



Annual Users' Conference

**ADVANCING RADIATION SAFETY.
EMPOWERING PROGRESS.**

M Resort, Henderson, NV | June 15 – June 18



MIRION
TECHNOLOGIES

*Advancing Radiation Safety.
Empowering Progress.*

© 2026 Mirion Technologies. All rights reserved.

Alpha/Beta Counting & Alpha Spectroscopy What's New This Year

Lee Reagan

Product Line Manager

Mirion Connect | Annual Users' Conference 2026

Henderson, NV

**Scan QR code to log your
attendance for today's
(Thursday, June 18th)
breakout session**



Who am I?

50%



50%



- *Started in 1989*
 - *Electronics Tech*
 - *Field Service*
 - *Production Manager*
 - *Tech Support/Training Manager*
- *Alpha/Beta Product manager 2006*

Under My Management Umbrella

ALPHA/BETA COUNTING



- Apex-Alpha/Beta Software
- Series 6LB
- Series 5 LB5500
- LB4200
- iLINK Software
- iSOLO
- iMatic



ALPHA SPECTROSCOPY

- Apex-Alpha Software
- 7200 Alpha Analyst

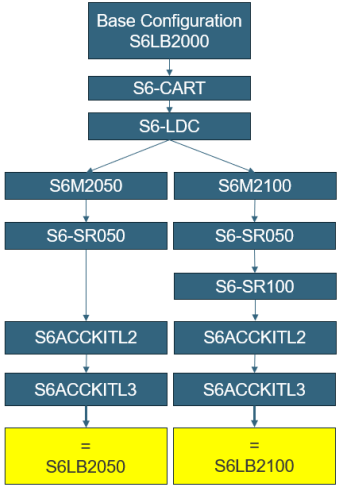
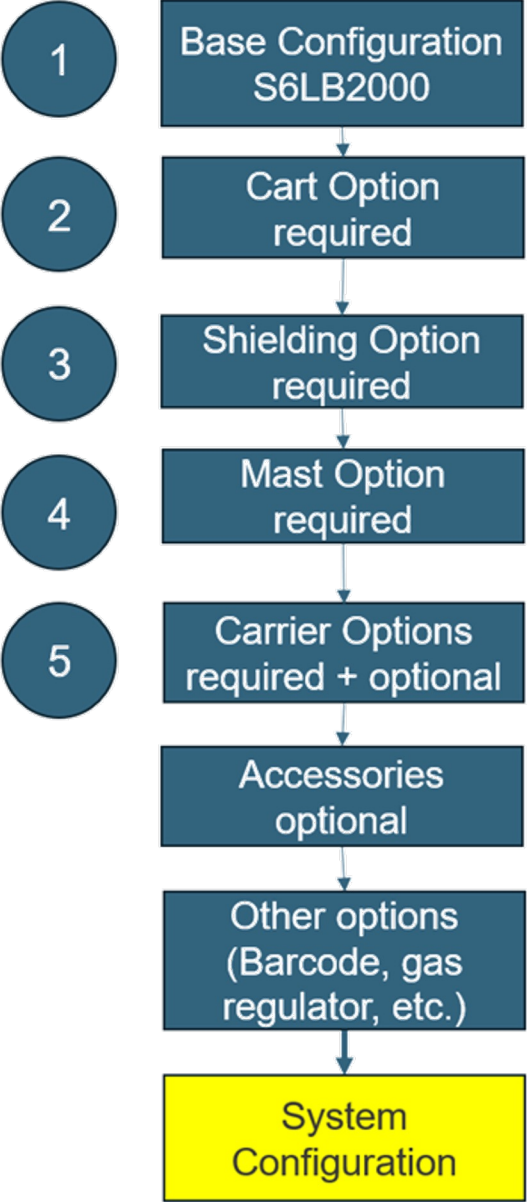


Series 6LB

- *2.25 in. Gas Flow Proportional Counter*
- *50 or 100 samples*
- *Changer slides away from lead castle; no need to lift heavy lead bricks.*
- *Integrated touch screen interface - Routine and Daily checks.*
- *Gasless Anti-Coincidence cosmic Guard Detector—no guard gas needed.*
- *Much lower gas consumption*
- *Integrated self-diagnostics and environmental monitoring*
- *Optional barcode reader and sample camera*
- *All New Configurations*



