

Approval Sheet

Product Type	GPRS / Bluetooth Antenna
Model Number	Crete DA05
Revision	X00
Part No. / Yageo / GPRS-BT Antenna	CAN4313573022501B

Yageo (Taiwan) Ltd.

16, West 3rd Street, N.E.P.Z Kaohsiung, 811 Taiwan, R.O.C

Yageo Electronics (China) Co, Ltd

No. 10, Zhu Yuan Road, Suzhou New District, Suzhou, PRC

Multi Band Antenna with Cable & Connector	CAN4313573022501B	R00	Sept. 20, 06
		R01	Oct. 03, 06
		R02	Oct 20, 06
BY /	Teresa Chang	DATE /	Oct. 3, 2006

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1. Specifications

1.1 Specifications for Bluetooth Antenna

Frequency Range (GHz)	2.40 ~ 2.50
VSWR	2.50 max
Peak Gain (dBi)	-1.77
MiniPCI Connector	Hirose U.FL (or Compatible)
Impedance	50Ω
Operating Temperature	-40~90°C
Maximum Power	1W
Polarization	Linear
Radiation Pattern	Omni-directional

1.2 Specifications for GPRS Antenna

Frequency Range (MHz)	880 ~ 960 for GSM900 Band 1710 ~ 2170 for GSM1800/1900/IMT2000 Band
Peak Gain (dBi)	-3.07 for GSM900 Band -0.13 for GSM1800/1900/IMT2000 Band
MiniPCI Connector	IPex or Hirose
Impedance	50Ω
Operating Temperature	-40~90°C
Maximum Power	1W
Polarization	Linear
Radiation Pattern	Omni-directional

1.3 Antenna Dimension / Cable Length / Cable Diameter

Product	Crete /DA05 Antenna
Bluetooth Antenna Cable	Length=77mm, Color=White / OD=1.13mm

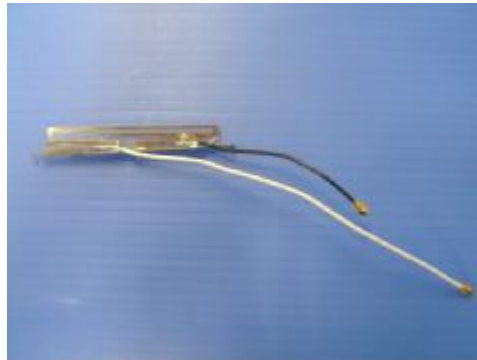
Product	Crete /DA05 Antenna
GPRS Antenna Cable	Length=52mm, Color=Black / OD=1.13mm

1.4 Packing Spec.

Product	For Example
Inner Tray	60
Carton Box	265*100



1.5 Antenna Picture



2. Test Methodology

2.1 Test Equipment

The equipment for the antenna measurement we used is as follows.

- A. Agilent 8753ET / 8719D Network Analyzer to measure the VSWR and input impedance.
- B. Three-dimensional anechoic chamber to measure the gain
(Standard dipole and horn were used to calibrate the chamber)
- C. Digital caliper to measure the dimensions.
- D. Climatic chamber for mechanical tests.

2.2 Test Setup

2.2.1 Frequency Range

Bluetooth: 2.40 ~ 2.50GHz , GPRS: 880~960MHz , 1710~2170MHz

2.2.2 Antenna Configuration

The antenna basically has two parts; the stamping and the cable assembly with the connector on one side. The detailed drawing is attached.

2.2.3 VSWR

The VSWR is measured with Agilent 8753ET / 8719D network analyzer. All the measurements are performed with the customer provided fixture. Figure 1 shows the schematic diagram for measuring VSWR.

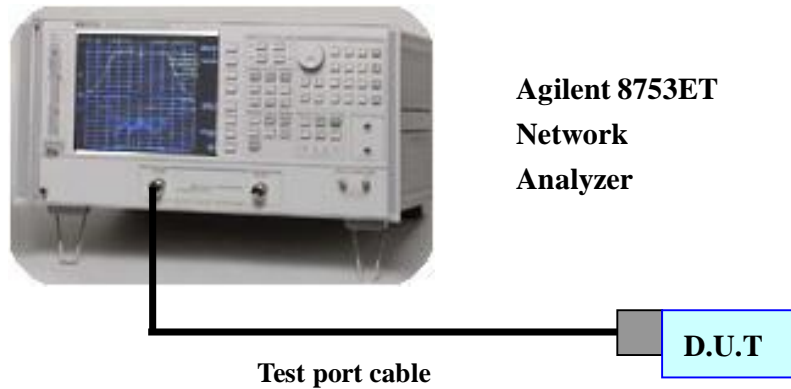


Figure 1. The schematic diagram for measuring VSWR

2.2.4 Radiation Pattern and Gain

The radiation pattern must have the omni-directional characteristic in both positions. The radiation pattern measurements are performed in the three-dimensional anechoic chamber. The chamber provides less than -30dB reflectivity from 800MHz through 8GHz . The chamber is calibrated using both standard dipole and horn antenna. The gain here is expressed as dBi that standardizes the isotropic antenna. The gain measurements are also performed in the same chamber described previously. Figure 2 shows the schematic diagram for measuring radiation pattern and gain.

2D Anechoic Chamber

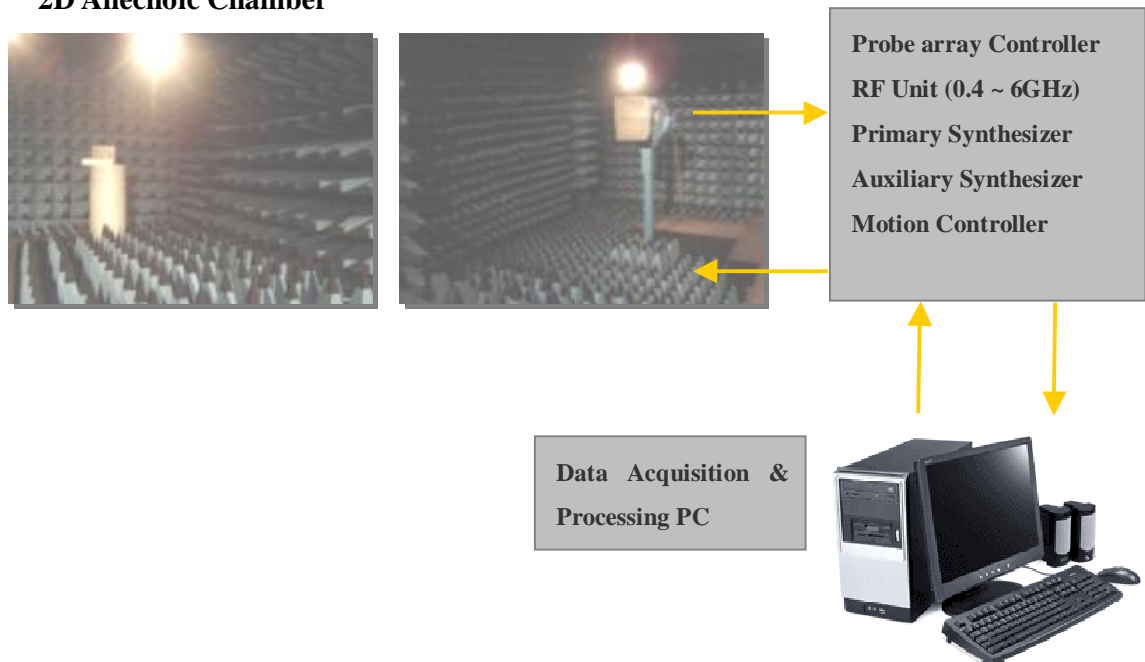
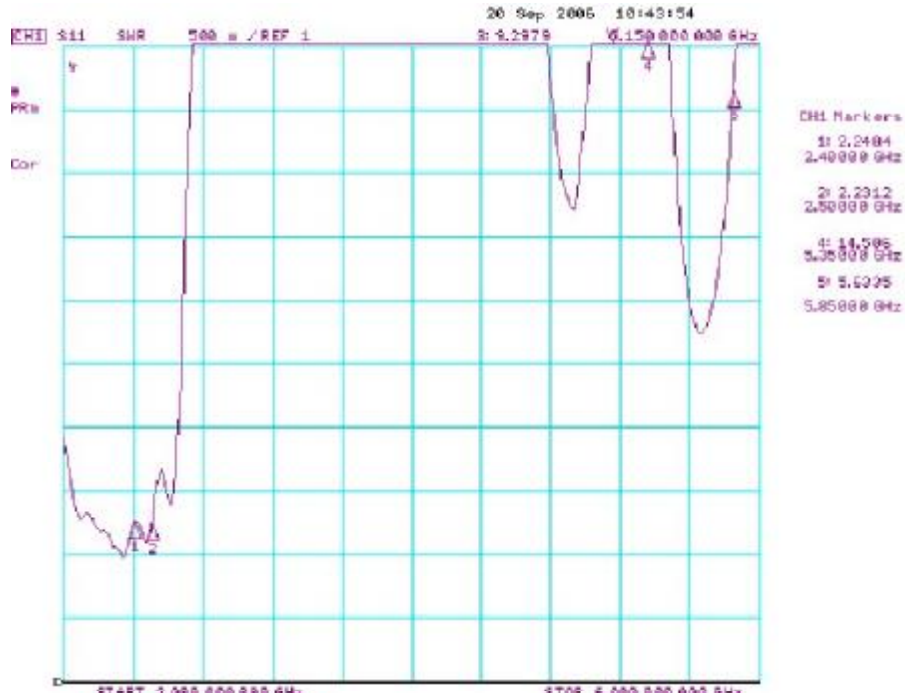


Figure 2. The schematic diagram for measuring radiation pattern and gain

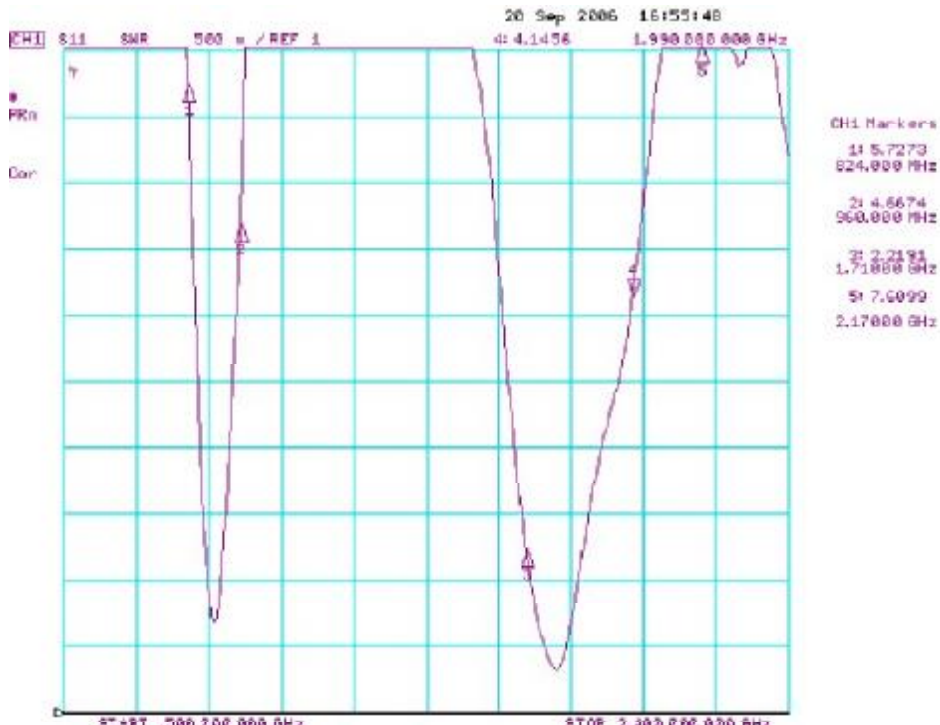
3. Performance Data

VSWR Measurement

VSWR of BLUETOOTH (White)

