

Product Features

- Doherty amplifier design
- GaN on SiC HEMT
- Small and light weight
- 50 Ohm Input/Output impedance matched
- Highly reliable and rugged design
- High efficiency, High Gain
- 16W typical P_{AVG}

Application

- WiMAX DPD amplifier
- General purpose RF amplifier



Description

The RTP26020-S0 is designed for RF system application frequencies from 2496MHz to 2690MHz, with high gain. This Pallet Amplifier uses GaN on SiC HEMT technology which performs high breakdown voltage, high linearity, high efficiency. The RTP26020-S0 is DPD application amplifier.

Electrical Specifications @ $V_{DD}=+30VDC$, $T=25^{\circ}C$, 50Ω

| PARAMETER | Symbol | Min | Typ | Max | Unit |
|----------------------------|--------------|------|-----------|---------|------|
| Frequency Range | BW | 2496 | - | 2690 | MHz |
| Output Power | P_{AVG} | - | 16 | 20 | Watt |
| Output Power @ Psat G.C.P | P_{sat} | - | 100 | - | Watt |
| Small Signal Gain | SSG | 45 | - | - | dB |
| Small Signal Gain Flatness | ΔG | - | ± 1.0 | ± 2 | dB |
| Gain Variation | ΔG_t | | ± 3.0 | | dB |
| ACLR @ WiMAX 10MHz 2FA | ACLR | | -25dBr | | dBr |
| Input VSWR | S11 | - | 1.5:1 | 1.7:1 | - |
| Forward Coupling | FC | - | -30 | - | dB |
| Operating Voltage | VDC | 28 | 30 | - | Volt |
| Efficiency @ Pout 16Watt | E | | 30 | | % |

※ Test Signal Condition : WCDMA 4FA

Environmental Characteristics

| PARAMETER | Symbol | Min | Typ | Max | Unit |
|-----------------------|--------|-----|-----|-----|-------------|
| Operating Temperature | T_c | -20 | - | +50 | $^{\circ}C$ |
| Storage Temperature | T_s | -30 | - | +60 | $^{\circ}C$ |

Mechanical Specifications

| PARAMETER | Value | Units | Limits |
|--------------------------|------------------------------|-------|--------|
| Dimensions (L x W x H) | 150 x 90 x 18.5 | mm | Max |
| RF Connectors In/Out | SMA Female | | |
| RF Connector Coupling | MCX Female | | |
| DC Connectors / Controls | Main 4Pin, Sub 6Pin | | |
| Cooling | External Heat sink + airflow | | |

RF Interface Connectors

| Pin # | Description | Specifications |
|-------|-------------|-------------------------------------------|
| 1 | RF IN | RF Input signal from TRx B'd |
| 2 | RF OUT | RF Output signal to TDD switch |
| 3 | RF FWD Port | RF Forward Detection signal For Feed-back |

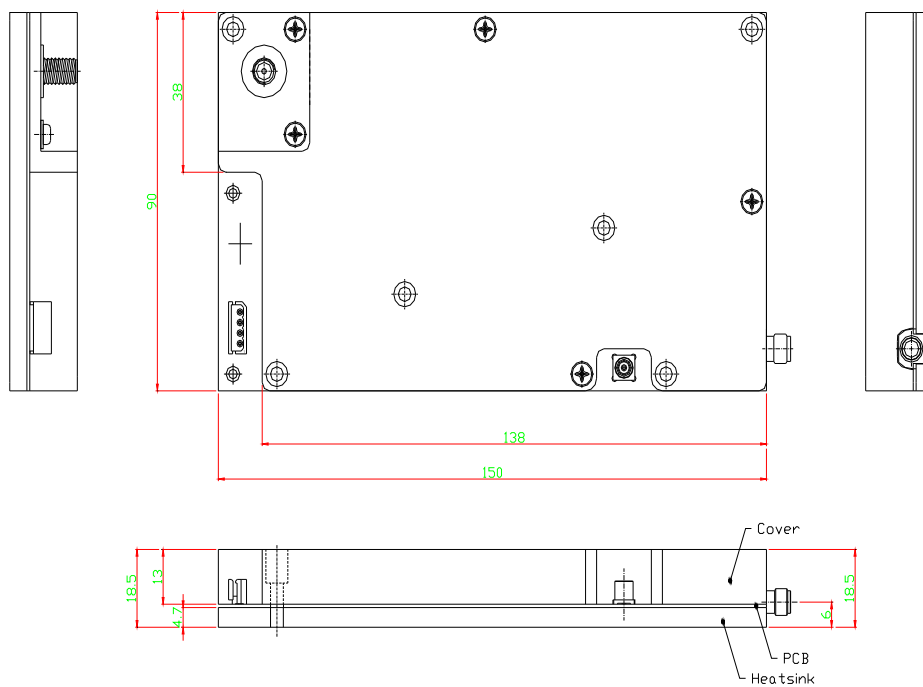
Main DC Connector

| Pin # | Description | Specifications |
|-------|----------------------------|----------------|
| 1,2 | Drive, Main Amp Stage +Vdd | +28V ~ +48V |
| 3,4 | GND | Ground |

