ 35°C, 95% RH @ 40°C
Shock	20G for 11msec half since wave, 3 axis both directions
Dimension (LxBxH)	480 x 432 x 132mm, 3U
Cooling	Forced Air Cooling

Operating Procedure

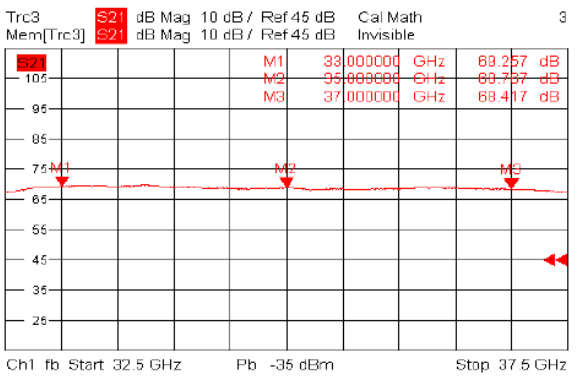
Biasing Up Procedure		**Power Down Procedure**	
Step 1	Connect Ground Pin	Step 1	Turn off +28V Biasing
Step 2	Connect Input and Output	Step 2	Remove RF Connection
Step 3	Connect +28V biasing	Step 3	Remove Ground

Test Curves

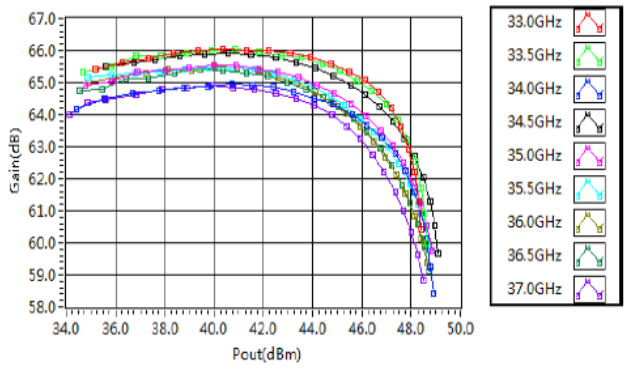
Gain @ +25°C



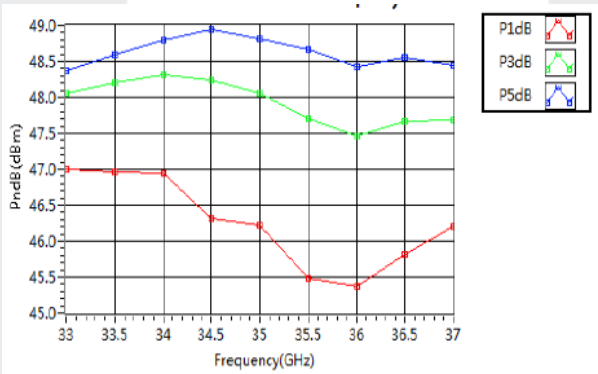
Gain @ +40°C



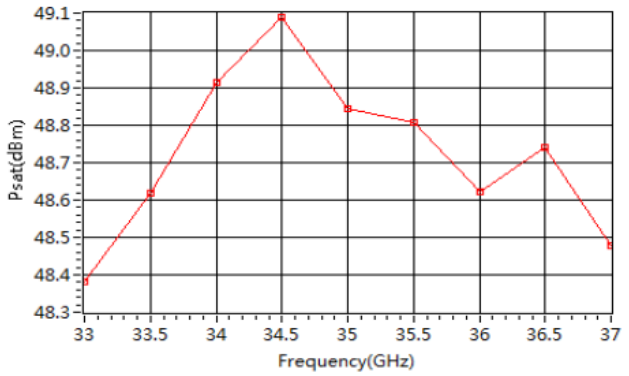
Gain vs Output Power (Pulsed)



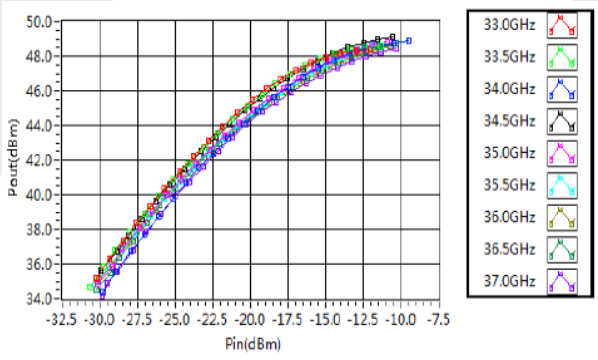
PndB vs Frequency (Pulsed)



Saturation Power vs Frequency (Pulsed)



P_{out} vs P_{in} (Pulsed)



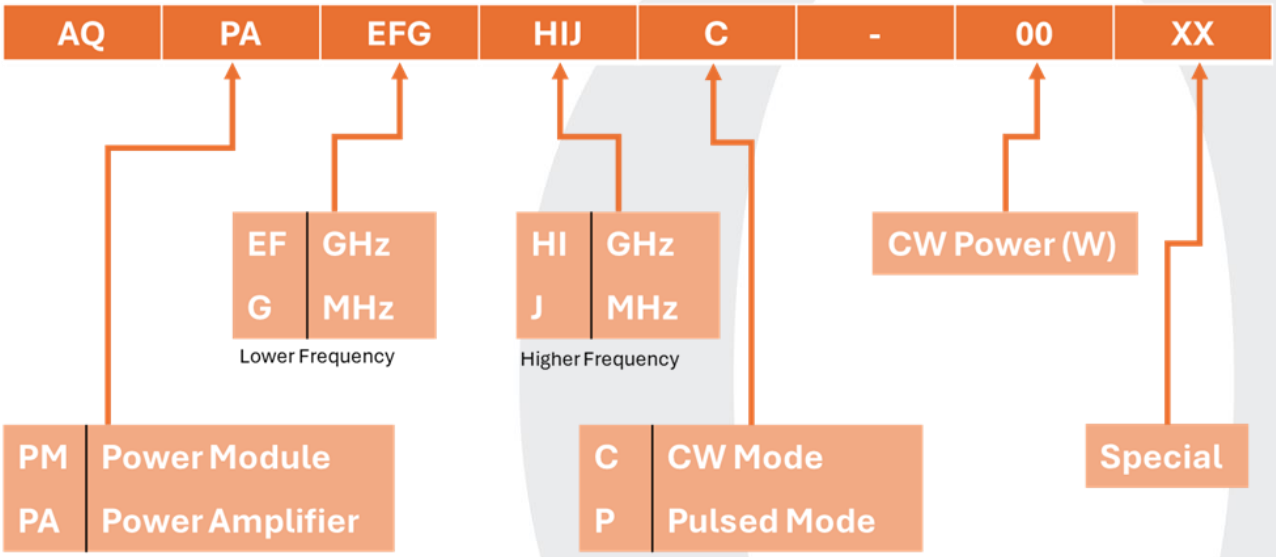
Documentation and Test Reports

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



Example: AQPA020060C-20: Power Amplifier, 2.0 to 6.0GHz, CW, 20W.

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