

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

RTP26020-D1 has been designed for RF system application frequencies from 2496MHz to 2690MHz, with high gain.

This DPD application Pallet Amplifier has been developed with GaN on SiC HEMT technology that has advantages of high breakdown voltage, high linearity, and high efficiency.

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	-	Watt
Output Power @ P _{sat} G.C.P	P _{sat}	-	75	-	Watt
Small Signal Gain	SSG	50	-	-	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	31	33		%

* Test Signal Condition: WCDMA 4FA (PAR 8dB) or WiMAX 2FA (PAR 8dB)

Test DPD solution: TI DPD

Environmental Characteristics

PARAMETER	Symbol	Min	Typ	Max	Unit
Operating Temperature	T _c	-20	-	+60	°C
Storage Temperature	T _s	-30	-	+90	°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	MDF7-10S-2.54DSA		
Cooling	External Heat sink + airflow		

RF Interface Connectors

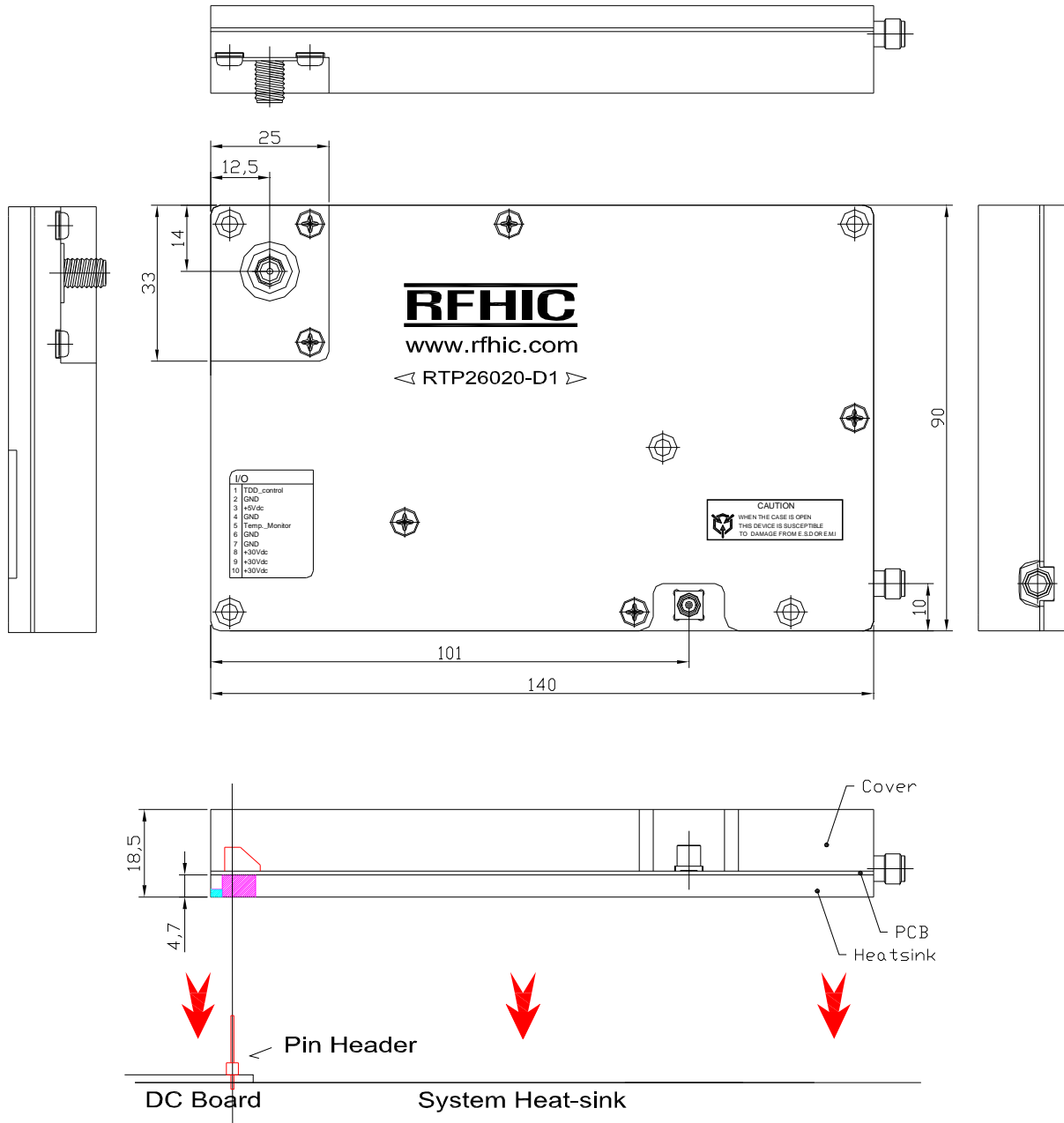
Pin #	DESCRIPTION	Specifications
1	RF IN	RF Input signal from TRx B'd
2	RF OUT	RF Output signal to TDD switch
3	RF FWD Port	RF Forward Detection signal For Feed-back

