BROADBAND POWER AMPLIFIER

(BBA-30-6-18G-CTU)

www.amcad-mw.com

DESCRIPTION :

30W Wideband Amplifier with a 6GHz-18GHz Frequency range. Output power is 46dBm typical, with 56dB gain at PSat with +/- 1.5dB flatness, 65dB small signal Gain.

TYPICAL APPLICATIONS :

- **Military and Aerospace Applications**
- **Test Instrumentation**
- **Radar Systems**
- **5G Wireless Communications**
- **Microwave Radio Systems**
- **Research and Development**
- **Cellular Base Stations**

MAIN FEATURES :

- **65dB small signal gain**
- **46dBm Psat**
- **Overcurrent Protection**
- **Remote control**
- **Remote infos (T°, Power, Current…)**
- **Tiny Control Unit embedded adds functionnalities to the test bench**

Specifications Table

Parameter	Min	Typ	Max	Units
Frequency Range	6		18	GHz
Output Power	30	45		W
Small Signal Gain		65		dB
Small Signal Gain Flatness		+/- 3		dB
Power Gain Flatness @Psat		+/- 1.5		dB
Input Power @Psat		-5		dBm
2nd Harmonic @Psat		-15	-10	dBc
3rd Harmonic @Psat			-15	dBc
VSWR Input			1.91:1	
VSWR Output			3:1	
C/I3 3dB Backoff 1MHz/11MHz		-30	-28	dBc
Operating AC Voltage	100		240	VAC
Power Consumption @Pout = 40W			400	W

Environmental specifications

Parameter	Description
Operating Temperature	15°C to +60°C
Storage Temperature	-25°C to +80°C

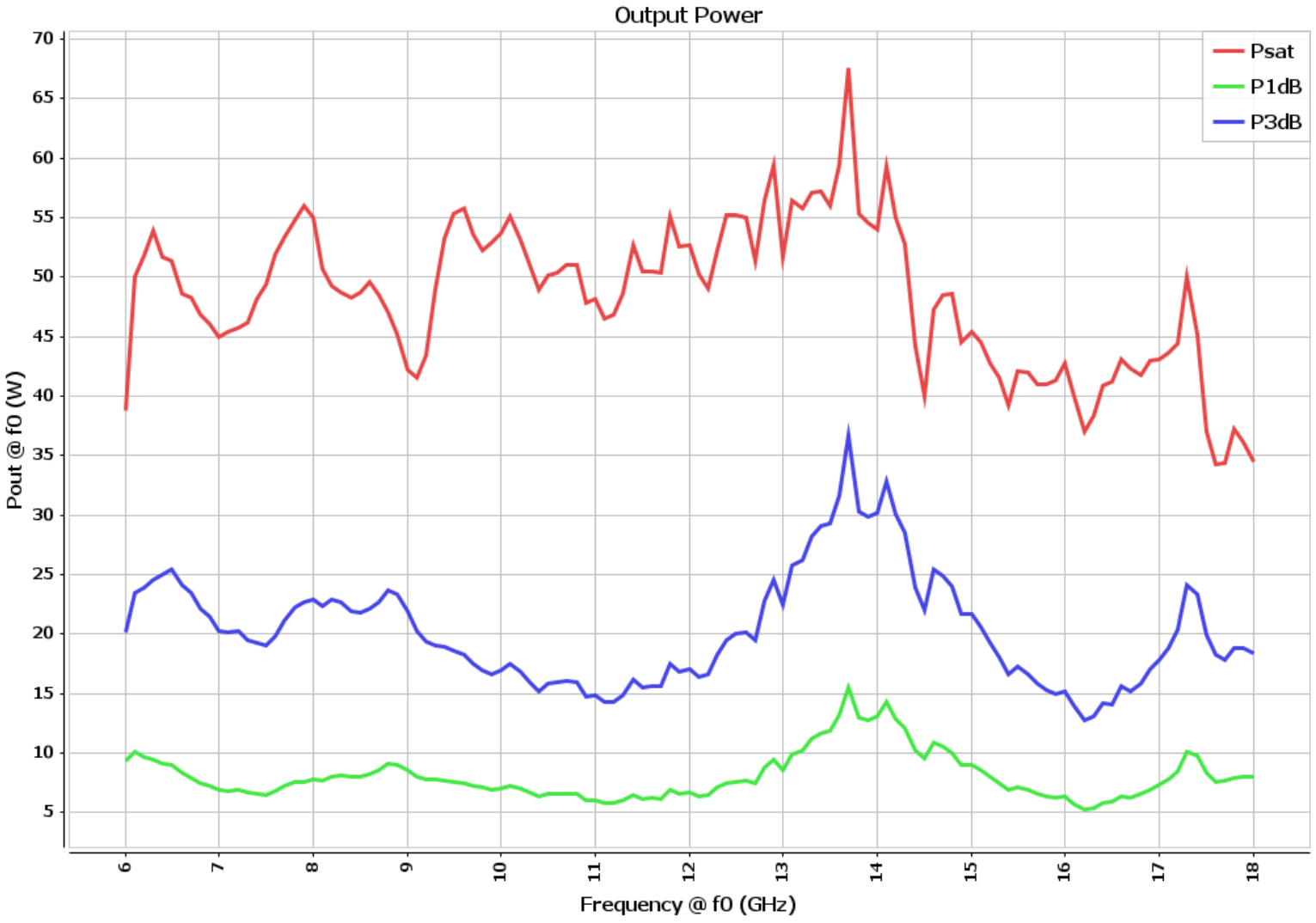
Absolute maximum ratings

Parameter	Rating
Supply Voltage	85 - 265 VAC
Max Power	400 W
Input RF Power	+10dBm

