Device Material Content

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Package: 81 ucBGA with SnAgCu Solder Balls
Total Device Weight 0.03 Grams

Halogen Free
MSL: 3
Peak Reflow Temp: 260°C

August, 2012	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	Notes / Assumptions:
Die	4.95%	0.0013			Silicon chip	7440-21-3	Die size: 59 x 59 mil
Mold	62.85%	0.0165					Mold Compound: KEG1250 LKDS
			56.57%	0.0148	Silica	60676-86-0	75 to 95% Fused silica filler (LSC uses 90% in our calculation)
			3.46%	0.0009	Epoxy Resin	Trade secret	1 to 10% Epoxy resin (LSC uses 5.5% in our calculation)
			2.83%	0.0007	Phenol Resin	Trade secret	2 to 7% Phenol resin (LSC uses 4.5% in our calculation)
D/A Tape	0.15%	0.00006					TAPE FH-900T-25_HR9004
			0.03%	0.000008	Epoxy Resin	Trade secret	10 to 20% (LSC uses 12% in our calculation)
			0.03%	0.000008	Phenol Resin	Trade secret	10 to 20% (LSC uses 12% in our calculation)
			0.01%	0.000004	SiO2 Filler	Trade secret	1 to 10% (LSC uses 6% in our calculation)
			0.17%	0.000044	(Meta)Acrylic Copolymer	Trade secret	65 to 75% (LSC uses 70% in our calculation)
Wire	1.05%	0.0003					0.7 MIL Pd COATED Cu
			1.022%	0.00027	Copper (Cu)	7440-50-8	97.30%
			0.028%	0.00001	Palladium (Pd)	7440-05-3	2.70%
Solder Balls	2.66%	0.00070					
			2.62%	0.00069	Tin (Sn)	7440-31-5	10 mils Sn98.5 / Ag1.0 / Cu0.5 (SAC105)
			0.03%	0.00001	Silver (Ag)	7440-22-4	
			0.01%	0.000003	Copper (Cu)	7440-50-8	
Substrate	28.25%	0.00740					CCL-HL832NX(A-HS) / AUS 308
			12.91%	0.00338	BT Resin CCL-HL832NX	Trade secret	45.71%
			3.23%	0.00085	Copper (Cu)	7440-50-8	11.43%
			8.07%	0.00211	Soldermask AUS 308	Trade secret	28.57%
			1.34%	0.00035	Nickel Plating	7440-02-0	4.76%
			0.05%	0.00001	Gold Plating	7440-57-5	0.19%
			2.69%	0.00070	Copper thickness in hole	7440-50-8	9.52%

Notes:
The values listed above are nominal values based on studies of representatives of this particular package type, and are believed to be as accurate as possible.
Constituent substances and proportions in epoxy materials are before curing.
The information provided above is representative of the package as of the date listed, and is subject to change at any time.
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Rev. A