

# Antenna Description for Model AXP Type NP055

<b>Model</b>	AXP
<b>Type</b>	NP055
<b>Equipment</b>	base control transmitting unit
<b>Manufacturer</b>	AUTEC srl Via Pomaroli, 65 I-36030 CALDOGNO (VI)

## 2. Antenna characteristics

The used antenna in this base station is a transducer designed to transmit and receive electromagnetic waves also called antenna.

It can operate 915-928MHz frequencies band.

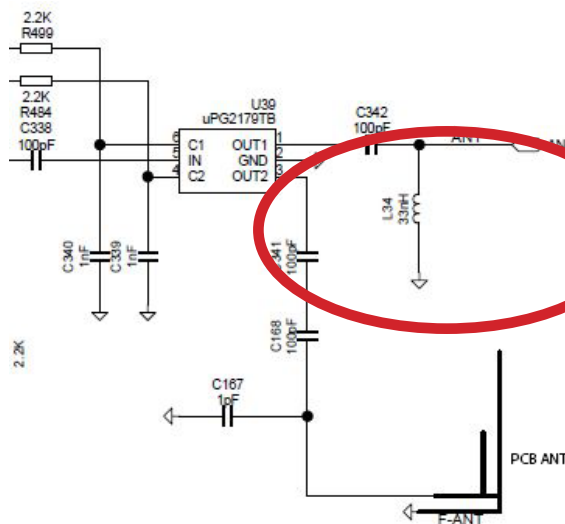
The antenna can be:

- integrated inside the cabinet
- external with cable

A base station uses only one of these two types of antenna: it is necessary to set a DIP switch on the FSAAXP01A card (see the attached "axp\_np055\_operational\_description-rev0")

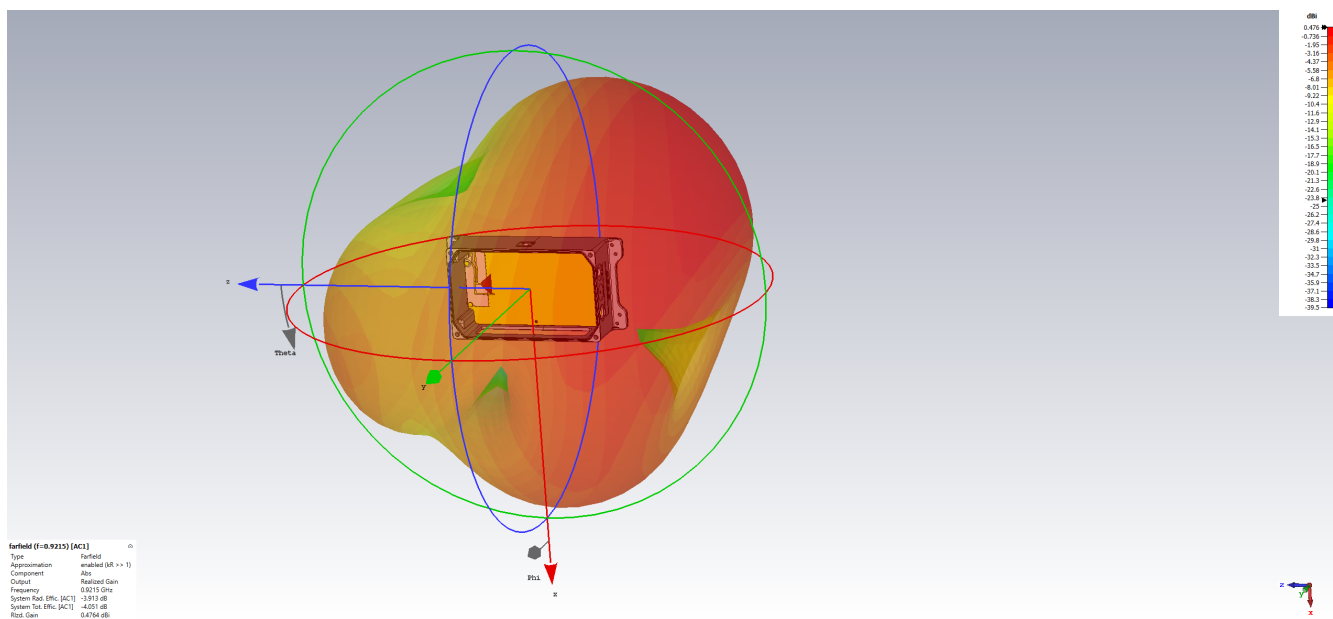
### 2.1 Internal antenna

Its schematic diagram is the following (see the second page of sch\_FSAAXP01A.pdf (see the attached file)).



