

# Test & Measurement Instrument Amplifiers

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## Features and Benefits

- > Based on state-of-the-art GaN PA modules
- > Wideband frequency coverage for modern applications
- > High continuous power across the band
- > High linearity for wideband communications testing
- > Integrated protection circuitry
- > Variable gain adjustment
- > High-resolution display shows amplifier status
- > Burn-in and ageing tested for long-term reliability
- > Advanced electrical test using state-of-the-art measurement equipment

## Applications Expertise, Reliability and Support

Not all amplifiers are created equal, so how can you be certain that an amplifier will work for your needs? You deserve to be confident that the amplifiers used with your test-and-measurement lab benches will meet the requirements of your specific applications, are reliable, and are equally well-supported pre-and post-sale. When it comes to application expertise, reliability and support, there is no company that does it better than Maury Microwave.

With more than 60 years of experience, we are the application experts, having designed, manufactured, trained and supported turnkey measurement and modeling device characterization solutions. Our expertise includes specialization in 4G and 5G base station and handset transistor model extraction and validation, RADAR transistor model extraction and validation, 4G, 5G, WiFi and WLAN PA and FEM design and design-validation test (DVT), as well as general 50Ω and non-50Ω characterization.

We are uniquely positioned to combine our measurement and load pull expertise with modern solid-state power amplifier design practices to deliver best-in-class instrument amplifiers. Our amplifiers satisfy a wide range of application-specific requirements including simultaneous high-power, wide bandwidth, low harmonic power and high linearity.

We make use of our extensive test facilities to ensure our amplifiers meet your reliability expectations, testing each shipped unit according to our high standards. Burn-in and ageing tests include prolonged storage under extreme temperature conditions, extended amplifier operation over the entire rated temperature range, and elongated usage at maximum power under CW and pulsed-CW conditions.

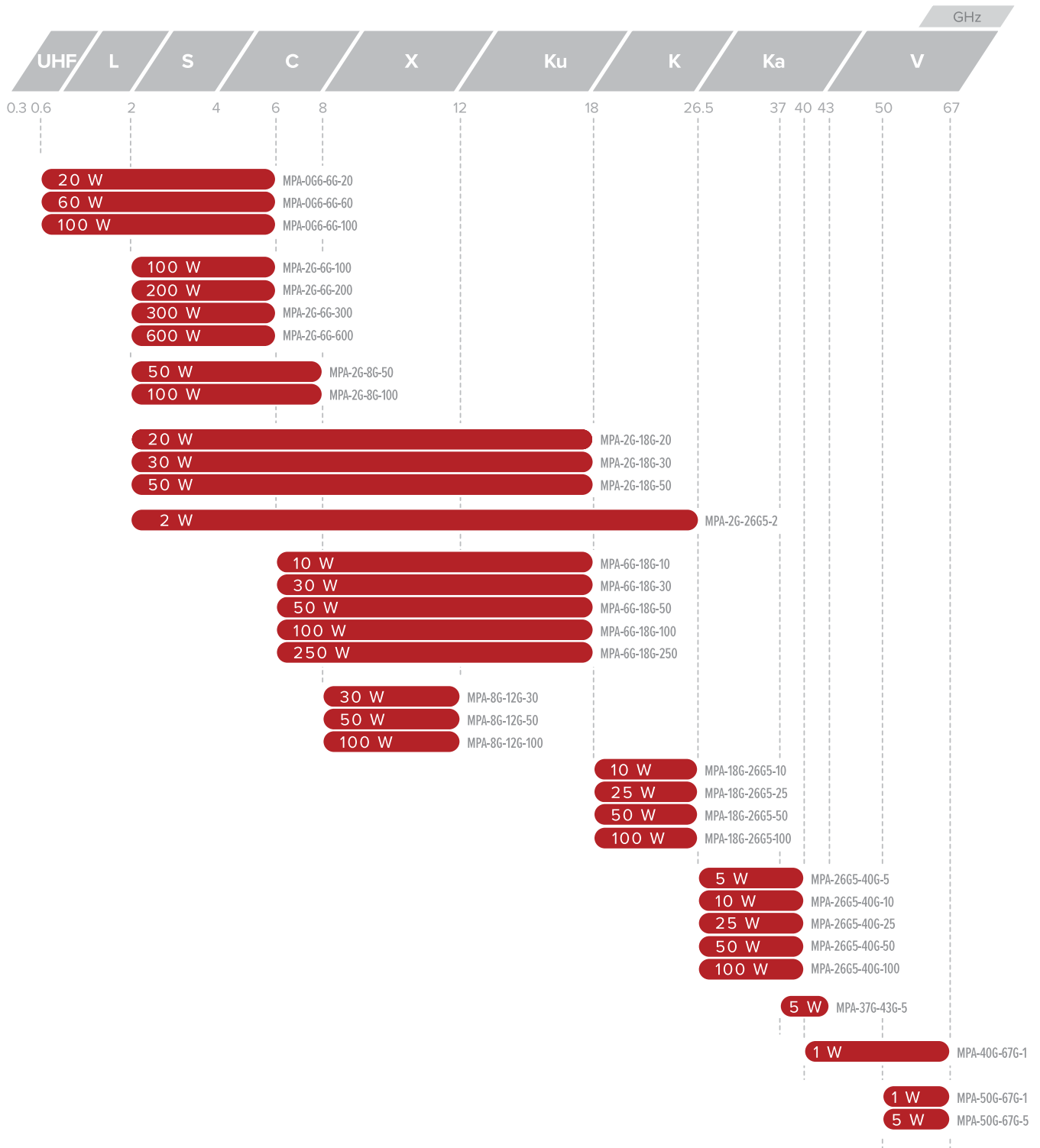
After burn-in and ageing, each instrument amplifier is tested using a state-of-the-art vector-receiver measurement system. This system allows us to independently measure power at the fundamental, harmonic and intermodulation frequencies using single-tone and two-tone input signals, as well as true ACPR using wideband modulated signals. Not only are MPA-series amplifiers best-in-class, but so are our test methodologies.

Maury Microwave, the best choice for applications expertise, reliability and support.

*Our application team is here to support you through your evaluation, integration and support process.*



# Amplifier Frequency Map

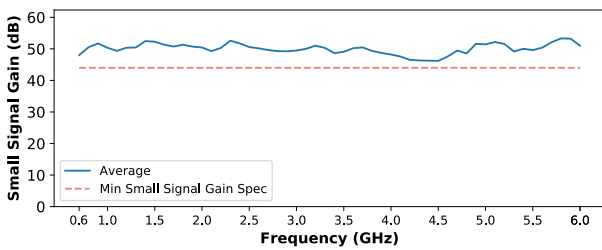
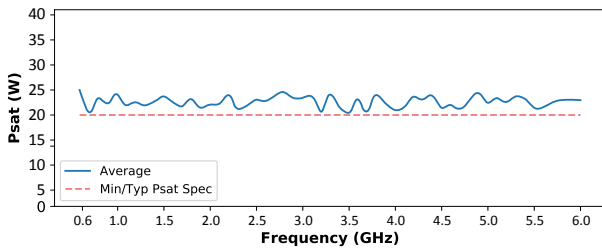


## Available Models

Model Series	Frequency (GHz)	Typical Psat (W)	Min. Psat (W)	Min. Small Signal Gain (dB)	Gain Adj. (dB) Max.	Typ. 2nd Harmonic Power @ Psat (dBc)	Page Reference
MPA-0G6-6G-20	0.6-6	20	20	46	20	-15	4
MPA-0G6-6G-60	0.6-6	60	60	50	20	-15	5
MPA-0G6-6G-100	0.6-6	100	100	53	20	-15	6
MPA-2G-6G-100	2-6	100	100	52	20	-15	7
MPA-2G-6G-200	2-6	200	200	50	20	-15	8
MPA-2G-6G-300	2-6	300	300	50	20	-15	9
MPA-2G-6G-600	2-6	600	600	55	20	-15	10
MPA-2G-8G-50	2-8	50	50	47	20	-15	11
MPA-2G-8G-100	2-8	100	100	52	20	-15	12
MPA-2G-18G-20	2-18	20	20	41	20	-15	13
MPA-2G-18G-30	2-18	30	30	47	20	-15	14
MPA-2G-18G-50	2-18	50	50	49	20	-15	15
MPA-2G-26G5-2	2-26.5	2	2	35	15	-15	16
MPA-6G-18G-10	6-18	10	10	43	20	-15	17
MPA-6G-18G-30	6-18	30	30	45	20	-15	18
MPA-6G-18G-50	6-18	50	50	50	20	-15	19
MPA-6G-18G-100	6-18	100	100	52	20	-15	20
MPA-6G-18G-250	6-18	250	250	53	20	-15	21
MPA-8G-12G-100	8-12	100	100	52	20	-35	22
MPA-18G-26G5-10	18-26.5	10	10	40	15	-15	23
MPA-18G-26G5-25	18-26.5	25	20	45	15	-15	24
MPA-18G-26G5-50	18-26.5	50	50	51	15	-15	25
MPA-18G-26G5-100	18-26.5	100	100	51	15	-15	26
MPA-26G5-40G-5	26.5-40	5	5	40	15	NA	27
MPA-26G5-40G-10	26.5-40	10	10	40	15	NA	28
MPA-26G5-40G-25	26.5-40	25	20	43	15	NA	29
MPA-26G5-40G-50	26.5-40	50	50	43	15	NA	30
MPA-26G5-40G-100	26.5-40	100	100	50	15	NA	31
MPA-37G-43G-5	37-43	5	5	33	15	NA	32
MPA-40G-67G-1	40-67	1	1	26	15	NA	33
MPA-50G-67G-5	50-67	5	5	33	15	NA	34

# MPA-0G6-6G-20

0.6-6 GHz, 20W



## Specifications

Frequency Range: .....0.6-6 GHz  
Psat: .....Typical 20 W, Minimum 20 W  
Input Power:.....Maximum 0 dBm  
Small Signal Gain: .....Minimum 46 dB  
Gain Flatness:.....Typical  $\pm 4$  dB  
Gain Adjustment:.....20 dB  
VSWR (Input):.....Maximum 2:1  
2nd Harmonic Power @ Psat: ....Typical -15 dBc  
Spur @ Psat:.....Typical -65 dBc  
IM3' @ 13 dB back off:.....Typical -39 dBc  
IM3' @ 3 dB back off:.....Typical -27 dBc  
Unconditionally Stable  
VSWR Load @Psat: .....3:1  
ECCN: .....EAR99  
Warranty:.....24 months

\* 10 MHz Tone spacing

## Mechanical Specifications

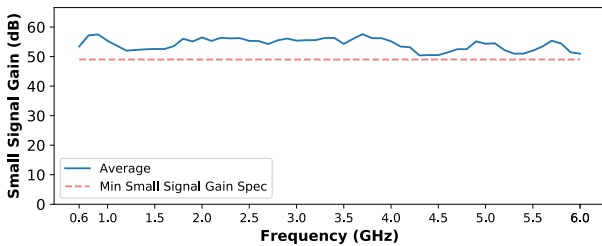
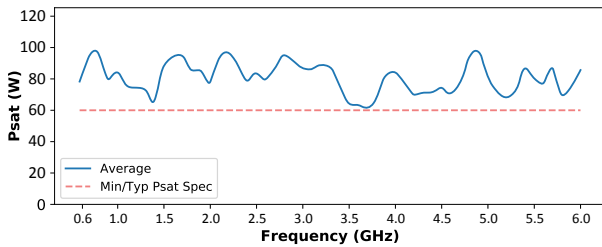
Enclosure Type:.....B  
Weight: .....26 lbs  
RF Input/Output: .....SMA Female

