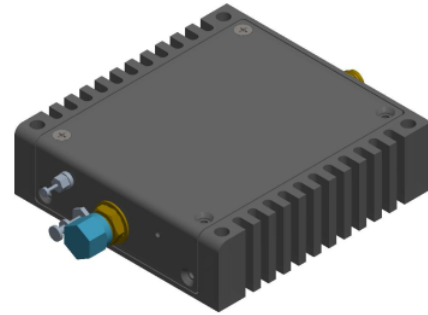




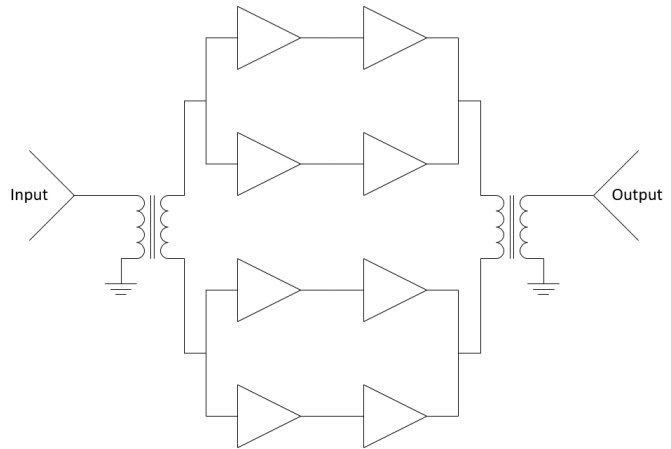
20-3000 MHz High Gain Balanced Amplifier

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The Spectrolite product line leverages Silver Palm Technologies' field-proven proprietary designs into compact modules for military, commercial, and laboratory use. The high-dynamic range balanced amplifiers used in the Spectrolite products were conceived out of the need for RF performance not previously achievable with off-the-shelf components. The SPEC-A11EM-1 is a two-stage amplifier that offers excellent performance within the HF to UHF bands. High gain, great second-and third-order intercept points, and low noise figure makes the SPEC-A11EM-1 an excellent amplifier for any high-dynamic range RF chain.



SPEC-A11EM-1



SPEC-A11EM-1 Electrical Schematic

### Features

- High IP3
- Excellent Second-Order Performance
- Low Noise
- Low Power

### Applications

- Base Station Infrastructure
- Portable Wireless
- LTE

## Electrical Specifications

All measurements are made at +25 °C unless otherwise noted.

**Table 1: Specifications**

| Parameter                       | Symbol   | Min. | Typ.               | Max. | Unit  |
|---------------------------------|----------|------|--------------------|------|-------|
| Frequency                       | $Freq.$  | 20   | –                  | 3000 | MHz   |
| Gain                            | $S_{21}$ | –    | 26.3               | –    | dB    |
| Noise Figure                    | $NF$     | –    | 3.71               | –    | dB    |
| Output Third-Order Intercept    | $OIP_3$  | –    | +40                | –    | dBm   |
| Output Second-Order Intercept   | $OIP_2$  | –    | +81                | –    | dBm   |
| Output Power at 1dB Compression | $P1dB$   | –    | 27.6               | –    | dBm   |
| Input VSWR                      | $VSWR1$  | –    | 1.21 : 1           | –    | –     |
| Output VSWR                     | $VSWR2$  | –    | 1.28 : 1           | –    | –     |
| Dimensions                      | –        | –    | 2.5" x 2.6" x .71" | –    | in    |
| Weight                          | –        | –    | .25                | –    | lbs   |
| Power                           | –        | –    | 3.90               | –    | Watts |
| Current at +5.5V                | –        | –    | .709               | –    | Amps  |
| Supply Voltage                  | –        | +5.5 | –                  | +16  | Volts |

