



**Package Material Composition and Mass Calculation**

Customer : Nordic  
 Package : QFN 36L 6x6PKG  
 Device Type : nRF2460  
 Die Size(mm) : \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Provided By : Joel Cheng  
 Date : 2011/6/16  
 Rev. : \_\_\_\_\_

Total Pkg. Wt (g): 0.11

	name	material composition	CAS No.	%	mg.(ave)	mg.	%	PPM	SGS Report	Due date (calibration within 1 year)	MSDS Report	Due date (calibration within 3 year)	
Mold Compound	CEL-9240	Epoxy Resin#1	Trade Secret	0.4-2.4%	0.65192	<u>46.566</u>	<u>42.851%</u>	<u>428.507</u>					
		Epoxy Resin#2	Trade Secret	0.1-0.6%	0.18626		0.600%	5,999					
		Epoxy resin#3	Trade Secret	2-6%	1.86264		0.171%	1,714					
		Carbon black	1333-86-4	Approx 0.2%	0.09313		1.714%	17,140					
		Silica	60676-86-0	82-94%	42.14223		0.086%	857					
		Hardener	Trade Secret	2-5%	1.62981		38.780%	387,799					
								1.500%	14,998				
Leadframe	C194_Silver	Copper (Cu)	7440-50-8	90-98%	53.40999	<u>55.35</u>	<u>50.931%</u>	<u>509.312</u>					
		Others	Trade Secret	<1%	0.55347		49.149%	491,486					
		Plated Silver (Ag)	7440-22-4	0.120-12.480%	1.38368		0.509%	5,093					
							1.273%	12,733					
Die_1	Silicon	Silicon	7440-21-3	100%		<u>4.44</u>	<u>4.087%</u>	<u>40.868</u>					
Die Attach_1	EN4900G	Silver	7440-22-4	72-82%	0.42611	<u>0.57</u>	<u>0.526%</u>	<u>5.263</u>					
		Acrylic resin	Trade Secret	6-11%	0.04862		0.392%	3,921					
		Polybutadiene derivative	Trade Secret	2-9%	0.02288		0.045%	447					
		Butadiene copolymer	Trade Secret	<2%	0.01144		0.021%	211					
		Epoxy resin	Trade Secret	1-4%	0.01430		0.011%	105					
		Acrylate	Trade Secret	3-8%	0.03146		0.013%	132					
		Peroxide	Trade Secret	<1%	0.00572		0.029%	289					
		Additive	Trade Secret	<2%	0.01144		0.005%	53					
								0.011%	105				
		Die_2	None										
Die Attach_2	None												
Die_3	None												
Die Attach_3	None												
Wire_1	Pd/Cu wire	Cu	7440-50-8	>97.28%	0.18941	<u>0.19308</u>	<u>0.178%</u>	<u>1.777</u>					
		Palladium	7440-05-3	<= 2.7%	0.00365		0.1743%	1,743					
		Ion Impurities	Trade Secret	<0.02%	0.00002		0.0034%	34					
							0.0000%	0					
Wire_2	None												
Solder Ball	None												
External Plating	Sn plating	Sn	7440-31-5	100%	1.55111	<u>1.55111</u>	<u>1.427%</u>	<u>14.274</u>					
							1.427%	14,274					
<b>Total</b>						<u>108.67</u>	<u>100%</u>	<u>1000000</u>					

**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 MSDS