## Environmental Specifications

Operating Temp:.....0°C to 50°C  
Storage Temp:.....-25°C to 65°C

# MPA-0G6-6G-60

0.6-6 GHz, 60W



## Specifications

Frequency Range: .....0.6-6 GHz  
Psat: .....Typical 60 W, Minimum 60 W  
Input Power: .....Maximum 0 dBm  
Small Signal Gain: .....Minimum 50 dB  
Gain Flatness: .....Typical  $\pm 4$  dB  
Gain Adjustment: .....20 dB  
VSWR (Input): .....Maximum 2:1  
2nd Harmonic Power @ Psat: ....Typical -15 dBc  
Spur @ Psat: .....Typical -65 dBc  
IM3' @ 13 dB back off: .....Typical -39 dBc  
IM3' @ 3 dB back off: .....Typical -25 dBc  
Unconditionally Stable  
VSWR Load @Psat: .....3:1  
ECCN: .....EAR99  
Warranty: .....24 months

\* 10 MHz Tone spacing

## Mechanical Specifications

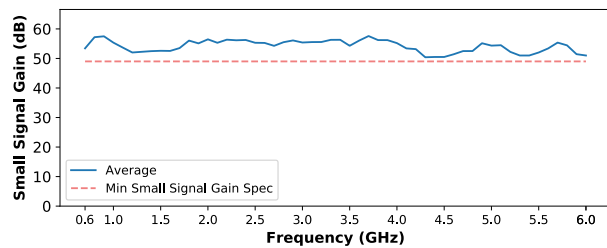
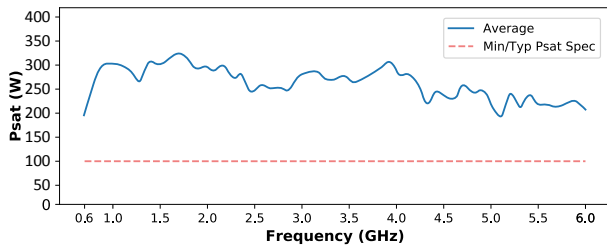
Enclosure Type: .....A  
Weight: .....42.3 lbs  
RF Input/Output: .....Type N Female

## Environmental Specifications

Operating Temp: .....0°C to 50°C  
Storage Temp: .....-25°C to 65°C

# MPA-0G6-6G-100

0.6-6 GHz, 100W



## Specifications

Frequency Range: .....0.6-6 GHz  
Psat: .....Typical 100 W, Minimum 100 W  
Input Power: .....Maximum 0 dBm  
Small Signal Gain: .....Minimum 50 dB  
Gain Flatness: .....Typical  $\pm 4$  dB  
Gain Adjustment: .....20 dB  
VSWR (Input): .....Maximum 2:1  
2nd Harmonic Power @ Psat: ....Typical -15 dBc  
Spur @ Psat: .....Typical -65 dBc  
IM3' @ 13 dB back off: .....Typical -39 dBc  
IM3' @ 3 dB back off: .....Typical -25 dBc  
Unconditionally Stable  
VSWR Load @Psat: .....3:1  
ECCN: .....3A001.b4.a4  
Warranty: .....24 months

\* 10 MHz Tone spacing

## Mechanical Specifications

Enclosure Type: .....C  
Weight: .....84 lbs  
RF Input/Output: .....Type N Female

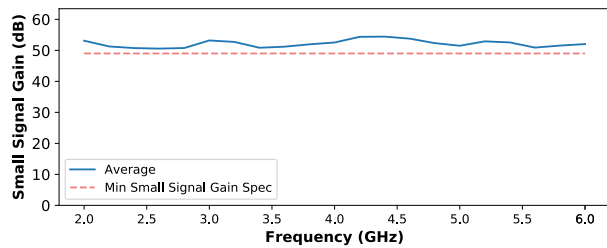
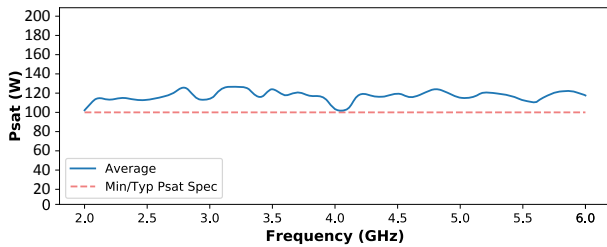
## Environmental Specifications

Operating Temp: .....0°C to 50°C  
Storage Temp: .....-25°C to 65°C



# MPA-2G-6G-100

2-6 GHz, 100W



## Specifications

Frequency Range: .....2-6 GHz  
Psat: .....Typical 100 W, Minimum 100 W  
Input Power: .....Maximum 0 dBm  
Small Signal Gain: .....Minimum 50 dB  
Gain Flatness: .....Typical  $\pm 2.5$  dB  
Gain Adjustment: .....20 dB  
VSWR (Input): .....Maximum 2:1  
2nd Harmonic Power @ Psat: ....Typical -15 dBc  
Spur @ Psat: .....Typical -65 dBc  
IM3' @ 13 dB back off: .....Typical -44 dBc  
IM3' @ 3 dB back off: .....Typical -29 dBc  
Unconditionally Stable  
VSWR Load @Psat: .....3:1  
ECCN: .....3A001.b4.a4  
Warranty: .....24 months

\* 10 MHz Tone spacing

## Mechanical Specifications

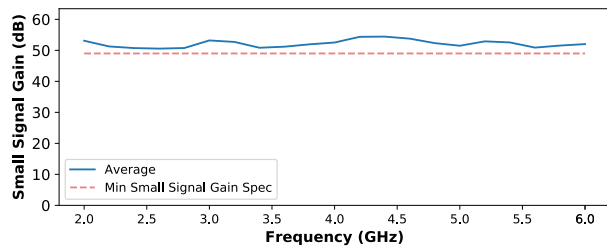
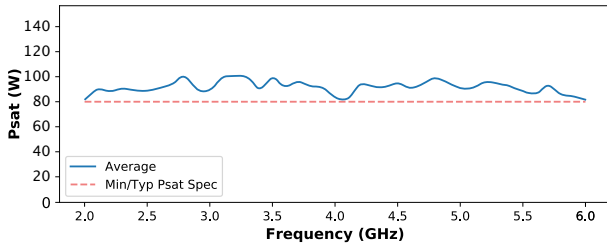
Enclosure Type: .....A  
Weight: .....48 lbs  
RF Input/Output: .....Type N Female

## Environmental Specifications

Operating Temp: .....0°C to 50°C  
Storage Temp: .....-25°C to 65°C

# MPA-2G-6G-80

2-6 GHz, 80W



## Specifications

Frequency Range: .....2-6 GHz  
Psat: .....Typical 80 W, Minimum 80 W  
Input Power: .....Maximum 3 dBm  
Small Signal Gain: .....Minimum 49 dB  
Gain Flatness: .....Typical  $\pm 2$  dB  
Gain Adjustment: .....20 dB  
VSWR (Input): .....Maximum 2:1  
2nd Harmonic Power @ Psat: ....Typical -15 dBc  
Spur @ Psat: .....Typical -65 dBc  
IM3' @ 13 dB back off: .....Typical -44 dBc  
IM3' @ 3 dB back off: .....Typical -29 dBc  
Unconditionally Stable  
VSWR Load @Psat: .....3:1  
ECCN: .....EAR99  
Warranty: .....24 months

\* 10 MHz Tone spacing

## Mechanical Specifications

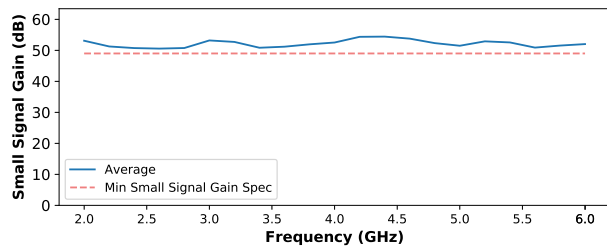
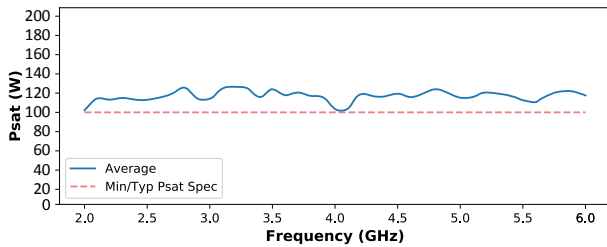
Enclosure Type: .....A  
Weight: .....42.3 lbs  
RF Input/Output: .....Type N Female

## Environmental Specifications

Operating Temp: .....0°C to 50°C  
Storage Temp: .....-25°C to 65°C

# MPA-2G-6G-100

2-6 GHz, 100W



## Specifications

Frequency Range: .....2-6 GHz  
Psat: .....Typical 100 W, Minimum 100 W  
Input Power: .....Maximum 0 dBm  
Small Signal Gain: .....Minimum 50 dB  
Gain Flatness: .....Typical  $\pm 2.5$  dB  
Gain Adjustment: .....20 dB  
VSWR (Input): .....Maximum 2:1  
2nd Harmonic Power @ Psat: ....Typical -15 dBc  
Spur @ Psat: .....Typical -65 dBc  
IM3' @ 13 dB back off: .....Typical -44 dBc  
IM3' @ 3 dB back off: .....Typical -29 dBc  
Unconditionally Stable  
VSWR Load @Psat: .....3:1  
ECCN: .....3A001.b4.a4  
Warranty: .....24 months

\* 10 MHz Tone spacing

## Mechanical Specifications

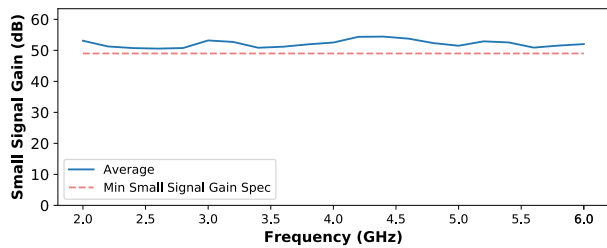
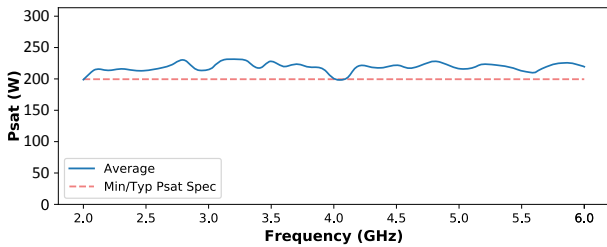
Enclosure Type: .....A  
Weight: .....48 lbs  
RF Input/Output: .....Type N Female

## Environmental Specifications

Operating Temp: .....0°C to 50°C  
Storage Temp: .....-25°C to 65°C

# MPA-2G-6G-200

2-6 GHz, 200W



## Specifications

Frequency Range: .....2-6 GHz  
Psat: .....Typical 200 W, Minimum 200 W  
Input Power:.....Maximum 0 dBm  
Small Signal Gain:.....Minimum 50 dB  
Gain Flatness:.....Typical  $\pm 2.5$  dB  
Gain Adjustment:.....20 dB  
VSWR (Input):.....Maximum 2:1  
2nd Harmonic Power @ Psat:....Typical -15 dBc  
Spur @ Psat:.....Typical -65 dBc  
Unconditionally Stable  
VSWR Load @Psat: .....3:1  
ECCN:.....3A001.b4.a4  
Warranty:.....24 months