Sub DC Connector

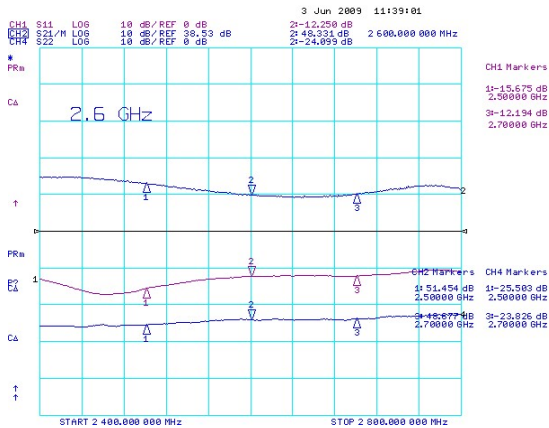
| Pin # | Description | Specifications |
|-------|---------------------------|----------------------------------------------------|
| 1, 2 | Gain Block Amp Stage +Vgg | +5V |
| 3, 4 | GND | Ground |
| 5 | TDD Signal | PA TDD control signal for switching gate bias |
| 6 | Temp. Monitor | Reporting Temperature data [0.75V/25 °C (10mV/°C)] |

Outline Drawing



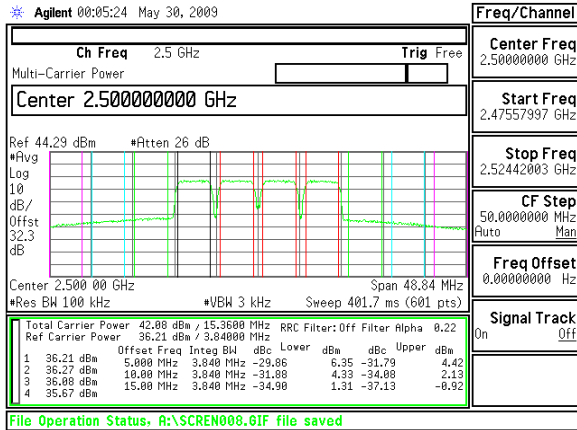
*Typical Performance(at +25 °C)

S-Parameter

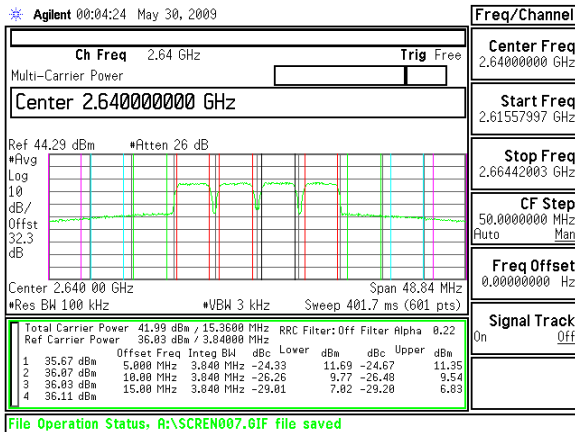


<Gain and Return Loss>

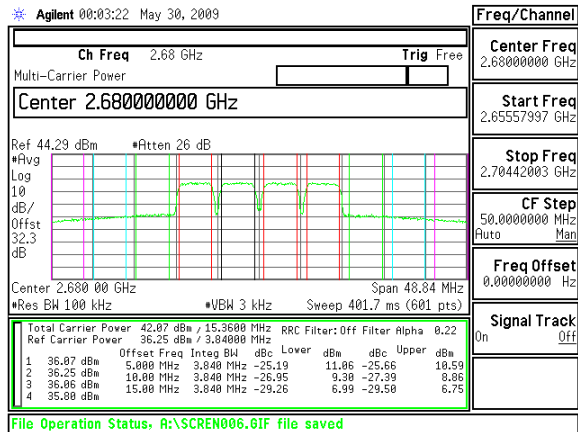
WCDMA 4FA signal @ 2600MHz



WCDMA 4FA signal @ 2640MHz



WCDMA 4FA signal @ 2640MHz



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