

VWA-0R518-MP-1421

**14dB Gain 0,5 to 18GHz Ultra Wideband
Medium Power Amplifier Module**

Description

The **VWA-0R518-MP-1421** is a broadband single stage GaAs MMIC amplifier module, which provides up to 14 dB gain from 0.5 GHz to 18 GHz and delivers +21 dBm of output power, with less than 6 dB Noise Figure within the bandwidth. This unit can be provided with a matching in phase of +/- 10°. This unit is designed for Ultra Wideband applications and is ideal for ECM, T&M, driving E/O modulator with RF signal as well as others RF applications. This amplifier has single-ended input and output, and SMA field replaceable RF connectors (male or female).

Features

- Ultra Wideband
- High Gain
- Low Noise Figure
- High power
- 50 Ohm impedance
- Single +12V supply

Typical Characteristics (25°C)

Electrical Parameters	Symbols	Min	Typ	Max	Units
High Frequency Response (-3 dB)	BW _{high}	18			GHz
Low Frequency Response (-3 dB)	BW _{Low}			500	MHz
Averaged Gain	G	14		17	dB
Gain Flatness	ΔG	-1,5		+1,5	dB
Noise Figure (@ +55°C)	NF			6	dB
Input Return Loss	S11		-8	-10	dB
Output Return Loss	S22		-8	-10	dB
Output Power @ 1dB gain compression	P _{1dB}	+21			dBm
Bias Voltage	V _{bias}	+10	+12	+ 15	V
Drive Current	I _d		260		mA

Environment Parameters	Symbols	Min	Typ	Max	Units
Operating temperature	T _{op}	-20		+70	°C
Storage temperature	T _{stg}	-55		+85	°C

Absolute maximum ratings

Maximum ratings	Symbols	Min	Typ	Max	Units
Supply Voltage	V _{bias max}			+15	V
Lead soldering temperature				250	°C

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VWA 00005 BAAA DS Rev 1.11

VectraWave Proprietary information subject to change



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Typical measurements

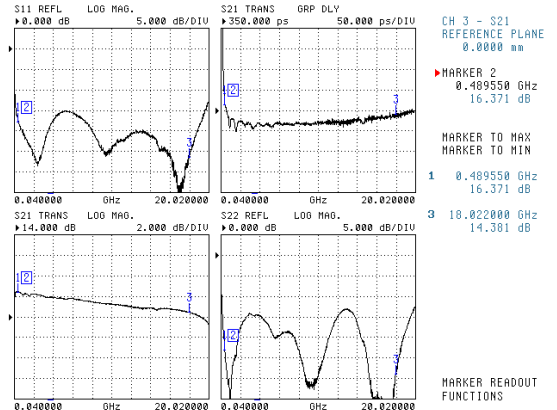
Noise Figure



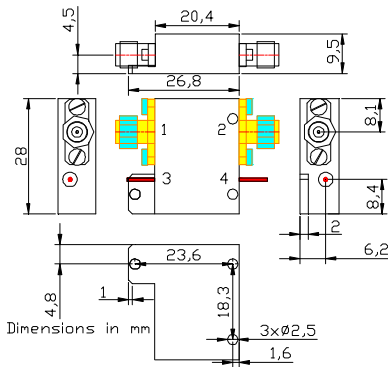
Output Power @ 1dB compression

P 1dB (dBm)	
0.5GHz	22.8
2GHz	23.0
10GHz	22.5
16GHz	22.0
18GHz	21.5

S Parameters



Mechanical characteristics (dimensions in mm)



Pin out

Pin Nb	Designation
1	Input
2	Output
3	V _{bias}
4	Ground

Handling

This product is sensitive to electrostatic discharge and should not be handled except at a static free workstation. Take precautions to prevent ESD; use wrist straps, grounded work surfaces and recognized anti-static techniques when handling the **VWA-0R518-MP-1421** module.



Care should be taken to avoid supply transient and over voltage. Over voltage above the maximum specified in absolute maximum rating section may cause permanent damage to the device.

Ordering information

Part number	Operating temp. °C	Connector In	Connector Out
VWA 00005 BA	-20 / + 70	SMA female	SMA female

Options on demand:

- Input and output RF connectors
- Operating temperature -40/+85°C

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