



keonn

Modular RFID
Components

Advantenna-p11™

RFID UHF wide beam antenna





Benefits:

- Very thin form factor (8 mm with edge mount connector and 15 mm with flange connector)
- Good performance
- Cost effective
- Compact enclosure available
- Outdoor enclosure available

Applications:

- Smart shelves
- Smart panels
- Smart tables
- Smart surfaces in general

Product overview

Advantenna-p11 is a compact RFID UHF patch antenna, with a very thin form factor, circular polarization and a radiation pattern characterized by a wide beam in all directions in one hemisphere.

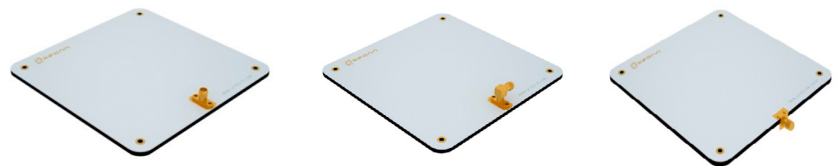
This radiation pattern and its thin form factor make this antenna ideal for many RFID applications such as smart shelves, smart displays, smart panels and smart tables or other surfaces.

Advantenna-p11 is available in three options:

- Without enclosure
- With flush mount enclosure
- With IP67 enclosure (for outdoor applications)

A holder is available for the version without enclosure: [AdvanHolder-p11](#)

Additionally, the antenna p11 without enclosure is available in three connector options:



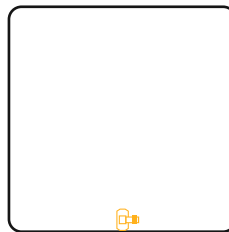
Flange straight

Flange right angle

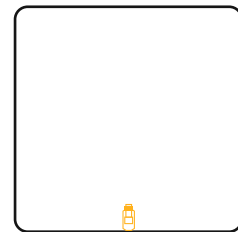
Edge mount *

Flange right angle connector with rotation

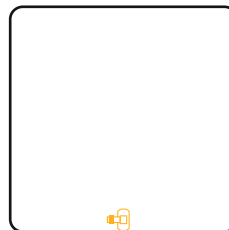
Default



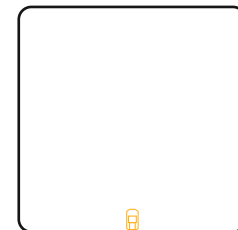
90 degrees



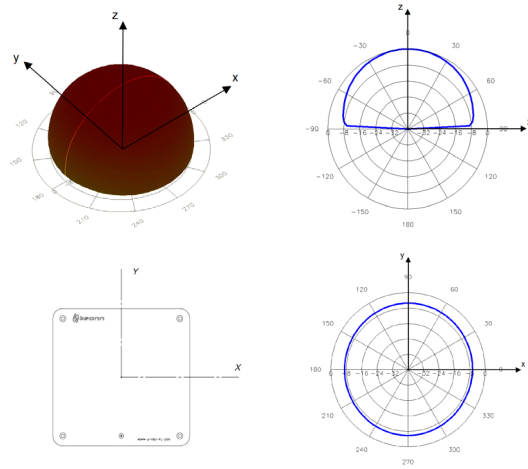
180 degrees



270 degrees



Antenna radiation pattern



Technical specifications

Operating Frequency EU Version	865 - 868 MHz (ETSI EN 302 208)
Operating Frequency US Version	902 - 928 MHz (FCC part 15)
Antenna Technology	Patch
Radiation pattern	Wide beam in both directions in one hemisphere
Gain	EU version 3.2 dBiC (Typical), 3.4 dBiC (Max) 0.8 dBiL* US version 3.4 dBiC (Typical), 3.6 dBiC (Max) 1.1 dBiL*
VSWR	< 1.5:1 (Typical)
Beam width (AZ / EL)	100° / 100°
Front-to-Back Ratio	< -15 dB
Polarization	Circular - LHCP (Left Hand Circular Polarization)
Axial Ratio	EU version* At Boresight 0.9 dB At 3dB Beamwidth 1.2 dB (Typical), 3.8 dB (Max) US version* At Boresight 1.5 dB At 3dB Beamwidth 2.1 dB (Typical), 4.5 dB (Max)
Input Impedance	50 Ω
Connector	SMA or MCX Flange straight, flange right angle or edge mount
Regulation	ROHS - EU Directive 2015/863 WEEE - EU Directive 2012/19/EU REACH - EC No 1907/2006 ETSI EN 302 208**
IP rating	Without enclosure: IP62*** With flush mount enclosure: IP62 With outdoor enclosure: IP67
Temperature range	-20°C to + 80°C

