Device Material Content

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Package: **16 WLCSP** **with SnAgCu Solder Balls**

Total Device Weight **2.368** **mg**

MSL: 1
Peak Reflow Temp: 260°C

November, 2013	% of Total Pkg. Wt.	Weight (mg)	% of Total Pkg. Wt.	Weight (mg)	Substance	CAS #	Notes / Assumptions:
Die	53.74%	1.2729			Silicon chip	7440-21-3	Die size: 1367.4 x 1452.8 x275µm
Polymide (RDL) Repassivation	1.72%	0.0408					HD-8820
			0.60%	0.01429	Polyamide	trade secret	30-40%
			0.86%	0.02041	Gamma-butyrolactone	96-48-0	40-60%
			0.07%	0.00163	Propylene Glycol Monomethyl Ether Acetate	108-65-6	1-10%
			0.05%	0.00122	Organosilan Compound(s)	trade secret	1-5%
			0.07%	0.00163	Photoinitiator	trade secret	1-10%
			0.07%	0.00163	Proprietary Ingredient(s)	trade secret	1-10%
RDL metalization	15.58%	0.3689					
			0.19%	0.00438	RDL-Ti	7440-32-6	
			0.73%	0.01736	RDL-Cu	7440-50-8	
			14.66%	0.34718	RDL-Cu	7440-50-8	
UBM metalization	4.40%	0.1043					
			0.03%	0.00064	UBM-Ti	7440-32-6	
			0.11%	0.00253	UBM-Cu	7440-50-8	
			4.27%	0.10116	UBM-Cu	7440-50-8	
Solder ball	21.07%	0.4991					SAC405
			20.12%	0.47661	Tin (Sn)	7440-31-5	Sn95.5/Ag4.0/Cu0.5
			0.84%	0.01996	Silver (Ag)	7440-22-4	
			0.11%	0.00250	Copper (Cu)	7440-50-8	
BSL	3.48%	0.0824					ADWILL LC2850
			0.14%	0.00330	Bisphenol A diglycidyl ether	1675-54-3	3～ 5%
			3.34%	0.07914	Silica, Epoxy resin, Acrylic polymer	trade secret	

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