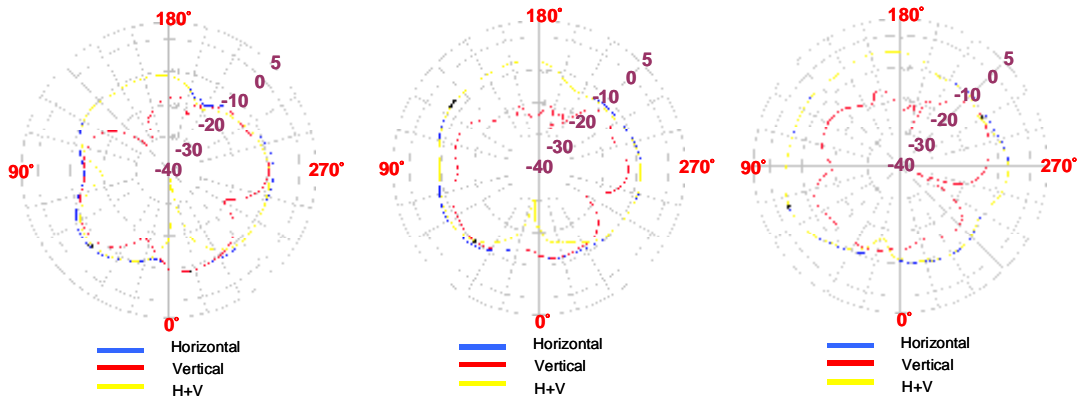


VSWR of GPRS (Black)



Radiation Pattern

-BLUETOOTH (White Cable)



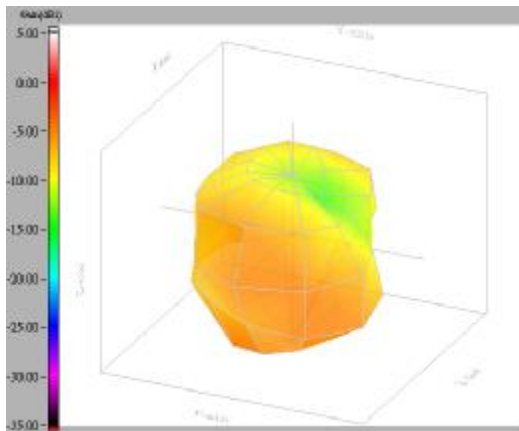
Center Frequency	2400 MHz
Horizontal Peak Gain (dBi)	-5.45
Vertical Peak Gain (dBi)	-4.92
Hori + Vert Avg. Gain (dBi)	-7.37

Center Frequency	2450 MHz
Horizontal Peak Gain (dBi)	-7.91
Vertical Peak Gain (dBi)	-4.96
Hori + Vert Avg. Gain (dBi)	-7.26

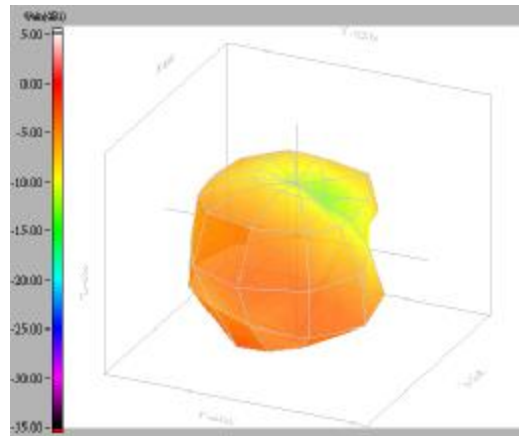
Center Frequency	2500 MHz
Horizontal Peak Gain (dBi)	-8.79
Vertical Peak Gain (dBi)	-1.77
Hori + Vert Avg. Gain (dBi)	-5.14

-GPRS(Black Cable)