## Mechanical Specifications

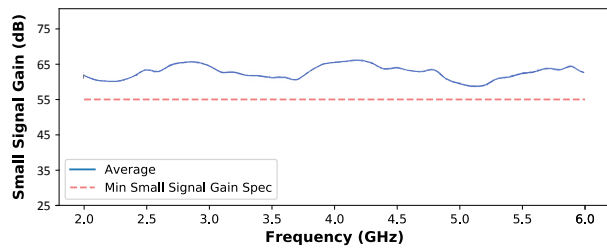
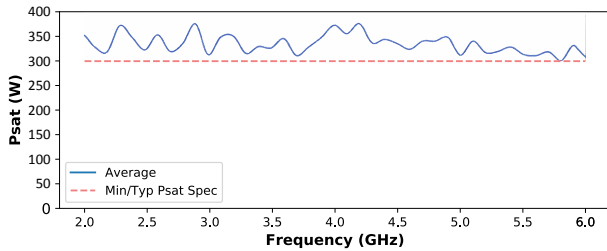
Enclosure Type:.....C  
Weight: .....64 lbs  
RF Input/Output: .....Type N Female

## Environmental Specifications

Operating Temp:.....0°C to 50°C  
Storage Temp:.....-25°C to 65°C

# MPA-2G-6G-300

2-6 GHz, 300W



## Specifications

Frequency Range: .....2-6 GHz  
Psat: .....Typical 300 W, Minimum 300 W  
Input Power:.....Maximum 0 dBm  
Small Signal Gain: .....Minimum 55 dB  
Gain Flatness:.....Typical  $\pm 2.5$  dB  
Gain Adjustment:.....20 dB  
VSWR (Input):.....Maximum 2:1  
2nd Harmonic Power @ Psat: ....Typical -15 dBc  
Spur @ Psat:.....Typical -65 dBc  
Unconditionally Stable  
VSWR Load @Psat: .....3:1  
ECCN:.....3A001.b4.a4  
Warranty:.....24 months

## Mechanical Specifications

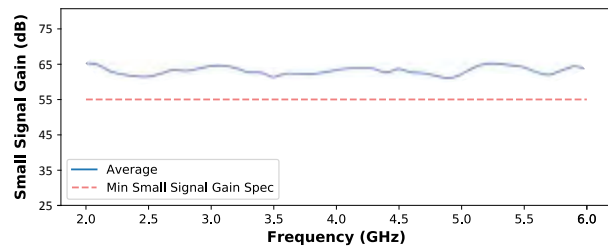
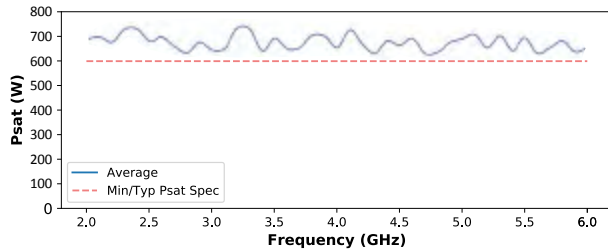
Enclosure Type:.....D  
Weight: .....143 lbs  
RF Input/Output: .....Type N Female

## Environmental Specifications

Operating Temp:.....0°C to 50°C  
Storage Temp:.....-25°C to 65°C

# MPA-2G-6G-600

2-6 GHz, 600W



## Specifications

Frequency Range: .....2-6 GHz  
Psat: .....Typical 600 W, Minimum 600 W  
Input Power:.....Maximum 0 dBm  
Small Signal Gain:.....Minimum 55 dB  
Gain Flatness:.....Typical  $\pm 2.5$  dB  
Gain Adjustment:.....20 dB  
VSWR (Input):.....Maximum 2:1  
2nd Harmonic Power @ Psat:....Typical -15 dBc  
Spur @ Psat:.....Typical -65 dBc  
Unconditionally Stable  
VSWR Load @Psat: .....3:1  
ECCN: .....3A001.b4.a4  
Warranty:.....24 months

## Mechanical Specifications

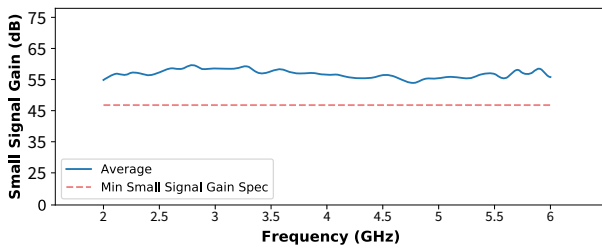
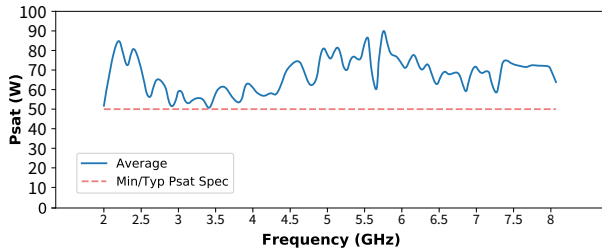
Enclosure Type:.....**Contact Maury**  
Weight: .....277 lbs  
RF Input/Output: .....Type N  
Female/716

## Environmental Specifications

Operating Temp:.....0°C to 50°C  
Storage Temp:.....-25°C to 65°C

# MPA-2G-8G-50

2-8 GHz, 50W



## Specifications

Frequency Range: .....2-8 GHz  
Psat: .....Typical 50 W, Minimum 50 W  
Input Power: .....Maximum 2 dBm  
Small Signal Gain: .....Minimum 47 dB  
Gain Flatness: .....Typical  $\pm 3$  dB  
Gain Adjustment: .....20 dB  
VSWR (Input): .....Maximum 2.1:1  
2nd Harmonic Power @ Psat: ....Typical -15 dBc  
Spur @ Psat: .....Typical -65 dBc  
IM3' @ 3 dB back off: .....Typical -18 dBc  
Unconditionally Stable  
VSWR Load @Psat: .....3:1  
ECCN: .....EAR99  
Warranty: .....24 months

\* 10 MHz Tone spacing

## Mechanical Specifications

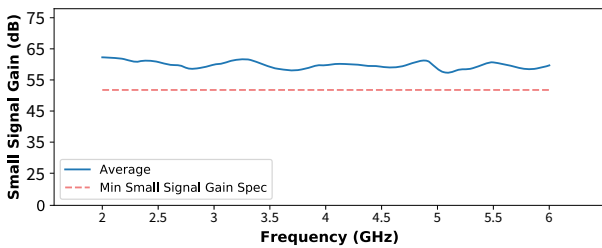
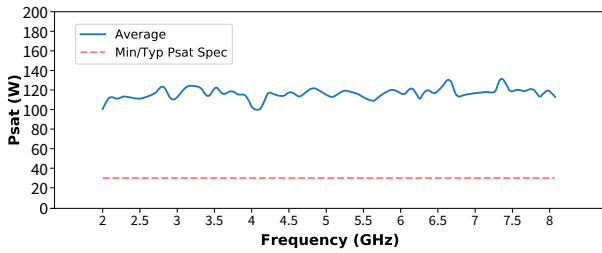
Enclosure Type: .....A  
Weight: .....41 lbs  
RF Input/Output: .....Type N Female

## Environmental Specifications

Operating Temp: .....0°C to 50°C  
Storage Temp: .....-25°C to 65°C

# MPA-2G-8G-100

2-8 GHz, 100W



## Specifications

Frequency Range: .....2-8 GHz  
 Psat: .....Typical 100 W, Minimum 100 W  
 Input Power:.....Maximum 2 dBm  
 Small Signal Gain: .....Minimum 52 dB  
 Gain Flatness:.....Typical  $\pm 3$  dB  
 Gain Adjustment:.....20 dB  
 VSWR (Input):.....Maximum 2:1  
 2nd Harmonic Power @ Psat: ....Typical -15 dBc  
 Spur @ Psat:.....Typical -65 dBc  
 IM3' @ 3 dB back off:.....Typical -18 dBc  
 Unconditionally Stable  
 VSWR Load @Psat: .....3:1  
 ECCN: .....3A001.b4.b1  
 Warranty:.....24 months

\* 10 MHz Tone spacing

## Mechanical Specifications

Enclosure Type:.....A  
 Weight: .....43 lbs  
 RF Input/Output: .....Type N Female

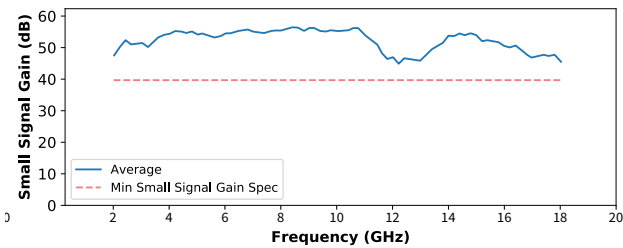
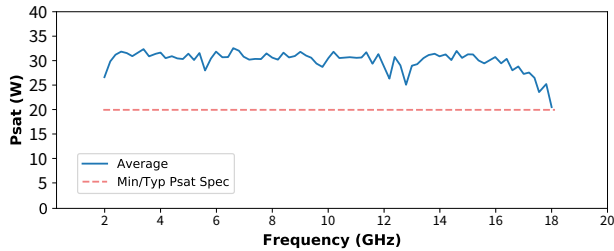
## Environmental Specifications

Operating Temp:.....0°C to 50°C  
 Storage Temp:.....-25°C to 65°C



# MPA-2G-18G-20

2-18 GHz, 20W



## Specifications

Frequency Range: .....2-18 GHz  
Psat: .....Typical 20 W, Minimum 20 W  
Input Power:.....Maximum 5 dBm  
Small Signal Gain: .....Minimum 41 dB  
Gain Flatness:.....Typical  $\pm 4$  dB  
Gain Adjustment:.....20 dB  
VSWR (Input):.....Maximum 2:1  
2nd Harmonic Power @ Psat: ....Typical -15 dBc  
Spur @ Psat:.....Typical -65 dBc  
IM3' @ 13 dB back off:.....Typical -38 dBc  
IM3' @ 3 dB back off:.....Typical -20 dBc  
Unconditionally Stable  
VSWR Load @Psat: .....3:1  
ECCN: .....EAR99  
Warranty:.....24 months

\* 10 MHz Tone spacing

## Mechanical Specifications

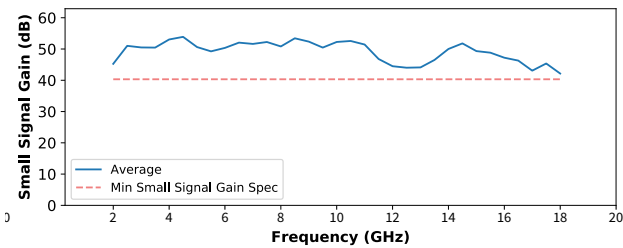
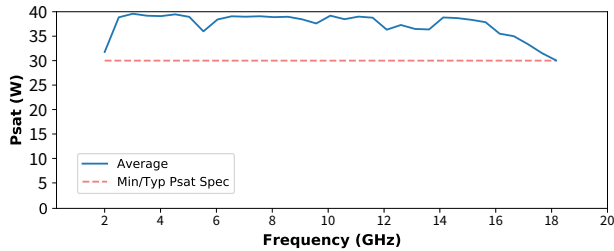
Enclosure Type:.....B  
Weight: .....17.6 lbs  
RF Input/Output: .....SMA Female

