Test Report

Report No.: A001R20160803029 Date: Aug.09, 2016 Page 1 of 7

Applicant: [redacted]

Address: [redacted] DONGGUAN [redacted] CHINA

Report on the submitted samples said to be:

Sample Name : Charging cable

Supplier : [redacted]

Country of Origin : CHINA

Manufacturers : [redacted]

Address : [redacted] DONGGUAN [redacted] CHINA

Sample Receiving Date : Aug.03, 2016

Testing Period : Aug.03, 2016 to Aug.09, 2016

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

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

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

Attestation of Global Compliance (shenzhen) Co., Ltd

Tested by: Felix.Li	Reviewed by: Jason	Approved by: Lewis
Liwenlong, Felix.Li	Jiangyuncheng, Jason	Liulinwen, Lewis
Test Engineer	Laboratory Manager	Technical Director

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Test Requested: **Conclusion**

As specified by client, to determine the Pb, Cd, Hg, Cr^{6+}, PBBs, PBDEs content in the submitted sample in accordance with EU RoHS Directive 2011/65/EU(RoHS) and its amendment directives on XRF and Chemical Method. **Pass**

Test Methods:

A: Screening by X-ray Fluorescence Spectrometry (XRF) :With reference to IEC 62321-3-1:2013 Ed 1.0 Screening – Lead, mercury, cadmium, total chromium and total bromine by X-ray fluorescence spectrometry

B: Chemical test:

Test Item	Test Method	Measuring Instrument	MDL
Cadmium (Cd)	IEC 62321-5:2013 Ed 1.0 Section 7	AAS/ICP-OES	2 mg/kg
Lead (Pb)	IEC 62321-5:2013 Ed 1.0 Section 7	AAS/ICP-OES	2 mg/kg
Mercury (Hg)	IEC 62321-4:2013 Ed 1.0 Section 7	ICP-OES	2 mg/kg
Non-metal Hexavalent Chromium (Cr^{6+})	IEC 62321:2008 Ed 1.0 Annex C	UV-Vis	1 mg/kg
Metal Hexavalent Chromium (Cr^{6+})	IEC 62321:2008 Ed 1.0 Annex B	UV-Vis	/
PBBs/PBDEs	IEC 62321:2008 Ed 1.0 Annex A	GC-MS	5 mg/kg

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A、EU RoHS Directive 2011/65/EU and its amendment directives on XRF

Seq. No.	Tested Part(s)	Results(mg/kg)				
		Cd	Pb	Hg	Cr	Br
1	Black grip(USB plug)	BL	BL	BL	BL	BL
2	Soldering tin(USB plug)	BL	BL	BL	BL	-
3	White plastic(USB plug)	BL	BL	BL	BL	BL
4	Contact pin(USB plug)	BL	BL	BL	BL	-
5	Metal shell(USB plug)	BL	BL	BL	BL	-
6	Black grip(android plug)	BL	BL	BL	BL	BL
7	Soldering tin(android plug)	BL	BL	BL	BL	-
8	Black plastic(android plug)	BL	BL	BL	BL	BL
9	Metal needle(android plug)	BL	BL	BL	X*	-
10	Contact pin(android plug)	BL	BL	BL	BL	-
11	Metal shell(android plug)	BL	BL	BL	X*	-
12	Black outer wire jacket(wire rod)	BL	BL	BL	BL	BL
13	White wire jacket(wire rod)	BL	BL	BL	BL	BL
14	Wire core(wire rod)	BL	BL	BL	BL	-
15	Red wire jacket(wire rod)	BL	BL	BL	BL	BL

Element	Unit	Non-metal	Metal	Composite Material
Cd	mg/kg	BL≤70-3σ<X <130+3σ≤OL	BL≤70-3σ<X <130+3σ≤OL	BL≤50-3σ<X <150+3σ≤OL
Pb	mg/kg	BL≤700-3σ<X <1300+3σ≤OL	BL≤700-3σ<X <1300+3σ≤OL	BL≤500-3σ<X <1500+3σ≤OL
Hg	mg/kg	BL≤700-3σ<X <1300+3σ≤OL	BL≤700-3σ<X <1300+3σ≤OL	BL≤500-3σ<X <1500+3σ≤OL
Cr	mg/kg	BL≤700-3σ<X	BL≤700-3σ<X	BL≤500-3σ<X
Br	mg/kg	BL≤300-3σ<X	-	BL≤250-3σ<X

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Note: BL= Below Limit
OL= Over limited
X= Inconclusive
"-"= Not regulated
*= Scanning by XRF and detected by chemical method. The test results of chemical method please refer to next pages.

