

Inca 433MHz Antenna

Part No. SRFI028

flexiiANT[®]

Product Specification

1. Features

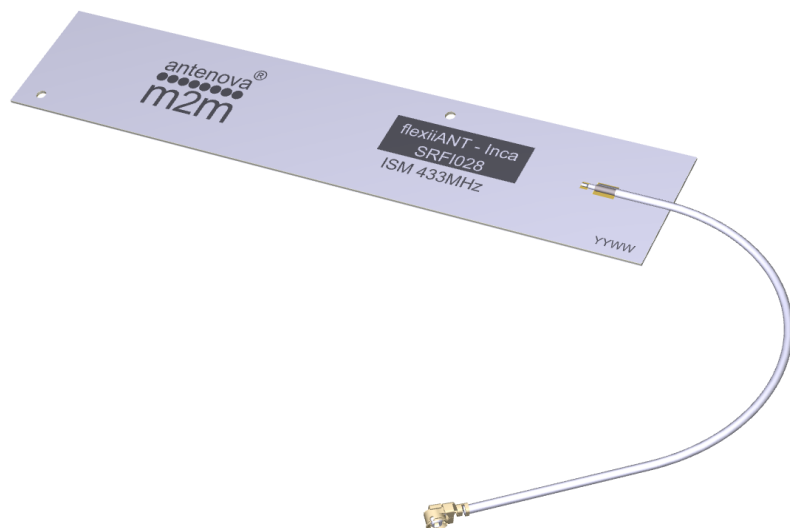
- Antenna for 433MHz ISM applications
- Maintains high performance within device: DFI (Designed For Integration)
- 1.13mm diameter RF cable with IPEX MHF connector
- Self-adhesive mounted
- Quick integration minimizes design cycle
- High performance
- Available in three standard cable lengths

2. Description

Inca is intended for use with all ISM 433MHz applications. A flexible antenna with cable enables direct connection to the host PCB. Simple integration with plug and play simplicity.

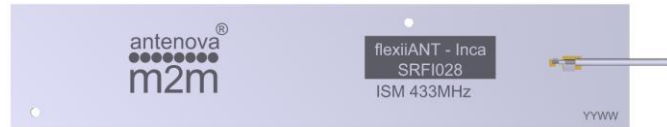
3. Applications

- Remote monitoring
- Robot control
- 433 MHz ISM band systems
- Smart meters
- Home automation
- Medical devices



4. Part Number

Inca: SRFI028-xxx



Note. -xxx refers to cable length option:

Part Number	Cable Length
SRFI028-100	100mm
SRFI028-150	150mm
SRFI028-200	200mm

5. General Data

Product name	Inca
Part Number	SRFI028
Frequency	433MHz
Polarization	Linear
Operating temperature	-40°C to +85°C
Impedance with matching	50 Ω
Weight	< 0.5 g
Antenna Assembly type	FPC Self-adhesive FPC Self-adhesive 3M 468MP
Dimensions (Antenna)	101.0 x 20.0 x 0.15 (mm)
Cable length	100 / 150 / 200 (mm)
Connection	MHF IPEX

