



Package Material Composition and Mass Calculation

Customer : Nordic
 Package : nRF24L01-C16
 Device Type : WLCSP
 Die Size(mm) : 1.95 X 2.02

Provided By : ASECL
 Date : 2013/12/9
 Rev. :

Total Pkg. Wt (g): **0.00553**

name		material composition	CAS No.	%	mg.(ave)	mg.	%	PPM
Silicon	Silicon	Silicon	7440-21-3	100%		4.47629	80.904%	809.041
Polymer 1/2	PBO (HD8820)	PBO	96-48-0	100%		0.05181	0.936%	9.364
RDL	RDL	Titanium (Ti)	7440-32-6	21%	0.00682	0.02214	0.400%	4.001
		Aluminum (Al)	7429-90-5	79%	0.01532		0.277%	2,768
UBM	UBM	Aluminum (Al)	7429-90-5	26%	0.00078	0.00786	0.142%	1.420
		Nickel (Ni)	7440-02-0	20%	0.00191		0.014%	141
		Vanadium(V)	7440-62-2	1%	0.00014		0.034%	345
		Copper (Cu)	7440-50-8	53%	0.00517		0.003%	26
Solder Ball	SnAgCu405	Tin (Sn)	7440-31-5	95.50%	0.93087	0.97474	17.617%	176.173
		Silver (Ag)	7440-22-4	4%	0.03899		16.825%	168,246
		Copper(Cu)	7440-50-8	0.50%	0.00487		0.705%	7.047
							0.088%	881
Total						5.53	100%	100000

DISCLAIMER

- The above material declaration can be used only as reference in identifying the Hazardous material content of the product.
- ASE does not guarantee the Material composition accuracy as it is based on the data provided by outside sources and has not been validated.
- This material declaration does not include data from any active and passive component assembled in the package.