

## ANT S.r.l.

Via della Concordia, 4 – 37036  
S. Martino B/A (VR) - Italia  
Tel. +39 045 8781380  
Fax +39 045 8795335  
e-mail: [commerciale@antsrl.eu](mailto:commerciale@antsrl.eu)  
[www.antsrl.eu](http://www.antsrl.eu)

## DESCRIZIONE

**Sistema PONAL-H 2xMIMO a larga banda**  
ideale per applicazioni  
868/915MHz (LoRa, LoRaWAN, Sigfox, ISM),  
GSM-GPRS 900/1800MHz, 3G-UMTS 2100MHz,  
WiFi 2,4GHz, 4G-LTE / 5G (Banda 1, 2, 3, 5, 7, 8,  
20, 28, 77, 78, 79) e GPS/GLSS



**Ponal-H 2xMIMO (cavo 5m)**  
**Ponal-H 2xMIMO (cavo 10m)**  
**Ponal-H 2xMIMO-GPS/GLSS (cavo 5m)**

P/N: **B20-050**

P/N: **B20-051**

P/N: **C09-002**

### CARATTERISTICHE ELETTRICHE

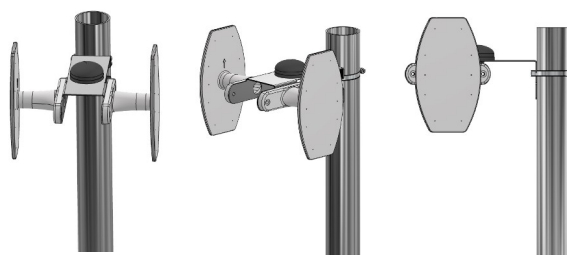
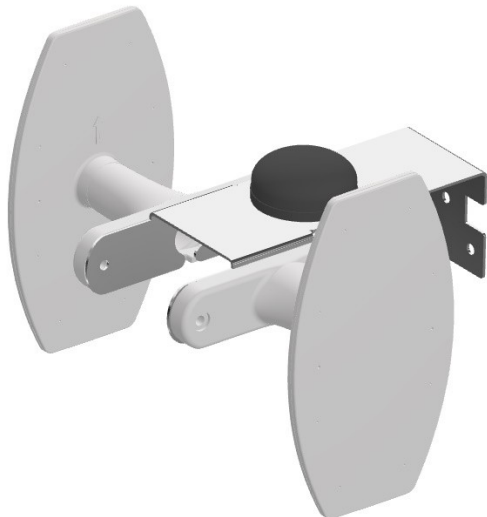
Banda di frequenza (con V.S.W.R. < 2 : 1):	698-960/1710-2170/ 2400-2690/3300-4700MHz
Impedenza:	50 Ω
V.S.W.R. 698-960 MHz:	< 2 : 1
V.S.W.R. 1710-2170 MHz:	< 2 : 1
V.S.W.R. 2400-2690 MHz:	< 2 : 1
V.S.W.R. 3300-4700 MHz:	< 2 : 1
Potenza massima:	10 W
Polarizzazione:	Lineare
Radiazione:	Vedi diagrammi
Guadagno 698-960 MHz:	> 2,1 dBi
Guadagno 1710-2170 MHz:	> 3,0 dBi
Guadagno 2400-2690 MHz:	> 4,5 dBi
Guadagno 3300-5000 MHz:	> 4,5 dBi
Apertura fascio (-3dB piano E)	Vedi diagrammi
Apertura fascio (-3dB piano H)	Vedi diagrammi
MIMO Coefficiente di correlazione	< 0,1

