



Materials Declaration

Package	BGA
Body Size	19 X 19
Ball Count	324
Option	Pb-free
Ball Size	0.60 mm

Molding Compound			
Item	% of Compound	Weight (g)	PPM
SiO2 Filler	86.2	3.73 E-01	281649
Epoxy resin	6.0	2.60 E-02	19605
Phenol Resin	6.0	2.60 E-02	19605
Metal Hydroxide	1.5	6.49 E-03	4901
Carbon Black	0.3	1.30 E-03	980
		4.33 E-01	326740

Laminate			
Item	% of Laminate	Weight (g)	PPM
BT Resin	27.0	1.49 E-01	112148
Glass fiber	25.0	1.38 E-01	103841
Cu	18.0	9.90 E-02	74765
Ni	11.0	6.05 E-02	45690
Soldermask	11.0	6.05 E-02	45690
Au	8.0	4.40 E-02	33229
		5.50 E-01	415362

Solder Ball			
Item	% of Solder Ball	Weight (g)	PPM
Sn	96.5	2.62 E-01	197695
Ag	3.0	8.14 E-03	6146
Cu	0.5	1.36 E-03	1024
		2.71 E-01	204865

Bond Wires			
Item	% of Wire	Weight (g)	PPM
Au	99.99	9.76 E-03	7367

Chip			
Item	% of Chip	Weight (g)	PPM
Si	100.0	5.15 E-02	38884

Die Attach			
Item	% of Die Attach	Weight (g)	PPM
Ag	75.0	6.74 E-03	5086
Diester	12.0	1.08 E-03	814
Epoxy resin	5.0	4.49 E-04	339
Functionalized ester	5.0	4.49 E-04	339
Functionalized urethane	3.0	2.69 E-04	203
		8.98 E-03	6782

Package Totals	
Weight (g)	PPM
1.32 E+00	1000000

Molding Compound		
Item	PPM	Method
Pb	Not Detected	USEPA3052, ICP-OES
Cd	Not Detected	USEPA3052, ICP-OES
Hg	Not Detected	USEPA3052, ICP-OES
Cr+6	Not Detected	USEPA 3060A & USEPA 7196A
PBB	Not Detected	USEPA 3540C/3550C. Analysis was performed by GC/MS
PBDE	Not Detected	USEPA 3540C/3550C. Analysis was performed by GC/MS

Die Attach Paste		
Item	PPM	Method
Pb	5.00	US EPA Method 3052, ICP-OES
Cd	Not Detected	US EPA Method 3052, ICP-OES
Hg	Not Detected	US EPA Method 3052, ICP-OES
Cr+6	Not Detected	US EPA Method 3060A & 7196A, UV-VIS
PBB	Not Detected	Analysis was performed by GC/MS
PBDE	Not Detected	Analysis was performed by GC/MS

Laminate		
Item	PPM	Method
Pb	Not Detected	US EPA Method 3052, ICP-OES
Cd	Not Detected	US EPA Method 3052, ICP-OES
Hg	Not Detected	US EPA Method 3052, ICP-OES
Cr+6	Not Detected	US EPA Method 3060A & 7196A, UV-VIS
PBB	Not Detected	Analysis was performed by GC/MS
PBDE	Not Detected	Analysis was performed by GC/MS

Note: The information provided in this declaration are true to the best of ADI's knowledge. ADI derived most of the information listed in this declaration from documents provided by third parties, and assumes no liability to any inaccuracy of such information.



ADI Proprietary





Materials Declaration

Package	BGA
Body Size	19 X 19
Ball Count	324
Option	Standard
Ball Size	0.60 mm

Molding Compound			
Item	% of Compound	Weight (g)	PPM
Fused silica	72.8	3.15 E-01	231363
Epoxy resin	10.3	4.47 E-02	32843
Phenol resin	10.3	4.47 E-02	32843
Crystalline silica	4.7	2.03 E-02	14911
Carbon black	0.9	4.07 E-03	2989
Antimony trioxide	0.9	4.07 E-03	2989
		4.33 E-01	317938

Laminate			
Item	% of Laminate	Weight (g)	PPM
BT Resin	27.0	1.49 E-01	109127
Glass fiber	25.0	1.38 E-01	101044
Cu	18.0	9.90 E-02	72751
Ni	11.0	6.05 E-02	44459
Soldermask	11.0	6.05 E-02	44459
Au	8.0	4.40 E-02	32334
		5.50 E-01	404174

Solder Ball			
Item	% of Solder Ball	Weight (g)	PPM
Sn	62.0	1.91 E-01	140296
Pb	36.0	1.11 E-01	81462
Ag	2.0	6.16 E-03	4526
		3.08 E-01	226283

Bond Wires			
Item	% of Wire	Weight (g)	PPM
Au	99.99	9.76 E-03	7169

Chip			
Item	% of Chip	Weight (g)	PPM
Si	100.0	5.15 E-02	37837

Die Attach			
Item	% of Die Attach	Weight (g)	PPM
Ag	70.5	6.33 E-03	4652
Epoxy resin	17.6	1.58 E-03	1163
Silane compound	6.6	5.94 E-04	437
Phenolic resin	2.6	2.37 E-04	174
Curing agent & hardener	2.6	2.37 E-04	174
		8.98 E-03	6599

Package Totals		
Weight (g)	PPM	
1.36 E+00	1000000	

Molding Compound		
Item	PPM	Method
Pb	Not Detected	USEPA3052, ICP-OES
Cd	Not Detected	USEPA3052, ICP-OES
Hg	Not Detected	USEPA3052, ICP-OES
Cr+6	Not Detected	USEPA 3060A & USEPA 7196A
PBB	Not Detected	USEPA 3540C/3550C. Analysis was performed by GC/MS
PBDE	Not Detected	USEPA 3540C/3550C. Analysis was performed by GC/MS

Die Attach Paste		
Item	PPM	Method
Pb	Not Detected	USEPA3052, ICP-OES
Cd	Not Detected	USEPA3052, ICP-OES
Hg	Not Detected	USEPA3052, ICP-OES
Cr+6	Not Detected	USEPA 3060A & USEPA 7196A
PBB	Not Detected	USEPA 3540C/3550C. Analysis was performed by GC/MS
PBDE	Not Detected	USEPA 3540C/3550C. Analysis was performed by GC/MS

Laminate		
Item	PPM	Method
Pb	Not Detected	US EPA Method 3052, ICP-OES
Cd	Not Detected	US EPA Method 3052, ICP-OES
Hg	Not Detected	US EPA Method 3052, ICP-OES
Cr+6	Not Detected	US EPA Method 3060A & 7196A, UV-VIS
PBB	Not Detected	Analysis was performed by GC/MS
PBDE	Not Detected	Analysis was performed by GC/MS

Note: The information provided in this declaration are true to the best of ADI's knowledge. ADI derived most of the information listed in this declaration from documents provided by third parties, and assumes no liability to any inaccuracy of such information.



ADI Proprietary

