RADIOLINK ELECTRONIC CO., LTD

3/F,BUILDING 2, FUGUO INDUSTRIAL PARK, KAIFENG ROAD, MEILIN, SHENZHEN, GUANGDONG CHINA

The following samples were submitted and identified on behalf of the clients as

Sample Name:	Lithium battery balance charger
Model No（M/N）.:	CB86-PLUS
Input:	/
Output:	/
Sample Received Date:	Apr 07, 2015
Test Period:	Apr 07, 2015, 2014 to Apr 20, 2015
Test Requested:	In accordance with RoHS Directive 2011/65/EU Annex II —Lead, Cadmium, Mercury, Hexavalent Chromium, PBBs and PBDEs Content
Test Method:	Please refer to next pages
Test Result:	Please refer to next pages

****

CONCLUSION :

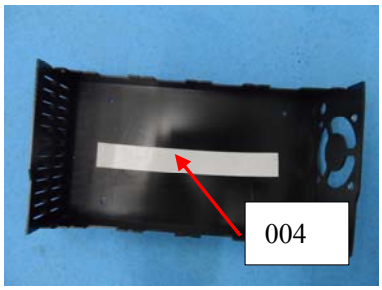
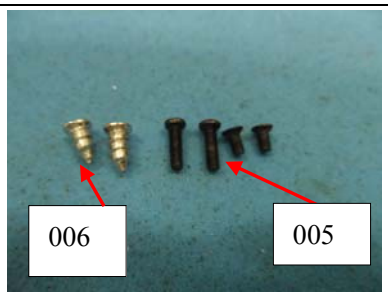
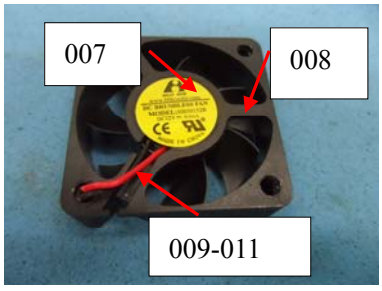
TESTED SAMPLES	TEST ITEM	RESULT
LITHIUM BETTERY FOR RC MODEL BALANCE CHARGER	Lead, Cadmium, Mercury, Hexavalent, Chromium, PBBs and PBDEs Content — RoHS Directive 2011/65/EU Annex II	**PASS**

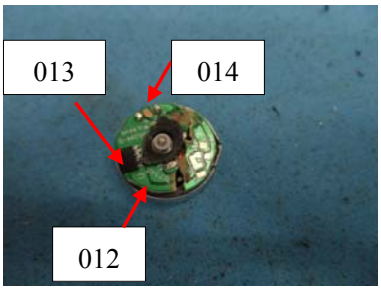
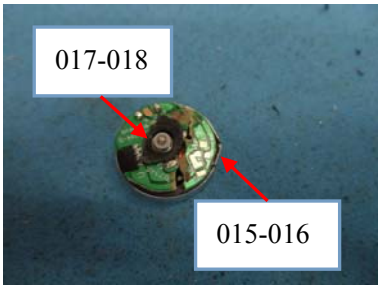
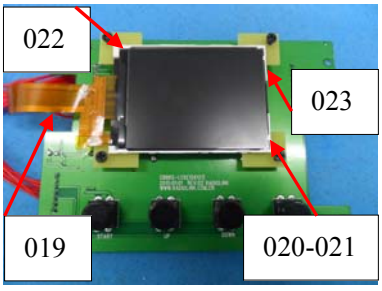
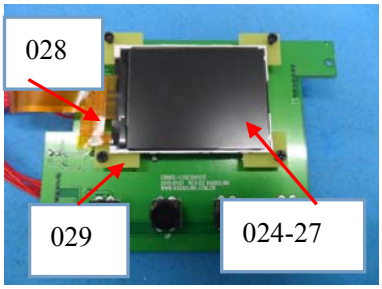
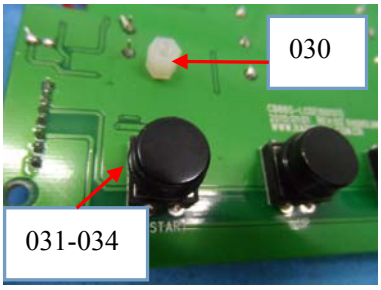
****

