

# KU SG 2.45-250 D

2.4 ... 2.5 GHz ISM-Band  
Microwave Power Generator



## Manual

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## Specification

Type	KU SG 2.45-250 D
Output frequency range	2400 ... 2500 MHz
Frequency steps	100 kHz (10 kHz optional)
Frequency stability	+/- 3 ppm
Output power	0 ... 250 W at 50 Ohms
Power steps	1 W
Power accuracy	+/- 0.2 dB max.
Signal waveform	Continuous wave, pulsed (various frequencies)
Protection	VSWR (Isolator), Over temperature (70°C Hotspot), UV/OV/OC protection (32 +/- 1.5 V)
Temperature range	-20 ... 60 °C
Features (selection)	Find best frequency function Frequency sweep function Pulse mode with regulated output power Water and air cooling possible
Supply voltage	32 V
Current consumption	max. 18 A @ 250 W
Case	Milled aluminium, nickel coated
Output connector	N-female, 50 Ohms
Control input	Serial interface, 3.3 V UART interface Analog interface 0 V ... 10 V
Dimensions (w x d x h)	147 mm x 111 mm x 25 mm
Weight	typ. 900 g

**See programmer's guide for UART communication.**

### Features:

- LDMOS technology
- Reverse polarity protection
- Milled aluminium
- Over- / Undervoltage warning and protection
- ON/OFF - Control over interface or analog
- Over temperature protection
- Frequency-Sweep function
- Algorithm find frequency with min. reflection

### Applications:

- Warming or heating through microwaves
- Plasma generation
- Disinfection and sanitization
- Sintering and production of nanostructures

### Accessories:

- Recommended power supply:  
HRPG-600-36
- Recommended heat sink:  
KU HS LA10-150-KIT  
WK 25-17 Liquid cold plate

**Generator should be mounted on heat sink!**

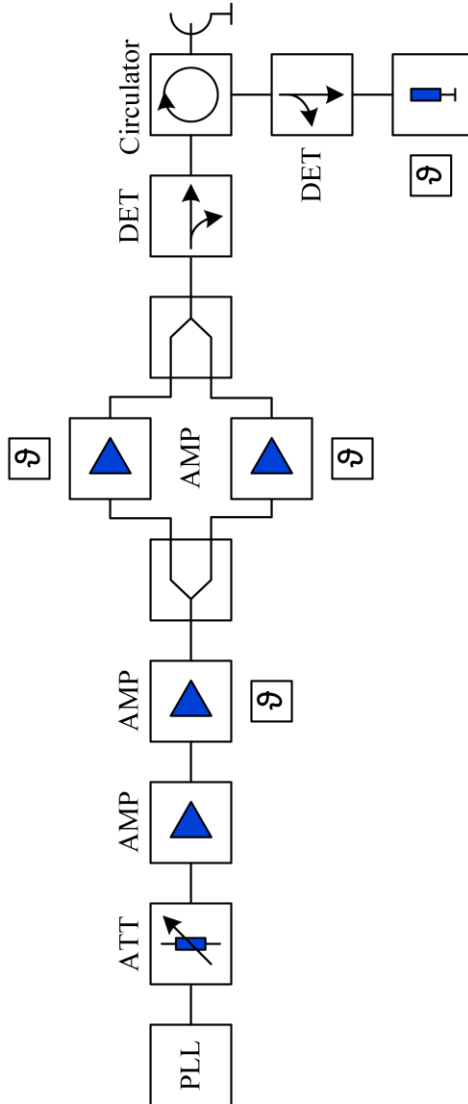
### CE Konformität / CE Conformity

EMC directive 2014/30/EU  
 Low voltage directive 2014/35/EU  
 RoHS directive 2011/65/EU





