

# TETRA Multi Carrier RF Amplifier

**HD29608**

**390 – 430 MHz / 6.3 Watts**

## Product Features

- Multi carrier power amplifier
- Solid State power amplifier
- High linearity and high efficiency
- 50 ohms input / output impedance

## Application

- TETRA Repeater

## 1. Electrical Specification.



| Parameter                 | Specification | Remark                    |
|---------------------------|---------------|---------------------------|
| Frequency Range           | 390MHz~430MHz | 40MHz BW                  |
| Output Power              | 38dBm         | ALC 40dBm : Min 10dB      |
| Gain                      | 45dB±1dB      |                           |
| Gain Flatness             | ±0.5dB        |                           |
| Gain Variation Over Temp. | ±1dB max      | -20 °C~+60 °C             |
| IMD                       | < -71dBc      | CW 2 tone, Ch Sp.: 100kHz |
| Harmonic                  | -45dBc max    |                           |
| Input VSWR                | 1.5:1 max.    |                           |
| Output VSWR               | 1.5:1 max.    | Isolator Applied          |
| Normal Operating Voltage  | +27V          |                           |
| DC Current Consumption    | 2.0A max.     | @38dBm                    |
| Shut-down Temp Level      | 90±5 °C       | 70±5 °C Auto Enable       |

## 2. Environmental Specification

| Parameter             | Specification  | Remark         |
|-----------------------|----------------|----------------|
| Operating Temperature | -20 °C ~+60 °C |                |
| Storage Temperature   | -40 °C ~+85 °C |                |
| Relative Humidity     | 0%~90%         | Non-condensing |

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### 3. Mechanical Specification.

Physical Dimension : 150mm X 180mm X 28mm

### 4. Pin Assignment

|                                    |                      |   |
|------------------------------------|----------------------|---|
| I/O Interface<br>(D-Sub 9Pin Male) | 1. Over Power Alarm  | Po=+40dBm±1dB<br>Shutdown High  |
|                                    | 2. High Temp. Alarm  | High (shut-down)<br>Low (Normal)<br>Alarm & Shutdown +90 °C ↑<br>Auto Recovery +70 °C ↓ |
|                                    | 3. VSWR Alarm        | High (Alarm)<br>Low (Normal)<br>30dBm(Output Open)                                      |
|                                    | 4. Temp. Monitor     | $V_o = (T / 100) + 500mV$   |
|                                    | 5. LPA Status        | High (Inactive), Low (Active)   |
|                                    | 6. Loop Fail Alarm   | High (shut-down)<br>Low (Normal)  |
|                                    | 7. FWD Power Monitor | 4.0V@Po=+38dBm, 0.1V/dB   |
|                                    | 8. Enable/Disable    | High (Disable)<br>Open & Low (Enable)   |
|                                    | 9. GND               |   |
|                                    | DC Fail Alarm        | ≤19V ~ 31V ≤ : Shut down<br>21V ~ 29V : Auto Recovery                                   |
| I/O Interface<br>(3W3P Male)       | A1. VCC              | +27V  |
|                                    | A2. GND              |   |
|                                    | A3. N.C              |   |

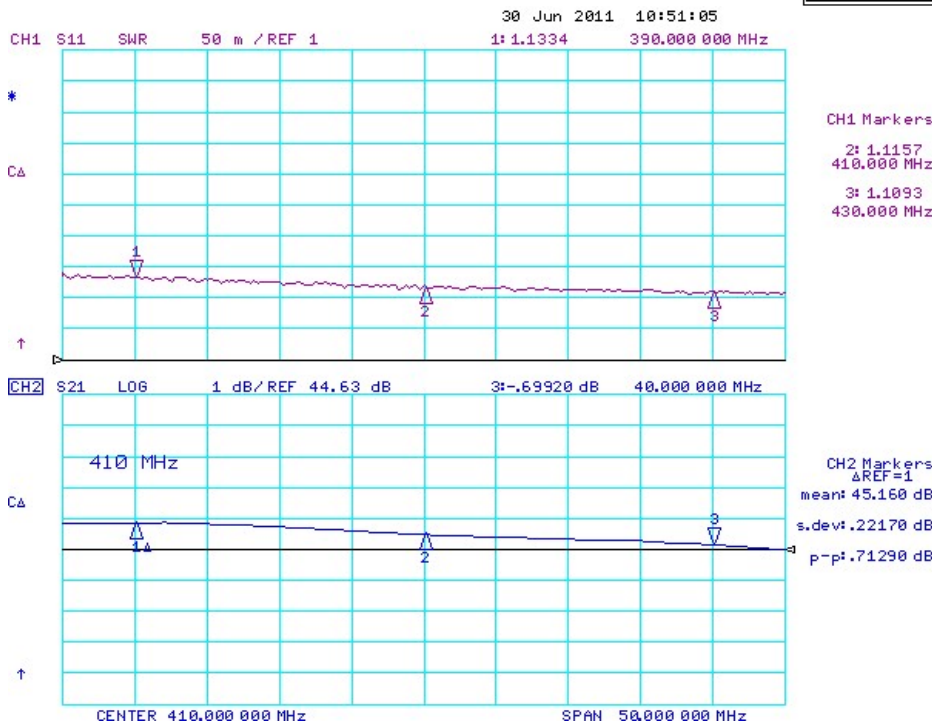
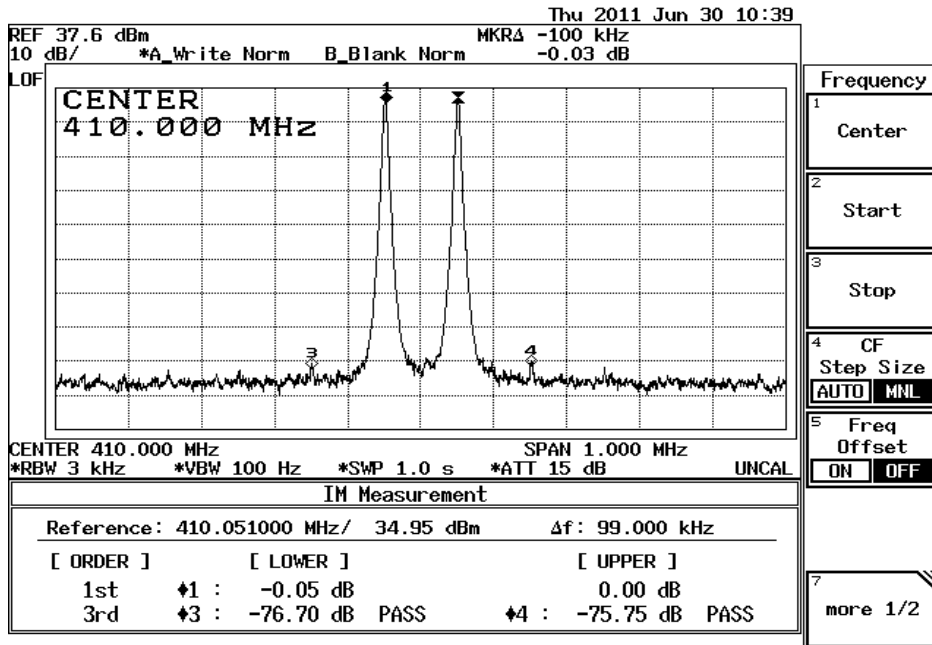
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## 5. Electrical Test Data

5.1 IMD @Po=+38dBm(CW 2 Tone) / DC 27V, 1.7A



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## 6. Outline Drawing

