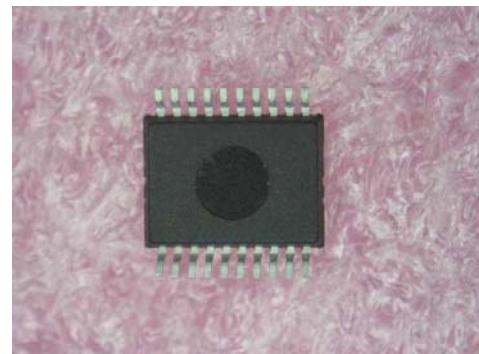


Physical Inspection Report

Customer:	1-SOURCE	Order ref:	TM162019-10
Manufacturer:	Cirrus Logic / Crystal	Requestor:	Aimee Morales
Part Number:	CS4390-KS	Date/Time:	2007-12-12
Technician:	Arjen	Received by:	Oh Ling
datasheet :	http://www.datasheet4u.com/html/C/S/4/CS4390_CirrusLogic.pdf.html		
Observations:	<p>Received 100pcs and removed 13pcs at random for inspection per AQL sampling plan.</p> <p>Found 3pcs have bent leads, 5pcs have exposed copper and 2pcs have contaminants on the leads. All parts have a coating on the leads.</p> <p>There are 5pcs with contaminants on the body and surfaces have a coating. We found 2 different parts number with "CS4390-KS" and "CS4390KSEP", also all have 5 different date code with 9832, 9813, 0005, 0038 and 9924.</p> <p>Decapsulation shows the parts are made by Silicon Labs. therefore the IC's are Counterfeit. silicon Labs does not manufacture A/D converters. they specialize in RF technology.</p> <p>X-ray shows the internal wiring is intact.</p>		
Analysis:	Coating / Remarkd		



Top-side



Bottom-side

Receiving Inspection

Number of boxes	
Condition of box	N/A
Type of box	No Box received
Barcode label	No
Type of carrier	Tubes
ESD protection	No
MSL protection	No
Desiccant	No
HIC card	No
Bag open Date/Time	
Unit weight	0.81g
Net weight	0.042kg

External Visual Inspection - Terminals

Horizontal alignment	Fail	QTY	3
Vertical alignment	Pass	QTY	13
Missing pins	No	QTY	
Exposed copper	Yes	QTY	5
Oxidation	Not apparent	QTY	
Contaminants	Dirt / dust	QTY	2
Lead integrity	Pass	QTY	13
Surface finish			
If BGA solder ball finishing	N/A	QTY	

External Visual Inspection - Body

Count QTY	100		
AQL sample size	13		
Package style	SO-20		
Customer PO #			
Description:	24-Bit / Stereo D/A Converter for Digital Audio		
Date code:	9832/9813/0005/0038/9924		
Lot code:			
Country of origin	Philippines		
Chips/ cracks	No	QTY	
Scratches	No	QTY	
Contaminants	Dirt / dust	QTY	5
Surface finish	Coated / black		
Pin 1 indicator	Yes		
Dimensions:	Pass	QTY	13

External Visual Inspection - Marking

Marking Location	Top-side	if mixed, QTY:	
Marking alignment	Off center	if mixed, QTY:	
Marking color	White	if mixed, QTY:	
Application technique	Pad stamped	if mixed, QTY:	
Font and logo consistency	consistent	if mixed, QTY:	
Surface adhesion	Surface adhesion on	if mixed, QTY:	
Physical removal test	Fail		
Chemical removal test	Fail		



Tubes as arrived



Different parts number (with date code 9924)



Different parts number (with date code 0038)



Different parts number (with date code 0005)



Different parts number (with date code 9813)



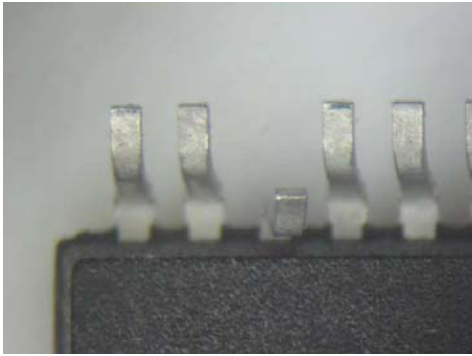
Different parts number (with date code 9832)



