

GaN

Product Features

- Four Combined 5.0kW Pulsed Transmitter
- Frequency from 9.0 GHz to 10.0GHz
- Using High Efficiency GaN Transistor
- BIT & Control RS-422
- WR-90 Waveguide Output
- Forced Air Cooling
- PSU Option.

Applications

- Weather Radar
- Maritime Radar
- Defense Radar



Description

RRT901005K0-57 uses GaN transistors. The RRT901005K0-57 Transmitter is designed for the high power radar application at 9000 ~ 10000 MHz. The RRT901005K0-57 is designed for use in maritime, surveillance and weather radar transmitter. The RRT901005K0-57 Transmitter replaces industrial magnetrons and other vacuum tubes which have been currently used in high power applications. RRT901005K0-57 Transmitter is designed with forced air cooling system.

Electrical Specifications @ V_{dc} =50V, T_o =25°C, 50Ω Input System

PARAMETER	UNIT	MIN	TYP	MAX	SYMBOL
Operating Frequency	GHz	9.0	-	10	f _o
Operating Bandwidth	MHz	-	500	-	BW
Output Pulse Power	kW	5	6	-	P _o
Input Pulse Power	dBm	+10	-	+12	P _i
Power Gain	dB	-	57	-	G _p
Duty Cycle	%	-	-	10	DC
Pulse Width	us	1	-	100	PW
Amplitude Pulse Droop	dB	-	-	1.0	Droop
Spurious	dBc	-60	-	-	H _N
Rise Time	ns	-	-	100	t _r
Fall Time	ns	-	-	100	t _f
VSWR		-	-	2.0 : 1	VSWR
Output sampling	dBc	55	-	60	P _s
Power Consumption@ 10%, Pout 6kW	P _D	-	-	4000	P _c
Operating Voltages	VDC	49.5	50	50.5	DC
Control Interface	-	RS422			
Protection & Warning Alarm (BIT)	-	Over VSWR Shutdown		> 4.0 : 1	
	-	DC Fail Alarm		50 ± 3V	
	-	Over Pulse Duty Cycle		> 10%	
	-	200W HPA Alarm		Current/ Temp.	
	-	FAN Alarm		-	
	-	Pre Drive Alarm		In/ Out/ Temp.	

* Frequency range can be adjusted according to needs. (Operating bandwidth 500MHz)