Have it YOUR Way



Series 6LB – New and Notable

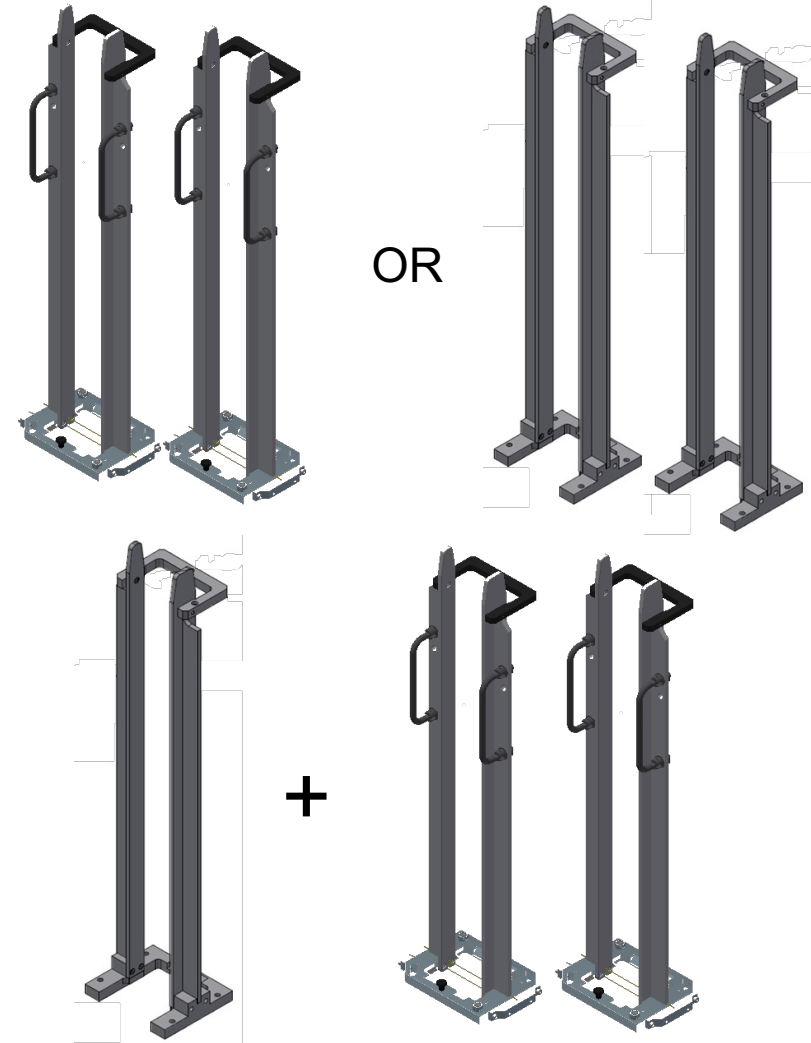
- *Better Monitor Arm/Keyboard Tray*

- *Part of Accessory Kit 3*
- *On Display [HERE](#)*



- *New fixed stack option*

- *Less Expensive vs “Lock and Load”*
- *Half Option Available*



LB4200

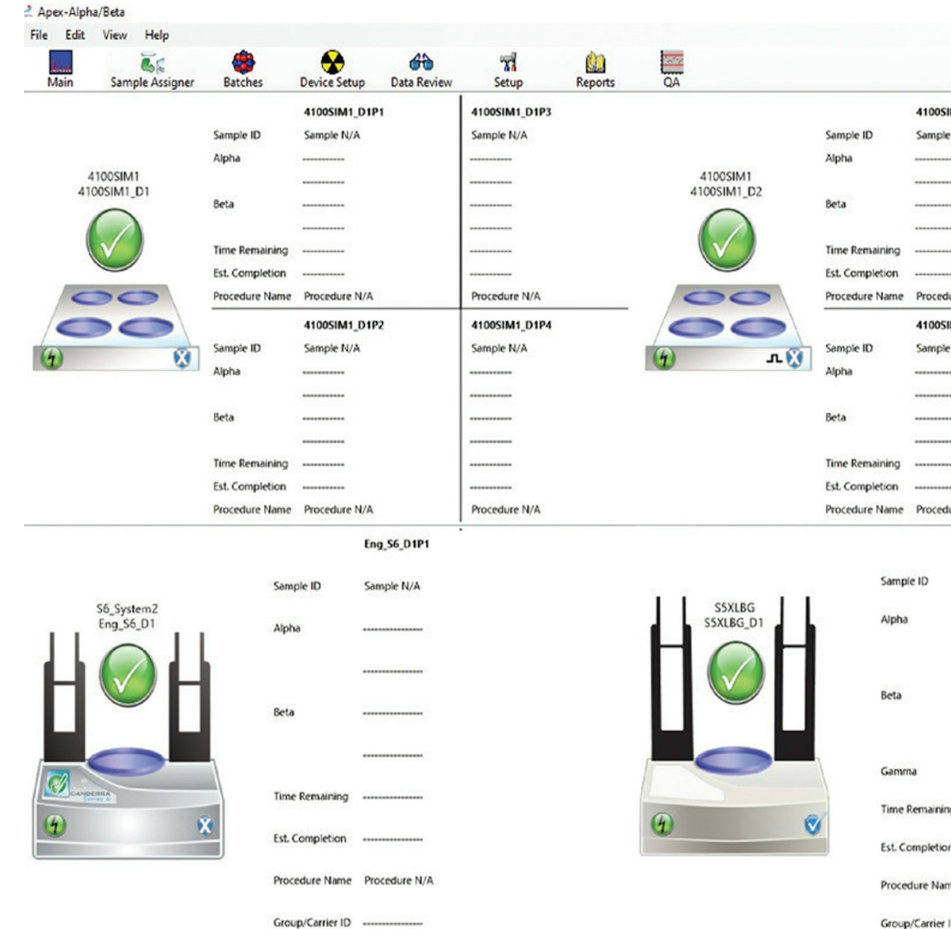
- *Flexible - one to four counting drawers*
- *High performance 5.7 cm (2.25 in.), 12.7 cm (5 in.) or 20 cm (8 in.)*
- *Gas Conservation and Monitoring System for maximum gas cylinder life*
- *Full front detector access without lifting*
- *Individual window per detector with easy operator field replacement*
- *Independent detector start/stop*
- *Automatic calibrations for Plateau, Efficiency, Self-Absorption, and Background*
- *Apex-Alpha/Beta™ Software Compatible*



Apex-Alpha/Beta



- Automated plateau and region of interest setup
- Calibration and QC sequences
- Express count
- Custom procedure creation for specific sample types
- Integrated support for ISO11929
- Integrated report editor
- Comprehensive event and environmental condition logging
- Multi-level security system
- SQL Server Database
- Compatible with Windows 10 and 11



Continuous Improvement Wishlist

- *LB4200 and Series 6LB*
 - *Component Updates*
 - *Firmware/Code Improvements*
- *APEX-Alpha/Beta*
 - *Annoyances! (Click Order)*
 - *Cal, QC, Group X interchangeability*
 - *“Tennelec Mode”*
 - *Client/Server/Instrument Controller Setup*
 - *Device Type Procedure Wall*
 - *More...*



Timing Estimate?