Mechanical specifications

Specification	Details
Dimensions	Chassis 19” with handles
Height	3U
Weight	20Kg
Input / Output Connectors	SMA Female / SMA Female

Typical Measurements Plots (CW)



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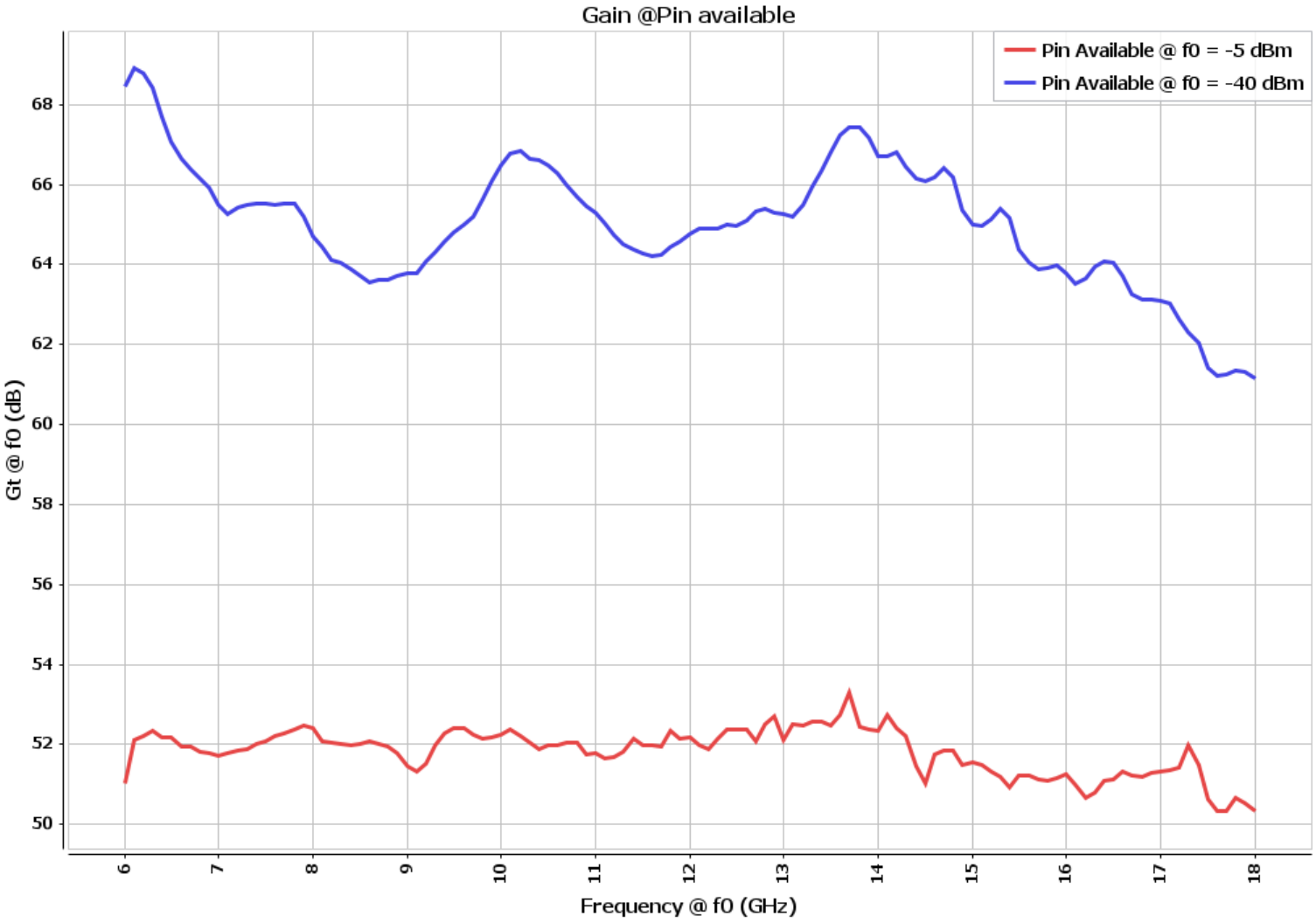

