GaN-SiC Pallet Amplifier RTP26020-S0

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 @ VDD=+30VDC, T=25°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	ΔGt		± 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	°C
Storage Temperature	Ts	-30	-	+60	°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		

▪ Tel : 82-31-250-5011
▪ rfsales@rfhic.com

▪ Version 0.3

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

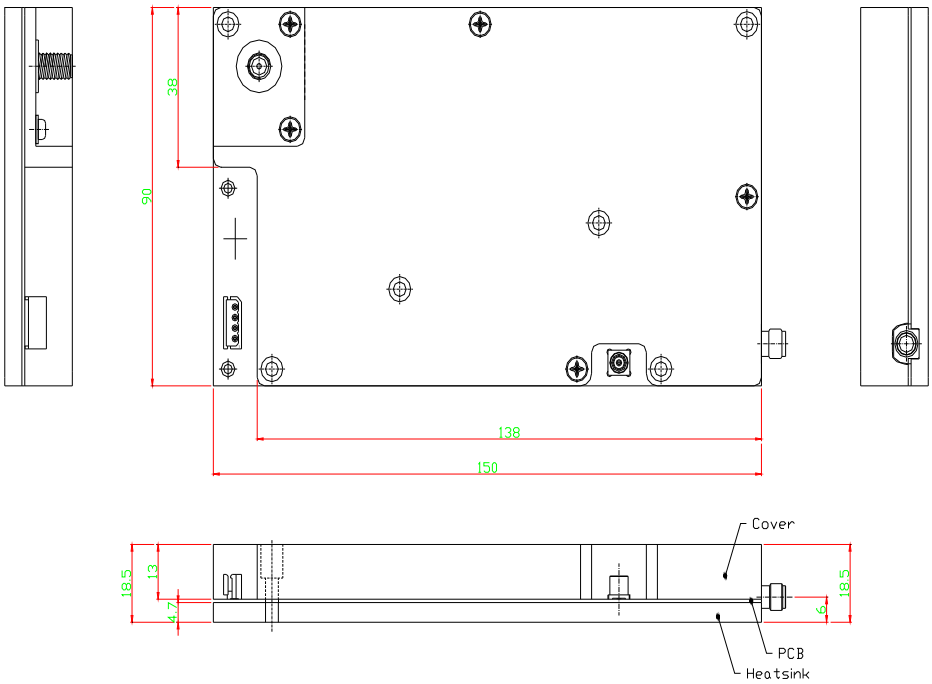
Main DC Connector

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

Sub DC Connector

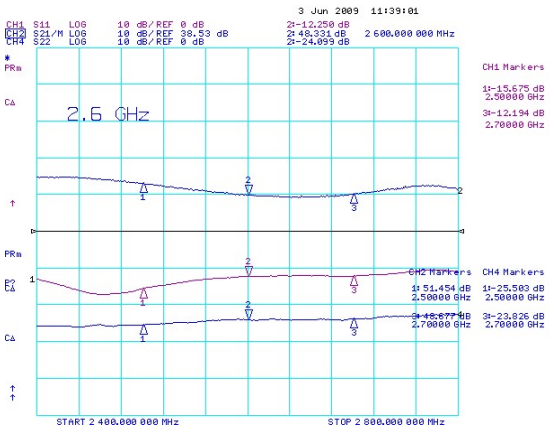
Pin #	Description	Specifications
1, 2	**Gain Block Amp Stage +Vgg**	+5V
3, 4	**GND**	Ground
5	**TDD Signal**	PA TDD control signal for switching gate bias
6	**Temp. Monitor**	Reporting Temperature data [0.75V/25℃(10mV/℃)]

Outline Drawing



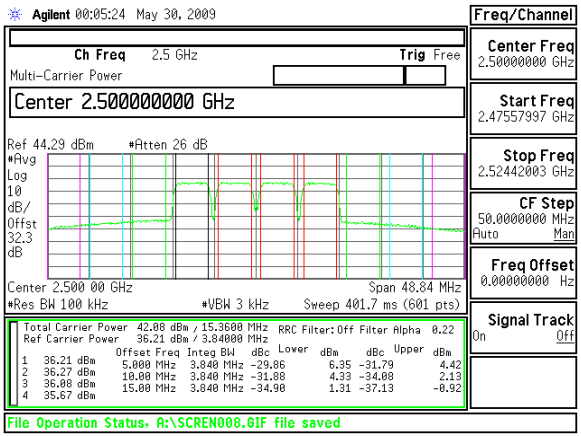
*Typical Performance(at +25℃)

S-Parameter

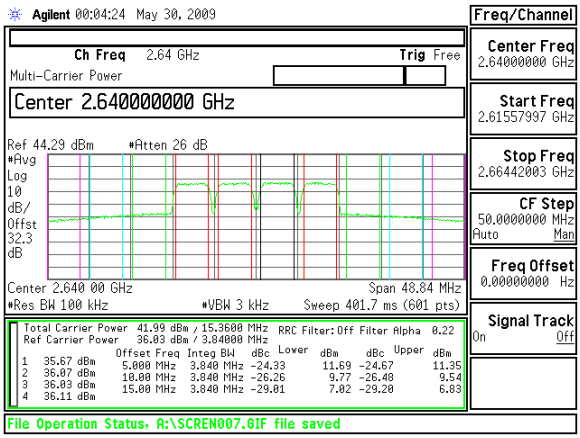


<Gain and Return Loss>

WCDMA 4FA signal @ 2600MHz



WCDMA 4FA signal @ 2640MHz



WCDMA 4FA signal @ 2640MHz