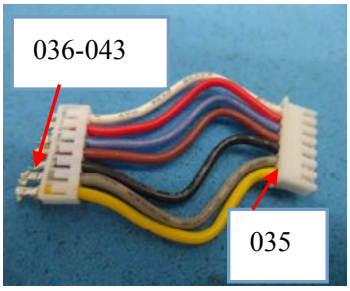
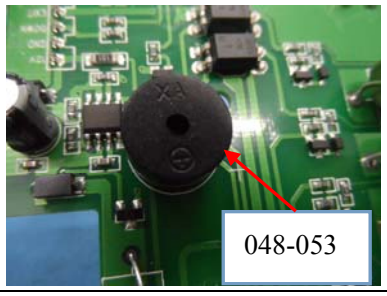
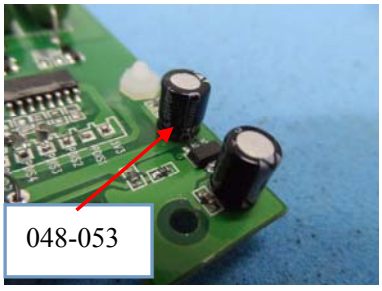
Signed for and on behalf of

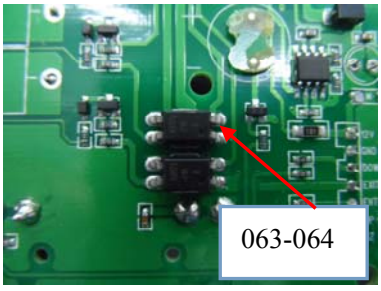
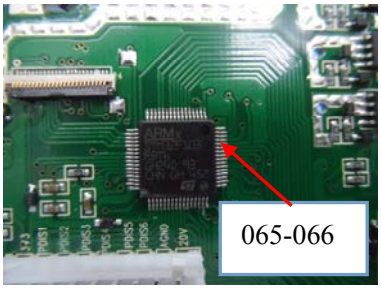
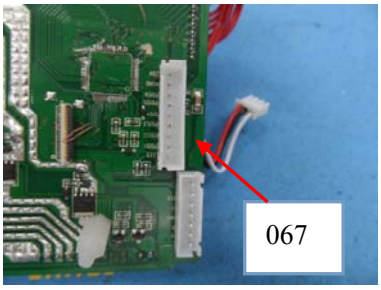
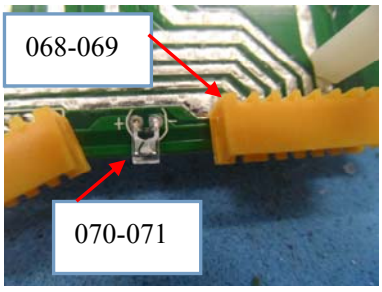
**********For further details, please refer to the following page(s)**********

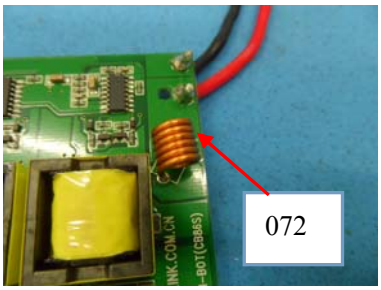
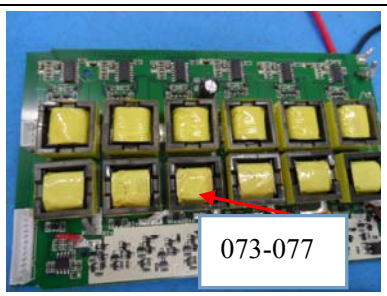
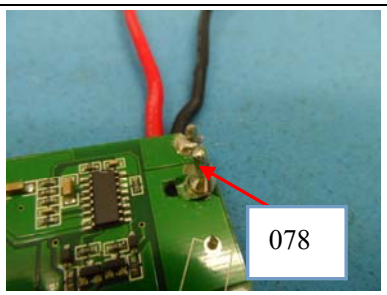
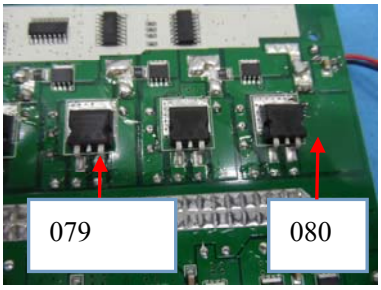
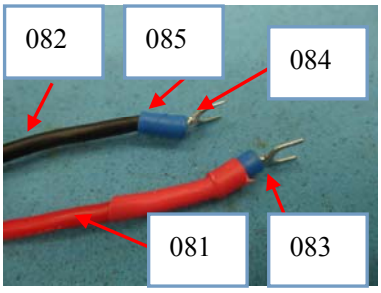
1 Test Item Description And Photo List

