

Product Features

- Frequency from 9.3 GHz to 9.7 GHz
- Using GaN-on-SiC HEMT Transistor
- High Power Density:
over 400W Peak RF Output Power @ 10 % Duty Cycle
- High Efficient Power Consumption
- Low Cost, Light Weight, Compact
- Soft-Fail (Modular Architecture)
- Excellent Thermal Stability and Ruggedness
- SMA(F) / N-type (F) Input / Output Connector
- 50 Ohm Input / Output Impedance

Applications

- High Power Radar Driver
- Weather Radar System



Description

The RRP9397400-56 is industrial standard 19" wide and 2U high rack mount GaN HEMT based technology SSPA transmitter which is designed for the high power radar application with operating frequency from 9.3 to 9.7 GHz. This transmitter has a couple of built-in power supply units and some LEDs to show alarms.

The operating frequency of transmitter can be modified by custom request.

Electrical Specifications @ $V_{ac}=115V$ (Single Phase, 60 Hz), $T=25^{\circ}C$, 50 Ω Sys

PARAMETER		UNIT	MIN	TYP	MAX	SYMBOL
Operating Frequency		MHz	9300	-	9700	f_0
Operating Bandwidth		MHz	-	400	-	BW
Output Pulse Power		W	400	-	-	P_o
Input Pulse Power		dBm	-2	0	+2	P_i
Power Gain		dB	54	56	-	G_p
Amplitude Variation		dB	-	-	± 1.0	ΔA_p
Duty Cycle		%	-	-	10	DC
Pulse Width		us	-	-	100	PW
Efficiency		%	20	25	-	E_{ff}
Amplitude Pulse Droop		dB	-	0.5	1.0	Droop
Spurious Level		dBc	-60	-	-	Spur
Rise / Fall Time		ns	-	-	50	t_r
Switching Time		ns	-	-	300	t_{sw}
Input/Output VSWR		-	-	-	2 : 1	VSWR
Operating Voltage(Main) of SSPA		V	-	50	-	O_{V1}
Operating Voltage(Sub) of SSPA		V	-	5.6	-	O_{V2}
Control & Monitoring	Control Interface	-	LVDS			GUI control
	Alarm & LED	-	AC/DC Power LED			
		-	DC/DC Power LED			
		-	HPA Temperature			

* Test Pulse conditions = 100us, 10%

Built-in AD/DC Main Power Supply Unit Performance

PARAMETER	UNIT	VALUE
Input Power Voltage	Vac	1 Phase 115Vac $\pm 21\%$
Input Power Frequency	Hz	47 ~ 63
Power Factor	%	$\geq 89\%$ Typ.
Efficiency	-%	$\geq 85\%$ Typ.
Output Voltage	Vdc	$50 \pm 5\%$
Output Current	A	Max 20A @ 50Vdc
Weight	kg	2.08
Cooling	-	Forced air cooling using FANs

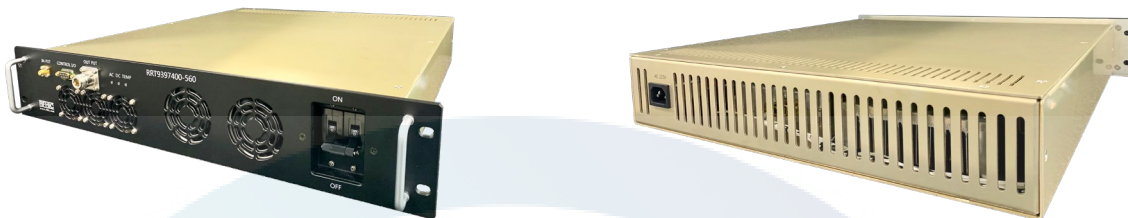
Mechanical Specifications

PARAMETER	UNIT	VALUE
Dimensions (W x H x D)	mm	483 x 88 x 500
	inches	19 x 3.5 x 19.68
Weight	Kg	Max. 20
RF Input Type	-	SMA Female
RF Output Type	-	N-type Female
I/O Connector	-	D-sub 9 pin (Male) for LVDS
Cooling	-	Forced air cooling using FANs
AC Connector	-	IEC320-C14 inlet

