



RM022020

2 – 20 GHz 20 W Benchtop Power Amplifier

Product Overview

Qorvo's RM022020 Amplifier utilizes our patented Spatium™ combining technology providing unprecedented performance in a general purpose laboratory bench top amplifier.

Suitable for use as a driver/booster amplifier, enabling more power incident upon the device under test (DUT), this amplifier is an excellent alternative to Traveling Wave Tube Amplifiers (TWTAs). The RM022020 amplifier operates instantaneously across the 2 GHz – 20 GHz spectrum achieving saturated output powers (Psat) greater than 20 Watts. Front panel manual gain adjustment enables simple, rapid performance optimization.

Built-In-Test (BIT) monitors continuously evaluate the amplifier performance and provide instant visual indication of anomalous behavior.



Key Features

- Saturated Power - 20 Watts typical
- Operating Band - 2 GHz to 20 GHz
- Solid State MMIC Reliability
- Multi Element Redundancy
- Instant On (No Warm-Up)
- Flat Gain Response
- Excellent Harmonic and Intermodulation Characteristics

Standard Configuration

- SMA (F) Coaxial Input/Output
- IEC 60320 C14 Compliant AC input
- 2 Meter AC Power Cord with NEMA 5-15P
- Front Panel Gain Adjust
- Air Flow – Side intake – Rear exhaust

Optional Accessories

- Rack Mount Brackets RMO1.0
- Alternate AC Cord Configurations

Applications

- Laboratory work
- Test and Measurement
- Load Pull
- EMI Test
- Anechoic Chambers and Test Ranges

Ordering Information

| Part No. | Description |
|----------|------------------------------------|
| RM022020 | 2 – 20 GHz 20 W Benchtop Amplifier |



Absolute Maximum Ratings

| Parameter | Rating |
|-----------------------|---------------|
| RF Input | +10 dBm |
| Load VSWR | 3:1 |
| Operating Temperature | -20 to +60 °C |
| Storage Temperature | -20 to +75 °C |

Exceeding any one or a combination of the Absolute Maximum Rating conditions may cause permanent damage to the device. Extended application of Absolute Maximum Rating conditions to the device may reduce device reliability.

Recommended Operating Conditions

| Parameter | Value |
|-----------------------|--|
| AC Input (Rear) | 85-264 V _{AC} 47-63 Hz 300 VA |
| Operating Temperature | 0 to +50 °C |