### CARATTERISTICHE ELETTRICHE GPS/GLSS

Banda di frequenza:	GPS (1575.42 MHz) GLONASS (1602 MHz) GALILEO (1575.42 MHz)
Guadagno (Zenith)	2.5 dBi tipica a 1575.42 MHz 1,9 dBi tipica a 1602 MHz
Polarizzazione:	R.H.C.P
Impedenza:	50 Ω
<b>LNA Performances</b>	
Guadagno:	circa 30 dB tipica
Fattore di rumore:	circa 1,7dB tip. a 1575.42MHz circa 2,1dB tip. a 1602 MHz
V.S.W.R. (out)	circa 2.0:1 tip.
Alimentazione:	3V - 15 mA / 5.0V - 22 mA

### CARATTERISTICHE MECCANICHE

Dimensioni (approssimative):	175x230x200 mm
Connessione:	SMA maschio (altri a richiesta)
Cavo 4G-LTE/5G:	lowloss Ø5mm 5 o 10m (altri a richiesta)
Cavo GPS/GLSS:	RG174 0,3m + Prolunga lowloss (altri a richiesta)
Temperatura operativa:	-30° / +80°C
Peso (approssimativo):	1 kg
Materiale radome:	Poliammide
Materiale elemento radiante:	Rame
Materiale staffa:	Acciaio inox



#### Protezione contro ossidazioni:

Questa antenna è progettata per resistere alle condizioni climatiche sfavorevoli e all'ossidazione dei suoi componenti, i componenti sono prodotti con materia prima resistente agli agenti esterni

#### Protezione contro urti accidentali:

Questa antenna è progettata per proteggere le persone contro urti accidentali contro le parti sporgenti

#### Direttiva RoHS:

L'antenna è conforme alla Direttiva RoHS e successivi aggiornamenti

#### ISTRUZIONI PER L'INSTALLAZIONE:

**Montaggio su palo:** utilizzare il kit in dotazione

**Montaggio a parete:** utilizzare 3 tasselli per il montaggio a parete

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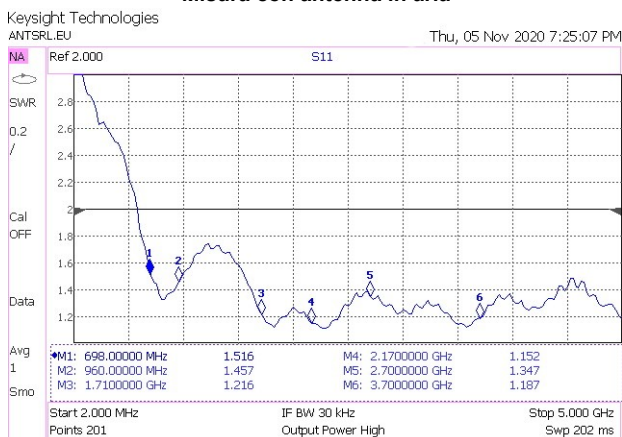
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**P/N: B20-050**  
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**P/N: C09-002**

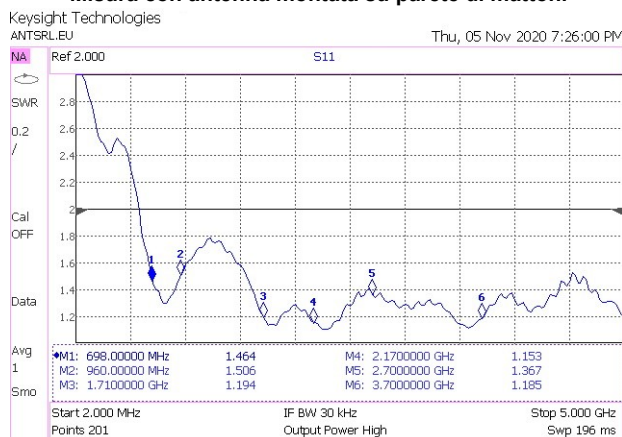
## V.S.W.R.