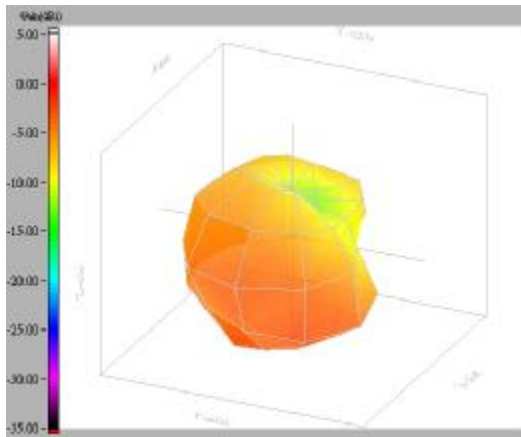
880MHz



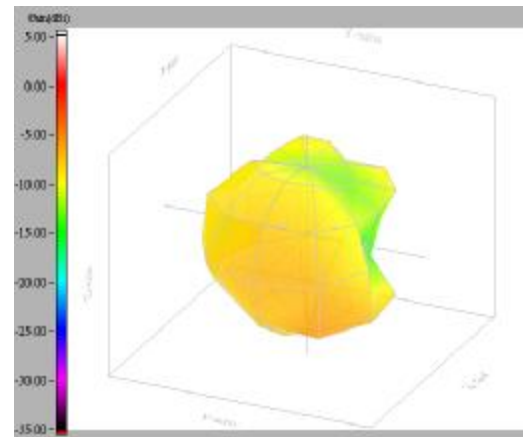
900MHz



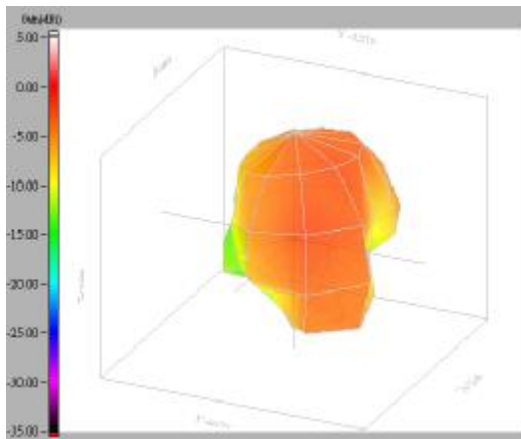
940MHz



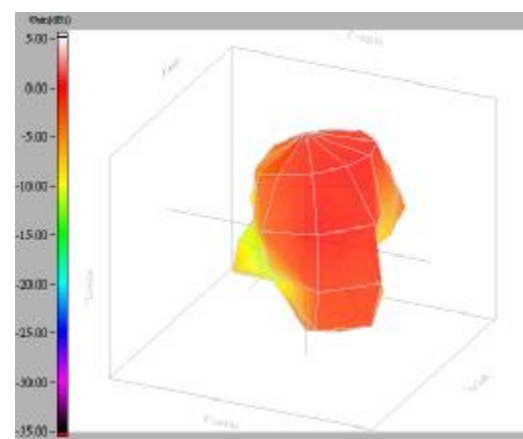
960MHz



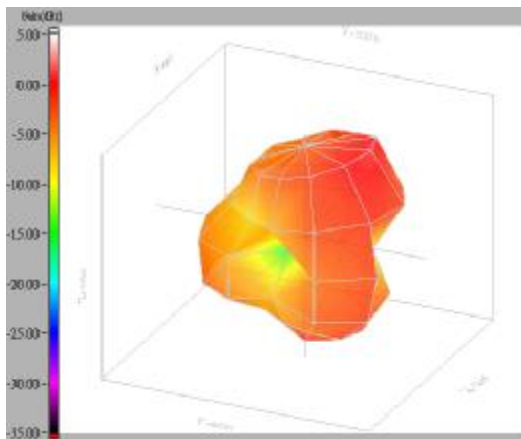
1710MHz



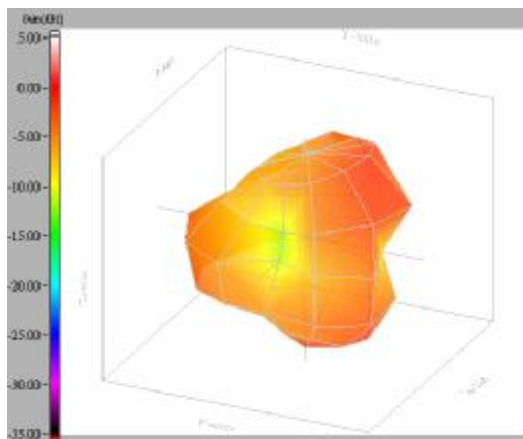
1750MHz



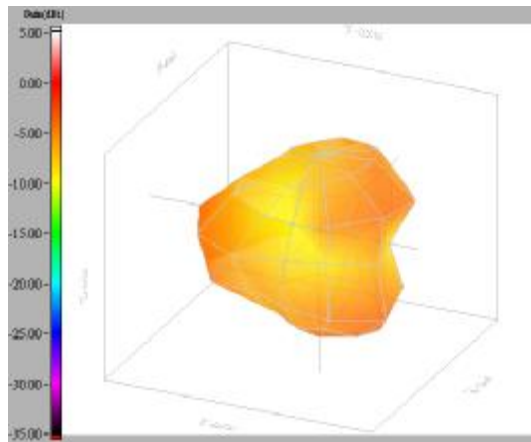
1840MHz



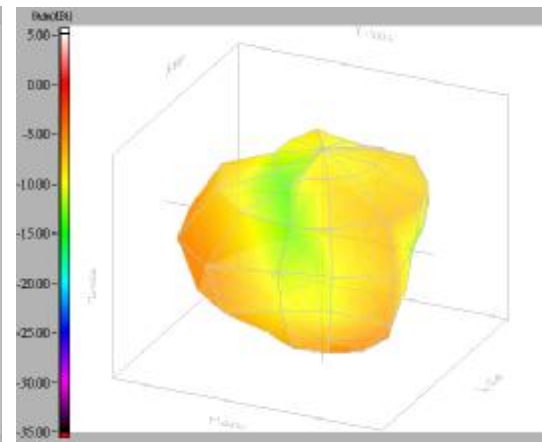
1880MHz



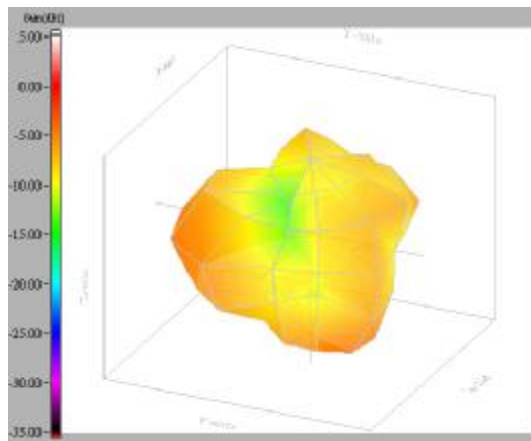
1960MHz



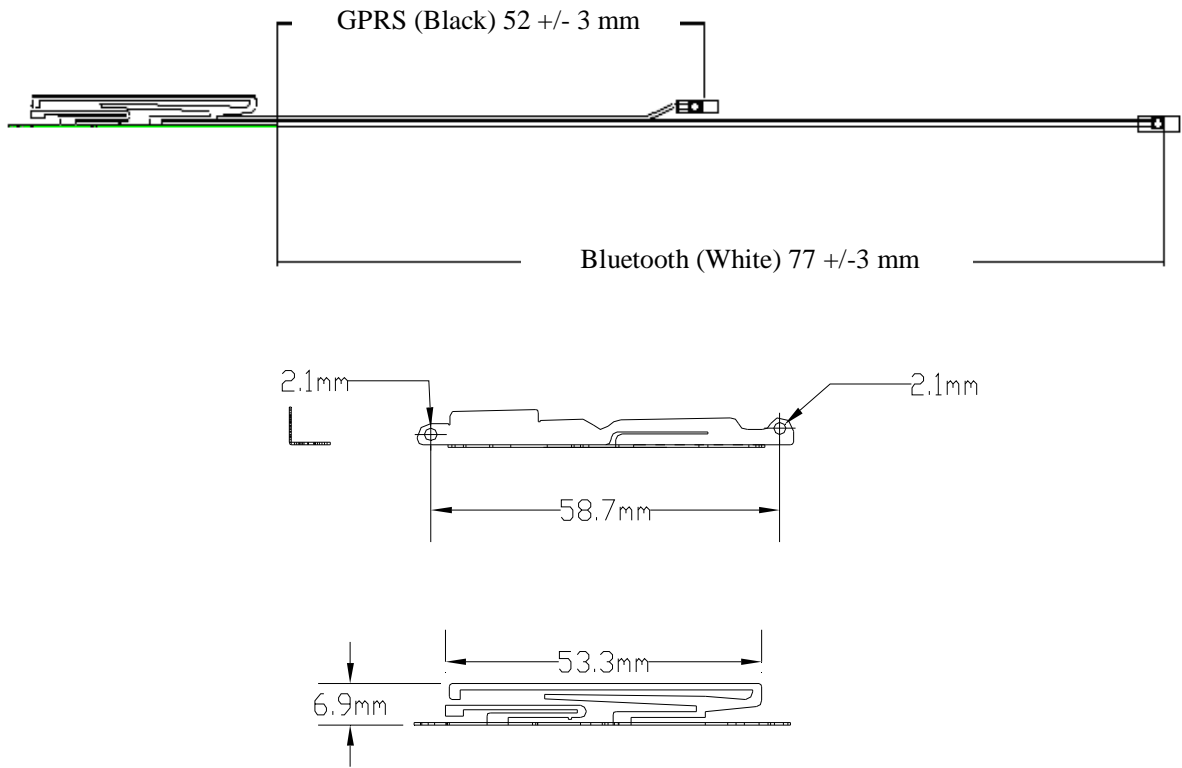
2140MHz



2170MHz



4. Antenna Drawing



5. Reliability Data For Antenna Patch (Reference To IEC)

IEC 384-10/ CECC 32 100 CLAUSE	IEC 60068-2 TEST METHOD	TEST	PROCEDURE	REQUIREMENTS
4.12	4(Na)	Rapid change of temperature	-40 °C (30 minutes) to +90 °C (30 minutes); 5 cycles	No visible damage Central Freq. Change ± 6%
4.14	3(Ca)	Damp heat	500 ± 12 hours at 40 °C; 90 to 95 % RH	No visible damage 2 hours recovery Central Freq. Change ± 6%
4.15		Endurance	500 ± 12 hours at 90 °C;	No visible damage 2 hours recovery Central Freq. Change ± 6%

6. Ordering Information: Yageo Ordering P/N Code

The antennas may be ordered by using the Yageo P/N ordering code. These code numbers can be determined by the following rules:

CAN4313 5 43 01 250 1B
F C MS T A P

F. Family Code

CAN43 = Antenna

C. Packing Type Code

13 = Bulk (1000 pcs)

M. Materials Code

5 = High Frequency Material

S. Size/Series Code

43 = KH3 Antenna

T. Tolerance/Cable

01 = Full MIMO

A. Working Frequency

252 = 2.45/5 GHz Dual Band

P. Packing

1B = 1000 pcs packing

7. Revision Control

Document Revision	Date	Content	Remark
R00	Sept. 20, 2006	New Issued	N/A
R01	Oct. 03, 2006	Revised Cable Length of GPRS BT ant.	N/A
R02	Oct. 20, 2006	Adding SGS Test Report	N/A

9. SGS Documents

SGS Report of Metal Body



TEST REPORT

REPORT NO KA/2006/60075
DATE: 2006/06/13
PAGE: 1 OF 2



THE FOLLOWING MERCHANDISE WAS(WERE) SUBMITTED ON BEHALF OF THE CLIENT AND IDENTIFIED AS:

CLIENT : Yageo Corporation.
: 16, West 3rd, N.E.P.Z. P.O. Box 35-106 Kaohsiung, Taiwan, R.O.C.
PRODUCT DESCRIPTION : METAL (PHOSPHOR BRONZE).
STYLE/ITEM NO. : MASS PRODUCTION TYPE.
SAMPLE : AS ATTACHED PHOTO.
TESTING DATE : 2006/6/12 TO 2006/6/13.
SAMPLE RECEIVED : 2006/06/12.

WE HAVE TESTED THE SAMPLE(S) SUBMITTED AS REQUESTED AND THE FOLLOWING RESULTS WERE OBTAINED.

TEST ITEM(S)	UNIT	METHOD	MDL	RESULT
Lead (Pb)	ppm	ICP-AES after reference to US EPA 3050B or other acid digestion	2	550

NOTE: (1) n.d. = not detected
(2) ppm = mg/kg
(3) MDL = Method Detection Limit

(4) Any unauthorized alteration, forgery or falsification of the content or appearance of this report is unlawful and offenders may be prosecuted to the fullest extent of the law.



Ray Chang
Richard Kuo / Supervisor
Signed for and on behalf of
SGS Taiwan Limited

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SGS Report of Metal Body (Continue)



TEST REPORT

REPORT NO. KA/2006/60875
DATE: 2006/06/13
PAGE: 2 OF 2



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TEST REPORT

REPORT NO. KA/2006/60875B-01
DATE: 2006/06/19
PAGE: 1 OF 3



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CLIENT : Yageo Corporation.
: 16, West 3rd, N.E.P.Z. P.O. Box 35-106 Kaohsiung, Taiwan, R.O.C.
PRODUCT DESCRIPTION : METAL (PHOSPHOR BRONZE).
STYLE/ITEM NO. : MASS PRODUCTION TYPE.
SAMPLE : AS ATTACHED PHOTO.
TESTING DATE : 2006/6/12 TO 2006/6/19.
SAMPLE RECEIVED : 2006/06/12.

WE HAVE TESTED THE SAMPLE(S) SUBMITTED AS REQUESTED AND THE FOLLOWING RESULTS WERE OBTAINED.

TEST ITEM(S)	UNIT	METHOD	MDL	RESULT
Cadmium (Cd)	ppm	ICP-AES after reference to EN 1122 :2001 or other acid digestion.	2	n.d.
Chromium VI (Cr+6)	ppm	UV-VIS(US EPA 7196A) after reference to US EPA 3060A.	2	n.d.
Mercury (Hg)	ppm	ICP-AES after reference to US EPA 3052 or other acid digestion.	2	n.d.
PBBs(Polybrominated biphenyls)	---	---	---	---
Monobromobiphenyl	%	With reference to USEPA3540C or USEPA3550C. Analysis was performed by HPLC/DAD, LC/MS or GC/MS. (prohibited by 2002/95/EC (RoHS), 83/264/EEC, and 76/760/EEC)	0.0005	n.d.
Dibromobiphenyl	%		0.0005	n.d.
Tribromobiphenyl	%		0.0005	n.d.
Tetrabromobiphenyl	%		0.0005	n.d.
Pentabromobiphenyl	%		0.0005	n.d.
Hexabromobiphenyl	%		0.0005	n.d.
Heptabromobiphenyl	%		0.0005	n.d.
Octabromobiphenyl	%		0.0005	n.d.
Nonabromobiphenyl	%		0.0005	n.d.
Decabromobiphenyl	%		0.0005	n.d.



Kueilan Chen
Kueilan Chen / Asst. Supervisor
Sign for and on behalf of
SGS Taiwan Limited

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SGS Report of Metal Body (Continue)



TEST REPORT

REPORT NO. KA/2008/60875B-01
DATE: 2008/06/19
PAGE: 2 OF 3

TEST ITEM(S)	UNIT	METHOD	MDL	RESULT
PBDEs (Polybrominated biphenyl ethers)	---	---	---	---
Monobromobiphenyl ether	%	With reference to USEPA3540C or USEPA3560C. Analysis was performed by HPLC/DAD, LC/MS or GC/MS (prohibited by 2002/95/EC (RoHS), 83/264/EEC, and 75/785/EEC)	0.0005	n.d.
Dibromobiphenyl ether	%		0.0005	n.d.
Tribromobiphenyl ether	%		0.0005	n.d.
Tetrabromobiphenyl ether	%		0.0005	n.d.
Pentabromobiphenyl ether	%		0.0005	n.d.
Hexabromobiphenyl ether	%		0.0005	n.d.
Heptabromobiphenyl ether	%		0.0005	n.d.
Octabromobiphenyl ether	%		0.0005	n.d.
Nonabromobiphenyl ether	%		0.0005	n.d.
Decabromobiphenyl ether	%		0.0005	n.d.

NOTE: (1) n.d. = not detected
(2) ppm = mg/kg
(3) MDL = Method Detection Limit
(4) Any unauthorized alteration, forgery or falsification of the content or appearance of this report is unlawful and offenders may be prosecuted to the fullest extent of the law.



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SGS Report of Metal Body (Continue)



TEST REPORT

REPORT NO. KA2006/60875B-01
DATE: 2006/06/19
PAGE 3 OF 3



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Measure of 515 2100

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SGS Report of Solder



TEST REPORT

REPORT NO. KA/2005/91321/A-1
 DATE: 2005/9/29
 PAGE: 1 OF 3

THE FOLLOWING MERCHANDISE WAS(WERE) SUBMITTED AND IDENTIFIED BY THE CLIENT AS :

CLIENT : YAGEO CORPORATION NANTZE BRANCH.
 : 16, WEST 3RD, N.E.P.Z, P.O. BOX 35-108 KAOHSIUNG, TAIWAN, R.O.C.
PRODUCT DESCRIPTION : SOLDER.
SAMPLE : AS ATTACHED PHOTO.
TESTING DATE : 2005/9/22 TO 2005/9/29 .
SAMPLE RECEIVED : 2005/09/22.

WE HAVE TESTED THE SAMPLE(S) SUBMITTED AS REQUESTED AND THE FOLLOWING RESULTS WERE OBTAINED.

TEST ITEM(S)	UNIT	METHOD	DET. LMT	RESULT
Cadmium (Cd)	ppm	ICP-AES after reference to EN 1122, method B:2001 or other acid digestion.	2	n.d.
Chromium VI (Cr+6)	ppm	As per US EPA 7196A and US EPA 3060A.	2	n.d.
Mercury (Hg)	ppm	ICP-AES after reference to US EPA 3052 or other acid digestion.	2	n.d.
Nickel (Ni)	ppm	ICP-AES after reference to US EPA 3050B or other acid digestion.	2	501
Lead (Pb)	ppm	ICP-AES after reference to US EPA 3050B or other acid digestion.	2	282
PBBs(Polybrominated biphenyls)	---	---	---	---
Monobromobiphenyl	%	With reference to USEPA3540C or USEPA3550C. Analysis was performed by HPLC/DAD, LC/MS or GC/MS. (prohibited by 2002/95/EC (RoHS), 83/264/EEC, and 78/769/EEC)	0.0005	n.d.
Dibromobiphenyl	%		0.0005	n.d.
Tribromobiphenyl	%		0.0005	n.d.
Tetrabromobiphenyl	%		0.0005	n.d.
Pentabromobiphenyl	%		0.0005	n.d.
Hexabromobiphenyl	%		0.0005	n.d.
Heptabromobiphenyl	%		0.0005	n.d.
Octabromobiphenyl	%		0.0005	n.d.
Nonabromobiphenyl	%		0.0005	n.d.
Decabromobiphenyl	%		0.0005	n.d.