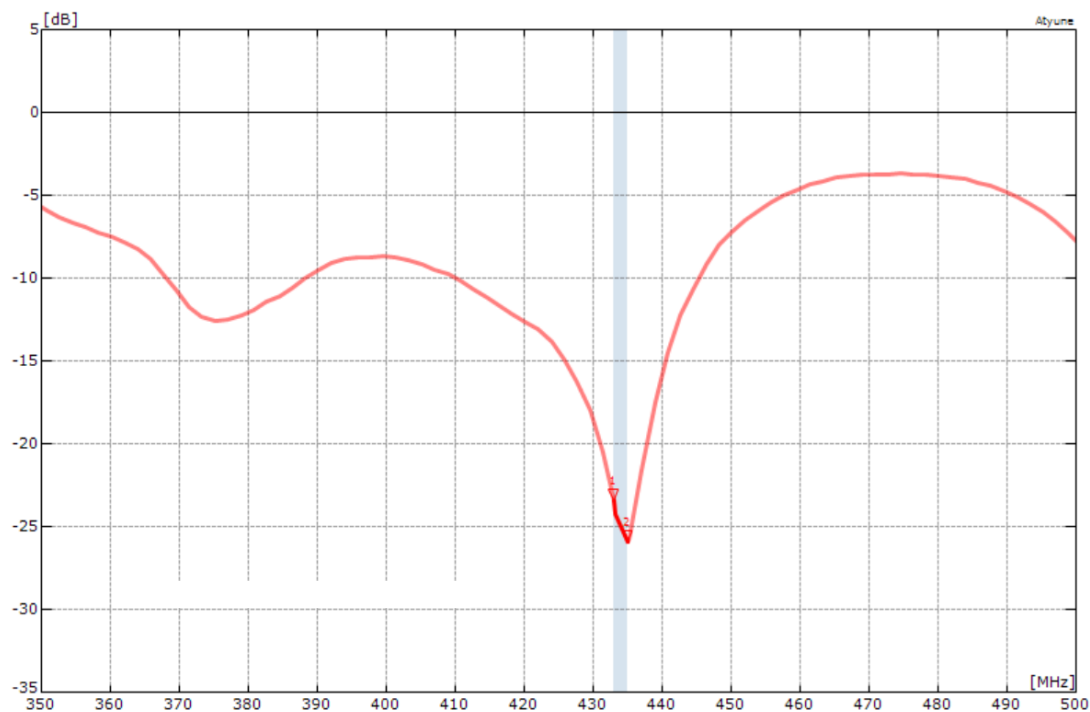
6. RF Characteristics

	432 – 434 MHz	Conditions
Peak gain	2.80dBi	All data measured in a loaded condition adhered to a plastic carrier free space.
Average gain	-2.70dBi	
Average efficiency	>45%	
Maximum return loss	-11dB	
Maximum VSWR	1.6:1	

