



Guerrilla RF 5 - 6 GHz Solutions

LNA, PA Driver and Module solutions for 802.11ac, wireless backhaul, etc.

Guerrilla RF's portfolio of pHEMT low noise and linear amplifiers includes numerous devices with industry-leading Noise figure (NF), gain and linearity performance for a wide range of CW and TDD applications in the 5 to 6 GHz range. All the amplifiers offer flexible biasing with a wide range of V_{dd} and I_{ddq} options using small 1.5 mm DFN-6 and 3.0 mm QFN-16 packages.

The tables below highlight the performance of the various LNAs, linear drivers and module at 5.5 GHz:

Table 1: Low Noise Amplifiers

| Device | Ref Freq (MHz) | Gain (dB) | NF (dB) | OP1dB (dBm) | OIP3 (dBm) | Ref Bias (V/mA) | Status | Comment |
|------------------|----------------|-----------|---------|-------------|------------|-----------------|------------|---------------------------------------|
| GRF2100 | 5500 | 14.5 | 1.0 | 14.5 | 23.0 | 3.3/15 | Production | Low current capability to 10 mA |
| GRF2501 | 5500 | 17.0 | 0.90 | 7.0 | 18.0 | 3.3/20 | Production | Internally matched to 50 ohms |
| GRF2541 | 5500 | 16.5 | 1.1 | 7.0 | 18.0 | 3.3/20 | Production | Internally matched to 50 ohms |
| GRF2541 (Bypass) | 5500 | -5.0 | -- | 0.0 | TBD | 3.3/<<1.0 | Production | Designed for high loss in bypass mode |

Table 2: Driver Amplifiers

| Device | Ref Freq (GHz) | Gain (dB) | NF (dB) | OP1dB (dBm) | OIP3 (dBm) | Ref Bias (V/mA) | Status | Comment |
|-------------------|----------------|-----------|---------|-------------|------------|-----------------|--------------|--|
| GRF2505 | 5500 | 12.8 | 1.2 | 20.3 | 32.5 | 5.0/40 | Production | Internally matched to 50 ohms |
| GRF5511 (5 volts) | 5500 | 15.9 | 2.0 | 26.0 | 41.0 | 5.0/100 | Sampling now | High linearity driver; 8-Volt capability |
| GRF5511 (8 volts) | 5500 | 16.0 | 2.3 | 29.5 | 47.5 | 8.0/160 | Sampling now | High linearity driver; 8-Volt capability |

Table 3: Front End Module

| Device | Ref Freq (GHz) | Gain (dB) | NF (dB) | OP1dB (dBm) | OIP3 (dBm) | Ref Bias (V/mA) | Status | Comment |
|-------------------|----------------|-----------|---------|-------------|------------|-----------------|------------------|---|
| GRF2581 (Rx mode) | 5500 | 16.3 | 1.15 | 7.0 | 18.0 | 3.3/15 | Sampling Q3 2017 | FEM: Low noise, low current receive path and high linearity, low loss transmit path |
| GRF2581 (Tx mode) | 5500 | -0.5 | -- | 31.5 | TBD | 3.3/<<1.0 | | |

