



# Test Report

Report No.: CTT180610647ENA

Date: Jun. 25, 2018

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**Applicant:** DONG GUAN HOLCHAN ELECTRONICS TECHNOLOGY CO.LTD.

**Address:** THE 2ND FLOOR (WEST SIDE),JIEAN INDUSTRIAL PARK, THE 1ST INDUSTRIAL ROAD, TUTANG VILLAGE, CHANGPING TOWN,DONGGUAN CITY, GUANGDONG, CHINA

The following merchandise was (were) submitted and identified by client as:

**Sample Name:** Module

**Sample Model:** HC1230

**ClientRef.Info:** HC210C-T/HC1243/HC215/HC1231/HC902/HC1278/HC24GB/HC210CR/HC210MR/HC210M-T/HT303M/HCT110/HCR110/HCR2210H/HC1276/HC1239/HC220/HC221/HC216/HC217/HC1239S/HC4355/AK004-TR/LJ1295/AK001/LJ12BD/AK004-T/AK002/AK004-R/HC900/HC210C-TR/RT2/80108-01

**Sample Received Date:** Jun. 20, 2018

**Completed Date:** Jun. 25, 2018

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

### Test Requested and Conclusion(s):

No.	Test Sample	Standard and Requirement	Conclusion(s)
1	Submitted sample	RoHS Directive 2011/65/EU and its subsequent amendments 2015/863/EU	PASS

Signed for and on Behalf of CTT

*Hilary He*



Hilary He / Technical Manager  
Consumer Testing Technology Co., Ltd.

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**Test Result(s):**

RoHS - Lead (Pb)/Cadmium(Cd)/Mercury(Hg)/Hexavalent Chromium(Cr<sup>6+</sup>)/PBBs/PBDEs

Method:

With reference to IEC 62321-3-1:2013, screening by EDXRF Spectroscopy.

Lead (Pb)/Cadmium(Cd) - With reference to IEC 62321-5: 2013, analyzed by AAS & ICP-OES.

Mercury(Hg) - With reference to IEC 62321-4: 2013/AMD1: 2017, analyzed by AAS & ICP-OES.

Hexavalent Chromium(Cr<sup>6+</sup>) – Polymers: With reference to IEC 62321-7-2: 2017, analyzed by UV-Vis.

Hexavalent Chromium(Cr<sup>6+</sup>) – Colourless and coloured corrosion-protected coatings on metals

With reference to IEC 62321-7-1:2015

PBBs/PBDEs - With reference to IEC 62321-6: 2015, analyzed by GC-MS.

Material No.	Substances	EDXRF Result *	Chemical Result #(mg/kg)	Conclusion
1	Pb	BL	--	PASS
	Cd	BL	--	PASS
	Hg	BL	--	PASS
	Cr <sup>6+</sup>	BL	--	PASS
	PBBs	--	--	--
	PBDEs		--	--
2	Pb	BL	--	PASS
	Cd	BL	--	PASS
	Hg	BL	--	PASS
	Cr <sup>6+</sup>	BL	--	PASS
	PBBs	IN	N.D.	PASS
	PBDEs		26	PASS
3	Pb	BL	--	PASS
	Cd	BL	--	PASS
	Hg	BL	--	PASS
	Cr <sup>6+</sup>	BL	--	PASS
	PBBs	--	--	--
	PBDEs		--	--
4	Pb	BL	--	PASS
	Cd	BL	--	PASS
	Hg	BL	--	PASS
	Cr <sup>6+</sup>	BL	--	PASS
	PBBs	--	--	--
	PBDEs		--	--

