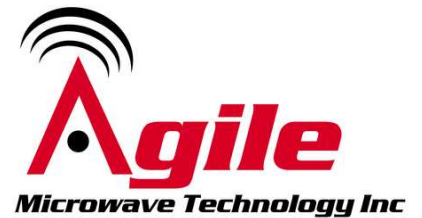


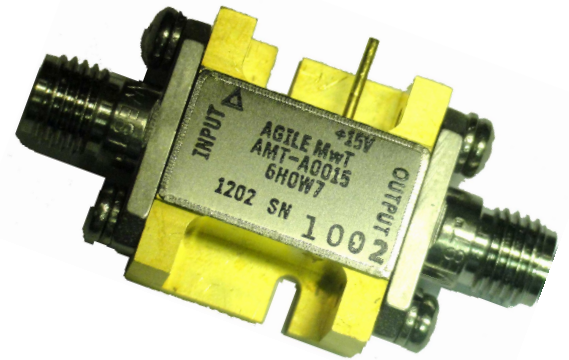
# AMT-A0015 500MHz to 8000MHz Broadband Low Noise Amplifier

## Data Sheet



## Features

- 500 MHz to 8000 MHz Frequency Range
- Typical Noise Figure < 1.4 dB
- Gain 33 dB
- Gain Flatness <  $\pm 1.5$  dB
- Internally Regulated
- Operates from a Single +12 to +15V Supply
- Unconditionally Stable
- State-of-the-Art GaAs Technology



## Description

The AMT-A0015 is a Broadband Low Noise amplifier with very low noise figure over the full frequency range. The performance is achieved through the use of AMTI's proprietary technology. The amplifier I/Os are Internally matched to 50 Ohms. The AMT-A0015 is ideal for use as Front End of receiver system, or where amplification is required without adding excessive noise in a Hi-Rel communications system for Commercial or Military applications

## Applications

- Receiver front end,
- Communication systems
- Microwave Radio systems
- Test Equipment

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

Parameter	Symbol	Units	MIN	MAX
Operating Temperature – Case	$T_{MO}$	$^{\circ}C$	-54	+85
Storage Temperature - Case	$T_{MS}$	$^{\circ}C$	-55	+150
RF Input power (CW)	$P_{in}$	dBm		+8
Die $T_{Junction}$	$T_J$	$^{\circ}C$		+150
Positive Supply Voltage	$V_{+SS}$	V		+15.5

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		MHz	500		8000
Gain	Small Signal	dB	30	33	
Gain Flatness		dB		±1.5	
Output Power (P1dB)	1 dB compression point @ 4GHz	dBm	7	9	
OIP3	OIP3 measured @ 4 GHz Two tone F1-F2= 10MHz	dB	17	20	
Noise Figure		dB		1.3	1.5
RF Input Impedance	Reference to 50 ohms VSWR			1.8:1	2.0:1
RF Output Impedance	Reference to 50 ohms			1:5:1	2.0:1
Stability Factor K	Unconditionally Stable		1		
Stability Factor B1	Unconditionally Stable		0		
Supply Voltage Positive:		V	+12		+15
Supply Current Positive:		mA		105	130

Notes:

1/ Unconditional Stability: ( $K > 1$ ) and ( $B1 > 0$ )

Customized configurations of the above specifications are available

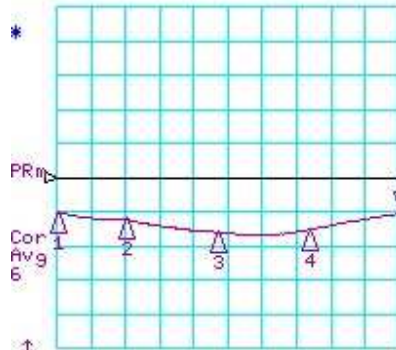
# Typical Performance @ 23°C

## S- Parameters

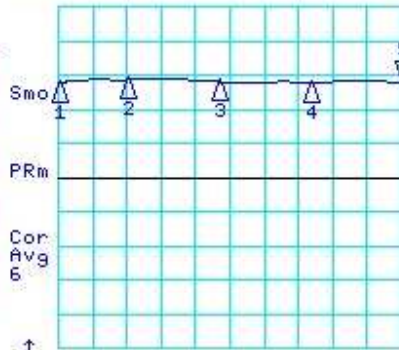
8 Feb 2012 17:52:28

CH1 LOG 10 dB/ REF 0 dB  
S11 5:-10.552 dB 8.000 000 000 GHz

CH2 LOG 5 dB/ REF 20 dB  
S21 5: 33.924 dB 8.000 000 000 GHz



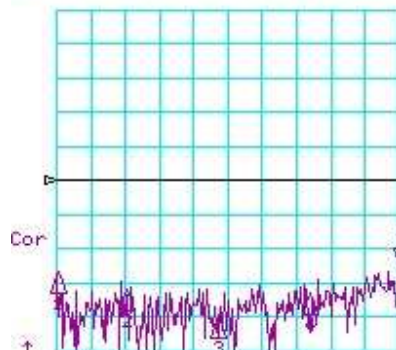
CH1 Markers  
1:-10.412 dB  
500.000 MHz  
2:-12.208 dB  
2.00000 GHz  
3:-15.028 dB  
4.00000 GHz  
4:-15.263 dB  
6.00000 GHz



