Preliminary
GaN Microwave Generator
RIU00272K0-20TG

Product Features

- Four individual channels, full digital control.
- Pulse synchronization
- Real-time power and impedance measurement
- Frequency tuning
- Wide power output range (100 to 2500 W)
- High VSWR capability
- Incorporated with a SMPS mode DC power supply
- Phase synchronization (CEX)
- Superior line sag immunity

Applications

- MW Heating and Drying
- Medical Equipment
- Semiconductor Equipment
  PVD, PECVD, Etch

Description

The RIU00272K0-20TG is a remote-type microwave generator system configured with a single 2.5kW channel, delivering a total output power of up to 2.5kW. It supports both continuous wave (CW) and pulse output modes, with power adjustable from 100W to 2500W at 27.12 MHz. Featuring a separate SSPA head and power supply unit, the RIU00272K0-20TG offers a highly cost-effective and flexible solution for microwave heating and plasma generation applications. It ensures excellent performance repeatability and reliability you can depend on..

Electrical Specifications

PARAMETER		UNIT	MIN	TYP	MAX	SYMBOL
Operating Frequency	Adjustable Range	MHz	25.8	27.12	28.5	F_O
	Stability	%		0.05		
RF Output Power	Adjustable Range	W	100	-	2500	P_O
	Accuracy(50Ω)	W	± 1 W or ± 1% of set point, whichever is greater			
Operating Mode			C.W & Optional : Pulse (5Hz to 10kHz)			
Efficiency (DC to RF)		%	-	-	60	Eff
Operating Voltage	PSU (3 phase)	V	-	208	-	VAC
	SSPA Head		55	60	65	VDC
Rise / Fall Time	Rise Time	us	-	-	100	
	Fall Time	us	-	-	3	-
Set Power Delay		ms		-	10	-
Dimension		mm	220 x 172 x 560 (W x H x D) 4U			-
Weight		kg	-	-	20	
Coummunication		-	Optional –USB, D-net, RS-232/485 Optional :EtherCat : 1 x CAT5 RJ-45			-
Power Sag Condition		-	SEMI F47			-

Generator Alarm & Protection Features

PARAMETER	State	CONDITION
Output Power	GUI Alarm Shut Down	Output Power > 3kW
Drain Voltage	GUI Alarm	Verify Drain Voltage 65V
PLL Unlock (1)	GUI Alarm	-
Over-Temperature	GUI Alarm	System Temperature > 55° C
FWD Power	GUI Alarm, LCD Alarm	Reached Output Power Time < 1s (Output Power =Target Power ± 1%)
RVS Power	GUI Alarm, LCD Alarm	RVS Power > Output Power 10%

***Remarks**
(1) A phase-locked loop (PLL) is an electronic circuit with a voltage-driven oscillator that constantly adjusts to match the frequency of an input signal. PLL is used to generate, stabilize, modulate, demodulate, filter, or recover a signal from various noises.

*Permanent damage may occur if any of these limits are exceeded. Electrical maximum ratings are not intended for continuous normal operation.

Generator Mechanical Specifications

PARAMETER	UNIT	VALUE	
Dimensions (W x D x H)	mm	220 x 171 x 560 (W x H x D) 4U	
Weight	kg	20kg MAX.	
Microwave Output Port	-	7/16” DIN Female	
INPUT Connector	-	Han A® (Harting)	
Cooling Requirements	-	**Water Cooling Rate**	8L/Min, 5Bar
		Cooling Water Inlet Temperature	20 °C~25°C (typ.)
		Relative humidity below dew point (non-condensing)	
		* De-ionized water shall be used to prevent system damage	
Fluid Inlet/Outlet Size	Inch	3/8” Tapered Pipe Thread	

