

# WP482P45110UH

## 110W RF GaN Power Transistor



WAVE PIA  
I C D E S I G N

### Product Features

- Up to 3.5 GHz Operation
- 14.4 dB Small Signal Gain at 2.45 GHz
- 114 W Typical Psat at 2.45 GHz CW Mode
- 53 % Efficiency at Psat at 2.45 GHz CW Mode
- 48 V Operation



### Applications

- Broadband Amplifiers
- Cellular Infrastructure
- Test Instrumentation
- WiMAX, LTE, WCDMA, GSM
- Radar application

### DC Characteristics (TC = 25 ° C)

Parameter	Symbol	MIN	TYP	MAX	Units	Conditions
Gate Threshold Voltage	$V_{GS(th)}$		-3.1		V <sub>DC</sub>	V <sub>DS</sub> = 48 V
Gate Quiescent Voltage	$V_{GS(Q)}$		-2.75		V <sub>DC</sub>	V <sub>DS</sub> = 48 V, I <sub>D</sub> = 100 mA

### RF Characteristics (TC = 25 ° C , F0 = 2.45GHz unless otherwise noted)

Parameter	Symbol	MIN	TYP	MAX	Units	Conditions
Saturated Output Power	$P_{SAT}$		114		W	V <sub>DD</sub> = 48 V, I <sub>DQ</sub> = 100 mA, CW
Pulsed Drain Efficiency <sup>1</sup>	$\eta$		53		%	V <sub>DD</sub> = 48 V, I <sub>DQ</sub> = 100 mA, CW

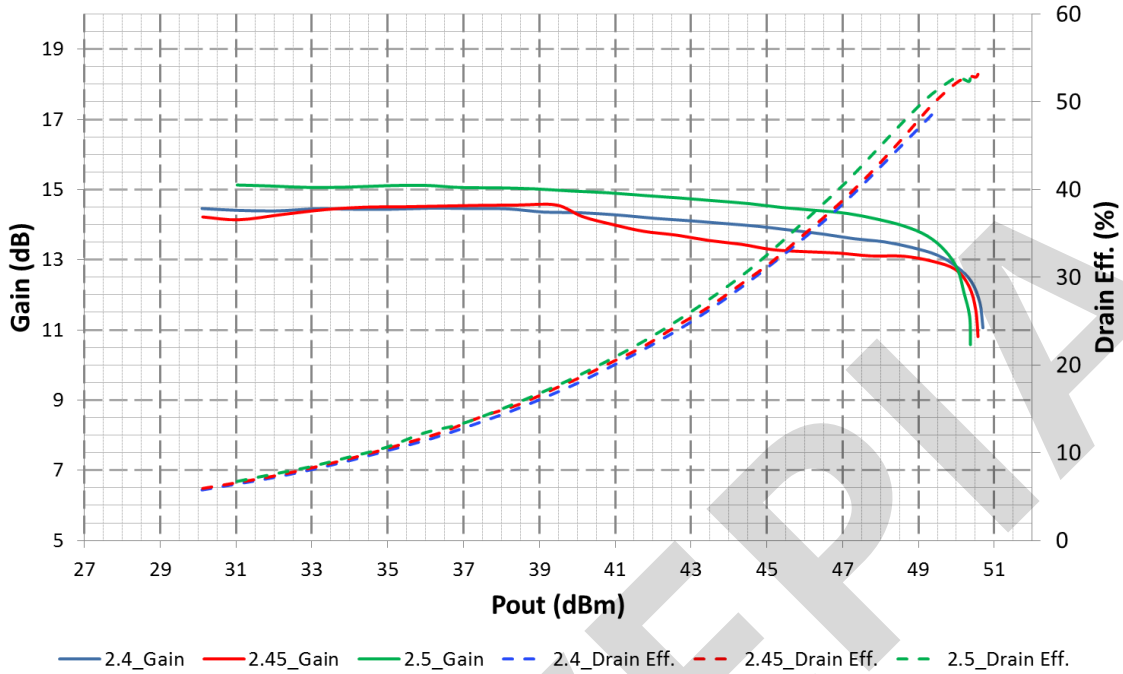
Note:

1. Drain Efficiency =  $P_{OUT} / P_{DC}$

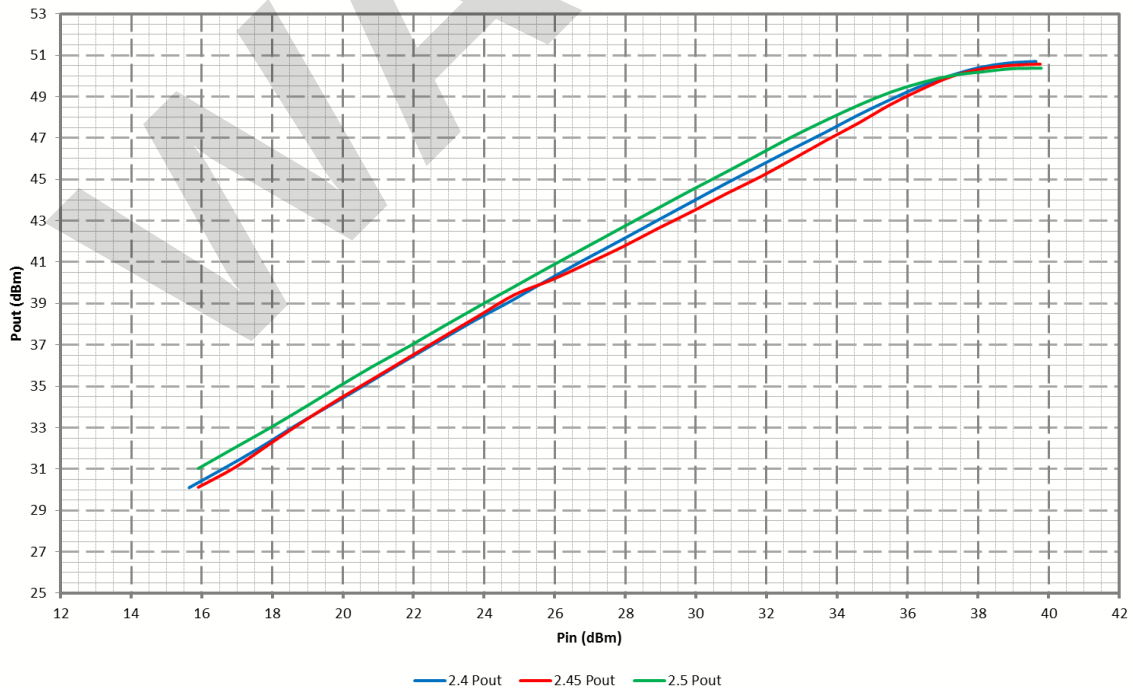
**Pulse Signal Performance (Tc=25°C, Measured in the test board amplifier circuit)**