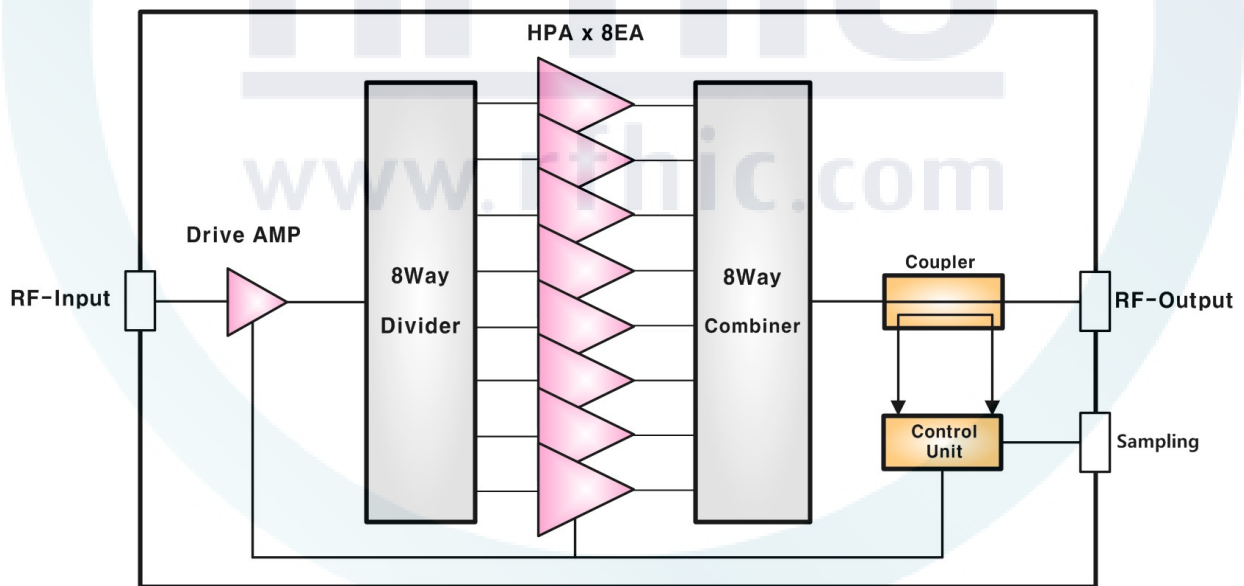
Absolute Maximum Ratings

PARAMETER	UNIT	VALUE
Operating Flange Temperature	°C	-10 ~ 45
Storage Temperature	°C	-30 ~ 125

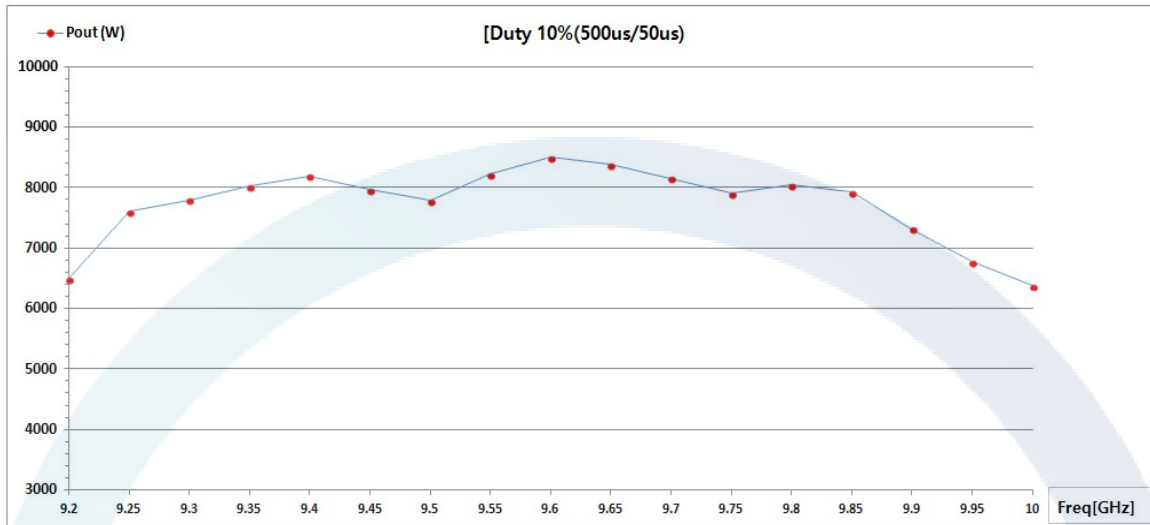
Mechanical Specifications

PARAMETER	UNIT	VALUE
Dimensions	-	19Inch Rack mount, 6U
Weight	kg	53kg
RF Input Type	-	SMA Female
RF Output Type	-	WR-90 Choke.
RF Input/output monitor	-	SMA Female
I/O Connector	-	MS3470L18-32S
Powr Connector	-	GTS02R32-17P
Cooling	-	Air Cooling

