Device Material Content

LATTICE SEMICONDUCTOR
5555 NE Moore Ct.
Hillsboro OR 97124
custreq@lscc.com

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Package: 30 WLCSP
Total Device Weight 6.202 **Milligrams**

Package Code: UWG30
Products: ICE40UP

Assembly: ASET
Size (mm): 2.114 x 2.537
Lead pitch (mm): 0.4
MSL: 1
Reflow max (°C): 260

	% of Total Pkg. Wt.	Weight (mg)	% of Total Pkg. Wt.	Weight (mg)	Substance	CAS #	% of Subst.	Notes / Assumptions:
Die	54.07%	3.353	54.07%	3.3535	Silicon chip	7440-21-3	100.00%	Die size: 2.114 x 2.537 mm
Repassivation	2.00%	0.124	0.70%	0.0434	Polyamide	-	35.00%	PBO HD8820
			0.96%	0.0595	Gamma-butyrolactone	96-48-0	48.00%	
			0.08%	0.0050	Propylene Glycol Monomethyl Ether Acetate	108-65-6	4.00%	
			0.26%	0.0161	Proprietary ingredients	-	13.00%	
RDL metalization	3.61%	0.224	0.04%	0.0027	Titanium (Ti)	7440-32-6	1.21%	
			3.57%	0.2213	Copper (Cu)	7440-50-8	98.79%	
UBM	7.27%	0.451	0.04%	0.0027	Titanium (Ti)	7440-32-6	0.60%	
			7.22%	0.4479	Copper (Cu)	7440-50-8	99.40%	
Solder Balls	29.11%	1.806	27.80%	1.7244	Tin (Sn)	7440-31-5	95.50%	SAC405
			1.16%	0.0722	Silver (Ag)	7440-22-4	4.00%	
			0.15%	0.0090	Copper (Cu)	7440-50-8	0.50%	
BSL	3.94%	0.245	2.76%	0.1712	Polyethelyne Terephthalate	25038-59-9	70.00%	Adwill LC2850
			0.69%	0.0428	Silica	60676-86-0	17.50%	
			0.24%	0.0147	Epoxy Resin	Trade Secret	6.00%	
			0.24%	0.0147	Acrylic Resin	Trade Secret	6.00%	
			0.02%	0.0012	Carbon Black	1333-86-4	0.50%	

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. B