TEST REPORT

Company Name Shown on Report:	Hubei Flextech Ltd.
Address:	Building E3,Optica Valley United Technology City,Xingang Notrth Road,HuangzhouDistrict,Huanggang City,Hubei Province,China

The following sample(s) was/were submitted and identified on behalf of the client as:

Sample Name:	Solar panel
Sample Model:	Please refer to next page(s)
Sample quantity:	1 Set
Sample Received Date:	May.16,2024
Test Period:	May.16,2024 - May.24,2024
Date of Issue:	Jun.05,2024

ISSUED BY:

GUANGDONG TI COBO TESTING CO.,LTD.

Tested by: Jary **Checked by:** Lily **Approved by:** Sam Xie

Anti-counterfeiting code: c8w3

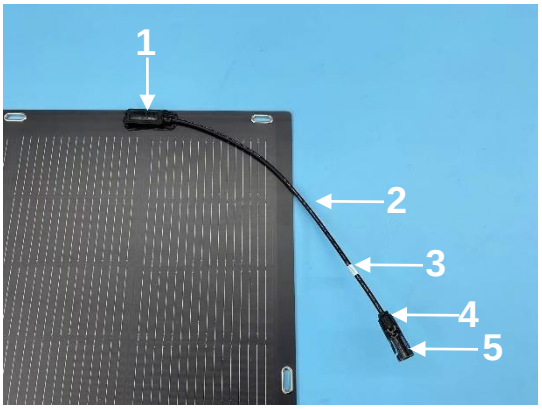
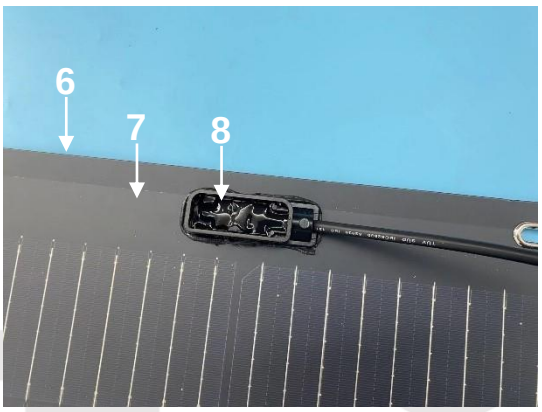
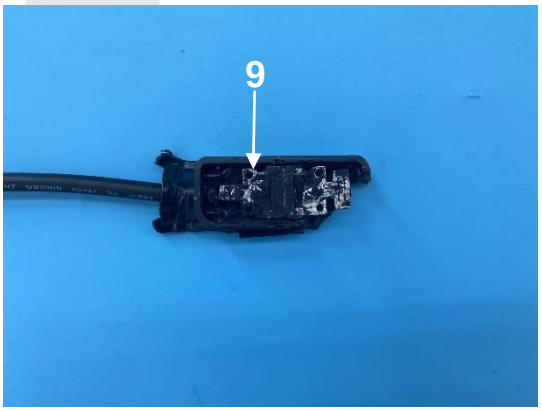
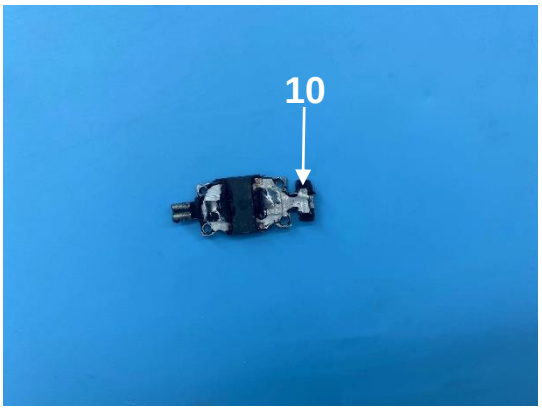
Sample Model
A5552, FLC-P1-211050-1, FLC-P1-412100-1, FLC-P1-424200-1, FLC-P1-424250-1, FLC-P1-424300-1, FS-OF010, FS-OF011, FS-OF012, FS-OF013, FS-OF014, FS-OF015, FS-OF016, FS-OF018, FS-OF020, FS-OF021, FS-OF022, FS-OF024, FS-OF025, FS-OF026, FS-OF027, FS-OF028, FS-OF030, FS-OF032, FS-OF033, FS-OF034, FS-OF035, FS-OF036, FS-OF038, FS-OF039, FS-OF040, FS-OF042, FS-OF044, FS-OF045, , FS-OF046, FS-OF048, FS-OF049, FS-OF050, FS-OF051, FS-OF052, FS-OF054, FS-OF055, FS-OF056, FS-OF057, FS-OF060, FS-OF063, FS-OF064, FS-OF065, FS-OF066, FS-OF068, FS-OF069, FS-OF070, FS-OF072, FS-OF075, FS-OF076, FS-OF077, FS-OF078, FS-OF080, FS-OF084, FS-OF088, FS-OF090, FS-OF092, FS-OF096, FS-OF099, FS-OF100, FS-OF102, FS-OF104, FS-OF108, FS-OF110, FS-OF112, FS-OF120, FS-OF126 , FS-OF128, FS-OF130, FS-OF132

