

Test Report No. CANEC2300113601 Date: 01 Feb 2023 Page 1 of 14

Client Name: YAGEO CORPORATION/BESTBRIGHT ELECTRONICS CO.,LTD

Client Address: 3F.,233-1,BAOQIAO RD.,XINDIAN DIST.,NEW TAIPEI CITY 23145,TAIWAN,CHINA

BUILDING 3.NO.24 EAST INDUSTRIAL ROAD.SONGSHAN LAKE PARK.DONGGUAN

CITY, GUANGDONG PROVINCE, P.R.C

Sample Name: GDT SMD

The above sample(s) and information were provided by the client.

SGS Job No.: CP23-000004 - SZ

Date of Sample Received: 04 Jan 2023

Testing Period: 04 Jan 2023 - 31 Jan 2023

Test Requested: Selected test(s) as requested by the client.

Test Method(s): Please refer to next page(s).

Test Result(s): Please refer to next page(s).

Result Summary:

Test Requested	Conclusion
EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU-Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs), Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP)	PASS
EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU- Lead, Mercury, Cadmium and Hexavalent chromium	PASS
Halogen	See Results
AfPS GS 2019:01 PAK - Polycyclic Aromatic Hydrocarbons (PAHs)	See Results
Perfluorooctanoic acid (PFOA) and its salts & Perfluorooctane sulfonates (PFOS) and its derivatives	See Results





No. CANEC2300113601

Date: 01 Feb 2023

Page 2 of 14

Signed for and on behalf of SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch

Jessie Li

Approved Signatory

Jessieli





No. CANEC2300113601

Date: 01 Feb 2023

Page 3 of 14

Test Result(s):

Test Part Description:

Specimen No.	SGS Sample ID	Description
SN1	CAN23-001136.001	Silvery metal with soldering tin
SN2	CAN23-001136.002	White material with black printing
SN3	CAN23-001136.003	GDT SMD(mixed)

Remarks:

- (1) 1 mg/kg = 0.0001%
- (2) MDL = Method Detection Limit
- (3) ND = Not Detected (< MDL)
- (4) "-" = Not Regulated

EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU- Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs), Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP)

Test Method: With reference to IEC 62321-4:2013+A1:2017, IEC 62321-5:2013, IEC 62321-7-2:2017, IEC 62321-6:2015 and IEC 62321-8:2017, analyzed by ICP-OES, UV-Vis and GC-MS.

<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>002</u>
100	mg/kg	2	ND
1000	mg/kg	2	ND
1000	mg/kg	2	ND
1000	mg/kg	8	ND
1000	mg/kg	-	ND
-	mg/kg	5	ND
-	mg/kg	5	ND
-	mg/kg	5	ND
-	mg/kg	5	ND
-	mg/kg	5	ND
-	mg/kg	5	ND
-	mg/kg	5	ND
-	mg/kg	5	ND
-	mg/kg	5	ND
-	mg/kg	5	ND
1000	mg/kg	-	ND
-	mg/kg	5	ND
-	mg/kg	5	ND
	100 1000 1000 1000 	100 mg/kg 1000 mg/kg 1000 mg/kg 1000 mg/kg 1000 mg/kg 1000 mg/kg - mg/kg	100 mg/kg 2 1000 mg/kg 2 1000 mg/kg 2 1000 mg/kg 8 1000 mg/kg - - mg/kg 5 1000 mg/kg 5 - mg/kg 5 1000 mg/kg 5



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at https://www.sgs.com/en/Terms-and-Conditions. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663 中国・广东・广州高新技术产业开发区科学城科珠路198号 邮编: 510663 t (86–20) 82155555 www.s t (86–20) 82155555 sgs.ch