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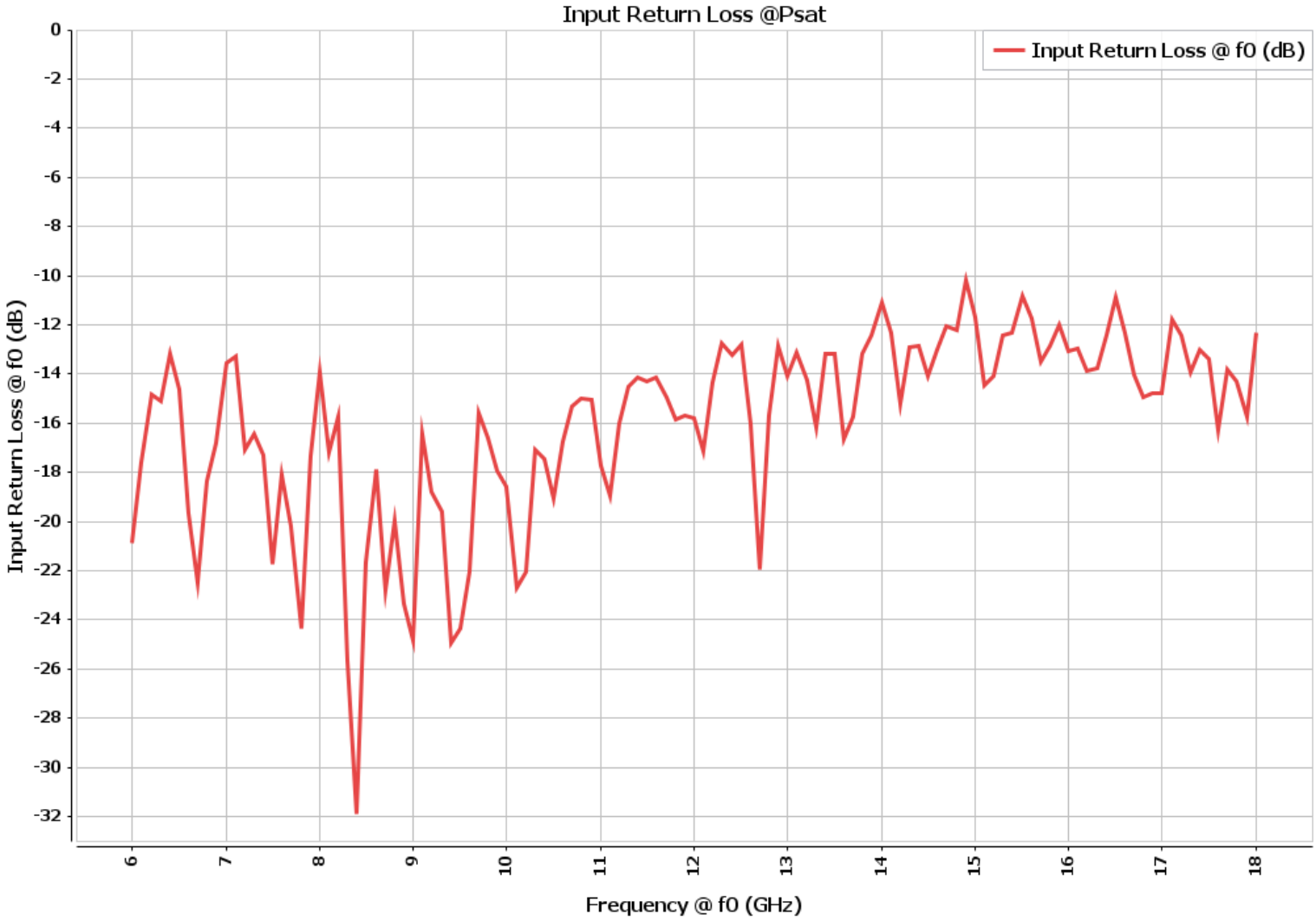

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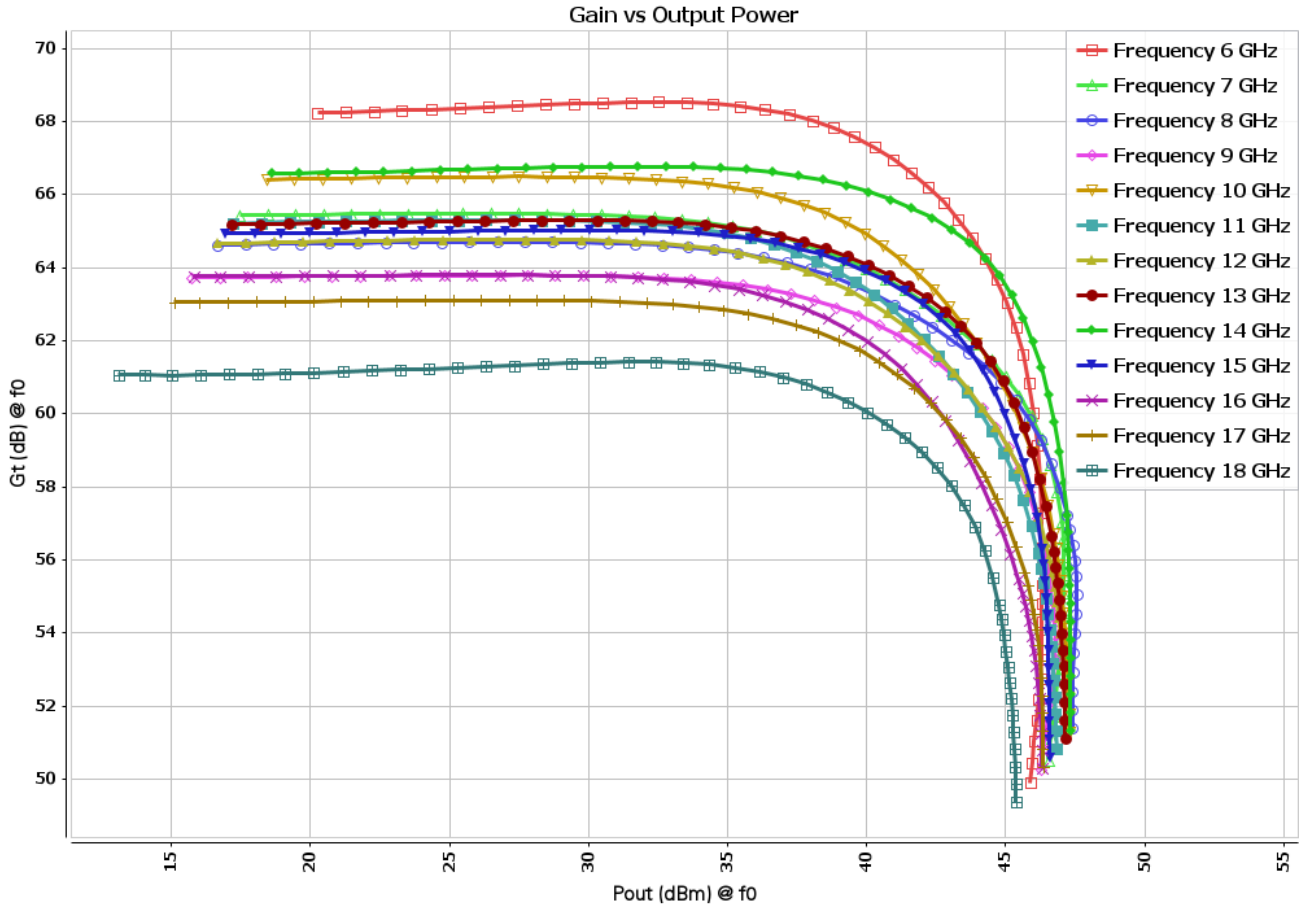