New Software Version Release Timing?

iMATIC & iSOLO

Automatic sample changer with 50 or 100 sample capacity or Portable, manual, single-sample alpha/beta counter

- *Automatically identifies and compensates for radon, thoron and progeny interference*
- *PIPS® silicon gas-less detector*
- *Scintillation cosmic guard detector*
- *Molded low background passive lead shielding with interlocking design, 4 in. thick (iMatic)*
- *Compatible with essentially all filter types and sizes from 25 mm to 60 mm diameter Carriers available for NFS, PAS and SAS mounted filters*
- *Stores up to twenty-six standards*
- *allows for up to ten counting procedures and ten independent calibrations*
- *Compatible with iLink™ iSeries™ Communications Software for remote setup and download of data to a computer*





Alpha Analyst & Apex-Alpha

- *Behind the scenes improvements*
- *Updating components*
- *Maintenance and Bugs Fixes*
- *New Projects in the works, but NO wholesale changes planned – What is important?*
- *Alpha Spec Census / User Group Ideas?*
 - New Software Version Release Timing?

 Apex-Alpha

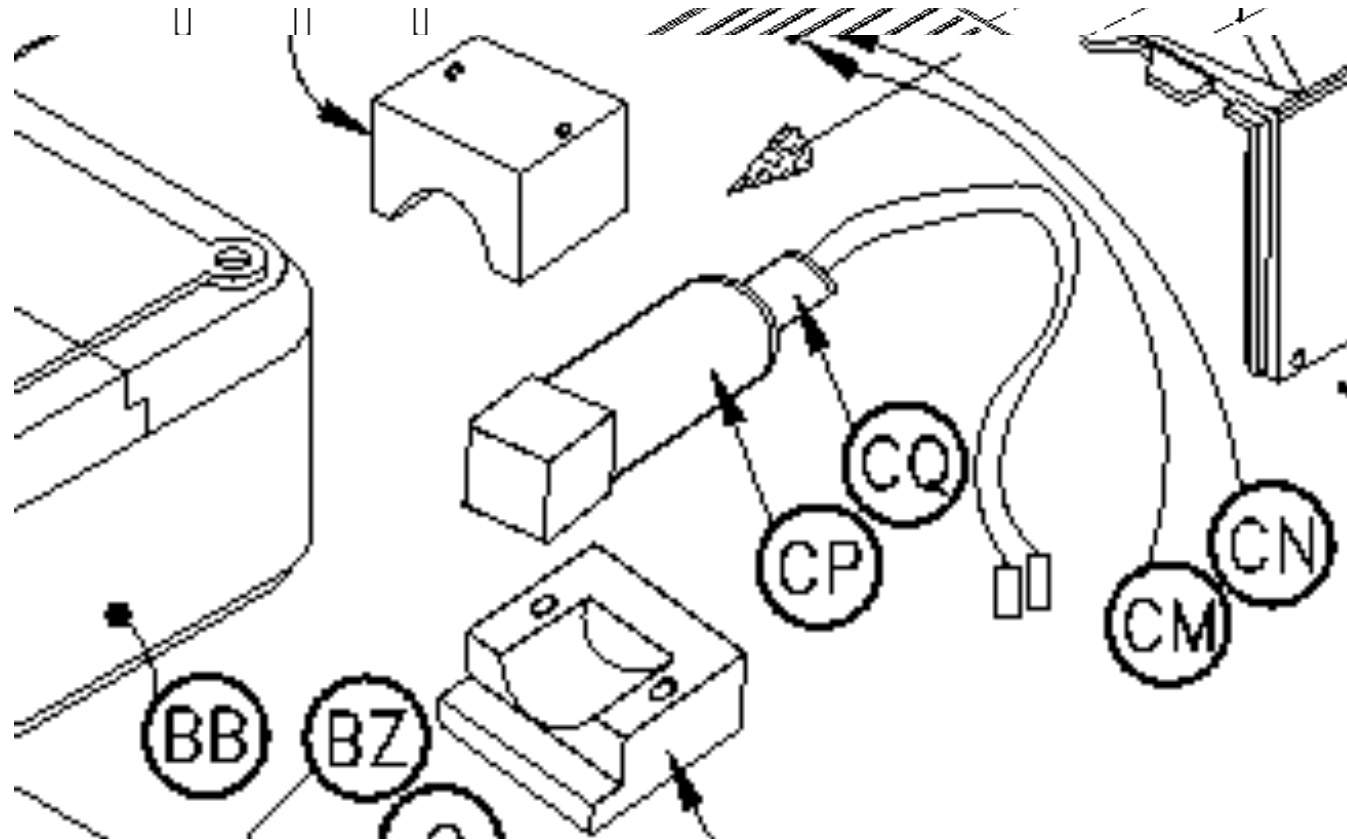


What's Coming?