(misura singola antenna con cavo 1m)

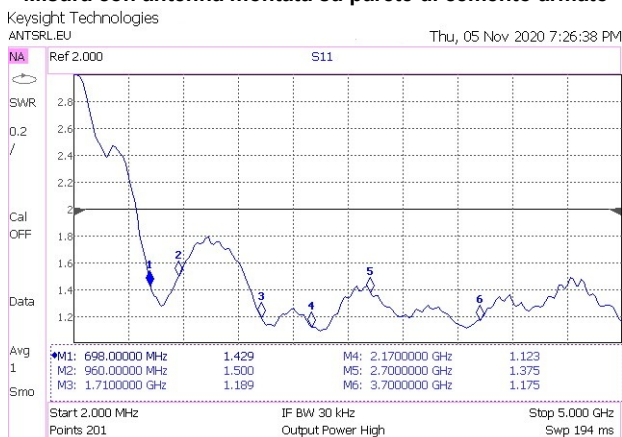
Misura con antenna in aria



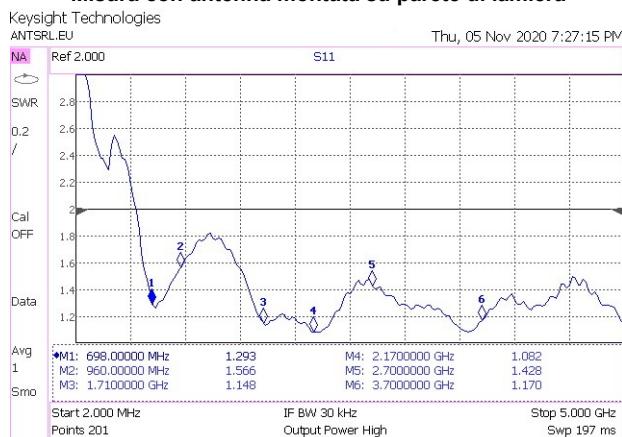
Misura con antenna montata su parete di mattoni



Misura con antenna montata su parete di cemento armato



Misura con antenna montata su parete di lamiera



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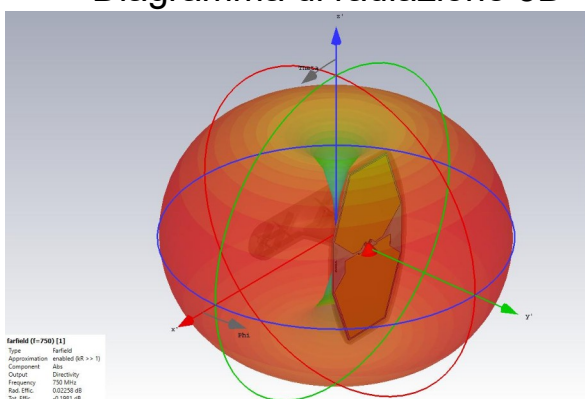
P/N: **B20-050**  
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### Diagrammi di radiazione (singola antenna)

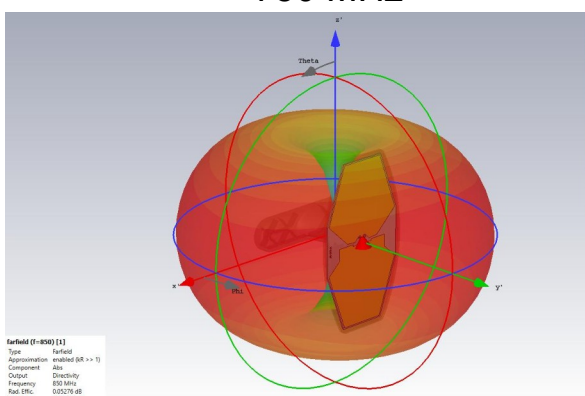
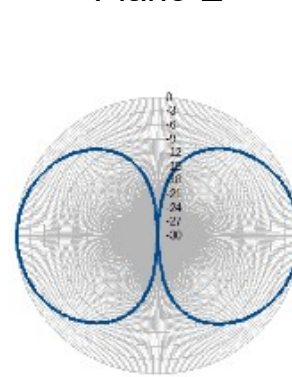
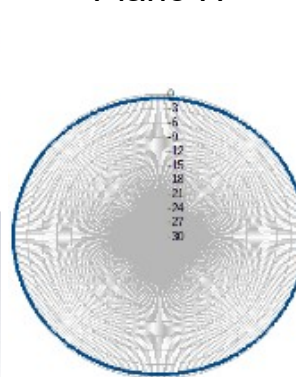
Diagramma di radiazione 3D