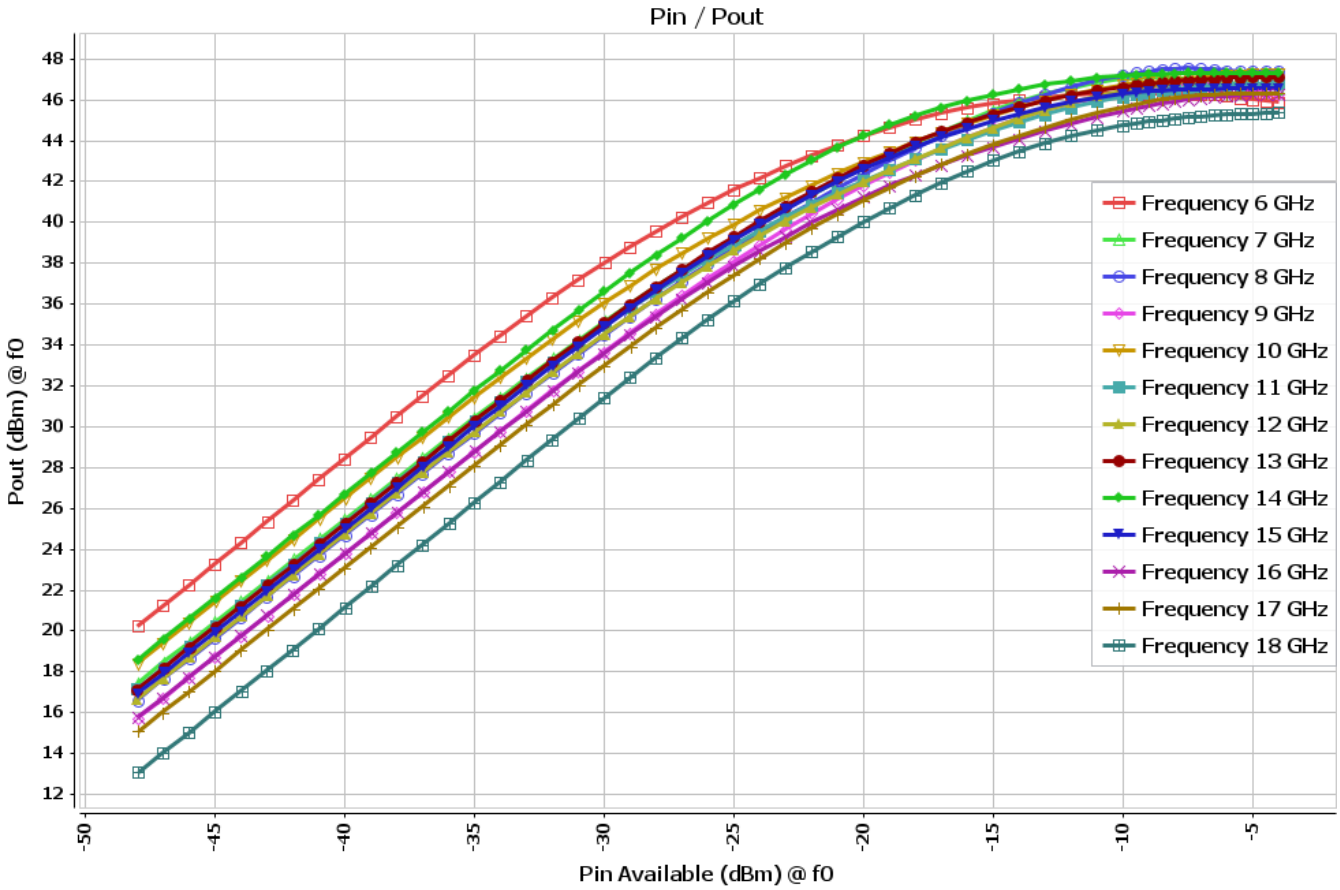

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