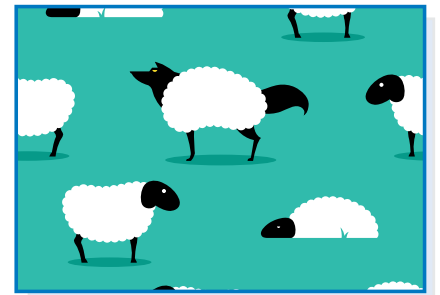**bluechiip**

TRACKING SOLUTIONS

Life Sciences

Sensors & Big Data

Consumer & Counterfeit

Industrial & Nuclear

Biobanking

Cold Chain Logistics

Bluechiip is a RF-MEMS technology company, with a vision to be a leading provider to the extreme environment and secure tracking industries.
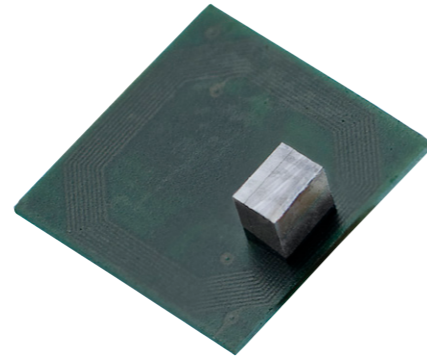
BLUECHIIP® TECHNOLOGY

Bluechiip has, using RF-MEMS technology developed smart chips that provide passive wireless electronic identification and temperature sensing.

Micro electro mechanical Systems (MEMS) Technology is a processing technology based on principles of semiconductor manufacture to create and combine miniaturized sensors, actuators and processing into a single chip which provides an interface to the micro world. These MEMS sensors remain largely invisible to us every day, however they are in our car (crash detection), mobile phone (sense phone orientation and microphone), video projectors (tiny mirrors reflecting light onto a big screen), watch (altitude sensor), disk drives (drop sensing) and pedometers (sense steps). Bluechiip® has used this technology to create a MEMS tracking system.

The smart chips are designed to be incorporated into existing or new products that require enhanced security, reliability and data permanency, which is an ever increasing demand. Bluechiip's novel technology can survive gamma irradiation and survive and operate in extreme temperature conditions, offering a competitive alternative to traditional barcode and RFID tracking technologies. Bluechiip® is the only company that can provide temperature chain-of-custody tracking to operate end to end within the specimen lifecycle for valuable sample storage.

	Barcode	RFID	bluechiip
Low Temperature	✖	✖	✔
Temperature Sensing	✖	✖	✔
Gamma Radiation Immunity	✖	✖	✔

BLUECHIIP VIALS

Bluechiip vials have the Bluechiip smart chip embedded into the bottom of the vial, enabling temperature and chain-of-custody to be tracked. The vials can be used in a variety of applications. These include general laboratory use, biobanking, IVF, analytical laboratory, regenerative medicine and tissue banking.
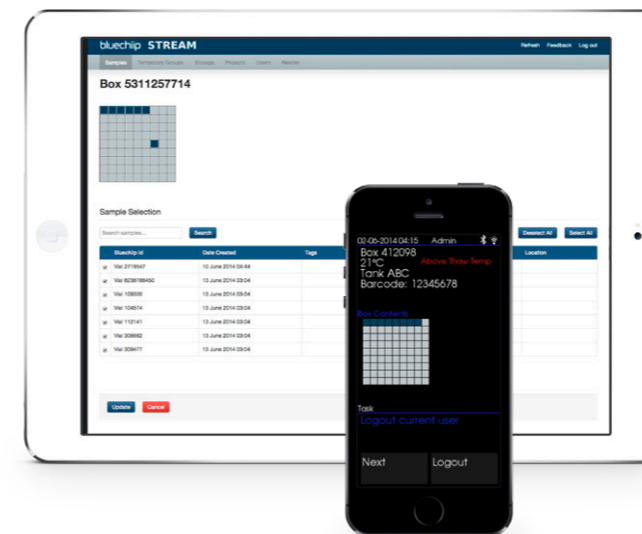
BLUECHIIP CRYOTAG

The bluechiip® cryotag utilises the same smart chip technology in another format. The Bluechiip cryotag has been designed to attach to equipment, food packaging, pallets, cryogenic tanks and other items via the Bluechiip cable tie device. The cryotag also inserts into other Bluechiip products such as cryogenic racks, cassettes and vial storage towers.