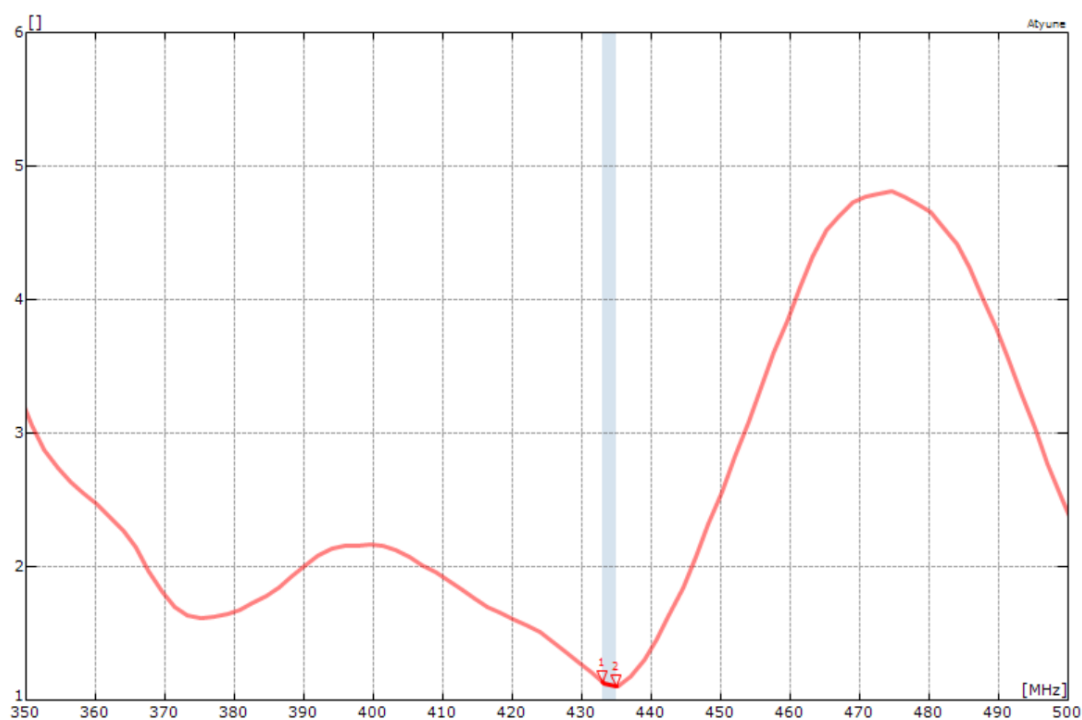
Antennas for Wireless M2M Applications

7. RF Performance

7.1 Return Loss



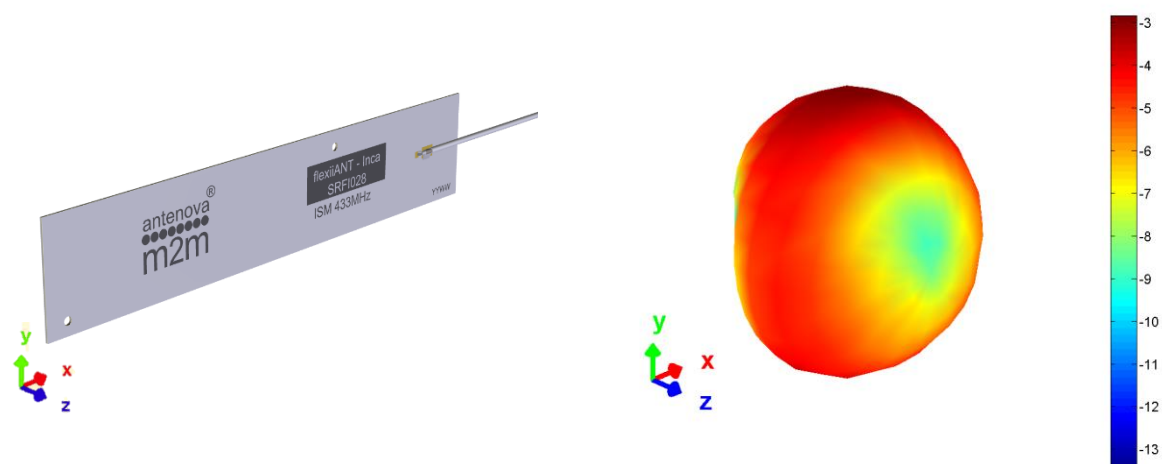
7.2 VSWR



Antennas for Wireless M2M Applications

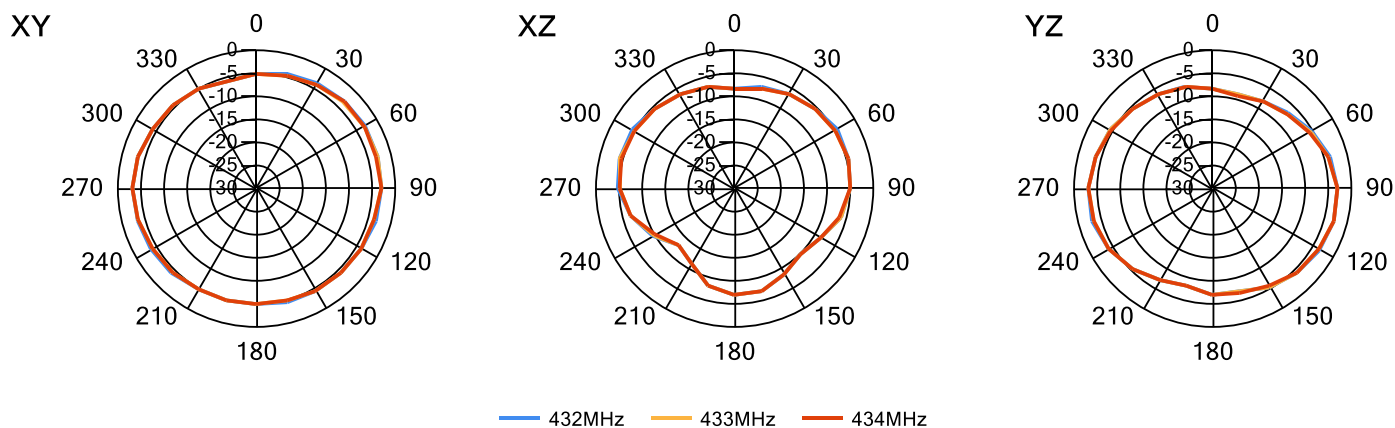
7.3 Antenna patterns

7.3.1 432 MHz – 434 MHz



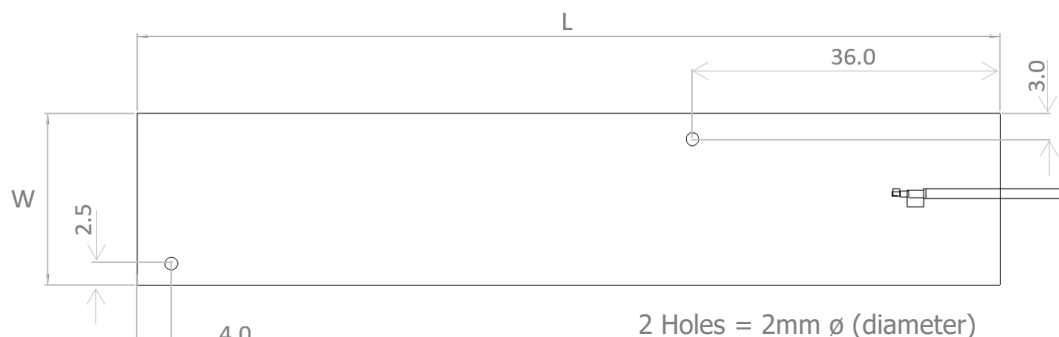
3D pattern at 433MHz

*Drag to rotate pattern and PCB by using Adobe Reader