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5	Pb	BL	--	PASS
	Cd		--	PASS
	Hg		--	PASS
	Cr6+		--	PASS
	PBBs		--	--
	PBDEs	--	--	
6	Pb	BL	--	PASS
	Cd	BL	--	PASS
	Hg	BL	--	PASS
	Cr6+	BL	--	PASS
	PBBs	--	--	--
	PBDEs	--	--	--
7	Pb	BL	--	PASS
	Cd	BL	--	PASS
	Hg	BL	--	PASS
	Cr6+	BL	--	PASS
	PBBs	--	--	--
	PBDEs	--	--	--
8	Pb	BL	--	PASS
	Cd	BL	--	PASS
	Hg	BL	--	PASS
	Cr6+	BL	--	PASS
	PBBs	--	--	--
	PBDEs	--	--	--
9	Pb	BL	--	PASS
	Cd	BL	--	PASS
	Hg	BL	--	PASS
	Cr6+	BL	--	PASS
	PBBs	--	--	--
	PBDEs	--	--	--

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- Note:**
1. mg/kg = milligram per kilogram (ppm).
  2. N.D. = Not Detected (<RL).
  3. RL(Reporting Limit): 2 mg/kg for Pb/ Cd/ Hg/ Cr<sup>6+</sup>(Nonmetal material); 5 mg/kg for PBBs & PBDEs.
  4. (Negative) = Absence of Cr<sup>6+</sup>. the detected concentration in boiling-water-extraction solution is less than 0.10 ug/cm<sup>2</sup> with 50 cm<sup>2</sup> sample surface area.
  5. (Positive) = Presence of Cr<sup>6+</sup>: the detected concentration in boiling-water-extraction solution is greater than 0.13 ug/cm<sup>2</sup> with 50 cm<sup>2</sup> sample surface area.
  6. "\*" = It is the result on total Cr and Br while test substances are Cr<sup>6+</sup> and PBBs & PBDEs.
  7. "#" = Result are obtained by EDXRF for primary screening, if the result exceeds the below limit (BL), and further chemical testing.

**Screening limits in mg/kg for regulated elements in various matrices**

Elements	Polymer	Metal	Composite Materials
Pb	BL≤(700-3σ)<X<(1300+3σ)≤ OL	BL≤(700-3σ)<X<(1300+3σ)≤ OL	BL≤(500-3σ)<X<(1500+3σ)≤ OL
Cd	BL≤(70-3σ)<X<(130+3σ)≤ OL	BL≤(70-3σ)<X<(130+3σ)≤ OL	LOD<X<(150+3σ)≤OL
Hg	BL≤(700-3σ)<X<(1300+3σ)≤ OL	BL≤(700-3σ)<X<(1300+3σ)≤ OL	BL≤(500-3σ)<X<(1500+3σ)≤ OL
Cr	BL≤(700-3σ)<X	BL≤(700-3σ)<X	BL≤(500-3σ)<X
Br	BL≤(300-3σ)<X	--	BL≤(250-3σ)<X

BL = Below Limit, OL = Over Limit, IN = Inconclusive, LOD = Limit of Detection

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**Test Result(s):**

Phthalates

Method: With reference to IEC 62321-8:2017, analyzed by Gas Chromatograph-Mass Spectrometry (GC-MS).

Substances	DBP	BBP	DEHP	DIBP	Conclusion
CAS No.	84-74-2	85-68-7	117-81-7	84-69-5	
Limit (mg/kg)	1000	1000	1000	1000	
RL (mg/kg)	50	50	50	50	
Material No.	Result (mg/kg)				
2	N.D.	N.D.	N.D.	N.D.	PASS

- Note:**
1. mg/kg = milligram per kilogram (ppm).
  2. N.D. = Not Detected (< RL).
  3. RL = Reporting Limit.