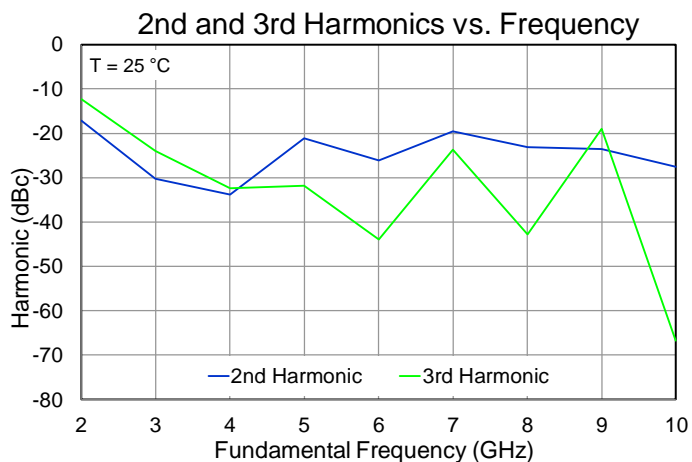
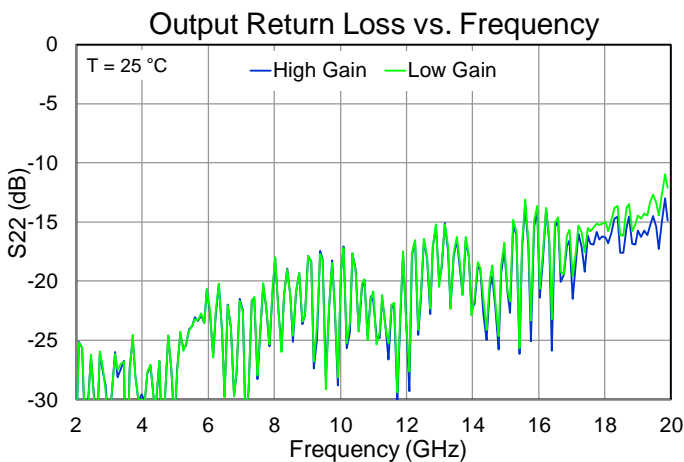
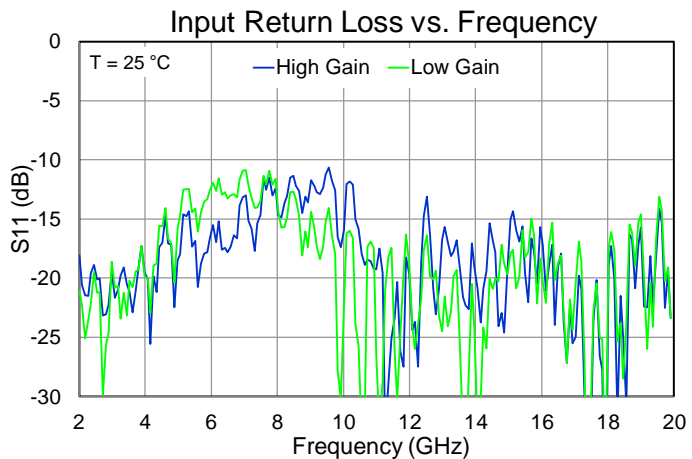
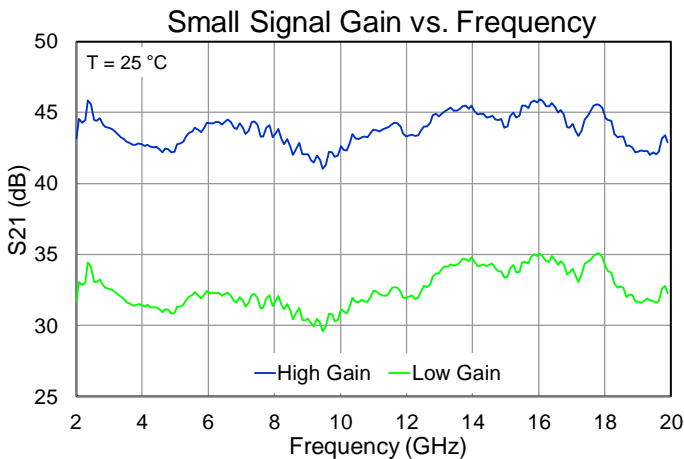
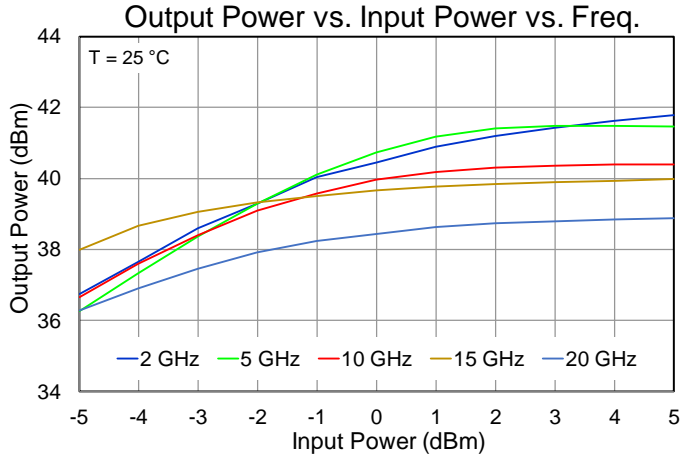
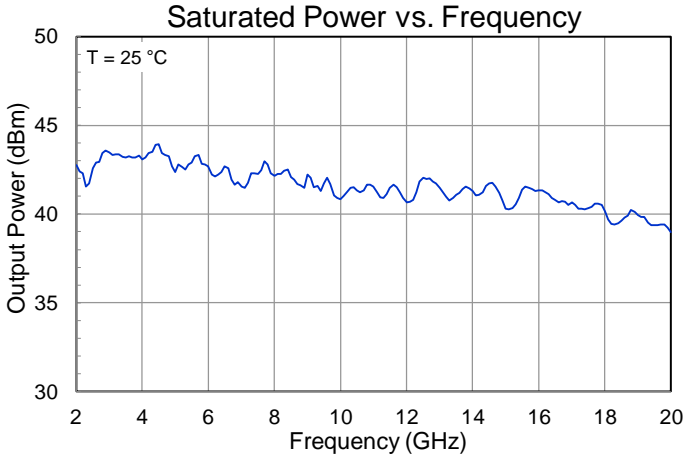
Electrical specifications are measured at specified test conditions. Specifications are not guaranteed over all recommended operating conditions.

