
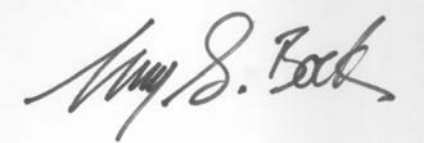


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<i>Test Report No.:</i>		<i>Page 1 of 6</i>	
Auftraggeber: <i>Client:</i>	Alien Technology Corporation 18220 Butterfield Blvd Morgan Hill CA 95037 USA Vorbei Hergestellt: <i>Manufactured by:</i> Alien Technology Corporation 18220 Butterfield Blvd Morgan Hill CA 95037 USA		
Gegenstand der Prüfung: <i>Test Item:</i>	Material samples for analysis		
Bezeichnung: <i>Identification:</i>	PN 1860072		
Anlieferungszustand: <i>Delivery condition:</i>	einwandfrei <i>apparent good</i>	Eingangsdatum: <i>Date of Receipt:</i>	04/30/2008
Prüfort: <i>Testing Location:</i>	TÜV Rheinland of North America Detroit, MI USA		
Prüfgrundlage: <i>Test Specification:</i>	Directive 2002/95/EC on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)		
Prüfergebnis: <i>Test Result:</i>	(3) Samples tested: Pass		
geprüft/ tested by:		kontrolliert/ checked by:	
			
05/14/2008	Scott Sagamang Project Engineer	05/14/2008	Geoffrey Bock Project Manager
<u>Datum</u> <i>Date</i>	<u>Name</u> <i>Name</i>	<u>Unterschrift</u> <i>Signature</i>	<u>Datum</u> <i>Date</i>
		<u>Unterschrift</u> <i>Signature</i>	<u>Name</u> <i>Name</i>
Sonstiges/ Other Aspects:			
Test Method: IEC 62321 , Ed.1 111/54/CDV Maximum Concentration Values (MCV's) are based on Directive 2005/618/EC . Exemptions are based on Directive 2005/717/EC, 2005/747/EC, 2006/310/EC, 2006/690/EC, 2006/691/EC and 2006/692/EC.			
Abkürzungen: ok / P = entspricht Prüfgrundlage fail / F = entspricht nicht Prüfgrundlage n.a. / N = nicht anwendbar		Abbreviations: ok / P = passed fail / F = failed n.a. / N = not applicable	
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens.			
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2. General Test Information

Bill of Material:

No.	Sample Name	Material	Color	Conclusion
1	Test Area 1	NON-PVC	Clear	Pass
2	Test Area 2	NON-PVC	Copper	Pass
3	Test Area 3	NON-PVC	Gold/Copper	Pass

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2. Test Results

XRF-Screening results in (ppm)

No.	ED-XRF Mode	Unit	Pb	Cd	Cr	Hg	Br	Comment
1	Polymeric	ppm	<4	<27	<71	<7	<3	Pass
2	Polymeric	ppm	<25	<18	<104	<16	<25	Pass
3	Polymeric	ppm	<18	<21	<161	<11	<4	Pass

Remark:

1. *: These items are inconclusive by XRF-Screening and should be retested by chemical testing.

2. XRF instrument: Energy Dispersive X-ray fluorescence spectrometer Niton XLt 797 WZ

3. NT = Not Tested (Bromine in Alloys)

4. XRF Screening limits for different matrices

Materials	Unit(ppm)				
	Cd	Cr	Pb	Hg	Br
Metallic	$P \leq 70 < X \leq 130 < F$	$P \leq 700 < X$	$P \leq 700 < X \leq 1300 < F$	$P \leq 700 < X \leq 1300 < F$	--
Polymeric	$P \leq 70 < X \leq 130 < F$	$P \leq 700 < X$	$P \leq 700 < X \leq 1300 < F$	$P \leq 700 < X \leq 1300 < F$	$P \leq 300 < X$
Electronic Components	$P \leq 40 < X \leq 150 < F$	$P \leq 500 < X$	$P \leq 500 < X \leq 1500 < F$	$P \leq 500 < X \leq 1500 < F$	$P \leq 250 < X$

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Confirmation-Analysis

No.1				
Parameter:	Unit	Result	Requirement	Conclusion
Chemical analysis not required	mg/kg			
No.2				
Parameter:	Unit	Result	Requirement	Conclusion
Chemical analysis not required	mg/kg			
No.3				
Parameter:	Unit	Result	Requirement	Conclusion
Chemical analysis not required	mg/kg			

*: DecaBDE in polymeric applications are exempted according to Directive 2005/717/EC.
mg/kg = ppm

Main test instruments used for this method:

Instrument	Manufactory	Model / Type
X-ray Fluorescence Spectrometry	Niton	XLt 797 WZ
UV-Vis		
ICP-OES		
GC-MS		

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4. Sample Photos



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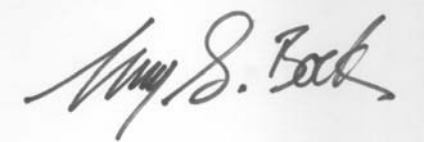
5. Exemption

Applications of lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB) or polybrominated diphenyl ethers (PBDE) which are exempted from the requirements of Article 4(1)

1. Mercury in compact fluorescent lamps not exceeding 5 mg per lamp.
 2. Mercury in straight fluorescent lamps for general purposes not exceeding:

— halophosphate	10 mg
— triphosphate with normal lifetime	5 mg
— triphosphate with long lifetime	8 mg.
 3. Mercury in straight fluorescent lamps for special purposes.
 4. Mercury in other lamps not specifically mentioned in this Annex.
 5. Lead in glass of cathode ray tubes, electronic components and fluorescent tubes.
 6. Lead as an alloying element in steel containing up to 0,35 % lead by weight, aluminium containing up to 0,4 % lead by weight and as a copper alloy containing up to 4 % lead by weight.
 7. Lead in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead), Lead in solders for servers, storage and storage array systems, network infrastructure equipment for switching, signalling, transmission as well as network management for telecommunications, Lead in electronic ceramic parts (e.g. piezoelectronic devices).
 8. Cadmium and its compounds in electrical contacts and cadmium plating except for applications banned under Directive 91/338/EEC (*) amending Directive 76/769/EEC (**) relating to restrictions on the marketing and use of certain dangerous substances and preparations.
 9. Hexavalent chromium as an anti-corrosion of the carbon steel cooling system in absorption refrigerators.
 - 9a. DecaBDE in polymeric applications
 - 9b. Lead in lead-bronze bearing shells and bushes
 10. --
 11. Lead used in compliant pin connector systems.
 12. Lead as a coating material for the thermal conduction module c-ring.
 13. Lead and cadmium in optical and filter glass.
 14. Lead in solders consisting of more than two elements for the connection between the pins and the package of microprocessors with a lead content of more than 80% and less than 85% by weight
 15. Lead in solders to complete a viable electrical between semiconductor die and carrier within integrated circuit Flip Chip packages.
 16. Lead in linear incandescent lamps with silicate coated tubes.
 17. Lead halide as radiant agent in High Intensity Discharge (HID) lamps used for professional reprography applications
 18. Lead as activator in the fluorescent powder (1 % lead by weight or less) of discharge lamps when used as sun tanning lamps containing phosphors such as BSP (BaSi2O5:Pb) as well as when used as speciality lamps for diazo-printing reprography, lithography, insect traps, photochemical and curing processes containing phosphors such as SMS ((Sr,Ba)2MgSi2O7:Pb).
 19. Lead with PbBiSn-Hg and PbInSn-Hg in specific compositions as main amalgam and with PbSn-Hg as auxiliary amalgam in very compact Energy Saving Lamps (ESL). Lead oxide in glass used for bonding front and rear substrates of flat fluorescent lamps used for Liquid Crystal Displays (LCD).
 20. Lead oxide in glass used for bonding front and rear substrates of flat fluorescent lamps used for Liquid Crystal Displays (LCD).
 21. Lead and cadmium in printing inks for the application of enamels on borosilicate glass.
 22. Lead as impurity in RIG (rare earth iron garnet) Faraday rotators used for fibre optic communications systems.
 23. Lead in finishes of fine pitch components other than connectors with a pitch of 0.65 mm or less with NiFe lead frames and lead in finishes of fine pitch components other than connectors with a pitch of 0.65 mm or less with copper lead frames.
 24. Lead in solders for the soldering to machined through hole discoidal and planar array ceramic multilayer capacitors.
 25. Lead oxide in plasma display panels (PDP) and surface conduction electron emitter displays (SED) used in structural elements; notably in the front and rear glass dielectric layer, the bus electrode, the black stripe, the address electrode, the barrier ribs, the seal frit and frit ring as well as in print pastes.
 26. Lead oxide in the glass envelope of Black Light Blue (BLB) lamps.
 27. Lead alloys as solder for transducers used in high-powered (designated to operate for several hours at acoustic power levels of 125 dB SPL and above) loudspeakers.
 28. Hexavalent chromium in corrosion preventive coatings of unpainted metal sheetings and fasteners used for corrosion protection and Electromagnetic Interference Shielding in equipment falling under category three of Directive 2002/96/EC (IT and telecommunications equipment). Exemption granted until 1 July 2007
 29. Lead bound in crystal glass as defined in Annex I (Categories 1, 2, 3 and 4) of Council Directive 69/493/EEC
- The a.m. exemptions are quoted according to 2002/95/EC, 2005/717/EC, 2005/747/EC, 2006/310/EC, 2006/690/EC, 2006/691/EC and 2006/692/EC.

