Preliminary
GaN SSPA Microwave Generator RIK2520K-40T

Product Features

- 2400 ~ 2500MHz
- High output power : 20kW(CW) Peak Power
- Using GaN on SiC HEMT
- 55% System Efficiency
- High reliability & stability, long-run operation
- High frequency-stability with PLL technology
- Accurate adjustment function on output power, phase, frequency
- WR430 Waveguide Output

Applications

- Building block for high-power systems
- Plasma generator
- Industrial heating and drying
- Microwave CVD Reactor
- Microwave sintering
- Microwave chemistry
- Materials processing
- Study of biological phenomena
- Semiconductor equipment
- Medical Linear Accelerator

Description

The RIK2520K-40T uses GaN on SiC HEMT technology which performs high breakdown voltage and high efficiency.
This product is packaged in a rack mountable shelf with the water cooling system.
And this product is designed for high power ISM(Industrial, Scientific, Medical) applications with adjustable power up to 20kW.
This microwave generator is suitable for use in CW, pulse and linear applications. This high efficiency rugged device is targeted to replace industrial magnetrons and other vacuum tubes currently powering industrial heating, drying, microwave CVD and sintering.

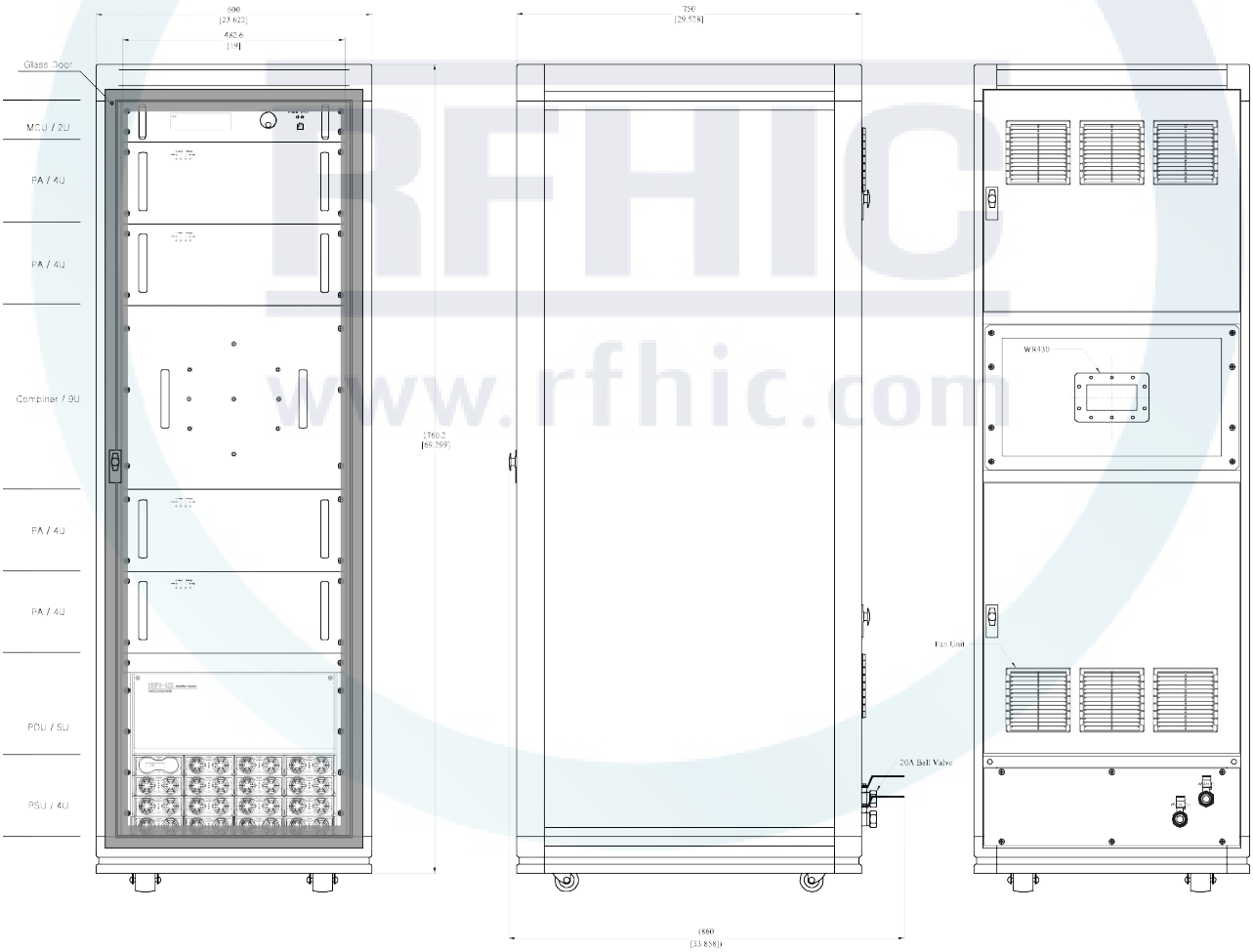
Electrical Specifications

PARAMETER		UNIT	MIN	TYP	MAX
