



DATE: Jun 02, 2004

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Yageo/Phycomp Products Content Data- R-chips

I. Normal Products- with 90/10 Sn/Pb termination.

Type	Cd/ppm	Pb/ppm	Cr+6/ppm	Hg/ppm	Ref	Testing Date
RC/YC series	ND	5257.4	N/A	ND	CE/2003/B1510	2003/11/28

II. "LFP" Products- with 100Sn termination.[Introduced from 2003 Jan].

Type	Cd/ppm	Pb/ppm	Cr+6/ppm	Hg/ppm	Ref	Testing Date
"LFP" RC0402	ND	935.9	ND	ND	CE/2003/A0692	2003/10/16
					CE/2003/90843	2003/09/19
"LFP" RC0603	ND	649.6	ND	ND	CE/2003/82013	2003/09/04
					CE/2003/90843	2003/09/19
"LFP" RC0805	ND	679.4	ND	ND	CE/2003/91496	2003/09/25
					CE/2003/90843	2003/09/19
"LFP" RC1206	ND	810.1	ND	ND	CE/2003/91497	2003/09/25
					CE/2003/90843	2003/09/19
"LFP"YC124	ND	894.7	ND	ND	CE/2003/A0696	2003/10/16
					CE/2003/90843	2003/09/19
"LFP"YC164	ND	137.2	ND	ND	CE/2003/91500	2003/09/25
					CE/2003/90843	2003/09/19

III. "LFP" Products termination test data.

Type	Pb/ppm	Ref	Testing Date
"LFP" All	76.3	CE/2003/A0691	2003/10/16

Test method:

Cadmium [Cd]: ICP-AES after as per EN1122 method B2001.

Lead [Pb]: ICP-AES after as per US EPA3050B.

Chromium VI[Cr+6]: US EPA 7196A & 3060A.

Mercury[Hg]: ICP-AES after as per US EPA 3052.

Conclusion:

Yageo "LFP" R-chips meet Sony SS-00259 3rd version requirement.



Innovative Service Around the Globe

YAGEO

DATE: Jun 02, 2004

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Attachment1: Content test report [by SGS]- I. Normal R-chips Products



Test Report

YAGEO CORPORATION
NO. 11, MIN CHUAN ROAD, TASHEH,
KAOHSIUNG, TAIWAN, R.O.C.

Report No : CE/2003/B1510
Date : 2003/11/28
Page : 1 of 2

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

<u>Type of Product</u>	:	CHIP RESISTOR
<u>Style/Item No</u>	:	RC/YC SERIES
<u>Sample Received</u>	:	2003/11/24.
<u>Testing Date</u>	:	2003/11/24 TO 2003/11/28

Test Result : - Please see the next page -

Stefan Hsu, M.R./ Asst. Supervisor
Signed for and on behalf of
SGS TAIWAN LTD.

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TW 0382123



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YAGEO

DATE: Jun 02, 2004

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Test Report

YAGEO CORPORATION
NO. 11, MIN CHUAN ROAD, TASHEH,
KAOHSIUNG, TAIWAN, R.O.C.

Report No : CE/2003/B1510

Date : 2003/11/28

Page : 2 of 2

Test Result

PART NAME NO.1 : TEST SAMPLE PLEASE SEE THE SAMPLE CARD

Test Item(s):	Unit	Method	MDL	Result			
				NO.1			
Cadmium (Cd)	ppm	ICP-AES After As per EN 1122, Method B:2001 or other acid digestion.	2	N.D.			
Mercury (Hg)	ppm	ICP-AES After As per US EPA 3052 or other acid digestion.	2	N.D.			
Lead (Pb)	ppm	ICP-AES After As per US EPA 3050B or other acid digestion.	2	5257.4			
Antimony (Sb)	ppm	ICP-AES After As per US EPA 3050B or other acid digestion.	2	105.5			

- NOTE: (1) N.D. = Not detected.(<MDL)
(2) ppm = mg/kg
(3) MDL= Method Detection Limit
(4) " ---" = Not Applicable
(5) " -" = Not Regulation
(6) * = Results shown are of the adjusted analytical results.
(7) *** = Qualitative analysis(No Unit)
(8) Negative = Undetectable / Positive = Detectable.

