2 to 20 GHz
20 Watts Nominal Saturated Output

RM022020

The RM022020 is part of a series of high-power instrumentation amplifiers based on CAP Wireless' patented Spatium™ broadband spatial combining technology. The RM022020 has been specifically developed for laboratory test environments that demand extreme bandwidth from a single amplifier. It saves time and increases productivity by eliminating additional calibrations, reconfigurations, and errors associated with connecting or switching multiple amplifiers.

Typical Applications

- Extremely broadband wireless communications and component test environments
- EW, ECM, ECCM
- Radar and satellite system signal simulation and testing

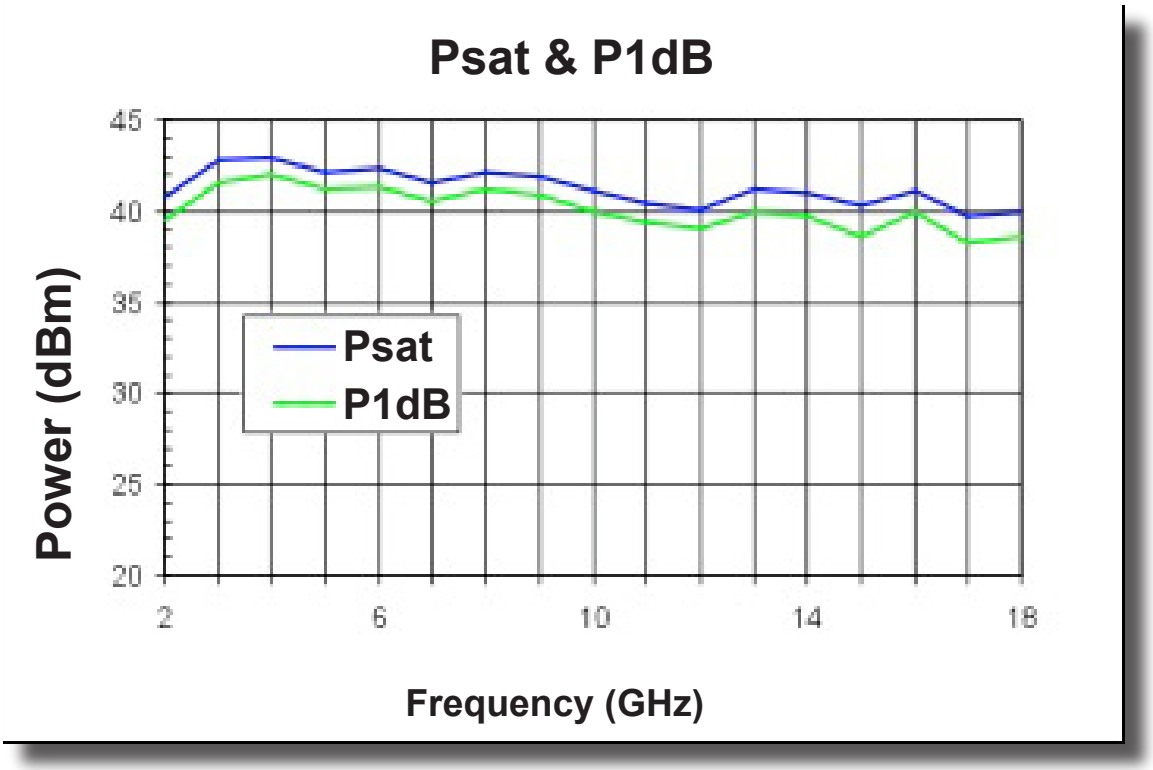
Key Features

- Excellent pulse fidelity
- Unconditionally stable
- Low noise figure (13 dB max.)
- Highly load tolerant
- Typical spurious response -85dBc
- 20 watts nominal saturated output power
- 2-20 GHz frequency range
- Compact rack mount package
- 40 dB gain min.

