



Test Report

Report No. LT1606180
Report Date: Jun 16 2016
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RoHS Test Lab
Laird Technologies (shenzhen) Ltd.
FuYuanYi Road, HePing Community, FuYong Town, BaoAn District, ShenZhen,China

Applicant: LSR/ Laird
Address : W66 N220 Commerce Ct

Report on the submitted sample said to be:

Sample Name : Sterling-LWB Chip Antenna
Sample Type : 450-0152
Lot#: /

Sample Received Date : Jun 12 2016
Completed Date : Jun 16 2016

Test Requested : Pb, Cd, Hg, Cr⁶⁺, PBBs, PBDEs, TBBP-A, HBCDD, PAHs, Phthalates, F, Cl, Br.

Test Method:

Test Item(s)	Test Method	Measured Equipment(s)
Lead (Pb)	IEC 62321-5:2013 Ed.1.0	ICP-OES
Cadmium(Cd)	IEC 62321-5:2013 Ed.1.0	ICP-OES
Mercury (Hg)	IEC 62321-4:2013 Ed.1.0	ICP-OES
Hexavalent Chromium (Cr ⁶⁺)	IEC 62321:2008 Ed.1.0	UV-VIS
Polybrominated Biphenyl (PBBs)	IEC 62321-6:2015 Ed.1.0	GC-MS
Polybrominated Diphenyl Ethers(PBDEs)	IEC 62321-6:2015 Ed.1.0	GC-MS
Tetrabromobisphenol A (TBBPA)	Refer to US EPA 3540C:1996	GC-MS
Hexabromocyclododecane (HBCDD)	Refer to US EPA 3540C:1996	GC-MS
Polycyclic Aromatic Hydrocarbons (PAHs)	Refer to US EPA 3540C:1996	GC-MS
Phthalates	Refer to EN 14372:2004(E)	GC-MS
Fluorine (F)	Refer to BS EN 14582:2007	IC
Chlorine (Cl)	Refer to BS EN 14582:2007	IC
Bromine(Br)	Refer to BS EN 14582:2007	IC

Approved by:

Milly Wei
RoHS Test Lab Supervisor

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The Part 1:RoHS Test Result: Test result by chemical method: (Unit: mg/kg)

Test Item(s)	Result	MDL
Lead (Pb)	ND	2mg/kg
Cadmium(Cd)	ND	2mg/kg
Mercury (Hg)	ND	2mg/kg
Hexavalent Chromium (Cr ⁶⁺)	ND	2mg/kg
Sum of PBBs	ND	--
Monobromobiphenyl	ND	5mg/kg
Dibromobiphenyl	ND	5mg/kg
Tribromobiphenyl	ND	5mg/kg
Tetrabromobiphenyl	ND	5mg/kg
Pentabromobiphenyl	ND	5mg/kg
Hexabromobiphenyl	ND	5mg/kg
Heptabromobiphenyl	ND	5mg/kg
Octabromobiphenyl	ND	5mg/kg
Nonabromobiphenyl	ND	5mg/kg
Decabromobiphenyl	ND	5mg/kg
Sum of PBDEs	ND	--
Monobromodiphenyl ether	ND	5mg/kg
Dibromodiphenyl ether	ND	5mg/kg
Tribromodiphenyl ether	ND	5mg/kg
Tetrabromodiphenyl ether	ND	5mg/kg
Pentabromodiphenyl ether	ND	5mg/kg
Hexabromodiphenyl ether	ND	5mg/kg
Heptabromodiphenyl ether	ND	5mg/kg
Octabromodiphenyl ether	ND	5mg/kg
Nonabromodiphenyl ether	ND	5mg/kg
Decabromodiphenyl ether	ND	5mg/kg

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The Part 1:TBBPA/HBCDD test result: Test result by chemical method: (Unit: mg/kg)

Test Item(s)	Result	MDL
Tetrabromobisphenol A	ND	50mg/kg
Hexabromocyclododecane	ND	50mg/kg

The Part 1: PAHs test result: Test result by chemical method: (Unit: mg/kg)

Test Item(s)	Result	MDL
Sum of PAHs	ND	--
Naphthalene(NAP)	ND	50mg/kg
Acenaphthylene(ANY)	ND	50mg/kg
Acenaphthene(ANA)	ND	50mg/kg
Fluorene(FLU)	ND	50mg/kg
Phenanthrene(PHE)	ND	50mg/kg
Anthracene(ANT)	ND	50mg/kg
Fluoranthene(FLT)	ND	50mg/kg
Pyrene(PYR)	ND	50mg/kg
Ben(a)anthracene(BaA)	ND	50mg/kg
Chrysene(CHR)	ND	50mg/kg
Benzo(b)fluoranthene(BbF)	ND	50mg/kg
Benzo(k)fluoranthene(BkF)	ND	50mg/kg
Benzo(a)pyrene(BaP)	ND	50mg/kg
Indeno(1,2,3-cd)pyrene (IPY)	ND	50mg/kg
Dibenz(a,h)anthracene (DBA)	ND	50mg/kg
Benzo(g,h,i)perylene(BPE)	ND	50mg/kg