Electrical Specifications

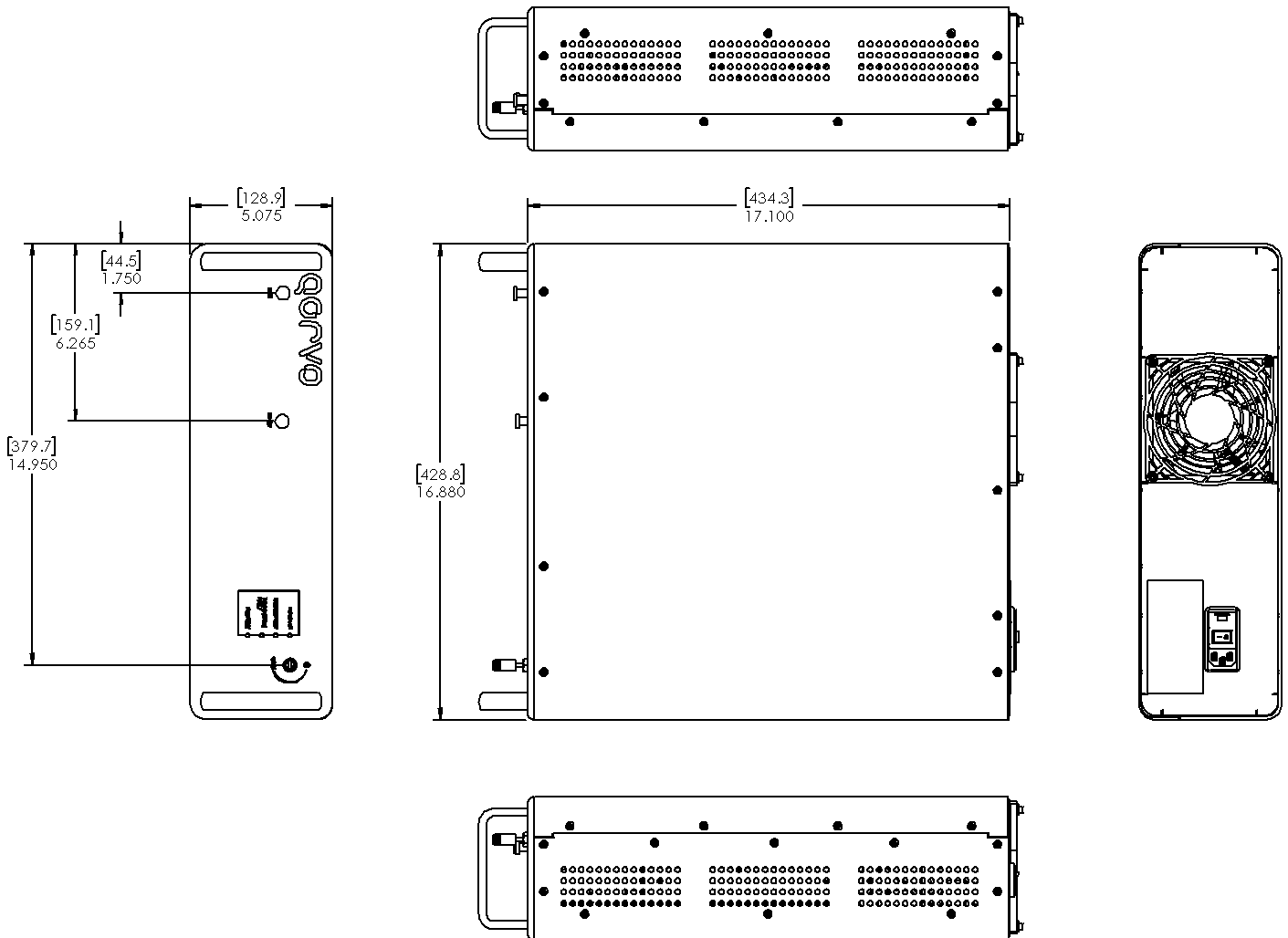
| Parameter | Min | Typ | Max | Units |
|------------------------------------|-----|--------------------|-------|--------|
| Operational Frequency Range | 2 | | 20 | GHz |
| Small Signal Gain | 40 | 43 | | dB |
| Gain Adjustment - Manual (Front) | 10 | | | dB |
| Gain Flatness vs. Frequency | | ± 3 | | dB |
| RF Power at 5 dBm input 2 – 10 GHz | 40 | 43 | | dBm |
| at 5 dBm input 10 – 18 GHz | 39 | 42 | | dBm |
| at 5 dBm input 18 – 20 GHz | 38 | 39 | | dBm |
| Input VSWR | | 1.5:1 | 2:1 | |
| Output VSWR | | | 2.3:1 | |
| Spurious | | -75 | -60 | dBc |
| RF I/O (Front) | | SMA (F) | | |
| Dimensions (L x W x H) | | 17.1 x 16.9 x 5.1 | | inches |
| | | 43.4 x 42.9 x 13.0 | | cm |

Performance Plots

Test conditions unless otherwise noted:



Package Marking and Dimensions



Handling Precautions



Caution!
ESD-Sensitive Device

Contact Information

For the latest specifications, additional product information, worldwide sales and distribution locations:

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