Sample No.	Description	Photograph
001	Red coating	
002	Black coating	
003	Silvery metal substrate	
004	White rubber	
005	Black metal screw	
006	Silvery metal screw	
007	Yellow label	
008	Black plastic shell	
009	Red plastic jacket	
010	Black plastic jacket inner	
011	Silvery metal wire	

Sample No.	Description	Photograph
012	PCB	
013	Black plastic	
014	Silvery metal solder	
015	Black magnet	
016	Silvery metal edge	
017	Silvery metal axis	
018	Coppery metal wire inner	
019	Coppery metal wire	
020	Transparent plastic	
021	Grey plastic	
022	White plastic frame	
023	Yellow paper	
024	White plastic	
025	Black glasses	
026	Transparent glasses	
027	Black paper	
028	Double side tape	
029	Yellow plastic	
030	White plastic	
031	Silvery metal pin	
032	Black plastic shell	
033	Golden metal sheet	
034	Silvery metal sheet	

Sample No.	Description	Photograph
035	White plastic	
036	Yellow plastic jacket	
037	Grey plastic jacket	
038	Black plastic jacket	
039	Coffee plastic jacket	
040	Red plastic jacket	
041	Blue plastic jacket	
042	White plastic jacket	
043	Silvery metal wire	
044	Silvery metal pin	
045	Green coating	
046	Silvery metal inner	
047	White ceram	
048	Silvery metal pin	
049	Black magnet	
050	Silvery metal sheet	
051	Black plastic shell	
052	Silvery metal	
053	Coppery metal wire	
054	Silvery metal pin	
055	Black plastic	
056	Silvery metal shell	
057	Black plastic inner	
058	Grey tinfoil	
059	Brown paper	

Sample No.	Description	Photograph
060	Black plastic shell	
061	Black ceram	
062	Gold metal wire	
063	Silvery metal pin	
064	Black ceram	
065	Silvery metal pin	
066	Black plastic	
067	White plastic	
068	Yellow plastic	
069	Silvery metal	
070	Silvery metal pin	
071	Transparent plastic	

Sample No.	Description	Photograph
072	Coppery metal wire	
073	Silvery metal pin	
074	Yellow mackintosh	
075	Black ceram	
076	Black plastic inner	
077	Coppery metal wire	
78	Silvery metal solder	
079	Black plastic	
080	PCB	
081	Red plastic Jacket	
082	Black plastic jacket	
083	Silvery metal wire inner	
084	Silvery metal sheet	
085	Blue plastic jacket	

Test Results

1.1 Screening test for the specified hazardous substances of RoHS for the selected materials of the submitted sample:

- Heavy Metal (Cadmium, Chromium, Mercury, Lead) Content Test
- Bromine Content Test

According to IEC 62321:2013, and Quantification analyzed with Energy Dispersive X-ray Fluorescence Spectrometers.

Sample No.	Total Cadmium	Total Lead	Total Mercury	Total Chromium	Total Bromine
Sample 001	BL	BL	BL	BL	BL
Sample 002	BL	BL	BL	BL	BL
Sample 003	BL	BL	BL	BL	N.A.
Sample 004	BL	BL	BL	BL	BL
Sample 005	BL	BL	BL	BL	N.A.
Sample 006	BL	BL	BL	BL	N.A.
Sample 007	BL	BL	BL	BL	BL
Sample 008	BL	BL	BL	BL	Inconclusive ^
Sample 009	BL	BL	BL	BL	BL
Sample 010	BL	BL	BL	BL	BL
Sample 011	BL	BL	BL	BL	N.A.
Sample 012	BL	BL	BL	BL	Inconclusive ^
Sample 013	BL	BL	BL	BL	BL
Sample 014	BL	BL	BL	BL	N.A.
Sample 015	BL	BL	BL	BL	BL
Sample 016	BL	BL	BL	Inconclusive ^	N.A.
Sample 017	BL	BL	BL	Inconclusive ^	N.A.
Sample 018	BL	BL	BL	BL	N.A.
Sample 019	BL	BL	BL	BL	BL
Sample 020	BL	BL	BL	BL	BL
Sample 021	BL	BL	BL	BL	BL
Sample 022	BL	BL	BL	BL	BL
Sample 023	BL	BL	BL	BL	BL