## Environmental Specifications

Operating Temp:.....0°C to 50°C  
Storage Temp:.....-25°C to 65°C

# MPA-2G-18G-30

2-18 GHz, 30W



## Specifications

Frequency Range: .....2-18 GHz  
Psat: .....Minimum 30 W  
Input Power:.....Maximum 5 dBm  
Small Signal Gain: .....Minimum 47 dB  
Gain Flatness:.....Typical  $\pm 4$  dB  
Gain Adjustment:.....20 dB  
VSWR (Input):.....Maximum 2.1:1  
2nd Harmonic Power @ Psat: ....Typical -15 dBc  
Spur @ Psat:.....Typical -65 dBc  
IM3' @ 13 dB back off:.....Typical -38 dBc  
IM3' @ 3 dB back off:.....Typical -20 dBc  
Unconditionally Stable  
VSWR Load @Psat: .....3:1  
ECCN: .....3A001.b4  
Warranty:.....24 months

\* 10 MHz Tone spacing

## Mechanical Specifications

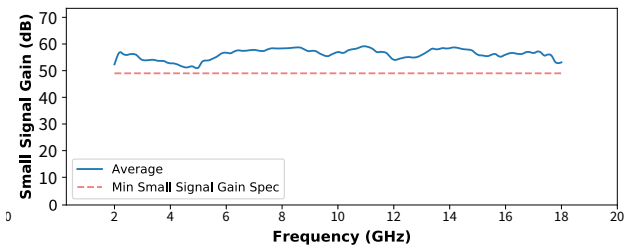
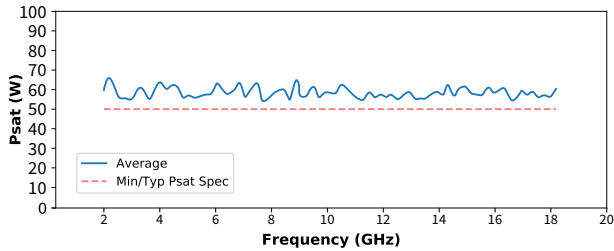
Enclosure Type:.....A  
Weight: .....42.3 lbs  
RF Input/Output: .....SMA Female

## Environmental Specifications

Operating Temp:.....0°C to 50°C  
Storage Temp:.....-25°C to 65°C

# MPA-2G-18G-50

2-18 GHz, 50W



## Specifications

Frequency Range: .....2-18 GHz  
Psat: .....Typical 50 W, Minimum 50 W  
Input Power:.....Maximum 0 dBm  
Small Signal Gain: .....Minimum 49 dB  
Gain Flatness:.....Typical  $\pm 4$  dB  
Gain Adjustment:.....20 dB  
VSWR (Input):.....Maximum 2.1:1  
2nd Harmonic Power @ Psat: ....Typical -15 dBc  
Spur @ Psat:.....Typical -65 dBc  
IM3' @ 13 dB back off:.....Typical -38 dBc  
IM3' @ 3 dB back off:.....Typical -20 dBc  
Unconditionally Stable  
VSWR Load @Psat: .....3:1  
ECCN: .....3A001.b4  
Warranty:.....24 months

\* 10 MHz Tone spacing

## Mechanical Specifications

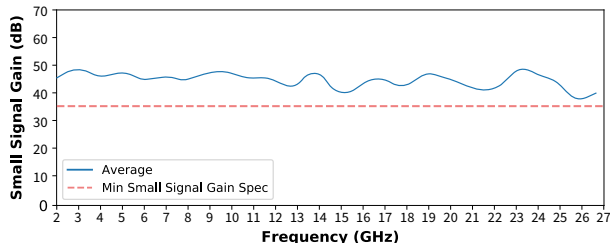
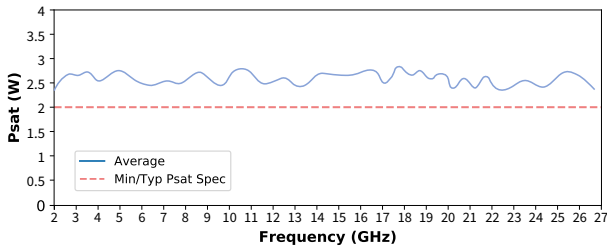
Enclosure Type:.....A  
Weight: .....48 lbs  
RF Input/Output: .....Type N Female

## Environmental Specifications

Operating Temp:.....0°C to 50°C  
Storage Temp:.....-25°C to 65°C

# MPA-2G-26G5-2

2-26.5 GHz, 2W



## Specifications

Frequency Range: .....2-26.5 GHz  
Psat: .....Typical 2W, Minimum 2W  
Input Power: .....Maximum 0 dBm  
Small Signal Gain: .....Minimum 35 dB  
Gain Flatness: .....Typical  $\pm 4$  dB  
Gain Adjustment: .....15 dB  
VSWR (Input): .....Maximum 2:1  
2nd Harmonic Power @ Psat: ....Typical -15 dBc  
Spur @ Psat: .....Typical -65 dBc  
IM3' @ 13 dB back off: .....Typical -38 dBc  
IM3' @ 3 dB back off: .....Typical -25 dBc  
Unconditionally Stable  
VSWR Load @Psat: .....3:1  
ECCN: .....EAR99  
Warranty: .....24 months

\* 10 MHz Tone spacing

## Mechanical Specifications

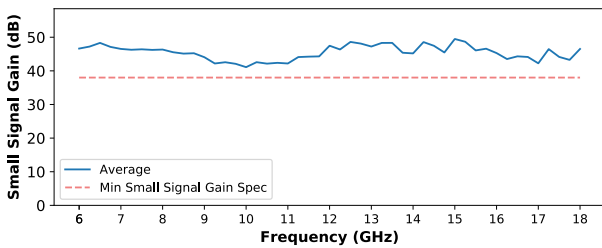
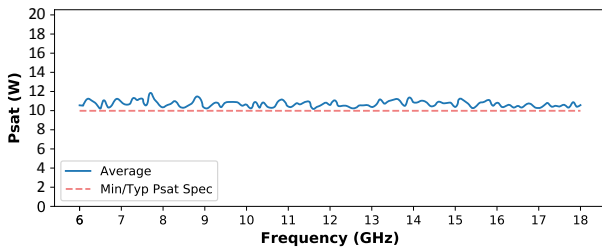
Enclosure Type: .....B  
Weight: .....15.5 lbs  
RF Input/Output: .....SMA Female

## Environmental Specifications

Operating Temp: .....0°C to 50°C  
Storage Temp: .....-25°C to 65°C

# MPA-6G-18G-10

6-18 GHz, 10W



## Specifications

Frequency Range: .....6-18 GHz  
Psat: .....Typical 10 W, Minimum 10 W  
Input Power:.....Maximum 0 dBm  
Small Signal Gain: .....Minimum 38 dB  
Gain Flatness:.....Typical  $\pm 3$  dB  
Gain Adjustment:.....20 dB  
VSWR (Input):.....Maximum 2:1  
2nd Harmonic Power @ Psat: ....Typical -15 dBc  
Spur @ Psat:.....Typical -65 dBc  
IM3' @ 13 dB back off:.....Typical -35 dBc  
IM3' @ 3 dB back off:.....Typical -20 dBc  
Unconditionally Stable  
VSWR Load @Psat: .....3:1  
ECCN: .....EAR99  
Warranty:.....24 months

\* 10 MHz Tone spacing

## Mechanical Specifications

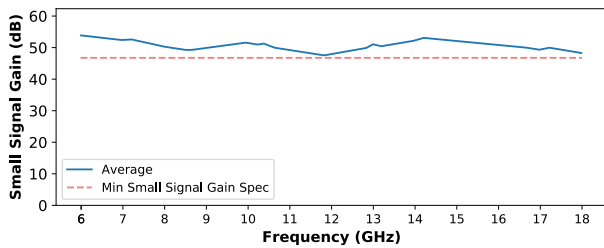
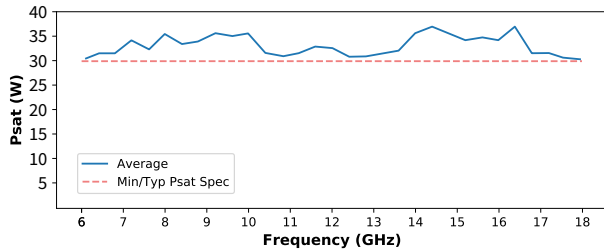
Enclosure Type:.....B  
Weight: .....20 lbs  
RF Input/Output: .....SMA Female

## Environmental Specifications

Operating Temp:.....0°C to 50°C  
Storage Temp:.....-25°C to 65°C

# MPA-6G-18G-30

6-18 GHz, 30W



## Specifications

Frequency Range: .....6-18 GHz  
Psat: .....Typical 30 W, Minimum 30 W  
Input Power:.....Maximum 0 dBm  
Small Signal Gain: .....Minimum 48 dB  
Gain Flatness:.....Typical  $\pm 3$  dB  
Gain Adjustment:.....20 dB  
VSWR (Input):.....Maximum 2:1  
2nd Harmonic Power @ Psat: ....Typical -15 dBc  
Spur @ Psat:.....Typical -65 dBc  
IM3' @ 13 dB back off:.....Typical -35 dBc  
IM3' @ 3 dB back off:.....Typical -20 dBc  
Unconditionally Stable  
VSWR Load @Psat: .....3:1  
ECCN: .....3A001.b4  
Warranty:.....24 months

\* 10 MHz Tone spacing

## Mechanical Specifications

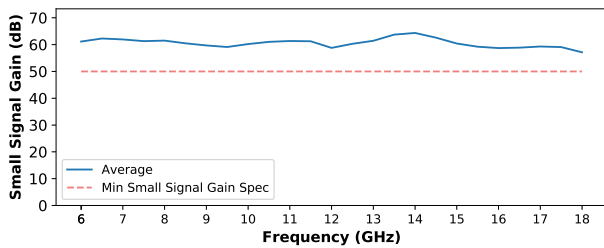
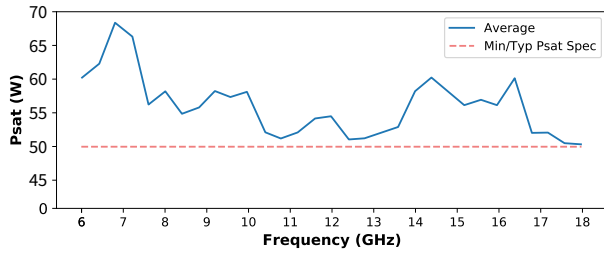
Enclosure Type:.....A  
Weight: .....42 lbs  
RF Input/Output: .....SMA Female

## Environmental Specifications

Operating Temp:.....0°C to 50°C  
Storage Temp:.....-25°C to 65°C

# MPA-6G-18G-50

6-18 GHz, 50W



## Specifications

Frequency Range: .....6-18 GHz  
 Psat: .....Minimum 50 W  
 Input Power:.....Maximum 3 dBm  
 Small Signal Gain: .....Minimum 50 dB  
 Gain Flatness:.....Typical  $\pm 3$  dB  
 Gain Adjustment:.....20 dB  
 VSWR (Input):.....Maximum 2:1  
 2nd Harmonic Power @ Psat: ....Typical -15 dBc  
 Spur @ Psat:.....Typical -65 dBc  
 IM3' @ 13 dB back off:.....Typical -37 dBc  
 IM3' @ 3 dB back off:.....Typical -20 dBc  
 Unconditionally Stable  
 VSWR Load @Psat: .....3:1  
 ECCN: .....3A001.b4  
 Warranty:.....24 months