- *Pre-release Series 6LB Gamma*
- *Pre-release Apex-Alpha/Beta 2.2.1*

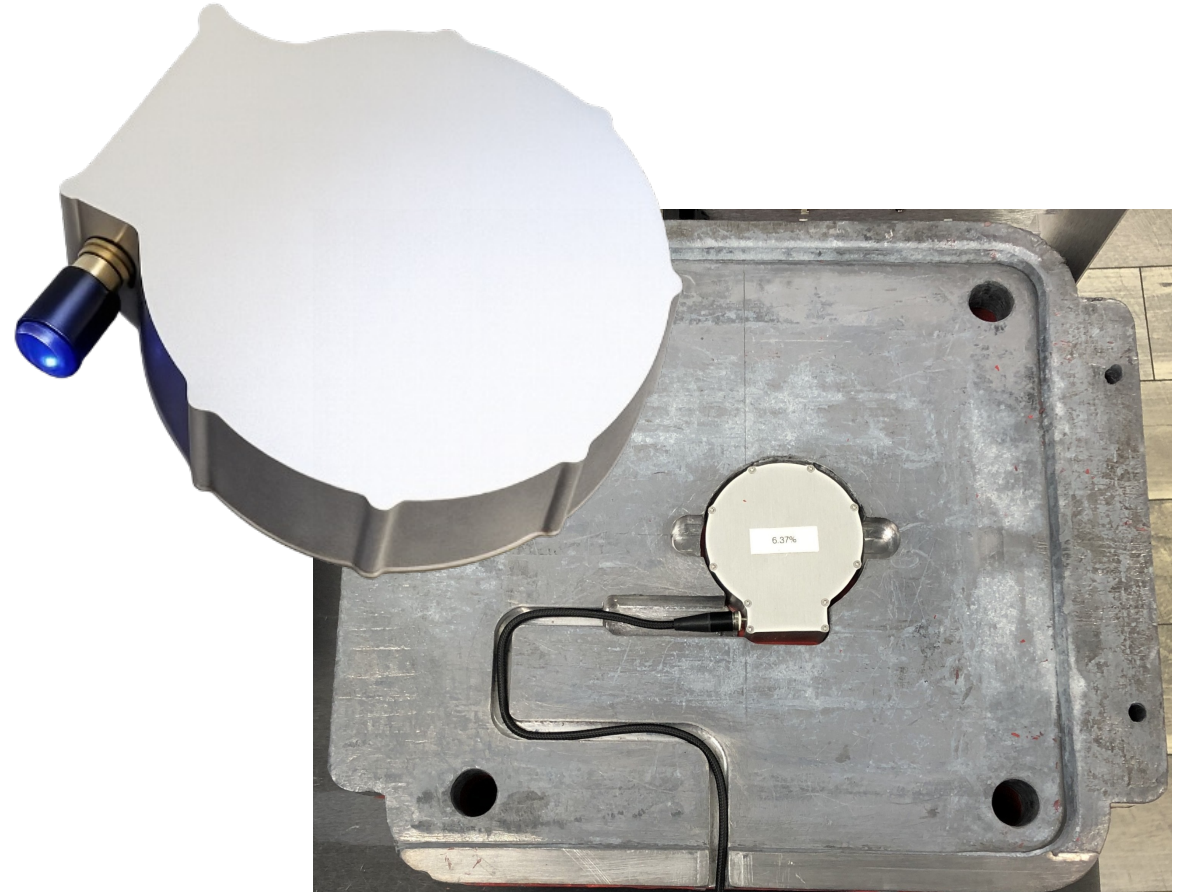
Why Alpha/Beta + Gamma? The Backstory

- *It isn't IMPORTANT... unless it is.*
- *It isn't USEFUL... unless it is.*
- *Long time user kept asking...*
- *How could we do this BETTER?*



Series 6LB Gamma Concept

- *Nai + PMT + Preamplifier etc.*
 - *Too Bulky*
 - *Too Much shielding cutaway*
 - *Too expensive?*
- *Bespoke 64x20 CsI Proposed, tested, accepted*
 - *Requiring only ONE lead brick mod!*
 - *Prototype used micro-SUB to USB-A*
 - *Production will use LEMO to USB-A*
- *Bonus – Alternate 20x20x40 LaBr using same protocols can be used also!*



Series 6LB Gamma NEW!!!

Integrated Alpha,
Beta, AND
GAMMA Analysis

Integrated CsI
(Cesium-Iodide) or
LaBr (Lanthanum-
Bromide)

Built-in MCA and
spectral data
capture.

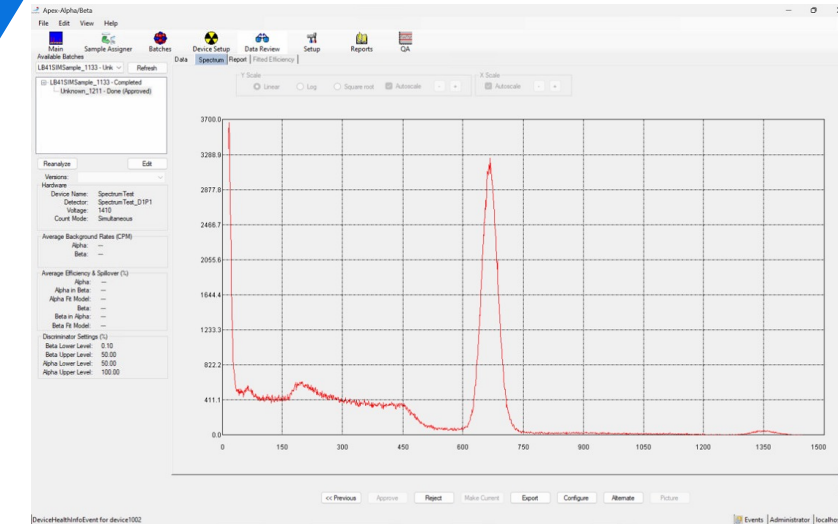
Apex-Alpha/Beta™
software support

Automated Sample
Handling

Series 6LB
systems can be
upgraded

Series 6LB Gamma Performance

- Automatic Export to N42
- Data Review Spectrum Display
- Temperature Stabilized
- Pileup Rejection Enabled



