Fairview Microwave
RF COMPONENTS ON DEMAND. Done!

FMAM4020
DATA SHEET

40 dB Gain High Power High Gain Amplifier at 5 Watt P1dB Operating From 17.5 GHz to 21.5 GHz with 45 dBm IP3 and 2.92mm

The FMAM4020 is a K-band GaAs MMIC-based high gain and high power output coaxial amplifier, operating in the 17.5 to 21.5 GHz frequency range. The amplifier offers 37 dBm typical of P1dB and 40 dB typical high small signal gain, with the excellent gain flatness of ±1.5 dB typical, along with an outstanding IP3 performance of 45 dBm typical. This technical performance is achieved through the use of advanced GaAs PHEMT circuitry. This power amplifier requires only a single positive DC supply, Unconditionally stable. and operates over the temperature range of -20°C to 75°C.

Features:

- 17.5 to 21.5 GHz Frequency Range
- P1dB: 37 dBm typ
- High Small Signal Gain: 40 dB typ
- Gain Flatness: ±1.5 dB typ
- Gain Variation Over the Temperature Range: ±2.5 dB typ
- High Output IP3: 45 dBm typ
- Noise Figure: 5 dB typ
- 50 Ohm Input and Output Matched
- -20 to +75°C Operating Temperature
- Unconditionally Stable
- Single DC Positive Supply
- Built-in DC Voltage Regulator

Applications:

- K-band Satellite Communication
- Commercial SATCOM
- Point-to-Point Radio
- Point-to-Multipoint Radio
- Communication Systems
- VSAT
- R&D Labs
- Radar Systems
- Communication Systems
- High Power Output Amplifier

Electrical Specifications (TA = +25°C, DC Voltage = 12Volts , DC Current = 3,500mA)

Description	Min	Typ	Max	Unit
Frequency Range	17.5		21.5	GHz
Small Signal Gain	37	40	43	dB
Gain Flatness		±1.5	±1.75	dB
Gain Variation at OTR*		±2.5		dB
Input Power (CW)			+10	dBm
P1dB	+36	+37		dBm
Output 3rd Order Intercept Point	+43	+45		dBm
Noise Figure		5	8	dB
Spurious			-60	dBc
Input VSWR		1.8:1	2.5:1	
Output VSWR		1.8:1	2.5:1	
Operating DC Voltage	9		12	Volts
Operating DC Current		3,500	5,000	mA
Operating Temperature Range	-20		+75	°C

*OTR= Base Plate Operating Temperature Range

Absolute Maximum Rating

Parameter	Rating	Units
Source Voltage	+15	Volts
RF input Power	+10	dBm
Operating Temperature (base-plate)	-20 to +65	°C
Storage Temperature	-55 to +125	°C

ESD Sensitive Material, Transport material in Approved ESD bags. Handle only in approved ESD Workstation.

Mechanical Specifications

Size	
Length	2.6 in [66.04 mm]
Width	2 in [50.8 mm]
Height	0.5 in [12.7 mm]
Input Connector	2.92mm Female

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Output Connector	2.92mm Female
Cooling	HEATSINK REQUIRED use FMAMC5013 OR FMAMC5013F