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TW 0382122

SGS Taiwan Ltd.
台灣檢驗科技股份有限公司

No. 126-1 Wu Kong Road, Waik Industrial Zone, Taipei County, Taiwan. / 台北縣五股工業區五工路126-1號
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Innovative Service Around the Globe

YAGEO

DATE: Jun 02, 2004

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Attachment2: Content test report [by SGS]- II. "LFP" R-chips Products

SGS

Test Report

YAGEO CORPORATION
NO. 11, MIN CHUAN ROAD, TASHEH,
KAOHSIUNG, TAIWAN, R.O.C.

Report No : CE/2003/A0692
Date : 2003/10/16
Page : 1 of 2

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

<u>Type of Product</u>	: CHIP RESISTOR
<u>Style/Item No</u>	: RC0402(LEAD-FREE)
<u>Sample Received</u>	: 2003/10/13.
<u>Testing Date</u>	: 2003/10/13 TO 2003/10/16

Test Result : - Please see the next page -


Daniel Yen, M.P., Operation Manager
 Signed for and on behalf of
SGS TAIWAN LTD.

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TW 0574738



Innovative Service Around the Globe

YAGEO

DATE: Jun 02, 2004

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Test Report

YAGEO CORPORATION
NO. 11, MIN CHUAN ROAD, TASHEH,
KAOHSIUNG, TAIWAN, R.O.C.

Report No : CE/2003/A0692

Date : 2003/10/16

Page : 2 of 2

Test Result

PART NAME NO.1 : TEST SAMPLE PLEASE SEE THE SAMPLE CARD

Test Item(s):	Unit	Method	MDL	Result				Spec.
				NO.1				
Cobalt (Co)	ppm	ICP-AES After As per US EPA 3050B or other acid digestion.	2	22.0				---
Chromium (Cr)	ppm	ICP-AES After As per US EPA 3050B or other acid digestion.	2	281.8				---
Nickel (Ni)	ppm	ICP-AES After As per US EPA 3050B or other acid digestion.	2	56796.0				---
Lead (Pb)	ppm	ICP-AES After As per US EPA 3050B or other acid digestion.	2	935.9				---
Antimony (Sb)	ppm	ICP-AES After As per US EPA 3050B or other acid digestion.	2	26.1				---

- NOTE: (1) N.D. = Not detected.(<MDL)
 (2) ppm = mg/kg
 (3) MDL= Method Detection Limit
 (4) * ---" = Not Applicable
 (5) *=Results shown are of the adjusted analytical results.

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TW 0574737

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台灣檢驗科技股份有限公司 電話(886-2) 2280-8936 傳真(886-2) 2298-3237 www.sgs.com.tw

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Innovative Service Around the Globe

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DATE: Jun 02, 2004

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SGS

Test Report


YAGEO CORPORATION
NO.11 MIN CHUAN ROAD, TASHEH, KAOHSIUNG,
TAIWAN, R.O.C.

Report No : CE/2003/82013
Date : 2003/09/04
Page : 1 of 2

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

<u>Type of Product</u>	:	CHIP RESISTORS
<u>Style/Item No</u>	:	RC 0603 (LEAD-FREE)
<u>Sample Received</u>	:	2003/08/29.
<u>Testing Date</u>	:	2003/08/29 TO 2003/09/04

Test Result : - Please see the next page -


Anren Lee, M.R. / Supervisor
Signed for and on behalf of

SGS TAIWAN LTD.

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DATE: Jun 02, 2004

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YAGEO CORPORATION
NO.11 MIN CHUAN ROAD, TASHEH, KAOHSIUNG,
TAIWAN, R.O.C.

Report No : CE/2003/82013
Date : 2003/09/04
Page : 2 of 2

Test Result

PART NAME NO.1 : TEST SAMPLE PLEASE SEE THE SAMPLE CARD(MIX ALL PARTS)

Test Item(s):	Unit	Method	MDL	Result			
				NO.1			
Cobalt (Co)	ppm	ICP-AES After As per US EPA 3050B or Acid digestion.	2	17.8			
Chromium (Cr)	ppm	ICP-AES After As per US EPA 3050B or Acid digestion.	2	70.0			
Nickel (Ni)	ppm	ICP-AES After As per US EPA 3050B or Acid digestion.	2	40032.0			
Lead (Pb)	ppm	ICP-AES After As per US EPA3050B or Acid digestion.	2	649.6			
Antimony (Sb)	ppm	ICP-AES After As per US EPA 3050B or Acid digestion.	2	N.D.			