Kueilan Chen

Kueilan Chen / Asst. Supervisor
 Sign for and on behalf of
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TEST REPORT

REPORT NO. KA/2005/91321/A-1
 DATE: 2005/9/29
 PAGE: 2 OF 3

TEST ITEM(S)	UNIT	METHOD	DET. LMT	RESULT
PBDEs(Polybrominated biphenyl ethers)	---	---	---	---
Monobromobiphenyl ether	%	With reference to USEPA3540C or USEPA3550C. Analysis was performed by HPLC/DAD, LC/MS or GC/MS. (prohibited by 2002/95/EC (RoHS), 83/264/EEC, and 76/769/EEC)	0.0005	n.d.
Dibromobiphenyl ether	%		0.0005	n.d.
Tribromobiphenyl ether	%		0.0005	n.d.
Tetrabromobiphenyl ether	%		0.0005	n.d.
Pentabromobiphenyl ether	%		0.0005	n.d.
Hexabromobiphenyl ether	%		0.0005	n.d.
Heptabromobiphenyl ether	%		0.0005	n.d.
Octabromobiphenyl ether	%		0.0005	n.d.
Nonabromobiphenyl ether	%		0.0005	n.d.
Decabromobiphenyl ether	%		0.0005	n.d.

NOTE : 1. n.d. = not detected.
 2. DET. LMT = DETECTION LIMIT.

<END>

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SGS Report of Solder (Continue)



REPORT NO. KA/2005/91321/A-1
DATE: 2005/9/29
PAGE: 3 OF 3



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SGS Report of I-Pex Connector



TEST REPORT

REPORT NO. KA/2005/A1103
DATE: 2005/10/31
PAGE: 1 OF 3

THE FOLLOWING MERCHANDISE WAS(WERE) SUBMITTED AND IDENTIFIED BY THE CLIENT AS :

CLIENT : YAGEO CORPORATION NANTZE BRANCH.
: 16, WEST 3RD, N.E.P.Z. P.O. BOX 35-106 KAOHSIUNG, TAIWAN R.O.C.
PRODUCT DESCRIPTION : I-PEX CONNECTOR.
SAMPLE : AS ATTACHED PHOTO.
TESTING DATE : 2005/10/24 TO 2005/10/31.
SAMPLE RECEIVED : 2005/10/24.

WE HAVE TESTED THE SAMPLE(S) SUBMITTED AS REQUESTED AND THE FOLLOWING RESULTS WERE OBTAINED.

TEST ITEM(S)	UNIT	METHOD	DET. LMT	RESULT
Cadmium (Cd)	ppm	ICP-AES after reference to EN 1122 :2001 or other acid digestion.	2	n.d.
Chromium VI (Cr+6)	ppm	As per US EPA 7196A and US EPA 3060A.	2	n.d.
Mercury (Hg)	ppm	ICP-AES after reference to US EPA 3052 or other acid digestion.	2	n.d.
Lead (Pb)	ppm	ICP-AES after reference to US EPA 3050B or other acid digestion.	2	n.d.
PBBs(Polybrominated biphenyls)	---	---	---	---
Monobromobiphenyl	%	With reference to USEPA3540C or USEPA3550C. Analysis was performed by HPLC/DAD, LC/MS or GC/MS. (prohibited by 2002/95/EC (RoHS), 83/264/EEC, and 76/769/EEC)	0.0005	n.d.
Dibromobiphenyl	%		0.0005	n.d.
Tribromobiphenyl	%		0.0005	n.d.
Tetrabromobiphenyl	%		0.0005	n.d.
Pentabromobiphenyl	%		0.0005	n.d.
Hexabromobiphenyl	%		0.0005	n.d.
Heptabromobiphenyl	%		0.0005	n.d.
Octabromobiphenyl	%		0.0005	n.d.
Nonabromobiphenyl	%		0.0005	n.d.
Decabromobiphenyl	%		0.0005	n.d.



Kueilan Chen

Kueilan Chen / Asst. Supervisor
Sign for and on behalf of
SGS Taiwan Limited

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SGS Report of I-Pex Connector (Continue)



TEST REPORT

REPORT NO. KA/2005/A1103
 DATE: 2005/10/31
 PAGE: 2 OF 3

TEST ITEM(S)	UNIT	METHOD	DET. LMT	RESULT
PBDEs(Polybrominated biphenyl ethers)	---	---	---	---
Monobromobiphenyl ether	%	With reference to USEPA3540C or USEPA3550C. Analysis was performed by HPLC/DAD, LC/MS or GC/MS. (prohibited by 2002/95/EC (RoHS), 83/264/EEC, and 78/769/EEC)	0.0005	n.d.
Dibromobiphenyl ether	%		0.0005	n.d.
Tribromobiphenyl ether	%		0.0005	n.d.
Tetrabromobiphenyl ether	%		0.0005	n.d.
Pentabromobiphenyl ether	%		0.0005	n.d.
Hexabromobiphenyl ether	%		0.0005	n.d.
Heptabromobiphenyl ether	%		0.0005	n.d.
Octabromobiphenyl ether	%		0.0005	n.d.
Nonabromobiphenyl ether	%		0.0005	n.d.
Decabromobiphenyl ether	%		0.0005	n.d.

NOTE : 1. n.d. = not detected.
 2. DET. LMT = DETECTION LIMIT.

<END>

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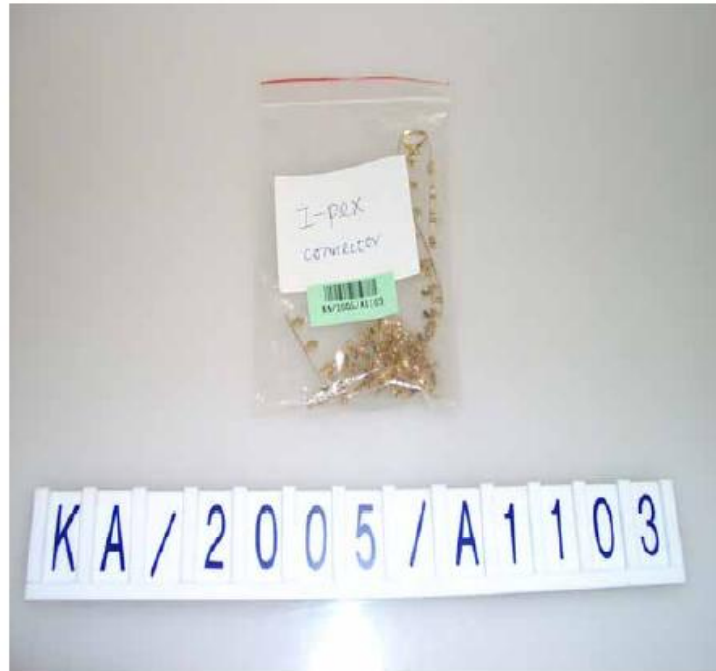
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SGS Report of I-Pex Connector (Continue)



TEST REPORT

REPORT NO. KA/2005/A1103
DATE: 2005/10/31
PAGE: 3 OF 3



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SGS Report of White Cable



Test Report

YAGEO CORPORATION
16, WEST 3TH, N.E.P.Z. P.O. BOX 35-106 KAOHSIUNG,
TAIWAN, R.O.C.

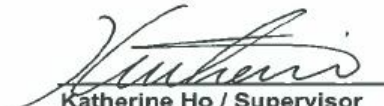
Report No. : KA/2006/81966
Date : 2006/8/25
Page : 1 of 4



The following sample(s) was/were submitted and identified by/on behalf of the client as :

Sample Description : ANTENNA CABLE(WHITE COLOR)
Style/Item No. : NISSEI
Sample Received : 2006/08/23
Testing Date : 2006/08/23 TO 2006/8/25

Test Result(s) : - Please see the next page(s) -


Katherine Ho / Supervisor
Signed for and on behalf of
SGS Taiwan Limited

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SGS of Report White Cable (Continue)



Test Report

YAGEO CORPORATION
16, WEST 3TH, N.E.P.Z. P.O. BOX 35-106 KAOHSIUNG,
TAIWAN, R.O.C.

Report No. : KA/2006/81966
Date : 2006/8/25
Page : 2 of 4



Test Result(s)

PART NAME NO.1 : WHITE JACKET(OUTER CLADDING)
PART NAME NO.2 : COPPER ALLOY AXLE INSIDE CABLE
PART NAME NO.3 : INSULATOR(INNER CLADDING)

Test Item (s)	Unit	Method	MDL	Result		
				No.1	No.2	No.3
Cadmium (Cd)	mg/kg (ppm)	With reference to EN 1122; method B:2001. Analysis was performed by ICP-AES.	2	N.D.	N.D.	N.D.
Chromium VI (Cr+6)	mg/kg (ppm)	With referce to US EPA 3060A. Analysis was performed by UV-VIS (US EPA 7196A)	2	N.D.	N.D.	N.D.
Mercury (Hg)	mg/kg (ppm)	With reference to US EPA 3052. Analysis was performed by ICP-AES.	2	N.D.	N.D.	N.D.
Lead (Pb)	mg/kg (ppm)	With reference to US EPA 3050B. Analysis was performed by ICP-AES.	2	N.D.	6.57	N.D.
PBBs(Polybrominated biphenyls)	---	---	---	---	---	---
Monobromobiphenyl	mg/kg	With reference to USEPA3540C, Analysis was performed by GC/MS and screening via USEPA 3550C with GC/MS	5	N.D.	N.D.	N.D.
Dibromobiphenyl	mg/kg		5	N.D.	N.D.	N.D.
Tribromobiphenyl	mg/kg		5	N.D.	N.D.	N.D.
Tetrabromobiphenyl	mg/kg		5	N.D.	N.D.	N.D.
Pentabromobiphenyl	mg/kg		5	N.D.	N.D.	N.D.
Hexabromobiphenyl	mg/kg		5	N.D.	N.D.	N.D.
Heptabromobiphenyl	mg/kg		5	N.D.	N.D.	N.D.
Octabromobiphenyl	mg/kg		5	N.D.	N.D.	N.D.
Nonabromobiphenyl	mg/kg		5	N.D.	N.D.	N.D.
Decabromobiphenyl	mg/kg		5	N.D.	N.D.	N.D.
Total PBBs(Polybrominated biphenyls)/Sum of above	mg/kg (ppm)		-	N.D.	N.D.	N.D.