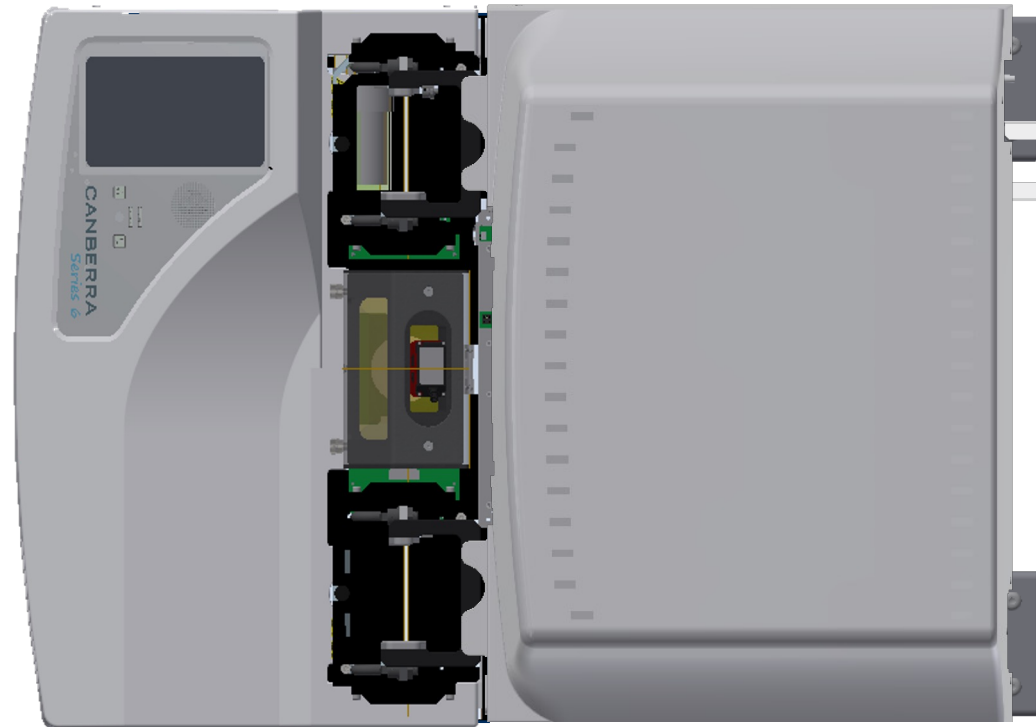
	20 keV-2 meV	45 kev-64 kev	205 keV – 2 meV	1150 keV – 1200 keV
Background	80 cpm	3 cpm	50 cpm	<1 cpm
Am-241	9.8% (34.2%)	9% (25.1%)	bkg	bkg
Co-60	17%	Bkg + 21 cpm	11%	4%
Sr-90/Y-90	bkg	bkg	bkg	bkg

Possibilities are Endless!