Remark:

i Results were obtained by XRF for primary scanning, and further chemical testing by ICP (for Cd, Pb, Hg), UV-Vis (for Cr(VI)) and GC-MS (for PBBs, PBDEs) are recommended to be performed, if the concentration exceeds the above warning value according to IEC 62321-3-1:2013 Ed 1.0.

ii The XRF scanning test for RoHS elements – The reading may be different to the actual content in the sample be of non-uniformity composition.

iii The maximum permissible limit is quoted from the document 2005/618/EC amending RoHS directive 2011/65/EU:

RoHS Restricted Substances	Maximum Concentration Value (mg/kg) (by weight in homogenous materials)
Cadmium (Cd)	100
Lead (Pb)	1000
Mercury (Hg)	1000
Hexavalent Chromium (Cr(VI))	1000
Polybrominated biphenyls (PBBs)	1000
Polybrominated diphenylethers (PBDEs)	1000

Disclaimers:

This XRF Scanning report is for reference purposes only. The applicant shall make its/his/her own judgment as to whether the information provided in this XRF screening report is sufficient for its/his/her purposes.

The result shown in this XRF scanning report will differ based on various factors, including but not limited to, the sample size, thickness, area, surface flatness, equipment parameters and matrix effect (e.g. plastic, rubber, metal, glass, ceramic etc.). Further wet chemical pre-treatment with relevant chemical equipment analysis are required to obtain quantitative data.

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B、The Test Results of Chemical Method:

1)The Test Results of metal Cr^{6+}

Test Item(s)	MDL	Result(s)		Limit
		9	11	
Hexavalent Chromium (Cr^{6+})	**	Negative	Negative	#

Note:

- Negative = Absence of Cr(VI) on the tested areas
- MDL = Method Detection Limit
- ** = Spot-test:
  Negative = Absence of Cr(VI) coating/ surface layer
  Positive = Presence of Cr(VI) coating/ surface layer
  (The tested sample should be further verified by boiling-water-extraction method if the spot test result cannot be confirmed)
  Boiling-water-extraction:
  Negative = Absence of Cr(VI) coating/ surface layer
  The detected concentration in boiling- water-extraction solution is less than 0.02 mg/kg with $50cm^2$ sample surface areas.
  Positive = Presence of Cr(VI) coating/ surface layer
  The detected concentration in boiling- water-extraction solution is equal or greater than 0.02 mg/kg with $50cm^2$ sample surface areas.
- # =
  Negative indicates the absence of Cr(VI) on the tested areas and result be regarded as no conflict with RoHS requirement.
  Positive indicates the presence of Cr(VI) on the tested areas.
  Storage conditions and production date of the tested sample are unavailable and thus result of Cr(VI) represent status of the sample at the time of testing.

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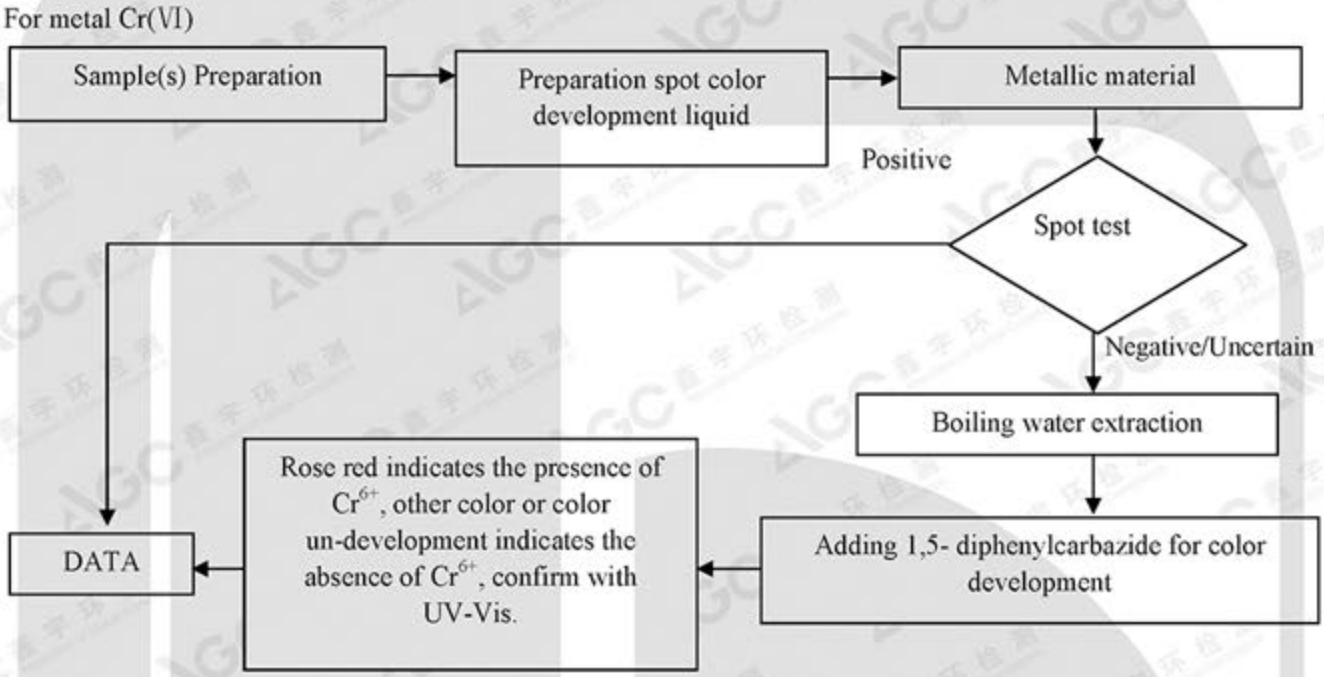
Test Flow Chart



