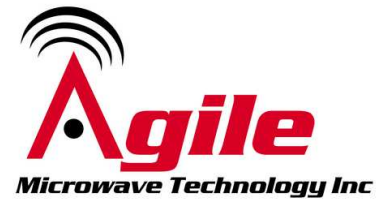


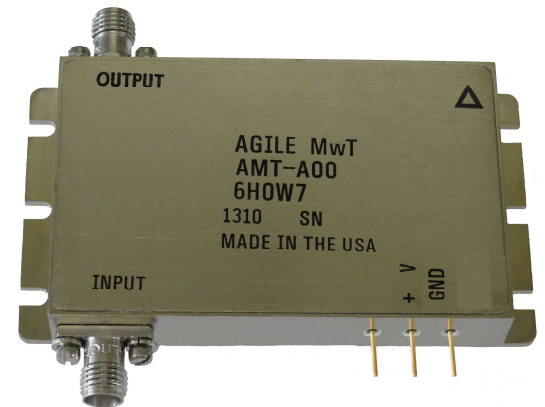
AMT-A0420 2 GHz to 18 GHz High OIP3 Broadband High Linearity Power Amplifier Module



Data Sheet

Features

- 2 GHz to 18 GHz Frequency Range
- Typical P1dB power > +33 dBm (2W)
- Gain 22 dB Typical
- Gain Flatness ± 1.2 dB Typical
- **High Linearity OIP3 > +44 dBm @ 11 GHz**
- Internally Regulated
- Operates from Single +28V Supply
- Unconditionally Stable
- State-of-the-Art GaAs/GaN Technology



Description

The AMT-A0420 is a +33 dBm P1dB Broadband Linear power amplifier in a compact size. The performance is achieved through the use of AMTI's proprietary matching technology. The amplifier I/Os are Internally matched to 50 Ohms and are DC blocked. The AMT-A0420 is ideal for use as extending power range of test equipment, EW systems, Transmitter or where broadband linear power is required in a Hi-Rel communications system for Commercial or Military applications

Applications

- Radar
- Test Equipment
- EW Systems
- Transmitters
- Lab Applications

MAXIMUM RATINGS¹

Parameter	Symbol	Units	MIN	MAX
Operating Temperature – Case	T _{MO}	° C	-40C	+65
Storage Temperature - Case	T _{MS}	° C	-20	+125
RF Input power (CW)	P _{in}	dBm		+20
Die T _{Junction}	T _J	° C		+150
Positive Supply Voltage	V _{+SS}	V	+15	+30

Appropriate Heat sink must be used

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	2		18
Gain	Small Signal	dB	18	22	
Gain Flatness		dB		±1.2	±2.5
Noise Figure		dB			8
Output Power (P1dB)		dBm	+30	+33	
OIP3 (Pout = +18 dBm)	OIP3 measured @ 11 GHz Two tone F1-F2=10MHz	dB	+40	+44	
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	2.2:1
Supply Voltage Positive:		V		+28V	
Supply Current Positive:	Small signal	mA		750	1200

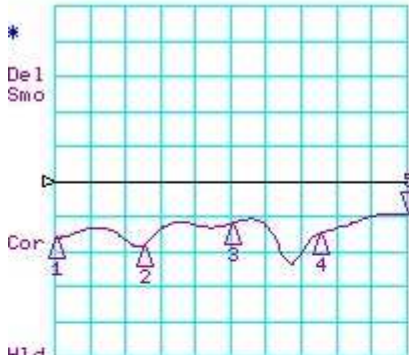
Notes:

1/ Unconditional Stable

Customized configurations of the above specifications are available

Typical S-Parameters @ 23°C

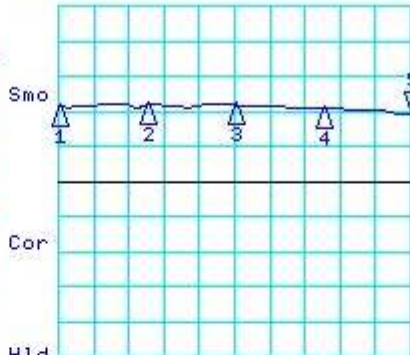
CH1 LOG 10 dB/ REF 0 dB
S11 5:-9.5550 dB 18.000 000 000 GHz



CH1 Markers
1:-16.112 dB
2.00000 GHz
2:-18.183 dB
6.00000 GHz
3:-11.944 dB
10.0000 GHz
4:-14.933 dB
14.0000 GHz