Environmental Specifications

Temperature

Operating Range	-20 to +75 deg C
Storage Range	-45 to +85 deg C

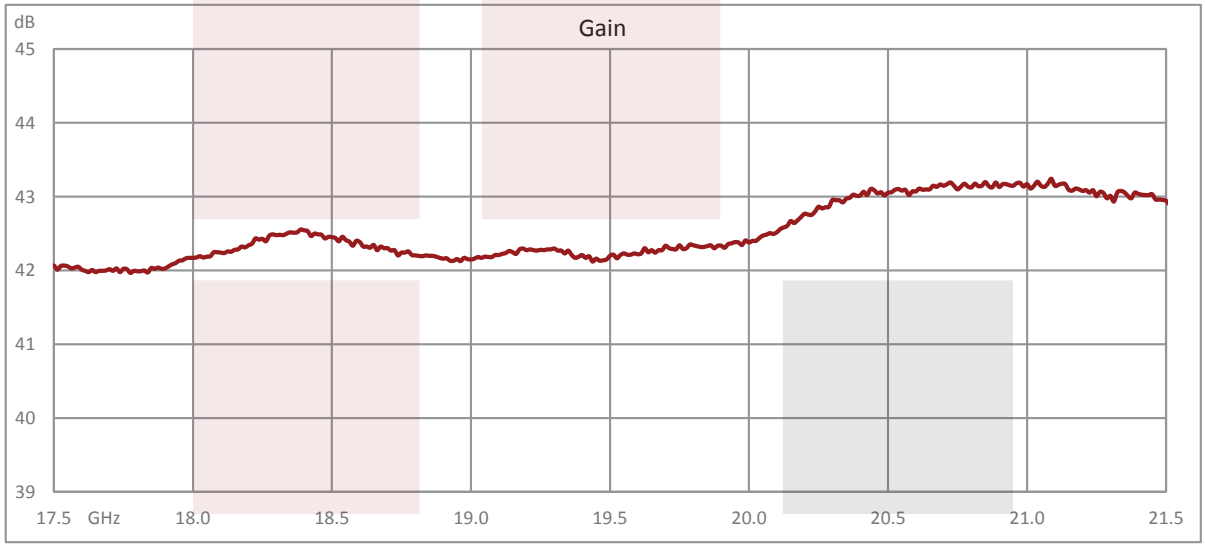
Compliance Certifications (see product page for current document)

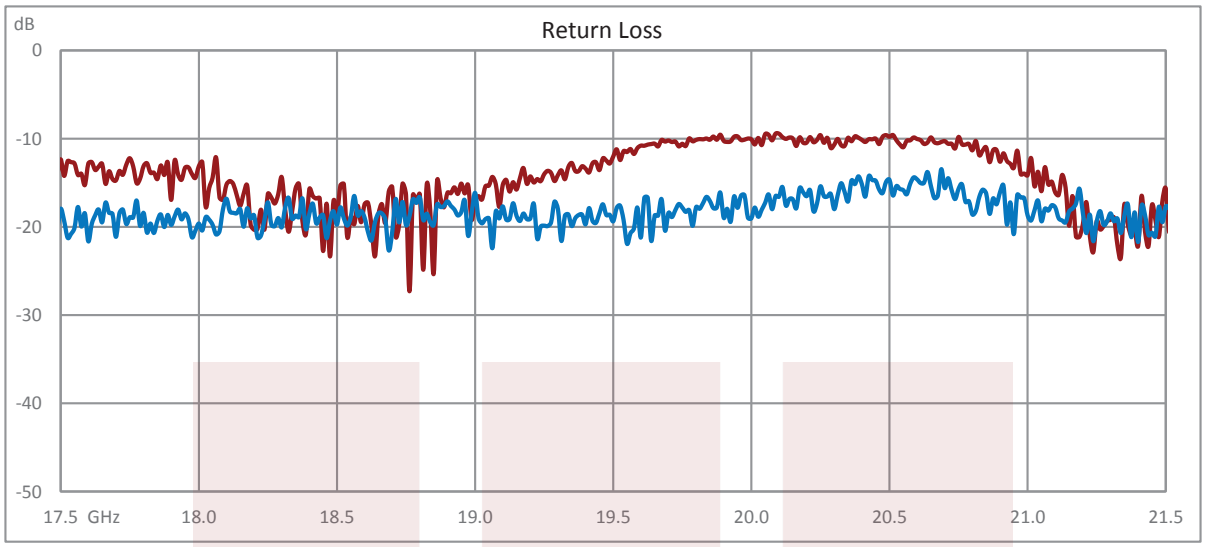
Plotted and Other Data

Notes:

- Values at 25 °C, sea level
- ESD Sensitive Material, Transport material in Approved ESD bags. Handle only in approved ESD Workstation.
- Heat Sink Required for Proper Operation, Unit is cooled by conduction to heat sink.

