



## Package Material Composition and Mass Calculation

Customer : NVL  
 Package : VFQFN 94L 7x7x0.85PKG  
 Device Type : nRF5340-QKAA#2X  
 Die Size(mm) : 4.427x4.031  
 Total Pkg. Wt (mg): 125.50149

Provided By : Anna Chang  
 Date : 2020/2/3  
 Rev. :

	name	vendor	material composition	CAS No.	%	mg.(ave)	mg.	%	PPM		
Mold Compound	EME-G700LA TypeL-A	SUMITOMO	Epoxy Resin	Trade secret	5-10%	5.95350	<u>66.15</u>	<u>52.709%</u>	<u>527,085</u>		
			Phenol Resin	Trade secret	1-5%	1.98450				4.744%	47,438
			Silica(Amorphous) A	60676-86-0	70-80%	52.06005				41.482%	414,816
			Silica(Amorphous) B	7631-86-9	5-10%	5.95350				4.744%	47,438
			Carbon black	1333-86-4	0.1 - 1%	0.19845				0.158%	1,581
Leadframe	EFTEC64T_PPF	長華	Copper(Cu)	7440-50-8	Balance(89% Iv	45.52475	<u>46.34</u>	<u>36.920%</u>	<u>369,204</u>		
			Chromium(Cr)	7440-47-3	0.25%	0.11584				0.092%	923
			Tin(Sn)	7440-31-5	0.25%	0.11584				0.092%	923
			Zinc(Zn)	7440-66-6	0.20%	0.09267				0.074%	738
			Nickel(Ni)	7440-02-0	0.3-9.0%	0.23168				0.185%	1,846
			Palladium(Pd)	7440-05-3	0.04-0.8%	0.23168				0.185%	1,846
			Gold(Au)	7440-57-5	0.001-0.1%	0.02317				0.018%	185
			Die_1	Silicon		Silicon				7440-21-3	100%
Die Attach_1	EN-4900G*	HITACHI	Silver(Ag)	7440-22-4	72-82%	1.14042	<u>1.54</u>	<u>1.228%</u>	<u>12,280</u>		
			Acrylic resin	Trade secret	6-11%	0.13870				0.111%	1,105
			Polybutadiene derivative	Trade secret	2-9%	0.07706				0.061%	614
			Butadiene copolymer	Trade secret	< 2.0 %	0.02312				0.018%	184
			Acrylate	Trade secret	3-8%	0.09247				0.074%	737
			Epoxy resin	Trade secret	1-4%	0.03853				0.031%	307
			Peroxide	Trade secret	< 1.0%	0.00771				0.006%	61
			Additive	Trade secret	< 2.0%	0.02312				0.018%	184
Wire_1	Cu wire	NIPPON	Copper(Cu)	7440-50-8	≥96.55%	0.59379	<u>0.60</u>	<u>0.475%</u>	<u>4,751</u>		
			Palladium(Pd)	7440-05-3	≤3.1%	0.00072				0.0006%	6
			Gold(Au)	7440-57-5	≤0.35%	0.00179				0.0014%	14
<b>Total</b>							<b><u>125.50</u></b>	<b><u>100%</u></b>	<b><u>1000000</u></b>		

### 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.
- Due to Leadframe and substrate is belong "re-make product" by other homogeneous material , so it's composition will be different with SDS