

AMT-BT0605 30 KHz to 4000 MHz Bench Top Broadband Constant phase, Flat gain Amplifier



Data Sheet

Features

- 30KHz to 4000 MHz Frequency Range
- Gain 26 dB Typical
- Gain Flatness ± 0.4 dB Typical
- Constant Phase
- 110/220V AC Supply
- Compact Lightweight Design
- Unconditionally Stable



Description

The AMT-BTA0605 is a Bench Top Broadband medium power amplifier in a 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-BT0605 is ideal for use EMI Compliance testing, Lab applications, Communication systems or where broadband amplification and power are required without adding significant noise in a Hi-Rel communications system for Commercial or Military applications

Applications

- EMI Compliance Testing
- Lab Applications

MAXIMUM RATINGS¹

EAR99 NLR

Parameter	Symbol	Units	MIN	MAX
Operating Temperature – Case	T _{MO}	° C	0	+75
Storage Temperature - Case	T _{MS}	° C	-20	+95
RF Input power (CW)	P _{in}	dBm		+10
Die T _{Junction}	T _J	° C		+150
Positive Supply Voltage	V _{+SS}	Voltage AC		240

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	0.03		4000
Gain ²	Small Signal	dB	25	26	
Gain Flatness		dB		±0.4	±1
Noise Figure ²		dB		5	8
Output Power (P1dB)	@ 2GHz	dBm	+7		
OIP3	OIP3 @ 12 GHz Two tone F1-F2= 10MHz	dB		17	
RF Input Impedance ²	Reference to 50 ohms VSWR			1.8:1	2.3:1
RF Output Impedance ²	Reference to 50 ohms VSWR			1.8:1	2.3:1
Supply Voltage Positive: :		V		110/220	

Notes:

1/ Unconditional Stability

2/ Above 300 MHz

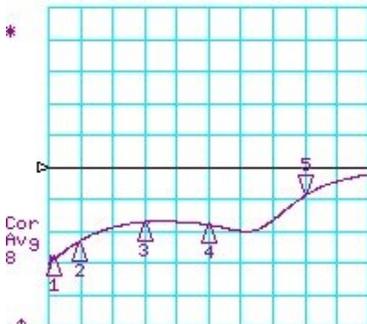
Customized configurations of the above specifications are available

Typical S-Parameters @ 23°C

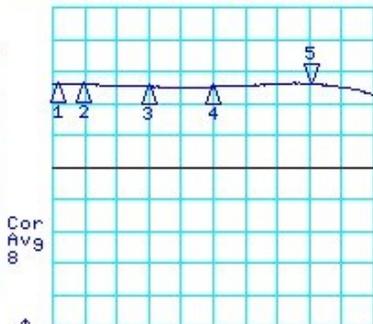
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CH1 LOG 10 dB/ REF 0 dB
S11 5: -8.9630 dB 4.000 000 000 GHz

CH2 LOG 10 dB/ REF 0 dB
S21 5: 26.267 dB 4.000 000 000 GHz



CH1 Markers
1: -27.965 dB
100.000 MHz
2: -23.407 dB
500.000 MHz
3: -17.103 dB
1.50000 GHz
4: -17.916 dB
2.50000 GHz



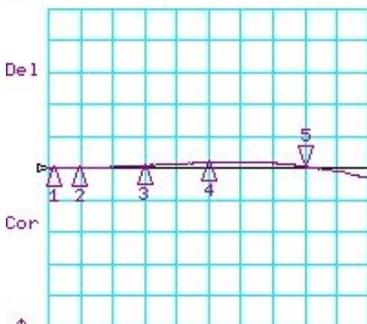
CH2 Markers
1: 26.028 dB
100.000 MHz
2: 25.955 dB
500.000 MHz
3: 25.316 dB
1.50000 GHz
4: 25.240 dB
2.50000 GHz

START 50.000 MHz STOP 5000.000 MHz

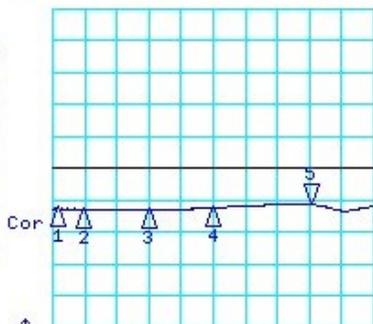
START 50.000 MHz STOP 5000.000 MHz

CH3 PHA 90 °/ REF 0 °
S21 5: 4.2526 ° 4.000 000 000 GHz

CH4 LOG 10 dB/ REF 0 dB
S22 5: -11.291 dB 4.000 000 000 GHz



CH3 Markers
1: 93.259 m °
100.000 MHz
2: 1.4624 °
500.000 MHz
3: 6.8915 °
1.50000 GHz
4: 16.217 °
2.50000 GHz



CH4 Markers
1: -12.622 dB
100.000 MHz
2: -12.693 dB
500.000 MHz
3: -12.838 dB
1.50000 GHz
4: -12.423 dB
2.50000 GHz

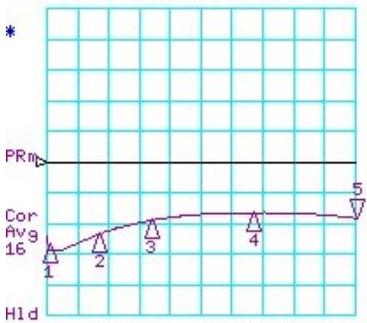
START 50.000 MHz STOP 5000.000 MHz

START 50.000 MHz STOP 5000.000 MHz

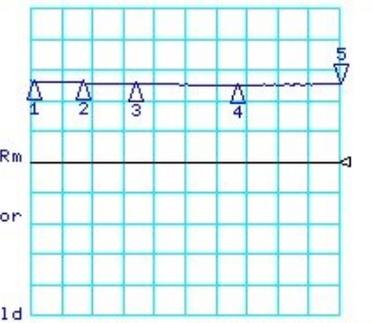
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CH1 LOG 10 dB/ REF 0 dB
S11 5: -18.223 dB 3 000.000 000 MHz

