Preliminary

GaN-SiC Pallet Amplifier RTP26010-N1

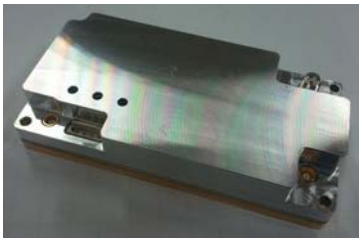
RFHIC

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
- 10W, 12W typical P_{AVG}

Application

- WCDMA, LTE DPD amplifier
- General purpose RF amplifier



Description

The RTP26010-N1 is designed for RF system application frequencies from 2570MHz to 2690MHz, with high gain. This Pallet Amplifier uses GaN on SiC HEMT technology which performs high breakdown voltage, high linearity, high efficiency. The RTP26010-N1 is DPD application amplifier.

Electrical Specifications @ VDD=+28VDC, T=25°C, 50Ω

PARAMETER	Symbol	Min	Typ	Max	Unit
Frequency Range	BW	2570	-	2690	MHz
Output Power	P_{AVG}	-	10	12	Watt
Output Power @ Psat G.C.P	P_{sat}	-	47.5	-	Watt
Small Signal Gain	SSG	-	40	-	dB
Small Signal Gain Flatness	ΔG	-	± 1.0	± 2	dB
Gain Variation	ΔGt		± 3.0	-	dB
ACLR @ WCDMA 20MHz 4FA	ACLR	-25	-30	-	dBr
ACLR with DPD	ACLR	-	-50	-	dBr
Forward Coupling	FC	-	-30	-	dB
Operating Voltage	VDC	-	28	-	Volt
Efficiency @ Pout 10Watt WCDMA	E	-	38	-	%
Efficiency @ Pout 12Watt LTE	E	-	40	-	%

※ **Test Signal Condition: WCDMA 20MHz 4FA (PAR 7.5dB), LTE 10MHz 1FA (PAR 6.5dB), Test DPD solution : Opticron DPD**

Environmental Characteristics

PARAMETER	Symbol	Min	Typ	Max	Unit
Operating Temperature	T_c	-30	-	+60	°C
Storage Temperature	Ts	-40	-	+90	°C

Mechanical Specifications

PARAMETER	Value	Units	Limits
Dimensions (L x W x H)	100 x 50 x 20	mm	Max
Weight	170	g	Typical
RF Connectors In/Out/Coupling	MCX / SMA / MCX Female		
DC Connectors / Controls	5267-04		
Cooling	External Heat sink + airflow		

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▪ All specifications may change without notice.
▪ Version 0.1

