

ILA1024

2110-2180MHz 50Watts UMTS Band Power Amplifier

Description

The Model ILA1024 is designed for WCDMA & LTE applications in UMTS & AWS3 band. This amplifier consists of a Doherty design using LDMOS power devices and RF Predistortion linearization technique to provide excellent efficiency and linearity characteristics. Inspower's high quality design technology makes the amplifier extremely stable within overall environmental temperature range.

Product Features

- Operating Frequency : 2110-2180MHz
- Bandwidth : 70MHz
- Pout : 50 Watts
- RF Predistortion Linearization "APD"
- Application : Multi-Carrier UMTS, AWS 3 band Repeater, DAS

Mechanical Specifications@+28VDC, 25°C, 50Ω System, PAR10.2dB@CCDF0.01%

Parameters		Specifications	Remark	
Operating Frequency		2110 ~2180MHz		
Output Power (Linear)		50 Watt Min	47dBm	
Small Signal Gain		55dB Min, 55dB Typ, 56 Max		
Small Signal Gain Flatness		1dBp-p Max	Over temperature	
Gain Variation Over operation Temp		±1 dB		
WCDMA(HSPA+) @50W output	EVM	3%	Test Model-1 with 64DPCH, One Carrier, PAR=10.2dB@ 0.01% Probability on CCDF	
	Spectrum Emission Mask	-14dBm /30KHz BW for 2.515≤Δf< 2.715MHz		
		-14-15•(Δf-2.715) dBm /30KHz BW for 2.715≤Δf< 3.515MHz		
		-26dBm /30KHz BW for 3.515≤Δf< 4.0MHz		
	-13dBm /1MHz BW for 4.0 3.5≤Δf<Δfmax MHz			
ACLR	±5MHz	-45dBc Max	Test Model-1 with 64DPCH, Four Carrier, PAR=10.2dB@ % Probability on CCDF	
	±10MHz	-50dBc Max		
LTE @ 50W output	EVM	2%	Test Model: E.T.M 3.1 Down Link Test EVM and SEM for 1.4 & 10MHz BW located at center, right edge and left edge of band.	
	Spectrum Emission Mask	Per ETSI TS 136 106 V11.1.0 (2013-02) Category B, Option 2.		
2 nd Harmonic		- 40dBc Max		
Input / Output VSWR		1.2:1Typ, 1.5:1Max		
Forward (FWD) Power Monitoring: @47dBm CW 1FA 100mv/dB		3.95V Min , 4V Typ ,4.05V Max	True RMS detector	
Operating Voltage		+28V	+27V Min, +30V Max	
Supply Current @ Pout = 50Watt		9 A Max		

Mechanical Specifications

Parameter	Specifications	Remark
Dimensions (L x W x H)	200× 185× 25 mm	
Weight	1.5 kg Max	
RF Connectors In/Out	SMA – Female / N Type - Female	
DC Connectors	D-sub, 3W3, Male, 4 – 40 screw	
Monitoring Connectors	D-sub, 9 Pins, Male, 4 – 40 screw	
Cooling	External Heat sink (not included)	

Environmental Characteristics

Parameters	Specifications	Remark
Case Temperature for operating with full performance	-30°C to +80°C	
Storage Temperature	-40 ~ +85°C	
Relative humidity w/o condensation	95%	
MTBF	220000Hr (25years)	

Protection

Item	Specifications for Activation	Remark
Over Power Alarm	51.0 +/- 0.5 dBm	
VSWR Alarm	3: 1 Max (R.L = 6 dB)	Pout > 30dBm
Over Temp Alarm	80°C	
Thermal Overload	90°C shutdown & 70°C Auto-recover	

DC Connector (D-sub 3W3 male)

Pin No	Pin Description	Specifications	Remark
A1	+28V DC Input		
A2	GND	Ground	
A3	N/C	No Connection	

I/O Interface (D-sub 9pin male)

Pin No	Pin Description	Specifications	Remark
1	APD Reset	Open: Normal Operation GND: APD Off	
2	GND	Ground	
3	Enable : Low Disable : High or Open	Enable : TTL"0" =0V Disable : TTL/COMS "1" = 3.3-5V High or Open	
4	VSWR Alarm	Alarm High "5V" at VSWR event	
5	Forward Power Detector	4.0V@ 47 dBm CW 1FA, 100mv/dB	
6	Reverse Power Detector	4.0V@ 47 4dBm CW 1FA, 100mv/dB	
7	GND	Ground	
8	Over Power Alarm	Alarm High "5V" at Over Power event	
9	Over Temperature Alarm	Alarm High "5V" at Over temperature event – Measured on PA case.	

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INSPOWER
ILA1024
2110-2180MHz, 50W

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	☆ White-CHROMATE(Cr ³⁺)	
	THIRD ANGLE PROJECTI	