

Test Report

No. LPCI/20763/07
CTS Ref. CTS/07/5096/Avago

Date : 2007/10/26

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AVAGO TECHNOLOGIES MANUFACTURING (SINGAPORE) PTE. LTD.
1 YISHUN AVENUE 7 SINGAPORE 768923

The following merchandise was (were) submitted and identified by the client as:

Sample Description : Fiber Optic Transceiver (HFBR-5984LZ)
Part Numbers : HFBR-59L1xxxZ, HFBR-5911xxZ, HFBR-5963xxZ,
HFBR-5961xxZ, HFBR-5921LZ.
Sample Receiving Date : 2007/10/25
Testing Period : 2007/10/25 To 2007/10/26


Test Requested : In accordance with the RoHS Directive 2002/95/EC, and its amendment directives.

Test Method : (1) With reference to BS EN 1122:2001, Method B for Cadmium Content.
Analysis was performed by ICP
(2) With reference to EPA Method 3050B for Lead Content.
Analysis was performed by ICP
(3) With reference to EPA Method 3052 for Mercury Content.
Analysis was performed by ICP
(4) With reference to EPA Method 3060A & 7196A for Hexavalent Chromium.
Analysis was performed by UV/Vis Spectrophotometry.
(5) With reference to EPA Method 3540C/3550B for PBB / PBDE Content.
Analysis was performed by GC/MS.

Test Results : Please refer to next page.

Analysts : Lim Meng Hoe & Jocelyn Christmas

SGS LABORATORY SERVICES (M) SDN. BHD.



CHONG KIEN LEN
B.Sc.(HONS) AMIC
LAB MANAGER

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Test results by chemical method (Unit: mg/kg)

Test Item(s):	Method (refer to)	Result	MDL
Cadmium(Cd)	(1)	N.D.	2
Lead (Pb)	(2)	N.D.	2
Mercury (Hg)	(3)	N.D.	2
Hexavalent Chromium (CrVI) by alkaline extraction	(4)	N.D.	2
Sum of Polybrominated Biphenyl (PBBs)	(5)	N.D.	-
Monobromobiphenyl		N.D.	5
Dibromobiphenyl		N.D.	5
Tribromobiphenyl		N.D.	5
Tetrabromobiphenyl		N.D.	5
Pentabromobiphenyl		N.D.	5
Hexabromobiphenyl		N.D.	5
Heptabromobiphenyl		N.D.	5
Octabromobiphenyl		N.D.	5
Nonabromobiphenyl		N.D.	5
Decabromobiphenyl		N.D.	5
Sum of Polybrominated Diphenylethers (PBDEs)		N.D.	-
Monobromodiphenyl ether		N.D.	5
Dibromodiphenyl ether		N.D.	5
Tribromodiphenyl ether		N.D.	5
Tetrabromodiphenyl ether		N.D.	5
Pentabromodiphenyl ether		N.D.	5
Hexabromodiphenyl ether		N.D.	5
Heptabromodiphenyl ether		N.D.	5
Octabromodiphenyl ether		N.D.	5
Nonabromodiphenyl ether		N.D.	5
Decabromodiphenyl ether		N.D.	5

Test Part Description :

As per page 3

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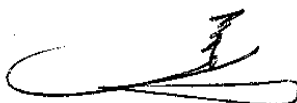
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Test Part Description :

Sample Description : Fiber Optic Transceiver (HFBR-5984LZ)
Part Numbers : HFBR-59L1xxxZ, HFBR-5911xxZ, HFBR-5963xxZ,
HFBR-5961xxZ, HFBR-5921LZ.

Note : (a) mg/kg = ppm
(b) N.D. = Not Detected
(c) MDL = Method Detection Limit
(d) The above result based on composite testing as per request by client.

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1. DETERMINATION OF HEXAVALENT CHROMIUM BY

METHOD US EPA 3060A/7196A

Sample Preparation
↓
Add colour-developing reagent
↓
Acidify with H₂SO₄
↓
Let stand for 5-10 min
↓
Analyses by UV- Spectrophotometer (540 nm)

2. DETERMINATION OF LEAD CONTENT BY US

EPA 3050B

Cut sample in small pieces
↓
Weight sample (1.0g) into digestion vessel
↓
Acid digestion (HCl and HNO₃)
↓
"Totally Dissolved"
↓
Analyses by ICP

3. MICROWAVE ASSISTED ACID DIGESTION OF SILICEOUS AND ORGANICALLY BASED METRICES (US EPA 3052)

Cut sample in small pieces
↓
Weight sample (0.2-0.5g) into digestion vessel
↓
Acid digestion (HF and HNO₃) – Microwave
↓
"Totally Dissolved"
↓
Analyses by ICP

4. PLASTIC – DETERMINATION OF CADMIUM – WET DECOMPOSITION METHOD (EN 1122) – METHOD B

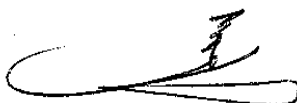
Cut sample in small pieces
↓
Weight sample (1.0g) into Kjeldahl flask
↓
Acid digestion (H₂SO₄)
↓
"Totally Dissolved"
↓
Analyses by ICP

5. DETERMINATION OF PBB/PBDE WITH GC-MS

Cut sample in small pieces
↓
Weight sample (2g) into extraction thimble
↓
Soxhlet Extraction with Toluene
↓
Filter through 0.45 um membrane filter
↓
Analyses by GC-MS (with appropriate dilution)

**** End of Report ****

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