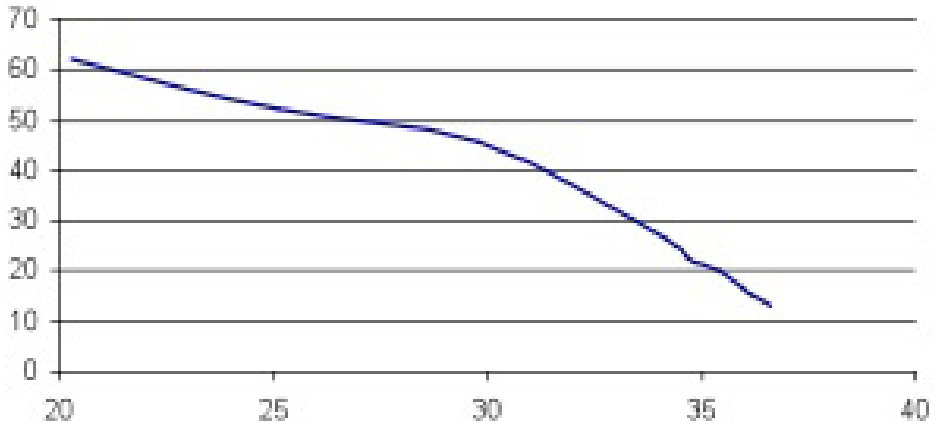
Characteristics	Specifications	Conditions
Frequency range	2-20 GHz	
Gain	40 dB min.	Maximum gain adjust condition
Gain adjustment rainge	10 dB min.	
Output power		
2-6 GHz	40 dB min.	0 dBm in
6-10 GHz	40 dB min.	0 dBm in
10-18 GHz	39 dB min.	0 dBm in
18-20 GHz	38.5 dB min.	0 dBm in
Input VSWR	2:1 max.	50 ohm reference impedance
Output VSWR	2.3:1 max.	50 ohm reference impedance
Noise figure	13 dB max.	
Maximum operating input power	2 dBm	
Stability	Unconditionally stable	
Maximum load VSWR	3:1	
Line voltage	85-264 Vac	47 to 63 Hz, single phase
Power dissipation	300 VA max.	
Temperature		
Operating	0 to 50° C	
Storage	-20 to 75° C	

Dimensions	Specifications
Height	134 mm (5.25 in.)
Width	432 mm (17.0 in.)
Depth	435 mm (17.1 in.)
Net weight	16 kg (35.3 lbs.)
RF interconnection	SMA(F)