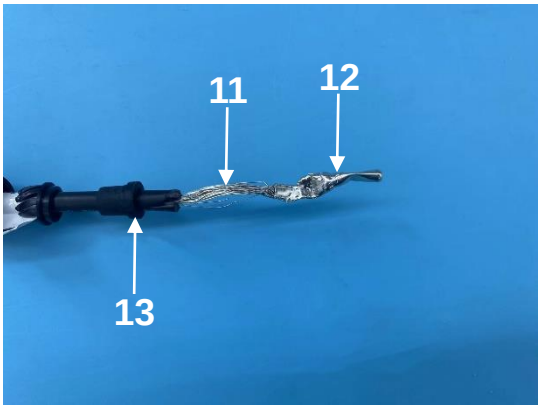
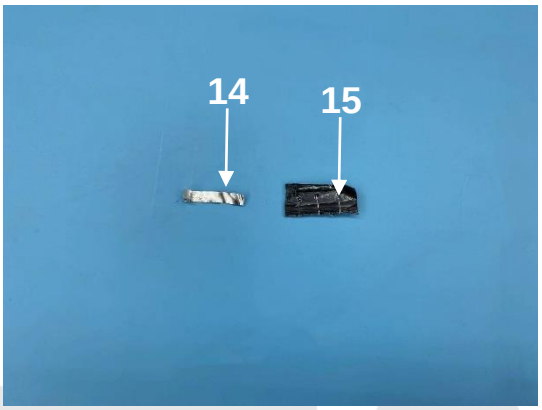
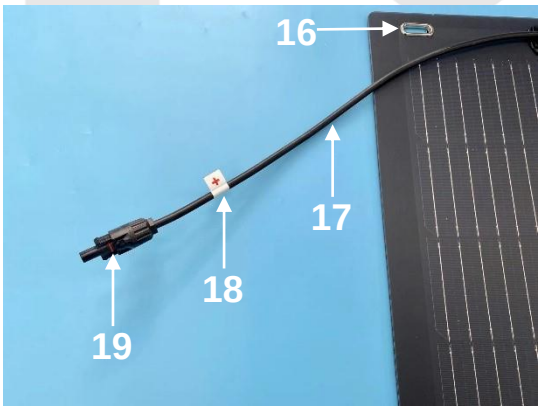
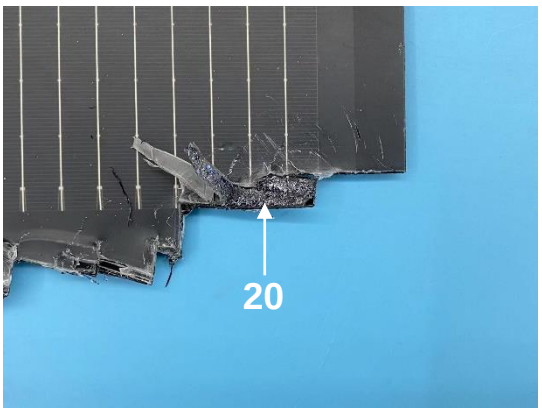
1. Test Requested and Test Conclusion:

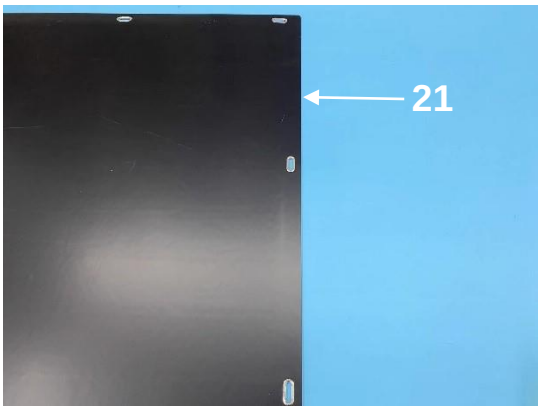
Based on the performed tests on specified material(s) or submitted sample(s).

Test items	Conclusion
RoHS Directive 2011/65/EU Revised instructions (EU) 2015/863 of the European parliament and of the council on the restriction of the use of certain hazardous substances in electrical and electronic equipment	
- Lead (Pb)/ Cadmium(Cd)/ Mercury(Hg)/ Hexavalent Chromium(Cr^{6+}) content.	PASS
- Polybrominated biphenyls (PBBs) &Polybrominated diphenyl ethers (PBDEs) content.	PASS
- Dibutyl phthalate (DBP), Benzylbutyl phthalate (BBP), Di-(2-ethylhexyl) phthalate (DEHP), Diisobutyl phthalate(DIBP) content	PASS

2. Sample description and sample photo list:

Sample No.	Description	Sample photo
1	Black plastic	
2	Black plastic	
3	White plastic	
4	Black plastic	
5	Black plastic	
6	Black plastic	
7	White plastic	
8	Black plastic	
9	Soldering tin	
10	Silvery metal	

11	Silvey metal	
12	Silvery metal	
13	Black plastic	
14	Silvery metal	
15	Silvery metal	
16	Silvery metal	
17	Black plastic	
18	White plastic	
19	Red plastic	
20	Blue glass	

21	Black plastic	

3. Test Result(s)

3.1 Screening Test

Test Method: With reference to IEC 62321-3-1:2013, Screening –Lead (Pb)/ Cadmium(Cd)/ Mercury(Hg)/ Total Chromium(Cr)/ Total Bromine by X-ray fluorescence spectrometry.

Test Item	Total Chromium (Cr)	Cadmium (Cd)	Total Bromine (Br)	Mercury (Hg)	Lead (Pb)
Screening Limit	200mg/kg	50mg/kg	200mg/kg	200mg/kg	200mg/kg
Material No.	XRF Result				
1	BL	BL	BL	BL	BL
2	BL	BL	BL	BL	BL
3	BL	BL	BL	BL	BL
4	BL	BL	BL	BL	BL
5	BL	BL	BL	BL	BL
6	BL	BL	BL	BL	BL
7	BL	BL	BL	BL	BL
8	BL	BL	BL	BL	BL
9	BL	BL	NA	BL	297[a]
10	BL	307[a]	NA	BL	13426[a]
11	BL	BL	NA	BL	830[a]
12	BL	175[a]	NA	BL	BL
13	BL	BL	BL	BL	BL
14	BL	411[a]	NA	BL	879[a]
15	BL	BL	NA	BL	BL
16	86875[a]	BL	NA	BL	BL
17	BL	BL	BL	BL	BL
18	BL	BL	BL	BL	BL
19	BL	BL	BL	BL	BL
20	BL	BL	BL	BL	BL
21	BL	BL	BL	BL	BL

Note:
1. mg/kg = milligram per kilogram.
2. “BL” = Below Screening Limit.
3. “NA” = Not Applicable.
4. “a” denotes further confirmation test was conducted, results are listed in 3.2

3.2 Heavy Metal Content

Test Method:

Lead (Pb)/Cadmium(Cd): IEC 62321-5:2013, analysis was performed by Inductively Coupled Plasma Optical Emission Spectrometer (ICP-OES).