H1d
START 2000.000 MHz STOP18000.000 MHz

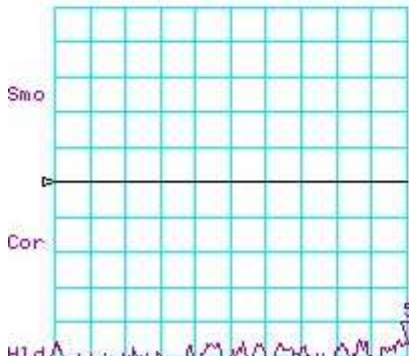
CH2 LOG 10 dB/ REF 0 dB
S21 5: 19.155 dB 18.000 000 000 GHz



CH2 Markers
1: 21.569 dB
2.00000 GHz
2: 21.861 dB
6.00000 GHz
3: 21.925 dB
10.0000 GHz
4: 21.131 dB
14.0000 GHz

H1d
START 2000.000 MHz STOP18000.000 MHz

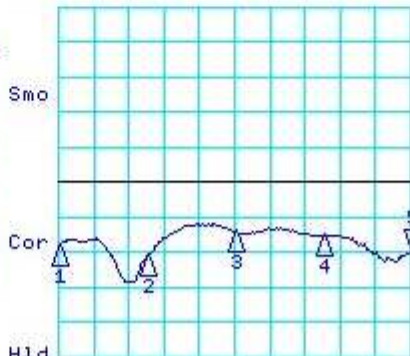
CH3 LOG 10 dB/ REF 0 dB
S12 5:-45.958 dB 18.000 000 000 GHz



CH3 Markers
1:-46.208 dB
2.00000 GHz
2:-51.987 dB
6.00000 GHz
3:-51.040 dB
10.0000 GHz
4:-50.791 dB
14.0000 GHz

H1d
START 2000.000 MHz STOP18000.000 MHz

CH4 LOG 10 dB/ REF 0 dB
S22 5:-19.913 dB 18.000 000 000 GHz



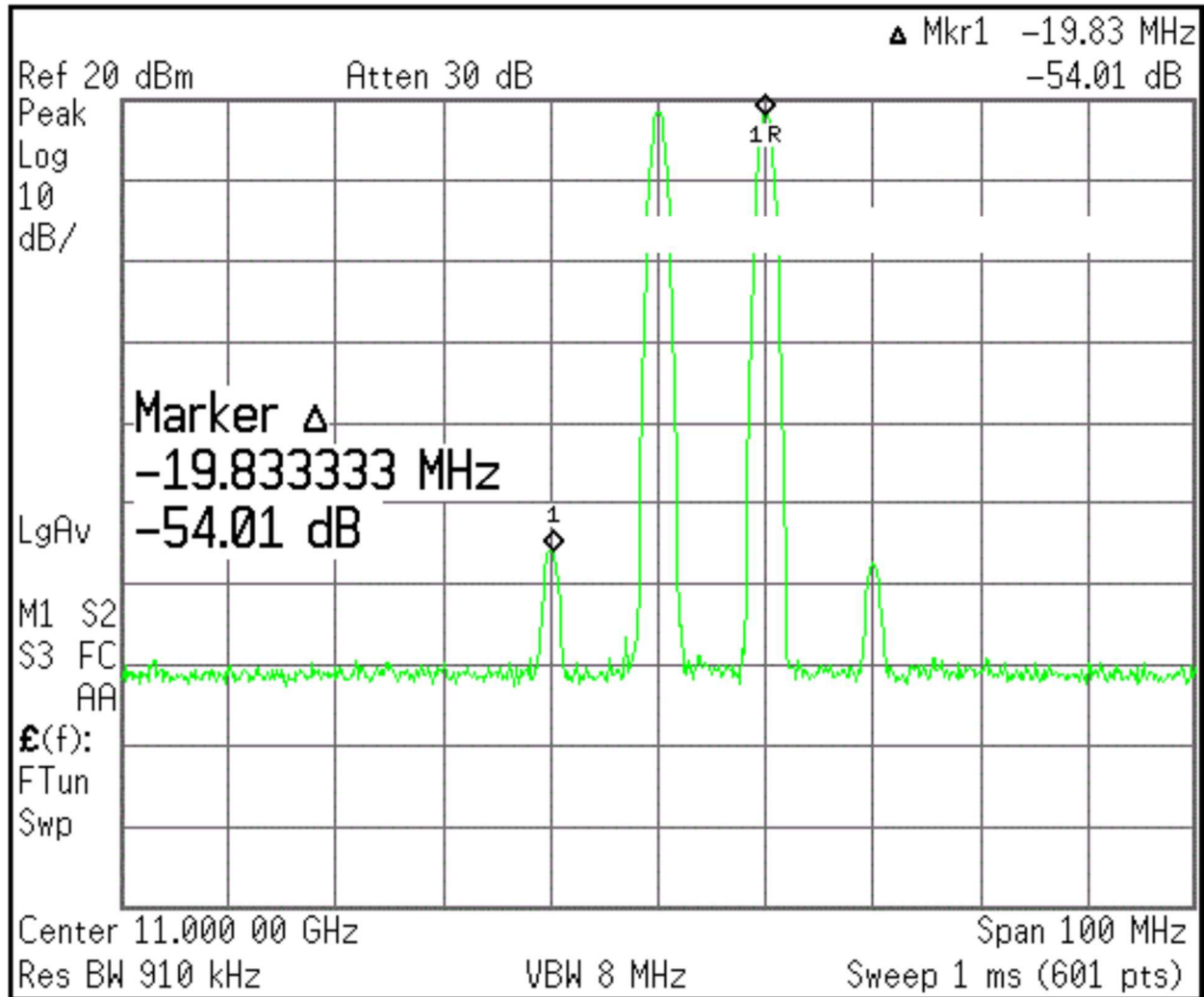
CH4 Markers
1:-17.974 dB
2.00000 GHz
2:-21.126 dB
6.00000 GHz
3:-14.193 dB
10.0000 GHz
4:-15.466 dB
14.0000 GHz

