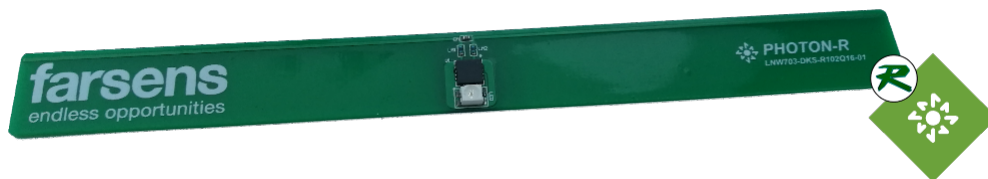

UHF RF FIELD MONITOR

Check for samples: [EVAL01-PHOTON-R](#)



FEATURES

- 860MHz-960MHz operation
- Sparkling LED in presence of RF field
- High brightness green LED using InGaN dice technologies
- Super wide viewing angle at 120 °

DESCRIPTION

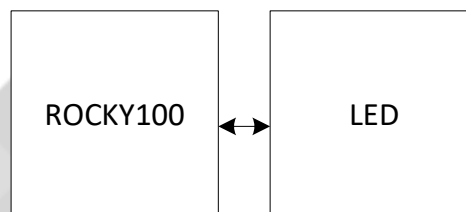
PHOTON-R is a UHF RF field monitor based on Farsens' batteryless sensor technology. Built in a compact PCB format, the tag includes a LED indicator that switches on in presence of RF field.

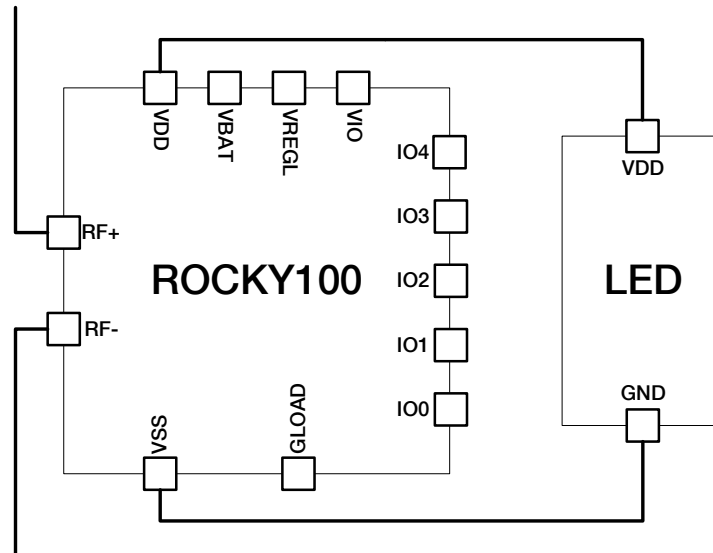
These RFID sensor tags are compatible with commercial UHF RFID readers (EPC C1G2). With a 2W ERP setup the battery-less rf field monitor tag can operate to over 5 meters - 16 feet.

The PHOTON-R can be customized with different antenna design and sizes, depending on the specific application. It can be encapsulated in an IP67 or IP68 casing for usage in harsh environments.

BLOCK DIAGRAM

The PHOTON-R tag consists of a ROCKY100 IC for energy harvesting and wireless communication and an LED indicator.





The ROCKY100 IC includes the RF frontend for UHF RFID power harvesting and communication, a power supply module to generate the required voltage levels, and an EPC C1G2/ISO18000-6C digital processor.

Upon receiving energy from a RF source, PHOTON-R will turn on the on board LED. The brightness of the LED depends on the amount of energy available in the RF signal.

CHARACTERISTICS

SYMBOL	PARAMETER	MIN	TYP	MAX	UNIT
RFID					
$r_{operation}$	Operation range full passive		5		m
OPERATING CONDITIONS					
T_{OP_TOP}	Operating temperature range	-40		85	°C
LED INDICATOR					
C	LED color		green		
λ_D	Dominant Wavelength		525		nm
$2\theta_{1/2}$	Viewing Angle		120		degrees

REFERENCES

The next table shows the available references of the PHOTON-R.

Ref.	Name	Description
40702	EVAL01-PHOTON-R-DKWB	PHOTON-R, dipole wideband antenna, PCB format

For custom references with other antennas and housings, please contact us at sales@farsens.com.

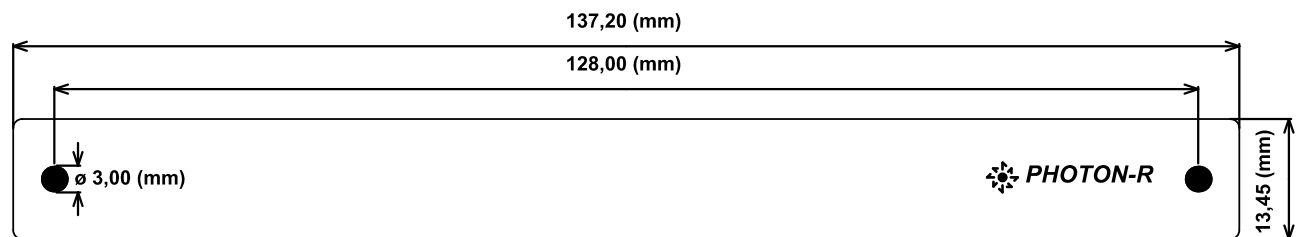
MECHANICAL DIMENSIONS

All dimensions are in millimeters.

DKWB

Valid for reference(s): 40002

2D VIEW



Maximum height: 10mm

3D VIEW

