

43dBm 2.3-2.7 GHz 4G/5G Solid State Multi-Carrier Power Amplifier

Model No: MCPA-2500-43W50



Main Features:

- Support LTE and 5G air protocol at 2.3-2.7GHz
- Designed to meet ETSI requirements for LTE and 5G networks
- Support TDD applications with both uplink and downlink path
- Solid-state linearized design with a linear output power
- High efficiency, high reliability, and ruggedness design
- Built-in Control & Monitoring Circuits
- Stable characteristics in the wide temperature range
- Field proved reliability

Introduction

The EMTS Telecom Service Ltd. Multi Carrier Power-Amplifier model MCPA-2500-43W50 is designed for multi-channel LTE and 5G applications in band of 2.3-2.7GHz. This amplifier utilizes linear LDMOS power devices that provide high gain, wide dynamic range, low distortions, and excellent group delay and phase linearity. Exceptional performance, long-term reliability, and high efficiency are achieved using APD (Analog Pre-distortion) technology, advanced matching networks, and combining techniques (Doherty Design). The MCPA supports TDD modulation, and includes Uplink and Downlink paths. EMI/RFI filters, machined housings, and qualified components. EMTS Cellular Power Amplifiers are ideal for customers with DAS systems, BTS solutions, and RF repeaters. The MCPA utilized the Linearization technique to provide excellent efficiency, and linearity characteristics offer low distortion and EVM.

EMTS's high-quality design makes the MCPA extremely stable within an overall environmental temperature range



EMTS Telecom Services Ltd. offers a comprehensive portfolio of enhanced coverage solutions for the Wireless Networks, based on advanced technologies, EMTS's proven, indoor and outdoor solutions solve a wide range of network issues including interference and oscillation problems, challenging coverage holes, rapid response deployment, and inadequate in-building coverage. Regardless of the technology or frequency, EMTS can provide customized coverage solutions that address any combination of unique and complex network needs for the Wireless Networks.

Technical Specification

Item	Indicator		Remark
	RX	TX	
Test source	5G NR-FR1-TM3.1(TDD) (PAR=10dB@CCDF0.01%)		Typical 20M signaltest
Electrical Performance			
Frequency range	2300-2400/2496-2690MHz		
Maximum input level	-10dBm	10dBm	No damage for 30minutes
Output power P _{max}	≥0dBm	≥43 dBm	
Gain	35±1 dB	52±1 dB	
Passband Ripple	ΔG _p ≤3.0dB		
ACLR(ACPR)	≤-45dBc @±5MHz output power -5dBm	≤-30dBc @±5MHz	
ALC control range	≥10dB		
ATT range	/	≥22dB	
Noise	≤4dB	/	
EVM(TM3.1/3.2/3.3 mode)	≤4.5%		
VSWR	≤1.5:1		
RF T/R switch	Comply		
TX&RX Switch switching delay	≤1us		
RX to TX Isolation	80dBc		
Input power detection	-30 dBm to 0 dBm		
Output power detection	15dBm to 44dBm		
Reflected power detection	10dBm to 42dBm		
Fault alarm	Have		
VSWR alarm	default 2.5		Settable
Temperature detection	-40 to 100℃		
Working voltage	28DCV		28-30DCV
Static working current	≤2A		
Dynamic working current	≤3.5A		

About EMTS telecom Services:

EMTS Telecom Services is a leading supplier of high-quality RF coverage solutions designed to maximize wireless network coverage in difficult RF environments and complex settings. The company specializes in extending RF radio coverage to rural areas, office buildings, subways, tunnels, and shadowed areas. The EMTS coverage solution supports all major mobile technologies and standards of wireless Networks.

