

## Test Report

No. : CE/2020/61019

Date : 2020/06/12

Page : 1 of 5

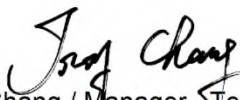
MURATA MANUFACTURING CO., LTD.

1-10-1, HIGASHI KOTARI, NAGAOKAKYO-SHI, KYOTO, 617-8555, JAPAN.

The following samples was/were submitted and identified by/on behalf of the applicant as :

Sample Submitted By : MURATA MANUFACTURING CO., LTD.  
Sample Description : Ni PLATING\_200612  
CLIENT REF No : 1200518042  
Sample Receiving Date : 2020/06/05  
Testing Period : 2020/06/05 to 2020/06/12

Test Result(s) : Please refer to following pages.

  
Troy Chang / Manager - Tech  
Signed for and behalf of  
SGS TAIWAN LTD.  
Chemical Laboratory - Taipei



PIN CODE: CFB6B414

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <https://twap.sgs.com/Terms-and-Conditions.html> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <https://twap.sgs.com/Terms-and-Conditions.html>. 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 instruction, 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.

# Test Report

No. : CE/2020/61019

Date : 2020/06/12

Page : 2 of 5

MURATA MANUFACTURING CO., LTD.

1-10-1, HIGASHI KOTARI, NAGAOKAKYO-SHI, KYOTO, 617-8555, JAPAN.

## Test Result(s)

PART NAME No.1 : SILVER COLORED SHEET

Test Item(s)	Unit	Method	MDL	Result
				No.1
<b>Halogen</b>				
Halogen-Fluorine (F) (CAS No.: 14762-94-8)	mg/kg	With reference to BS EN 14582 (2016). Analysis was performed by IC.	50	n.d.
Halogen-Chlorine (Cl) (CAS No.: 22537-15-1)	mg/kg		50	n.d.
Halogen-Bromine (Br) (CAS No.: 10097-32-2)	mg/kg		50	n.d.
Halogen-Iodine (I) (CAS No.: 14362-44-8)	mg/kg		50	n.d.
Antimony (Sb)	mg/kg	With reference to US EPA 3050B (1996). Analysis was performed by ICP-OES.	2	n.d.
Phosphorus (P)	mg/kg	With reference to US EPA 3050B (1996). Analysis was performed by ICP-OES.	2	n.d.

## Note :

1. mg/kg = ppm ; 0.1wt% = 1000ppm
2. MDL = Method Detection Limit
3. n.d. = Not Detected = less than MDL

# Test Report

No. : CE/2020/61019

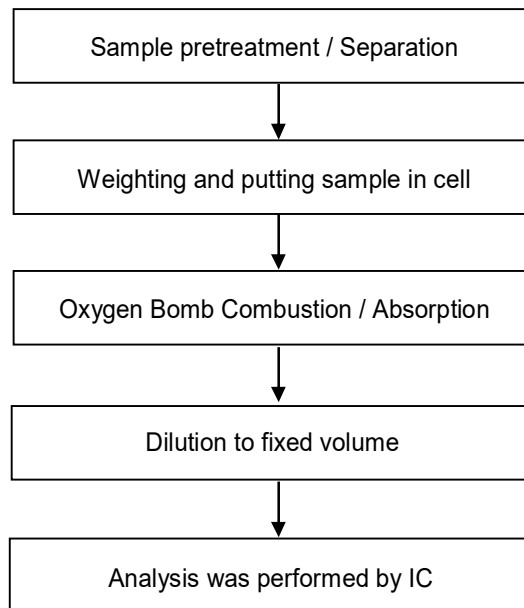
Date : 2020/06/12

Page : 3 of 5

MURATA MANUFACTURING CO., LTD.

1-10-1, HIGASHI KOTARI, NAGAOKAKYO-SHI, KYOTO, 617-8555, JAPAN.

## Analytical flow chart - Halogen



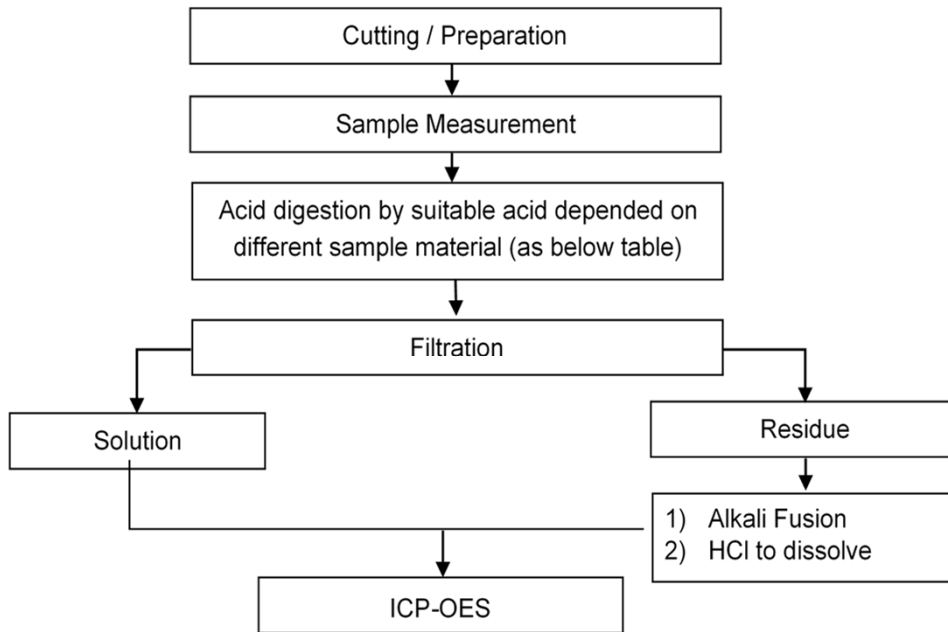
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <https://twap.sgs.com/Terms-and-Conditions.html> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <https://twap.sgs.com/Terms-and-Conditions.html>. 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 instruction, 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.

MURATA MANUFACTURING CO., LTD.

1-10-1, HIGASHI KOTARI, NAGAOKAKYO-SHI, KYOTO, 617-8555, JAPAN.

### Flow Chart of digestion for the elements analysis performed by ICP-OES

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



Steel, copper, aluminum, solder	Aqua regia, HNO <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub>
Glass	HNO <sub>3</sub> /HF
Gold, platinum, palladium, ceramic	Aqua regia
Silver	HNO <sub>3</sub>
Plastic	H <sub>2</sub> SO <sub>4</sub> , H <sub>2</sub> O <sub>2</sub> , HNO <sub>3</sub> , HCl
Others	Added appropriate reagent to total digestion

## Test Report

No. : CE/2020/61019

Date : 2020/06/12

Page : 5 of 5

MURATA MANUFACTURING CO., LTD.

1-10-1, HIGASHI KOTARI, NAGAOKAKYO-SHI, KYOTO, 617-8555, JAPAN.

\* The tested sample / part is marked by an arrow if it's shown on the photo. \*

### CE/2020/61019



\*\* End of Report \*\*