



## Device Material Content

5555 NE Moore Ct.  
Hillsboro OR 97124  
[custreq@latticesemi.com](mailto:custreq@latticesemi.com)

Assembly: ASEM

Size (mm): 4 x 4

Lead pitch (mm): 0.4

MSL: 3

Reflow max (°C): 260

November, 2020

**Package:** 81 ucBGA  
**Total Device Weight** 0.026 Grams

**Package Code:**

**CM81**

**Products:**

ICE40LP, LIF-UC

	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	% of Subst.	Notes / Assumptions:
<b>Die</b>	4.95%	0.0013	4.95%	0.0013	Silicon chip	7440-21-3	100.00%	Die size: 1.50 x 1.50 mm
<b>Mold Compound</b>	62.85%	0.0163	54.99% 4.09% 3.46% 0.31%	0.0143 0.00106 0.00090 0.00008	Silica Epoxy resin Phenol Resin Carbon Black	60676-86-0 - - 1333-86-4	87.50% 6.50% 5.50% 0.50%	Mold Compound: KE-G1250LKDS
<b>D/A Tape</b>	0.15%	0.00004	0.12% 0.03%	0.00003 0.00001	Silver Esters & resins	7440-22-4 -	80.00% 20.00%	TAPE FH-900T-25_HR9004
<b>Wire</b>	1.05%	0.00027	1.02% 0.03%	0.000266 0.000007	Copper Palladium	7440-50-8 7440-05-3	97.30% 2.70%	0.7 MIL Pd coated Cu
<b>Solder Balls</b>	2.66%	0.0007	2.62% 0.03% 0.01%	0.000681 0.000007 0.000003	Tin (Sn) Silver (Ag) Copper (Cu)	7440-31-5 7440-22-4 7440-50-8	98.50% 1.00% 0.50%	SAC105
<b>Substrate</b>	18.39%	0.0048	5.70% 12.50% 0.18%	0.0015 0.0033 0.0000	BT Resins Glass fiber Bisphenol A	- 65997-17-3 80-05-7	31.00% 68.00% 1.00%	BT Resin CCL-HL832NX-A*
<b>Foil</b>	4.09%	0.0011	3.03% 1.01% 0.05%	0.00079 0.00026 0.00001	Copper Nickel plating Gold plating	7440-50-8 7440-02-0 7440-57-5	74.07% 24.69% 1.24%	
<b>Solder Mask</b>	5.81%	0.0015	3.27% 0.93% 1.28% 0.17% 0.03% 0.13%	0.000849 0.000242 0.000332 0.000045 0.000008 0.000035	Quartz 3-methoxy-3-methylbutylacetate Barium Sulfate Talc Naphthalene Trade secret ingredients	14808-60-7 103429-90-9 7727-43-7 14807-96-6 91-20-3 -	56.20% 16.00% 22.00% 3.00% 0.50% 2.30%	Solder mask PSR4000 AUS 308

Lattice regards this materials information to be correct but makes no guarantee as to its accuracy or completeness, including, but not limited to, with respect to its compliance with applicable environmental laws and regulations. Lattice subcontracts the production, test and assembly of hardware devices to independent third-party vendors and materials suppliers ("Contractors"). All data provided hereunder is based on information received from Contractors. Lattice has not independently verified the accuracy or completeness of this information which is provided solely for your reference in connection with the use of Lattice products.

[www.latticesemi.com](http://www.latticesemi.com)



Rev. G