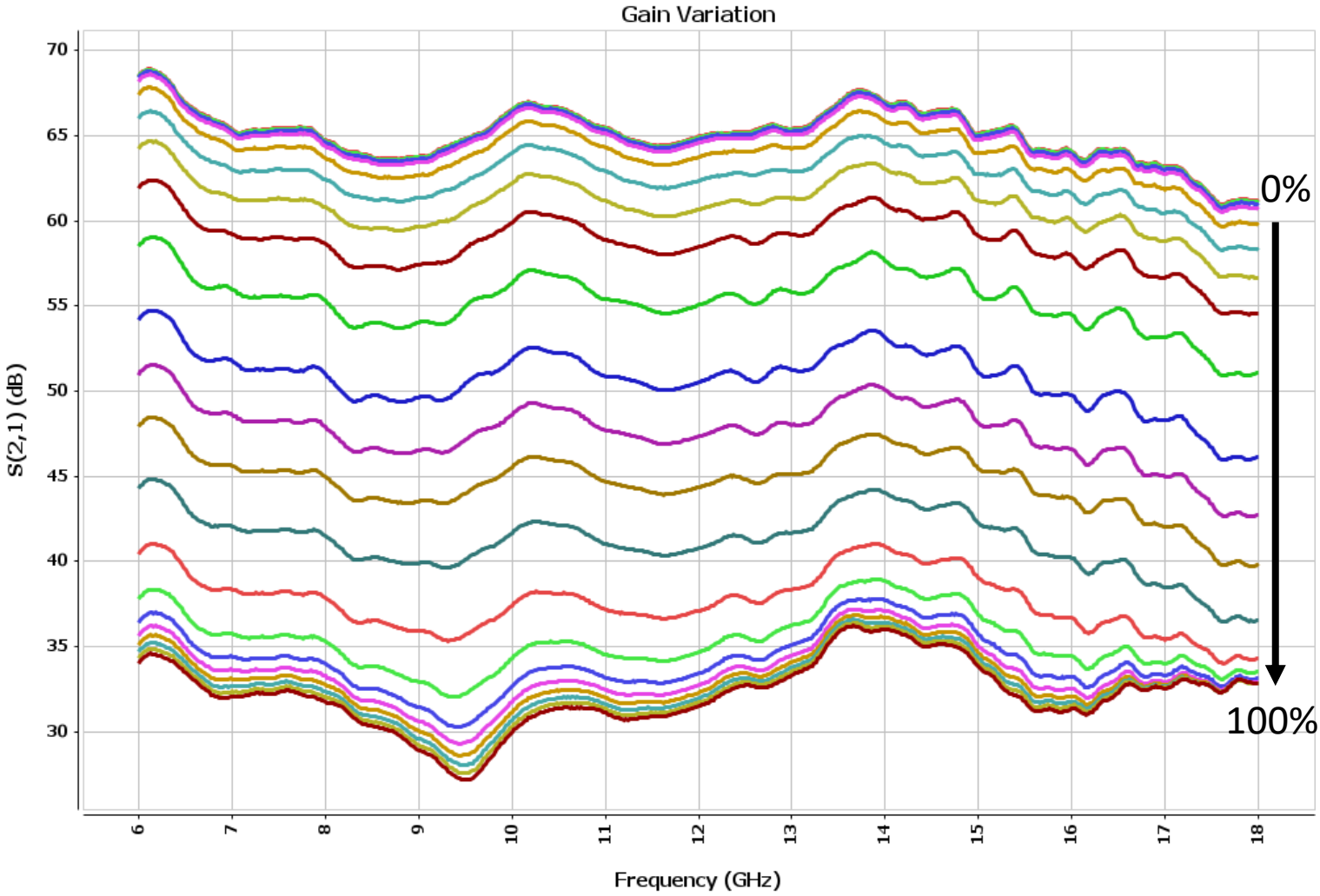
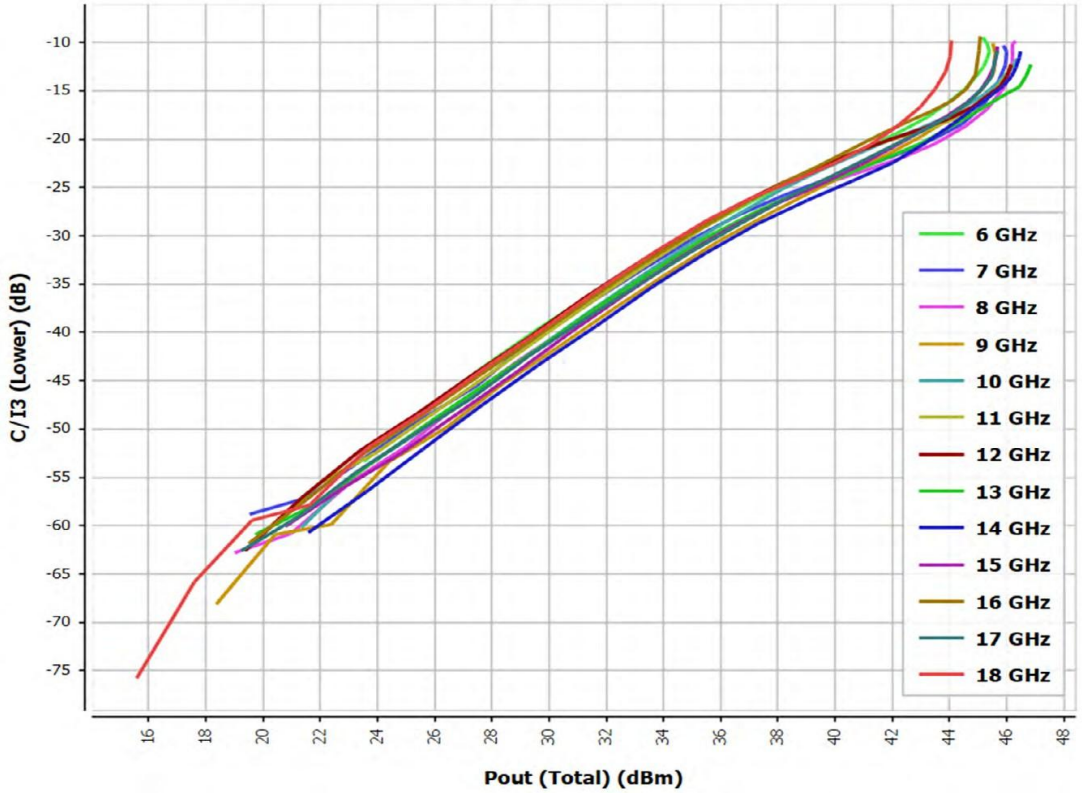