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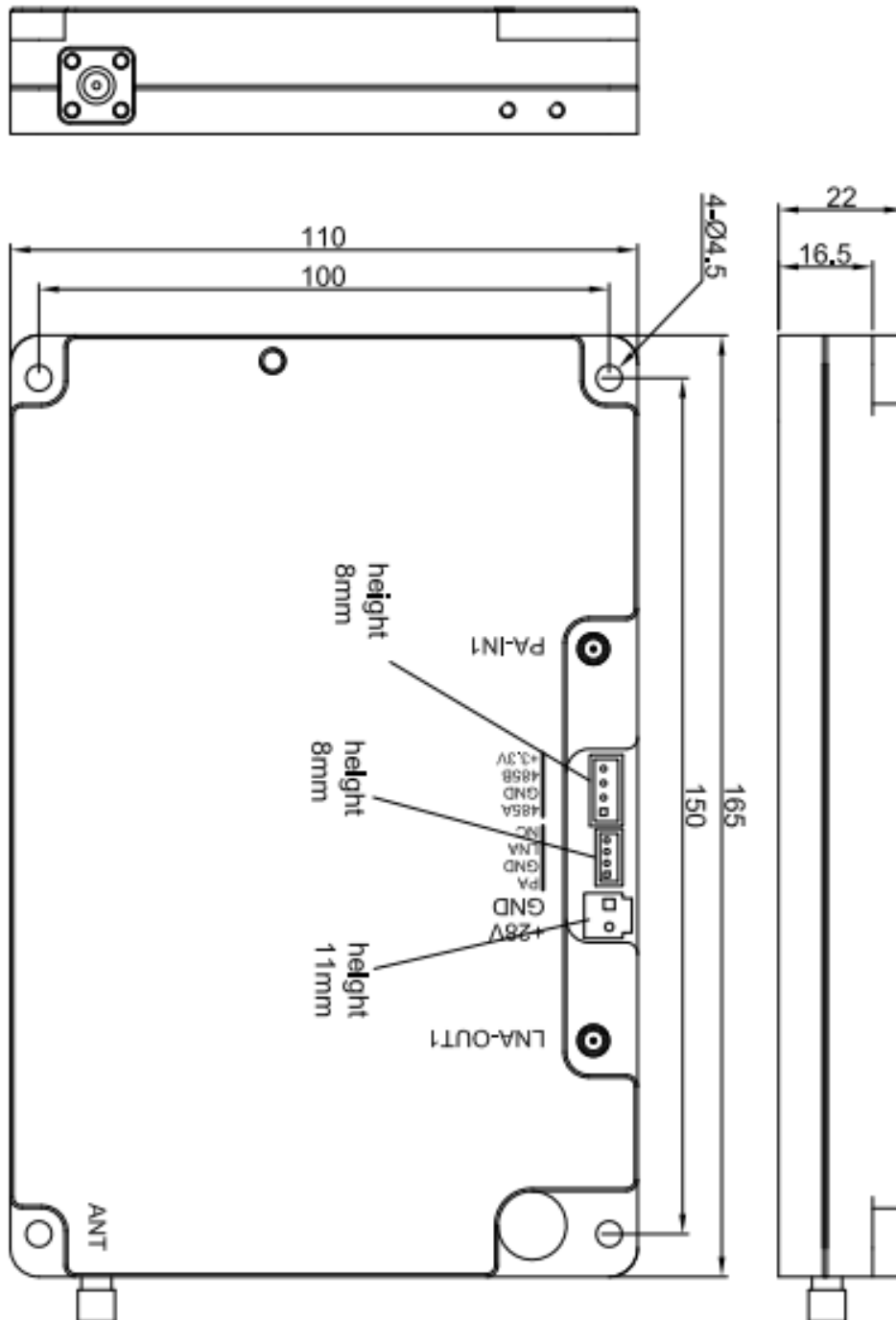


Mechanical and Environmental Performance		
temperature range	-40~85°C	Operating
RF interface	PA IN ->input port of power amplifier: MCX straight connector (Note1:There are two interfaces, one for standby) LNA OUT ->Low noise amplifier output port: MCX in-line connect	Customizable
RS485 interface +	1 * 4Pin 2.0 spacing Pin 1: RS485A; Pin 2: GND; Pin 3: RS485B; Pin 4: VCC;	(Factory equipped with 30cm long connecting cable)
synchronous control	1 * 4Pin 2.0 spacing Pin 1: TX_ENA external input power amplifier is enabled, the power amplifier is turned off when the power is low, and the power amplifier is turned on when the power is high; Pin 2:GND Pin 3: RX_ENA external input low noise amplifier enable, low noise amplifier is turned off at low power level, and low noise amplifier is turned on at high power level; Pin 4:NC	
Power interface	VH3.96-2P Pin 1 GND Pin 2: 28VDC	Factory equipped with 30cm long connecting cable
Module appearance	Aluminum natural color	
Size	166*110*22MM	
Mounting hole size	M4	



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Outline Drawing



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