(Click to Activate)*



8. Antenna Dimensions

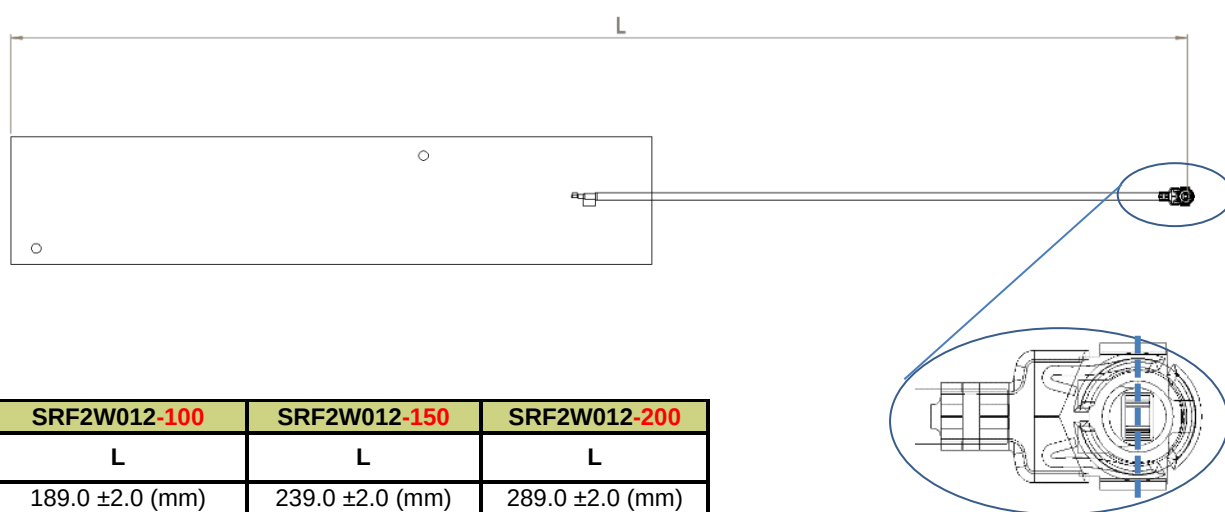
8.1 Dimensions FPC section



L	W	T
Length	Width	Thickness
101.0 ±0.2 (mm)	20.0 ±0.2 (mm)	0.15 (mm) nominal

All dimensions in mm

8.2 Dimensions assembled

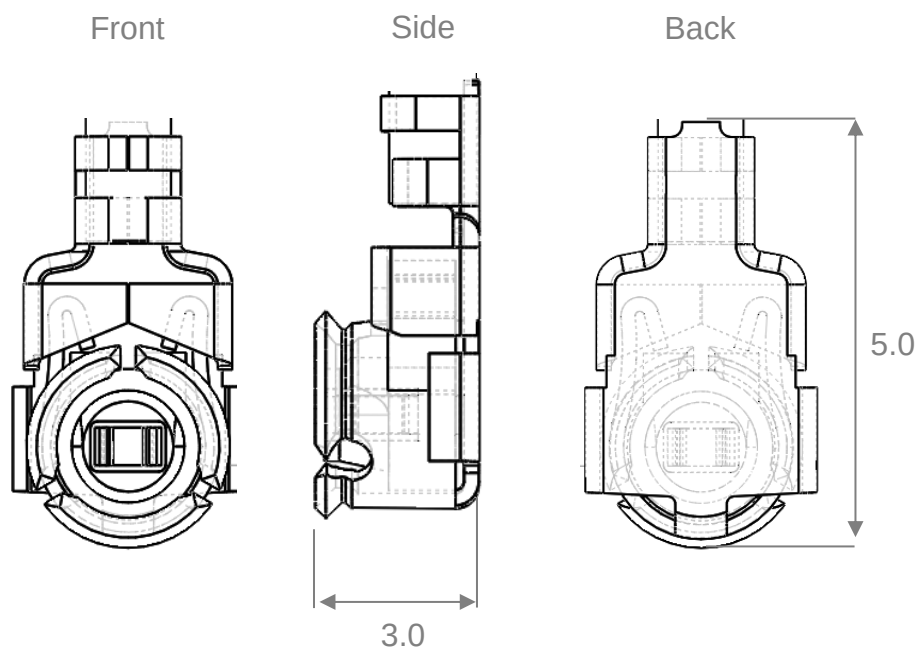


SRF2W012-100	SRF2W012-150	SRF2W012-200
L	L	L
189.0 ±2.0 (mm)	239.0 ±2.0 (mm)	289.0 ±2.0 (mm)

Antennas for Wireless M2M Applications