Sample No.	Total Cadmium	Total Lead	Total Mercury	Total Chromium	Total Bromine
Sample 024	BL	BL	BL	BL	BL
Sample 025	BL	BL	BL	BL	BL
Sample 026	BL	BL	BL	BL	BL
Sample 027	BL	BL	BL	BL	BL
Sample 028	BL	BL	BL	BL	BL
Sample 029	BL	BL	BL	BL	Inconclusive ^
Sample 030	BL	BL	BL	BL	BL
Sample 031	BL	BL	BL	BL	N.A.
Sample 032	BL	BL	BL	BL	BL
Sample 033	BL	BL	BL	BL	N.A.
Sample 034	BL	BL	BL	BL	N.A.
Sample 035	BL	BL	BL	BL	BL
Sample 036	BL	BL	BL	BL	BL
Sample 037	BL	BL	BL	BL	BL
Sample 038	BL	BL	BL	BL	BL
Sample 039	BL	BL	BL	BL	BL
Sample 040	BL	BL	BL	BL	BL
Sample 041	BL	BL	BL	BL	BL
Sample 042	BL	BL	BL	BL	BL
Sample 043	BL	BL	BL	BL	N.A.
Sample 044	BL	BL	BL	BL	N.A.
Sample 045	BL	BL	BL	Inconclusive ^	BL
Sample 046	BL	BL	BL	Inconclusive ^	N.A.
Sample 047	BL	BL	BL	Inconclusive ^	BL
Sample 048	BL	BL	BL	BL	N.A.
Sample 049	BL	BL	BL	BL	BL
Sample 050	BL	BL	BL	Inconclusive ^	N.A.
Sample 051	BL	BL	BL	BL	BL
Sample 052	BL	BL	BL	Inconclusive ^	N.A.
Sample 053	BL	BL	BL	BL	N.A.
Sample 054	BL	BL	BL	BL	N.A.
Sample 055	BL	BL	BL	BL	BL
Sample 056	BL	BL	BL	BL	N.A.

Sample 057	BL	BL	BL	BL	BL
Sample No.	**Total Cadmium**	**Total Lead**	**Total Mercury**	**Total Chromium**	**Total Bromine**
Sample 058	BL	BL	BL	BL	BL
Sample 059	BL	BL	BL	BL	BL
Sample 060	BL	BL	BL	BL	BL
Sample 061	BL	BL	BL	BL	BL
Sample 062	BL	BL	BL	BL	N.A.
Sample 063	BL	BL	BL	BL	N.A.
Sample 064	BL	BL	BL	BL	Inconclusive ^
Sample 065	BL	BL	BL	BL	N.A.
Sample 066	BL	BL	BL	BL	BL
Sample 067	BL	BL	BL	BL	BL
Sample 068	BL	BL	BL	BL	BL
Sample 069	BL	BL	BL	BL	N.A.
Sample 070	BL	BL	BL	BL	N.A.
Sample 071	BL	BL	BL	BL	Inconclusive ^
Sample 072	BL	BL	BL	BL	N.A.
Sample 073	BL	BL	BL	BL	N.A.
Sample 074	BL	BL	BL	BL	BL
Sample 075	BL	BL	BL	BL	BL
Sample 076	BL	BL	BL	BL	BL
Sample 077	BL	BL	BL	BL	N.A.
Sample 078	BL	BL	BL	BL	N.A.
Sample 079	BL	BL	BL	BL	Inconclusive ^
Sample 080	BL	BL	BL	BL	Inconclusive ^
Sample 081	BL	BL	BL	BL	BL
Sample 082	BL	BL	BL	BL	BL
Sample 083	BL	BL	BL	BL	N.A.
Sample 084	BL	BL	BL	BL	N.A.
Sample 085	BL	BL	BL	BL	BL

Note:

1. All Concentrations express in “mg/kg” (milligram per kilogram), mg/kg ~ ppm
2. “OL” denotes “over limit”
3. “BL” denotes “below limit”
4. “N.A.” denotes “Not Applicable”
5. “Inconclusive” denotes result is intermediate between “OL” and “BL”
6. “^”denotes the screening result was inconclusive(X) or over limit (OL), thus further confirmation test was conducted, results are listed in 3.2 and 3.3.
7. “φ” denotes as the information (the submitted sample is electronic ceramic part) provided by the client, when Lead in electronic ceramic parts is exempted from RoHS Directive 2011/65/EU Annex III.