<b>Used frequency band</b>	915 - 928 MHz* Frequency hopping spread spectrum
<b>Antenna type</b>	internal
<b>Antenna gain</b>	<2dBi

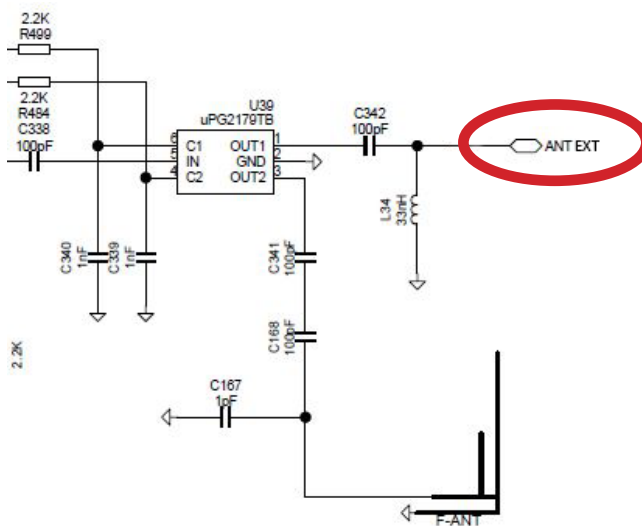
The diagram of the internal antenna gain is the following:



By simulation, as this diagram reports, the realized gain of the antenna is 0.4764dBi and the System Total efficiency is -3.913dB.

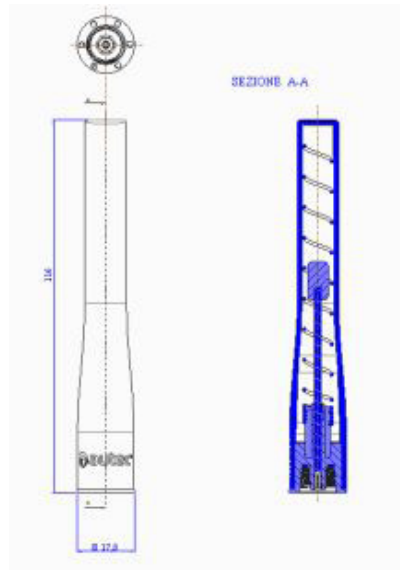
## 2.2 External antenna

Its schematic diagram is the same as that of the internal antenna (the PCB IS not used):

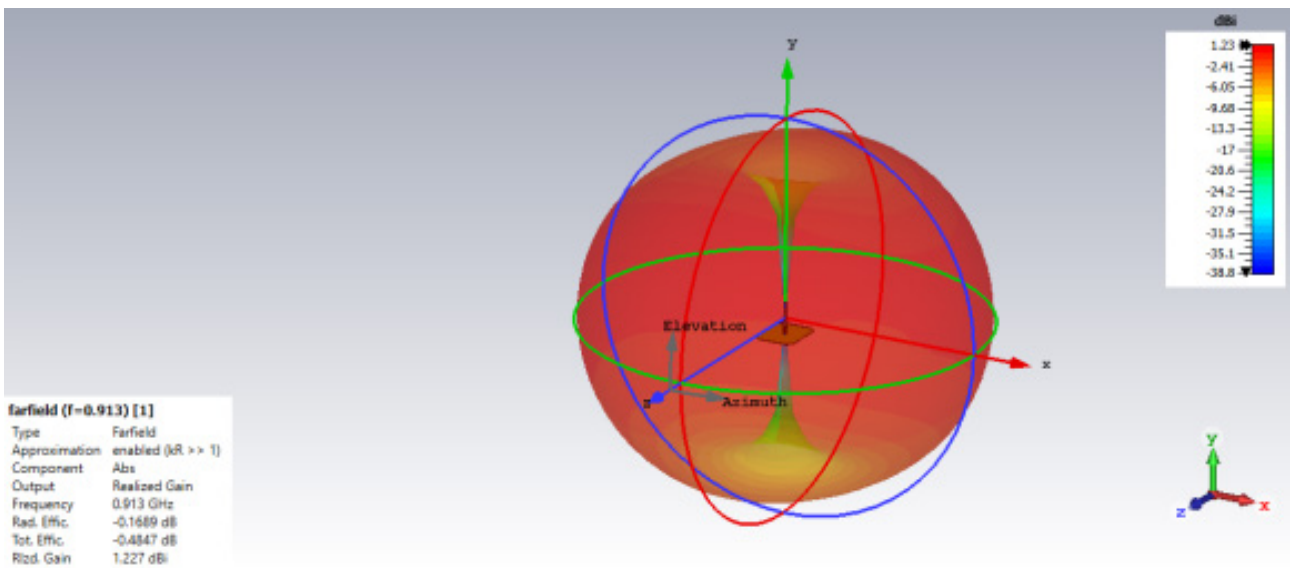


<b>Used frequency band</b>	915 - 928 MHz* Frequency hopping spread spectrum
<b>Antenna type</b>	External (with cable)
<b>Antenna gain</b>	External antenna gain 2,15 dBi

The antenna has the following shape:



The diagram of the external antenna gain is the following:



By simulation, as this diagram reports, the realized gain of the antenna is 1.227dBi and the System Total efficiency is -0.4847dB.