H1d
START 2000.000 MHz STOP18000.000 MHz

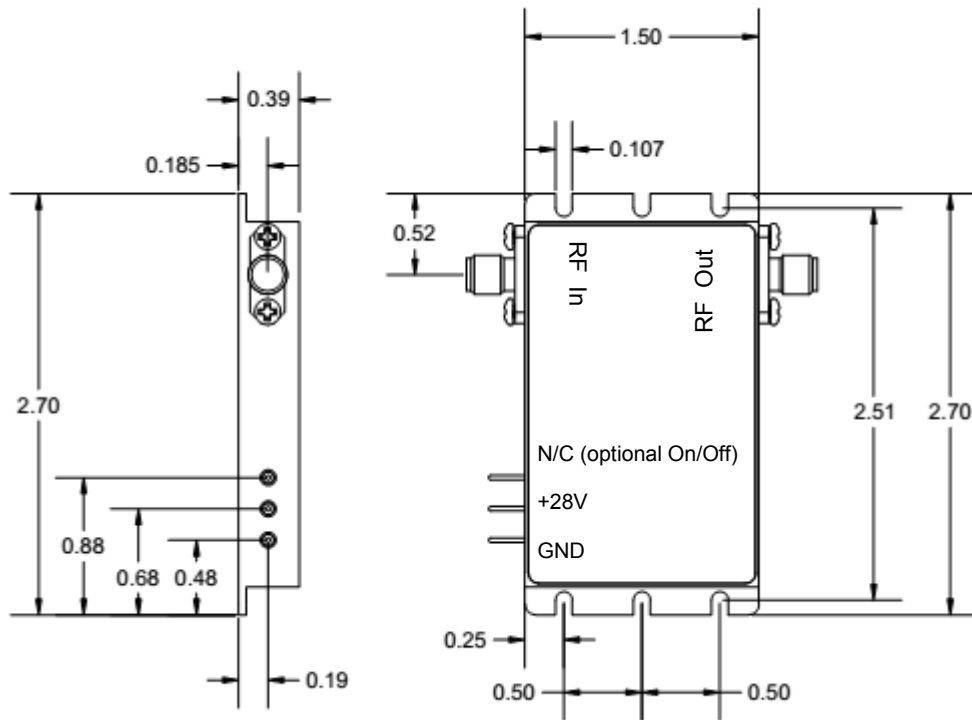
Typical OIP3 @ Pout = +18 dBm 25°C

$$\text{OIP3} = 54/2 (27) + 18 = 45 \text{ dBm}$$

✦ Agilent :



Package Outline M055: SMA Connectorized (inches)



Field replaceable SMA Connectors

Note: The unit must be attached to proper heat sink with thermal interface material (Thermal Pad or Thermal Grease)

Model Number	Description	Hermeticity	Package
AMT-A0420	SMA Female	Non-Hermetic	Outline: M055

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.

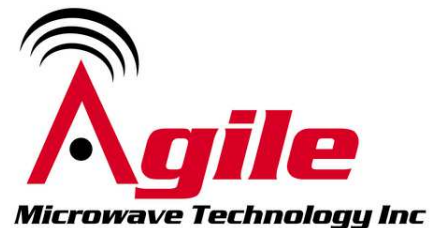
- Add additional functionality: Input limiter, Temperature compensation, Amplitude/Phase matching, Amplitude/Phase Tracking, Automatic Gain control, Gain sloping, Bypass path, Specific supply voltage, Regulation, Power detector, Health status, and others
- Integrated: Filters, Switches, Limiter, Digital 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:

**ISO 9001:2015
Certified Company**

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



Phone: (984) 228-8001

info@agilemwt.com

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 .