Operating Frequency		MHz	2400	-	2500
Operating Bandwidth		MHz	-	100	-
Waveguide Output		-	WR430		
CW Variable Output Power Control		kW	2	-	20
Power Spectral Bandwidth		kHz	-	-	500
Phase adjustment		°	0	-	360
Pulse Duty Cycles		%	1	-	99
Frequency Resolution		kHz	-	100	-
Frequency Accuracy & Stability		ppm	-2.5	-	2.5
Operating Voltage		VAC	400 VAC 3 phase 50/60 Hz		
System Efficiency		%	-	55	-
Control (RS232)	Generator On / Off	Enable / Disable			
	RF Mode	CW / Pulse			
	RF Control	Frequency, Phase, Pulse width and duty, Output Power etc.			
Alarm & Shutdown	Over Temperature Shutdown	@PA Temperature > 60°C			
	Over VSWR Shutdown	@PA Reverse Power > 1kW			
	DC Fail Shutdown	@DC <47V or DC > 53V			
	Low Gain Alarm	@PA Gain < 55dB			
	Over Power Alarm	@Output Power > 22kW			

Mechanical Specifications

PARAMETER	UNIT	VALUE
Dimensions (L x W x H)	mm	600 x 1800 x 750
Weight(w/o external Isolator)	Kg	220(typ)
Cooling Type	-	PA & Combiner: Water, Power Supply Unit: Air
Water Cooling Condition	-	TBD

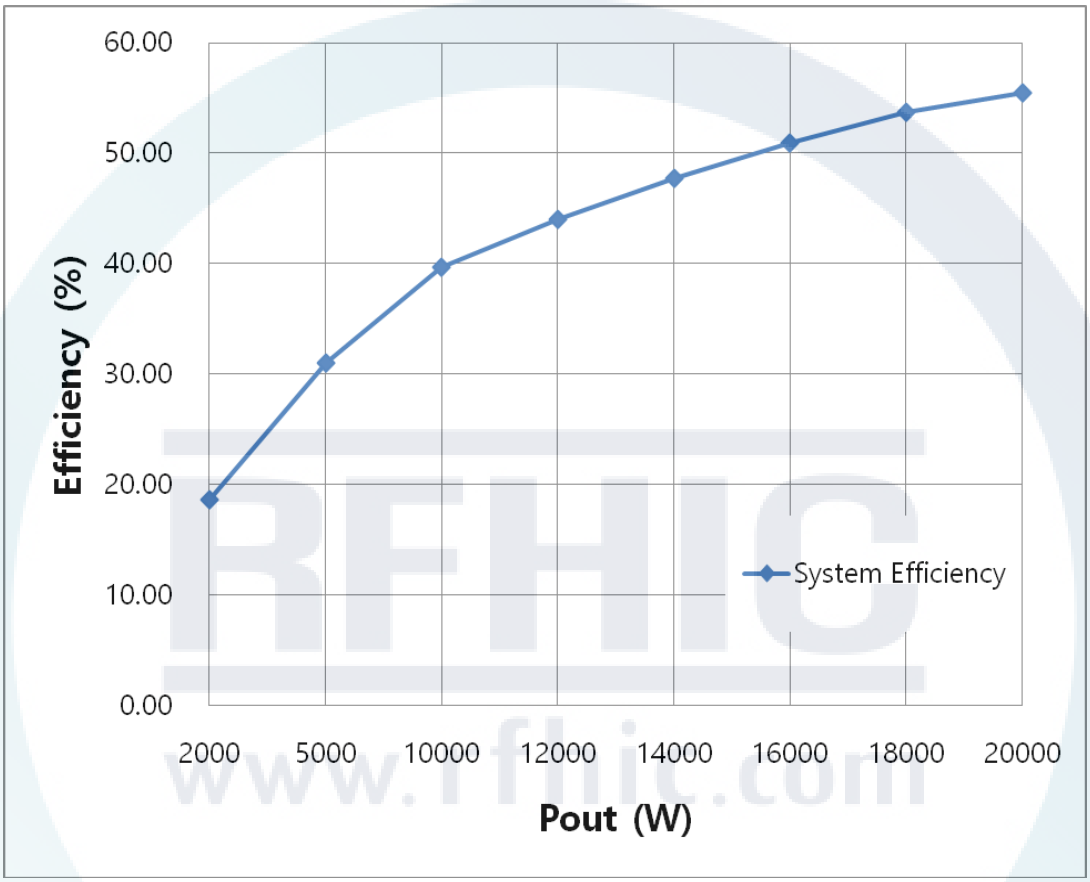
Mechanical drawing



Note

Dimension and weight may be subject to change.

Typical CW Performance Chart



System Efficiency vs. Output Power

Revision History

Part Number	Release Date	Version	Description	Data Sheet Status
RIK2520K-40T	Dec., 2018	0.1	Initial release of datasheet	Preliminary