Environmental Specifications

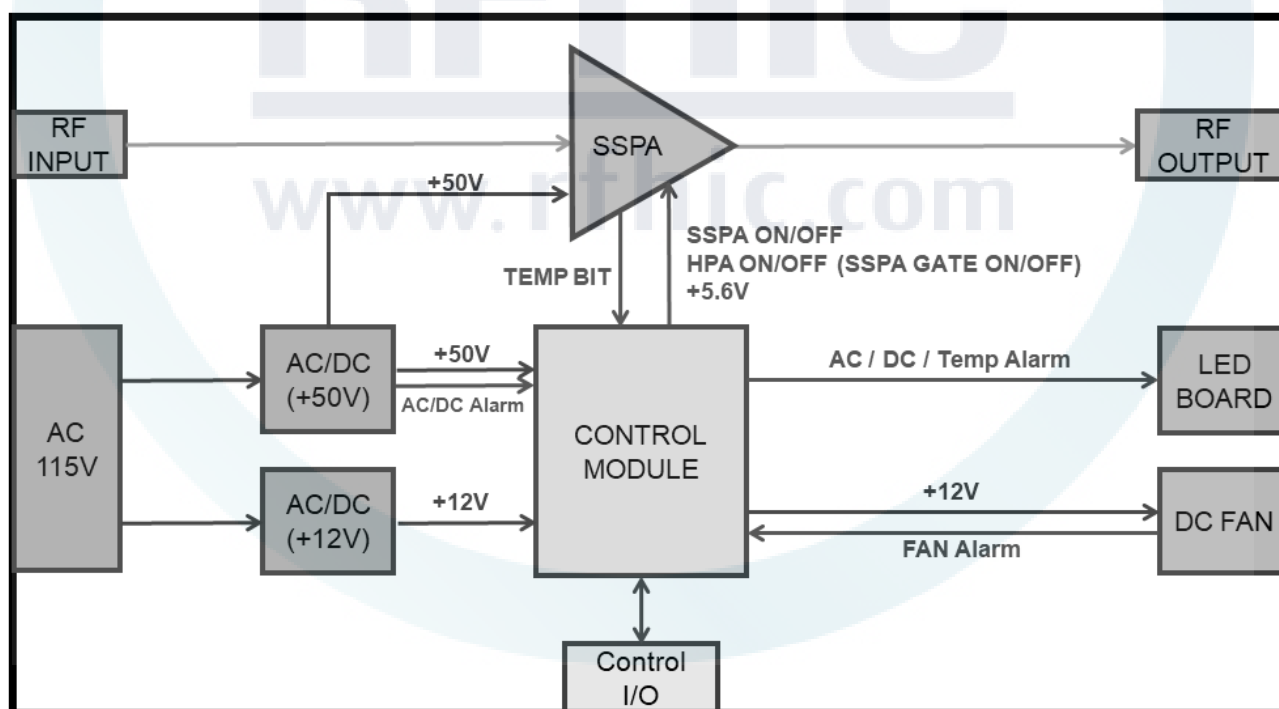
PARAMETER	UNIT	MIN	TYP	MAX	SYMBOL
Operating Temperature	°C	+10	+25	+40	T _o
Storage Temperature	°C	-10	-	+50	T _s

