

## TEST REPORT

APPLICANT : PILKOR Electronics Division. (of COWELL Fashion Co., Ltd.)  
ADDRESS : 270, Sinwon-ro(Woncheon-dong), Yeongtong-gu,  
Suwon-si, Gyeonggi-do, Korea

PAGE: 1 of 6

REPORT NO. RT20R-S2204-E

DATE: May 22, 2020

SAMPLE DESCRIPTION : The following submitted sample(s) said to be:-

NAME/TYPE OF PRODUCT : Film capacitor  
SAMPLE ID NO. : RT20R-S2204  
ITEM NO. : PCMP.PCPW  
MANUFACTURER/VENDOR : PILKOR Electronics Division. (of COWELL Fashion Co., Ltd.)  
NAME OF BUYER : Sony, Samsung, LG

SAMPLE RECEIVED : Apr. 28, 2020  
TESTING DATE : Apr. 28, 2020 ~ May 22, 2020

TEST METHOD(S) : Please see the following page(s).  
TEST RESULT(S) : Please see the following page(s).

- \* Note 1 : The test results presented in this report refer only to the object tested.
- \* Note 2 : This report shall not be reproduced except in full without the written approval of the testing laboratory.
- \* Note 3 : The item no. is assigned by client and indicated according to their requirement and guarantee letter.

Approved by,



Jade Jang / Lab. Technical Manager

Authorized by,



Bo Park / Lab. General Manager



Authenticity check

Intertek Testing Services Korea Ltd.  
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## TEST REPORT

REPORT NO. RT20R-S2204-E

SAMPLE ID NO. : RT20R-S2204

SAMPLE DESCRIPTION : Film capacitor

| TEST ITEM                                    | UNIT  | TEST METHOD  | MDL | RESULT |
|--|-------|--|-----|--------|
| Cadmium (Cd)                                 | mg/kg | With reference to IEC 62321-5 Edition 1.0 : 2013, by acid digestion and determined by ICP-OES                                | 0.5 | N.D.   |
| Lead (Pb)                                    | mg/kg |  | 5   | N.D.   |
| Mercury (Hg)                                 | mg/kg | With reference to IEC 62321-4 Edition 1.0 : 2013, by acid digestion and determined by ICP-OES                                | 2   | N.D.   |
| Hexavalent Chromium (Cr <sup>6+</sup> )      | mg/kg | With reference to IEC 62321-7-2 Edition 1.0 : 2017, by alkaline/toluene digestion and determined by UV-VIS Spectrophotometer | 8   | N.D.   |
| <b>Polybrominated Biphenyl (PBBs)</b>        |       |  |     |        |
| Monobromobiphenyl                            | mg/kg | With reference to IEC 62321-6 Edition 1.0 : 2015, by solvent extraction and determined by GC/MS                              | 5   | N.D.   |
| Dibromobiphenyl                              | mg/kg |  | 5   | N.D.   |
| Tribromobiphenyl                             | mg/kg |  | 5   | N.D.   |
| Tetrabromobiphenyl                           | mg/kg |  | 5   | N.D.   |
| Pentabromobiphenyl                           | mg/kg |  | 5   | N.D.   |
| Hexabromobiphenyl                            | mg/kg |  | 5   | N.D.   |
| Heptabromobiphenyl                           | mg/kg |  | 5   | N.D.   |
| Octabromobiphenyl                            | mg/kg |  | 5   | N.D.   |
| Nonabromobiphenyl                            | mg/kg |  | 5   | N.D.   |
| Decabromobiphenyl                            | mg/kg |  | 5   | N.D.   |
| <b>Polybrominated Diphenyl Ether (PBDEs)</b> |       |  |     |        |
| Monobromodiphenyl ether                      | mg/kg | With reference to IEC 62321-6 Edition 1.0 : 2015, by solvent extraction and determined by GC/MS                              | 5   | N.D.   |
| Dibromodiphenyl ether                        | mg/kg |  | 5   | N.D.   |
| Tribromodiphenyl ether                       | mg/kg |  | 5   | N.D.   |
| Tetrabromodiphenyl ether                     | mg/kg |  | 5   | N.D.   |
| Pentabromodiphenyl ether                     | mg/kg |  | 5   | N.D.   |
| Hexabromodiphenyl ether                      | mg/kg |  | 5   | N.D.   |
| Heptabromodiphenyl ether                     | mg/kg |  | 5   | N.D.   |
| Octabromodiphenyl ether                      | mg/kg |  | 5   | N.D.   |
| Nonabromodiphenyl ether                      | mg/kg |  | 5   | N.D.   |
| Decabromodiphenyl ether                      | mg/kg |  | 5   | N.D.   |

Tested by : Jooyeon Lee, Seulgi Park, Miseon Lee

Notes : mg/kg = ppm = parts per million  
 < = Less than  
 N.D. = Not detected (<MDL)  
 MDL = Method detection limit