Test Report	No. CANEC2300113	601	Date: 0	11 Feb 2023	Page 4 of 14
Test Item(s)	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>002</u>	
Tribromodiphenyl ether	-	mg/kg	5	ND	
Tetrabromodiphenyl ether	-	mg/kg	5	ND	
Pentabromodiphenyl ether	-	mg/kg	5	ND	
Hexabromodiphenyl ether	-	mg/kg	5	ND	
Heptabromodiphenyl ether	-	mg/kg	5	ND	
Octabromodiphenyl ether	-	mg/kg	5	ND	
Nonabromodiphenyl ether	-	mg/kg	5	ND	
Decabromodiphenyl ether	-	mg/kg	5	ND	
Dibutyl phthalate (DBP)	1000	mg/kg	50	ND	
Butyl benzyl phthalate (BBP)	1000	mg/kg	50	ND	
Bis (2-ethylhexyl) phthalate (DEHP)	1000	mg/kg	50	ND	
Diisobutyl Phthalates (DIBP)	1000	mg/kg	50	ND	

Notes:

- (1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.
- (2) IEC 62321 series is equivalent to EN 62321 series
- (3) The restriction of DEHP, BBP, DBP and DIBP shall apply to medical devices, including in vitro medical devices, and monitoring and control instruments, including industrial monitoring and control instruments, from 22 July 2021.

EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU- Lead, Mercury, Cadmium and Hexavalent chromium

Test Method: With reference to IEC 62321-4:2013+A1:2017, IEC 62321-5:2013, IEC 62321-7-1:2015, analyzed by ICP-OES and UV-Vis.

Test Item(s)	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>001</u>
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1000	mg/kg	2	ND
Mercury (Hg)	1000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))▼	-	µg/cm²	0.10	ND

Notes:

- (1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.
- (2) IEC 62321 series is equivalent to EN 62321 series
- (3) ▼= a. The sample is positive for CrVI if the CrVI concentration is greater than 0.13 µg/cm². The sample coating is considered to contain CrVI
 - b. The sample is negative for CrVI if CrVI is ND (concentration less than $0.10 \,\mu g/cm^2$). The coating is considered a non-CrVI based coating
 - c. The result between 0.10 μ g/cm² and 0.13 μ g/cm² is considered to be inconclusive unavoidable coating variations may influence the determination



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at https://www.sgs.com/en/Terms-and-Conditions. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN_Doccheck@sgs.com

No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663 中国・广东・广州高新技术产业开发区科学城科珠路198号 邮编: 510663 t (86–20) 82155555 www.s t (86–20) 82155555 sgs.cl



No. CANEC2300113601

Date: 01 Feb 2023

Page 5 of 14

Information on storage conditions and production date of the tested sample is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.

Halogen

Test Method: With reference to EN 14582:2016, analysis was performed by IC.

Test Item(s)	<u>Unit</u>	<u>MDL</u>	<u>003</u>
Fluorine (F)	mg/kg	50	ND
Chlorine (CI)	mg/kg	50	ND
Bromine (Br)	mg/kg	50	ND
lodine (I)	mg/kg	50	ND

AfPS GS 2019:01 PAK - Polycyclic Aromatic Hydrocarbons (PAHs)

Test Method: With reference to AfPS GS 2019:01 PAK, analysis was performed by GC-MS.

Test Item(s)	CAS NO.	<u>Unit</u>	<u>MDL</u>	<u>003</u>
Naphthalene(NAP)	91-20-3	mg/kg	0.1	ND
Phenanthrene(PHE)	85-01-8	mg/kg	0.1	ND
Anthracene(ANT)	120-12-7	mg/kg	0.1	ND
Fluoranthene(FLT)	206-44-0	mg/kg	0.1	ND
Pyrene(PYR)	129-00-0	mg/kg	0.1	ND
Benzo(a)anthracene(BaA)	56-55-3	mg/kg	0.1	ND
Chrysene(CHR)	218-01-9	mg/kg	0.1	ND
Benzo(b)fluoranthene(BbF)	205-99-2	mg/kg	0.1	ND
Benzo(j)fluoranthene(BjF)	205-82-3	mg/kg	0.1	ND
Benzo(k)fluoranthene(BkF)	207-08-9	mg/kg	0.1	ND
Benzo(a)pyrene(BaP)	50-32-8	mg/kg	0.1	ND
Benzo(e)pyrene(BeP)	192-97-2	mg/kg	0.1	ND
Indeno(1,2,3-c,d)pyrene(IPY)	193-39-5	mg/kg	0.1	ND
Dibenzo(a,h)anthracene(DBA)	53-70-3	mg/kg	0.1	ND
Benzo(g,h,i)perylene(BPE)	191-24-2	mg/kg	0.1	ND
Sum of 4 PAHs (Phenanthrene, Pyrene, Anthracene,	-	mg/kg	-	ND
Fluoranthene)				
Sum of 15 PAHs	-	mg/kg	-	ND