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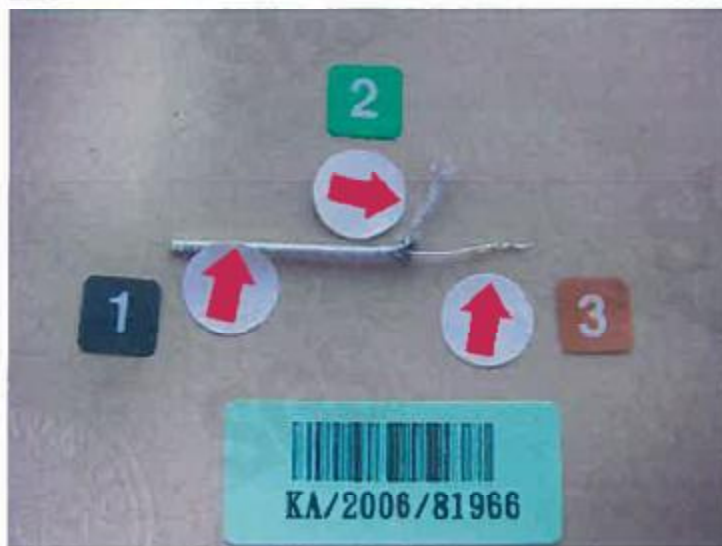
SGS of Report White Cable (Continue)



Test Report

YAGEO CORPORATION
16, WEST 3TH, N.E.P.Z. P.O. BOX 35-106 KAOHSIUNG,
TAIWAN, R.O.C.

Report No. : KA/2006/81966
Date : 2006/8/25
Page : 4 of 4




**** End of Report ****

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TW 3752753

SGS Report of Black Cable



TEST REPORT

REPORT NO. KA/2005/91334
 DATE: 2005/9/29
 PAGE: 1 OF 7

THE FOLLOWING MERCHANDISE WAS(WERE) SUBMITTED AND IDENTIFIED BY THE CLIENT AS :

CLIENT : YAGEO CORPORATION NANTZE BRANCH.
 : 18, WEST 3RD, N.E.P.Z. P.O. BOX 35-106 KAOHSIUNG, TAIWAN, R.O.C..
 PRODUCT DESCRIPTION : MIX TEST-CABLE(BLACK COLOR).
 SAMPLE : AS ATTACHED PHOTO.
 TESTING DATE : 2005/9/22 TO 2005/9/29 .
 SAMPLE RECEIVED : 2005/09/22.

WE HAVE TESTED THE SAMPLE(S) SUBMITTED AS REQUESTED AND THE FOLLOWING RESULTS WERE OBTAINED.

TEST ITEM(S)	UNIT	METHOD	DET. LMT	RESULT
Asbestos	--	--	--	--
Anthrophyllite(CAS NO.017068-78-9)	--	As per NIOSH 9000 method. Analysis was performed by XRD.	--	n.d.
Crocidolite(CAS NO.012001-28-4)	--	As per NIOSH 9000 method. Analysis was performed by XRD.	--	n.d.
Amosite(CAS NO.012172-73-5)	--	As per NIOSH 9000 method. Analysis was performed by XRD.	--	n.d.
Tremolite(CAS NO.014567-73-8)	--	As per NIOSH 9000 method. Analysis was performed by XRD.	--	n.d.
Chrysotile(CAS NO.012001-29-5)	--	As per NIOSH 9000 method. Analysis was performed by XRD.	--	n.d.
Actinolite(CAS NO.013768-00-8)	--	As per NIOSH 9000 method. Analysis was performed by XRD.	--	n.d.
Chlorinated Paraffin (C10-C13) (CAS NO:010871-26-2)	%	With reference to USEPA3540C or USEPA3550C. Analysis was performed by GC/MS or GC/ECD.	0.01	n.d.
Cadmium (Cd)	ppm	ICP-AES after reference to EN 1122, method B:2001 or other acid digestion.	2	n.d.
Chromium VI (Cr+6)	ppm	As per US EPA 7196A and US EPA 3060A.	2	n.d.
Formaldehyde(CAS No:000050-00-0)	ppm	With reference to DIN 53315 & USEPA 8315A. Analysis was performed by HPLC/DAD/MS.	0.2	n.d.
Mercury (Hg)	ppm	ICP-AES after reference to US EPA 3052 or other acid digestion.	2	n.d.
Mirex(CAS NO:002365-85-5)	ppm	Analysis was performed by GC/MS.	4	n.d.
Lead (Pb)	ppm	ICP-AES after reference to US EPA 3050B or other acid digestion.	2	n.d.



Kueilan Chen
 Kueilan Chen / Asst. Supervisor
 Sign for and on behalf of
 SGS Taiwan Limited

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SGS Report of Black Cable (Continue)



TEST REPORT

REPORT NO. KA/2005/91334
DATE: 2005/9/29
PAGE: 2 OF 7

TEST ITEM(S)	UNIT	METHOD	DET. LMT	RESULT
PBBs(Polybrominated biphenyls)	—	—	—	—
Monobromobiphenyl	%	With reference to USEPA3540C or USEPA3550C. Analysis was performed by HPLC/DAD, LC/MS or GC/MS. (prohibited by 2002/95/EC (RoHS), 83/264/EEC, and 76/769/EEC)	0.0005	n.d.
Dibromobiphenyl	%		0.0005	n.d.
Tribromobiphenyl	%		0.0005	n.d.
Tetrabromobiphenyl	%		0.0005	n.d.
Pentabromobiphenyl	%		0.0005	n.d.
Hexabromobiphenyl	%		0.0005	n.d.
Heptabromobiphenyl	%		0.0005	n.d.
Octabromobiphenyl	%		0.0005	n.d.
Nonabromobiphenyl	%		0.0005	n.d.
Decabromobiphenyl	%		0.0005	n.d.
PBDEs(Polybrominated biphenyl ethers)	—	—	—	—
Monobromobiphenyl ether	%	With reference to USEPA3540C or USEPA3550C. Analysis was performed by HPLC/DAD, LC/MS or GC/MS. (prohibited by 2002/95/EC (RoHS), 83/264/EEC, and 76/769/EEC)	0.0005	n.d.
Dibromobiphenyl ether	%		0.0005	n.d.
Tribromobiphenyl ether	%		0.0005	n.d.
Tetrabromobiphenyl ether	%		0.0005	n.d.
Pentabromobiphenyl ether	%		0.0005	n.d.
Hexabromobiphenyl ether	%		0.0005	n.d.
Heptabromobiphenyl ether	%		0.0005	n.d.
Octabromobiphenyl ether	%		0.0005	n.d.
Nonabromobiphenyl ether	%		0.0005	n.d.
Decabromobiphenyl ether	%		0.0005	n.d.
PCBs(Polychlorinated Biphenyls)(CAS NO:001338-36-3)	ppm	With reference to USEPA 8082A. Analysis was performed by GC/MS or GC/ECD.	0.5	n.d.
Polychlorinated Naphthalene	ppm	Analysis was performed by GC/MS.	5	n.d.
PCTs(Polychlorinated Terphenyls)	ppm	Analysis was performed by GC/MS or GC/ECD.	0.5	n.d.
PVC (CAS No.9002-86-2)	—	FTIR/ATR AND FLAME TEST	—	NEGATIVE
Organic-TIN compounds	—	—	—	—
Tributyl Tin(TBT)	ppm	With reference to 89/677/EEC & DIN 38407. Analysis was performed by GC/FPD.	0.03	n.d.
Triphenyl Tin(TPT)(CAS NO:000668-34-8)	ppm	With reference to 89/677/EEC & DIN 38407. Analysis was performed by GC/FPD.	0.03	n.d.
HCFC's(Hydrogenated chlorofluorocarbons)	—	With reference to US EPA 8260.	—	—
Hydrochlorofluorocarbon-21(CAS No.:000075-43-4)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-22(CAS No.:000075-45-6)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.

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SGS Report of Black Cable (Continue)



TEST REPORT

REPORT NO. KA/2005/91334

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TEST ITEM(S)	UNIT	METHOD	DET. LMT	RESULT
Hydrochlorofluorocarbon-31(CAS No.:000593-70-4)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-121(CAS No.:000354-14-3)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-122(CAS No.:000354-21-2)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-123(CAS No.:000305-83-1)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-124(CAS No.:002837-89-0)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-131(CAS No.:000359-28-4)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-132b(CAS No.:000471-43-2)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-133a(CAS No.:00075-89-7)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-141b(CAS No.:001717-00-6)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-142b	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-221	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-222(CAS No.:000422-30-0)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-223	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-224	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-225ca(CAS No.:000422-56-0)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-225cb(CAS No.:000507-55-1)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-226(CAS No.:000431-87-8)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-231	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-232	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-233	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-234	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.

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TEST ITEM(S)	UNIT	METHOD	DET. LMT	RESULT
Hydrochlorofluorocarbon-235(CAS No.:013838-16-9)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-241	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-242	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-243(CAS No.:000338-75-0)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-244	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-251	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-252	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-253(CAS No.:000354-06-1)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-261(CAS No.:000420-97-3)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-262(CAS No.:000420-97-3)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-271	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
CFCs(Chlorofluorocarbons) & HALON	---	With reference to US EPA 8260.	---	---
Chlorofluorocarbon-11(CAS No.:000075-69-4)	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	n.d.
Chlorofluorocarbon-12(CAS No.:000075-71-8)	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	n.d.
Chlorofluorocarbon-113(CAS No.:000076-13-1)	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	n.d.
Chlorofluorocarbon-114(CAS No.:000076-14-2)	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	n.d.
Chlorofluorocarbon-115(CAS No.:000076-15-3)	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	n.d.
HALON-1211	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	n.d.
HALON-1301	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	n.d.
HALON-2402	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	n.d.
Chlorofluorocarbon-13(CAS No.:000075-72-9)	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	n.d.

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TEST ITEM(S)	UNIT	METHOD	DET. LMT	RESULT
Chlorofluorocarbon-111(CAS No.000354-56-3)	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	n.d.
Chlorofluorocarbon-112(CAS No.000076-12-0)	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	n.d.
Chlorofluorocarbon-211(CAS No.135401-87-5)	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	n.d.
Chlorofluorocarbon-212(CAS No.076564-99-3)	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	n.d.
Chlorofluorocarbon-213(CAS No.060285-54-3)	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	n.d.
Chlorofluorocarbon-214(CAS No.002268-46-4)	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	n.d.
Chlorofluorocarbon-215(CAS No.000076-17-5)	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	n.d.
Chlorofluorocarbon-216(CAS No.001652-80-8)	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	n.d.
Chlorofluorocarbon-217(CAS No.000422-86-6)	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	n.d.
Carbon Tetrachloride	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	n.d.
Methyl Chloroform	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	n.d.
AZO	---	As per LMBG 8202-2	---	---
1)4-AMINODIPHENYL (CAS NO.92-67-1)	ppm	Analysis was performed by GC/MS.	3	n.d.
2)BENZIDINE (CAS NO.92-87-5)	ppm	Analysis was performed by GC/MS.	3	n.d.
3)4-CHLORO-O-TOLUIDINE (CAS NO.95-69-2)	ppm	Analysis was performed by GC/MS.	3	n.d.
4)2-NAPHTHYLAMINE (CAS NO.91-59-8)	ppm	Analysis was performed by GC/MS.	3	n.d.
5)O-AMINO-AZOTOLUENE (CAS NO.97-56-3)	ppm	Analysis was performed by GC/MS.	3	n.d.
6)2-AMINO-4-NITROTOLUENE (CAS NO.99-55-8)	ppm	Analysis was performed by GC/MS.	3	n.d.
7)P-CHLOROANILINE (CAS NO.106-47-8)	ppm	Analysis was performed by GC/MS.	3	n.d.
8)2,4-DIAMINOANISOLE (CAS NO.615-05-4)	ppm	Analysis was performed by GC/MS.	3	n.d.
9)4,4-DIAMINODIPHENYLMETHANE (CAS NO.101-77-9)	ppm	Analysis was performed by GC/MS.	3	n.d.