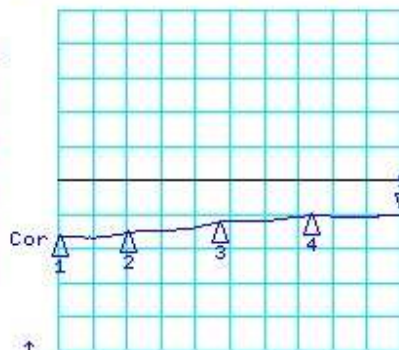
CH2 Markers  
1: 33.866 dB  
500.000 MHz  
2: 34.396 dB  
2.00000 GHz  
3: 34.070 dB  
4.00000 GHz  
4: 33.927 dB  
6.00000 GHz

CH3 LOG 10 dB/ REF -40 dB  
S12 5:-65.983 dB 8.000 000 000 GHz

CH4 LOG 10 dB/ REF 0 dB  
S22 5:-9.9670 dB 8.000 000 000 GHz



CH3 Markers  
1:-67.187 dB  
500.000 MHz  
2:-72.440 dB  
2.00000 GHz  
3:-80.549 dB  
4.00000 GHz  
4:-73.459 dB  
6.00000 GHz



CH4 Markers  
1:-16.300 dB  
500.000 MHz  
2:-15.378 dB  
2.00000 GHz  
3:-12.296 dB  
4.00000 GHz  
4:-10.227 dB  
6.00000 GHz