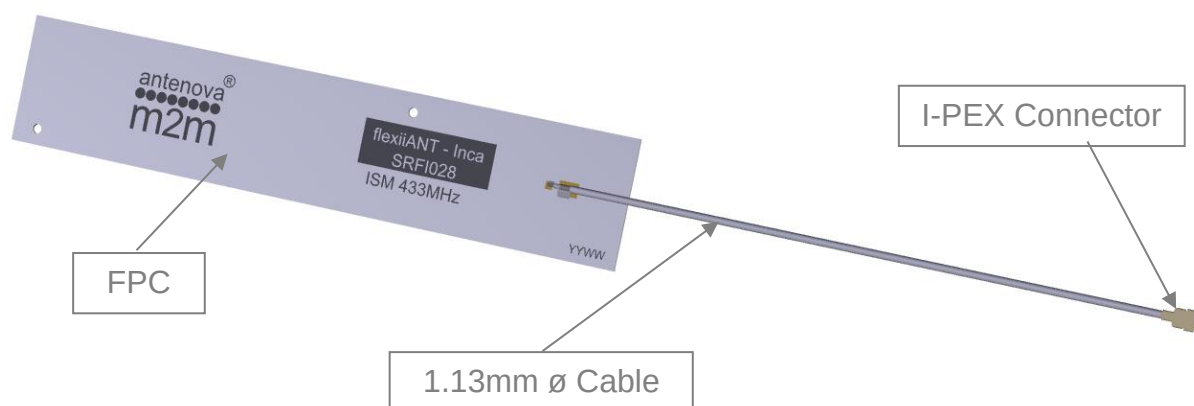
8.3 IPEX Connector

I-PEX	
Material	Copper Alloy
Plating	Ag



All dimensions in mm

8.4 Assembly



Antennas for Wireless M2M Applications

9. Electrical Interface

9.1 Host Interface

The host PCB requires the mating connector which is IPEX MHF (UFL) receptacle. The location should be close to the chip/modules pin for the RF. Any feed from this receptacle should be maintained at 50Ω impedance.

