

## EDX-Pocket-III Datasheet

### General Information:

Product Name: Handheld Energy Dispersive X-ray Fluorescence Spectrometer  
 Brand Name: Skyray Instrument  
 Model Number: EDX-Pocket-III



### Applications:

X-ray fluorescence (XRF) is a powerful analytical instrumental method used in a wide variety of industries to determine the elemental composition in various materials as stated in the following table. The XRF analyzers are extensively accepted by means of **accurate, rapid & non-destructive** testing features.

EDX-Pocket-III is a light handheld analyzer using XRF technology (non-isotope based) features software that is **simple to navigate** and **offers real-time results on its touchscreen PDA**. When user gets back to laboratory, those **results can easily be transferred to desktop computer** for long-term storage, analysis and report generation. It's an ideal assistant for on-the-spot quick elemental analysis.

Whether your organization is renting a system or adding it as part of your permanent testing equipment, the lowest priced Handheld XRF available includes a software package, backup batteries, durable carrying case, 2-year warranty and more. It's not just a low-cost handheld option, **it's a highly precise system** applicable to below fields.

<b>Mineral (ore) Applications</b>	Mine exploration (mapping) & ore grade control for most elements from sulfur to uranium of Periodic Table.
<b>Geological Survey</b>	Detection of K, Ca, Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, As, Rb, Sr, Zr, Cd, Ba, La, Hg, Pb, etc. in soils and sediments.
<b>Metal Alloy Verification (Positive Material Identification)</b>	<ol style="list-style-type: none"> <li>1. Analyzable materials Tool steels, stainless steels, heat resistant steels, high-medium-low alloy steels, copper alloys, zinc alloys, etc</li> <li>2. Related industries:                             <ul style="list-style-type: none"> <li>- Nuclear and Conventional Power Plants</li> <li>- Refineries of Chemical Plants</li> <li>- Metal Fabricators that produce pressure vessels, valves, etc.</li> <li>- Medical Equipment Manufacturers</li> </ul> </li> </ol>
<b>Scrap Metals Sorting</b>	On-site assessment of scrap alloy & jewelry purchasing for recyclers
<b>Precious Metals Testing</b>	<b>Non-destructive</b> solution to precious metal detection in jewelries, bullions and scraps for jewellers, refineries & recyclers, banks, etc.
<b>RoHS Compliance Screening</b>	Detection of element concentrations for Pb, Cd, Hg, total Cr and total Br for most products directly affected by RoHS directive.

### Specifications:

Method of measurement	Energy dispersive fluorescence X-ray analysis	
Analyzable element range	$_{16}\text{S}$ (sulfur) ~ $_{92}\text{U}$ (uranium)	
Analyzable element content	Dynamic from ppm-level to nearly 100 percent	
Simultaneous analysis ability	Maximum 33 elements at a time	
Acceptable Sample type	Solid, powder, liquid	
Testing time	30 ~ 100 seconds	
Environmental requirements	Temperature	-20°C ~ 40°C
	Relative humidity	<70%
	Others	Free of particles, corrosive gas, perceptible vibration
Power supply	4000mAh lithium-ion battery (one real-time used, one backup)	
Continuous working time	4 ~ 5 hours with one fully charge battery	
Dimensions of main body	260(W) x 325(H) x 125(D) mm	
Main body weight	Approx. 1.8KG (with PDA and working battery)	

### Main Features:

1. Light handheld model with **easy operation** for **on-site quick analysis**.
2. **No shape or size limit for samples**, which can be in solid, liquid or powder form
3. World-leading **thermoelectric cooling Si-PIN detector** of excellent energy resolution  
Adoption of 13mm<sup>2</sup> Be window (**larger than desktop XRF**) detector makes up for lower excitation efficiency of mini X-ray source and help insure high precision determination.
4. **A laser light positioning system** to help insure accurate analysis of the sample or component required.
5. **Two rechargeable lithium batteries** come with every instrument (and charger) which last more than 8 hours.
6. **The trigger of the instrument can be locked in** for hands-free measurement.  
This is especially useful when companies utilize the Handheld Mounting Stand that makes the system more like a desktop analyzer. When the trigger is locked-in, the measurements can be controlled with the removable PDA, which has the easy to navigate software on it.
7. Test results **can be transferred to desktop computer** from PDA for long-term storage and report generation
8. **A carrying case** comes with every analyzer with its **durable exterior** and **foam lined interior**.  
It is the best way to safely transport the system and its accessories.

## Configurations

X-ray source	Target material	Silver (Ag), Tungsten (W)
	Tube voltage	4KV ~ 40KV
	Maximum Current	50 $\mu$ A
Single collimator	Inside diameter	6mm
Primary filters	Automatic selection from 4 types of filters.	
Detector	Large-area (13mm <sup>2</sup> ) thermoelectric cooling Si-PIN semiconductor detector	
Multi-channel analyzer	A time-resolved multi-channel analyzer produces accumulating digital spectrum.	
High resolution PDA	Operating system	MS Windows CE of English language interface
	Data storage	High capacity SD memory
	Data transfer	USB, bluetooth communication, e-mail transmission
	Security	Password-protected user security
Carrying case	Locking shielded, rugged exterior with padded interior	
Accessories	Spare battery pack 110/220V AC battery charger/ AC adaptor PC connection cables High capacity SD memory card SD card reader Data transfer software Safety lanyard Reference standards Nose cap (for smaller samples) Optional instrument stand	
Software	Qualitative analysis	Measurement and analysis of measured data
	Quantitative analysis	Calibration curve method, matrix correction
	Utility	1. Automatic correction for intensity and energy 2. Monitoring of operating condition of the instrument 3. Function of tabulating the results of analysis