\* 10 MHz Tone spacing

## Mechanical Specifications

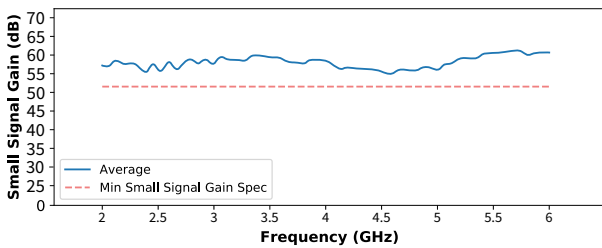
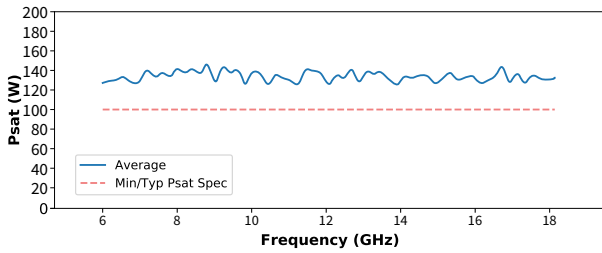
Enclosure Type:.....A  
 Weight: .....42.3 lbs  
 RF Input/Output: .....Type N Female

## Environmental Specifications

Operating Temp:.....0°C to 50°C  
 Storage Temp:.....-25°C to 65°C

# MPA-6G-18G-100

6-18 GHz, 100W



## Specifications

Frequency Range: .....6-18 GHz  
Psat: .....Typical 100 W, Minimum 100 W  
Input Power: .....Maximum 0 dBm  
Small Signal Gain: .....Minimum 52 dB  
Gain Flatness: .....Typical  $\pm 4$  dB  
Gain Adjustment: .....20 dB  
VSWR (Input): .....Maximum 2:1  
2nd Harmonic Power @ Psat: ....Typical -15 dBc  
Spur @ Psat: .....Typical -65 dBc  
IM3' @ 3 dB back off: .....Typical -20 dBc  
Unconditionally Stable  
VSWR Load @Psat: .....3:1  
ECCN: .....3A001  
Warranty: .....24 months

\* 10 MHz Tone spacing

## Mechanical Specifications

Enclosure Type: .....C  
Weight: .....60 lbs  
RF Input/Output: .....Type N Female

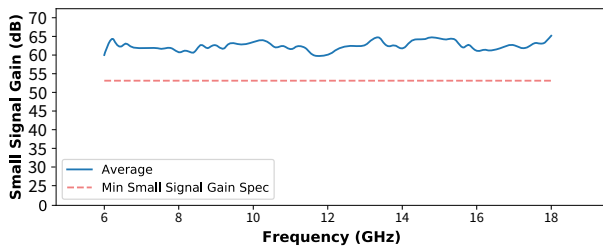
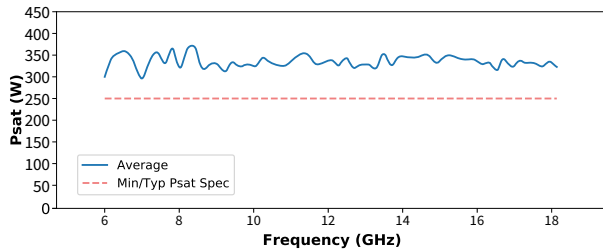
## Environmental Specifications

Operating Temp: .....0°C to 50°C  
Storage Temp: .....-25°C to 65°C



# MPA-6G-18G-250

6-18 GHz, 250W



## Specifications

Frequency Range: .....6-18 GHz  
Psat: .....Typical 250 W, Minimum 250 W  
Input Power:.....Maximum 0 dBm  
Small Signal Gain: .....Minimum 56 dB  
Gain Flatness:.....Typical  $\pm 5$  dB  
Gain Adjustment:.....20 dB  
VSWR (Input):.....Maximum 2:1  
2nd Harmonic Power @ Psat: ....Typical -15 dBc  
Spur @ Psat:.....Typical -65 dBc  
IM3' @ 3 dB back off:.....Typical 18 dBc  
Unconditionally Stable  
VSWR Load @Psat: .....3:1  
ECCN:.....3A001  
Warranty:.....24 months

\* 10 MHz Tone spacing

## Mechanical Specifications

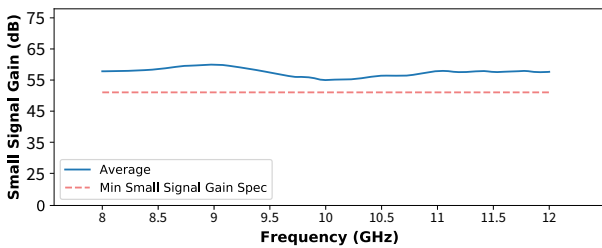
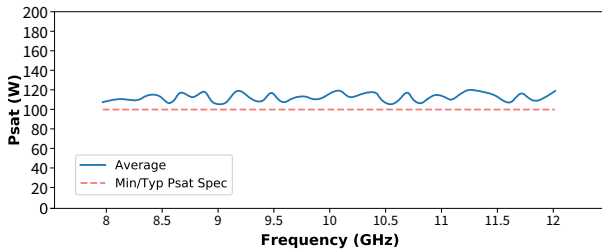
Enclosure Type:.....D  
Weight: .....143 lbs  
RF Input/Output: .....Type N Female  
to WRD650

## Environmental Specifications

Operating Temp:.....0°C to 50°C  
Storage Temp:.....-25°C to 65°C

# MPA-8G-12G-100

8-12 GHz, 100W



## Specifications

Frequency Range: .....8-12 GHz  
 Psat: .....Minimum 100 W  
 Input Power:.....Maximum 0 dBm  
 Small Signal Gain: .....Minimum 52 dB  
 Gain Flatness:.....Typical  $\pm 3$  dB  
 Gain Adjustment:.....20 dB  
 VSWR (Input):.....Maximum 2:1  
 2nd Harmonic Power @ Psat: ....Typical -35 dBc  
 Spur @ Psat:.....Typical -65 dBc  
 IM3' @ 13 dB back off:.....Typical -33 dBc  
 IM3' @ 3 dB back off:.....Typical -23 dBc  
 Unconditionally Stable  
 VSWR Load @Psat: .....3:1  
 ECCN: .....3A001  
 Warranty:.....24 months

\* 10 MHz Tone spacing

## Mechanical Specifications

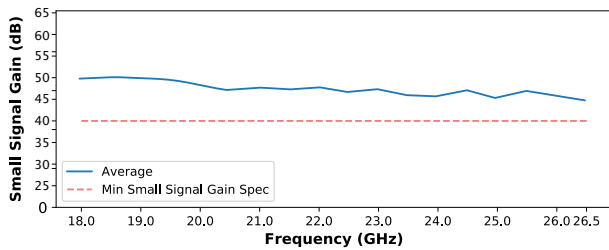
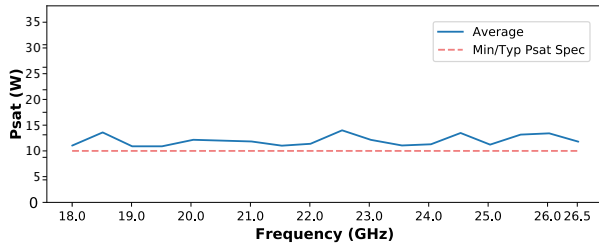
Enclosure Type:.....A  
 Weight: .....42 lbs  
 RF Input/Output: .....Type N Female

## Environmental Specifications

Operating Temp:.....0°C to 50°C  
 Storage Temp:.....-25°C to 65°C

# MPA-18G-26G5-10

18-26.5 GHz, 10W



## Specifications

Frequency Range: .....18-26.5 GHz  
Psat: .....Typical 10 W, Minimum 10 W  
Input Power: .....Maximum 5 dBm  
Small Signal Gain: .....Minimum 40 dB  
Gain Flatness: .....Typical  $\pm 3$  dB  
Gain Adjustment: .....15 dB  
VSWR (Input): .....Maximum 2:1  
Spur @ Psat: .....Typical -65 dBc  
Unconditionally Stable  
VSWR Load @Psat: .....3:1  
ECCN: .....EAR99  
Warranty: .....24 months

## Mechanical Specifications

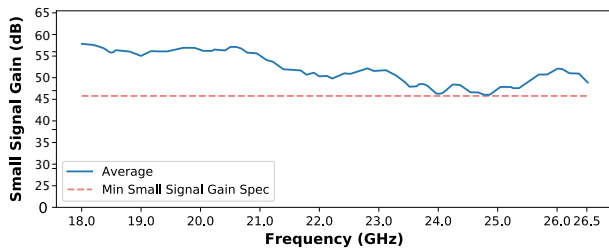
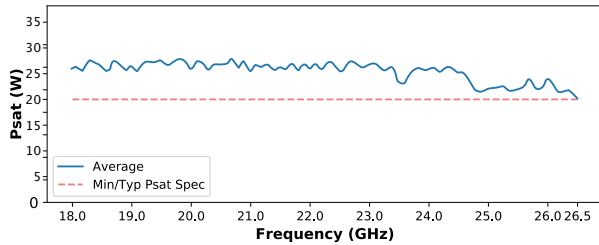
Enclosure Type: .....B  
Weight: .....15.2 lbs  
RF Input/Output: .....SMA Female

## Environmental Specifications

Operating Temp: .....0°C to 50°C  
Storage Temp: .....-25°C to 65°C

# MPA-18G-26G5-25

18-26.5 GHz, 25W



## Specifications

Frequency Range: .....18-26.5 GHz  
Psat: .....Typical 25 W, Minimum 20 W  
Input Power: .....Maximum 3 dBm  
Small Signal Gain: .....Minimum 46 dB  
Gain Flatness: .....Typical  $\pm 4$  dB  
Gain Adjustment: .....15 dB  
VSWR (Input): .....Maximum 2:1  
Spur @ Psat: .....Typical -65 dBc  
Unconditionally Stable  
VSWR Load @Psat: .....3:1  
ECCN: .....3A001.b4  
Warranty: .....24 months

## Mechanical Specifications

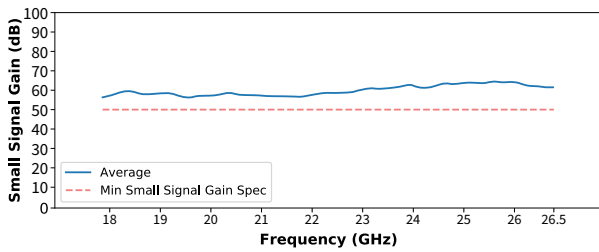
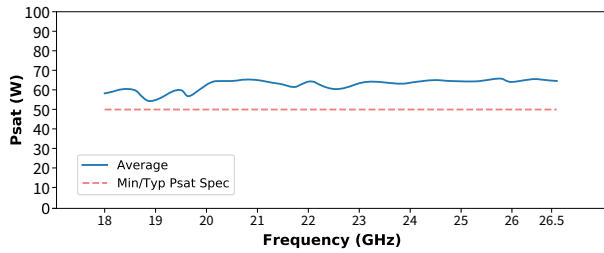
Enclosure Type: .....A  
Weight: .....26 lbs  
RF Input/Output: .....SMA Female/  
WR42