-End-

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<i>Test Report No.:</i>		<i>Page 1 of 6</i>	
Auftraggeber: <i>Client:</i>	Alien Technology Corporation 18220 Butterfield Blvd Morgan Hill CA 95037 USA Vorbei Hergestellt: <i>Manufactured by:</i> Alien Technology Corporation 18220 Butterfield Blvd Morgan Hill CA 95037 USA		
Gegenstand der Prüfung: <i>Test Item:</i>	Material samples for analysis		
Bezeichnung: <i>Identification:</i>	PN 0950072-001		
Anlieferungszustand: <i>Delivery condition:</i>	einwandfrei <i>apparent good</i>	Eingangsdatum: <i>Date of Receipt:</i>	04/30/2008
Prüfort: <i>Testing Location:</i>	TÜV Rheinland of North America Detroit, MI USA		
Prüfgrundlage: <i>Test Specification:</i>	Directive 2002/95/EC on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)		
Prüfergebnis: <i>Test Result:</i>	(3) Samples tested: Pass		
geprüft/ tested by:		kontrolliert/ checked by:	
			
05/14/2008	Scott Sagamang Project Engineer	05/14/2008	Geoffrey Bock Project Manager
<u>Datum</u> <i>Date</i>	<u>Name</u> <i>Name</i>	<u>Unterschrift</u> <i>Signature</i>	<u>Datum</u> <i>Date</i>
<u>Name</u> <i>Name</i>	<u>Unterschrift</u> <i>Signature</i>	<u>Name</u> <i>Name</i>	<u>Unterschrift</u> <i>Signature</i>
Sonstiges/ Other Aspects:			
Test Method: IEC 62321 , Ed.1 111/54/CDV Maximum Concentration Values (MCV's) are based on Directive 2005/618/EC . Exemptions are based on Directive 2005/717/EC, 2005/747/EC, 2006/310/EC, 2006/690/EC, 2006/691/EC and 2006/692/EC.			
Abkürzungen: ok / P = entspricht Prüfgrundlage fail / F = entspricht nicht Prüfgrundlage n.a. / N = nicht anwendbar		Abbreviations: ok / P = passed fail / F = failed n.a. / N = not applicable	
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens.			
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2. General Test Information

Bill of Material:

No.	Sample Name	Material	Color	Conclusion
1	Test Area 1	NON-PVC	White	Pass
2	Test Area 2	NON-PVC	White/Copper	Pass
3	Test Area 3	NON-PVC	White/Gold/Copper	Pass

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2. Test Results

XRF-Screening results in (ppm)

No.	ED-XRF Mode	Unit	Pb	Cd	Cr	Hg	Br	Comment
1	Polymeric	ppm	<3	<19	<43	<5	<2	Pass
2	Polymeric	ppm	<18	<14	<135	<13	<16	Pass
3	Polymeric	ppm	<33	<25	<264	<29	<4	Pass

Remark:

1. *: These items are inconclusive by XRF-Screening and should be retested by chemical testing.

2. XRF instrument: Energy Dispersive X-ray fluorescence spectrometer Niton XLt 797 WZ

3. NT = Not Tested (Bromine in Alloys)

4. XRF Screening limits for different matrices

Materials	Unit(ppm)				
	Cd	Cr	Pb	Hg	Br
Metallic	P≤70<X≤130<F	P≤700<X	P≤700<X≤1300<F	P≤700<X≤1300<F	--
Polymeric	P ≤70<X≤130< F	P≤700<X	P≤700<X≤1300<F	P≤700<X≤1300<F	P≤300<X
Electronic Components	P ≤40<X≤150< F	P≤500<X	P≤500<X≤1500<F	P≤500<X≤1500<F	P≤250<X

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Confirmation-Analysis

No.1				
Parameter:	Unit	Result	Requirement	Conclusion
Chemical analysis not required	mg/kg			
No.2				
Parameter:	Unit	Result	Requirement	Conclusion
Chemical analysis not required	mg/kg			
No.3				
Parameter:	Unit	Result	Requirement	Conclusion
Chemical analysis not required	mg/kg			

*: DecaBDE in polymeric applications are exempted according to Directive 2005/717/EC.
mg/kg = ppm

Main test instruments used for this method:

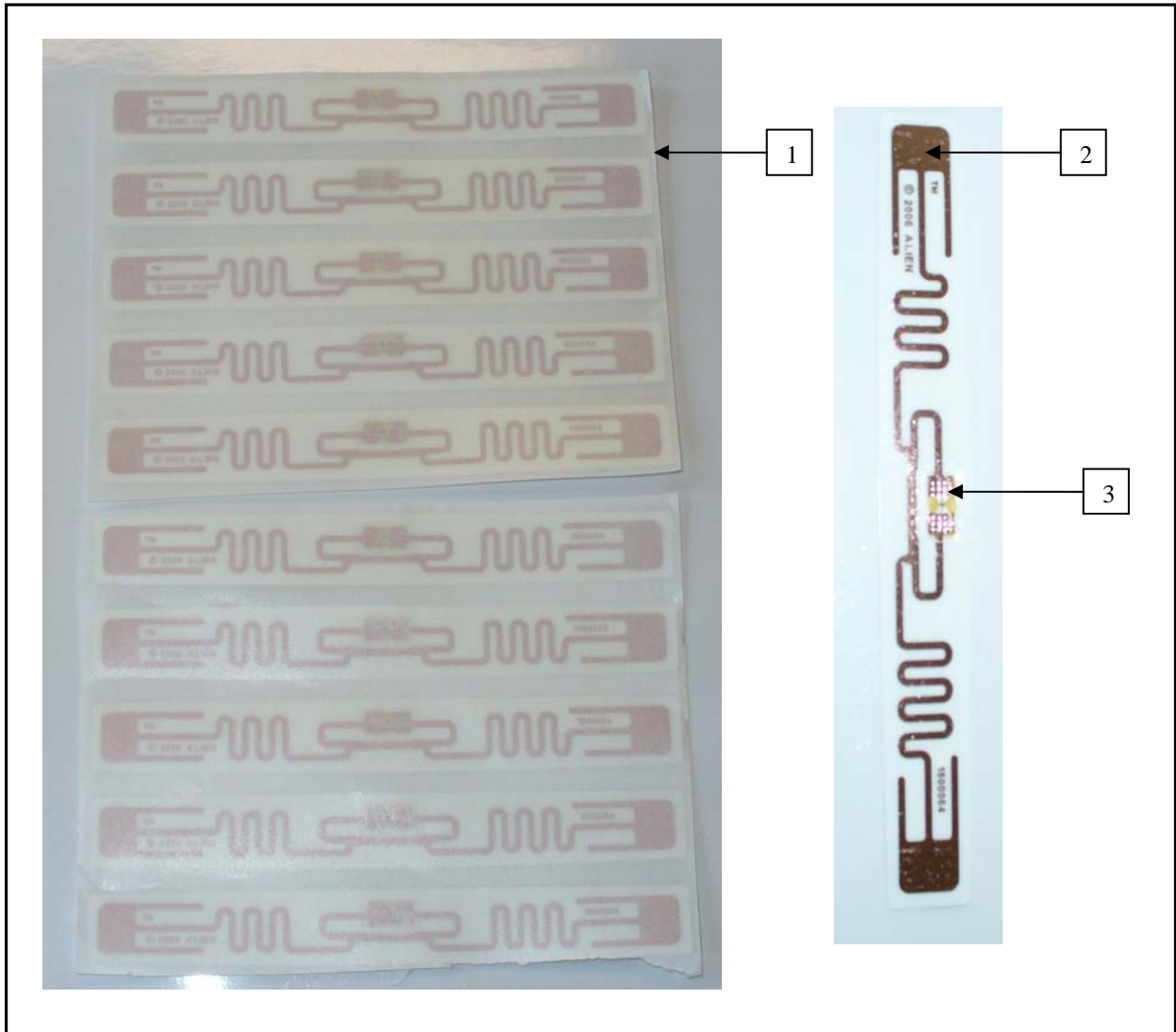
Instrument	Manufactory	Model / Type
X-ray Fluorescence Spectrometry	Niton	XLt 797 WZ
UV-Vis		
ICP-OES		
GC-MS		

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4. Sample Photos



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 6. Lead as an alloying element in steel containing up to 0,35 % lead by weight, aluminium containing up to 0,4 % lead by weight and as a copper alloy containing up to 4 % lead by weight.
 7. Lead in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead), Lead in solders for servers, storage and storage array systems, network infrastructure equipment for switching, signalling, transmission as well as network management for telecommunications, Lead in electronic ceramic parts (e.g. piezoelectronic devices).
 8. Cadmium and its compounds in electrical contacts and cadmium plating except for applications banned under Directive 91/338/EEC (*) amending Directive 76/769/EEC (**) relating to restrictions on the marketing and use of certain dangerous substances and preparations.
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-End-