Materials Declaration

Package	CSP BGA
Body Size	12 X 12
Ball Count	121
Ball Size	0.6
Option	Pb Free

Molding Compound

Item	% of Compound	Weight (g)	PPM
Epoxy resin	7	1.08 E-02	22887
SiO2 Filler	85	1.31 E-01	277913
Phenol Resin	6.5	1.00 E-02	21252
Carbon Black	0.5	7.71 E-04	1635
Metal Hydroxide	1	1.54 E-03	3270

Laminate

Item	% of Laminate	Weight (g)	PPM
BT-Epoxy	28	4.78 E-02	101322
Glass Fiber	25	4.27 E-02	90466
Copper	19	3.24 E-02	68754
Gold	11	1.88 E-02	39805
Nickel	7.8	1.33 E-02	28225
Solder Mask	9.35	1.60 E-02	33834
Brominated Compound	Confidential	Not Determined	

Solder Ball

	% of Solder Ball	Weight (g)	PPM
Sn	96.5	1.11 E-01	235130
Ag	3	3.45 E-03	7310
Cu	0.5	5.75 E-04	1218

Bond Wires

	% of Wire	Weight (g)	PPM
Au	99.99	1.88 E-03	3988

Chip

	% of Chip	Weight (g)	PPM
Si	100	2.59 E-02	54903

Die Attach

Item	% of Die Attach	Weight (g)	PPM
Resin	24	9.16 E-04	1941
Ag Filler	76	2.90 E-03	6147

Package Totals

Weight (g)	PPM
4.72 E-01	1000000

Molding Compound

Item	PPM	Method
Pb	<2.0	EPA method #3052 (ICPAES)
Cd	<2.0	BS EN 1122:2001B (ICPaes)
Hg	<2.0	Mercury Analyser
Cr+6	<2.0	EPA method #3060A(UV)

Die Attach Paste

Item	PPM	Method
Pb	<5.0	ICP-AES
Cd	<5.0	ICP-AES
Hg	<5.0	ICP-AES
Cr+6	<5.0	ICP-AES

Laminate

Item	PPM	Method
Pb	<14	
Cd	<2.0	
Hg	<2.0	
Cr+6	<19	
PBB	Not Detected	
PBDE	Not Detected	

STS-BC-E

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.

ANALOG DEVICES

ADI Proprietary

10/29/04

Materials Declaration

Package	CSP BGA
Body Size	12 X 12
Ball Count	121
Ball Size	0.6
Option	SnPbAg

Molding Compound

Item	% of Compound	Weight (g)	PPM
Silica	90	1.36 E-01	289866
Epoxy Resin	4.8	7.24 E-03	15460
Phenol resin	3.91	5.90 E-03	12593
Antimony Trioxide	0.69	1.04 E-03	2222
Bromine	0.6	9.05 E-04	1932

Laminate

Item	% of Laminate	Weight (g)	PPM
BT-Epoxy	28	4.78 E-02	102057
Glass Fiber	25	4.27 E-02	91122
Copper	19	3.24 E-02	69253
Gold	11	1.88 E-02	40094
Nickel	7.8	1.33 E-02	28430
Solder Mask	9.35	1.60 E-02	34080
Brominated Compound	Confidential	Not Determined	

Solder Ball

	% of Solder Ball	Weight (g)	PPM
Sn	62	7.13 E-02	152164
Pb	36	4.14 E-02	88353
Ag	2	2.30 E-03	4909

Bond Wires

	% of Wire	Weight (g)	PPM
Au	99.99	1.88 E-03	4017

Chip

	% of Chip	Weight (g)	PPM
Si	100	2.59 E-02	55302

Die Attach

Item	% of Die Attach	Weight (g)	PPM
Resin	23	8.78 E-04	1874
Ag Filler	77	2.94 E-03	6273

Package Totals

Weight (g)	PPM
4.68 E-01	1000000

Molding Compound

Item	PPM	Method
Cd	<5	BS EN 1122:2001B (ICPaes)

Die Attach Paste

Item	PPM	Method
Pb	<5.0	ICP-AES
Cd	<5.0	ICP-AES
Hg	<5.0	ICP-AES
Cr+6	<5.0	ICP-AES

Laminate

Item	PPM	Method
Pb	<14	
Cd	<2.0	
Hg	<2.0	
Cr+6	<19	
PBB	Not Detected	
PBDE	Not Detected	

STS-BC-A

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ANALOG DEVICES

ADI Proprietary

10/29/04