**Test Material List**

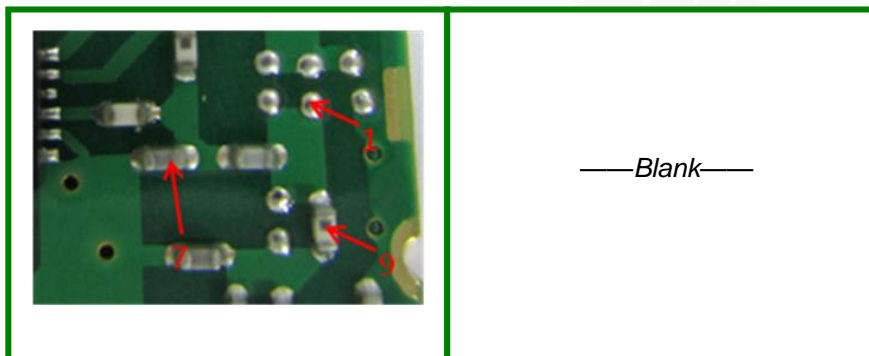
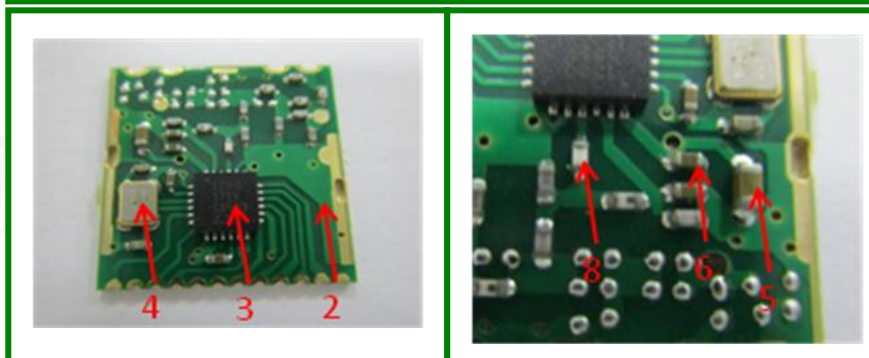
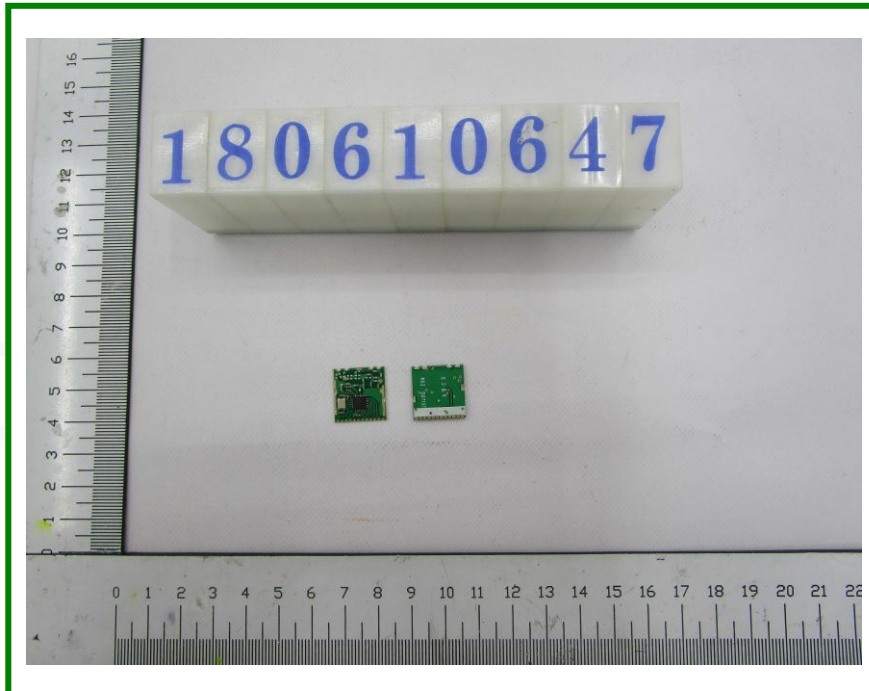
The following materials apply only to the samples submitted for chemical testing

Material No.	Description	Location
1	Silvery metal	Welding spot
2	White plastic with green/white printing	PCB
3	Black ceramic with metal	Chip IC
4	Silvery/golden plastic	Crystal oscillator
5	Brown ceramic	Chip capacitor (L)
6	Dark brown ceramic	Chip capacitor (S)
7	Grey ceramic	Chip capacitor
8	White ceramic	Chip capacitor
9	White/grey ceramic	Chip capacitor

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Photo of Sample:



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

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