No. CANEC2300113601

Date: 01 Feb 2023

Page 6 of 14

AfPS (German commission for Product Safety): PAHs requirements

	Category 1	Cate	gory 2	Categ	Category 3	
Parameter (mg/kg)	Materials intended to be placed in the mouth, or materials coming into long-term contact with skin (more than 30s) during the intended use	Materials not covered by category 1, coming into long-term contact (more than 30s) or short-term repetitive contact ^c with skin during the intended or foreseeable use ^d .		Materials covered neither by category 1 nor by category 2, coming into short-term contact (up to 30s) with skin during the intended or foreseeable use.		
	-in toys according to Directive 2009/48/EC or -for the use by children ^{a,b} up to 3 years of age.	a. use by children	b. other consumer products	a. use by children	b. other consumer products	
Benzo(a)pyrene (BaP)	< 0.2	< 0.2	< 0.5	< 0.5	< 1	
Benzo(e)pyrene (BeP)	< 0.2	< 0.2	< 0.5	< 0.5	< 1	
Benzo(a)anthracene (BaA)	< 0.2	< 0.2	< 0.5	< 0.5	< 1	
Benzo(b)fluoranthene (BbF)	< 0.2	< 0.2	< 0.5	< 0.5	< 1	
Benzo(j)fluoranthene (BjF)	< 0.2	< 0.2	< 0.5	< 0.5	< 1	
Benzo(k)fluoranthene (BkF)	< 0.2	< 0.2	< 0.5	< 0.5	< 1	
Chrysene (CHR)	< 0.2	< 0.2	< 0.5	< 0.5	< 1	
Dibenzo(a,h)anthracene (DBA)	< 0.2	< 0.2	< 0.5	< 0.5	< 1	
Benzo(g,h,i)perylene (BPE)	< 0.2	< 0.2	< 0.5	< 0.5	< 1	
Indeno(1,2,3-cd)pyrene (IPY)	< 0.2	< 0.2	< 0.5	< 0.5	< 1	
Phenanthrene (PHE), pyrene (PYR), anthracene (ANT), fluoranthene (FLT)	< 1 Sum	< 5 Sum	< 10 Sum	< 20 Sum	< 50 Sum	
Naphthalene (NAP)	< 1	<	2	< 1	0	
Sum of 15 PAHs	<1	< 5	< 10	< 20	< 50	

Note:

Remark: The German committee on Product Safety (AfPS) published a new PAHs document (AfPS GS 2019:01 PAK) on April 10, 2020, which will be binding for the issue of GS mark certificate from July 1, 2020.

Perfluorooctanoic acid (PFOA) and its salts & Perfluorooctane sulfonates (PFOS) and its derivatives

Test Method: With reference to CEN/TS15968:2010, analysis was performed by LC-MS or LC-MS/MS.



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at https://www.sgs.com/en/Terms-and-Conditions. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663 中国・广东・广州高新技术产业开发区科学城科珠路198号 邮编: 510663 t (86–20) 82155555 t (86–20) 82155555

www.sgsgroup.com.cn sgs.china@sgs.com

^a A "Child" is legally defined as a person before reaching the age of 14 years.

^b Use by children includes both active and passive contact by children.

^c Definition "short-term repetitive contact" taken from REACH Annex XVII entry 50 amendment (Regulation (EC) No. 1272/2013)

^d According to the definition of the German Product Safety Act (ProdSG) (chapter 1 Article 2 No. 28) "foreseeable use" shall mean the use of a product in a manner that the person placing it on the market, has not intended, but which could be reasonably foreseeable.