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The Part 1:Phthalates test result: Test result by chemical method: (Unit: mg/kg)

Test Item(s)	Result	MDL
Sum of Phthalate esters	ND	--
Di-isobutyl phthalate(DIBP)	ND	10mg/kg
Di-iso-decyl phthalate (DIDP)	ND	10mg/kg
Di-isononyl phthalate (DINP)	ND	10mg/kg
Di-butyl phthalate (DBP)	ND	10mg/kg
Butyl Benzyl phthalate (BBP)	ND	10mg/kg
Di-n-octyl phthalate (DNOP)	ND	10mg/kg
Di-(2-ethylhexyl)phthalate (DEHP)	ND	10mg/kg

5. The Part 1:Halogen test result: Test result by chemical method: (Unit: mg/kg)

Test Item(s)	Result	MDL
Fluorine (F)	199	50mg/kg
Chlorine(Cl)	338	50mg/kg
Bromine(Br)	29030	50mg/kg

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The Part 2&Part 3:Test result:

Test result by chemical method (unit: mg/kg)

Test Item(s)	Results		MDL
	Part 2	Part 3	
Lead (Pb)	ND	ND	2mg/kg
Cadmium(Cd)	ND	ND	2mg/kg
Mercury (Hg)	ND	ND	2mg/kg
Hexavalent Chromium (Cr ⁶⁺)	ND	ND	2mg/kg

Note:

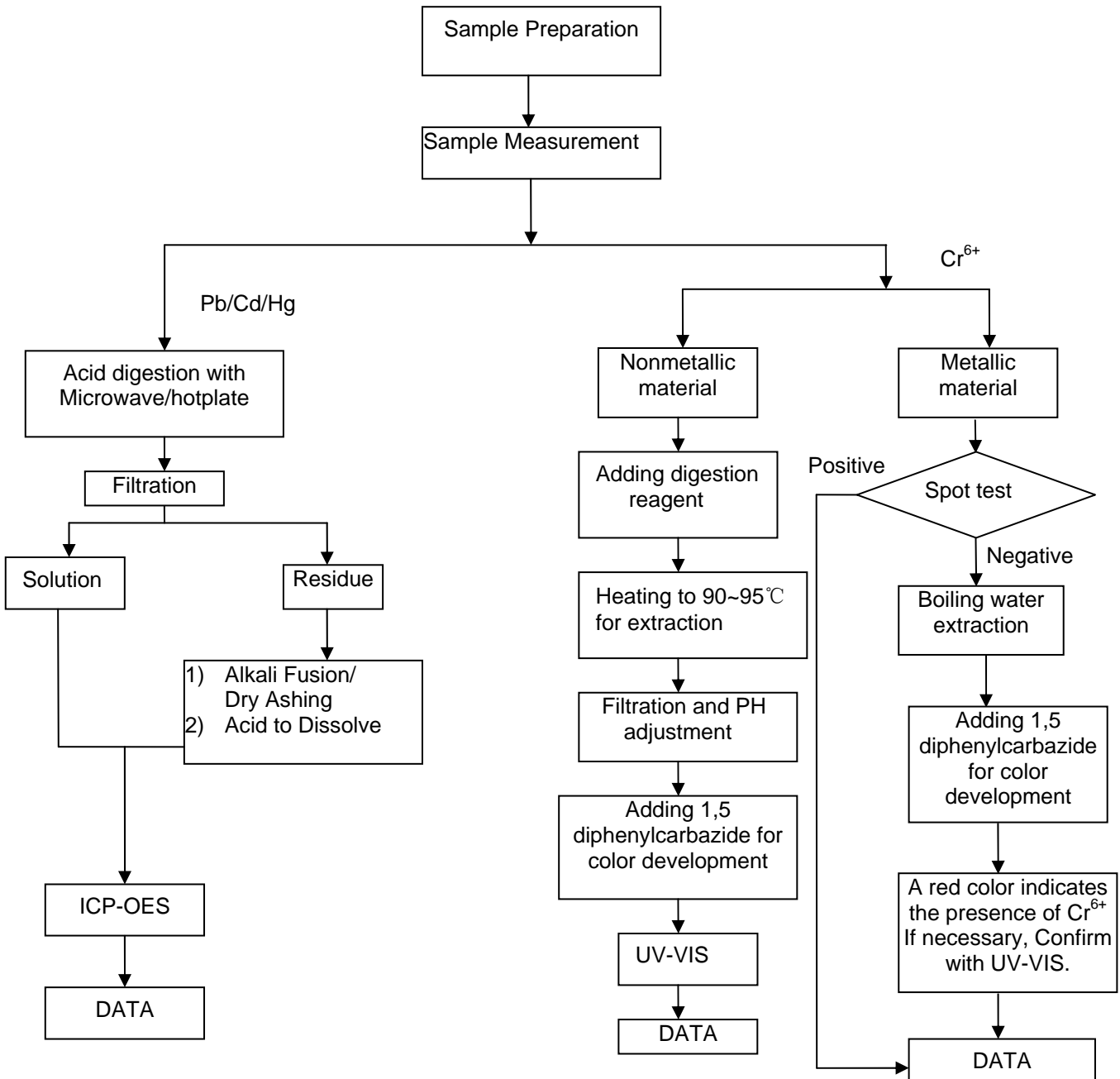
- (1). 1mg/kg=1ppm=0.0001%
- (2). ND = Not Detected (<MDL)
- (3). MDL=Method Detection limited
- (4). "--"= not regulated