NOTE: (1) N.D. = Not detected.(<MDL)
(2) ppm = mg/kg
(3) MDL= Method Detection Limit
(4) " ---" = Not Applicable
(5) *=Results shown are of the adjusted analytical results.

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Innovative Service Around the Globe

YAGEO

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Test Report

YAGEO CORPORATION
NO. 11, MIN CHUAN ROAD, TASHEH,
KAOHSIUNG, TAIWAN, R.O.C.

Report No : CE/2003/91496
Date : 2003/09/25
Page : 1 of 2

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

<u>Type of Product</u>	: CHIP RESISTOR
<u>Style/Item No</u>	: RC0805(LEAD-FREE)
<u>Sample Received</u>	: 2003/09/22.
<u>Testing Date</u>	: 2003/09/22 TO 2003/09/25

Test Result : - Please see the next page -



Auren Lee, M.K./ Supervisor
Signed for and on behalf of
SGS TAIWAN LTD.

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Innovative Service Around the Globe

YAGEO

DATE: Jun 02, 2004

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Test Report

YAGEO CORPORATION
NO. 11, MIN CHUAN ROAD, TASHEH,
KAOHSIUNG, TAIWAN, R.O.C.

Report No : CE/2003/91496
Date : 2003/09/25
Page : 2 of 2

Test Result

PART NAME NO.1 : TEST SAMPLE PLEASE SEE THE SAMPLE CARD

Test Item(s):	Unit	Method	MDL	Result			Spec.
				NO.1			
Cobalt (Co)	ppm	ICP-AES After As per US EPA 3050B or Acid digestion.	2	16.9			---
Chromium (Cr)	ppm	ICP-AES After As per US EPA 3050B or Acid digestion.	2	79.2			---
Nickel (Ni)	ppm	ICP-AES After As per US EPA 3050B or Acid digestion.	2	32794.0			---
Lead (Pb)	ppm	ICP-AES After As per US EPA3050B or Acid digestion.	2	679.4			---
Antimony (Sb)	ppm	ICP-AES After As per US EPA 3050B or Acid digestion.	2	N.D.			---

- NOTE: (1) N.D. = Not detected.(<MDL)
 (2) ppm = mg/kg
 (3) MDL= Method Detection Limit
 (4) " ---" = Not Applicable
 (5) *=Results shown are of the adjusted analytical results.

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Test Report

YAGEO CORPORATION
NO. 11, MIN CHUAN ROAD, TASHEH,
KAOHSIUNG, TAIWAN, R.O.C.

Report No : CE/2003/91497
Date : 2003/09/25
Page : 1 of 2

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

<u>Type of Product</u>	:	CHIP RESISTOR
<u>Style/Item No</u>	:	RC1206(LEAD-FREE)
<u>Sample Received</u>	:	2003/09/22.
<u>Testing Date</u>	:	2003/09/22 TO 2003/09/25

Test Result : - Please see the next page -

Anren Lee, M.R. / Supervisor
Signed for and on behalf of
SGS TAIWAN LTD.

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Innovative Service Around the Globe

YAGEO

DATE: Jun 02, 2004

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Test Report

YAGEO CORPORATION
NO. 11, MIN CHUAN ROAD, TASHEH,
KAOHSIUNG, TAIWAN, R.O.C.