Test Report	No. CANEC230	0113601	Date: 01 Feb 202	3	Page 7 of 14
Test Item(s)		CAS NO.	<u>Unit</u>	MDL	_ 003
Perfluorooctanoic acid (PFOA) and	its salts*	-	mg/kg	0.010	ND
Perfluorooctane sulfonates (PFOS) derivatives*	and its salts/	-	mg/kg	0.010	ND
Perfluorooctane Sulfonamide (PFOS	SA)	754-91-6	mg/kg	0.010	ND
N-methylperfluoro-1-octanesulfonar	nide(N-MeFOSA)	31506-32-8	mg/kg	0.010	ND
N-ethylperfluoro-1-octanesulfonamic	de (N-EtFOSA)	4151-50-2	mg/kg	0.010	ND
2-(N-methylperfluoro-1-octanesulfor -ethanol(N-MeFOSE)	namido)	24448-09-7	mg/kg	0.010	ND
2-(N-ethylperfluoro-1-octanesulfona -ethanol(N-EtFOSE)	mido)	1691-99-2	mg/kg	0.010	ND
Perfluorooctane sulfonates (PFOS) derivatives	and its	-	mg/kg	-	ND

Notes:

- (1) PFOA and its salts* including PFOA (CAS No. 335-67-1), APFO (CAS No. 3825-26-1), PFOA-Na (CAS No. 335-95-5), PFOA-K (CAS No. 2395-00-8), PFOA-Ag (CAS No. 335-93-3) and PFOA-F (CAS No. 335-66-0). The result of PFOA is used to represent PFOA and its salts.
- (2) PFOS and its salts/ derivatives* including PFOS (CAS No. 1763-23-1), POSF(CAS No. 307-35-7), PFOS-K (CAS No. 2795-39-3), PFOS-NH₄ (CAS No. 29081-56-9), PFOS-N($C_{10}H_{21}$)₂(CH₃)₂ (CAS No. 251099-16-8), PFOS-NH₂($C_{2}H_{4}OH$)₂ (CAS No. 70225-14-8), PFOS-Li (CAS No. 29457-72-5), PFOS-N($C_{2}H_{5}$)₄ (CAS No. 56773-42-3) and PFOS-Na (CAS No. 4021-47-0). The result of PFOS is used to represent PFOS and its salts/ derivatives.

Remark: The sample(s) 003 was/were analyzed on behalf of the applicant as mixing sample in one testing. The above result(s) was/were only given as the informality value and only for reference.

Unless otherwise stated, the decision rule for conformity reporting is based on Binary Statement for Simple Acceptance Rule (w = 0) stated in ILAC-G8:09/2019.





No. CANEC2300113601

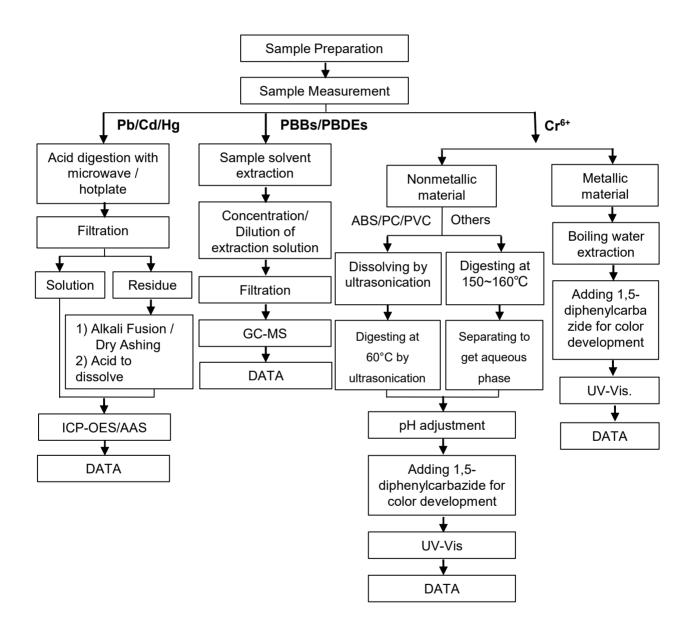
Date: 01 Feb 2023

Page 8 of 14

ATTACHMENTS

Pb/Cd/Hg/Cr6+/PBBs/PBDEs Testing Flow Chart

1) These samples were dissolved totally by pre -conditioning method according to below flow chart. (Cr⁶⁺ and PBBs/PBDEs test method excluded).