XRF screening limits for different materials:

Materials	Concentration (mg/kg)				
	Cd	Cr	Pb	Hg	Br
Metal	BL≤(70-3σ)<X<(130+3σ)≤OL	BL≤(700-3σ)<X	BL≤(700-3σ)<X<(1300+3σ)≤OL	BL≤(700-3σ)<X<(1300+3σ)≤OL	N.A.
Polymers	BL≤(70-3σ)<X<(130+3σ)≤OL	BL≤(700-3σ)<X	BL≤(700-3σ)<X<(1300+3σ)≤OL	BL≤(700-3σ)<X<(1300+3σ)≤OL	BL≤(300-3σ)<X
Composite material	BL≤(50-3σ)<X<(150+3σ)≤OL	BL≤(500-3σ)<X	BL≤(500-3σ)<X<(1500+3σ)≤OL	BL≤(500-3σ)<X<(1500+3σ)≤OL	BL≤(250-3σ)<X

3. 2 Test for Heavy Metals

– Lead, Cadmium, Hexavalent Chromium and Mercury Tests according to IEC 62321:2013.

Element	Total Cadmium [mg/kg]	Total Lead [mg/kg]	Total Mercury [mg/kg]	Hexavalent Chromium [-]	Hexavalent Chromium [mg/kg]
Detection Limit	**5**	**5**	**5**	**Δ**	**5**
RoHS Requirements	**100**	**1000**	**1000**	**#**	**1000**
Sample 016	/	/	/	Negative	/
Sample 017	/	/	/	Negative	/
Sample 045	/	/	/	/	N.D.
Sample 046	/	/	/	Negative	/
Sample 047	/	/	/	/	N.D.
Sample 050	/	/	/	Negative	/
Sample 052	/	/	/	Negative	/

Note:

1. All Concentrations express in "mg/kg"(milligram per kilogram), mg/kg ~ ppm.
2. "N.D." = "Not Detected".
3. Δ =Spot-Test:
   Negative = Absence of CrVI coating, Positive = Presence of CrVI coating;
   (The tested sample should be further verified by boiling-water-extraction method if the spot test result is negative or cannot be confirmed.)
   Boiling-water-extraction:
   Negative = Absence of CrVI coating
   Positive = Presence of CrVI coating; the detected concentration in boiling-water-extraction solution is equal or greater than 0.02mg/kg with 50 cm^2 sample surface area.
   Storage conditions and production date of the tested sample are unavailable and thus results of Cr(VI) represent status of the sample at the time of testing
4. # = Positive indicates the presence of CrVI on the tested areas.
   Negative indicates the absence of CrVI on the tested areas.
5. "-" = Not regulated

3. 3 Test for Flame retardants

Test Method: With reference to IEC 62321:2008, extracted by toluene and analyzed by Gas Chromatography and Mass Spectrometry (GC-MS). [Reporting Limit: 5mg/kg]

Test Item		Result [mg/kg]		RoHS Requirement [mg/kg]
		Sample 008	Sample 012	
PBBs	Monobromobiphenyl	< 5	< 5	Sum of PBBs < 1000
	Dibromobiphenyl	< 5	< 5	
	Tribromobiphenyl	< 5	< 5	
	Tetrabromobiphenyl	< 5	< 5	
	Pentabromobiphenyl	< 5	< 5	
	Hexabromobiphenyl	< 5	< 5	
	Heptabromobiphenyl	< 5	< 5	
	Octabromobiphenyl	< 5	< 5	
	Nonabromobiphenyl	< 5	< 5	
	Decabromobiphenyl	< 5	< 5	
	Sum of PBBs	< 5	< 5	
PBDEs	Monobromodiphenyl Ether	< 5	< 5	Sum of PBDEs < 1000
	Dibromodiphenyl Ether	< 5	< 5	
	Tribromodiphenyl Ether	< 5	< 5	
	Tetrabromodiphenyl Ether	< 5	< 5	
	Pentabromodiphenyl Ether	< 5	< 5	
	Hexabromodiphenyl Ether	< 5	< 5	
	Heptabromodiphenyl Ether	< 5	< 5	
	Octabromodiphenyl Ether	< 5	< 5	
	Nonabromodiphenyl Ether	< 5	< 5	
	Decabromodiphenyl Ether	< 5	< 5	
	Sum of PBDEs	< 5	< 5	