9.2 Transmission Line

All transmission lines should be designed to have a characteristic impedance of 50Ω.

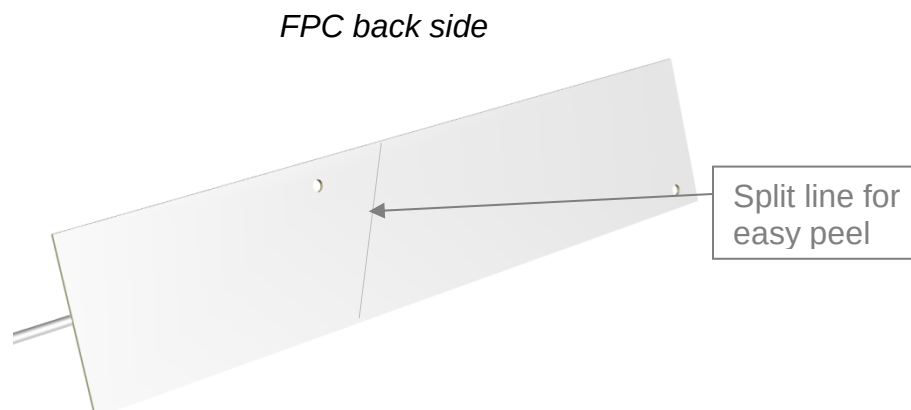
- The length of the transmission lines should be kept to a minimum
- Any other parts of the RF system like transceivers, power amplifiers, etc, should also be designed to have an impedance of 50 Ω.

Once the material for the PCB has been chosen (PCB thickness and dielectric constant), a coplanar transmission line can easily be designed using any of the commercial software packages for transmission line design. For the chosen PCB thickness, copper thickness and substrate dielectric constant, the program will calculate the appropriate transmission line width and gaps on either side of the feed.

A DC blocking capacitor should be placed in line to protect the RF front end.

10. Mechanical Fixing

The antenna uses 3M 468MP adhesive on the back side of the FPC. The antenna has a easy access split line to peel off to reveal the adhesive side. It is designed for a one time fix to a clean smooth surface.



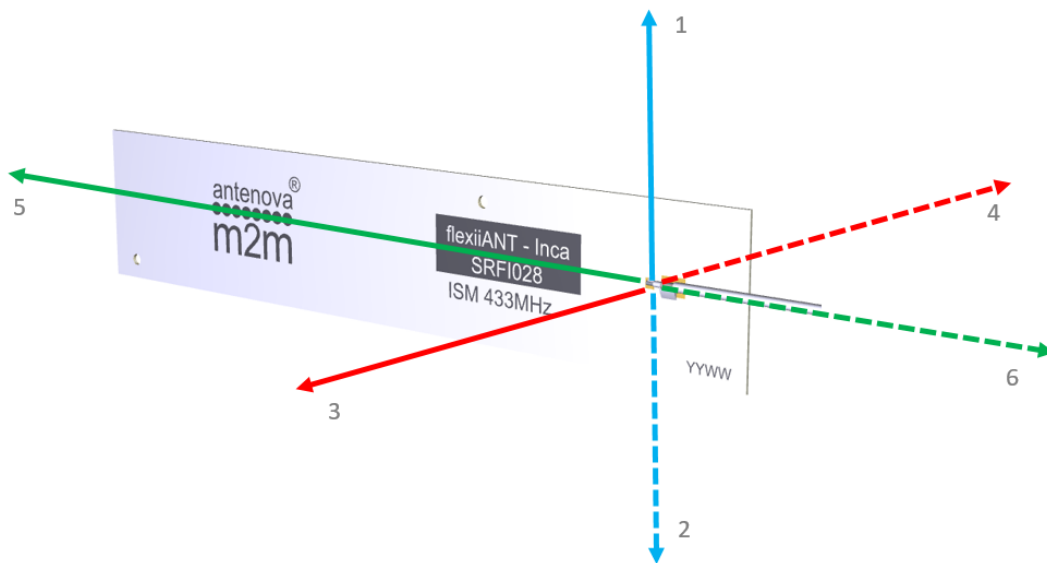
11.0 Antenna Integration Guide

11.1 Placement

For placing the FPC antenna within a device, the host PCB size is not a factor like with PCB mounted antennas. Placement still needs to follow some basic rules, as any antenna is sensitive to its environment.