## Absolute Maximum Ratings Without Damage

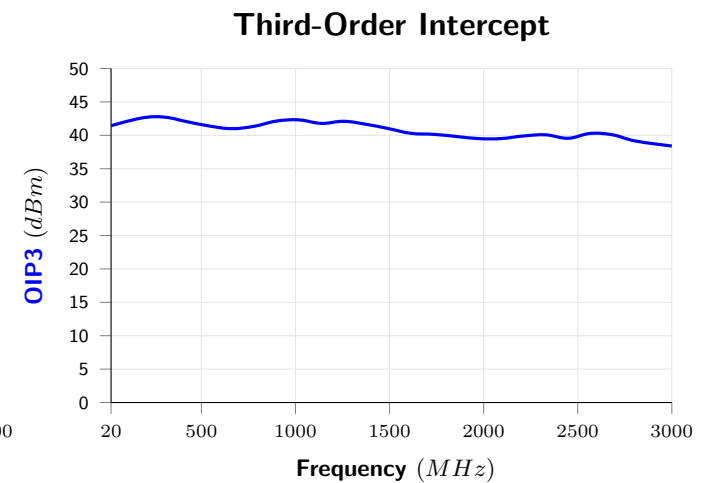
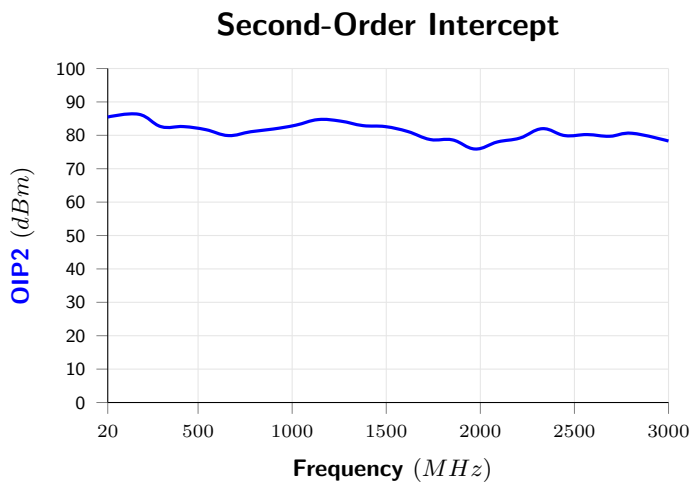
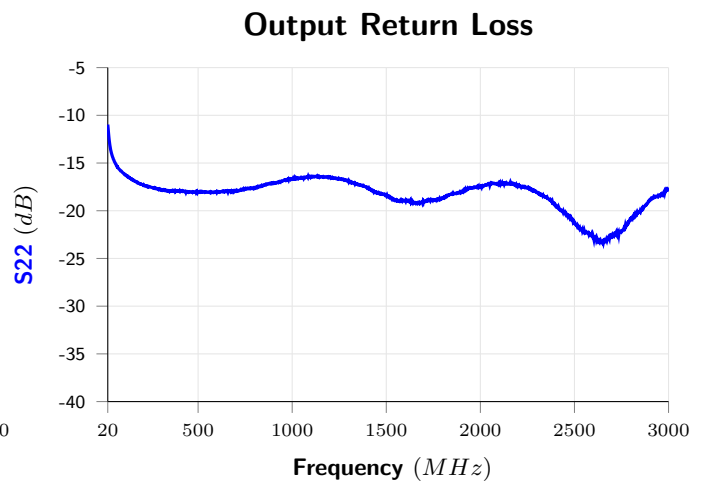
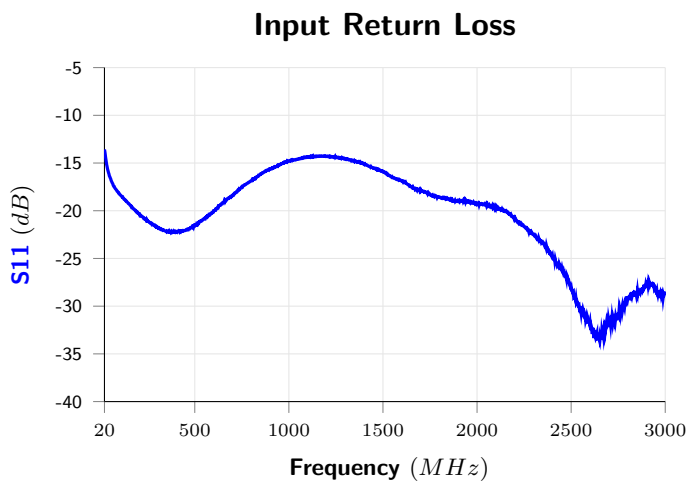
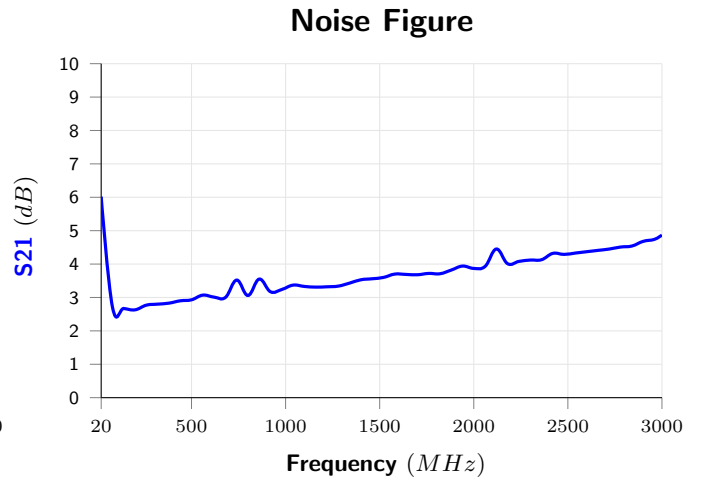
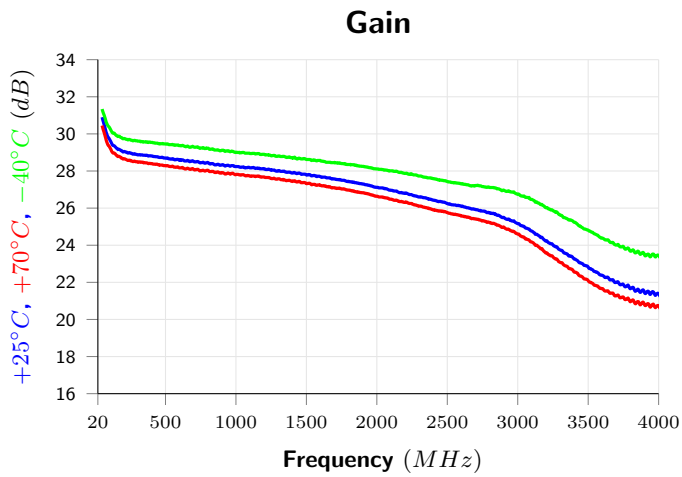
Stresses above those listed under Absolute Maximum Ratings will cause permanent damage to the module.

