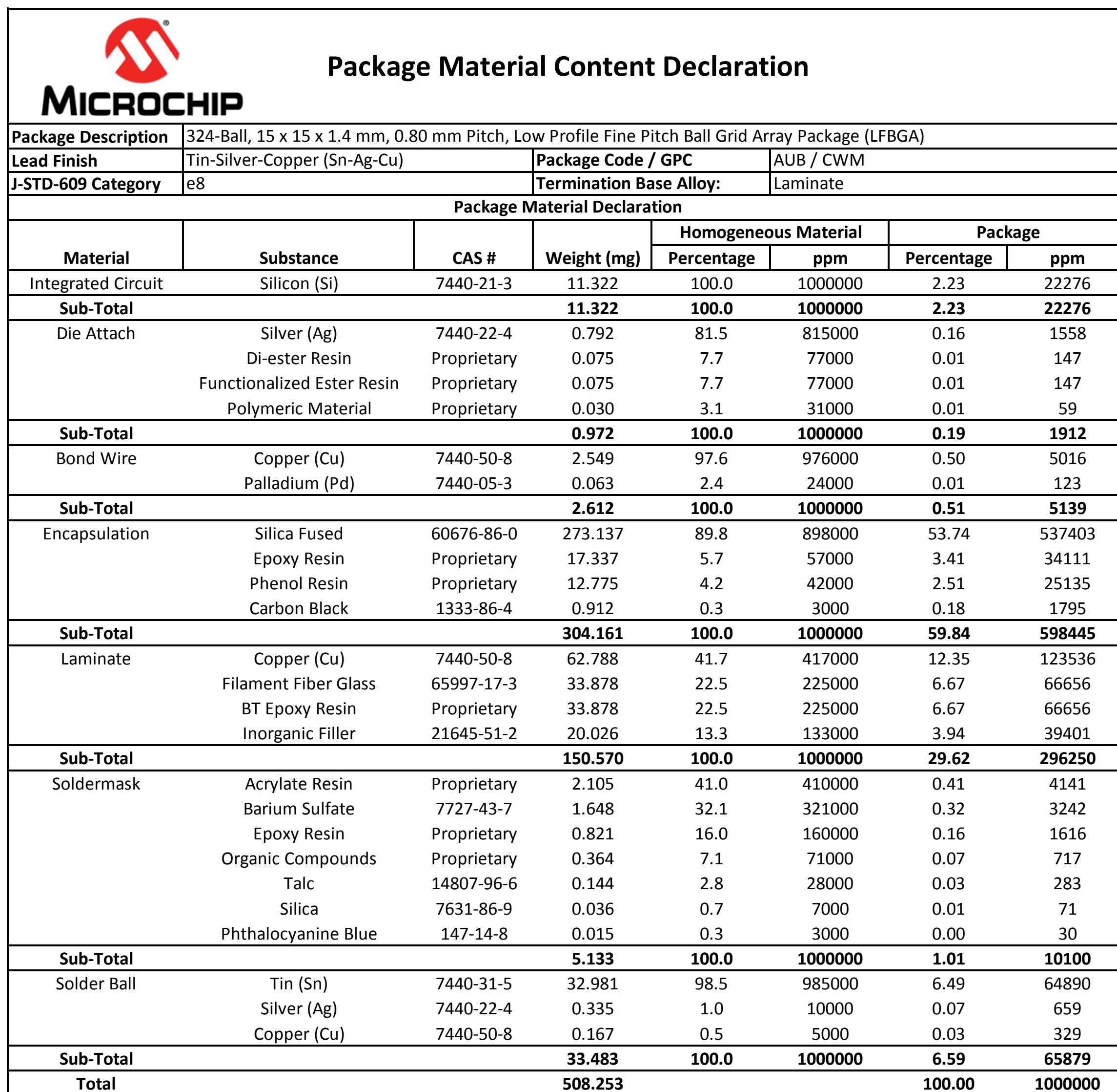

Package Material Content Declaration

Package Description	324-Ball, 15 x 15 x 1.4 mm, 0.80 mm Pitch, Low Profile Fine Pitch Ball Grid Array Package (LFBGA)		
Lead Finish	Tin-Silver-Copper (Sn-Ag-Cu)	**Package Code / GPC**	AUB / CWM
J-STD-609 Category	e8	**Termination Base Alloy:**	Laminate