Mercury(Hg): IEC 62321-4:2017 analysis was performed by Inductively Coupled Plasma Optical Emission Spectrometer (ICP-OES).

Hexavalent Chromium(Cr^{6+}): metal: IEC 62321-7-1:2015,nonmetal:IEC 62321-7-2:2017, analysis was performed by Ultraviolet–visible spectroscopy (UV-Vis).

Test Item	Hexavalent Chromium (Cr^{6+})	Hexavalent Chromium (Cr^{6+})	Cadmium (Cd)	Mercury (Hg)	Lead (Pb)
Limit	**1000 mg/kg**	**Negative**	**100 mg/kg**	**1000 mg/kg**	**1000 mg/kg**
Material No.	**Result**				
9	--	--	--	--	213.7
10	--	--	N.D.	--	N.D.
11	--	--	--	--	47.5
12	--	--	N.D.	--	--
14	--	--	N.D.	--	11.9
16	NA	Negative	--	--	--

Note:

1. RL (Report Limit) = Pb, Cd, Hg: 10mg/kg;Cr^{6+}: nonmetal -10mg/kg, metal- Negative(<0.1μg/cm^2).
2. mg/kg = milligram per kilogram, μg/cm^2= micrograms per square centimeter.
3. N.D. = Not Detected (< RL).
4. NA = Not Applicable.
5. Negative = Surface of metal sample absence of Cr^{6+}, Positive = Surface of metal sample presence of Cr^{6+}.
6. "--" denotes tested by XRF, result is listed in 3.1.

Remark: (#1)=Exceeded upper screening limit, but if sample is Steel for machining purposes or galvanized steel, Aluminium or Copper alloy, the limit for Lead is 3,500mg/kg,4,000 mg/kg and 4,000 mg/kg respectively and further chemical test was suggested.

(#2)=Exceeded upper screening limit, as claimed by the declaration submitted from the applicant/supplier of applicant,/but if Lead comes from the constituent of ceramic of the electronic component(other than dielectric ceramic in capacitors) only .According to EU RoHS Directive(2011/65/EU),Lead in ceramic of this component can be exempted.

(#3)=Exceeded upper screening limit, as claimed by the declaration submitted from the applicant/supplier of applicant,/ but if Lead comes from the constituent of glass used in cathode ray tube/ in electrical and electronic component only. According to EU RoHS Directive (2011/65/EU), Lead in glass of this component can be exempted.

(#4)=As claimed by the declaration submitted from the applicant / supplier of applicant, the Lead content of the component comes from Copper alloy only. According to EU RoHS Directive (2011/65/EU), Lead in Copper alloy containing up to 4% (40,000 mg/kg) Lead by weight can be exempted.

(#5)=As claimed by the declaration submitted from the applicant / supplier of applicant, the Lead content of the component comes from steel for machining purposes / galvanized steel only. According to EU RoHS Directive (2011/65/EU), Lead as an alloying element in steel for machining purposes and in galvanized steel containing up to 0.35%(3,500 mg/kg) Lead by weight can be exempted.

(#6)=As claimed by the declaration submitted from the applicant / supplier of applicant, the Lead content of the component comes from the constituent of glass used in fluorescent tubes only. According to EU RoHS Directive(2011/65/EU),Lead in glass of fluorescent tubes can not be exceeding 0.2%(2,000 mg/kg) by weight.