**Table 2: Absolute Maximum Ratings**

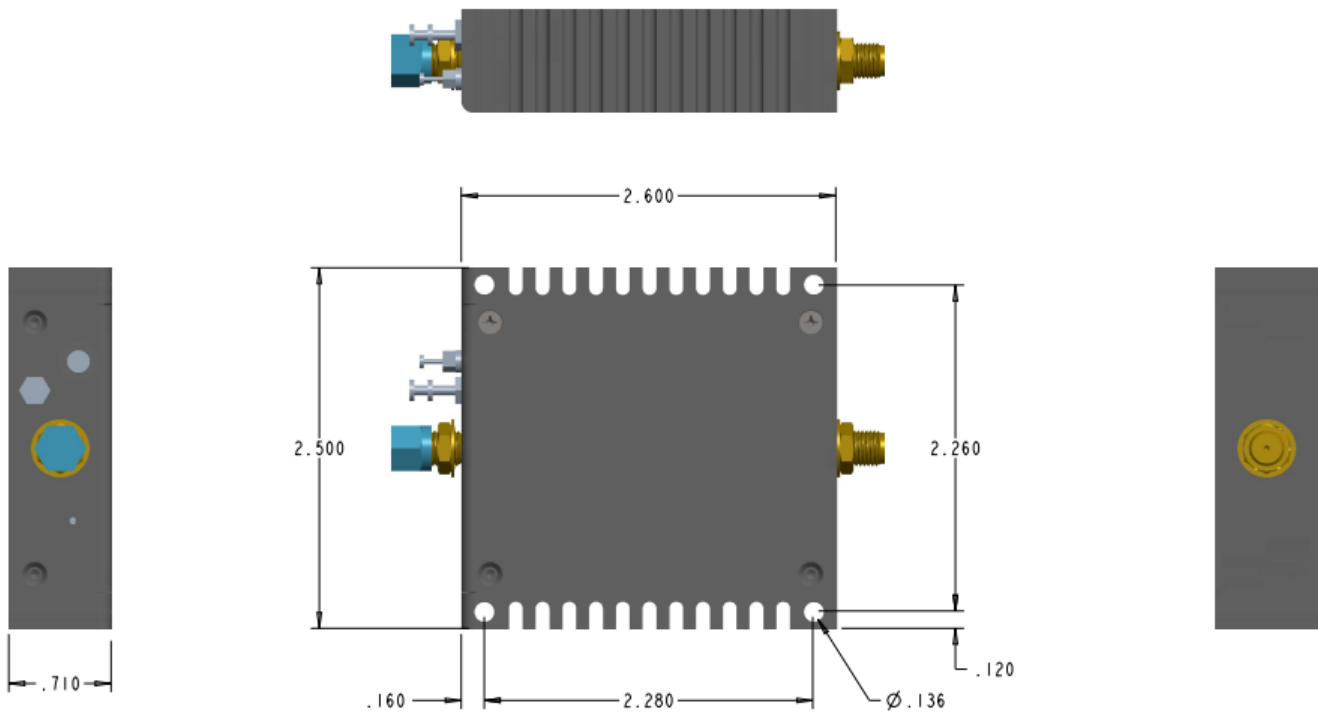
| Parameter                         | Rating         |
|-----------------------------------|----------------|
| Storage Temperature               | -65 to +150 °C |
| Operational Temperature           | -40 to +70 °C  |
| Supply Voltage                    | +20V           |
| Maximum Continuous RF Input Power | +29dBm         |

## Typical Performance Data

All measurements are made at +25 °C unless otherwise noted.



## Product Dimensions



## Ordering Options

We offer RoHS compliant and RoHS non-compliant options.

| Spectrolite Product Number | RoHS               |
|----------------------------|--------------------|
| SPEC-A11EM-1               | RoHS Non-Compliant |
| SPEC-A11EM-1#PBF           | RoHS Compliant     |