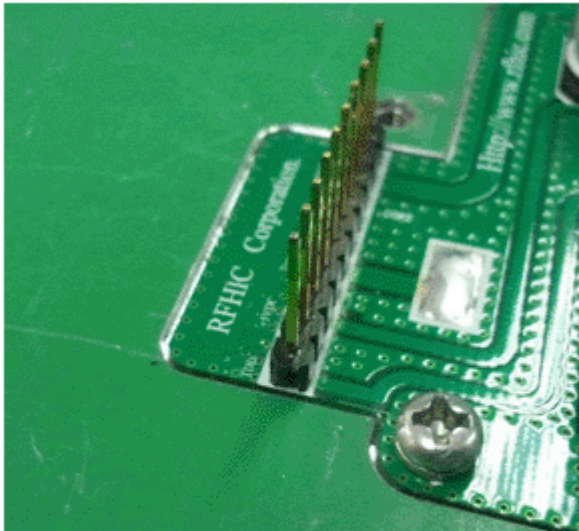
DC Connector

Pin #	DESCRIPTION	Specifications
1	TDD Control	PA TDD control signal for switching gate bias
2	GND	Ground
3	Gain Block Amp +Vgg	+5V
4	GND	Ground
5	Temp. Monitor	Reporting Temperature data [0.75V/25°C(10mV/°C)]
6,7	GND	Ground
8,9,10	Drive, Main Amp +Vdd	+28Vdc ~ +32Vdc

※ RF connector and DC connector custom design available.

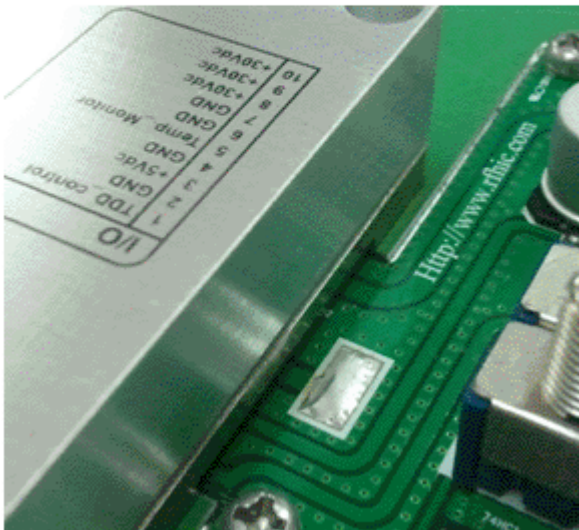
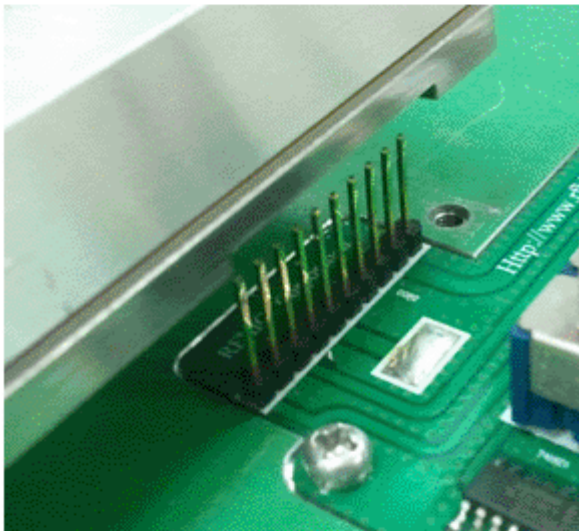
Outline Drawing





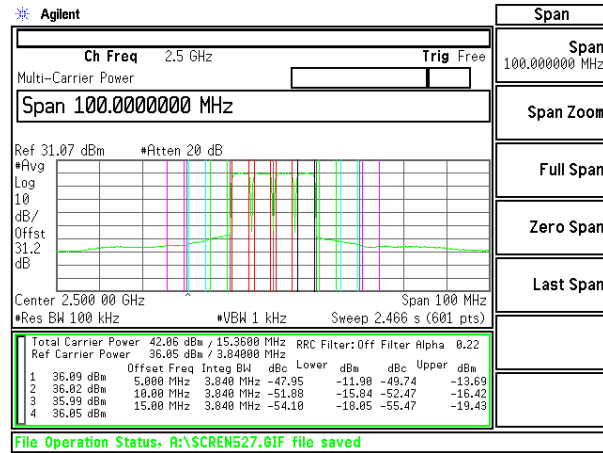
Please note the following conditions.

- In order to supply the power to the amplifier, DC Board with a built in Pin Header is necessary.
- DC Board is not supported by RFHIC.
- For evaluation, DC Board can be provided under the customer's request.