Piano H

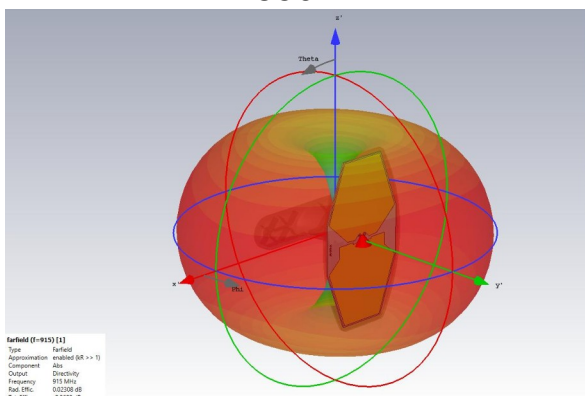
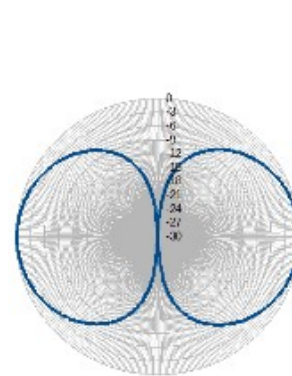
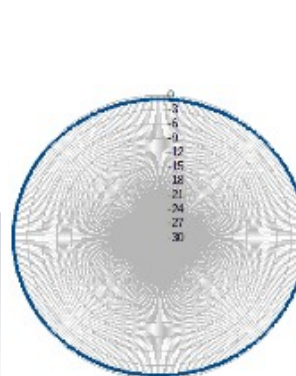
Piano E



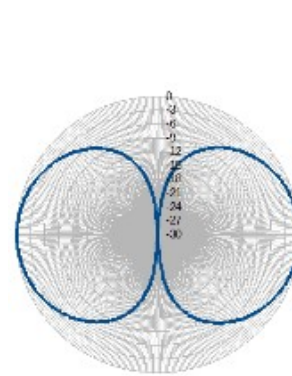
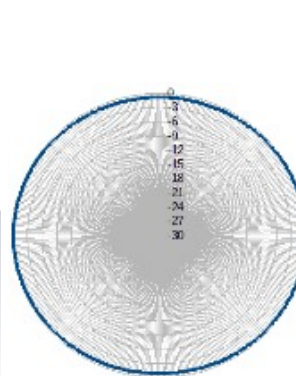
750 MHz



850 MHz



915 MHz



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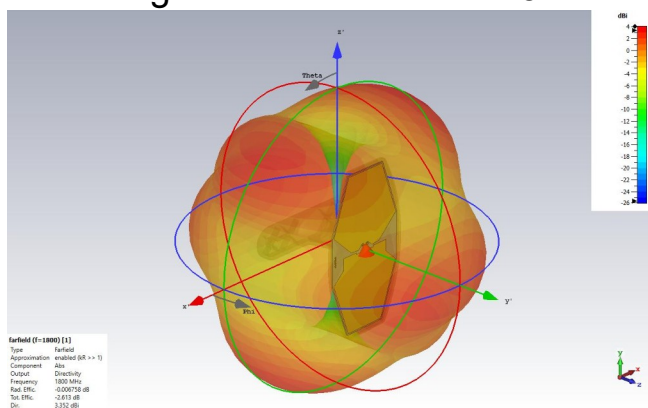
P/N: **C09-002**