## Environmental Specifications

Operating Temp: .....0°C to 50°C  
Storage Temp: .....-25°C to 65°C

# MPA-18G-26G5-50

18-26.5 GHz, 50W



## Specifications

Frequency Range: .....18-26.5 GHz  
Psat: .....Typical 50 W, Minimum 50 W  
Input Power:.....Maximum 0 dBm  
Small Signal Gain: .....Minimum 51 dB  
Gain Flatness:.....Typical  $\pm 5$  dB  
Gain Adjustment:.....15 dB  
VSWR (Input):.....Maximum 2:1  
Spur @ Psat:.....Typical -65 dBc  
Unconditionally Stable  
VSWR Load @Psat: .....3:1  
ECCN: .....3A001  
Warranty:.....24 months

## Mechanical Specifications

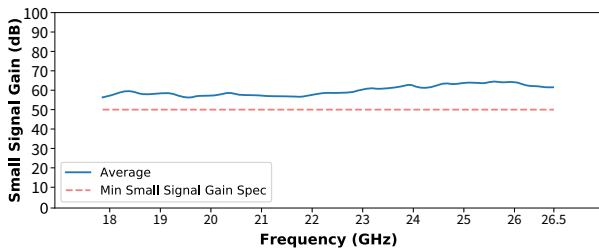
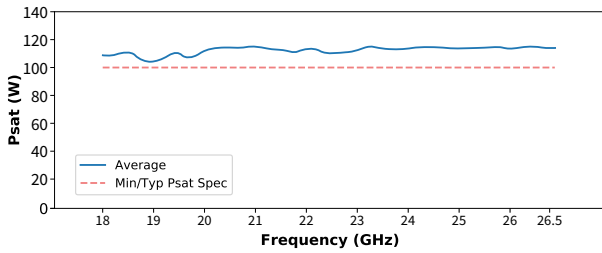
Enclosure Type:.....A  
Weight: .....40 lbs  
RF Input:.....2.92mm Female  
RF Output:.....WR42

## Environmental Specifications

Operating Temp.:.....0°C to 50°C  
Storage Temp.:.....-25°C to 65°C

# MPA-18G-26G5-100

18-26.5 GHz, 100W



## Specifications

Frequency Range: .....18-26.5 GHz  
Psat: .....Typical 100 W, Minimum 100 W  
Input Power:.....Maximum 0 dBm  
Small Signal Gain: .....Minimum 51 dB  
Gain Flatness:.....Typical  $\pm 5$  dB  
Gain Adjustment:.....15 dB  
VSWR (Input):.....Maximum 2:1  
Spur @ Psat:.....Typical -65 dBc  
Unconditionally Stable  
VSWR Load @Psat: .....3:1  
ECCN: .....3A001  
Warranty:.....24 months

## Mechanical Specifications

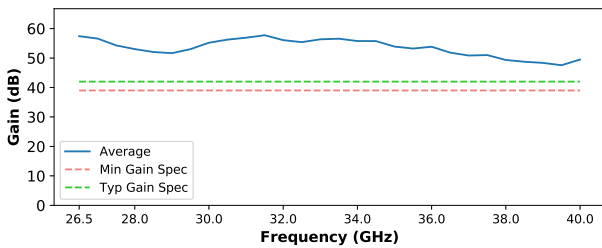
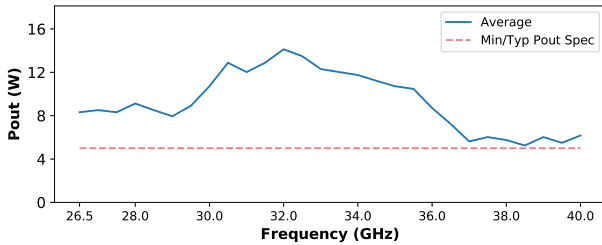
Enclosure Type:.....C  
Weight: .....60 lbs  
RF Input:.....2.92mm Female  
RF Output:.....WR42

## Environmental Specifications

Operating Temp.:.....0°C to 50°C  
Storage Temp.:.....-25°C to 65°C

# MPA-26G5-40G-5

26.5-40 GHz, 5W



## Specifications

Frequency Range: .....26.5-40 GHz  
Psat: .....Typical 5 W, Minimum 5 W  
Input Power:.....Maximum 0 dBm  
Small Signal Gain: .....Minimum 40 dB  
Gain Flatness:.....Typical  $\pm 5$  dB  
Gain Adjustment:.....15 dB  
VSWR (Input):.....Maximum 2:1  
Spur @ Psat:.....Typical -65 dBc  
Unconditionally Stable  
VSWR Load @Psat: .....3:1  
ECCN:.....3A001.b4  
Warranty:.....24 months

## Mechanical Specifications

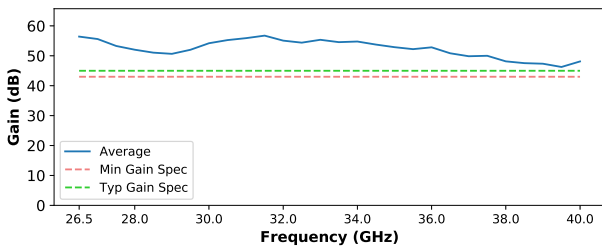
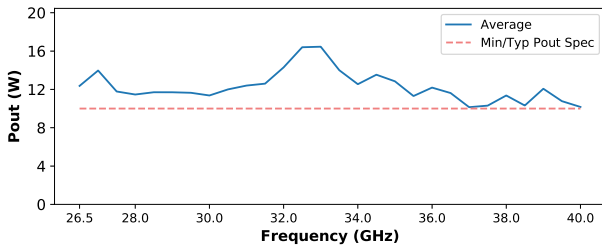
Enclosure Type:.....B  
Weight: .....16.9 lbs  
RF Input/Output: .....2.92mm Female

## Environmental Specifications

Operating Temp:.....0°C to 50°C  
Storage Temp:.....-25°C to 65°C

# MPA-26G5-40G-10

26.5-40 GHz, 10W



## Specifications

Frequency Range: .....26.5-40 GHz  
P<sub>sat</sub>: .....Typical 10 W, Minimum 10 W  
Input Power:.....Maximum 0 dBm  
Small Signal Gain: .....Minimum 40 dB  
Gain Flatness:.....Typical ±5 dB  
Gain Adjustment:.....15 dB  
VSWR (Input):.....Maximum 2:1  
Spur @ P<sub>sat</sub>:.....Typical -65 dBc  
Unconditionally Stable  
VSWR Load @P<sub>sat</sub>: .....3:1  
ECCN:.....3A001.b4  
Warranty:.....24 months

## Mechanical Specifications

Enclosure Type:.....B  
Weight: .....29 lbs  
RF Input/Output: .....2.92mm Female

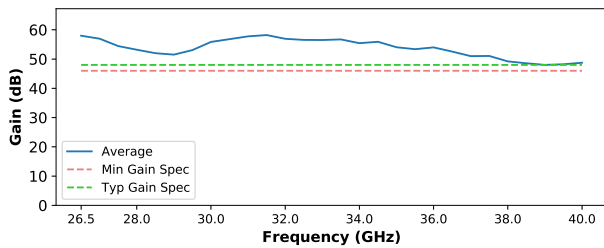
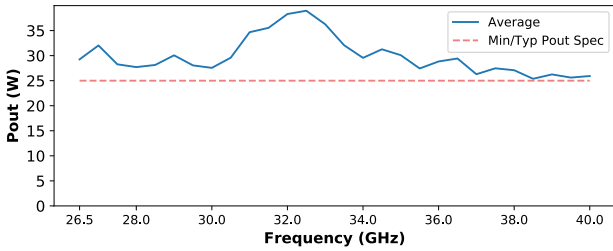
## Environmental Specifications

Operating Temp.:.....0°C to 50°C  
Storage Temp.:.....-25°C to 65°C



# MPA-26G5-40G-25

26.5-40 GHz, 25W



## Specifications

Frequency Range: .....26.5-40 GHz  
Psat: .....Typical 25 W, Minimum 20 W  
Input Power:.....Maximum 0 dBm  
Small Signal Gain: .....Minimum 43 dB  
Gain Flatness:.....Typical  $\pm 5$  dB  
Gain Adjustment:.....15 dB  
VSWR (Input):.....Maximum 2:1  
Spur @ Psat:.....Typical -65 dBc  
Unconditionally Stable  
VSWR Load @Psat: .....3:1  
ECCN: .....3A001.b4  
Warranty:.....24 months

## Mechanical Specifications

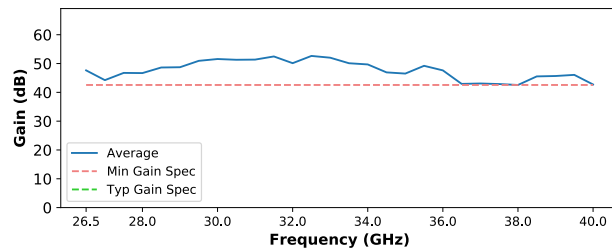
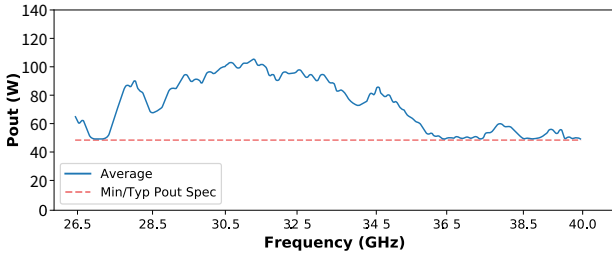
Enclosure Type:.....A  
Weight: .....42.3 lbs  
RF Input:.....2.92mm Female  
RF Output:.....WR28 flange

## Environmental Specifications

Operating Temp:.....0°C to 50°C  
Storage Temp:.....-25°C to 65°C

# MPA-26G5-40G-50

26.5-40 GHz, 50W



## Specifications

Frequency Range: .....26.5-40 GHz  
Psat: .....Typical 50 W, Minimum 50 W  
Input Power:.....Maximum 0 dBm  
Small Signal Gain: .....Minimum 43 dB  
Gain Flatness:.....Typical  $\pm 5$  dB  
Gain Adjustment:.....15 dB  
VSWR (Input):.....Maximum 2:1  
Spur @ Psat:.....Typical -65 dBc  
Unconditionally Stable  
VSWR Load @Psat: .....3:1  
ECCN: .....3A001.b4  
Warranty:.....24 months

## Mechanical Specifications

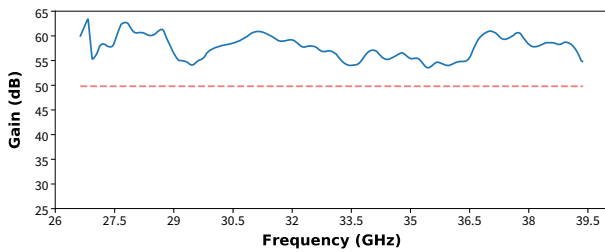
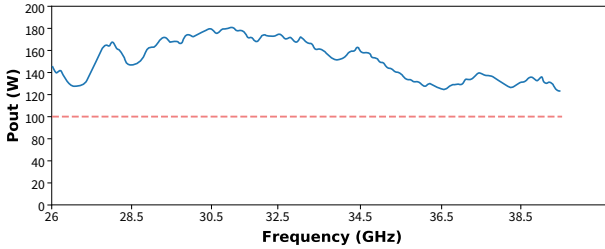
Enclosure Type:.....C  
Weight: .....59 lbs  
RF Input:.....2.92mm Female  
RF Output:.....WR28 flange

