

Comparison of X-Ray Tube XRF Machines

Compiled by Micha Horn, MS, RS on 6/24/2022

	Bruker S1 Titan 800 Premium	SciAps X-550 RoHS Analyzer
Cost	\$31,420	\$35,775
Xray tube	50 kV / 4 W Rhodium (Rh)	50kV / 5 W Gold (Au) anode
Measurement spot size	5 mm	??
Maximum current	200 uA	200 uA
Resolution / Count rate	<145 eV at 450 kcps	140 eV at 250 k cps
Drift Detection	20mm ² Graphene window silicon drift detector (SDD)	20mm ² Silicon drift detector (SDD)
Physical protection	Puncture protection with Titan Detector Shield	Protective mesh covering which eliminates accidental detector punctures
Elements detected	Pb, Mg to U, As, Br, Cr	Pb, Cd, As, Sb, Se, Ba, Cr, Cl, Hg
Weight	< 1.5 kg with batteries	1.3 kg
Connectivity	Bluetooth, USB, WiFi	Wireless and Bluetooth
Batteries	Two high performance Li-ion	Two Li-ion
Warranty	2 year standard	1 year manufacturing warranty
Restricted Materials Testing	Package added: ROHSii, CPSI, PROP65, WHEE	Package included: ROHSii, CPSI, PROP65, WHEE
Soil Testing	Package added: Heavy metals in soil in situ	Package added: Priority pollutants in situ
Camera	VGA grade CCD camera	Micro and macro camera
Stand	Desktop Stand Kit	Stand not included
Operating System	PC software	Google-powered android OS
Background plate	For measuring small/thin samples	??
Training	Onsite training included	Onsite training included
Screen	Color touchscreen; 9.4 cm LCD (3.7 in)	Color touchscreen; 2.7 in (6.9cm)
HUD Compliant	No	Yes
Lead detection limit	"lower detection limits"	0.01 mg/cm ²
Online rating	4.8 / 5.0	4.2 / 5