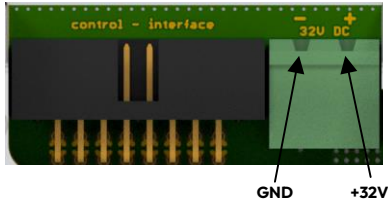
## Block Diagram



## Peripherals

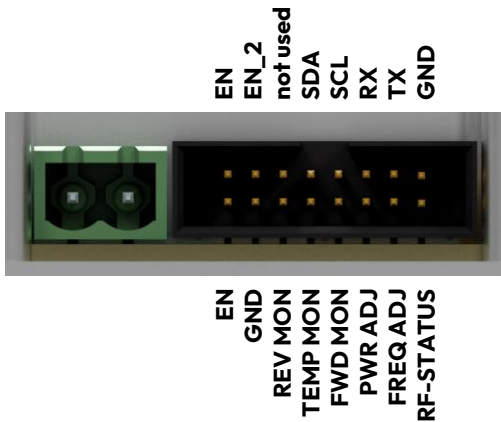
### DC PORT

The DC connector is equipped with a 2-pin plug in terminal for 3,3 mm<sup>2</sup>







### CONTROL PORT

16-Pin Male Angled Box Header



### LED

The LED indicates different operating conditions, warnings and alarms.

-  Normal operation
-  Error state This LED lights up for various errors, you can use the INFO command to query it.
-  Overvoltage and undervoltage warning
-  Pulse mode is active

## Peripherals description

### The microwave generator has three different input modes:

- 0: Digital via UART
- 1: Analog with ENABLE (default)
- 2: Analog with ENABLE\_2

### PWR adjust

Analog input for output power control:  $P \approx V_{in} * 25 \text{ W/V}$

### FREQ adjust

Analog input for output frequency control:  $f \approx 2400 \text{ MHz} + V_{in} * 10 \text{ MHz/V}$

### FWD MON

Analog output for forward power monitoring:  $P \approx V_{out} * 25 \text{ W/V}$  (accuracy  $\pm 5\text{W}$ )

### TEMP MON

Analog output for temperature monitoring:  $T = V_{temp} * 10 \text{ }^\circ\text{C/V} - 30 \text{ }^\circ\text{C}$

### REV MON

Analog output for reverse power monitoring:  $P \approx V_{out} * 25 \text{ W/V}$   
(not compensated, deviations possible)

### GND

Reference ground connection

### ENABLE (Inputmode 1)

TTL compatible input for enabling/disabling of the microwave generator  
0V – disabled  
3.3V – enabled

### ENABLE 2 (Inputmode 2)

TTL compatible input for enabling/disabling of the microwave generator  
0V – disabled  
10V – enabled

### RF Status

Output for RF Status  
0V – disabled  
10V – enabled

**All inputs are 10V tolerant. Higher input voltages may damage internal circuitry.**



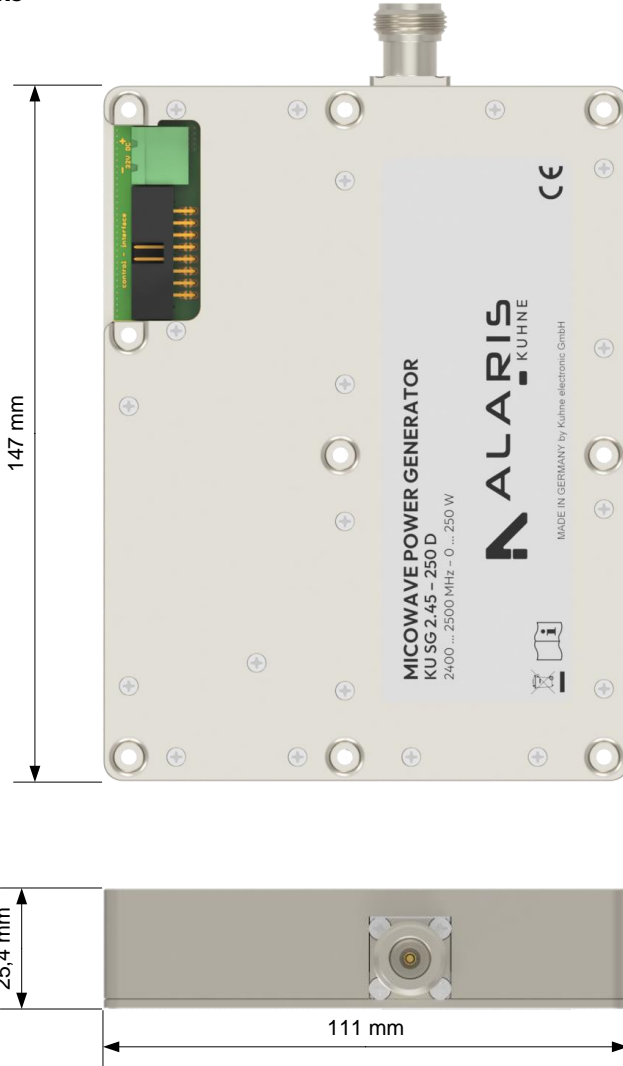
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## Dimensions