Report No : CE/2003/91497
Date : 2003/09/25
Page : 2 of 2

Test Result

PART NAME NO.1 : TEST SAMPLE PLEASE SEE THE SAMPLE CARD

Test Item(s):	Unit	Method	MDL	Result				Spec.
				NO.1				
Cobalt (Co)	ppm	ICP-AES After As per US EPA 3050B or Acid digestion.	2	11.1				---
Chromium (Cr)	ppm	ICP-AES After As per US EPA 3050B or Acid digestion.	2	66.9				---
Nickel (Ni)	ppm	ICP-AES After As per US EPA 3050B or Acid digestion.	2	19666.0				---
Lead (Pb)	ppm	ICP-AES After As per US EPA3050B or Acid digestion.	2	810.1				---
Antimony (Sb)	ppm	ICP-AES After As per US EPA 3050B or Acid digestion.	2	N.D.				---

- NOTE: (1) N.D. = Not detected.<MDL
 (2) ppm = mg/kg
 (3) MDL= Method Detection Limit
 (4) " ---" = Not Applicable
 (5) *=Results shown are of the adjusted analytical results.

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Innovative Service Around the Globe

YAGEO

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Test Report

YAGEO CORPORATION
NO. 11, MIN CHUAN ROAD, TASHIH,
KAOHSIUNG, TAIWAN, R.O.C.

Report No : CE/2003/A0696

Date : 2003/10/16

Page : 1 of 2

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

<u>Type of Product</u>	:	CHIP RESISTOR
<u>Style/Item No</u>	:	YC124(LEAD-FREE)
<u>Sample Received</u>	:	2003/10/13.
<u>Testing Date</u>	:	2003/10/13 TO 2003/10/16

Test Result : - Please see the next page -

Stefan Hsu, M.R./Asst. Supervisor
Signed for and on behalf of
SGS TAIWAN LTD.

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TW 0317913

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YAGEO

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Test Report

YAGEO CORPORATION
NO. 11, MIN CHUAN ROAD, TASHEH,
KAOHSIUNG, TAIWAN, R.O.C.

Report No : CE/2003/A0696
Date : 2003/10/16
Page : 2 of 2

Test Result

PART NAME NO.1 : TEST SAMPLE PLEASE SEE THE SAMPLE CARD

Test Item(s):	Unit	Method	MDL	Result			Spec.
				NO.1			
Cobalt (Co)	ppm	ICP-AES After As per US EPA 3052 or other acid digestion.	2	22.0			---
Chromium (Cr)	ppm	ICP-AES After As per US EPA 3052 or other acid digestion.	2	127.7			---
Nickel (Ni)	ppm	ICP-AES After As per US EPA 3052 or other acid digestion.	2	53069.0			---
Lead (Pb)	ppm	ICP-AES After As per US EPA 3052 or other acid digestion.	2	894.7			---
Antimony (Sb)	ppm	ICP-AES After As per US EPA 3052 or other acid digestion.	2	24.9			---

- NOTE: (1) N.D. = Not detected.(<MDL)
 (2) ppm = mg/kg
 (3) MDL= Method Detection Limit
 (4) " ---" = Not Applicable
 (5) *=Results shown are of the adjusted analytical results.

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Innovative Service Around the Globe

YAGEO

DATE: Jun 02, 2004

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Test Report


YAGEO CORPORATION
NO. 11, MIN CHUAN ROAD, TASHEH,
KAOHSIUNG, TAIWAN, R.O.C.

Report No : CE/2003/91500
Date : 2003/09/25
Page : 1 of 2

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

<u>Type of Product</u>	:	CHIP RESISTOR
<u>Style/Item No</u>	:	YC-164(LEAD-FREE)
<u>Sample Received</u>	:	2003/09/22.
<u>Testing Date</u>	:	2003/09/22 TO 2003/09/25

Test Result : - Please see the next page -



Anren Lee, M.R. / Supervisor
Signed for and on behalf of
SGS TAIWAN LTD.

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Innovative Service Around the Globe

YAGEO

DATE: Jun 02, 2004

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Test Report

YAGEO CORPORATION
NO. 11, MIN CHUAN ROAD, TASHEH,
KAOHSIUNG, TAIWAN, R.O.C.