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TEST ITEM(S)	UNIT	METHOD	DET. LMT	RESULT
10):3,3-DICHLOROBENZIDINE (CAS NO.91-94-1)	ppm	Analysis was performed by GC/MS.	3	n.d.
11):3,3-DIMETHOXYBENZIDINE (CAS NO.119-90-4)	ppm	Analysis was performed by GC/MS.	3	n.d.
12):3,3-DIMETHYLBENZIDINE (CAS NO.119-93-7)	ppm	Analysis was performed by GC/MS.	3	n.d.
13):3,3-DIMETHYL-4,4-DIAMINODIPHENYLMETHA (CAS NO.838-88-0)	ppm	Analysis was performed by GC/MS.	3	n.d.
14):P-CRESIDINE(2-METHOXY-5-METHYLANILINE) (CAS NO.120-71-8)	ppm	Analysis was performed by GC/MS.	3	n.d.
15):4,4-METHYLENE-BIS-(2-CHLORANILINE) (CAS NO.101-14-4)	ppm	Analysis was performed by GC/MS.	3	n.d.
16):4,4-OXYDIANILINE (CAS NO.101-80-4)	ppm	Analysis was performed by GC/MS.	3	n.d.
17):4,4-THIODIANILINE (CAS NO.139-65-1)	ppm	Analysis was performed by GC/MS.	3	n.d.
18):O-TOLUIDINE (CAS NO.95-53-4)	ppm	Analysis was performed by GC/MS.	3	n.d.
19):2-4-TOLUYLENDIAMINE (CAS NO.95-80-7)	ppm	Analysis was performed by GC/MS.	3	n.d.
20):2,4,5-TRIMETHYLANILINE (CAS NO.137-17-7)	ppm	Analysis was performed by GC/MS.	3	n.d.
21):O-ANISIDINE (CAS NO.90-04-0)	ppm	Analysis was performed by GC/MS.	3	n.d.
22):P-AMINOAZOBENZENE (CAS NO.60-09-3)	ppm	Analysis was performed by GC/MS.	3	n.d.
Halogen	---	As per EN14582 method B.	---	---
Halogen-Chlorine (Cl)(CAS No:007782-50-5)	ppm	Filling the oxygen and absorb solution in the flask and take sample in the flask and burn it, the absorb solution was analyzed by IC method.	50	n.d.
Halogen-Fluorine (F)(CAS No:007782-41-4)	ppm	Filling the oxygen and absorb solution in the flask and take sample in the flask and burn it, the absorb solution was analyzed by IC method.	50	259000

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TEST ITEM(S)	UNIT	METHOD	DET. LMT	RESULT
Halogen-Bromine (Br)(CAS No:007726-95-8)	ppm	Filling the oxygen and absorb solution in the flask and take sample in the flask and burn it, the absorb solution was analyzed by IC method.	50	n.d.
Halogen-Iodine (I)(CAS No:007553-56-2)	ppm	Filling the oxygen and absorb solution in the flask and take sample in the flask and burn it, the absorb solution was analyzed by IC method.	50	466

NOTE : 1. n.d. = not detected.
 2. DET. LMT = DETECTION LIMIT.

<END>

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SGS Report of Protective Tube



TEST REPORT

REPORT NO. KA/2005/91332
DATE: 2005/9/29
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THE FOLLOWING MERCHANDISE WAS(WERE) SUBMITTED AND IDENTIFIED BY THE CLIENT AS :

CLIENT : YAGEO CORPORATION NANTZE BRANCH.
: 16, WEST 3RD, N.E. P.Z. P.O. BOX 35-106 KAOHSIUNG, TAIWAN, R.O.C..
PRODUCT DESCRIPTION : PROTECTION TUBE.
SAMPLE : AS ATTACHED PHOTO.
TESTING DATE : 2005/9/22 TO 2005/9/29 .
SAMPLE RECEIVED : 2005/09/22.

WE HAVE TESTED THE SAMPLE(S) SUBMITTED AS REQUESTED AND THE FOLLOWING RESULTS WERE OBTAINED.

TEST ITEM(S)	UNIT	METHOD	DET. LMT	RESULT
Asbestos	---	---	---	---
Anthrophyllite(CAS NO.017068-78-9)	---	As per NIOSH 9000 method. Analysis was performed by XRD.	---	n.d.
Crocidolite(CAS NO.012001-28-4)	---	As per NIOSH 9000 method. Analysis was performed by XRD.	---	n.d.
Amosite(CAS NO.012172-73-5)	---	As per NIOSH 9000 method. Analysis was performed by XRD.	---	n.d.
Tremolite(CAS NO.014567-73-8)	---	As per NIOSH 9000 method. Analysis was performed by XRD.	---	n.d.
Chrysotile(CAS NO.012001-29-5)	---	As per NIOSH 9000 method. Analysis was performed by XRD.	---	n.d.
Actinolite(CAS NO.013765-00-8)	---	As per NIOSH 9000 method. Analysis was performed by XRD.	---	n.d.
Chlorinated Paraffin (C10~C13) (CAS NO:010871-28-2)	%	With reference to USEPA3540C or USEPA3550C. Analysis was performed by GC/MS or GC/ECD.	0.01	n.d.
Cadmium (Cd)	ppm	ICP-AES after reference to EN 1122, method B:2001 or other acid digestion.	2	n.d.
Chromium VI (Cr+6)	ppm	As per US EPA 7198A and US EPA 3060A.	2	n.d.
Formaldehyde(CAS No:000050-00-0)	ppm	With reference to DIN 53315 & USEPA 8315A. Analysis was performed by HPLC/DAD/MS.	0.2	n.d.
Mercury (Hg)	ppm	ICP-AES after reference to US EPA 3052 or other acid digestion.	2	n.d.
Mirex(CAS NO:002385-85-5)	ppm	Analysis was performed by GC/MS.	4	n.d.
Lead (Pb)	ppm	ICP-AES after reference to US EPA 3050B or other acid digestion.	2	n.d.



Kueilan Chen

Kueilan Chen / Asst. Supervisor
Sign for and on behalf of
SGS Taiwan Limited

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TEST ITEM(S)	UNIT	METHOD	DET. LMT	RESULT
PBBs(Polybrominated biphenyls)	---	---	---	---
Monobromobiphenyl	%	With reference to USEPA3540C or USEPA3550C. Analysis was performed by HPLC/DAD, LC/MS or GC/MS. (prohibited by 2002/95/EC (RoHS), 83/264/EEC, and 76/769/EEC)	0.0005	n.d.
Dibromobiphenyl	%		0.0005	n.d.
Tri bromobiphenyl	%		0.0005	n.d.
Tetrabromobiphenyl	%		0.0005	n.d.
Pentabromobiphenyl	%		0.0005	n.d.
Hexabromobiphenyl	%		0.0005	n.d.
Heptabromobiphenyl	%		0.0005	n.d.
Octabromobiphenyl	%		0.0005	n.d.
Nonabromobiphenyl	%		0.0005	n.d.
Decabromobiphenyl	%		0.0005	n.d.
PBDEs(Polybrominated biphenyl ethers)	---	---	---	---
Monobromobiphenyl ether	%	With reference to USEPA3540C or USEPA3550C. Analysis was performed by HPLC/DAD, LC/MS or GC/MS. (prohibited by 2002/95/EC (RoHS), 83/264/EEC, and 76/769/EEC)	0.0005	n.d.
Dibromobiphenyl ether	%		0.0005	n.d.
Tri bromobiphenyl ether	%		0.0005	n.d.
Tetrabromobiphenyl ether	%		0.0005	n.d.
Pentabromobiphenyl ether	%		0.0005	n.d.
Hexabromobiphenyl ether	%		0.0005	n.d.
Heptabromobiphenyl ether	%		0.0005	n.d.
Octabromobiphenyl ether	%		0.0005	n.d.
Nonabromobiphenyl ether	%		0.0005	n.d.
Decabromobiphenyl ether	%		0.0005	n.d.
PCBs(Polychlorinated Biphenyls)(CAS NO:001336-36-3)	ppm	With reference to USEPA 8082A. Analysis was performed by GC/MS or GC/ECD.	0.5	n.d.
Polychlorinated Naphthalene	ppm	Analysis was performed by GC/MS.	5	n.d.
PCTs(Polychlorinated Terphenyls)	ppm	Analysis was performed by GC/MS or GC/ECD.	0.5	n.d.
PVC (CAS No:9002-98-2)	---	FTIR/ATR AND FLAME TEST	---	NEGATIVE
Organic-TIN compounds	---	---	---	---
Tributyl Tin(TBT)	ppm	With reference to 89/677/EEC & DIN 38407. Analysis was performed by GC/FPD.	0.03	n.d.
Triphenyl Tin(TPT)(CAS NO:000668-34-8)	ppm	With reference to 89/677/EEC & DIN 38407. Analysis was performed by GC/FPD.	0.03	n.d.
HCFC's(Hydrogenated chlorofluorocarbons)	---	With reference to US EPA 8260.	---	---
Hydrochlorofluorocarbon-21(CAS No.:000075-43-4)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-22(CAS No.:000075-45-6)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-31(CAS No.:000593-70-4)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.

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TEST ITEM(S)	UNIT	METHOD	DET. LMT	RESULT
Hydrochlorofluorocarbon-121(CAS No.:000354-14-3)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-122(CAS No.:000354-21-2)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-123(CAS No.:000306-83-1)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-124(CAS No.:002837-89-0)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-131(CAS No.:000359-28-4)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-132b(CAS No.:000471-43-2)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-133a(CAS No.:000075-88-7)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-141b(CAS No.:001717-00-6)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-142b	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-221	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-222(CAS No.:000422-30-0)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-223	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-224	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-225ca(CAS No.:000422-56-0)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-225cb(CAS No.:000507-55-1)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-226(CAS No.:000431-87-8)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-231	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-232	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-233	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-234	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-235(CAS No.:013838-16-9)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.

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TEST ITEM(S)	UNIT	METHOD	DET. LMT	RESULT
Hydrochlorofluorocarbon-241	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-242	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-243(CAS No.:000338-75-0)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-244	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-251	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-252	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-253(CAS No.:000354-06-1)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-261(CAS No.:000420-97-3)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-262(CAS No.:000420-97-3)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
Hydrochlorofluorocarbon-271	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	n.d.
CFC's(Chlorofluorocarbons) & HALON	---	With reference to US EPA 8260.	---	---
Chlorofluorocarbon-11(CAS No:000075-69-4)	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	n.d.
Chlorofluorocarbon-12(CAS No:000075-71-8)	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	n.d.
Chlorofluorocarbon-113(CAS No:000076-13-1)	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	n.d.
Chlorofluorocarbon-114(CAS No:000076-14-2)	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	n.d.
Chlorofluorocarbon-115(CAS No:000076-15-3)	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	n.d.
HALON-1211	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	n.d.
HALON-1301	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	n.d.
HALON-2402	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	n.d.
Chlorofluorocarbon-13(CAS No:000075-72-9)	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	n.d.
Chlorofluorocarbon-111(CAS No:000354-56-3)	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	n.d.