CH2 LOG 10 dB/ REF 0 dB
S21 5: 25.818 dB 3 000.000 000 MHz



CH1 Markers
1: -27.138 dB
10.0000 MHz
2: -23.534 dB
500.000 MHz
3: -19.142 dB
1.00000 GHz
4: -16.450 dB
2.00000 GHz



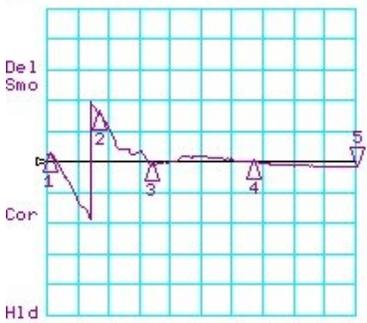
CH2 Markers
1: 26.261 dB
10.0000 MHz
2: 25.876 dB
500.000 MHz
3: 25.648 dB
1.00000 GHz
4: 25.048 dB
2.00000 GHz

START .030 MHz STOP 3000.000 MHz

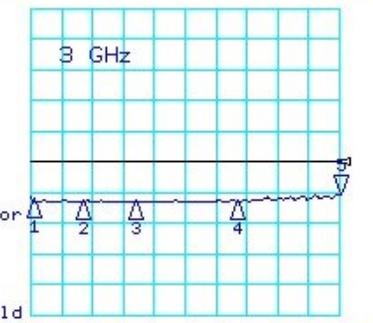
START .030 MHz STOP 3000.000 MHz

CH3 PHA 90 °/ REF 141 °
S12 5: 128.32 ° 3 000.000 000 MHz

CH4 LOG 10 dB/ REF 0 dB
S22 5: -10.947 dB 3 000.000 000 MHz



CH3 Markers
1: 162.83 °
10.0000 MHz
2: -75.265 °
500.000 MHz
3: 135.72 °
1.00000 GHz
4: 141.41 °
2.00000 GHz

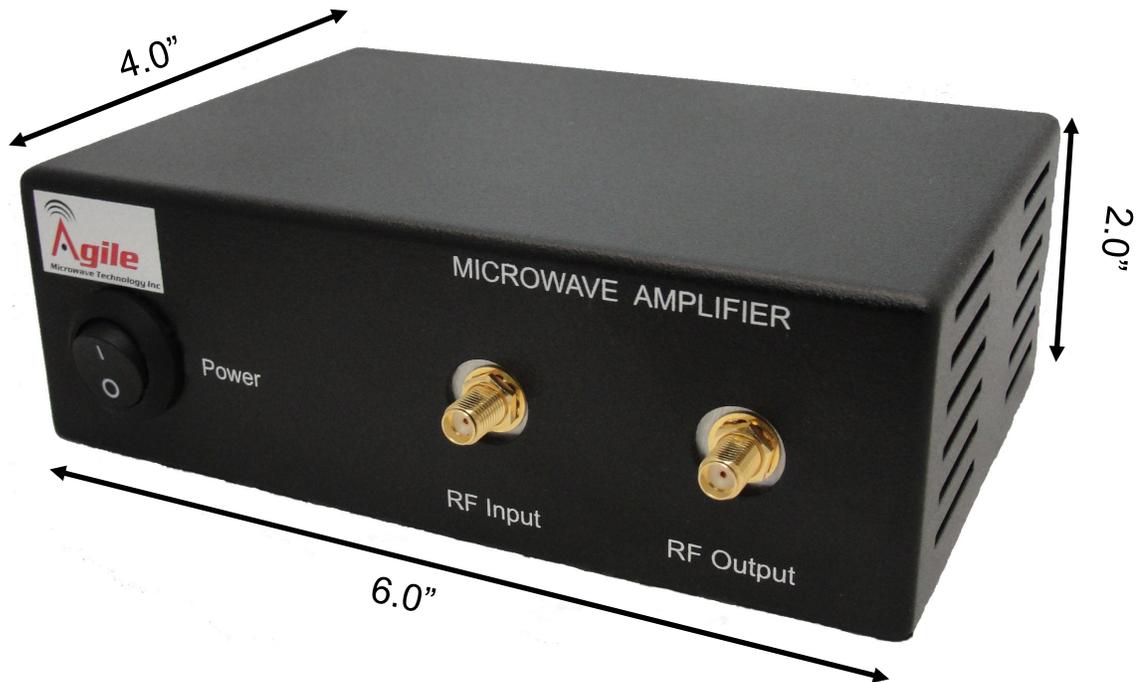


CH4 Markers
1: -12.259 dB
10.0000 MHz
2: -13.000 dB
500.000 MHz
3: -12.716 dB
1.00000 GHz
4: -12.838 dB
2.00000 GHz

START .030 MHz STOP 3000.000 MHz

START .030 MHz STOP 3000.000 MHz

Package Outline Bench Top: SMA Connectorized (inches)



~ 6" x 4" x 2"

External AC adapter

Model Number	Description	Hermeticity	Package
AMT-BT0605	Single Amplifier SMA Female	Non-Hermetic	Outline: TBD
AMT-BT0605-2	Two Amplifiers SMA Female	Non-Hermetic	Outline: TBD

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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