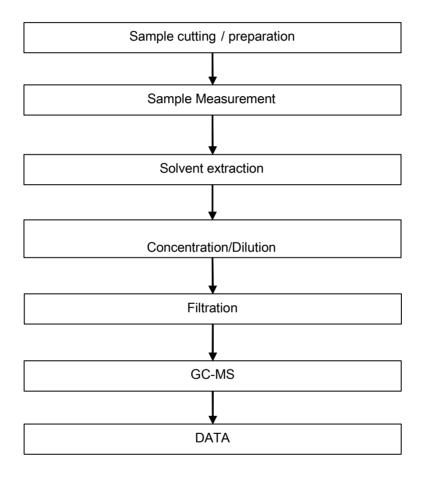
No. CANEC2300113601

Date: 01 Feb 2023

Page 9 of 14

ATTACHMENTS

Phthalates Testing Flow Chart







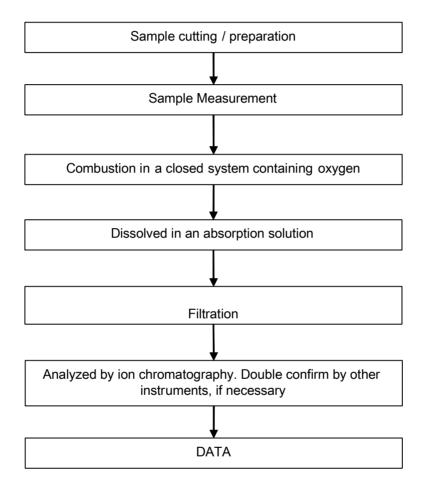
No. CANEC2300113601

Date: 01 Feb 2023

Page 10 of 14

ATTACHMENTS

Halogen Testing Flow Chart







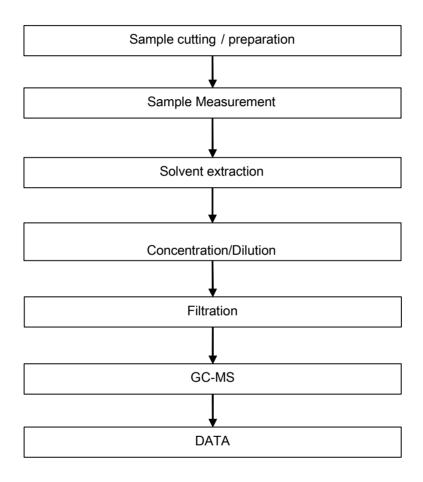
No. CANEC2300113601

Page 11 of 14

Date: 01 Feb 2023

ATTACHMENTS

PAHs Testing Flow Chart







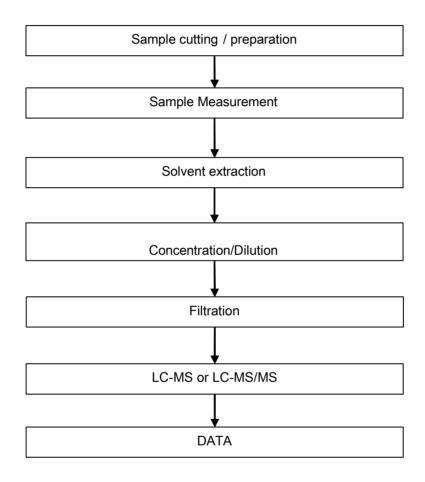
No. CANEC2300113601

Date: 01 Feb 2023

Page 12 of 14

ATTACHMENTS

Testing Flow Chart







No. CANEC2300113601

Page 13 of 14

Date: 01 Feb 2023

Sample photo:









No. CANEC2300113601

Date: 01 Feb 2023 Page 14 of 14



SGS authenticate the photo on original report only

*** End of Report ***