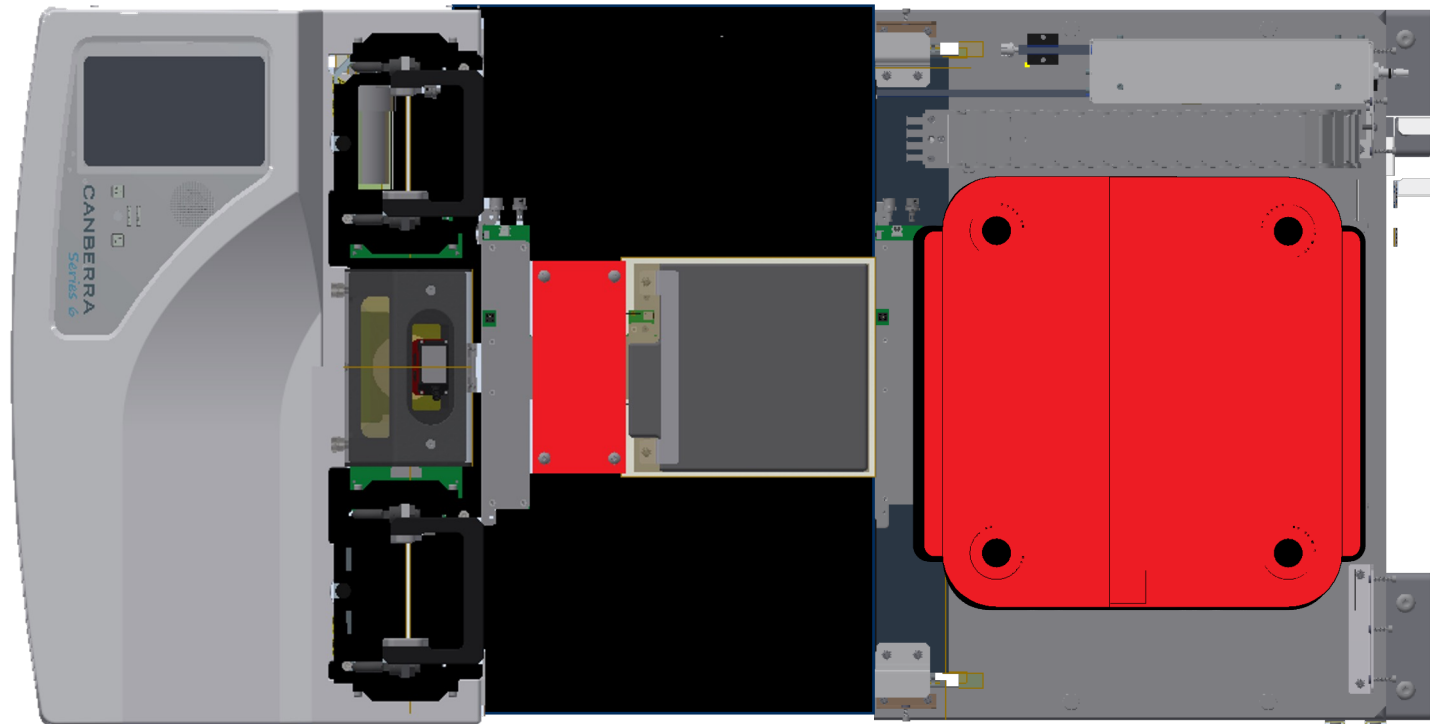
Series 6LB Gamma



Series 6LB Gamma

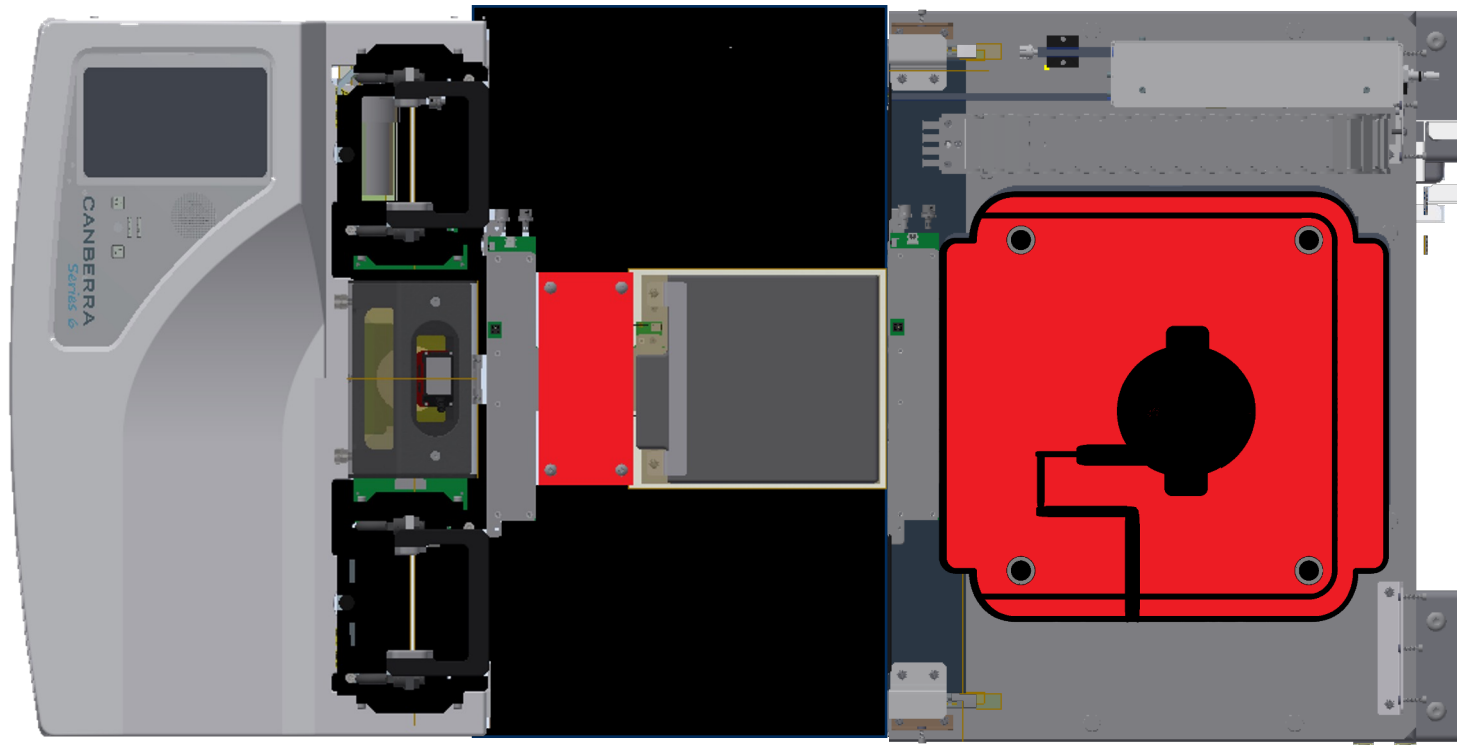


Series 6LB Gamma



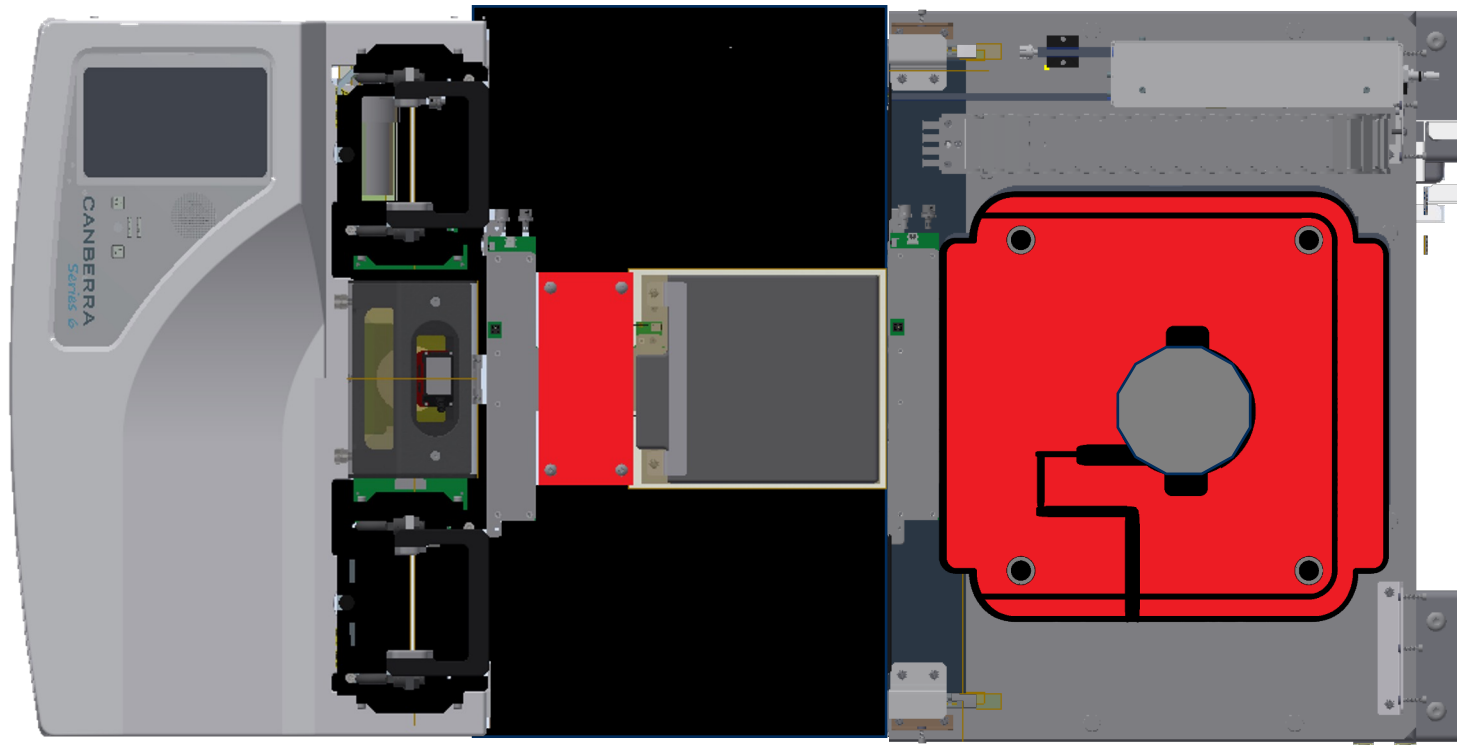
Series 6LB Gamma

21



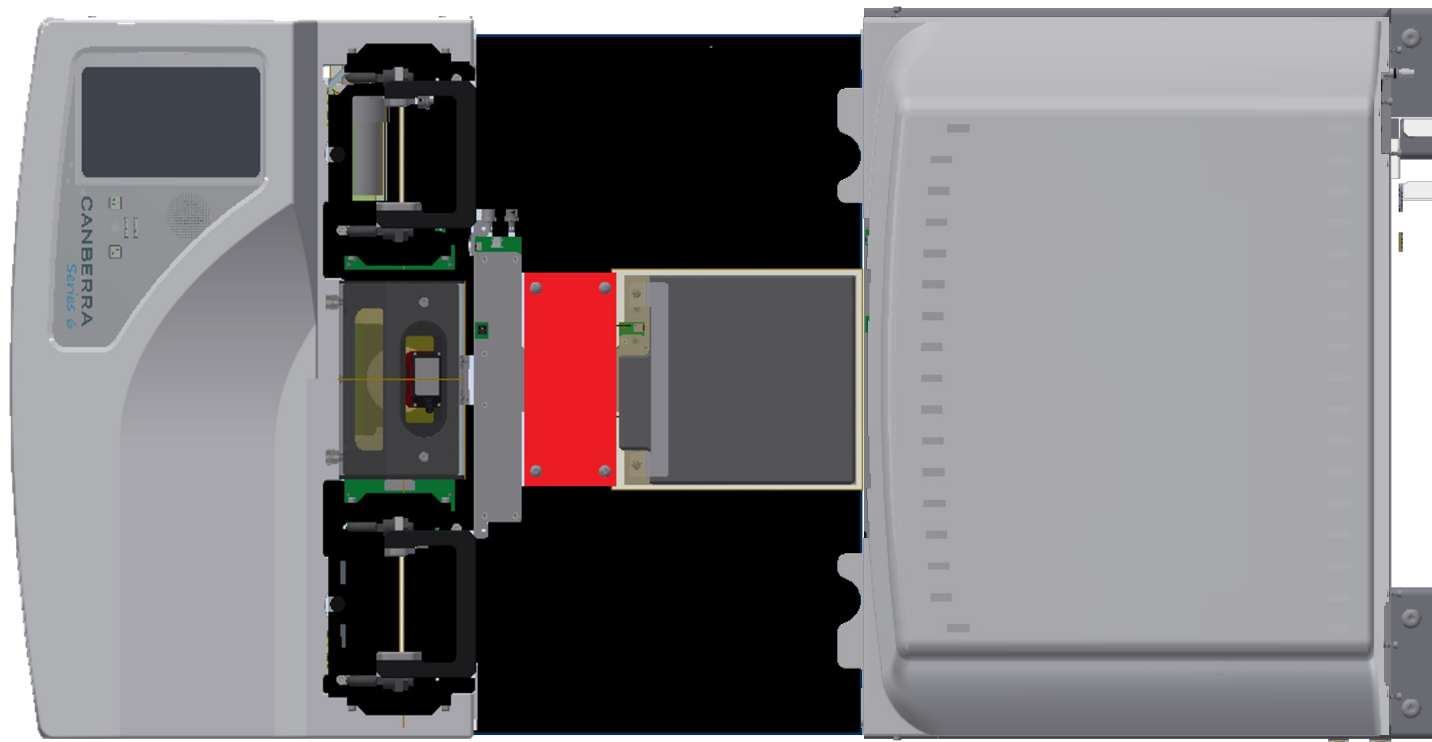
Series 6LB Gamma

25



Series 6LB Gamma

26



Apex-Alpha/Beta 2.2.1



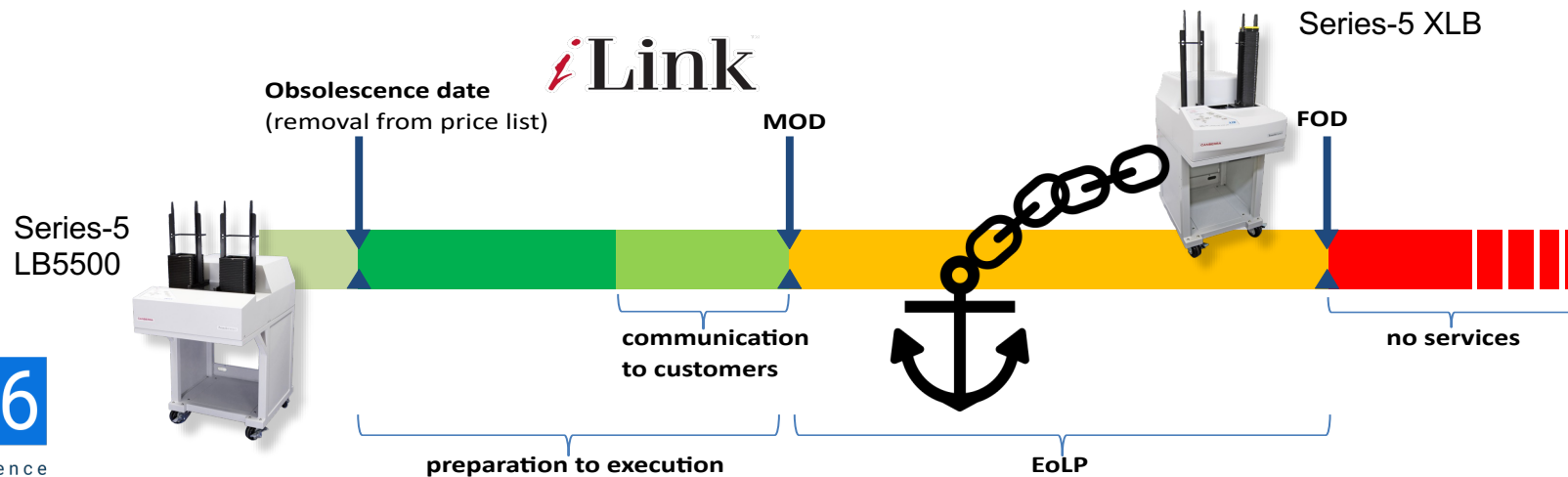
- *Enabled for Series 6LB Gamma*
- *Bug Fixes (barcode/camera related)*
- *Security Threat Modeling*
- *SBOM*

Watch list and beyond

- *Any non-current software version*
- *iLINK?*
- *iSeries?*
- *Series 5 LB5500?*

End of Life Planning

Product	FOD	Notes	Status
7401/7401	2018	NIM Modules	Beyond full obsolescence date
LB4100	2020	LB4200 replaced	Beyond full obsolescence date
Eclipse Non-Current APEX	PC OS Dependent	No Support	Beyond full obsolescence date
Series 5E, APC	2015	Some common S5 parts available	Beyond full obsolescence date
Series 5 XLB	2026 2028	Series 6LB replacement Full Support	*FOD Extended – see next slide



Series 5-XLB End of Life Period Extension

Reasons it is/was special:

- *Exceptionally Long Life*
- *Survived multiple step-parents*
- *S5-LB5500 Continues Today (shared parts)*
 - *Expecting the run to end soon*
- *Many (but not all) parts still available*

Existing service contracts can continue for now...



1. Add me to your phone!
2. Text my personal phone
3. Call me, but text me first if you aren't in my contacts!
4. Email me if you feel lucky. (I will try to respond... I promise!)

My PERSONAL phone number



Survey for:

Alpha/Beta Counting & Alpha Spectroscopy: What's New This Year



*Please take a moment
to fill out a short survey
on this session.*

Thank you

