

## 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
- 28W typical  $P_{AVG}$ , 2-path structure(2T)

## Applications

- LTE, WiMAX DPD amplifier
- General purpose RF amplifier



## Description

The RTP26030-22 is designed for RF system application frequencies from 2496 ~ 2690MHz, with high gain.

This Pallet Amplifier uses GaN on SiC HEMT technology which performs high breakdown voltage, high linearity, and high efficiency.

The RTP26030-22 is a LTE, WiMAX DPD application amplifier.

## Electrical Specifications @ VDD= 48V, T=25°C, 50Ω System

PARAMETER		UNIT	MIN	TYP	MAX	SYMBOL
Frequency Range		MHz	2496	-	2690	$f_o$
Operating Bandwidth		MHz	-	194	-	OBW
Average Output Power		dBm	-	44.5	-	Pout
Peak Output Power (Pulse duty 10%)		dBm	-	53	-	Psat
ACLR (LTE 10MHz 1FA) @ Pout=44.5dBm Avg.	Pre-DPD	dBc	- 18	-20	-	ACLR
	Post-DPD		-	-50	-	
RF Gain @ 25°C		dB	52	57	-	$G_p$
Gain Variation		dB	-	±3	-	$\Delta G$
Gain Flatness		dB	-	±1	± 2	$G_F$
Input Return Loss		dB	-	-12	-	$S_{11}$
Output Return Loss		dB	-	-17	-	$S_{22}$
Operating Voltage		V	-	VDC1 : 5.6	-	VDC
			-	VDC2 : 48	-	
Current Consumption	5.6V	A	-	0.26	-	IDD
	48V		-	1.65	-	
Efficiency @ Pout=44.5dBm Avg.		%	-	35	-	Eff
Feedback Output level @ 44.5dBm		dBm	9	10	11	FB

### Absolute Maximum Ratings

PARAMETER	UNIT	RATING	SYMBOL
Input Overdrive	Max.	-4dBm	P <sub>OD</sub>
Operating Case Temperature	°C	100	T <sub>c</sub>

### Environmental Characteristics

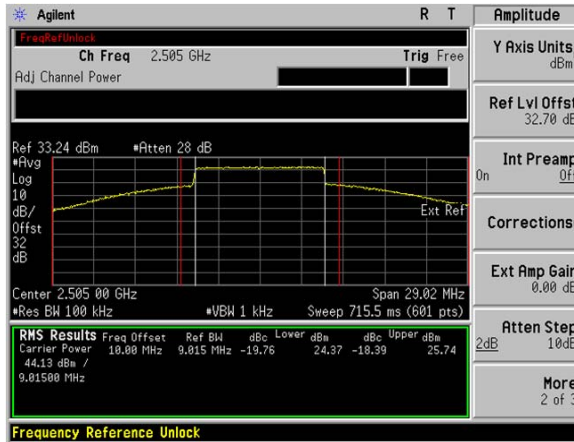
PARAMETER	UNIT	MIN	TYP	MAX	SYMBOL
Operating Ambient Temperature	°C	-40	-	60	T <sub>a</sub>
Storage Temperature	°C	-45	-	90	T <sub>stg</sub>
Relative humidity w/o condensation	%	-	-	80	RH

### Mechanical Specifications

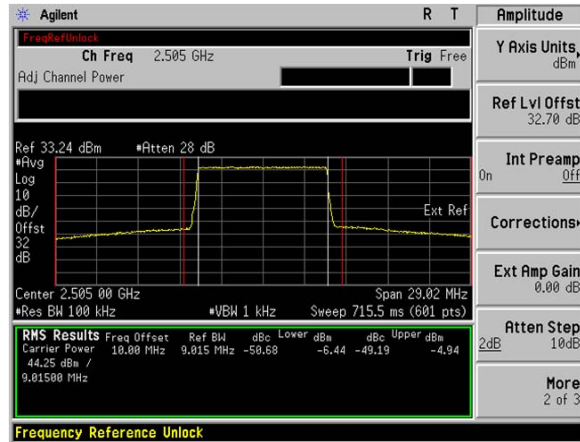
PARAMETER	UNIT	VALUE
Dimensions (L x W x H)	mm	194 x 130 x 20 (2T Structure)
Weight	Kg	0.74 (Typical)
RF Input Connector	-	SMA (Female)
RF Coupling Connector	-	SMA (Female)
RF Output Connector	-	SMA (Female)
I/O Connector	-	Yeonho 4pin (SMW200-04P, Male)
	-	Molex 8pin (5569-08, Male)
Cooling	-	External Heat-sink + Airflow