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REPORT NO. RT20R-S2204-E

SAMPLE ID NO. : RT20R-S2204

SAMPLE DESCRIPTION : Film capacitor

| TEST ITEM                         | CAS NO.                  | UNIT  | TEST METHOD   | MDL | RESULT |
|-----------------------------------|--------------------------|-------|---|-----|--------|
| Phthalates                        |                          |       |   |     |        |
| Dibutyl phthalate (DBP)           | 84-74-2                  | mg/kg | With reference to IEC 62321-8 Edition 1.0 : 2017, by solvent extraction and determined by GC/MS | 50  | N.D.   |
| Di(2-ethylhexyl) phthalate (DEHP) | 117-81-7                 | mg/kg |   | 50  | N.D.   |
| Di-n-octyl phthalate (DNOP)       | 117-84-0                 | mg/kg |   | 50  | N.D.   |
| Diisononyl phthalate (DINP)       | 28553-12-0<br>68515-48-0 | mg/kg |   | 100 | N.D.   |
| Diisodecyl phthalate (DIDP)       | 26761-40-0<br>68515-49-1 | mg/kg |   | 100 | N.D.   |
| Benzyl butyl phthalate (BBP)      | 85-68-7                  | mg/kg |   | 50  | N.D.   |
| Diisobutyl phthalate (DIBP)       | 84-69-5                  | mg/kg |   | 50  | N.D.   |
| Di-n-hexyl phthalate (DNHP)       | 84-75-3                  | mg/kg |   | 50  | N.D.   |

Tested by : Miseon Lee

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PAGE: 4 of 6  
DATE: May 22, 2020

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SAMPLE ID NO. : RT20R-S2204  
SAMPLE DESCRIPTION : Film capacitor

\* View of sample as received;-



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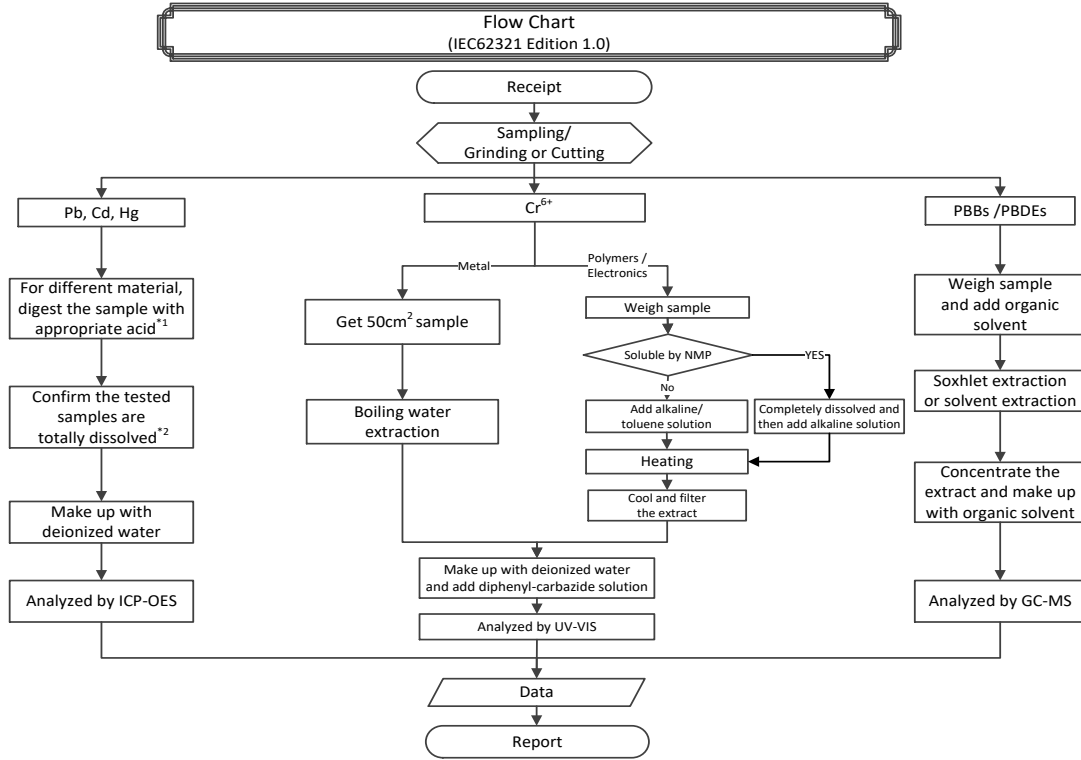


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SAMPLE ID NO. : RT20R-S2204  
SAMPLE DESCRIPTION : Film capacitor



**Remarks :**

\*1 : List of appropriate acid :

| Material    | Acid added for digestion   |
|-------------|--|
| Polymers    | HNO <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub> , H <sub>3</sub> BO <sub>3</sub> |
| Metals      | HNO <sub>3</sub> , HCl, HF   |
| Electronics | HNO <sub>3</sub> , HCl, H <sub>2</sub> O <sub>2</sub> , HBF <sub>4</sub>                   |

\*2 : The samples were dissolved totally by pre-conditioning method according to above flow chart.



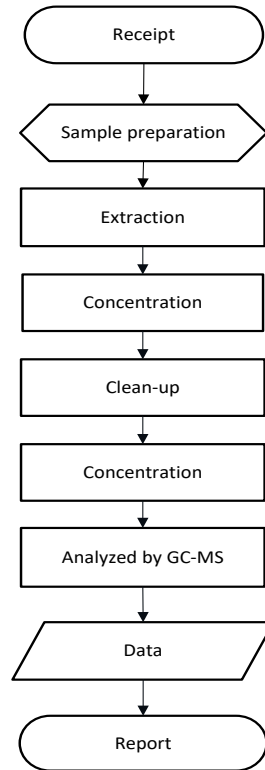
## TEST REPORT

PAGE: 6 of 6  
DATE: May 22, 2020

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SAMPLE DESCRIPTION : Film capacitor

### Flow Chart (Phthalates)



\*\*\*\*\* End of Report \*\*\*\*\*

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