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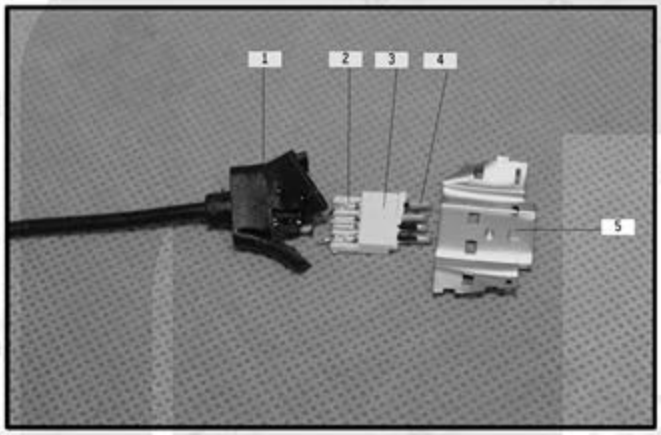
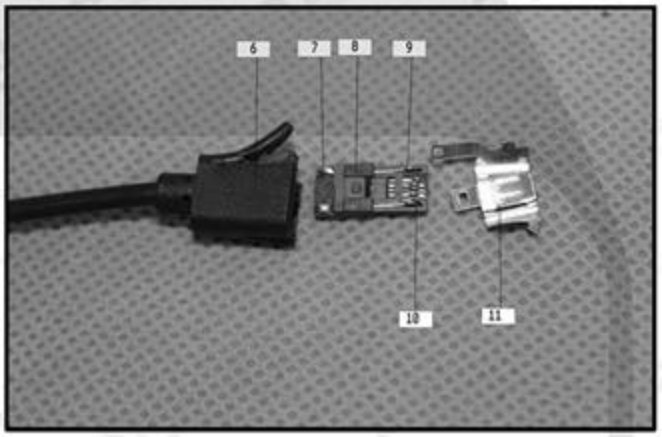
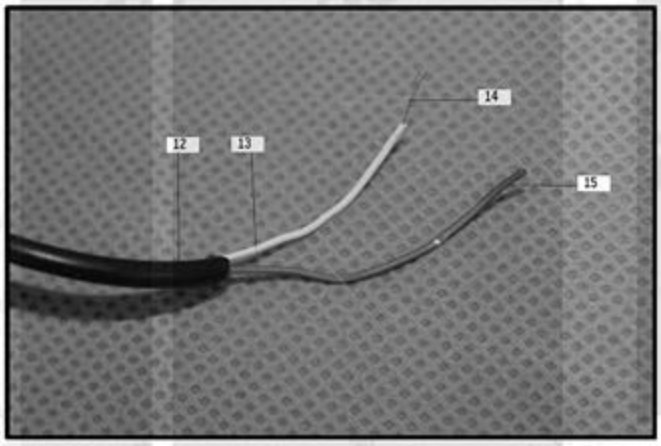
The photo of the sample







AGC authenticate the photo on original report only

*** End of Report***

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