RF Interface Connectors

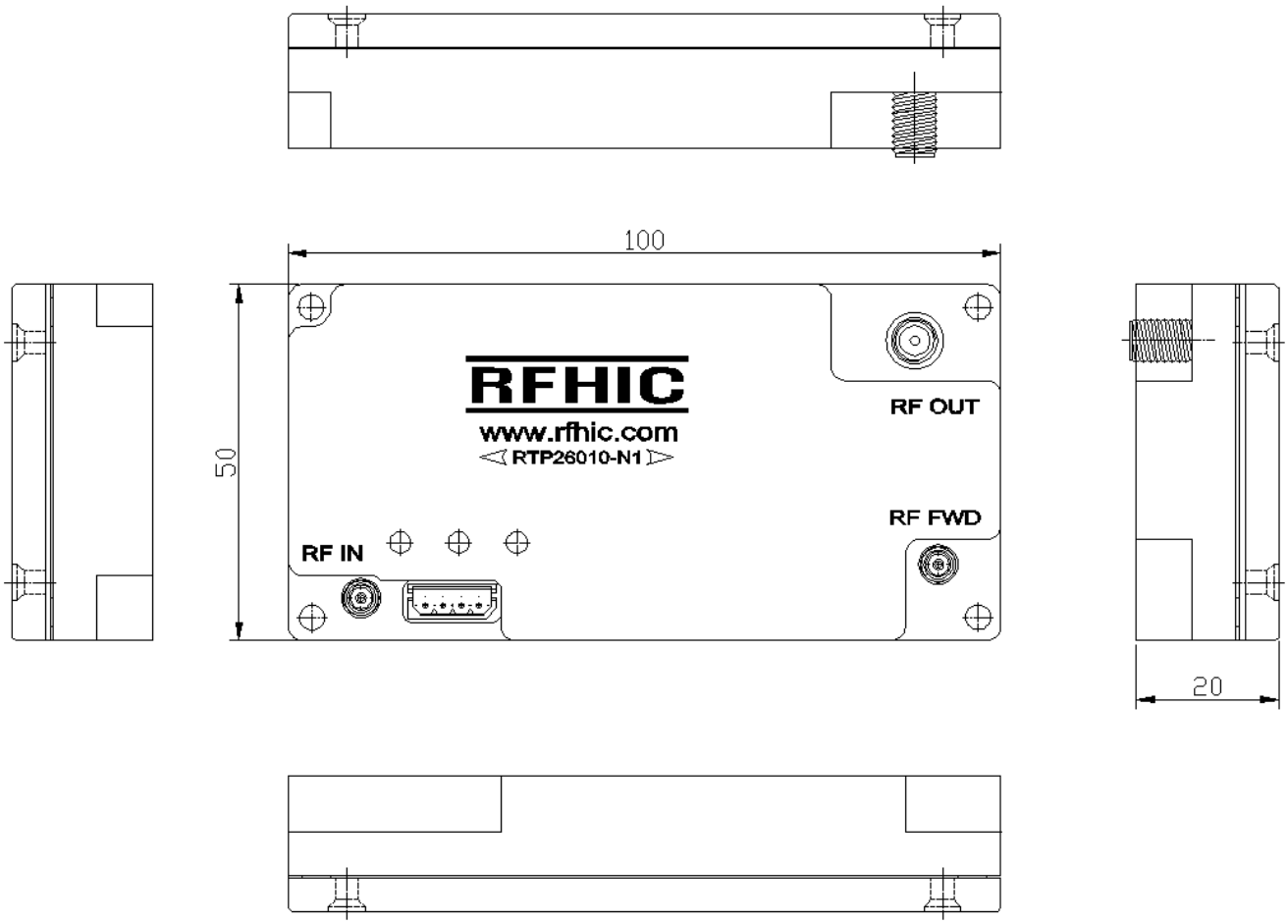
Pin #	DESCRIPTION	Specifications
1	**RF IN**	RF Input signal from TRx B'd
2	**RF OUT**	RF Output signal
3	**RF FWD Port**	RF Forward Detection signal For Feed-back

DC Connector

Pin #	DESCRIPTION	Specifications
1	**Gain Block Amp +Vgg**	+5.6Vdc
2	**Vdd**	+28Vdc
3	**Vdd**	+28Vdc
4	**GND**	Ground

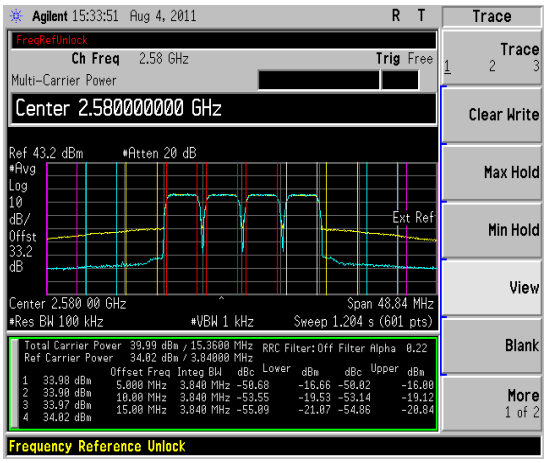
※ **RF connector and DC connector custom design available.**

Outline Drawing

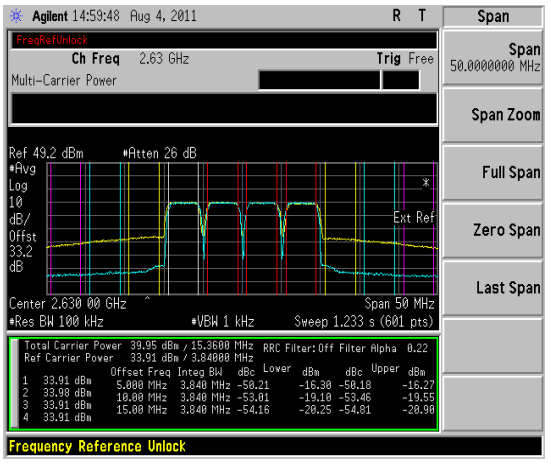


Typical Output Spectrum @ WCDMA 20MHz 4FA (PAR 7.5dB) : Pout =10W(40dBm)