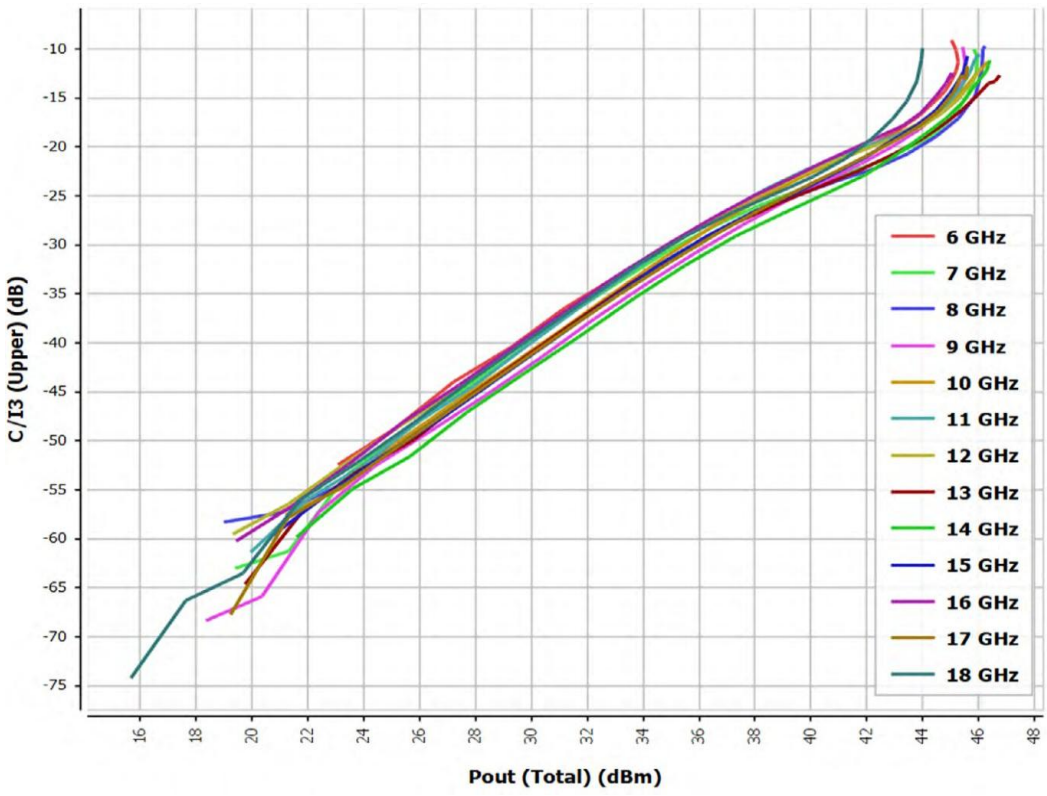
- Sparam_6-18GHz_20MHz_Rack_PIN-m30dBm_Gain-var00
- Sparam_6-18GHz_20MHz_Rack_PIN-m30dBm_Gain-var05
- Sparam_6-18GHz_20MHz_Rack_PIN-m30dBm_Gain-var10
- Sparam_6-18GHz_20MHz_Rack_PIN-m30dBm_Gain-var15
- Sparam_6-18GHz_20MHz_Rack_PIN-m30dBm_Gain-var20
- Sparam_6-18GHz_20MHz_Rack_PIN-m30dBm_Gain-var25
- Sparam_6-18GHz_20MHz_Rack_PIN-m30dBm_Gain-var30
- Sparam_6-18GHz_20MHz_Rack_PIN-m30dBm_Gain-var35
- Sparam_6-18GHz_20MHz_Rack_PIN-m30dBm_Gain-var40
- Sparam_6-18GHz_20MHz_Rack_PIN-m30dBm_Gain-var45
- Sparam_6-18GHz_20MHz_Rack_PIN-m30dBm_Gain-var50
- Sparam_6-18GHz_20MHz_Rack_PIN-m30dBm_Gain-var55
- Sparam_6-18GHz_20MHz_Rack_PIN-m30dBm_Gain-var60
- Sparam_6-18GHz_20MHz_Rack_PIN-m30dBm_Gain-var65
- Sparam_6-18GHz_20MHz_Rack_PIN-m30dBm_Gain-var70
- Sparam_6-18GHz_20MHz_Rack_PIN-m30dBm_Gain-var75
- Sparam_6-18GHz_20MHz_Rack_PIN-m30dBm_Gain-var80
- Sparam_6-18GHz_20MHz_Rack_PIN-m30dBm_Gain-var85
- Sparam_6-18GHz_20MHz_Rack_PIN-m30dBm_Gain-var90
- Sparam_6-18GHz_20MHz_Rack_PIN-m30dBm_Gain-var95
- Sparam_6-18GHz_20MHz_Rack_PIN-m30dBm_Gain-var100