Note:
1. All Concentrations express in “mg/kg” (milligram per kilogram), mg/kg ~ ppm.
2. “<” denotes less than

Test Item		Result [mg/kg]		RoHS Requirement [mg/kg]
		Sample 029	Sample 064	
PBBs	Monobromobiphenyl	< 5	< 5	Sum of PBBs < 1000
	Dibromobiphenyl	< 5	< 5	
	Tribromobiphenyl	< 5	< 5	
	Tetrabromobiphenyl	< 5	< 5	
	Pentabromobiphenyl	< 5	< 5	
	Hexabromobiphenyl	< 5	< 5	
	Heptabromobiphenyl	< 5	< 5	
	Octabromobiphenyl	< 5	< 5	
	Nonabromobiphenyl	< 5	< 5	
	Decabromobiphenyl	< 5	< 5	
	Sum of PBBs	< 5	< 5	
PBDEs	Monobromodiphenyl Ether	< 5	< 5	Sum of PBDEs < 1000
	Dibromodiphenyl Ether	< 5	< 5	
	Tribromodiphenyl Ether	< 5	< 5	
	Tetrabromodiphenyl Ether	< 5	< 5	
	Pentabromodiphenyl Ether	< 5	< 5	
	Hexabromodiphenyl Ether	< 5	< 5	
	Heptabromodiphenyl Ether	< 5	< 5	
	Octabromodiphenyl Ether	< 5	< 5	
	Nonabromodiphenyl Ether	< 5	< 5	
	Decabromodiphenyl Ether	< 5	< 5	
	Sum of PBDEs	< 5	< 5	

Note:

1. All Concentrations express in “mg/kg” (milligram per kilogram), mg/kg ~ ppm.
2. “<” denotes less than

Test Item		Result [mg/kg]		RoHS Requirement [mg/kg]
		Sample 071	Sample 079	
PBBs	Monobromobiphenyl	< 5	< 5	Sum of PBBs < 1000
	Dibromobiphenyl	< 5	< 5	
	Tribromobiphenyl	< 5	< 5	
	Tetrabromobiphenyl	< 5	< 5	
	Pentabromobiphenyl	< 5	< 5	
	Hexabromobiphenyl	< 5	< 5	
	Heptabromobiphenyl	< 5	< 5	
	Octabromobiphenyl	< 5	< 5	
	Nonabromobiphenyl	< 5	< 5	
	Decabromobiphenyl	< 5	< 5	
	Sum of PBBs	< 5	< 5	
PBDEs	Monobromodiphenyl Ether	< 5	< 5	Sum of PBDEs < 1000
	Dibromodiphenyl Ether	< 5	< 5	
	Tribromodiphenyl Ether	< 5	< 5	
	Tetrabromodiphenyl Ether	< 5	< 5	
	Pentabromodiphenyl Ether	< 5	< 5	
	Hexabromodiphenyl Ether	< 5	< 5	
	Heptabromodiphenyl Ether	< 5	< 5	
	Octabromodiphenyl Ether	< 5	< 5	
	Nonabromodiphenyl Ether	< 5	< 5	
	Decabromodiphenyl Ether	< 5	< 5	
	Sum of PBDEs	< 5	< 5	