(#7)=As claimed by the declaration submitted from the applicant / supplier of applicant, the Lead content of the component comes from the constituent of high melting temperature type solders (i.e. Lead-based alloys containing 85% by weight or more Lead) only. According to EU RoHS Directive(2011/65/EU), Lead in high melting temperature type solders of the component can be exempted.

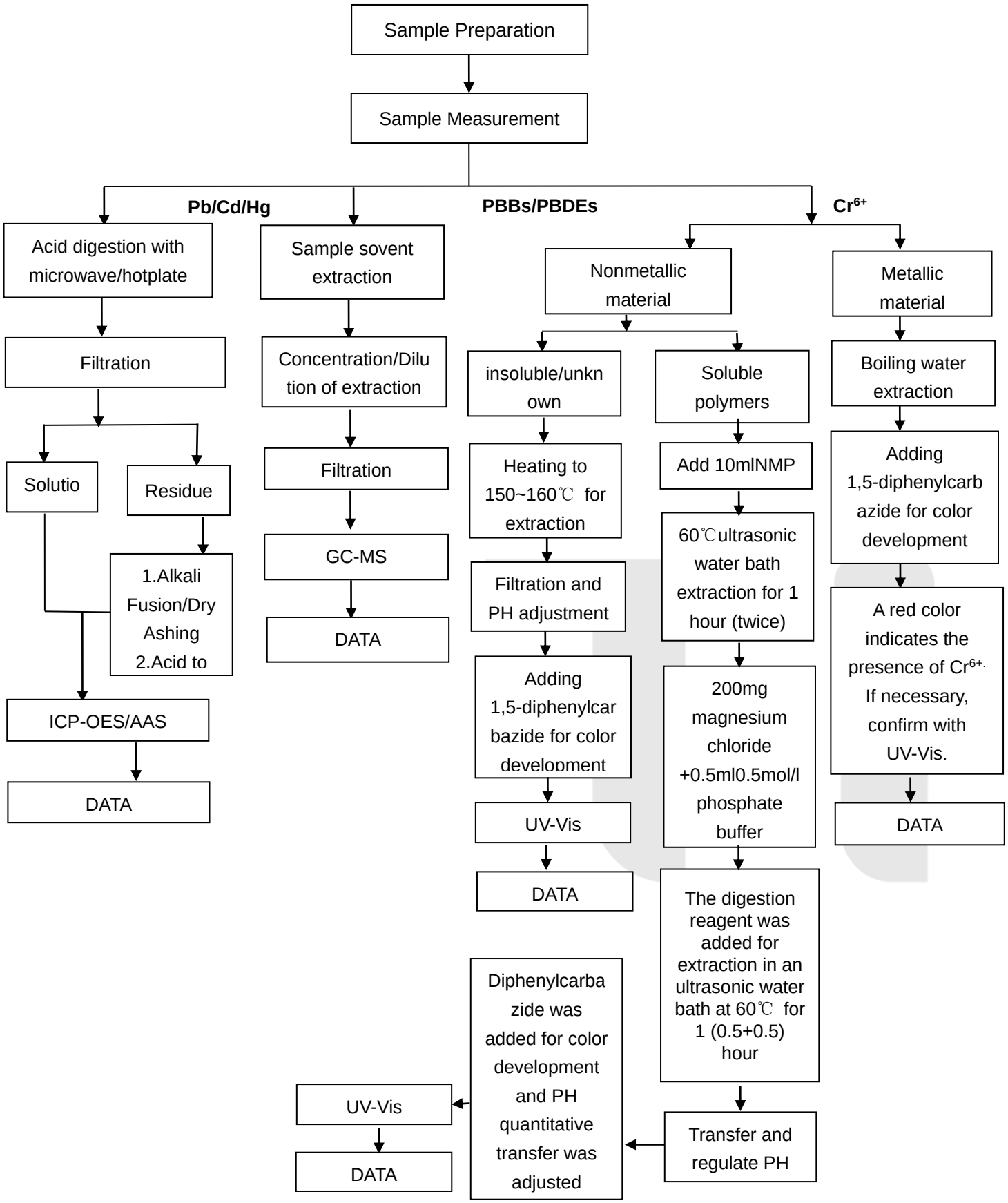
3.3 Phthalates Content

Test Method: IEC 62321-8:2017, analysis was performed by Gas Chromatograph-Mass Spectrometer (GC-MS).