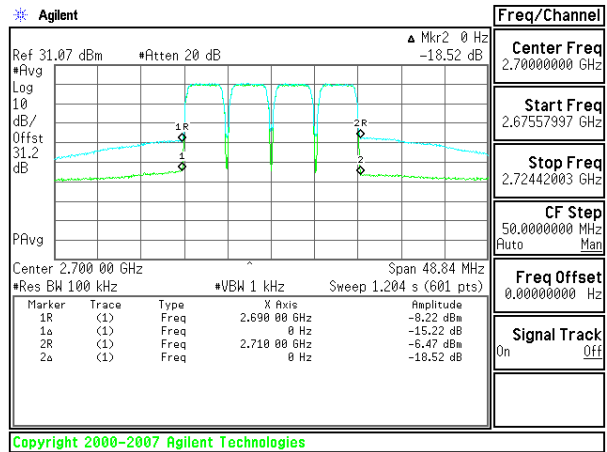
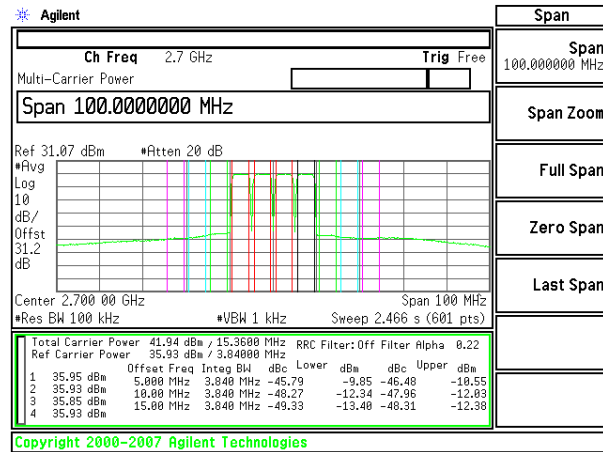
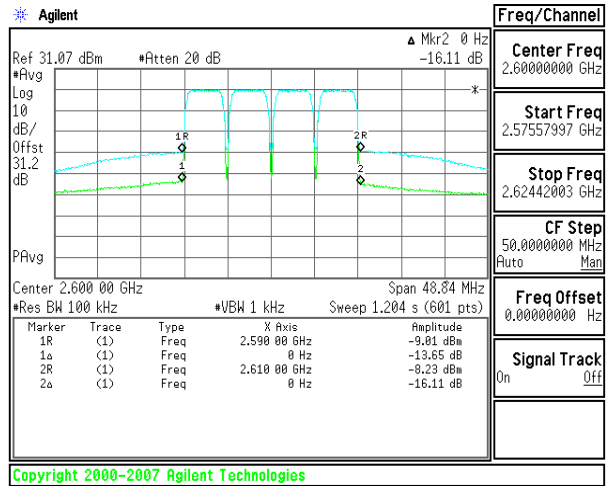
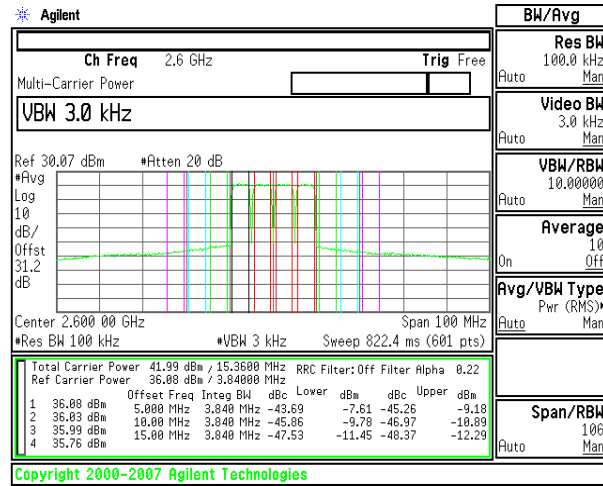
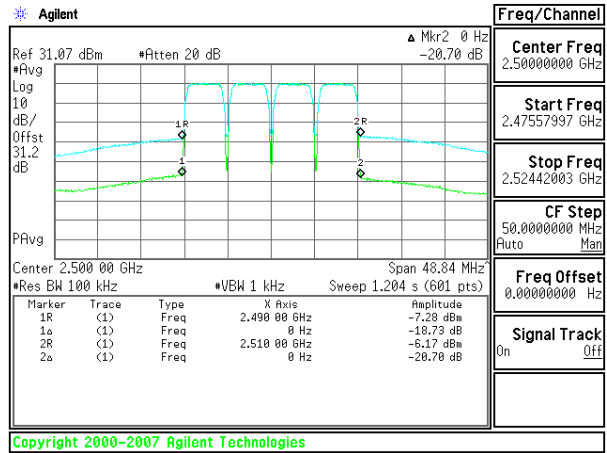


Typical Output Spectrum @ WCDMA 4FA (PAR 8dB): Pout =16W(42dBm)

DPD ON



Cancellation



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