



Thermal Energy Harvesters

Enabling wireless IoT sensors and controls to operate without batteries

- Continuous output without a "perceptible" temperature differential (in essentially any environment above absolute zero)
- Solid-state structure
- Scalable output and can be made in various form-factors
- No toxic materials
- Low-cost (when mass-production process established)
- Utilizes existing semiconductor manufacturing processes
- Compatible with heterogeneous integration (SIP and PCB)
- Enables the design of self-powered integrated circuits for the IoT
- Evercell™ Video Available

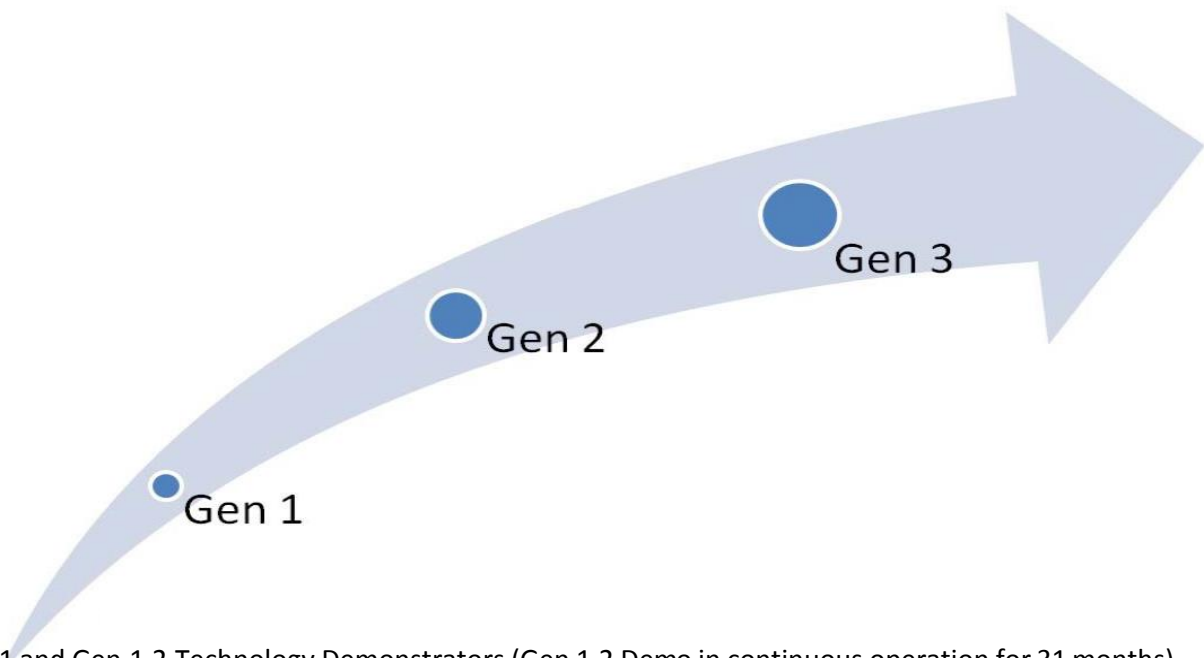
Examples of expected performance for Gen 3 production devices:

5 μ W device:
10cm² x 1mm
1.2V output
4.2 μ A continuous current

960nW device:
50mm x 75mm x 0.1mm
1.2V output
800nA continuous current

480nW device:
30mm x 305mm x 0.2mm
1.2V output
400nA continuous current

Product Development Roadmap



Gen 1 = Gen 1.1 and Gen 1.2 Technology Demonstrators (Gen 1.2 Demo in continuous operation for 31 months)

Gen 2 = Solid State Demonstrator Available and Commercial Prototype Development Underway – 2019

Gen 3 = Qualified Initial Mass Production of Commercial Devices – Late 2020 or 2021

Patented and patents pending