Using six spatial directions shown below as a guide. The antenna FPC section should try to maintain a minimum of three directions free from obstructions to be able to operate effectively. The other directions will have obstacles in its path, these directions still require a minimum clearance. These minimum clearances are further defined in this section. The plastic case is not included in this, only metal objects/components that will obstruct or come in close proximity to the antenna.

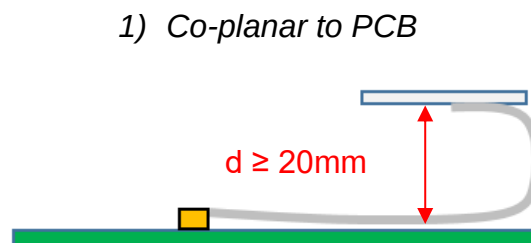
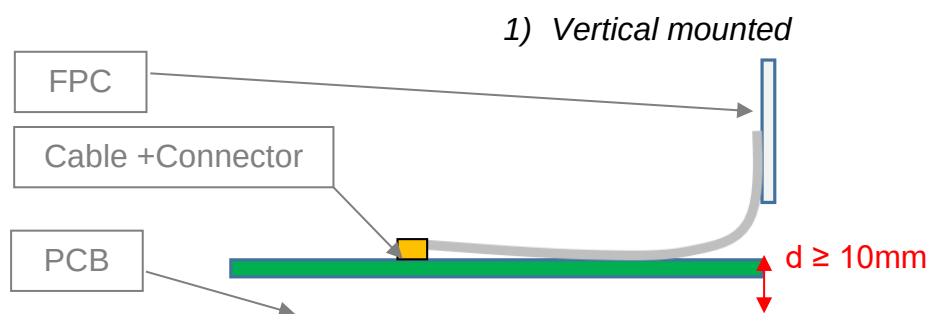
Six spatial directions relative to FPC



11.2 Orientation of FPC

The orientation of the FPC with respect to the host PCB should be defined depending on the unit. The proximity of the GND will have an influence on the antenna so the PCB location relative to the antenna should be considered.

The orientation the FPC will normally be placed in one of three of the following options for orientation. In each option a distance (d) is the critical dimension to consider. Below shows the minimum value of (d) for each. Other obstructions may increase this dimension.



2) Planar to PCB (Same plane)



12. Hazardous Material Regulation Conformance

The antenna has been tested to conform to RoHS requirements. A certificate of conformance is available from Antenova M2M's website.

13. Packaging

The antennas are stored in individual plastic (PE) bags. Then stored within a second bag of 10pcs.