Photographs



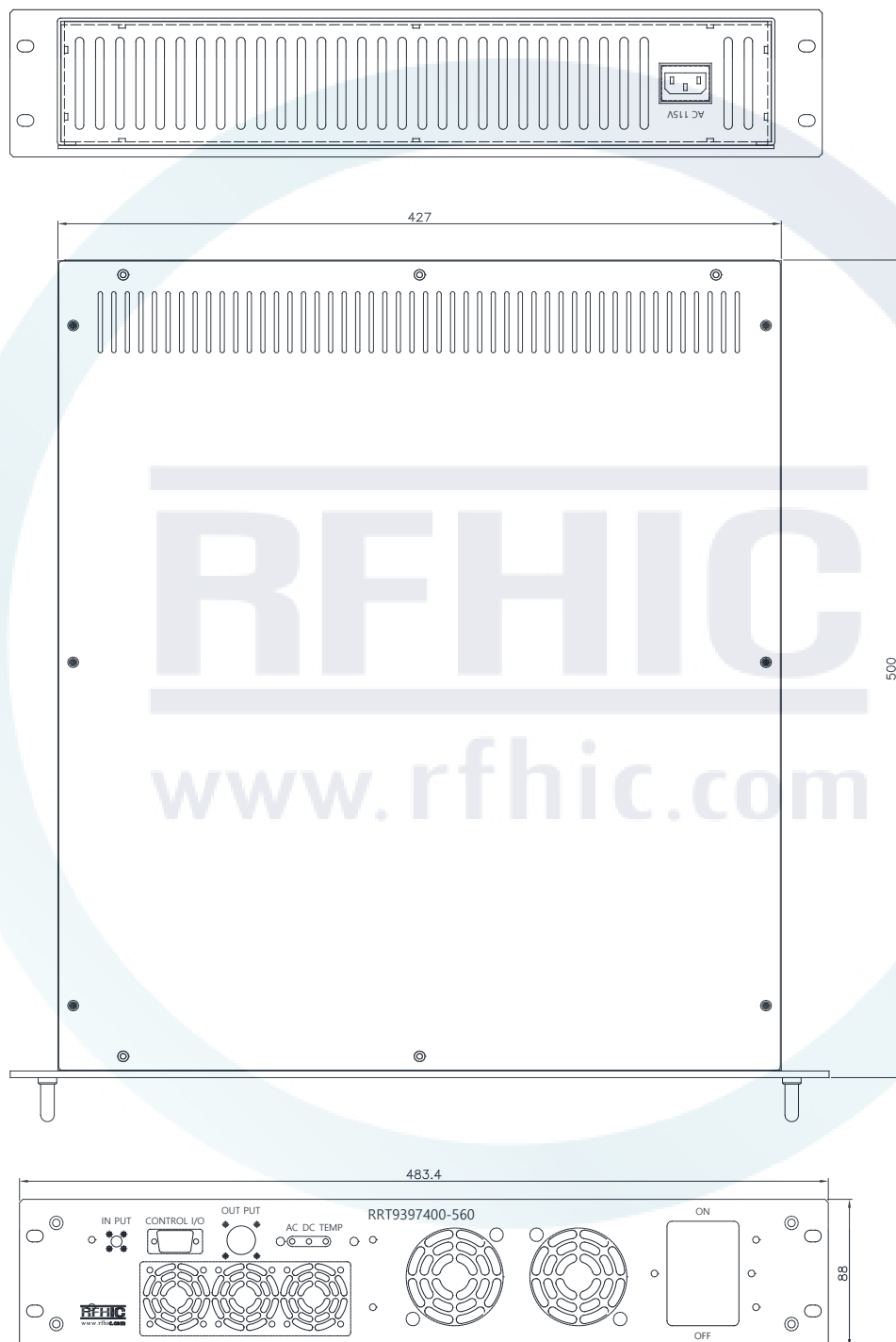
< Front and rear views >

Block Diagram of RRT9397400-560



Mechanical Drawing

unit: mm



Note

Dimensions and Connectors may be subject to change without prior notice.
D-sub connectors, rf cables, and power cables are not included in this picture.

Revision History

Part Number	Release Date	Version	Description	Data Sheet Status
RRT9397400-560	Sep 20, 2019	0.1	Initial release	Preliminary



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