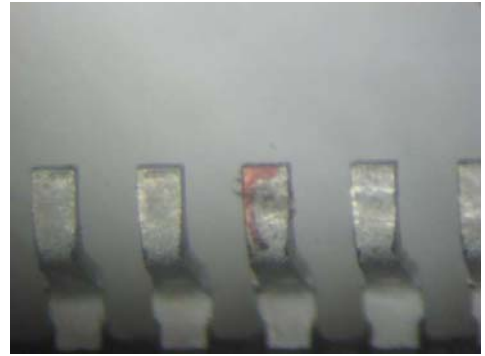
Country of origin



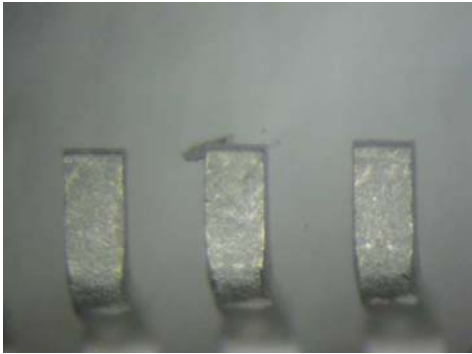
Surfaces have a coating



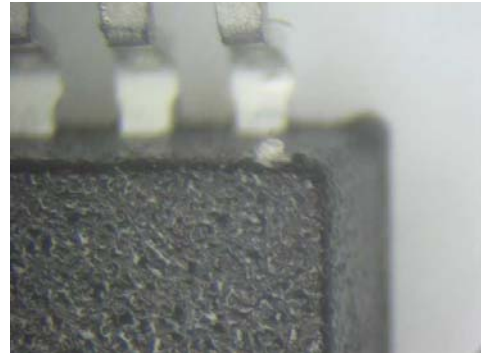
Bent leads



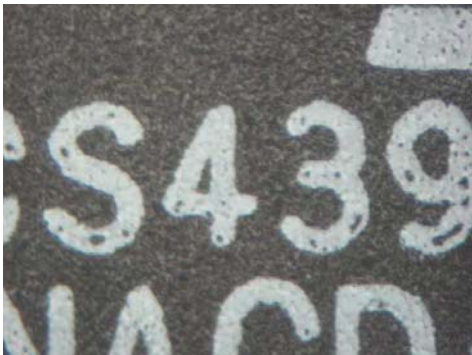
Exposed copper



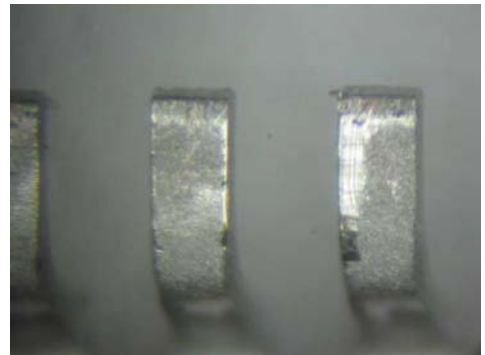
Contaminants on the leads



Contaminants on the body



Marking defect



Have a coating on the leads



Before chemical test

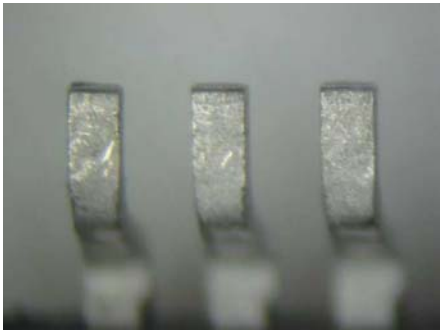


After chemical test

Solderability Test

Kind of test performed	Dip and look test
Equipment used	Solder pot
Leaded / Lead free	Lead free
Test result	Pass

Notes on the test result:



Before Testing



After Testing

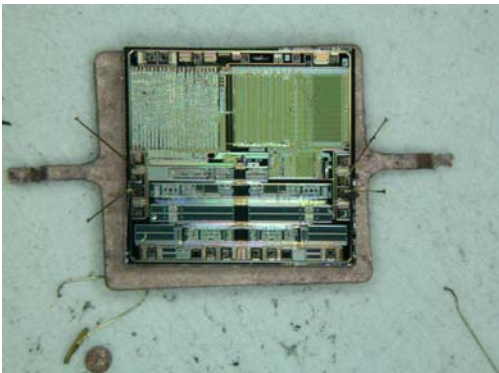
Decapsulation

Comments on the Decapsulation pictures

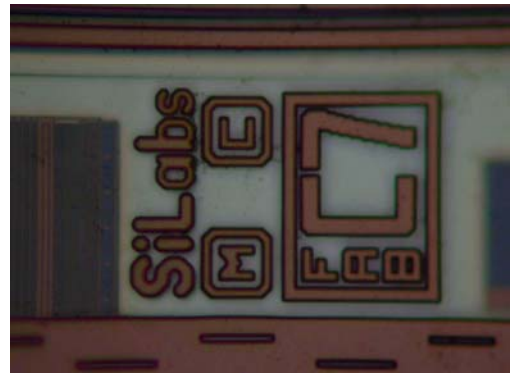
Decapsulation shows the parts are made by Silicon Labs. therefore the IC's are Counterfeit. silicon Labs dos not manufacture A/D converters. they specialize in RF technology.



Ic as arrived at the Lab



die as found inside the IC

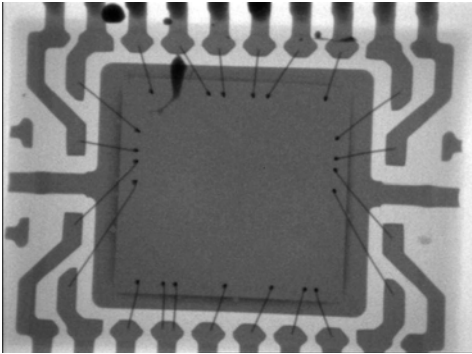


Si Labs

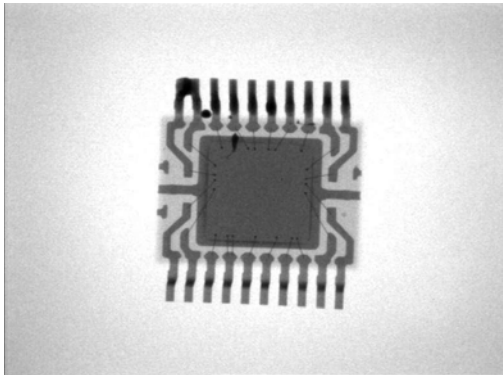
X-Ray

Comments on the X-Ray pictures

X-ray shows the internal wiring is intact



Internal wiring intact



Internal wiring intact