Single antenna per bag



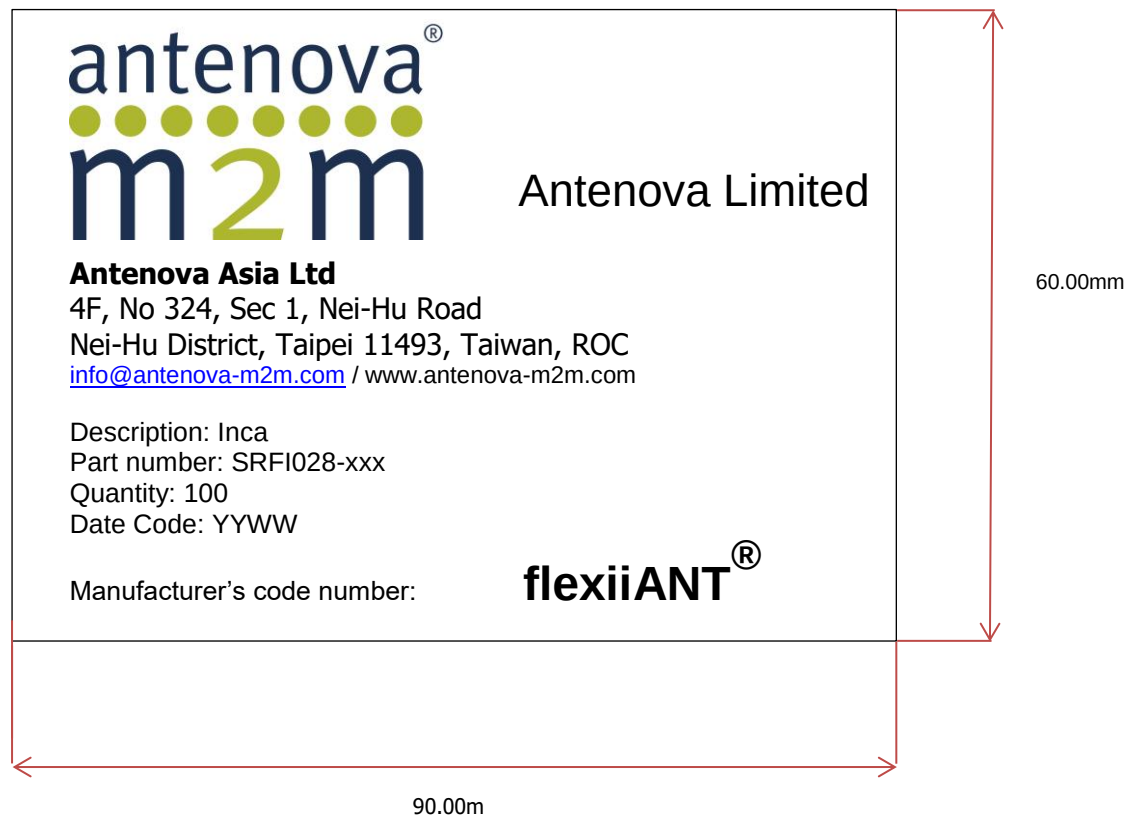
10 units per second bag (Labelled)



13.1 Optimal Storage Conditions

Temperature	-10°C to 40°C
Humidity	Less than 75% RH
Shelf life	18 Months
Storage place	Away from corrosive gas and direct sunlight
Packaging	Antennas should be stored in unopened sealed manufacturer's plastic packaging.

13.2 Label Information





www.antenova-m2m.com

Corporate Headquarters

Antenova Limited
2nd Floor Titan Court
3 Bishop Square
Hatfield
Herts AL10 9NA
UK

Tel: +44 1233 810600

Email: sales@antenova-m2m.com

North America Headquarters

Antenova Limited
100 Brush Creek Road, Suite 103
Santa Rosa
California 95404
USA

Tel: +1 707 890 5202

Email: sales@antenova-m2m.com

Asia Headquarters

Antenova Asia Limited
4F, No. 324, Sec. 1, Nei-Hu Road
Nei-Hu District
Taipei 11493
Taiwan, ROC

Tel: +886 (0) 2 8797 8630

Fax: +886 (0) 2 8797 6890

Email: sales@antenova-m2m.com

Copyright® Antenova Ltd. All Rights Reserved. Antenova®, Antenova M2M®, gigaNOVA®, the Antenova product family names, and the Antenova and Antenova M2M logos are trademarks and/or registered trademarks of Antenova Ltd. Any other names and/or trademarks belong to their respective companies.

The materials provided herein are believed to be reliable and correct at the time of printing. Antenova does not warrant the accuracy or completeness of the information, text, graphics or other items contained within this information. Antenova further assumes no responsibility for the use of this information, and all such information shall be entirely at the user's risk.



Certificate No: 4598

Antennas for Wireless M2M Applications

Данный компонент на территории Российской Федерации

Вы можете приобрести в компании MosChip.

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: info@moschip.ru

Skype отдела продаж:

moschip.ru

moschip.ru_4

moschip.ru_6

moschip.ru_9