## Environmental Specifications

Operating Temp.:.....0°C to 50°C  
Storage Temp.:.....-25°C to 65°C

# MPA-26G5-40G-100

26.5-40 GHz, 100W



## Specifications

Frequency Range: .....26.5-40 GHz  
Psat: .....Typical 100 W, Minimum 100 W  
Input Power:.....Maximum 5 dBm  
Small Signal Gain: .....Minimum 50 dB  
Gain Flatness:.....Typical  $\pm 5$  dB  
Gain Adjustment:.....15 dB  
VSWR (Input):.....Maximum 2:1  
Spur @ Psat:.....Typical -65 dBc  
Unconditionally Stable  
VSWR Load @Psat: .....3:1  
ECCN: .....3A001.b4  
Warranty:.....24 months

## Mechanical Specifications

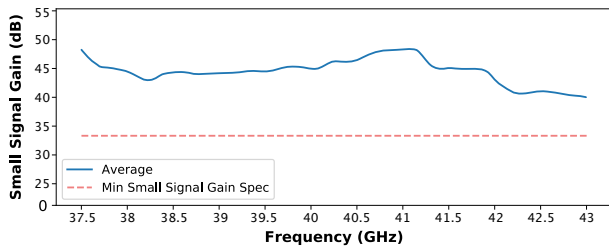
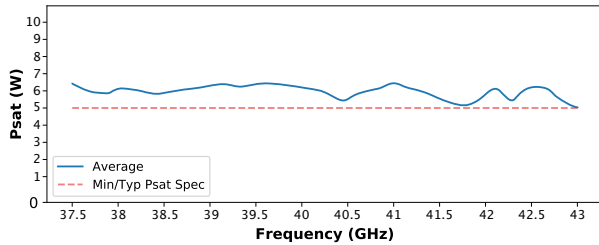
Enclosure Type:.....Contact Maury  
Weight: .....111 lbs  
RF Input:.....2.92mm Female  
RF Output:.....WR28 flange

## Environmental Specifications

Operating Temp.:.....0°C to 50°C  
Storage Temp.:.....-25°C to 65°C

# MPA-37G-43G-5

37-43 GHz, 5W



## Specifications

Frequency Range: .....37-43 GHz  
Psat: .....Minimum 5 W  
Input Power:.....Maximum 2 dBm  
Small Signal Gain: .....Minimum 33 dB  
Gain Flatness:.....Typical  $\pm 4$  dB  
Gain Adjustment:.....15 dB  
VSWR (Input):.....Maximum 2:1  
Spur @ Psat:.....Typical -65 dBc  
Unconditionally Stable  
VSWR Load @Psat: .....3:1  
ECCN: .....3A001.b4  
Warranty:.....24 months

## Mechanical Specifications

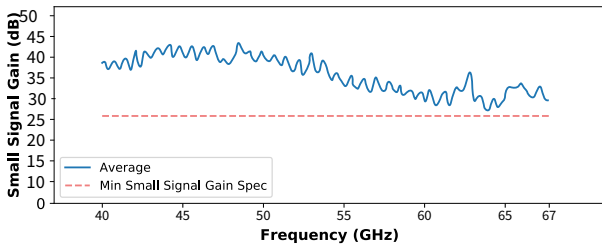
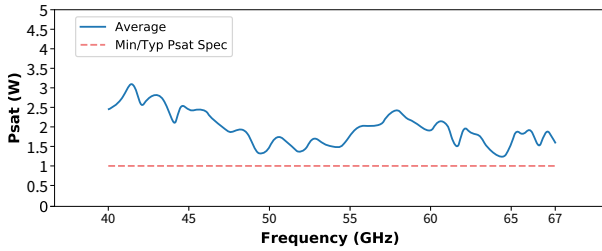
Enclosure Type:.....B  
Weight: .....14.33 lbs  
RF Input/Output: .....2.4mm Female

## Environmental Specifications

Operating Temp:.....0°C to 50°C  
Storage Temp:.....-25°C to 65°C

# MPA-40G-67G-1

40-67 GHz, 1W



## Specifications

Frequency Range: .....40-67 GHz  
Psat: .....Typical 1 W, Minimum 1 W  
Input Power:.....Maximum 8 dBm  
Small Signal Gain: .....Minimum 26 dB  
Gain Flatness:.....Typical  $\pm 8$  dB  
Gain Adjustment:.....15 dB  
VSWR (Input):.....Maximum 2:1  
Spur @ Psat:.....Typical -65 dBc  
Unconditionally Stable  
VSWR Load @Psat: .....3:1  
ECCN:.....3A001  
Warranty:.....24 months

## Mechanical Specifications

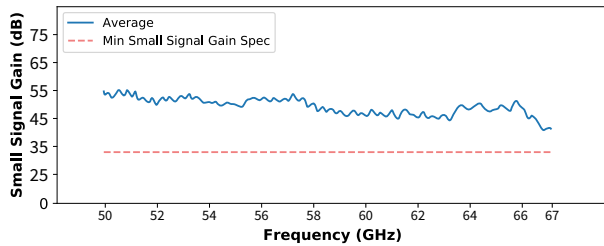
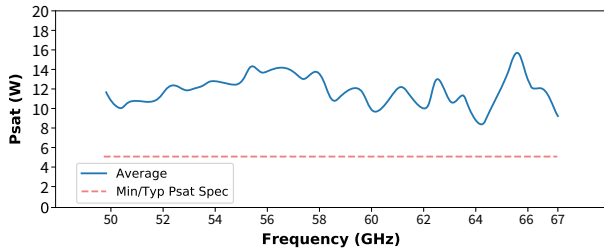
Enclosure Type:.....B  
Weight: .....18 lbs  
RF Input/Output: .....1.85mm Female

## Environmental Specifications

Operating Temp.:.....0°C to 50°C  
Storage Temp.:.....-25°C to 65°C

# MPA-50G-67G-5

50-67 GHz, 5W



## Specifications

Frequency Range: .....50-67 GHz  
Psat: .....Typical 5 W, Minimum 5 W  
Input Power:.....Maximum 0 dBm  
Small Signal Gain: .....Minimum 33 dB  
Gain Flatness:.....Typical  $\pm 5$  dB  
Gain Adjustment:.....15 dB  
VSWR (Input):.....Maximum 2:1  
Spur @ Psat:.....Typical -65 dBc  
Unconditionally Stable  
VSWR Load @Psat: .....3:1  
ECCN: .....3A001  
Warranty:.....24 months

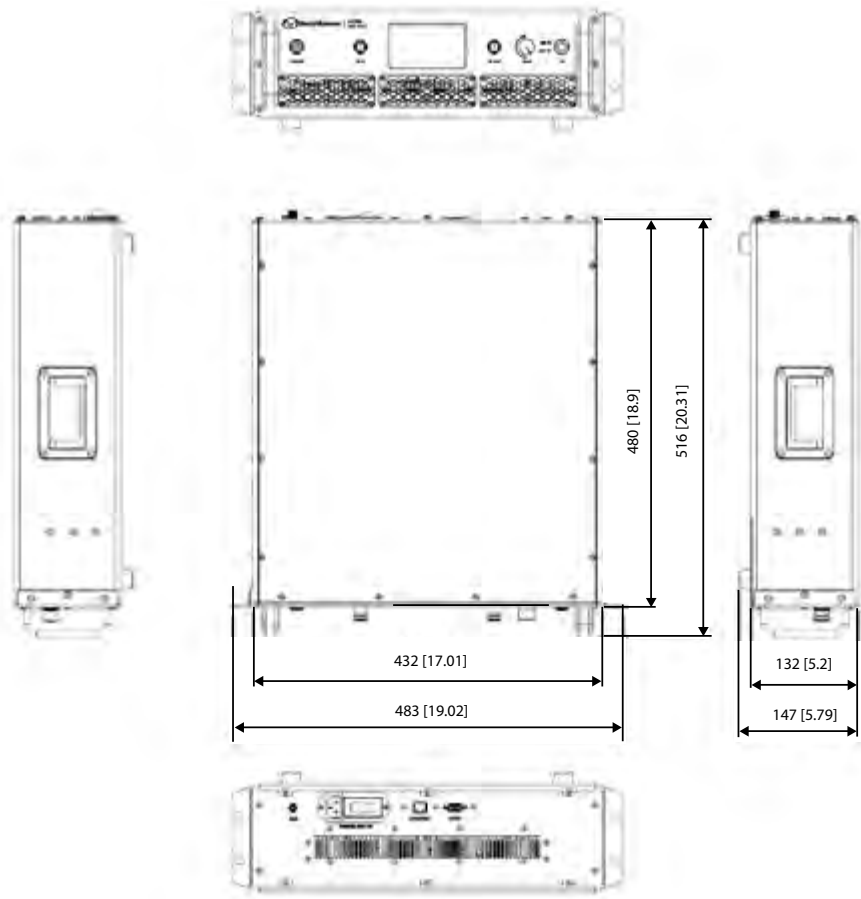
## Mechanical Specifications

Enclosure Type:.....A  
Weight: .....32 lbs  
RF Input:.....1.85mm Female  
RF Output:.....WR15 flange

