

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
- 30W typical P_{AVG} , 2 path structure(2T)

Application

- LTE, WiMAX DPD amplifier
- General purpose RF amplifier



Description

The RTP26030-22 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 RTP26030-22 is DPD application amplifier.

Electrical Specifications @ VDD=+48VDC, T=25°C, 50Ω

PARAMETER	Symbol	Min	Typ	Max	Unit
Frequency Range	BW	2496	-	2690	MHz
Output Power	P_{AVG}	-	44.6		dBm
Instantaneous Bandwidth	SBW		20	30	MHz
Output Power @ Psat G.C.P	P_{sat}	-	53.4	-	dBm
Small Signal Gain	SSG	50	55	-	dB
Small Signal Gain Flatness	ΔG	-	± 1.0	± 1.5	dB
Gain Variation	ΔG_t		± 3.0		dB
ACLR @ LTE 10MHz 1FA*1	ACLR	-20	-25		dBc
ACLR with DPD	ACLR		-50		dBc
Forward Coupling Level	FC	9	10	11	dBm
Operating Voltage 1	VDC1		48		Volt
Operating Voltage 2	VDC2		5.6		Volt
TDD Operating Voltage	VTDD		5.0		Volt
TDD Transition time	STDD		0.8	1.2	uS
Chain Efficiency*2 @ Pout 28.8W	EC	-	41	-	%
Pallet Efficiency @ Pout 26.3W	EP	-	37	-	%

*1 Test Signal Condition: LTE 10MHz 1FA(PAR 7.5dB), Test DPD solution: Optichron DPD(OP6180)

*2 Chain Efficiency is an entire operating transistor efficiency excluded isolator and coupler.

Environmental Characteristics

PARAMETER	Symbol	Min	Typ	Max	Unit
Operating Temperature	T_c	-40	-	+60	°C
Storage Temperature	T_s	-45	-	+90	°C

Mechanical Specifications

PARAMETER	Value	Units	Limits
Dimensions (L x W x H)	194 x 130 x 20 (2T structure)	mm	Max
Weight	738	g	Typical
RF Connectors In/Out/Coupling	SMA Female		
DC Connectors / Controls	5569-08(8pin), SMW200-04P(4pin)		
Cooling	External Heat sink + airflow		

RF Interface Connectors

Pin #	DESCRIPTION	Specifications
1	RF IN	RF Input signal
2	RF OUT	RF Output signal
3	RF CPL	RF Forward Detection signal For Feed-back

DC Connector

- 5569-08 (4.2mm PITCH, 8Pin)

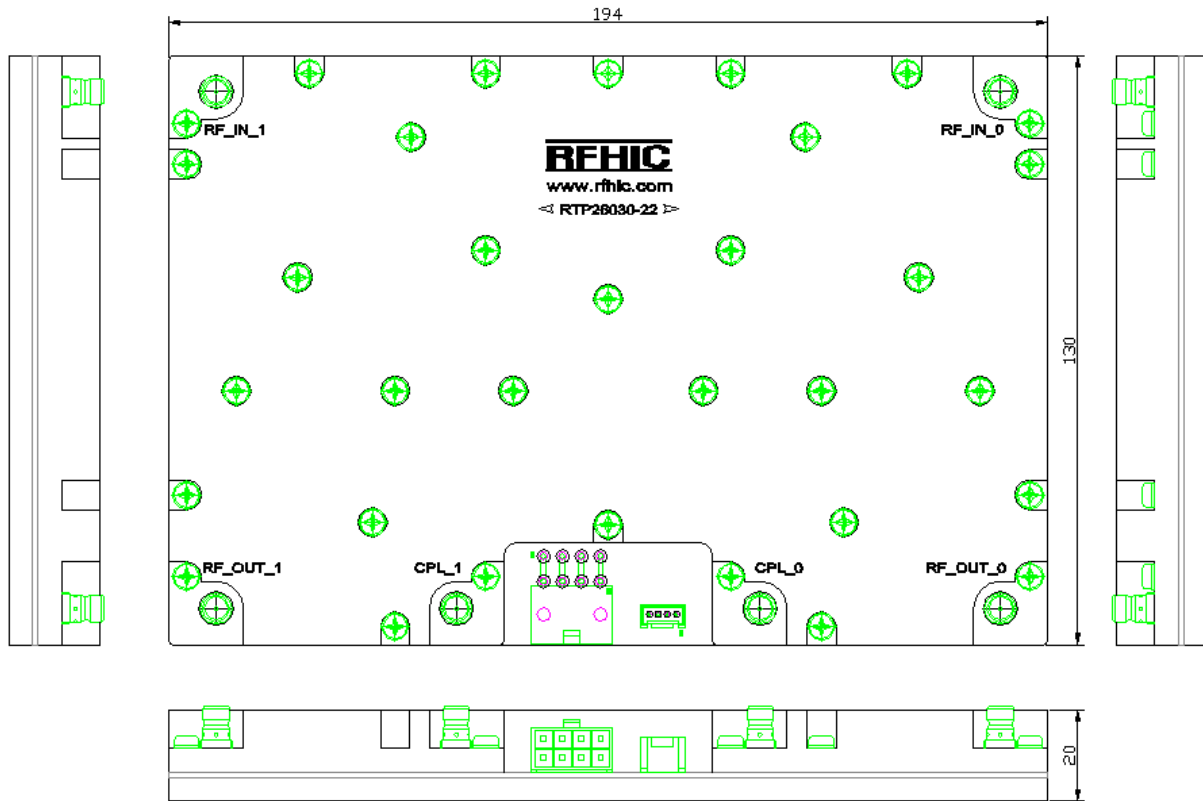
Pin #	DESCRIPTION	Specifications
1,2,3	Drive, Main Amp +Vdd	+48Vdc
4	Gain Block Amp +Vgg	+5.6V
5,6,7,8	GND	Ground

- SMW200-04P (2.0mm PITCH, 4Pin)

Pin #	DESCRIPTION	Specifications
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)]

※ RF connector and DC connector custom design available.

