

# AMT-A0421 35 GHz to 40 GHz Power Amplifier Broadband P1dB 1W (+30 dBm)



## Data Sheet

## Features

- 35 GHz to 40 GHz Frequency Range
- Gain 40 dB Typical
- Gain Flatness  $\pm 1.5$  dB Typical
- Typical P1dB power > +30 dBm
- Internally Regulated
- Operates from Single +8V Supply
- Unconditionally Stable
- Compact Size
- Available in Hermetic Laser sealed version

## Description

The AMT-A0421 is a High Frequency Broadband Power amplifier with output power of 1W P1dB in a very compact size. The performance is achieved through the use of AMTI's proprietary matching technology and latest in GaAs technology. The amplifier I/Os are Internally matched to 50 Ohms and DC Blocked. The AMT-A0421 is ideal for use as power Amplifier for test equipment, Communication systems or where broadband amplification and power are required in a Hi-Rel communications system for Commercial or Military applications

## Applications

- Test Equipment
- Transmitter
- Communication Systems
- EW Systems
- Lab Applications
- Radar

## MAXIMUM RATINGS<sup>1</sup>

Parameter	Symbol	Units	MIN	MAX
Operating Temperature – Case	T <sub>MO</sub>	° C	-20	+65
Storage Temperature - Case	T <sub>MS</sub>	° C	-40	+125
RF Input power (CW)	P <sub>in</sub>	dBm		+15
Die T <sub>Junction</sub>	T <sub>J</sub>	° C		+150
Positive Supply Voltage	V <sub>+SS</sub>	V		+12

### Appropriate Heat sink must be used, DO NOT APPLY DC TO RF INPUT

1.Stresses above those listed under "Absolute Maximum Rating" may cause permanent damage to the device. This is a stress rating only and functional operation of the device at these or any other conditions above those indicated in the operational sections of this specification is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

