

Test Report

No. 4563489-06

Date: 03/JUL/2018

Page 1 of 5

Jauch Quartz GmbH
 Mr. Stefan Durczok
 In der Lache 24
 78056 Villingen-Schwenningen
 GERMANY



The following samples were submitted and identified by/on behalf of the client as

SGS Job file : 4563489
 Order date : 17/MAY/2018
 Order number : -
 Sampling : by Client or by a third party acting at the Client's direction
 condition of the samples : appropriate for testing
 Sample receiving Date : 22/MAY/2018
 Testing period : 22/MAY/2018 – 03/JUL/2018
 Analytical scope : According to client's requirements

Sample No	Sample designation
180491906	VX3, electronic component

Test requested : In accordance with the RoHS Directive 2011/65/EU and subsequent amendments

Test Method(s) : (1) Determination of Cadmium by ICP-OES, acc. IEC 62321-5:2013
 (2) Determination of Lead by ICP-OES, acc. IEC 62321-5:2013
 (3) Determination of Mercury by CV-AAS, acc. IEC 62321-4:2013
 (4) Determination of Chromium by ICP-OES, acc. IEC 62321-5:2013
 (5) Determination of Chromium (VI) acc. IEC 62321:
 A) (metal samples) Determination after extraction with hot water and derivatisation with 1,5-diphenyl-carbazide based on IEC 62321-7-1:2015 (metal samples), ion chromatography
 B) (non-metallic samples) Determination after alkaline extraction and derivatisation with 1,5-diphenyl-carbazide based on IEC 62321, Ed1, 2008, C5 (polymer and electronic samples), ion chromatography
Remark: Due to its highly reactive nature the concentration of CrVI in a corrosion-protection changes drastically with time and storage conditions. The results obtained by IEC 62321-7-1:2015 can therefore only give an indication of the presence/absence of Cr(VI) within the limitations of the method at the time of testing.
 (6) Determination of PBB/PBDE by GC/MS, acc. IEC 62321-6:2015
Remark: Please note that acc. to IEC the testing of metals for PBB/PBDE is gratuitous

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

R:\J\Jauch Quartz GmbH_10008399\2018\4563489\4563489-06_Rohs.Doc

Test Report

No. 4563489-06

Date: 03/JUL/2018

Page 2 of 5

Jauch Quartz GmbH
In der Lache 24
78056 Villingen-Schwenningen
GERMANY

Conclusion : Based on the performed tests on submitted sample(s), the test results of Lead, Mercury, Cadmium, hexavalent Chromium, **comply** with the limits as set by RoHS Directive 2011/65/EU, Annex 2 and subsequent amendments

Note: Sample contains Lead (Pb).

Acc. to client's statement sample material is ceramic. The use of lead is explicitly allowed acc. Directive 2011/65/EU, Annex 3 no. 7(c.I) and an elevated content non objectionable for application as follows:

Electrical and electronic components containing lead in glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound

SGS INSTITUT FRESENIUS GmbH

i.V.


Wera Leonhard / cg
Projektleiterin / Project Manager
Consumer and Retail
Tel. +49 (0)6128 / 744 - 186

i.A.


Annkatrin Kuhl
Projektleiterin / Project Manager
Consumer and Retail
Tel. +49 (0)6128 / 744 - 280

Test Report

No. 4563489-06

Date: 03/JUL/2018

Page 3 of 5

Jauch Quartz GmbH
In der Lache 24
78056 Villingen-Schwenningen
GERMANY

Test results by chemical method (Unit: mg/kg)

Sample No.		180491906		
Test Item(s):	Method (refer to)		RL	RoHS Limit
Cadmium(Cd)	(1)	n.d.	5**	100
Lead (Pb)	(2)	49400	20**	1000
Mercury (Hg)	(3)	n.d.	0,5	1000
Chromium, hexavalent (Cr(VI))	(5 B)	n.d.	1	1000
Sum of PBDEs	(6)	-	-	1000 (Sum of polybrominated diphenyl ether)
Monobromodiphenyl ether		n.a.	50	
Dibromodiphenyl ether		n.a.	50	
Tribromodiphenyl ether		n.a.	50	
Tetrabromodiphenyl ether		n.a.	50	
Pentabromodiphenyl ether		n.a.	50	
Hexabromodiphenyl ether		n.a.	50	
Heptabromodiphenyl ether		n.a.	50	
Octabromodiphenyl ether		n.a.	50	
Nonabromodiphenyl ether		n.a.	50	
Decabromodiphenyl ether		n.a.	50	
Sum of PBBs		-	-	
Monobromobiphenyl		n.a.	50	
Dibromobiphenyl		n.a.	50	
Tribromobiphenyl		n.a.	50	
Tetrabromobiphenyl		n.a.	50	
Hexabromobiphenyl		n.a.	50	
Pentabromobiphenyl		n.a.	50	
Heptabromobiphenyl		n.a.	50	
Octabromobiphenyl		n.a.	50	
Nonabromobiphenyl		n.a.	50	
Decabromobiphenyl		n.a.	50	