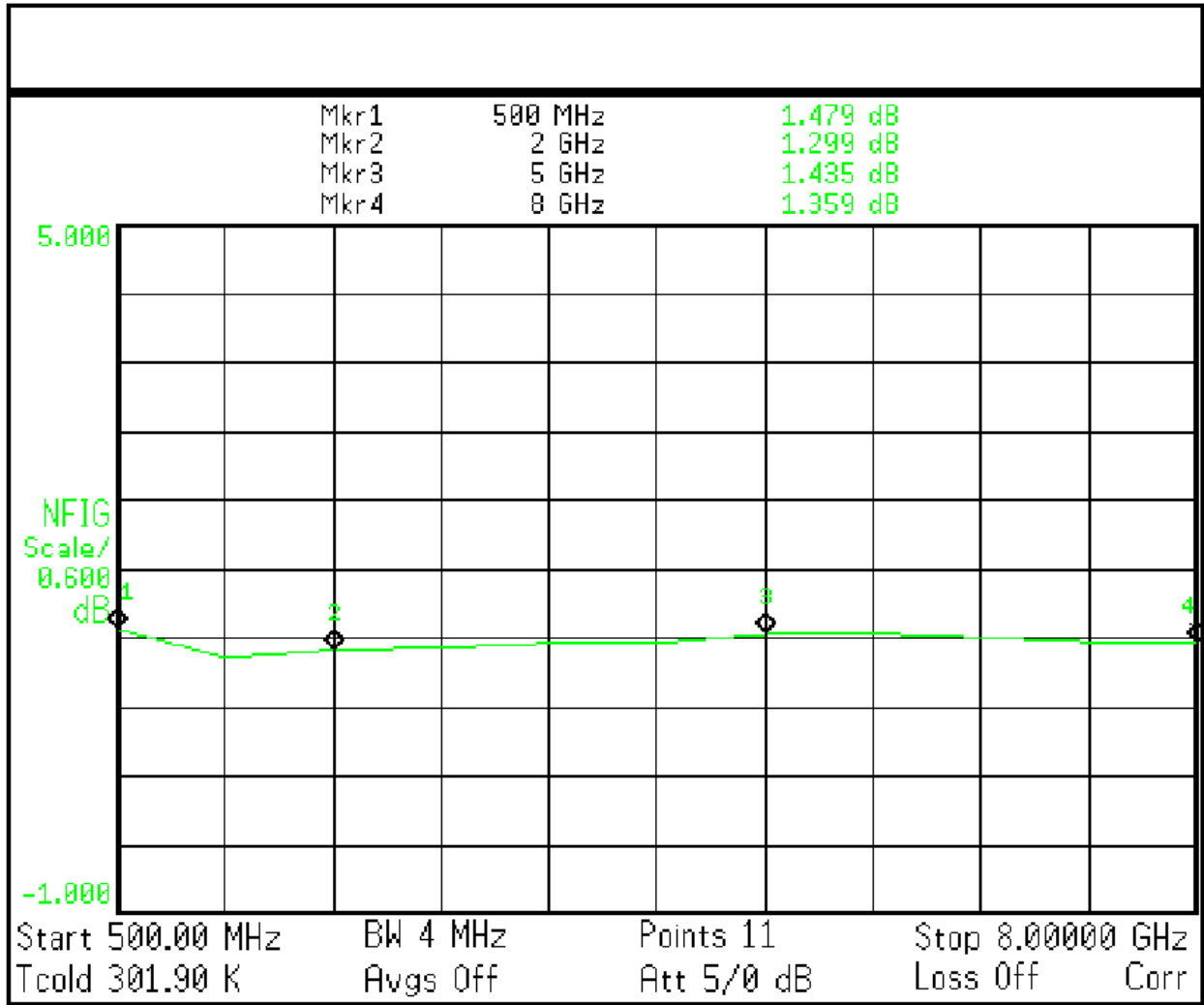
START 500.000 MHz STOP 8000.000 MHz

START 500.000 MHz STOP 8000.000 MHz

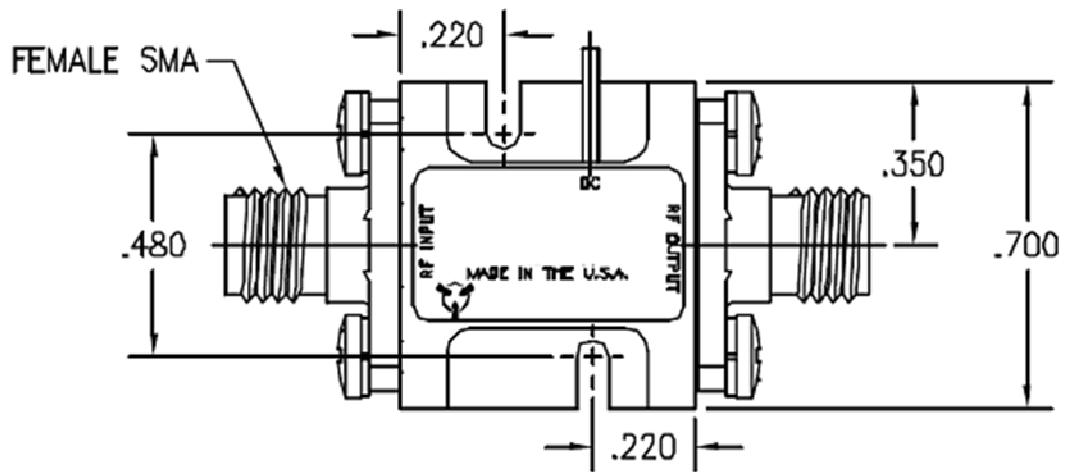
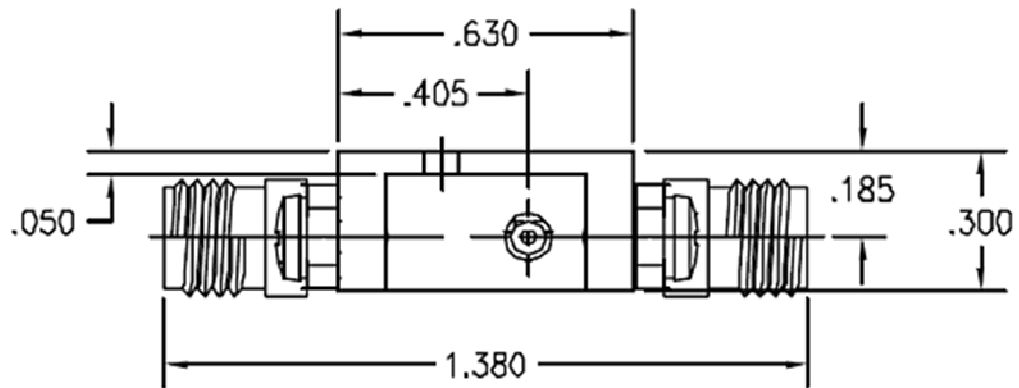
# Typical Performance

## Noise Figure @ 23C

Agilent 22:17:22 Jan 10, 2012



## Package Outline: SMA Connectorized (inches)



Model Number	Description	Hermeticity	Package
AMT-A0015	SMA Female	Non-Hermetic	Outline: M004
AMT-A0015-H	SMA Female	Hermetic	Outline: M004

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.

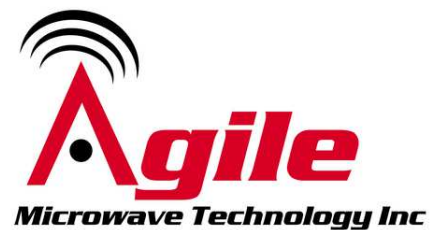
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