VDD = 48V, IDQ = 100 mA, CW

**Gain, Drain Eff. vs. Pout**



**Pout vs. Pin**

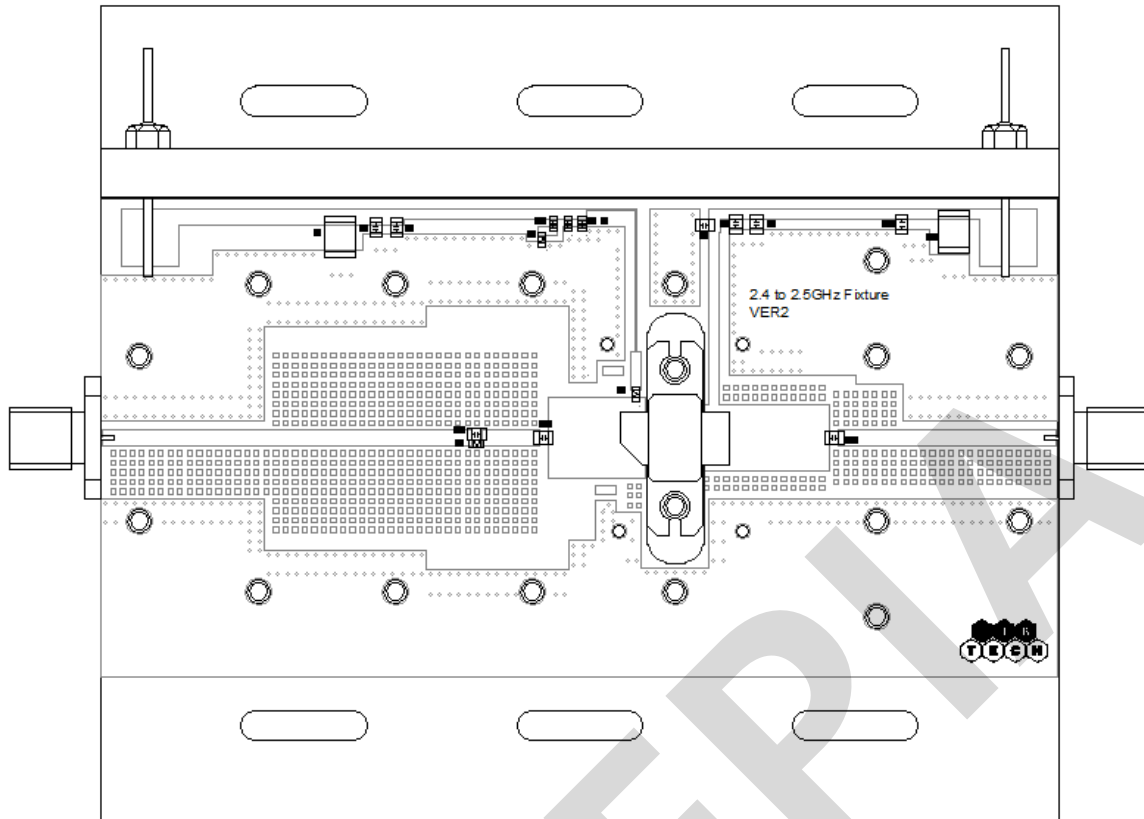


### Small Signal Performance (Tc=25°C, Measured in the test board amplifier circuit)

VDD = 48 V, IDQ = 100 mA



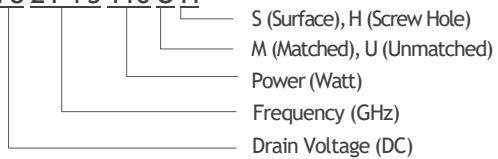
## Demonstration board



Reference	Value	Description	Package	Manufacturer
C14	1.2pF	High Q Capacitor	CHA	TEMEX
C15	1.3pF	High Q Capacitor	CHA	TEMEX
C13	9.1pF	High Q Capacitor	CHA	TEMEX
C3	100pF	Ceramic Capacitor	2012	Murata
C2	100nF	Ceramic Capacitor	2012	Murata
C6	10pF	Ceramic Capacitor	1608	Murata
C4	100pF	Ceramic Capacitor	1608	Murata
C5	10F	Ceramic Capacitor	1608	Murata
C12	1nF	Ceramic Capacitor	1608	Murata
C1	20uF/16V	Tantalum Capacitor	-	-
C8,C9	100pF	High Q Capacitor	CHA	TEMEX
C7,C10	10pF	High Q Capacitor	CHA	TEMEX
C11	470nF	High V Capacitor	3528	Johanson Dielectrics
R1	50Ω	Chip Resistor	1608	Walsin
R2	10Ω	Chip Resistor	1608	Walsin
R3	100Ω	Chip Resistor	1608	Walsin

### Part numbercode

WP 482 P45 110 U H



### Package Dimensions