Report No : CE/2003/91500
Date : 2003/09/25
Page : 2 of 2

Test Result

PART NAME NO.1 : TEST SAMPLE PLEASE SEE THE SAMPLE CARD

Test Item(s):	Unit	Method	MDL	Result				Spec.
				NO.1				
Cobalt (Co)	ppm	ICP-AES After As per US EPA 3050B or Acid digestion.	2	15.8				---
Chromium (Cr)	ppm	ICP-AES After As per US EPA 3050B or Acid digestion.	2	15.2				---
Nickel (Ni)	ppm	ICP-AES After As per US EPA 3050B or Acid digestion.	2	27470.0				---
Lead (Pb)	ppm	ICP-AES After As per US EPA3050B or Acid digestion.	2	137.2				---
Antimony (Sb)	ppm	ICP-AES After As per US EPA 3050B or Acid digestion.	2	N.D.				---

- NOTE: (1) N.D. = Not detected. (<MDL)
 (2) ppm = mg/kg
 (3) MDL= Method Detection Limit
 (4) " ---" = Not Applicable
 (5) *=Results shown are of the adjusted analytical results.

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DATE: Jun 02, 2004

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Attachment3: Content test report [by SGS]- III. "LFP" Products Termination.

SGS

Test Report

YAGEO CORPORATION
NO. 11, MIN CHUAN ROAD, TASHEH,
KAOHSIUNG, TAIWAN, R.O.C.

Report No : CE/2003/A0691
Date : 2003/10/16
Page : 1 of 1

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

Type of Product : CHIP RESISTOR
Style/Item No : LEAD-FREE PLATING LAYER
Sample Received : 2003/10/13.
Testing Date : 2003/10/13 TO 2003/10/16

Test Result

PART NAME NO.1 : TEST SAMPLE PLEASE SEE THE SAMPLE CARD

Test Item(s):	Unit	Method	MDL	Result				Spec.
				NO.1				
Lead (Pb)	ppm	ICP-AES After As per US EPA 3050B or other acid digestion.	2	76.3				

- NOTE: (1) N.D. = Not detected.(<MDL)
 (2) ppm = mg/kg
 (3) MDL= Method Detection Limit
 (4) " ---" = Not Applicable
 (5) *=Results shown are of the adjusted analytical results.

Daniel Yen
Daniel Yen, M.P., Operation Manager
Signed for and on behalf of
SGS TAIWAN LTD.

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TW 0574736

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Innovative Service Around the Globe

YAGEO

DATE: Jun 02, 2004

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Attachment4: Content test report [by SGS]- IV. "LFP" Products Cd, Cr+6 & Hg Test Data.

Explanation:

In this chemical compound test, YAGEO mixed all series (RC / YC / TC series) of Thick Film Chip Resistor to analyze. Because these following substances are certainly not used to manufacture Chip Resistor, the test result will be not effected even these components (RC / YC / TC) are mixed.



Innovative Service Around the Globe

YAGEO

DATE: Jun 02, 2004

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Test Report

YAGEO CORPORATION
NO. 11, MIN CHUAN ROAD, TASHEH, KAOHSIUNG,
TAIWAN, R.O.C.

Report No : CE/2003/90843
Date : 2003/09/19
Page : 1 of 2

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

<u>Type of Product</u>	:	CHIP RESISTORS
<u>Style/item No</u>	:	RC/YC/TC-CHIP SERIES (LEAD-FREE)
<u>Sample Received</u>	:	2003/09/12.
<u>Testing Date</u>	:	2003/09/12 TO 2003/09/19

Test Result : - Please see the next page -

Andrew Lee, M.R. / Supervisor
Signed for and on behalf of
SGS TAIWAN LTD.

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Test Report

YAGEO CORPORATION
NO. 11, MIN CHUAN ROAD, TASHEH, KAOHSIUNG,
TAIWAN, R.O.C.

Report No : CE/2003/90843

Date : 2003/09/19

Page : 2 of 2

Test Result

PART NAME NO.1 : TEST SAMPLE PLEASE SEE THE SAMPLE CARD

Table with 7 columns: Test Item(s), Unit, Method, MDL, NO.1, Result, Spec. Rows include Chlorinated Paraffin, Mirex, PBBs, PBDEs, PCBs, Polychlorinated Naphthalene, PVC free, TBBP-A-BIS, Cadmium, Mercury, and Chromium VI.

- NOTE: (1) N.D. = Not detected.(<MDL)
(2) ppm = mg/kg
(3) MDL= Method Detection Limit
(4) " ---" = Not Applicable
(5) *=Results shown are of the adjusted analytical results.

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