Note: mg/kg = ppm

n.d.= not Detected

RL = Report Limit

n.a.= not analyzed

**= elevated reporting limit due to matrix interferences

Test Report

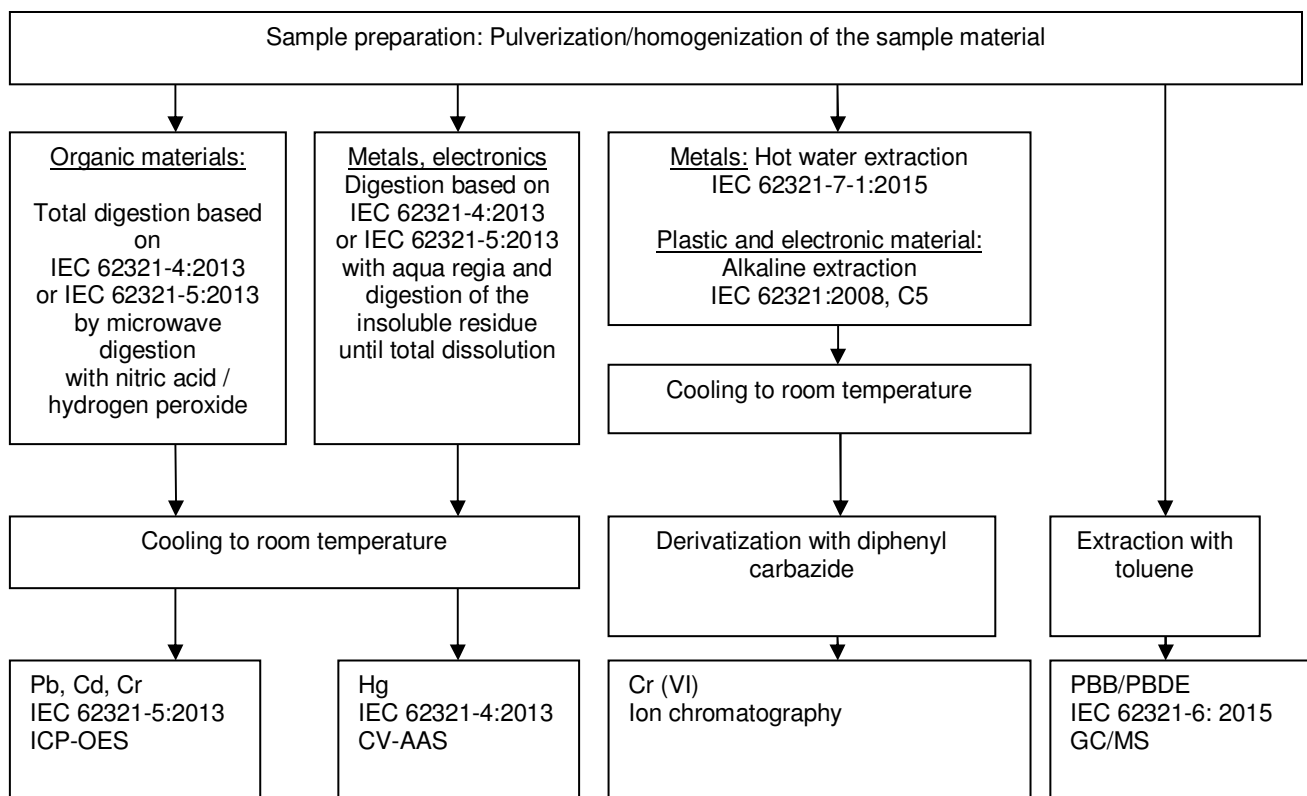
No. 4563489-06

Date: 03/JUL/2018

Page 4 of 5

Jauch Quartz GmbH
 In der Lache 24
 78056 Villingen-Schwenningen
 GERMANY

Flow Chart for the working flow of the performed analysis



Test Report

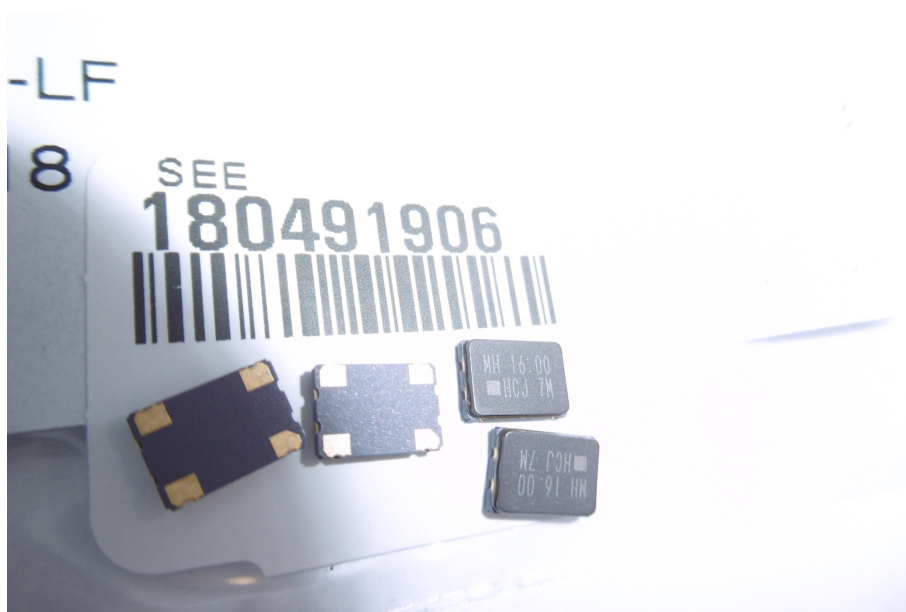
No. 4563489-06

Date: 03/JUL/2018

Page 5 of 5

Jauch Quartz GmbH
In der Lache 24
78056 Villingen-Schwenningen
GERMANY

Sample Photo(s)



End of test report

This document is issued by the Company subject to its General Conditions of Service (www.sgsgroup.de/agb). Attention is drawn to the limitations of liability, indemnification and jurisdictional issues established therein.

WARNING: The sample(s) to which the findings recorded herein (the "Findings") relate was (were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the sample(s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.