Typical Measurements Plots (CW)

Left IMD3 6MHz Delta :



Right IMD3 6MHz Delta :



Tiny Control Unit option (CTU)

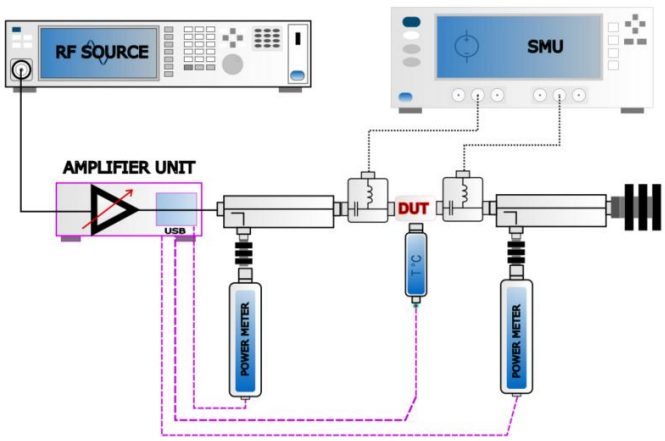
The user can connect third-party instruments on the front panel thanks to the ampifier's tiny control unit, which makes test bench implementation easier. One benefit of connecting USB instruments locally is that the control unit's processor will respond instantly. Additionally, the control unit's driver will turn any USB instrument into a SCPI Ethernet instrument.

TYPICAL APPLICATIONS :

- **DUT RF power measurements**
- **DUT Temperature measurement**
- **Third party instrument control**
- **RF Power regulation**
- **Temperature regulation**
- **Use your own lab instruments**

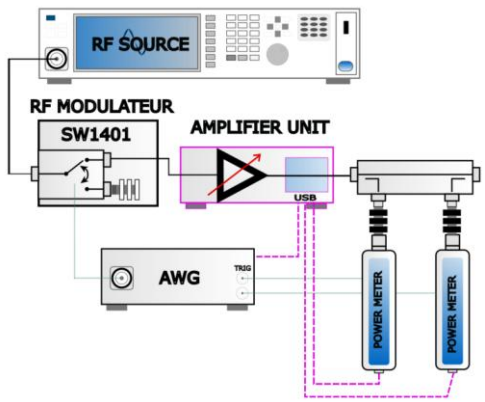
MAIN FEATURES :

- **ALC (Automatic Level Control)**
- **AGC (Automatic Gain Control)**
- **Maintain constant Pin/Pout power**
- **Configurable safety thresholds**
- **Display measurements on the local screen**



Build a setup with constant DUT input RF power to compensate temperature shift.

RF power is monitored and thresholds shut down the test bench if exceeded.
Pin is adjusted thanks to a control loop using the internal variable RF attenuator.
DUT Temperature is monitored and thresholds shut down the test bench if exceeded.
All measurements are displayed on the screen.