## Diagrammi di radiazione (singola antenna)

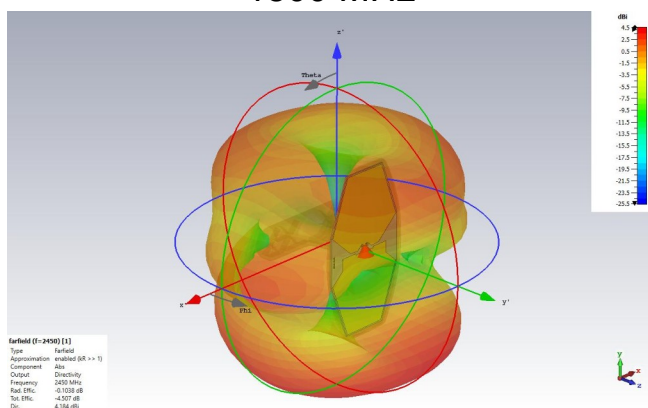
### Diagramma di radiazione 3D

### Piano H

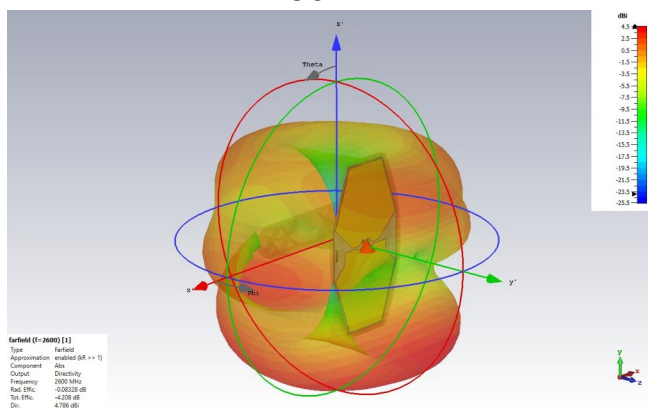
### Piano E



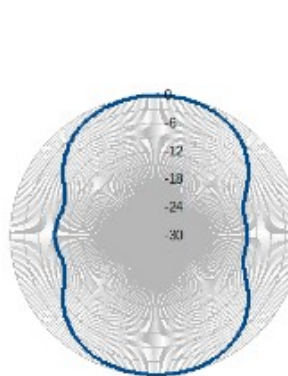
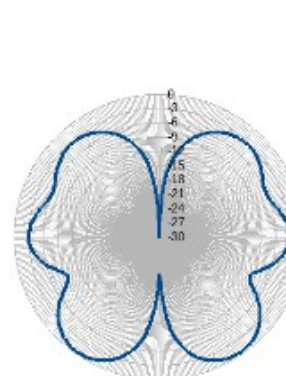
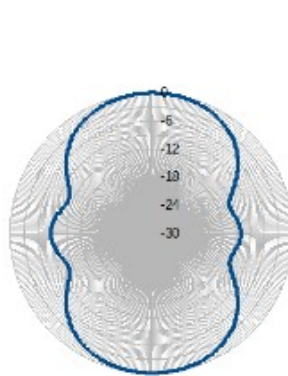
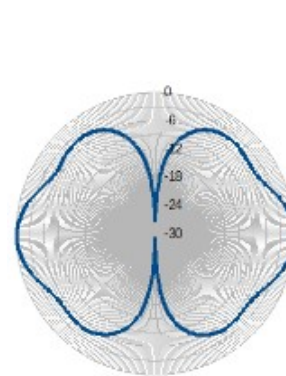
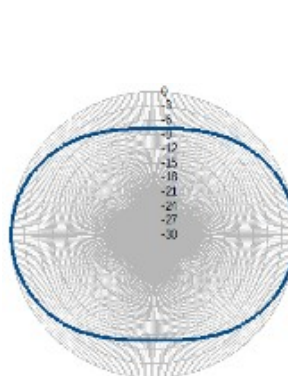
1800 MHz