*Measured at the center of the band

** In this case, P11 model, the beam width of the antenna is 100° and therefore the 1000 mW e.r.p limitation applies for the ETSI lower band (865 MHz to 868 MHz)

According to the formula $PC = \text{Perp} - \text{GIC} + 5.15 + \text{CL}$ (dBm)

Where

PC = Interrogator conducted transmit power (dBm)

GIC = Antenna gain of a circular antenna (dBiC)

CL = Total cable loss (dB)

The maximum conducted power PC will be = 31.35 dBm + CL

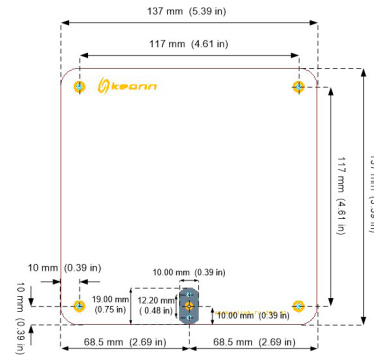
*** IP rating in this case indicates the conditions that the antenna can withstand at specific times and, afterwards, continue working normally, they are not conditions under which it can work permanently.

Mechanical specifications (without enclosure)

Size excluding connector	137 mm x 137 mm x 3.3 mm (5.4 in x 5.4 in x 0.13 in)
Size with flange connector	137 mm x 137 mm x 15 mm (5.4 in x 5.4 in x 0.6 in)
Size with edge mount connector	137 mm x 137 mm x 8 mm (5.4 in x 5.4 in x 0.3 in)
Antenna weight	115 g

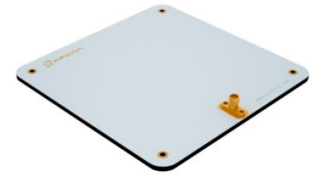


With flange straight or flange right angle connector

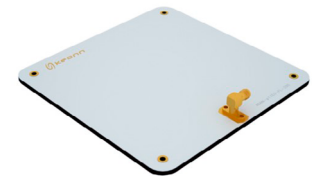


Antenna Board Thickness = 3.3 mm (0.130 in)
Holes \varnothing = 3.3 mm (0.13 in)

View from the side that radiates

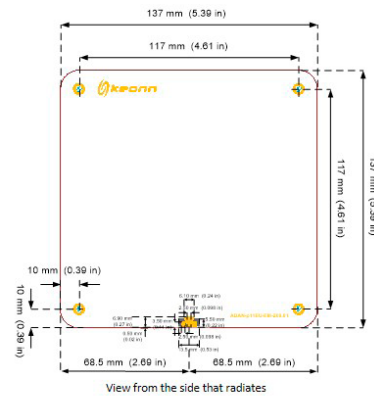


View from the side that does not radiate



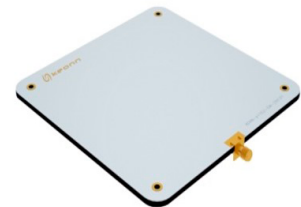
View from the side that does not radiate

With edge mount connector



Antenna Board Thickness = 3.3 mm (0.130 in)
Holes \varnothing = 3.3 mm (0.13 in)

View from the side that radiates



View from the side that does not radiate

Advantenna-p11™

RFID UHF wide beam antenna

Product operation (flush mount with enclosure)

It is intended for indoor operation.

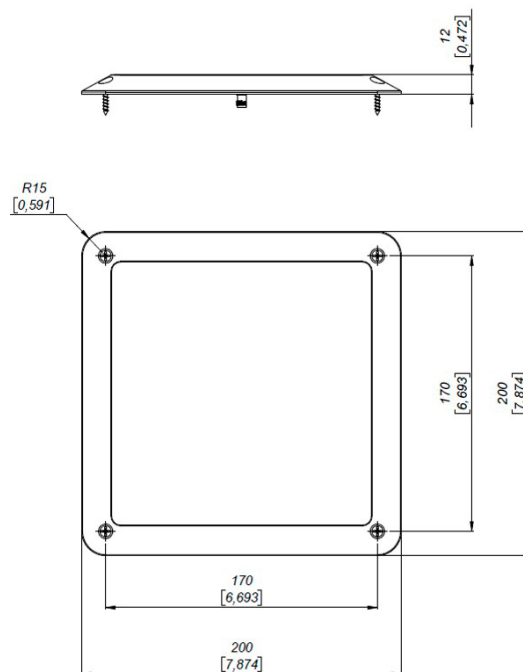
It can be installed onto the most common surfaces: wood, concrete, metal, ...
All mounting components are included.
Check the Installation Guide for a detailed overview of the installation steps.

Connect the antenna to any RFID 50 ohm system.