**Typical Output Spectrum @ LTE 1FA 10MHz (PAR 7.5dB) : Pout=26.3W(44.2dBm)**

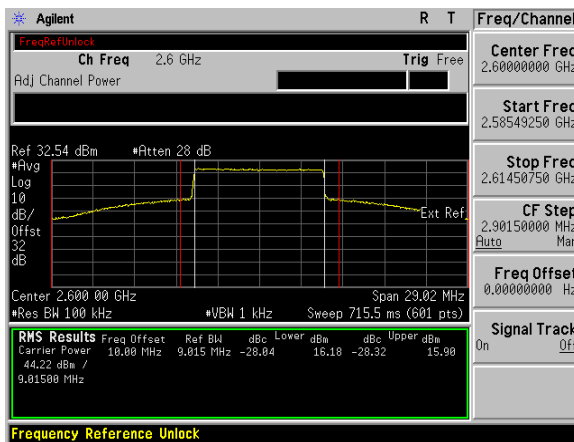
**Pre – DPD @ 2505MHz, LTE 1FA 10MHz**



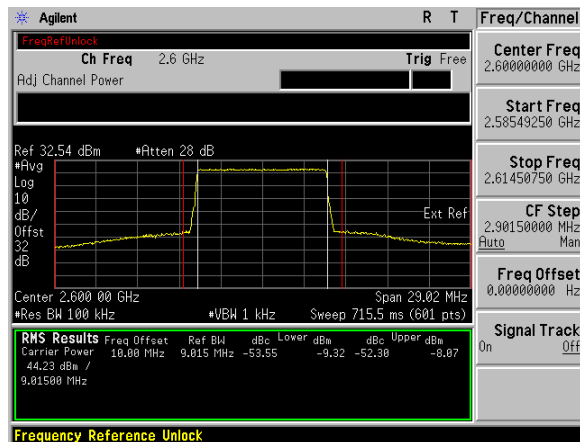
**Post- DPD @ 2505MHz, LTE 1FA 10MHz**



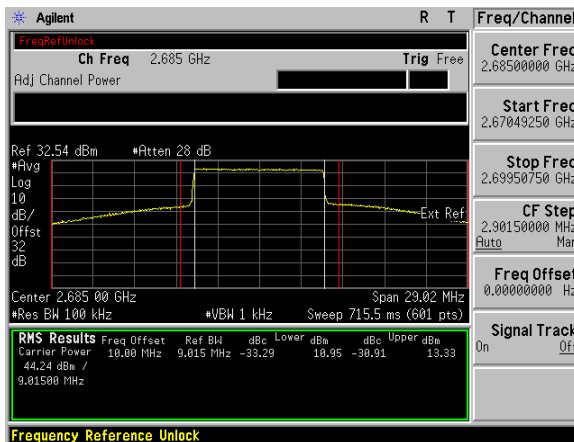
**Pre – DPD @ 2600MHz, LTE 1FA 10MHz**



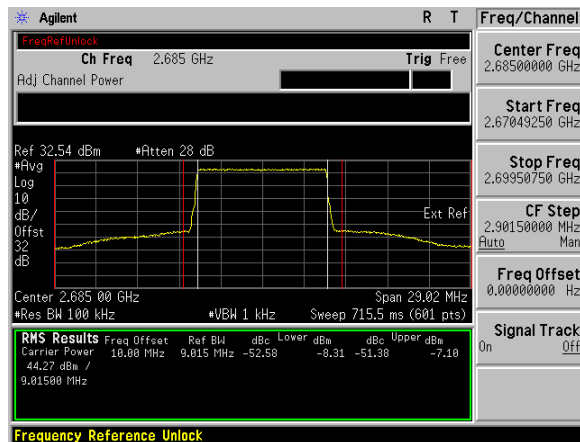
**Post- DPD @ 2600MHz, LTE 1FA 10MHz**



**Pre – DPD @ 2685MHz, LTE 1FA 10MHz**

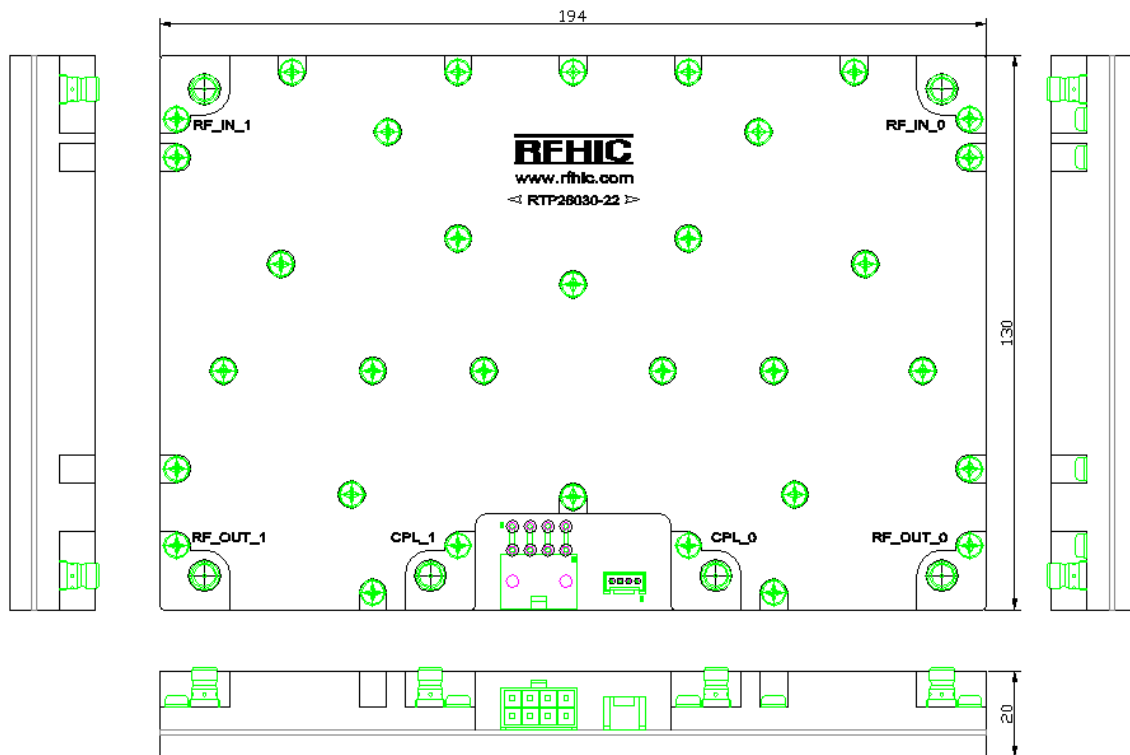


**Post- DPD @ 2685MHz, LTE 1FA 10MHz**



**Outline Drawing**

\* Unit: mm | Tolerance:  $\pm 0.2$



**Note**

Connector positions and module mount holes may be subjected change.

## Interface Connector

### 8 Pin-Control (MOLEX, 5269-08, 4.2mm PITCH)

Pin No	Description	Specification
1	Vdd	+48 V
2	Vdd	+48 V
3	Vdd	+48 V
4	Vgg	+5.6 V
5	GND	GROUND
6	GND	GROUND
7	GND	GROUND
8	GND	GROUND

### 4 Pin-Control (SMW200-04P, 2.5mm PITCH)

Pin No	Description	Specification
1	TDD Path 0	TTL High Enable (+5.0Vdc)
2	GND	GROUND
3	TDD Path 1	TTL High Enable (+5.0Vdc)
4	Temp. Monitor	Reporting Temperature Data [0.75V/25°C(10mV/°C)]

**Revision History**

Part Number	Release Date	Version	Modification	Data Sheet Status
RTP26030-22	2012.09.13	0.1	-	Preliminary

RFHIC Corporation reserves the right to make changes to any products herein or to discontinue any product at any time without notice. While product specifications have been thoroughly examined for reliability, RFHIC Corporation strongly recommends buyers to verify that the information they are using is accurate before ordering. RFHIC Corporation does not assume any liability for the suitability of its products for any particular purpose, and disclaims any and all liability, including without limitation consequential or incidental damages. RFHIC products are not intended for use in life support equipment or application where malfunction of the product can be expected to result in personal injury or death. Buyer uses or sells such products for any such unintended or unauthorized application, buyer shall indemnify, protect and hold RFHIC Corporation and its directors, officers, stockholders, employees, representatives and distributors harmless against any and all claims arising out of such unauthorized use.

Sales, inquiries and support should be directed to the local authorized geographic distributor for RFHIC Corporation. For customers in the US, please contact the US Sales Team at 919-677-8780. For all other inquiries, please contact the International Sales Team at 82-31-250-5078.