Outline Drawing

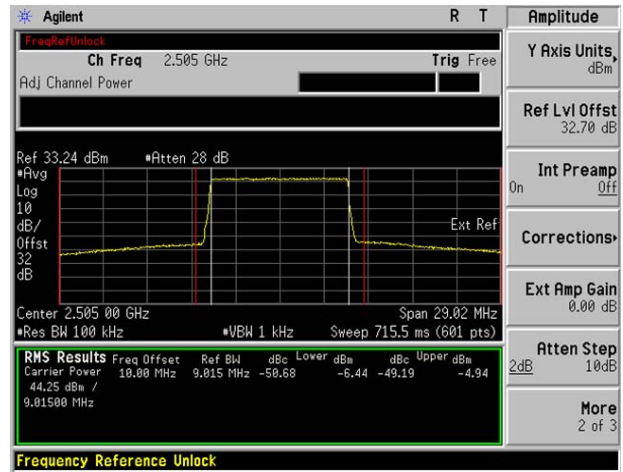


Typical Output Spectrum @ LTE 10MHz 1FA (PAR 7.5dB) : Pout =26.3W(44.2dBm)

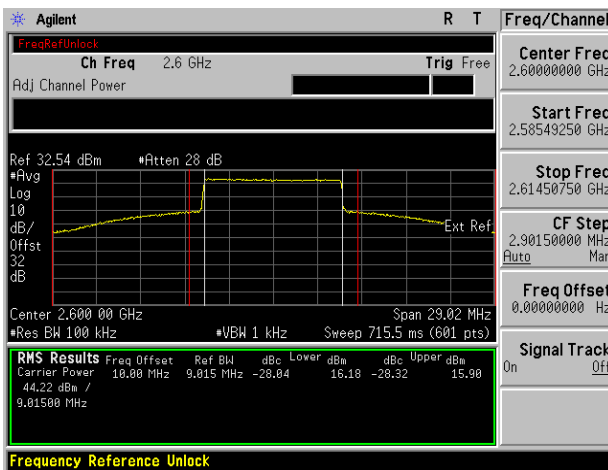
- Without DPD 2500MHz-



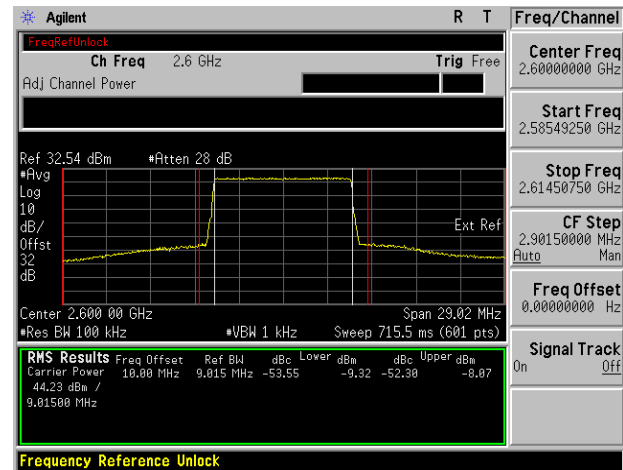
- With DPD 2500MHz-



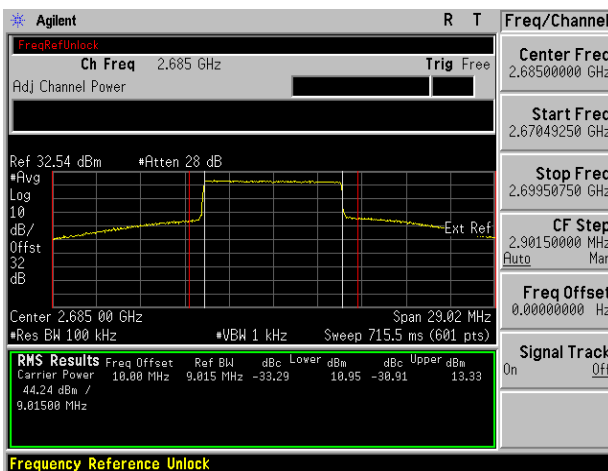
- Without DPD 2600MHz-



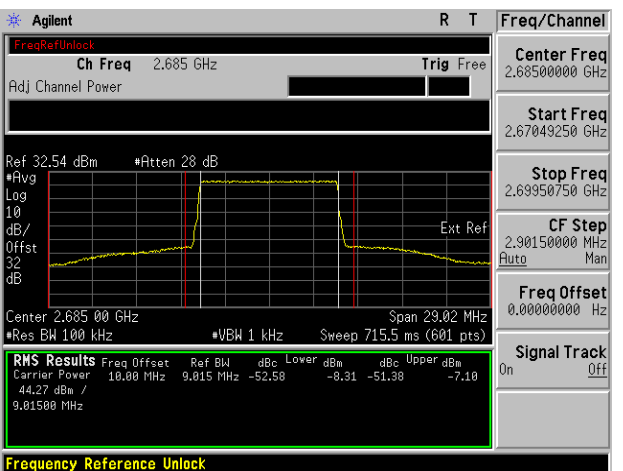
- With DPD 2600MHz-



- Without DPD 2690MHz-



- With DPD 2690MHz-



Preliminary

GaN-SiC Pallet Amplifier

RTP26030-22

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• All specifications may change without notice.
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