**All Solid-State Amplifier**

**Broadband Frequency:** 5MHz~1000MHz

**Output Power:** 250W

**APPLICATION**
- EMC (Electromagnetic Compatibility)
- Accelerator Application
- Telecommunication Test and Measurement Application
- Etc...

**OUTLINE DRAWING** ※IN MILLIMETERS

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**SPECIFICATIONS @ +25°C**

- **Frequency Range:** 5MHz ~ 1000MHz
- **Small Signal Gain:** +54.0dB (min.)
- **Gain Flatness:** ±3.0dB (max.)
- **Output Power:** 250W (typ.) @Psat.
  - 5MHz~10MHz: 150W (min.) @1dB Comp.
  - 10MHz~1000MHz: 200W (min.) @1dB Comp.
- **Harmonics:** -20.0dBc (max.) @Po=200W
- **Spurious:** -70.0dBc (max.) @Po=200W
- **Impedance:** 50Ω
- **Input Return Loss:** 14.0dB (min.) / VSWR : 1.5 (max.)
- **Output Return Loss:** 6.0dB (typ.) / VSWR : 3.0 (typ.)
- **Maximum RF Input Power:** +3.0dBm
- **AC Supply Input:** AC190V~230V/1φ, 50/60Hz, 2kVA max.
- **Operating Temperature:** 0℃ to +35℃
- **Storage Temperature:** -15℃ to +65℃
- **Connectors:** RF - IN N - FEMALE
  - RF - OUT N - FEMALE
- **Size:** AMP. Unit: (W)480mm×(D)649.5mm×(H)177mm
  - P.S. Unit: (W)480mm×(D)649.5mm×(H)177mm
- **Weight:** 70.0kg (max.)
- **Cooling:** Forced Air Cooling
- **Protection Circuits:** Over Temperature Protection
  - Power Supply Voltage Protection
  - Output Over Power Protection
  - Output Over Reflection Power Protection

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R&K reserves the right to make changes in the specifications of or discontinue products at any time without notice. R&K products shall not be used for or in connection with equipment that requires an extremely high level of reliability and safety such as aerospace uses or medical life support equipment. Further, the export of R&K products from Japan may be subject to an export license by the government of Japan, based on Japan’s “Foreign Exchange and Foreign Trade Law.”
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RF POWER AMPLIFIER

TYPICAL PERFORMANCE (Temp @+25°C)

1. Single shot Input vs Output
   - Frequency: 20MHz
   - Output Power: 200W peak

2. Single shot Output
   - Frequency: 20MHz
   - Output Power: 200W peak

3. Single shot Input vs Output
   - Frequency: 50MHz
   - Output Power: 200W peak

4. Single shot Output
   - Frequency: 50MHz
   - Output Power: 200W peak

5. Single shot×3 Input vs Output
   - Frequency: 50MHz
   - Output Power: 200W peak

6. Single shot×3 Output
   - Frequency: 50MHz
   - Output Power: 200W peak

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**TYPICAL PERFORMANCE (Temp @+25°C)**

### 1dB Gain Compression

- **Frequency Range**: 1MHz~1200MHz
- **Marker Details**:
  - Marker1: 5MHz, 54.905dB
  - Marker2: 100MHz, 54.652dB
  - Marker3: 200MHz, 54.453dB
  - Marker4: 400MHz, 56.535dB
  - Marker5: 600MHz, 56.268dB
  - Marker6: 800MHz, 55.665dB
  - Marker7: 1000MHz, 55.737dB

### Group Delay

- **Frequency Range**: 1MHz~1200MHz
- **Marker Details**:
  - Marker1: 5MHz, 95.745ns
  - Marker2: 100MHz, 18.710ns
  - Marker3: 200MHz, 18.966ns
  - Marker4: 400MHz, 20.737ns
  - Marker5: 600MHz, 19.417ns
  - Marker6: 800MHz, 20.809ns
  - Marker7: 1000MHz, 21.250ns

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TYPICAL PERFORMANCE (Temp @+25℃) R&K-GA005M102-5454R-SL

Phase Flatness

**Frequency Range**: 1MHz~1200MHz

- **Marker1**: 5MHz -158.03°
- **Marker2**: 100MHz -168.86°
- **Marker3**: 200MHz -146.30°
- **Marker4**: 400MHz -127.39°
- **Marker5**: 600MHz -117.99°
- **Marker6**: 800MHz -105.38°
- **Marker7**: 1000MHz -162.48°

**Phase offset=0°**

**Electrical Delay=0nsec**

**REF**: 0°

**Frequency Range**: 1MHz~1200MHz

- **Marker1**: 5MHz 57.860°
- **Marker2**: 100MHz 8.9442°
- **Marker3**: 200MHz 29.311°
- **Marker4**: 400MHz 43.827°
- **Marker5**: 600MHz 48.830°
- **Marker6**: 800MHz 57.054°
- **Marker7**: 1000MHz -4.4408°

**Phase offset=-180°**

**Electrical Delay=19.939nsec**

**REF**: 30°

**Frequency Range**: 1MHz~1200MHz

- **Marker1**: 5MHz 57.860°
- **Marker2**: 100MHz 8.9442°
- **Marker3**: 200MHz 29.311°
- **Marker4**: 400MHz 43.827°
- **Marker5**: 600MHz 48.830°
- **Marker6**: 800MHz 57.054°
- **Marker7**: 1000MHz -4.4408°

**Phase offset=-180°**

**Electrical Delay=19.939nsec**

REF: 30°
TYPICAL PERFORMANCE (Temp @+25°C)  

### Power Stability  
(Free Running Data at Room Temperature)

- Frequency = 1000MHz  
- Output Power = 200W @CW

![Power Stability Graph]

### Phase Stability  
(Free Running Data at Room Temperature)

- Frequency = 1000MHz  
- Output Power = 200W @CW

![Phase Stability Graph]