




## NanoPin

**Technology:**  **Radio**

**Product:**  **Tag**

Bumblebee (*Bombus*) © Amy Wolf University of Wisconsin- Green Bay 2020



## NanoTags for Insects

The latest NanoTag development is the NanoPin, weighing 0.13g. Numerous insects can now be monitored with NanoTags. Available as digitally coded tags for the continental MOTUS array and as traditional beeper tags for local movement studies. Attachment possible with glue or thread. The first ever Asian Giant Hornet nest discovered in North America was located using NanoPins. What are you going to track? Bumblebees, beetles, dragonflies, butterflies? Contact us to discuss the possibilities.

### Options

- Choose the signal interval that optimizes life for your study.
- Request an antenna length that best suits your species and necessary detection range
- Digitally coded or traditional beeper:  
With digitally coded tags, all insects can be autonomously monitored simultaneously to study attendance or passage at a specific location or to study migratory movements via the continental MOTUS array. With traditional beeper tags, insects can be tracked individually to find nests, feeding sites, etc.

### Features:



12hr off/on

### Only 0.13g:

The lightest VHF tag on the market, for exciting research tracking species that have never been tracked before.

### Infrared activation and deactivation:

No need for heavy and messy soldering and magnets are too big for such a small tag.

### Programmable:

12 hour on/off programming optional to extend life for insects that move only during the day or night.

## Product Applications

**Nest detection:** find where insects breed to enable appropriate management.

**Feeding areas:** locate where insects are obtaining nutrition and identify which species are fed upon.

**Migration:** learn regional and continental migratory pathways and timing.

**Attraction/Deterrent efficacy:** evaluate how likely insects are to visit or avoid human designed features such as attraction pheromones or ultrasonic deterrents.

**Disease transmission:** understand movement patterns and thus potential disease routes and timing. These are just some examples of information NanoPins can provide.

Model	NanoPin Feather <sup>[2]</sup>	NanoPin Standard	NanoPin HD <sup>[3]</sup>
Weight in air <sup>[1]</sup> (g)	0.13	0.15	0.17
Size (LxWxH) (mm)	11 x 3 x 3	11 x 3 x 3	12 x 4 x 4
Life as Beeper (days)	7 @ 12ms/30ppm	7 @ 12ms/30ppm	7 @ 12ms/30ppm
Life as Digitally Coded (days)			
3s interval	12	12	12
9s interval	19	19	19
13s interval	24	24	24
29s interval	29	29	29

1. Weight estimates are given with an 8cm fine antenna. Weight estimates are +/-5%
2. Small quantity surcharge for special lightweight coating
3. Increased protection, but still only to be used on non destructive species

Features and specifications subject to change without notice.

Technical specifications:

Frequency range: 138MHz to 174MHz

Operating temperature: 0°C - +35°C

## Warranty

Contact one of our telemetry specialists for details about our warranty. For Warranty terms and conditions, please review our [Warranty Statement](#).