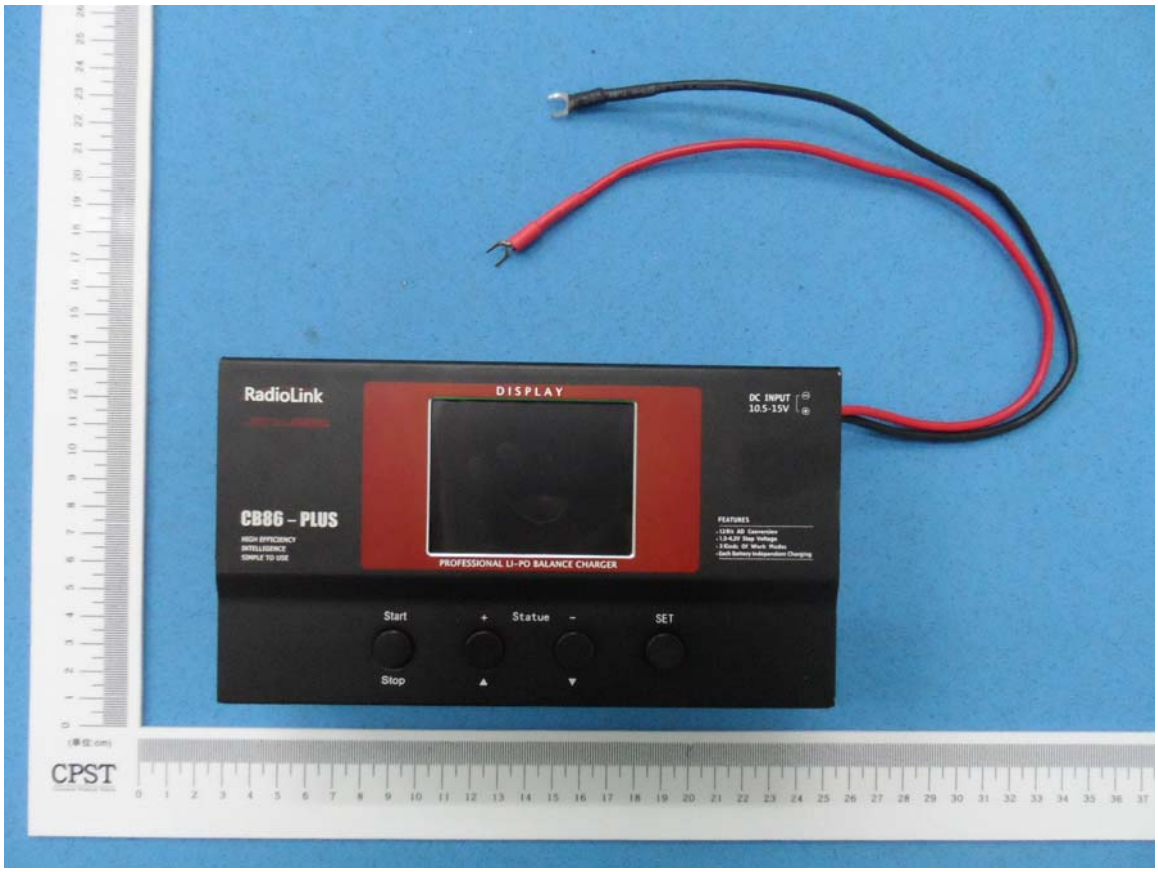
Note:
1. All Concentrations express in “mg/kg” (milligram per kilogram), mg/kg ~ ppm.
2. “<” denotes less than

Test Item		Result [mg/kg]	RoHS Requirement [mg/kg]
		Sample 080	
PBBs	Monobromobiphenyl	< 5	Sum of PBBs < 1000
	Dibromobiphenyl	< 5	
	Tribromobiphenyl	< 5	
	Tetrabromobiphenyl	< 5	
	Pentabromobiphenyl	< 5	
	Hexabromobiphenyl	< 5	
	Heptabromobiphenyl	< 5	
	Octabromobiphenyl	< 5	
	Nonabromobiphenyl	< 5	
	Decabromobiphenyl	< 5	
	Sum of PBBs	< 5	
PBDEs	Monobromodiphenyl Ether	< 5	Sum of PBDEs < 1000
	Dibromodiphenyl Ether	< 5	
	Tribromodiphenyl Ether	< 5	
	Tetrabromodiphenyl Ether	< 5	
	Pentabromodiphenyl Ether	< 5	
	Hexabromodiphenyl Ether	< 5	
	Heptabromodiphenyl Ether	< 5	
	Octabromodiphenyl Ether	< 5	
	Nonabromodiphenyl Ether	< 5	
	Decabromodiphenyl Ether	< 5	
	Sum of PBDEs	< 5	

Note:

1. All Concentrations express in “mg/kg” (milligram per kilogram), mg/kg ~ ppm.
2. “<” denotes less than

Photo of the Submitted Sample



*** End of Report ***