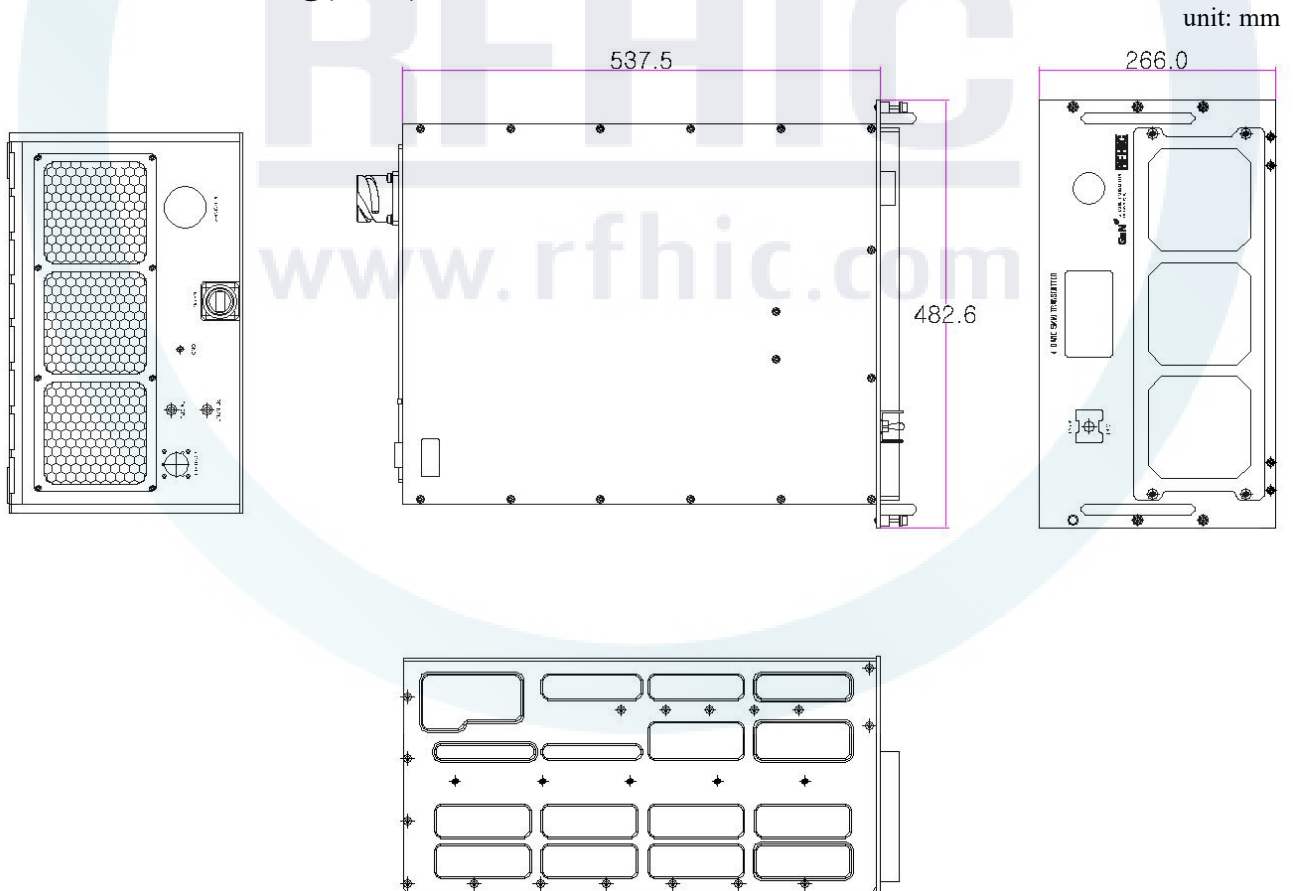
Block Diagram



Typical Output Power(@ Room Temp.)



Mechanical Drawing(TBD)



Option unit(PSU)



Description	Performance Value
Current Supply	9K Watt Max. (3kW Module)
Input AC Voltage	3P4W 380VAC
Input AC Frequency	47-63Hz
Output Voltage	50.0VDC
Adjustment Range	42VDC~54VDC
Cooling	Air Cooling



Control Unit

RRT901005K0-57

Power Supply Unit

Note

Control unit & power supply unit option.
 Dimensions and Connectors may be subject to change without 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
RRT901005K0-57	8 th Oct., 2019	0.1	Initial release	Preliminary



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