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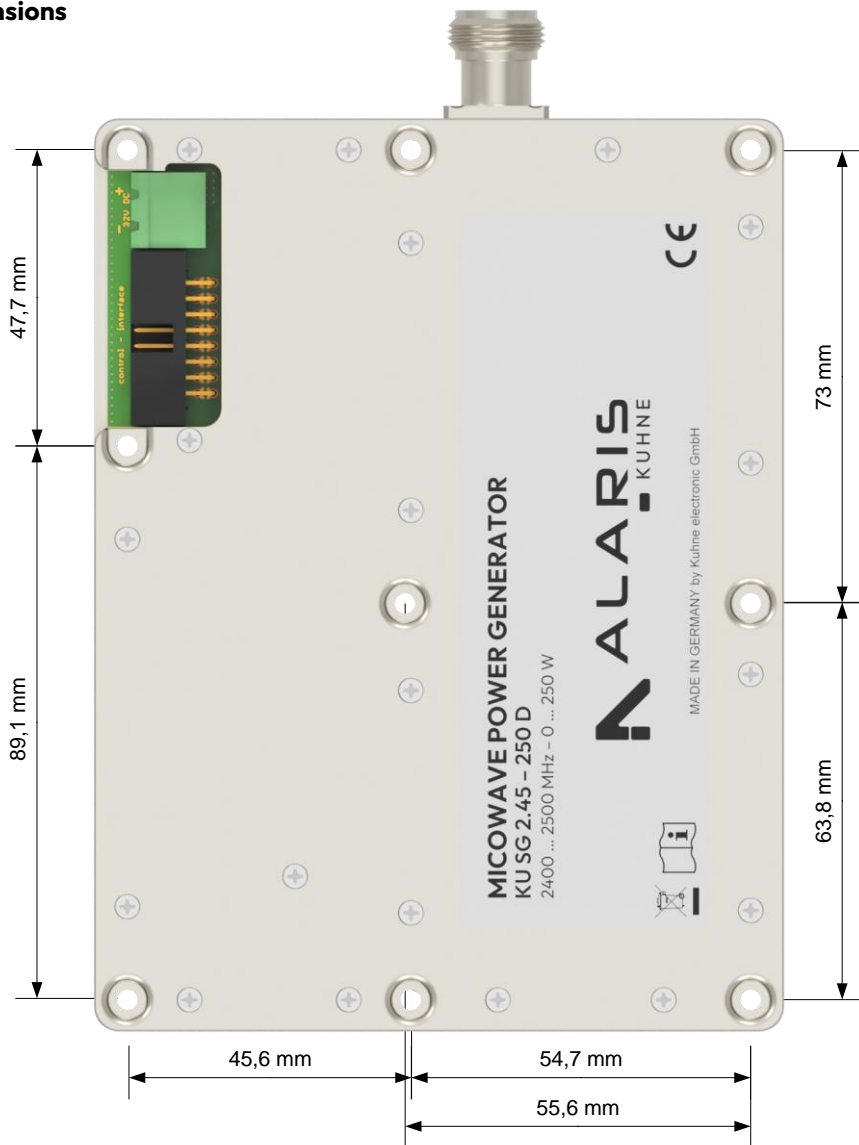


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