Gain flatness
2-20 GHz
2-6 GHz
6-10 GHz
10-18 GHz
18-20 GHz

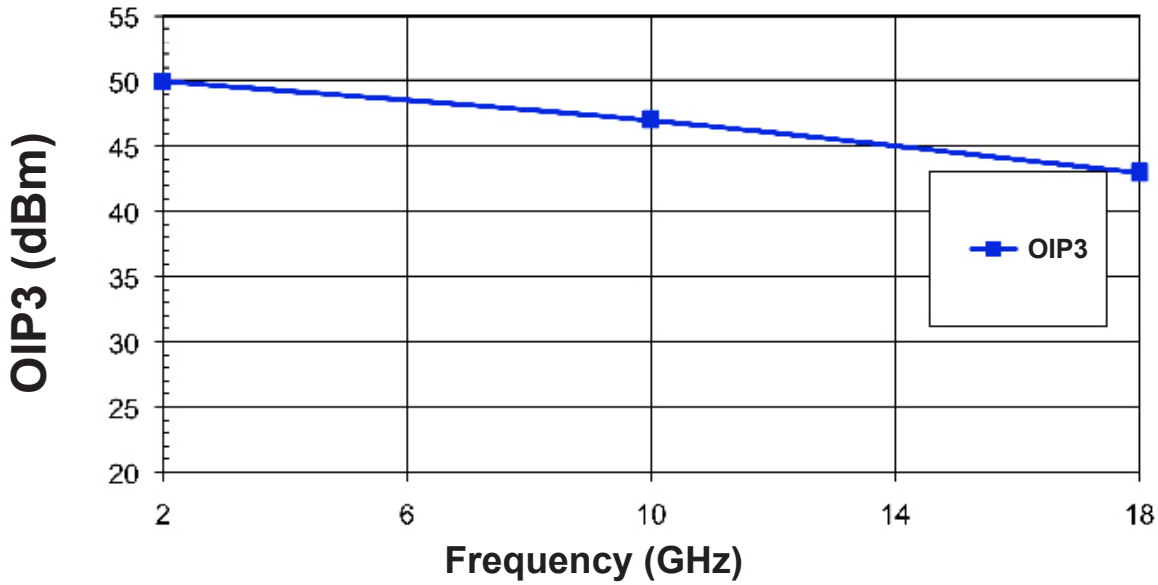


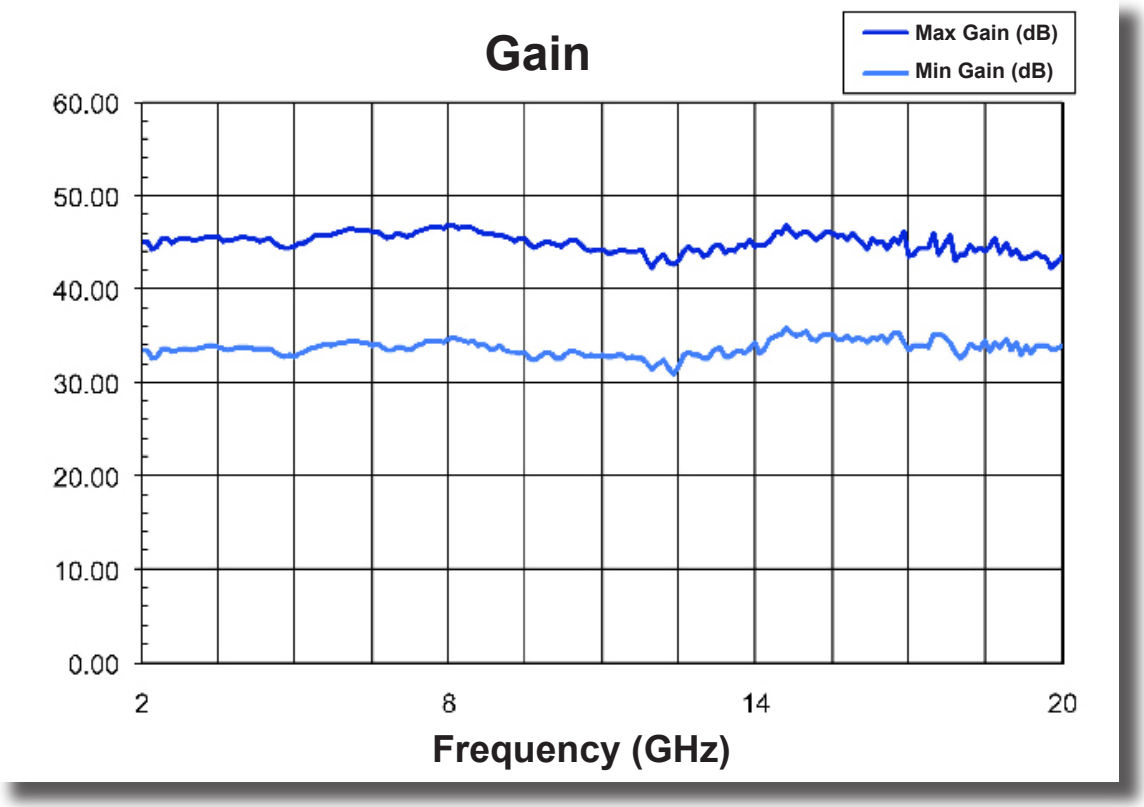
Two Tone Third Order Intermodulation
(10 GHz - 1 MHz Tone Spacing)

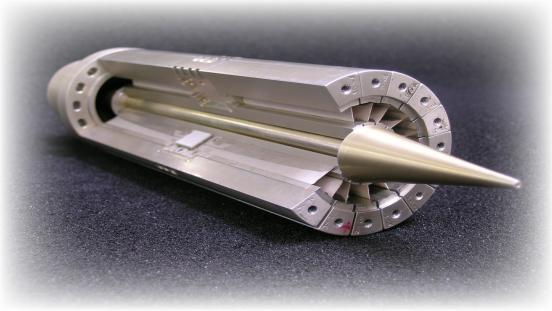


Output Power / Tone (dBm)

OIP3







Spatium™

CAP Wireless' Patented Spatium Technology

Spatium broadband spatially combined power amplifiers from CAP Wireless obsolete today's power amplifiers and make the unachievable a reality. Spatium amplifiers excel when extremes of bandwidth and power are demanded. The patented technology, which incorporates a coaxial antipodal finline structure within a proprietary spatial combining architecture, provides a breakthrough product that combines the stability of solid-state amplifiers with exceptionally broad bandwidth and high power. Spatium's unique circuit topology enables a highly manufacturable platform that leverages component commonality between different models. This eliminates time-consuming redesigns for each variation and increasing reliability unit-to-unit, resulting in significant time-to-manufacture cost-savings for customers. Spatium power amplifiers are uniquely positioned to meet the demanding specifications of applications such as electronic counter measures (ECM), laboratory instrumentation, and electromagnetic compatibility/electromagnetic interference (EMC/EMI) test, as well as narrower band applications like radar, microwave imaging, and satellite communications.

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