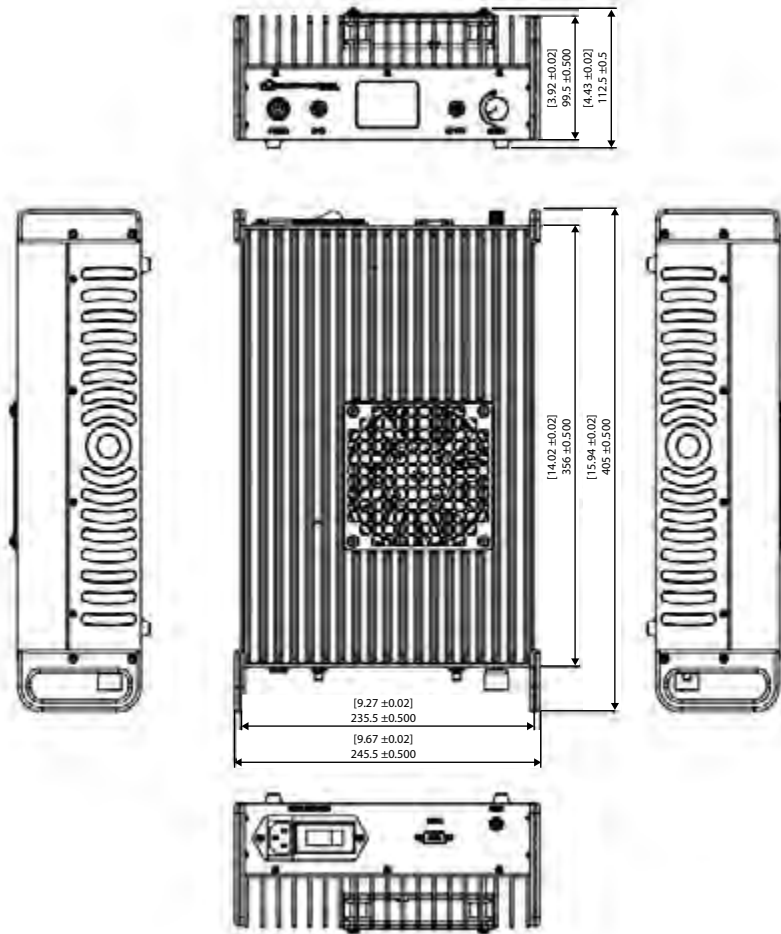
## Environmental Specifications

Operating Temp:.....0°C to 50°C  
Storage Temp:.....-25°C to 65°C

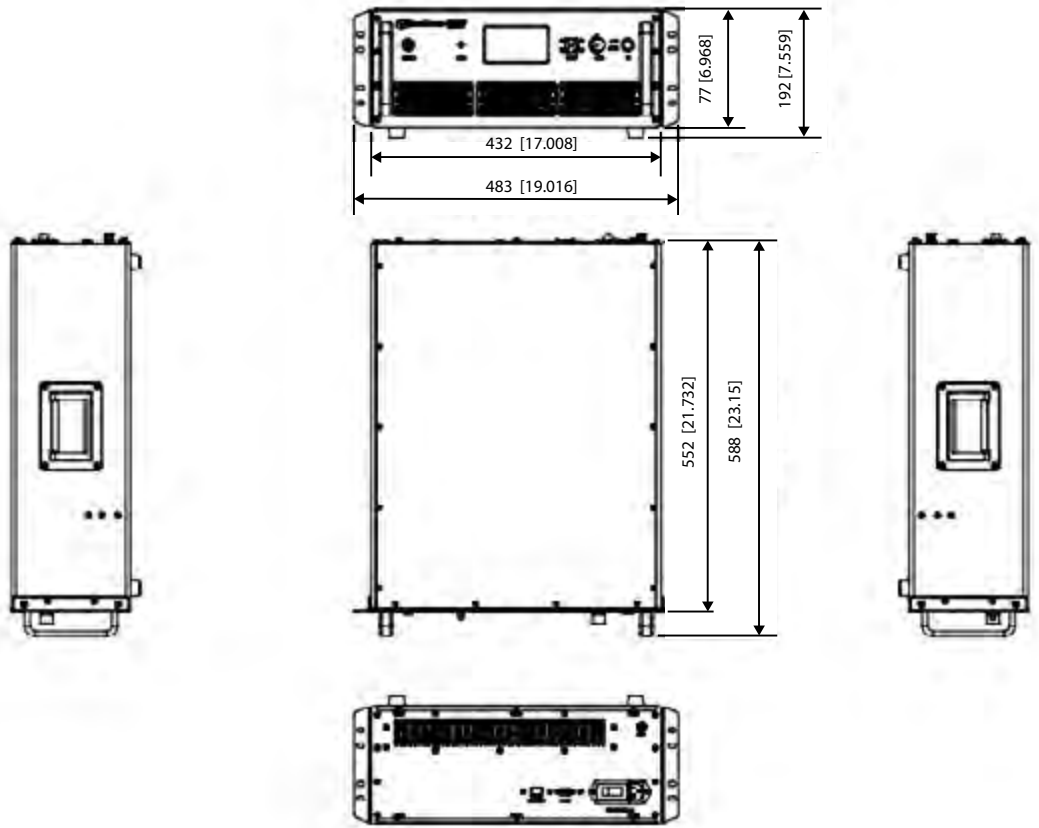
# A



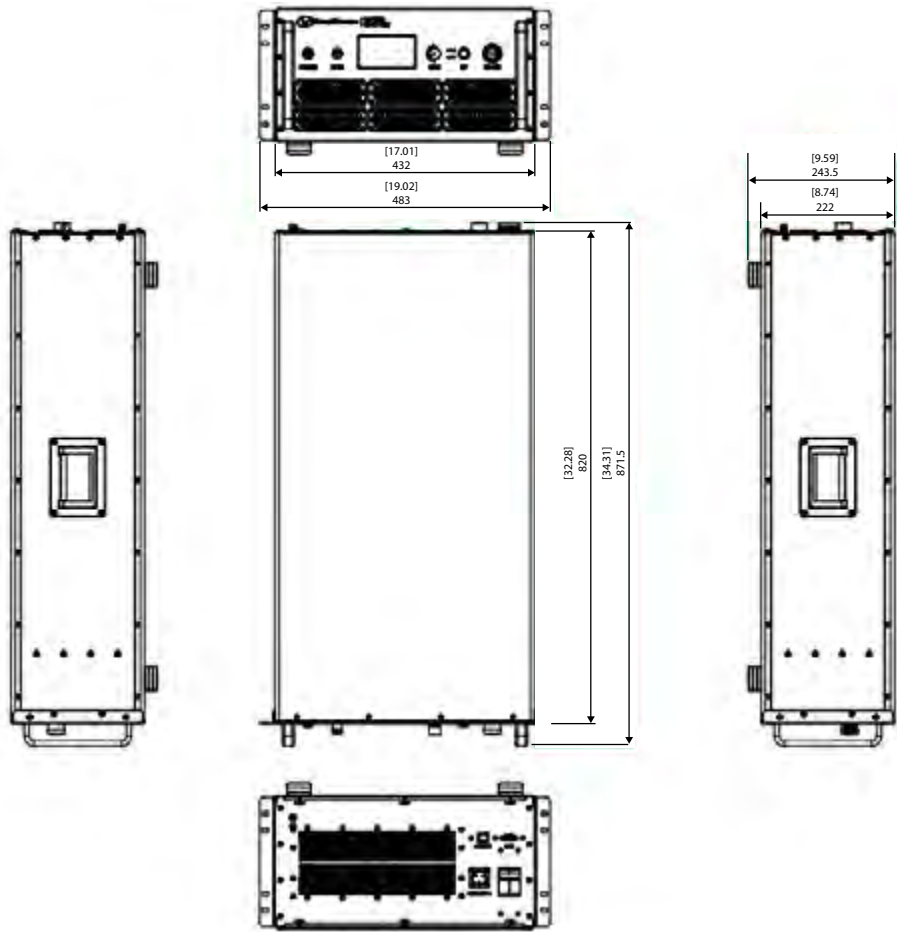
# B



# C



# D





# Maximizing Up-Time

All MPA-series amplifiers go through an extensive burn-in and ageing process to ensure high reliability and maximize up-time. We do recognize that, however unlikely, problems tend to arise at the most inconvenient moments, often when measurement systems are in the highest demand.

As a courtesy to our customers, Maury retains a pool of common amplifiers which can be used during the repair process. The frequencies and powers of the amplifiers offered as part of the courtesy pool may vary from time to time and are subject to availability.

Beyond our courtesy pool, we offer service level agreements (SLA) that include dedicated backup amplifiers to ensure availability during the warranty period and are shipped within two business days of notice. With an SLA, we can maximize up-time and ensure systems are available for use.

*Please inquire with your Maury Sales contact for details.*

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# Semi-Custom and Custom Amplifiers

## Semi-Custom and Custom Amplifiers

Not finding what you need in our standard offering? Maury offers semi-custom and custom amplifiers to meet your application requirements.

### Semi-Custom Amplifiers

Looking for something not-quite “off-the-shelf”? Do you need a little more power? A slightly different frequency band? A bit more gain? Maury’s semi-custom amplifiers may be just what you need. We will modify our standard amplifiers to meet your application needs while maintaining all the benefits of our standard offering. Contact Maury Sales and we’ll work on delivering a solution that upgrades your test bench to “State-of-the-Art”.

### Custom Amplifiers

Looking for something even more specialized? Maury can go beyond modifying our standard “off-the-shelf” amplifiers and customize a solution for your unique application, including:

- > Electrical: frequency range, output power, gain, harmonic power, spurious signals levels, intermodulation levels, noise floor...
- > Protection and indications: LCD display, over-current protection, over-heat protection...
- > Mechanical and environmental: connectors and positioning, cooling, temperature range, dimensions....

Please complete a Custom Amplifier Questionnaire; we will compare your requirements with our capabilities and determine whether we can assist with your custom requirements.

*Note: all custom amplifiers requests are evaluated on a case-by-case basis; completing a questionnaire does not ensure Maury will be able to offer an amplifier to meet your requirements; all custom amplifiers will include comprehensive Terms and Conditions (T&C) and will be accompanied by a set of Acceptance Test criteria (ATP).*

# Specifications Definitions

Parameter	Extended Parameter (if required)	Description and/or Usefulness of Parameter	Notes	Units
Psat	Saturated Output Power	Defines the maximum output power that can be sustained without any damage or long term reliability issues.	Psat is achieved once an increment of 1dB input power results in an increased output power less than 0.2dB	dBm
Input Power		Defines the maximum input power that can be injected into the amplifier without any damage or long term reliability issues.		dBm
Small Signal Gain		Defines the difference between the output power and input power under small signal conditions. Specification allows a user to budget the required input power in order to reach the desired output power.	Power Gain measured under 50ohm conditions with a -30dBm input signal	dB
Gain Flatness	Gain Flatness as a Function of Frequency	Defines the maximum deviation of Gain over the frequency range of the amplifier. May be an important consideration for wideband power measurements.	Small Signal Gain variation vs frequency at -30dBm input power	dB
Gain Adjustment		Defines the range of gain achievable by varying the position of the gain knob. May be an important consideration for measurements which require less gain than maximum, or require a level of gain variability during the measurement.	The lowest achievable Gain is equal to the average Small Signal Gain minus Gain adjustment.	dB
VSWR (input)	Input Voltage Standing Wave Ratio	Defines maximum Input VSWR; a low VSWR ensures sufficient signal transmission between signal generator and amplifier.	VSWR measured with a VNA under small signal conditions (-30dBm input power)	
Harmonic Power		Defines relative power at harmonic frequencies compared with the power at the fundamental frequency. May be important for applications where injecting harmonic powers created by the amplifier may alter DUT performance or invalidate measurement results.	Power at the harmonic frequencies are measured while the power at the fundamental frequency is set to typical Psat. $P_{2H} = P_{210} - P_{10}$ $P_{3H} = P_{310} - P_{10}$	dBc

Spur	Spurious Signals	Defines relative power at non-harmonic frequencies compared with the power at the fundamental frequency. May be important when measuring the stability of a DUT and oscillations.	Power at non-harmonic frequencies are measured while the power at the fundamental frequency is set to typical Psat.	dBc
IM3 @13dB back-off and IM3 @3dB back-off	Third-Order Intermodulation Product	Defines the relative power at intermodulation frequencies for a multi-tone source signal. May be an important consideration for the accurate measurement of DUT linearity performance.	Power at the high and low-third order intermodulation product frequencies are measured while the power at the carrier frequencies with 10 MHz offset are set to 13dB and 3dB back-off from typical Psat. $IM3_L = P_{2f_1f_2} - P_{f_1}$ $IM3_H = P_{2f_2f_1} - P_{f_2}$	dBc
Unconditionally Stable	Unconditionally Stable with K>1	An unconditionally stable amplifier will not oscillate regardless of the impedance presented to it.	K-factor is calculated using S-parameters with a -30dBm input signal	
VSWR Load @Psat	Load Voltage Standing Wave Ratio Tolerance at Output Port	Defines maximum Output VSWR which can be presented to the amplifier on RF output port without reflecting a large power which could potentially damage the amplifier. This parameter is specified at typical Psat.	Placing an isolator/circulator on the output port is a best-practice and increases the protection of the amplifier significantly	



## Parameters

Parameters may be rated as typical, minimum or maximum based on the following definitions:

- > **Typical (typ):** the actual value will be greater than or equal to the typical specification over 80% of the frequency range.
- > **Minimum (min):** the actual value will be greater than or equal to the minimum specification over 100% of the frequency range.
- > **Maximum (max):** the actual value will be less than or equal to the maximum specification for 100% of the frequency range.