



# SciAps X-555 Geochemistry

**The most powerful  
handheld XRF  
ever made!**

- 55 kV operation for superior LODS
- Durable aerospace-grade aluminum frame weighs less than 3 lbs. with battery
- Outstanding thermal dissipation

World's only  
**pXRF**  
optimized for rare  
earth elements



**Now measure lithium  
in the field!**

SciAps One Box adds the power of LIBS to measure light elements not possible with XRF, including Li, C, Be, F, Na.

For more information, or to  
schedule a demonstration:

**SciAps Inc.**  
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**SciAps**

The latest version of SciAps flagship X-500 series delivers the most advanced X-ray tube technology available, led by a 55 kV X-ray tube. It's the world's only handheld XRF with this capability, making it the superior choice for measuring rare earth elements.



## Fast, precise tests

The 55 kV operation, rather than the industry typical 50 kV, delivers superior performance for critical REEs. The 55 kV X-ray tube is essential to measure all of the light REEs: lanthanum, cerium, praseodymium, neodymium, and samarium; plus heavy REEs: europium, gadolinium, and yttrium. Yttrium can be measured by standard XRF analyzers as well, and is a reliable pathfinder for the family of strategic heavy REEs such as dysprosium, thulium and ytterbium.

- Light REEs: La, Ce, Pr, Nd, Sm; and heavy REEs: Eu, Gd, Y
- Transition/pathfinder elements Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, As, Se, Sr, Rb, Zr, Nb, Mo, Te, Ag, Cd, Sn, Sb, Ba
- Heavy metals Ta, W, Au, Hg, Tl, Pb, Bi, U

**55 kV  
X-ray tube**

## A new performance standard

Outstanding heat dissipation allows for high throughput that our customers demand, including core analysis or any application requiring high-volume manual testing. Compatible with third-party data visualization packages including loGAS, Leapfrog. Add benchtop functionality with SciAps Profile Builder PC software — view calibration curves, generate new ones, build highly customized models for your own elements of interest, overlay and compare spectra and more.

## Android platform, SciAps Cloud Services

Familiar Android operating system and app-based software assure quality testing by every operator. Global connectivity with on-board camera Wi-Fi and Bluetooth, with GPS capability for full-featured reporting. Easily manage operations from anywhere with SciAps Cloud Services.



# SciAps X-555 Specifications

**The most powerful  
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## SciAps Test Station

A compact, robust, portable platform for easy testing of hand samples, small cores, powders or even liquids prepared into bags or XRF cups. Operates as a fully interlocked, closed-beam system.



**Optional X-500 Series Kickstand.** Available in the SciAps web store under accessories.

|   |   |
|---|---|
| <b>Weight</b>                                     | 2.98 lbs. with battery.   |
| <b>Dimensions</b>                                 | 8.5" x 9.5" x 2.4"  |
| <b>Excitation Source</b>                          | 5 W X-ray Tube. Max 55 kV, 200 uA. Au anode   |
| <b>Detector</b>                                   | 50 mm <sup>2</sup> silicon drift detector (active area), <140 eV resolution FWHM at 5.95 Mn K-alpha line.   |
| <b>Available Apps</b>                             | Soils, RoHS/WEEE, REE, Mining. New apps are added regularly, please check with company or website.  |
| <b>X-ray Filtering</b>                            | 6 position filter wheel for beam optimization   |
| <b>Environmental Temperature Range</b>            | 10° F to 130° F at 25% duty cycle.  |
| <b>Analytical Range</b>                           | 32 elements standard, specific elements vary by app. Additional elements may be added upon user request.  |
| <b>Processing Electronics and Host Processing</b> | 1.2GHz ARM Cortex-A53 quad-core, 64/32-bit. RAM: 2GB LPDDR3. Storage: 16GB eMMC.  |
| <b>Pulse Processor</b>                            | 12 bit with digitization rate of 80 MSPS 8K channel MCA USB 2.0 for high-speed data transfer to host processor. Digital filtering implemented in FPGA for high throughput pulse processing, 20 nS - 24 uS peaking time. |
| <b>Power</b>                                      | On-board rechargeable Li-ion battery, rechargeable inside device or with external charger, AC power, hot-swap capability (60 s max swap time).  |
| <b>Display</b>                                    | 2.7-inch color capacitive touchscreen — 400 MHz Qualcomm Adreno 306 2D/3D graphics accelerator.   |
| <b>Comms/Data Transfer</b>                        | Wi-Fi, Bluetooth, USB connectivity to most devices, including SciAps Profile Builder PC software.   |
| <b>Calibration</b>                                | Fundamental parameters. For Geochem and Environmental Soil apps, users may also choose "Compton Normalization" method and/or use empirically derived calibrations.  |
| <b>Calibration Check</b>                          | External 316 stainless check standard for calibration verification and energy scale validation.   |
| <b>Sample Viewing</b>                             | Internal high-resolution camera for sample viewing and targeting. Second macro-camera for photo documentation, reading and storing 2D/3D barcodes and QR codes.   |
| <b>Security</b>                                   | Password protected usage (user level) and internal settings (admin).  |
| <b>Regulatory</b>                                 | CE, RoHS, USFDA registered, Canada RED Act.   |