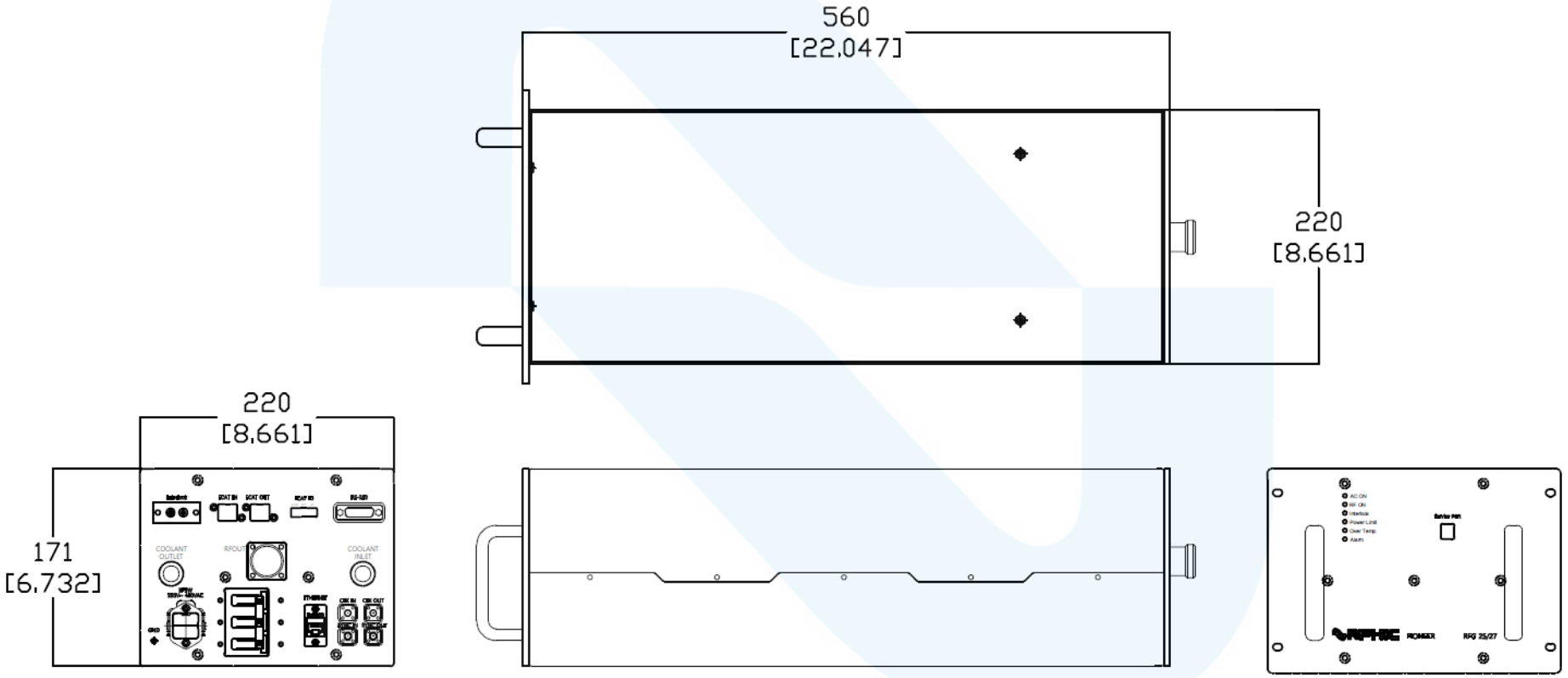
Remarks: Dimensions and Connectors may be subject to change.

Environmental Specifications

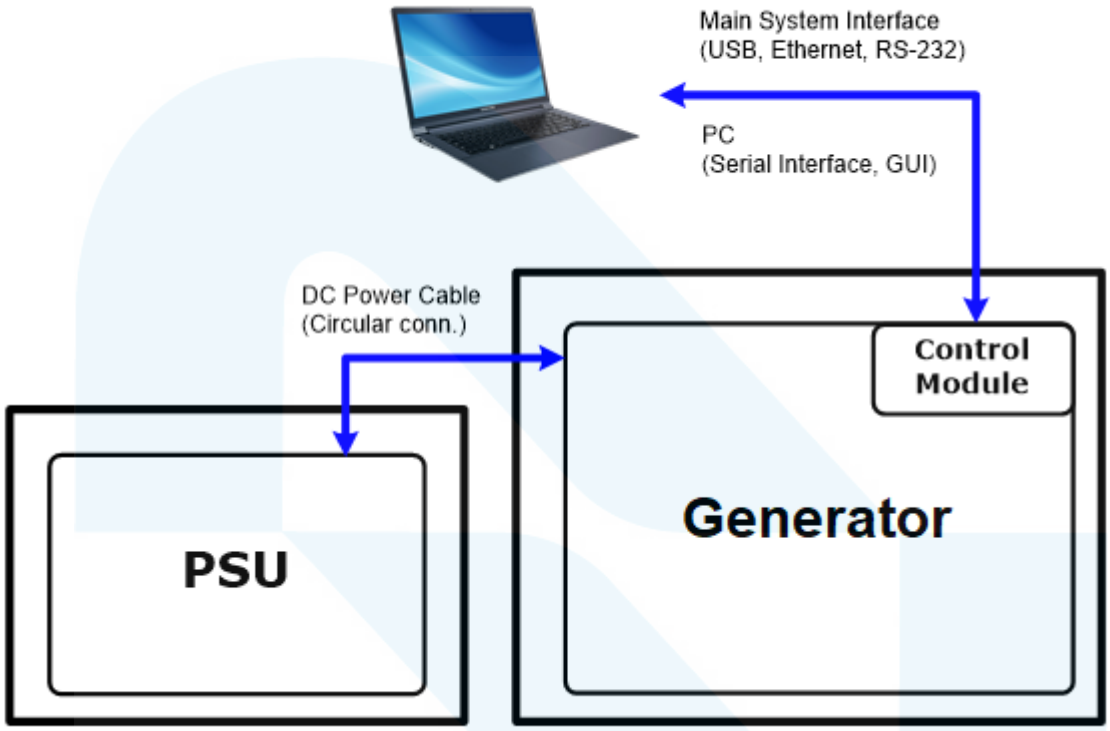
PARAMETER	UNIT	VALUE
Operating Case Temperature(1)	°C	15 ~ 50
Environmental/Storage Temperature	°C	10 ~ 40

Remarks: **(1)** Operating case temperature is the temperature detected at the PA temp sensor.

Generator Dimensions



Microwave Generator Setup and Interface Concept



Revision History

Part Number	Release Date	Version	Description	Data Sheet Status
RIU00272K0-20TG	Feb, 2024	0.1	Initial release of datasheet	Preliminary

Certification

This product is manufactured by a company that is certified for the AS9100D quality management system.