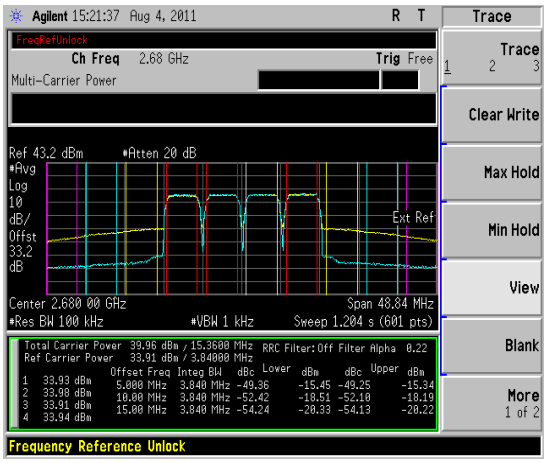
Frequency 2.58GHz



Frequency 2.63GHz

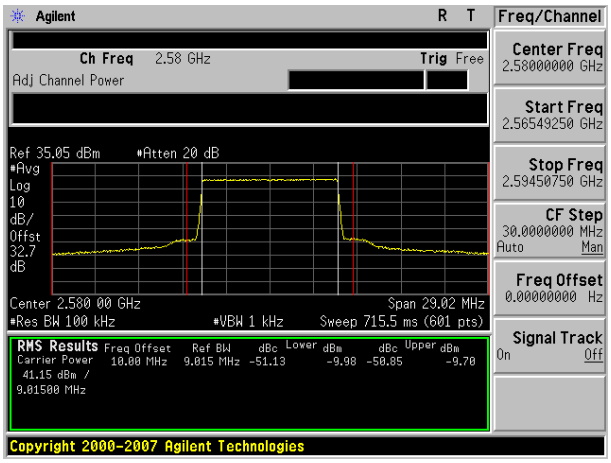


Frequency 2.68GHz

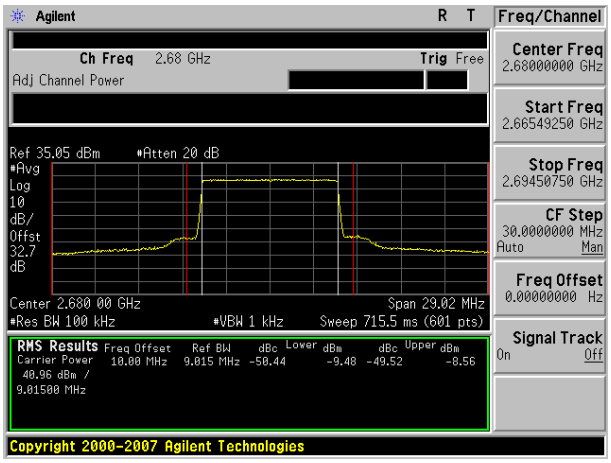


Typical Output Spectrum @ LTE 10MHz 1FA (PAR 6.5dB) : Pout =12W(41dBm)

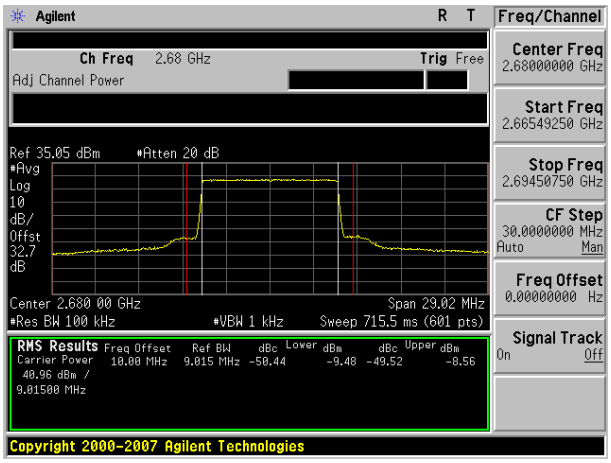
Frequency 2.58GHz



Frequency 2.63GHz



Frequency 2.68GHz



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