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TEST ITEM(S)	UNIT	METHOD	DET. LMT	RESULT
Chlorofluorocarbon-112(CAS No.000076-12-0)	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	n.d.
Chlorofluorocarbon-211(CAS No.135401-87-5)	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	n.d.
Chlorofluorocarbon-212(CAS No.076564-99-3)	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	n.d.
Chlorofluorocarbon-213(CAS No.060285-54-3)	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	n.d.
Chlorofluorocarbon-214(CAS No.002268-46-4)	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	n.d.
Chlorofluorocarbon-215(CAS No.000076-17-5)	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	n.d.
Chlorofluorocarbon-216(CAS No.001652-80-8)	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	n.d.
Chlorofluorocarbon-217(CAS No.000422-86-6)	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	n.d.
Carbon Tetrachloride	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	n.d.
Methyl Chloroform	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	n.d.
AZO	---	As per LMBG 8202-2	---	---
1):4-AMINODIPHENYL (CAS NO.92-67-1)	ppm	Analysis was performed by GC/MS.	3	n.d.
2):BENZIDINE (CAS NO.92-87-5)	ppm	Analysis was performed by GC/MS.	3	n.d.
3):4-CHLORO-O-TOLUIDINE (CAS NO.95-69-2)	ppm	Analysis was performed by GC/MS.	3	n.d.
4):2-NAPHTHYLAMINE (CAS NO.91-59-8)	ppm	Analysis was performed by GC/MS.	3	n.d.
5):O-AMINO-AZOTOLUENE (CAS NO.97-56-3)	ppm	Analysis was performed by GC/MS.	3	n.d.
6):2-AMINO-4-NITROTOLUENE (CAS NO.99-58-8)	ppm	Analysis was performed by GC/MS.	3	n.d.
7):P-CHLOROANILINE (CAS NO.106-47-8)	ppm	Analysis was performed by GC/MS.	3	n.d.
8):2,4-DIAMINOANISOLE (CAS NO.615-05-4)	ppm	Analysis was performed by GC/MS.	3	n.d.
9):4-DIAMINODIPHENYLMETHANE (CAS NO.101-77-9)	ppm	Analysis was performed by GC/MS.	3	n.d.
10):3,3-DICHLOROBENZIDINE (CAS NO.91-94-1)	ppm	Analysis was performed by GC/MS.	3	n.d.

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TEST ITEM(S)	UNIT	METHOD	DET. LMT	RESULT
11) 3,3-DIMETHOXYBENZIDINE (CAS NO. 119-90-4)	ppm	Analysis was performed by GC/MS.	3	n.d.
12) 3,3-DIMETHYLBENZIDINE (CAS NO. 119-93-7)	ppm	Analysis was performed by GC/MS.	3	n.d.
13) 3,3-DIMETHYL-4,4-DIAMINODIPHENYLMETHA (CAS NO. 838-88-0)	ppm	Analysis was performed by GC/MS.	3	n.d.
14) P-CRESIDINE(2-METHOXY-5-METHYLANILINE) (CAS NO. 120-71-8)	ppm	Analysis was performed by GC/MS.	3	n.d.
15) 4,4-METHYLENE-BIS-(2-CHLORANILINE) (CAS NO. 101-14-4)	ppm	Analysis was performed by GC/MS.	3	n.d.
16) 4,4-OXYDIANILINE (CAS NO. 101-80-4)	ppm	Analysis was performed by GC/MS.	3	n.d.
17) 4,4-THIODIANILINE (CAS NO. 139-65-1)	ppm	Analysis was performed by GC/MS.	3	n.d.
18) O-TOLUIDINE (CAS NO. 95-53-4)	ppm	Analysis was performed by GC/MS.	3	n.d.
19) 2,4-TOLUYLENDIAMINE (CAS NO. 95-80-7)	ppm	Analysis was performed by GC/MS.	3	n.d.
20) 2,4,5-TRIMETHYLANILINE (CAS NO. 137-17-7)	ppm	Analysis was performed by GC/MS.	3	n.d.
21) O-ANISIDINE (CAS NO. 90-04-0)	ppm	Analysis was performed by GC/MS.	3	n.d.
22) P-AMINOAZOBENZENE (CAS NO. 60-09-3)	ppm	Analysis was performed by GC/MS.	3	n.d.
Halogen	---	As per EN 14582 method B.	---	---
Halogen-Chlorine (Cl)(CAS No.007782-50-5)	ppm	Filling the oxygen and absorb solution in the flask and take sample in the flask and burn it, the absorb solution was analyzed by IC method.	50	n.d.
Halogen-Fluorine (F)(CAS No.007782-41-4)	ppm	Filling the oxygen and absorb solution in the flask and take sample in the flask and burn it, the absorb solution was analyzed by IC method.	50	n.d.
Halogen-Bromine (Br)(CAS No.007726-95-5)	ppm	Filling the oxygen and absorb solution in the flask and take sample in the flask and burn it, the absorb solution was analyzed by IC method.	50	n.d.

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TEST ITEM(S)	UNIT	METHOD	DET. LMT	RESULT
Halogen-Iodine (I)(CAS No:007553-56-2)	ppm	Filling the oxygen and absorb solution in the flask and take sample in the flask and burn it, the absorb solution was analyzed by IC method.	50	n.d.

NOTE : 1. n.d. = not detected.
 2. DET. LMT = DETECTION LIMIT.

<END>

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SGS Report of Mylar



Test Report

HOPE DISTRIBUTION INC.
10F, NO. 111, SEC. 1, KEELUNG RD., TAIPEI, TAIWAN

Report No. : CR/2005/95657
Date : 2005/10/03
Page : 1 of 15

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

Type of Product : POLYESTER FILM
Style/Item No : S10
Manufacturer/ Vendor : TOKAY
Country of Origin : JAPAN
Sample Received : 2005/09/23
Testing Date : 2005/09/23 TO 2005/10/03

=====
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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SGS Report of Mylar (Continue)



Test Report

HOPE DISTRIBUTION INC.
10F, NO. 111, SEC. 1, KEELUNG RD., TAIPEI, TAIWAN

Report No. : CE/2005/95657
Date : 2005/10/03
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Test Result

PART NAME NO.1 : TRANSPARENT PLASTIC (PLEASE REFER TO THE PHOTO ATTACHED)

Test Item (s):	Unit	Method	MDL	Result
				No.1
Asbestos				
Anthrophyllite(CAS NO.017068-78-9)	**	As per NIOSH 9000 method. Analysis was performed by XRD.	-	Negative
Crocidolite(CAS NO.012001-28-4)	**	As per NIOSH 9000 method. Analysis was performed by XRD.	-	Negative
Amosite(CAS NO.012172-73-5)	**	As per NIOSH 9000 method. Analysis was performed by XRD.	-	Negative
Tremolite(CAS NO.014567-73-8)	**	As per NIOSH 9000 method. Analysis was performed by XRD.	-	Negative
Chrysotile(CAS NO.012001-29-5)	**	As per NIOSH 9000 method. Analysis was performed by XRD.	-	Negative
Actinolite(CAS NO.013768-00-8)	**	As per NIOSH 9000 method. Analysis was performed by XRD.	-	Negative

Test Item (s):	Unit	Method	MDL	Result
				No.1
AZO		As per LMBG 8202-2		
4-AMINODIPHENYL (CAS NO.92-67-1)	ppm	Analysis was performed by GC/MS.	3	N.D.
BENZIDINE (CAS NO.92-87-5)	ppm	Analysis was performed by GC/MS.	3	N.D.
4-CHLORO-O-TOLUIDINE (CAS NO.95-69-2)	ppm	Analysis was performed by GC/MS.	3	N.D.
2-NAPHTHYLAMINE (CAS NO.91-59-8)	ppm	Analysis was performed by GC/MS.	3	N.D.
O-AMINOAZOTOLUENE (CAS NO.97-56-3)	ppm	Analysis was performed by GC/MS.	3	N.D.

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SGS Report of Mylar (Continue)



Test Report

HOPE DISTRIBUTION INC.
10F, NO. 111, SEC. 1, KEELUNG RD., TAIPEI, TAIWAN

Report No. : CE/2005/95657
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Test Item (s):	Unit	Method	MDL	Result
				No.1
2-AMINO-4-NITROTOLUENE (CAS NO.99-55-8)	ppm	Analysis was performed by GC/MS.	3	N.D.
P-CHLOROANILINE (CAS NO.106-47-8)	ppm	Analysis was performed by GC/MS.	3	N.D.
2,4-DIAMINOANISOLE (CAS NO.615-05-4)	ppm	Analysis was performed by GC/MS.	3	N.D.
4,4-DIAMINODIPHENYLMETHANE (CAS NO.101-77-9)	ppm	Analysis was performed by GC/MS.	3	N.D.
3,3-DICHLOROBENZIDINE (CAS NO.91-94-1)	ppm	Analysis was performed by GC/MS.	3	N.D.
3,3-DIMETHOXYBENZIDINE (CAS NO.119-90-4)	ppm	Analysis was performed by GC/MS.	3	N.D.
3,3-DIMETHYLBENZIDINE (CAS NO.119-93-7)	ppm	Analysis was performed by GC/MS.	3	N.D.
3,3-DIMETHYL-4,4-DIAMINODIPHENYLMETHANE (CAS NO.838-88-0)	ppm	Analysis was performed by GC/MS.	3	N.D.
P-CRESIDINE(2-METHOXY-5-METHYLANILINE) (CAS NO.120-71-8)	ppm	Analysis was performed by GC/MS.	3	N.D.
4,4-METHYLENE-BIS-(2-CHLORANILINE) (CAS NO.101-14-4)	ppm	Analysis was performed by GC/MS.	3	N.D.
4,4-OXYDIANILINE (CAS NO.101-80-4)	ppm	Analysis was performed by GC/MS.	3	N.D.
4,4-THIODIANILINE (CAS NO.139-65-1)	ppm	Analysis was performed by GC/MS.	3	N.D.
O-TOLUIDINE (CAS NO.95-53-4)	ppm	Analysis was performed by GC/MS.	3	N.D.
2,4-TOLUYLENDIAMINE (CAS NO.95-80-7)	ppm	Analysis was performed by GC/MS.	3	N.D.
2,4,5-TRIMETHYLANILINE (CAS NO.137-17-7)	ppm	Analysis was performed by GC/MS.	3	N.D.
O-ANISIDINE (CAS NO.90-04-0)	ppm	Analysis was performed by GC/MS.	3	N.D.
P-AMINOAZOBENZENE (CAS NO.60-09-3)	ppm	Analysis was performed by GC/MS.	3	N.D.

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Test Item (s):	Unit	Method	MDL	Result
				No.1
CFC's(Chlorofluorocarbons)		With reference to US EPA 8260.		
Group I				
Chlorofluorocarbon-11(CAS No:000075-69-4)	ppm	Analysis was performed by GC/MS.(CFC's(Chlorofluorocarbons))	1	N.D.
Chlorofluorocarbon-12(CAS No:000075-71-8)	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	N.D.
Chlorofluorocarbon-113(CAS No:000076-13-1)	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	N.D.
Chlorofluorocarbon-114(CAS No:000076-14-2)	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	N.D.
Chlorofluorocarbon-115(CAS No:000076-15-3)	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	N.D.
Group III				
Chlorofluorocarbon-13(CAS No:000075-72-9)	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	N.D.
Chlorofluorocarbon-111(CAS No:000354-56-3)	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	N.D.
Chlorofluorocarbon-112(CAS No:000076-12-0)	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	N.D.
Chlorofluorocarbon-211(CAS No:135401-87-5)	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	N.D.
Chlorofluorocarbon-212(CAS No:076564-99-3)	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	N.D.
Chlorofluorocarbon-213(CAS No:060285-54-3)	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	N.D.
Chlorofluorocarbon-214(CAS No:002268-46-4)	ppm	Analysis was performed by GC/MS. [CFC's (Chlorofluorocarbons)]	1	N.D.