2450 MHz



2600 MHz



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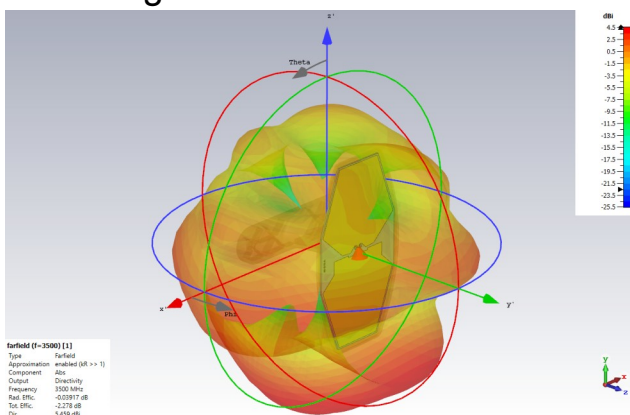
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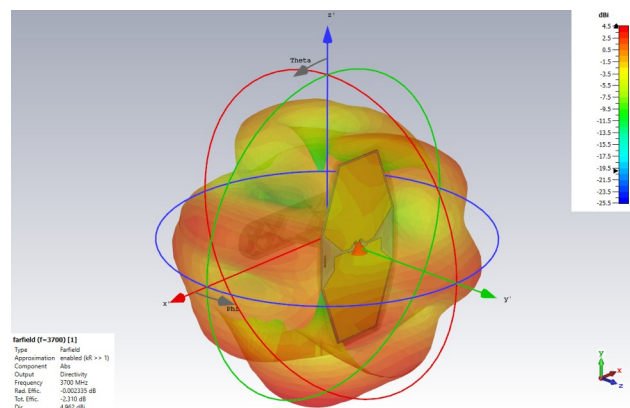
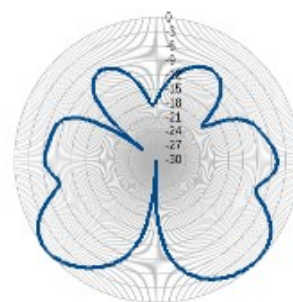
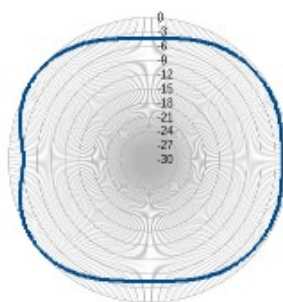
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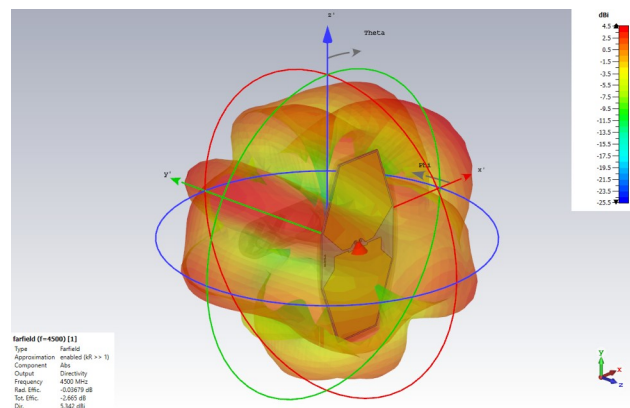
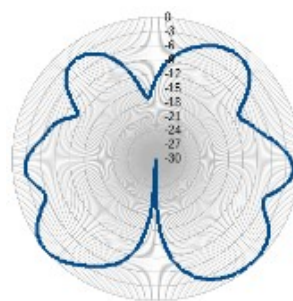
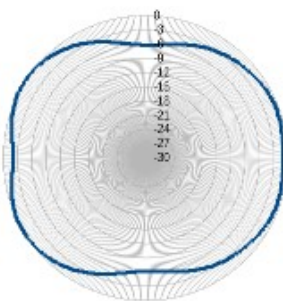
Piano E