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Attachment:

Flow chart for Pb/Cd/Hg/Cr⁶⁺ Test

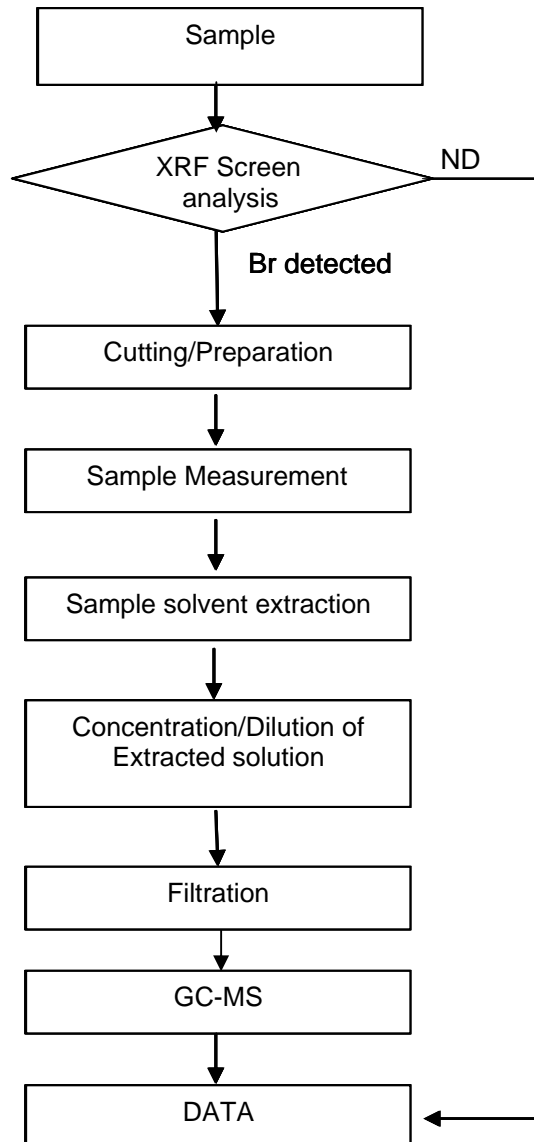
- 1) Pb/Cd/Hg was tested by: Lei Shi
- 2) Cr⁶⁺ was tested by : Lei Shi
- 3) The test was reviewed by: Milly Wei



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Flow chart for PBBs/PBDEs Test

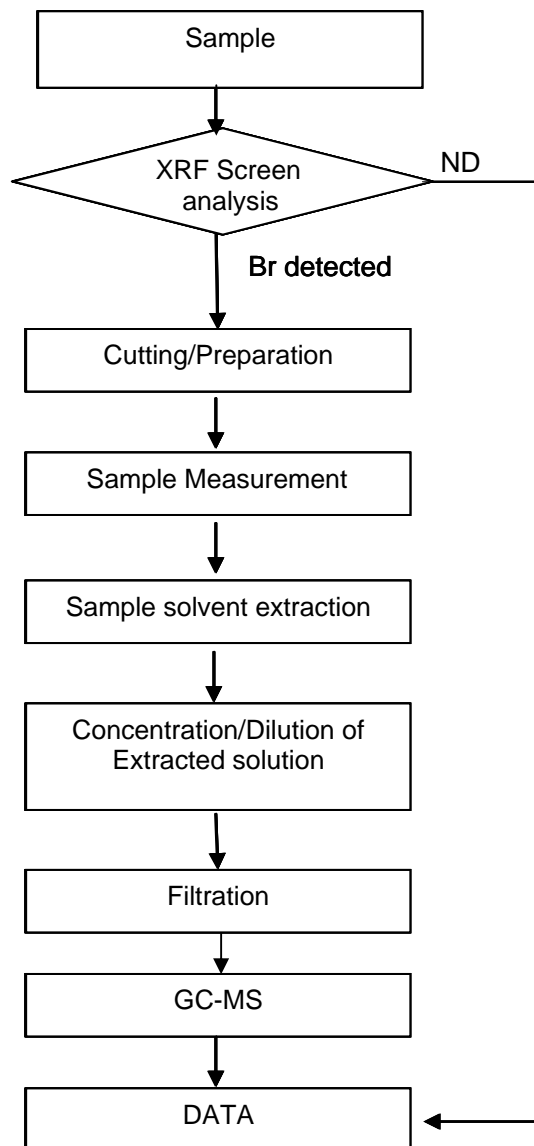
- 1) The test was done by: Jin Chen
- 2) The test was reviewed by: Milly Wei