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Test Item (s):	Unit	Method	MDL	Result
				No.1
Chlorofluorocarbon-215(CAS No:000076 17 5)	ppm	Analysis was performed by GC/MS. (CFC's (Chlorofluorocarbons))	1	N.D.
Chlorofluorocarbon-215(CAS No:001652 80 8)	ppm	Analysis was performed by GC/MS. (CFC's (Chlorofluorocarbons))	1	N.D.
Chlorofluorocarbon 217(CAS No:000122 86 6)	ppm	Analysis was performed by GC/MS. (CFC's (Chlorofluorocarbons))	1	N.D.

Test Item (s):	Unit	Method	MDL	Result
				No.1
Chlorinated Paraffin (C10-C13) (CAS NO:010871 26-2)	%	With reference to USEPA3540C or USEPA3550C. Analysis was performed by GC/MS or GC/ECD.	0.01	N.D.

Test Item (s):	Unit	Method	MDL	Result
				No.1
Formaldehyde(CAS No:000050 00 0)	ppm	With reference to DIN 53315 & USBFA 8015A. Analysis was performed by HPLC/DAD/MS	0.2	N.D.

Test Item (s):	Unit	Method	MDL	Result
				No.1
Halon		With reference to US EPA 8260.		
Halon-1211	ppm	Analysis was performed by GC/MS. (CFC's (Chlorofluorocarbons))	1	N.D.
Halon-1301	ppm	Analysis was performed by GC/MS. (CFC's (Chlorofluorocarbons))	1	N.D.
Halon-2402	ppm	Analysis was performed by GC/MS. (CFC's (Chlorofluorocarbons))	1	N.D.

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Test Item (s):	Unit	Method	MDL	Result
				No. 1
HCFC's(Hydrogenated chlorofluorocarbons)		With reference to US EPA 8260.		
Hydrochlorofluorocarbon-21(CAS No.:000075-43-4)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	N.D.
Hydrochlorofluorocarbon-22(CAS No.:000075-45-6)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	N.D.
Hydrochlorofluorocarbon-31(CAS No.:000593-70-4)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	N.D.
Hydrochlorofluorocarbon-121(CAS No.:000354-14-3)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	N.D.
Hydrochlorofluorocarbon-122(CAS No.:000354-21-2)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	N.D.
Hydrochlorofluorocarbon-123(CAS No.:000306-83-1)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	N.D.
Hydrochlorofluorocarbon-124(CAS No.:002837-89-0)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	N.D.
Hydrochlorofluorocarbon-131(CAS No.:000359-98-4)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	N.D.
Hydrochlorofluorocarbon-131h(CAS No.:000471-43-2)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	N.D.

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Test Item (s)	Unit	Method	MDL	Result
				No.1
Hydrochlorofluorocarbon-133a(CAS No.:000075-88-7)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	N.D.
Hydrochlorofluorocarbon-141b(CAS No.:001717-00-6)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	N.D.
Hydrochlorofluorocarbon-221	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	N.D.
Hydrochlorofluorocarbon-222(CAS No.:000423-30-0)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	N.D.
Hydrochlorofluorocarbon-223	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	N.D.
Hydrochlorofluorocarbon-224	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	N.D.
Hydrochlorofluorocarbon-225ca(CAS No.:000422-56-0)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	N.D.
Hydrochlorofluorocarbon-225cb(CAS No.:0003507-50-1)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	N.D.
Hydrochlorofluorocarbon-226(CAS No.:000431-87-8)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	N.D.
Hydrochlorofluorocarbon-231	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	N.D.

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Test Item (s):	Unit	Method	MDL	Result
				No.1
Hydrochlorofluorocarbon-232	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	N.D.
Hydrochlorofluorocarbon-233	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	N.D.
Hydrochlorofluorocarbon-234	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	N.D.
Hydrochlorofluorocarbon-235(CAS No.:013836-16-9)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	N.D.
Hydrochlorofluorocarbon-241	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	N.D.
Hydrochlorofluorocarbon-242	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	N.D.
Hydrochlorofluorocarbon-243(CAS No.:000336-75-0)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	N.D.
Hydrochlorofluorocarbon-244	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	N.D.
Hydrochlorofluorocarbon-251	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	N.D.
Hydrochlorofluorocarbon-252	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	N.D.

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Test Item (s)	Unit	Method	MDL	Result
				No.1
Hydrochlorofluorocarbon-250(CAS No.:000354-05-1)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	N.D.
Hydrochlorofluorocarbon-261(CAS No.:000420-97-3)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	N.D.
Hydrochlorofluorocarbon-262(CAS No.:000420-97-3)	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	N.D.
Hydrochlorofluorocarbon-271	ppm	Analysis was performed by GC/MS. [HCFC's (Hydrogenated chlorofluorocarbons)]	1	N.D.

Test Item (s)	Unit	Method	MDL	Result
				No.1
1,1,1-trichloroethane	ppm	With reference to US EPA 8260. Analysis was performed by GC/MS.	1	N.D.

Test Item (s)	Unit	Method	MDL	Result
				No.1
Carbon tetrachloride	ppm	With reference to US EPA 8260. Analysis was performed by GC/MS/HEADSPACE.	1	N.D.

Test Item (s)	Unit	Method	MDL	Result
				No.1
Organic tin compounds				
Triphenyl Tin(TPT)(CAS NO:000668-34-6)	ppm	With reference to 89/677/BEC & DIN 38407. Analysis was performed by GC/FPD.	0.03	N.D.
Tributyl Tin(TBT)	ppm	With reference to 89/677/BEC & DIN 38407. Analysis was performed by GC/FPD.	0.03	N.D.

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Test Item (s):	Unit	Method	MDL	Result
				No.1
PCBs(Polychlorinated Biphenyls)(CAS NO:001336 06-3)	ppm	With reference to USEPA 8082A. Analysis was performed by GC/MS or GC/ECD.	0.5	N.D.

Test Item (s):	Unit	Method	MDL	Result
				No.1
Polychlorinated Naphthalene	ppm	With reference to USEPA 8081B. Analysis was performed by GC/MS.	5	N.D.

Test Item (s):	Unit	Method	MDL	Result
				No.1
PCTs(Polychlorinated Terphenyls)	ppm	Analysis was performed by GC/MS or GC/ECD.	0.5	N.D.

Test Item (s):	Unit	Method	MDL	Result
				No.1
Monobromobiphenyl	%	With reference to USEPA3540C or USEPA3550C. Analysis was performed by HPLC/DAD, LC/MS or GC/MS. (prohibited by 2002/95/EC (RoHS), 83/264/EEC, and 76/759/EEC)	0.0005	N.D.
Dibromobiphenyl	%		0.0005	N.D.
Tri bromobiphenyl	%		0.0005	N.D.
Tetrabromobiphenyl	%		0.0005	N.D.
Pentabromobiphenyl	%		0.0005	N.D.
Hexabromobiphenyl	%		0.0005	N.D.
Heptabromobiphenyl	%		0.0005	N.D.
Octabromobiphenyl	%		0.0005	N.D.
Nonabromobiphenyl	%		0.0005	N.D.
Decabromobiphenyl	%		0.0005	N.D.
Total PBBs (Polybrominated biphenyls)/ Sum of above	%			N.D.

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Test Item (s):	Unit	Method	MDL	Result
				No.1
Monobromobiphenyl ether	%	With reference to USEPA3540C or USEPA3550C. Analysis was performed by HPLC/DAD, LC/MS or GC/MS. (prohibited by 2002/95/EC (RoHS), 83/264/EEC, and 76/769/EEC)	0.0005	N.D.
Dibromobiphenyl ether	%		0.0005	N.D.
Tribromobiphenyl ether	%		0.0005	N.D.
Tetrabromobiphenyl ether	%		0.0005	N.D.
Pentabromobiphenyl ether	%		0.0005	N.D.
Hexabromobiphenyl ether	%		0.0005	N.D.
Heptabromobiphenyl ether	%		0.0005	N.D.
Octabromobiphenyl ether	%		0.0005	N.D.
Nonabromobiphenyl ether	%		0.0005	N.D.
Decabromobiphenyl ether	%		0.0005	N.D.
Total PBBEs(PBDEs) (Polybrominated biphenyl ethers)/Sum of above	%		-	N.D.

Test Item (s):	Unit	Method	MDL	Result
				No.1
Halogen		As per EN14582 method B.		
Halogen-Chlorine (Cl)(CAS No:007782-50-5)	ppm	Filling the oxygen and absorb solution in the flask and take sample in the flask and burn it, the absorb solution was analyzed by IC method.	50	N.D.
Halogen-Fluorine (F)(CAS No:007782-41-4)	ppm	Filling the oxygen and absorb solution in the flask and take sample in the flask and burn it, the absorb solution was analyzed by IC method.	50	N.D.
Halogen-Bromine (Br)(CAS No:007726-95-6)	ppm	Filling the oxygen and absorb solution in the flask and take sample in the flask and burn it, the absorb solution was analyzed by IC method.	50	N.D.

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Test Item (s):	Unit	Method	MDL	Result
				No. 1
Halogen-Iodine (I)(CAS No:007583-56-2)	ppm	Filling the oxygen and absorb solution in the flask and take sample in the flask and burn it, the absorb solution was analyzed by IC method.	50	N.D.

Test Item (s):	Unit	Method	MDL	Result
				No. 1
PVC (CAS No:9002-80-2)	**	Analysis was performed by FTIR/ATR and Pyrolyser-GC/MS.	-	Negative

Test Item (s):	Unit	Method	MDL	Result
				No. 1
Chromium VI (Cr15)	ppm	UV-VIS after reference to US EPA 3060A.	2	N.D.
Cadmium (Cd)	ppm	ICP-AES after reference to EN 1122, method B:2001 or other acid digestion.	2	N.D.
Mercury (Hg)	ppm	ICP AES after reference to US EPA 3032 or other acid digestion.	2	N.D.
Lead (Pb)	ppm	ICP AES after reference to US EPA 3050B or other acid digestion.	2	N.D.

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

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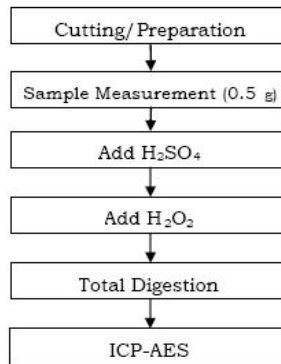
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These samples were dissolved totally by pre-conditioning method according to below flow chart.

Flow Chart of Digestion for Plastic – EN1122 for Cd (without residue)



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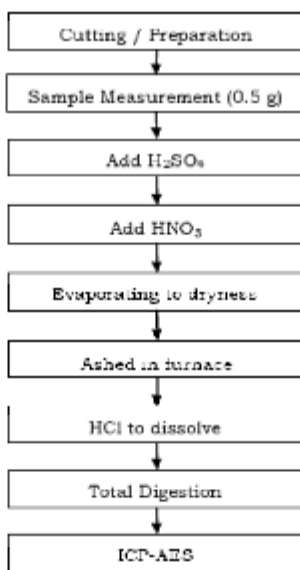
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These samples were dissolved totally by pre-conditioning method according to below flow chart.

Flow Chart of Digestion for Plastic -Wet Decomposition for Pb (without residue)



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