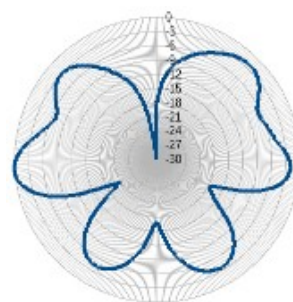
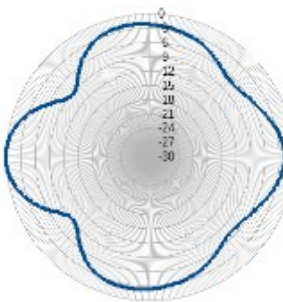
3500 MHz



3700 MHz



4500 MHz



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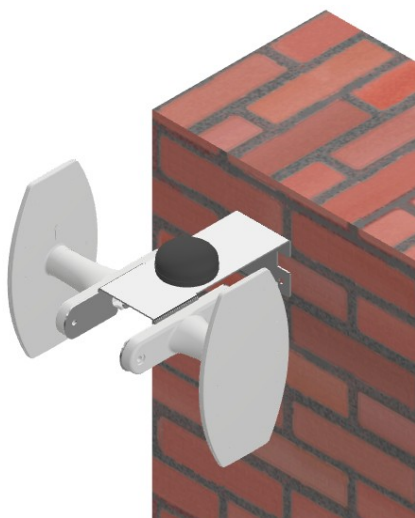
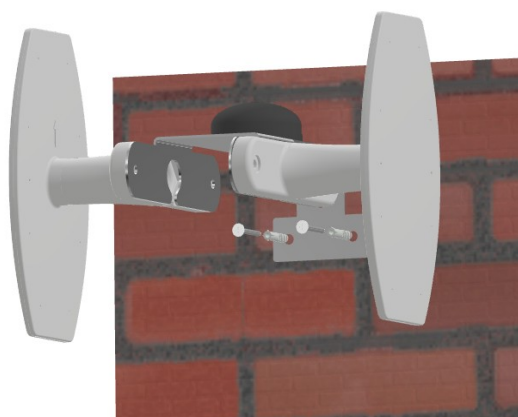
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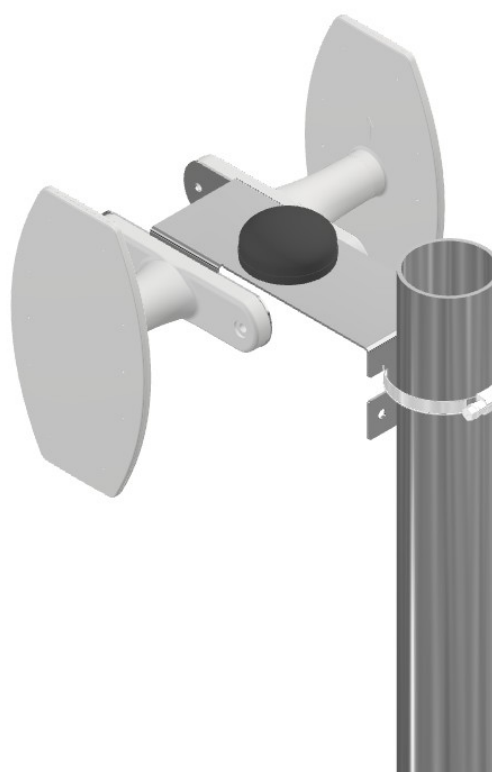
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### INSTALLAZIONE A MURO



Utilizzare 3 tasselli per il fissaggio a muro.  
Fare attenzione ad installare le antenne con la  
freccia rivolta verso l'alto.

### INSTALLAZIONE A PALO per palo di diametro da Ø38 a Ø200mm (1.5/80 inc.)



Utilizzare apposita fascetta in acciaio inox per  
installare la staffa sul palo.  
Fare attenzione ad installare le antenne con la  
freccia rivolta verso l'alto.

#### IL NOME:

**Ponal:** Vento tipicamente estivo e di forte intensità che soffia dalla Valle di Ledro nelle ore mattutine e nelle ore serali, seguendo il letto del torrente Ponale da cui ne deriva il nome. (fonte web)