Typical Performance Data

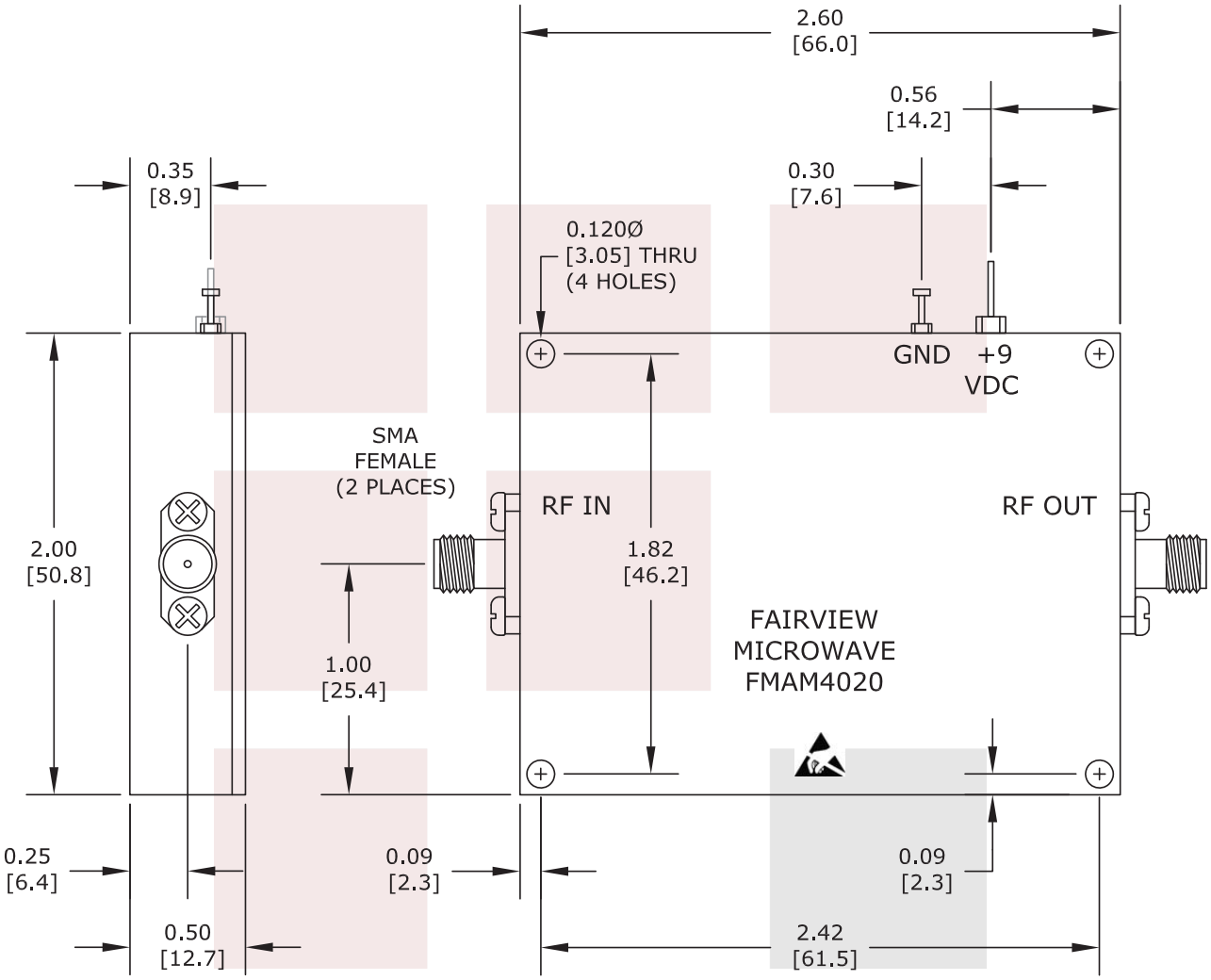




40 dB Gain High Power High Gain Amplifier at 5 Watt P1dB Operating From 17.5 GHz to 21.5 GHz with 45 dBm IP3 and 2.92mm from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: 40 dB Gain High Power High Gain Amplifier at 5 Watt P1dB Operating From 17.5 GHz to 21.5 GHz with 45 dBm IP3 and 2.92mm FMAM4020

URL: https://www.fairviewmicrowave.com/40db-high-power-high-gain-amplifier-5watt-fmam4020-p.aspx



NOTE:
HEAT SINK REQUIRED FOR PROPER OPERATION,
UNIT IS COOLED BY CONDUCTING TO HEAT SINK.

FAIRVIEW MICROWAVE INC. ALLEN, TX 75013 WWW.FAIRVIEWMICROWAVE.COM	NOTES: 1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL. 2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME. 3. DIMENSIONS ARE IN INCHES [mm].				
TITLE 40 dB Gain High Power High Gain Amplifier at 5 Watt P1dB Operating From 17.5 GHz to 21.5 GHz with 45 dBm IP3 and 2.92mm	DWG NO FMAM4020		CAGE CODE 3FKR5		
CAD FILE 061915	SHEET	SCALE N/A	SIZE A	2233	