Mechanical specifications (flush mount with enclosure)

Size excluding connector	230 mm x 230 mm x 25 mm (9.1 in x 9.1 in x 1.0 in)
Antenna weight	545 g

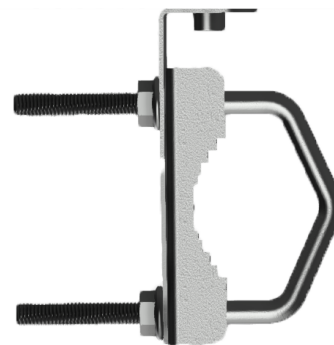
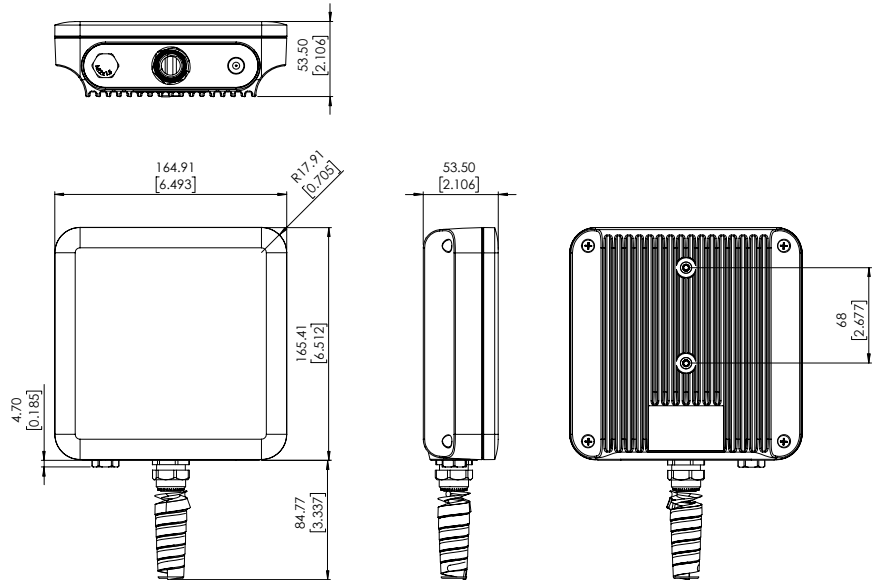
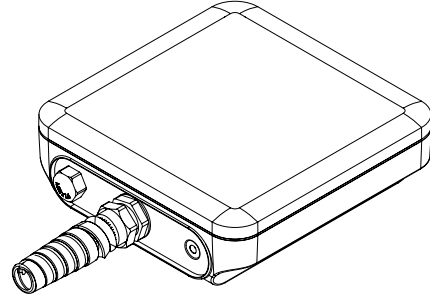


Please use only the screws provided with the equipment

The equipment shall be fixed using 4 screws M3 x 15 mm for wood and M3 x 25 mm for other surfaces

The equipment shall be use in indoor location only

Mechanical specifications (outdoor enclosure)



Product codes for ordering

ADAN-p11	FF	-	EM	-	CS	COR	CT	-	mmm	
										FF = frequency band
	EU									865,6 MHz - 867,6 MHz
	US									902,0 MHz - 928,0 MHz
										Enclosure and mount
			EF							With flush mount enclosure
			E67							With outdoor enclosure (IP67)
										Connector shape
					EM					Edge mount (only without enclosure)
					FL					Flange straight
					FR					Flange right angle
										Connector orientation (only for right angle SMA connector)
										Default orientation
						90				Rotated 90° counterclockwise
						180				Rotated 180° counterclockwise
						270				Rotated 270° counterclockwise
										Connector type
							SMA			SMA connector
										Model
									200	Model number

Examples:

ADAN-p11EU-EMSMA-200:

- Advantenna-p11
- Frequency band : 865,6 MHz - 867,6 MHz
- Without enclosure
- **Edge mount** connector
- **SMA** connector
- Model **200**

ADAN-p11US-FRSMA-200:

- Advantenna-p11
- Frequency band : 902,0 MHz - 928,0 MHz
- Without enclosure
- **Flange right angle** connector
- Default connector orientation
- **SMA** connector
- Model **200**

ADAN-p11EU-FR270SMA-200:

- Advantenna-p11
- Frequency band : 865,6 MHz - 867,6 MHz
- Without enclosure
- **Flange right angle** connector
- Connector rotated 270° counterclockwise
- **SMA** connector
- Model **200**

ADAN-P11EU-E67-SMA-200:

- Advantenna-p11
- Frequency band : 865,6 MHz - 867,6 MHz
- **IP67 enclosure**
- **SMA** connector
- Model **200**

Disposal of the product

Do not dispose the product in municipal or household waste. Please check your local regulations for disposal/ recycle of electronic products.





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