BLUECHIIP® PRODUCT FEATURES

Features of Stream 4.0

Stream™ is a web-based platform designed to track the storage and retrieval of samples, their respective custodian, location and sample temperature data. Stream™ is capable of handling basic inventory tasks and reporting inventory.

- User defined storage templates with enforceable capacity.
- Graphical display of storage items in both Stream™ and the Reader
- Supports multiple languages
- SSL encryption of the data on your network
- Barcoded samples can be managed together with Bluechiip vials, creating the same chain-of-custody history for both.
- Temperature history plot for storage containers.
- User defined settings (units, time zone) and user groups (project and sample access)
- The Stream software can be installed on your local server for larger sample databases.

Features of Matchbox Reader

The Matchbox™ reader is the transaction point to track and record both sample identification and temperature enabling a chain of custody to be established.

- The Matchbox™ reads and manages barcodes and Bluechiip tags
- Mixed storage items can be managed (Bluechiip vials inside a barcoded box)
- Ready out-of-the box, with an internal database that can store upto 30GB of data.
- Real time location information and temperature can be displayed.
- Templates can be assigned to Cryotags or Barcodes with the Matchbox™ UI or Stream™.
- Using the camera, an image of the sample can be captured.
- Processing operations can be performed from the matchbox without using Stream™.
- Storage and Retrieval of samples can be managed independently from Stream™ or the Matchbox™ reader.
- Bluetooth and WiFi functionality
- UTC date and time on Matchbox™ screen
- Barcode information can be read using a connected USB barcode scanner or the inbuilt camera.
- Supports multiple languages

BLUECHIIP® TECHNOLOGY

Field of use	How is Bluechiip used?
General Laboratory and Pathology	Hospitals have implemented the Bluechiip system to track pathology samples and for the storage of samples.
Sample Handling	A leading clinical trial organisation in the USA is using the Bluechiip system to measure temperature of samples at time of receipt from their shipper
Biobanking	The Bluechiip system has been used to establish a temperature chain-of-custody for samples during process to the time of retrieval from cryogenic storage, tracking temperature of samples during accessioning and extraction.
Protein Crystallography	The Australian Synchrotron utilises the Bluechiip tag embedded in cryopins used to handle and track protein samples
Tissue and Cell banking	The Bluechiip system has been used to track racks and cassettes in cryogenic tanks, and tissue samples in hospital biobanks.

Benefits using the Bluechiip System

General

- Cost-effective solution that enhances scientific productivity
- Establish chain-of-custody ID and temperature
- Improve research and translation outcomes
- Reduce trial costs

Bio-sciences

- Identification and retrieval rate increased
- Tracking of samples with sample data linked to a Bluechiip ID and Stream software actively manage your storage facility to maximize space
- Ability to select and investigate specific samples for operational or quality concerns
- Minimize labour intensive sample searches
- Streamlined collection, processing, storage, retrieval and despatch SOPs
- Support ISBER and CAPA Best Practices
- Reduce sample handling, damage and loss

Other Applications

- Expand customer base, differentiation and alternate revenue streams
- Temperature chain-of-custody and sample inventory management
- Intuitive, efficient management of stored materials
- Using the Bluechiip custody key, identity and custodianship of samples is maintained throughout the sample management process
- High value and temperature sensitive goods, e.g. seafood, cheese and vaccines

For further information please contact bluechiip® Ltd   E info@bluechiip.com   T +61 3 9763 9763

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TRACKING SOLUTIONS