Package Material Declaration

				Homogeneous Material		Package	
Material	**Substance**	**CAS #**	**Weight (mg)**	**Percentage**	**ppm**	**Percentage**	**ppm**
Integrated Circuit	Silicon (Si)	7440-21-3	11.322	100.0	1000000	2.23	22276
Sub-Total			**11.322**	**100.0**	**1000000**	**2.23**	**22276**
Die Attach	Silver (Ag)	7440-22-4	0.792	81.5	815000	0.16	1558
	Di-ester Resin	Proprietary	0.075	7.7	77000	0.01	147
	Functionalized Ester Resin	Proprietary	0.075	7.7	77000	0.01	147
	Polymeric Material	Proprietary	0.030	3.1	31000	0.01	59
Sub-Total			**0.972**	**100.0**	**1000000**	**0.19**	**1912**
Bond Wire	Copper (Cu)	7440-50-8	2.549	97.6	976000	0.50	5016
	Palladium (Pd)	7440-05-3	0.063	2.4	24000	0.01	123
Sub-Total			**2.612**	**100.0**	**1000000**	**0.51**	**5139**
Encapsulation	Silica Fused	60676-86-0	273.137	89.8	898000	53.74	537403
	Epoxy Resin	Proprietary	17.337	5.7	57000	3.41	34111
	Phenol Resin	Proprietary	12.775	4.2	42000	2.51	25135
	Carbon Black	1333-86-4	0.912	0.3	3000	0.18	1795
Sub-Total			**304.161**	**100.0**	**1000000**	**59.84**	**598445**
Laminate	Copper (Cu)	7440-50-8	62.788	41.7	417000	12.35	123536
	Filament Fiber Glass	65997-17-3	33.878	22.5	225000	6.67	66656
	BT Epoxy Resin	Proprietary	33.878	22.5	225000	6.67	66656
	Inorganic Filler	21645-51-2	20.026	13.3	133000	3.94	39401
Sub-Total			**150.570**	**100.0**	**1000000**	**29.62**	**296250**
Soldermask	Acrylate Resin	Proprietary	2.105	41.0	410000	0.41	4141
	Barium Sulfate	7727-43-7	1.648	32.1	321000	0.32	3242
	Epoxy Resin	Proprietary	0.821	16.0	160000	0.16	1616
	Organic Compounds	Proprietary	0.364	7.1	71000	0.07	717
	Talc	14807-96-6	0.144	2.8	28000	0.03	283
	Silica	7631-86-9	0.036	0.7	7000	0.01	71
	Phthalocyanine Blue	147-14-8	0.015	0.3	3000	0.00	30
Sub-Total			**5.133**	**100.0**	**1000000**	**1.01**	**10100**
Solder Ball	Tin (Sn)	7440-31-5	32.981	98.5	985000	6.49	64890
	Silver (Ag)	7440-22-4	0.335	1.0	10000	0.07	659
	Copper (Cu)	7440-50-8	0.167	0.5	5000	0.03	329
Sub-Total			**33.483**	**100.0**	**1000000**	**6.59**	**65879**
Total			**508.253**			**100.00**	**1000000**

This semiconductor device and its homogenous materials comply with EU Directives: 2002/95/EC (27 January 2003) & Directive 2011/65/EU (08 June 2011) and 2015/863/EU (31 March 2015) and 2002/53/EC (End-of-Life Vehicles (ELV) without exemption (zero).

Compliance with the above EU Directives has been verified via internal design controls, supplier declarations, and /or analytical test data.

If a chemical substance is absent from the list above, the chemical substance is NOT an intentional ingredient in the semiconductor device and, to the best of Microchip Technology Incorporated's knowledge and belief as of the date of this document, there is no credible reason to believe that the unavoidable impurity concentration of the chemical substance, if any, is not below the threshold of regulatory concern for any regulatory scheme world-wide.

Molding compounds used by Microchip meet the UL94 V0 flammability standard for plastics. You can access the UL iQTM family of databases to obtain a test report at http://ul.com/global/eng/pages/offerings/industries/chemicals/plastics/ .

The protective "tubes" in which the specific product is shipped are made from polyvinyl chloride (PVC) plastic. "Window envelopes" used to hold the packing slip on the outer box and certain "reels" may be made from PVC plastic.

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Assembled package referenced above is EU REACH compliant based on the latest SVHC candidate list of ECHA which can be found at http://echa.europa.eu/web/guest/candidate-list-table.