

## TXRF 標準製程

標準製程:可分析晶圓表面微量金屬元素污染,元素種類及偵測極限請詳閱下表:

### LLD (Lower Limit of Detection) of Each Excitation Source

The below table shows the Lower Limit of Detection (LLD) of TREX610/620/630 as Guaranteed Value by the samples which are provided by Technos, and prepared by Spin-Coat-Method.

LLD : Unit in E9 atoms/cm<sup>2</sup>

Line : Measured Line, -- means no appropriate line to measure.  
with \* marked means best source among 5 tubes

Element	Atomic #	by W DDRA		by W tube		by Mo tube		by Ag tube		by Cr tube	
		LLD	Line	LLD	Line	LLD	Line	LLD	Line	LLD	Line
Na	11	4000	K	8000	K	22000	K	85714	K	769	*K
Mg	12	1250	K	2500	K	7333	K	30714	K	250	*K
Al	13	500	K	1000	K	2895	K	12647	K	102	*K
Si	14	280	K	519	K	1842	K	8515	K	53	*K
P	15	142	K	284	K	880	K	3498	K	29	*K
S	16	85	K	170	K	519	K	2071	K	18	*K
Cl	17	54	K	110	K	333	K	1286	K	11	*K
Ar	18	35	K	64	K	215	K	857	K	7.3	*K
K	19	24	K	48	K	148	K	579	K	5.2	*K
Ca	20	17	K	34	K	104	K	407	K	2.8	*K
Ti	22	8.7	K	17	K	52	K	200	K	2.0	*K
V	23	6.5	*K	13	*K	37	K	150	K	--	--
Cr	24	4.8	*K	8.7	*K	29	K	114	K	--	--
Mn	25	3.8	*K	7.6	*K	22	K	86	K	--	--
Fe	26	3.0	*K	6.0	*K	17	K	66	K	--	--
Co	27	2.3	*K	4.7	*K	14	K	53	K	--	--
Ni	28	2.0	*K	4.0	*K	11	K	43	K	--	--
Cu	29	1.6	*K	3.3	*K	8.9	K	34	K	--	--
Zn	30	1.3	*K	2.7	*K	7.4	K	29	K	--	--
Ga	31	--	--	--	--	6.2	*K	24	K	--	--
Ge	32	--	--	--	--	5.4	*K	21	K	--	--
As	33	--	--	--	--	4.4	*K	17	K	--	--
Sr	38	--	--	--	--	2.3	*K	8.8	K	--	--
Zr	40	--	--	--	--	--	--	7.3	*K	--	--
Nb	41	--	--	--	--	--	--	6.5	*K	--	--
Mo	42	47	L	83	L	--	--	5.8	*K	--	--
Ru	44	31	L	61	L	166	L	4.9	*K	--	--
Pd	46	25	*L	50	*L	137	L	536	L	--	--
Ag	47	21	*L	42	*L	115	L	429	L	--	--
In	49	15	*L	29	*L	80	L	301	L	--	--
Sn	50	13	*L	25	*L	70	L	284	L	--	--
Sb	51	11	*L	22	*L	59	L	223	L	--	--
Cs	55	6.2	*L	12	*L	33	L	126	L	--	--
Ba	56	5.4	*L	11	*L	30	L	107	L	--	--
La	57	4.9	*L	9.7	*L	27	L	101	L	--	--
Ce	58	4.2	*L	8.5	*L	23	L	87	L	--	--
Hf	72	1.7	*L	3.4	*L	5.8	L	21	L	--	--
Ta	73	--	--	--	--	5.2	*L	19	L	--	--
W	74	--	--	--	--	4.4	*L	16	L	--	--
Pt	78	--	--	--	--	3.2	*L	12	L	--	--
Au	79	--	--	--	--	3.1	*L	11	L	--	--
Hg	80	--	--	--	--	2.9	*L	11	L	--	--
Pb	82	--	--	--	--	2.3	*L	8.8	L	--	--
U	92	--	--	--	--	2.0	*L	4.8	L	--	--

- Note :
- 1 Regarding LLD of filmed wafer such as SiO<sub>2</sub>, Si-N, Al coated wafer, and so on, the similar LLD of above-table can be expected.
  - 2 Regarding LLD of back-side of wafer or patterned wafer, LLD can be expected as 10 times of above-table
  - 3 Above table is based on :