Test Item	Di-(2-ethylhexyl) phthalate (DEHP)	Dibutyl phthalate (DBP)	Benzylbutyl phthalate (BBP)	Diisobutyl phthalate(DIBP)
CAS No.	117-81-7	84-74-2	85-68-7	84-69-5
Limit	1000 mg/kg	1000 mg/kg	1000 mg/kg	1000 mg/kg
Material No.	**Result (mg/kg)**			
1	N.D.	N.D.	N.D.	N.D.
2	N.D.	N.D.	N.D.	N.D.
3	N.D.	N.D.	N.D.	N.D.
4	N.D.	N.D.	N.D.	N.D.
5	N.D.	N.D.	N.D.	N.D.
6	N.D.	N.D.	N.D.	N.D.
7	N.D.	N.D.	N.D.	N.D.
8	N.D.	N.D.	N.D.	N.D.
13	N.D.	N.D.	N.D.	N.D.
17	N.D.	N.D.	N.D.	N.D.
18	N.D.	N.D.	N.D.	N.D.
19	N.D.	N.D.	N.D.	N.D.
21	N.D.	N.D.	N.D.	N.D.

Note:
1. mg/kg = milligram per kilogram
2. Report Limit = 50mg/kg
3. N.D. = Not Detected (< RL)

RoHS Testing Flow Chart



Phthalates Testing Flow Chart

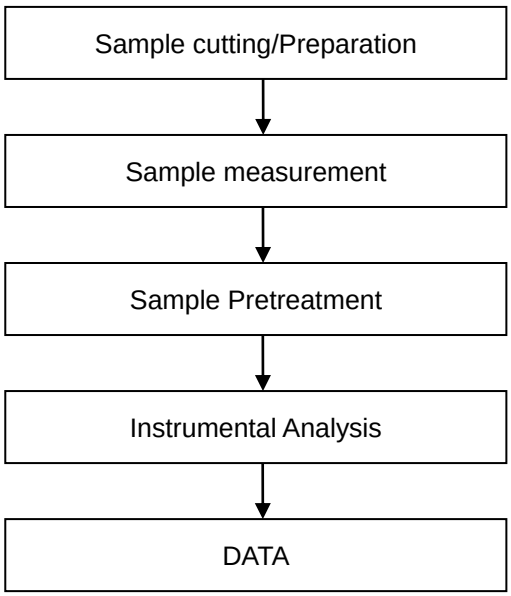
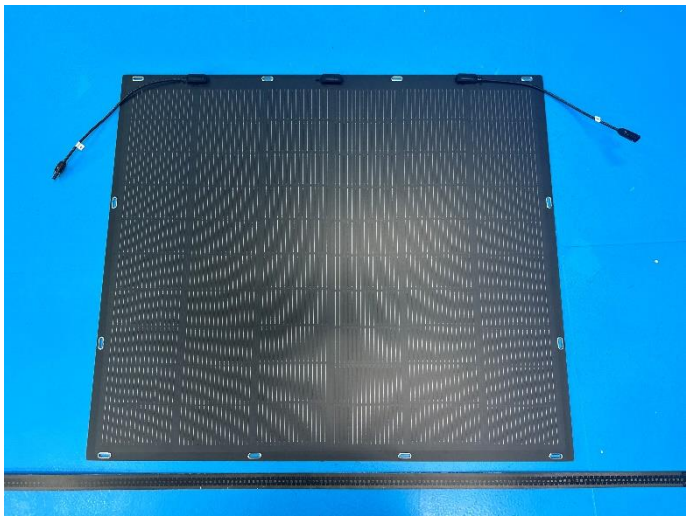


Photo of Sample



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End of Report