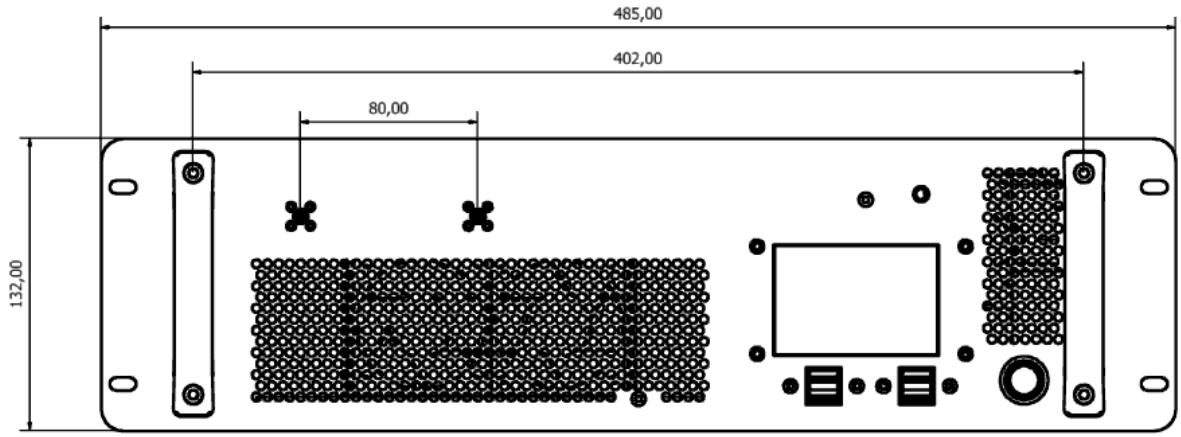


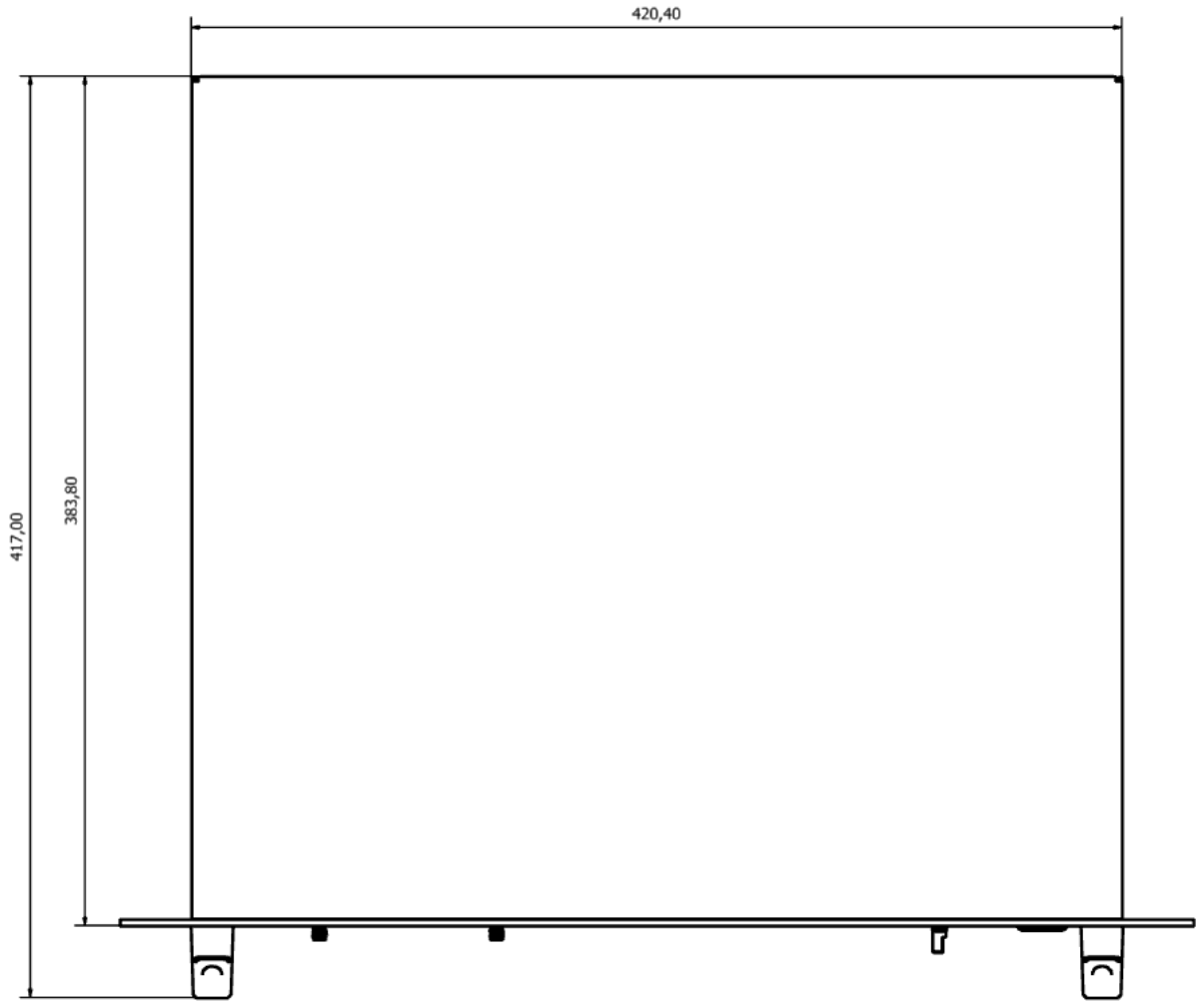
Build a pulsed amplifier.

Modulation is configured through the amplifier using the internal driver of an AWG.
RF power is monitored and thresholds shut down the test bench if exceeded.
All measurements and the modulation configuration are displayed on the screen.

Outline Drawing

All dimension are in millimeters
Tolerances +/- 2 mm unless otherwise specified





OTHER PRODUCTS

Solid-state Class AB Broadband design Based on GaN transistor Technology

Ultra Broadband	RF Bandwidth	Gain / Psat
UBBA-2-1-26G	1-26,5 GHZ	40dB / 2W
UBBA-20-2-20G	2-20 GHZ	48dB / 20W

Broadband	RF Bandwidth	Gain / Psat
BBA-120-07-3G	0,7-3 GHZ	50dB / 120W
BBA-200-1-2G	1-2 GHZ	53dB / 200W
BBA-50-1-6G	1-6 GHZ	46dB / 50W
BBA-120-2-6G	2-6 GHZ	50dB / 120W
BBA-80-2-8G	2-8 GHZ	49dB / 80W
BBA-30-6-18G	6-18 GHZ	57dB / 40W
BBA-20-26-40G	26,5-40 GHZ	40dB / 20W
BBA-25-05-6G	0.5-6 GHZ	55 dB / 25W

The brochures for these products are available on request. Please feel free to contact us at

sales@amcad-mw.com

Warranty

Any AMCAD product comes with a two-year parts and labor warranty, when returned to our workshops. A phone support service is also available for the same period.
At the end of the initial two-year period, a further contract can be subscribed, including:

- a preventive functional check and calibration of the modules (onsite or in our workshop)
- a further two-year warranty period

Quality Regulations & Environment

AMCAD Systems and all modules are compliant to the applicable European directive and hold the CE mark.

- Products are assembled in France
- Serial number-based life cycle management
- All products are 100% tested (test reports provided)
- AMCAD complies with the relevant national regulations related to the safety and health of its employees against hazardous substances.
- As wearealways seeking to improve our products, the information in this document gives only a general indication of the product capacity, performance and suitability, none of which shall form part of any contract. We reserve the right to make design changes without notice.

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