## ELECTRICAL SPECIFICATIONS @ 23°C

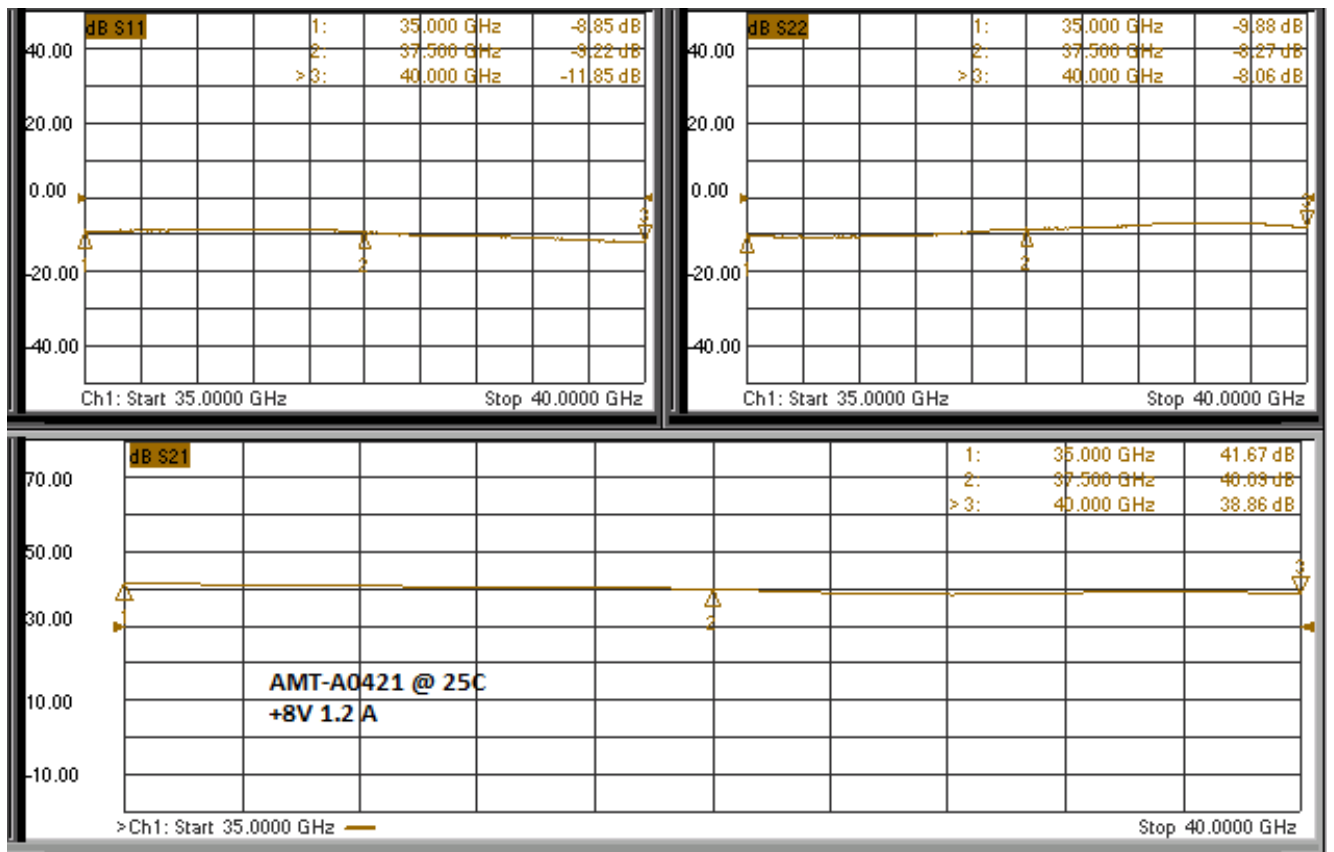
Parameter	Conditions	Units	MIN	Typical	MAX
Frequency Range		GHz	35		40
Gain	Small Signal	dB	35	40	
Gain Flatness		dB		±1.5	±3
Output Power (P1dB)	35 to 39 GHz	dBm	+30	+31	
Output Power (P1dB)	39 to 40 GHz	dBm	+29	+30	
OIP3	OPI3 @ 35 GHz Two tone F1-F2= 10MHz	dBm		40	
Noise Figure	By design	dB	12		
RF Input Impedance	Reference to 50 ohms VSWR			1.8:1	2.3:1
RF Output Impedance	Reference to 50 ohms VSWR			1.8:1	2.5:1
Supply Voltage Positive:		V		+8	
Supply Current Positive:	Small signal	A		1.2	3

Notes:

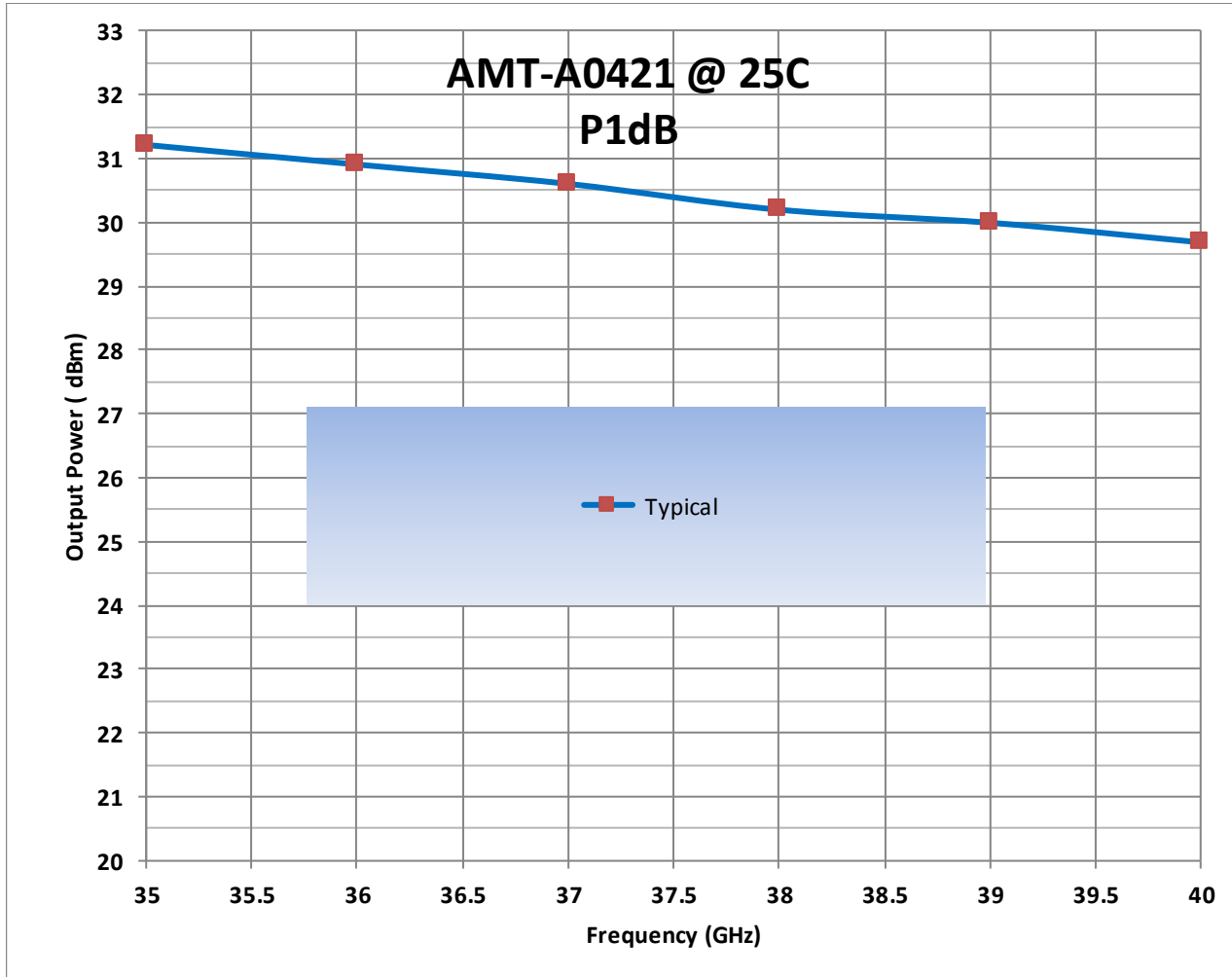
1/ Unconditional Stability

Customized configurations of the above specifications are available

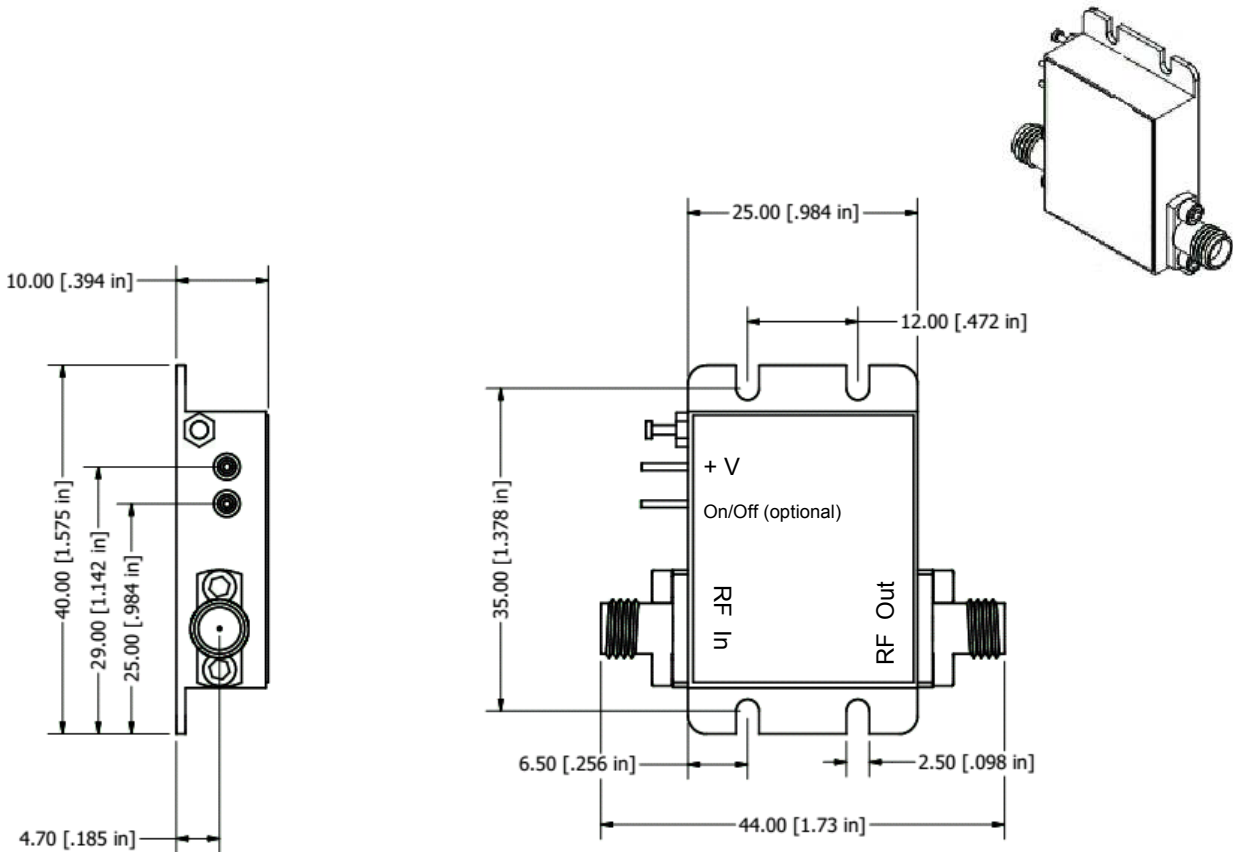
# Typical S-Parameters @ 23°C



# Typical P1dB Output Power @ 23°C



## Package Outline M020: 2.92mm Connectorized mm(inches)



**Field replaceable 2.92mm Connectors, Removable Ground slug**

**Note: The unit must be attached to proper heat sink before turn on**

<b>Model Number</b>	<b>Description</b>	<b>Hermeticity</b>	<b>Package</b>
AMT-A0421	2.92mm Female	Non-Hermetic	Outline: M020
AMT-A0421-H	2.92mm Female	Hermetic Laser Weld Tested to Leak Rate <math>2.0 \times 10^{-8}</math>	Outline: M020

Contact us for custom configurations and special requirements.

Our highly experienced team of engineers can quickly identify and implement innovative solutions using latest technology to improve performance and reduce cost.

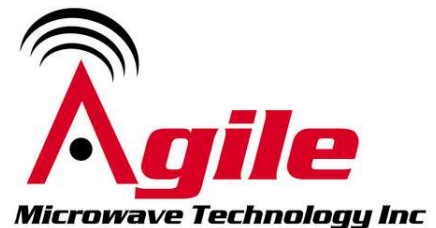
- Add additional functionality: Input limiter, Temperature compensation, Amplitude/Phase matching, Amplitude/Phase Tracking, Automatic Gain control, Gain sloping, Bypass path, Specific supply voltage, Regulation, Power detector, Health status, and others
- Integrated: Filters, Switches, Limiter, Digital attenuator, Phase shifter, Microcontroller, Multiple amplifiers, Switch matrix, Comb generators and others
- Mechanical: Custom packages - Surface Mount, Connectorized, Waveguide, Carrier, Drop-in, Hermetic and others

Agile Microwave Technology Inc is the logical choice for all your commercial or military RF/Microwave components/module requirements.

### Contact Information:

**701 Cascade Pointe Lane  
Cary, NC 27513**

**ISO 9001:2015  
Certified Company**



**Phone: (984) 228-8001**

**[info@agilemwt.com](mailto:info@agilemwt.com)**

**[www.agilemwt.com](http://www.agilemwt.com)**

AMTI reserves the right to change at any time without notice the design, specifications, function/form or availability of its products described herein. The buyer/customer has the responsibility to validate the performance for their applications. No liability is assumed as result of use of this datasheet or product and no patent licenses are implied. AMTI reserves all rights .