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Flow chart for TBBPA /HBCDD Test

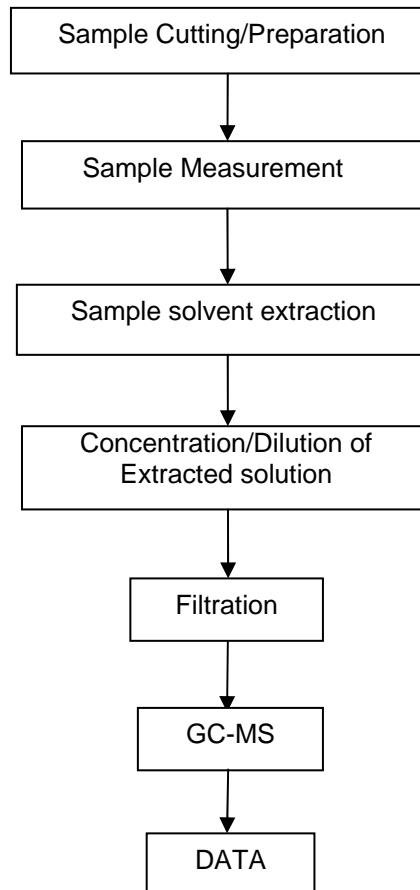
- 1) The test was done by: Jin Chen
- 2) The test was reviewed by: Milly Wei



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Flow chart for PAHs Test

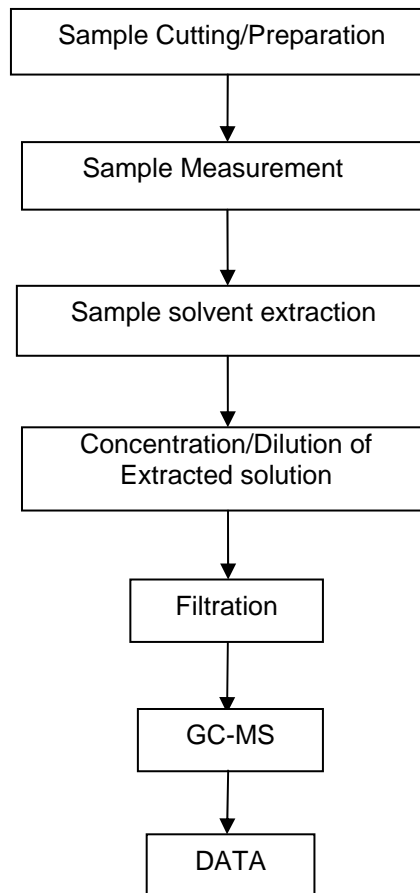
- (1) The test was done by: Jin Chen
- (2) The test was reviewed by: Milly Wei



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Flow chart for Phthalates Test

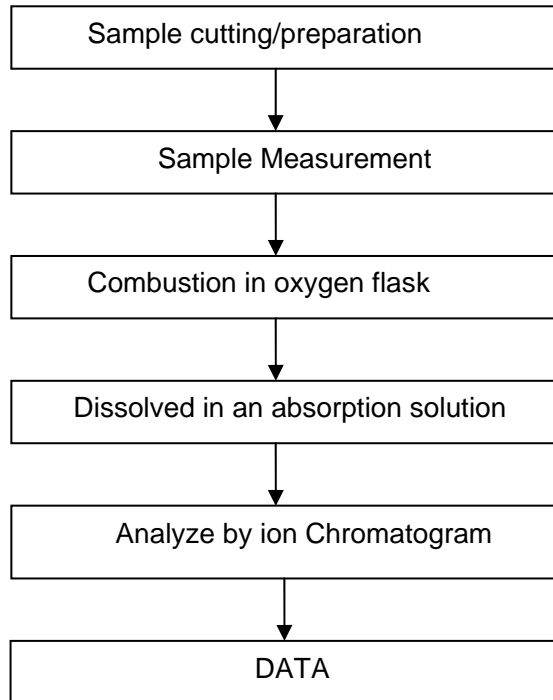
- (1) The test was done by: Jin Chen
- (2) The test was reviewed by: Milly Wei



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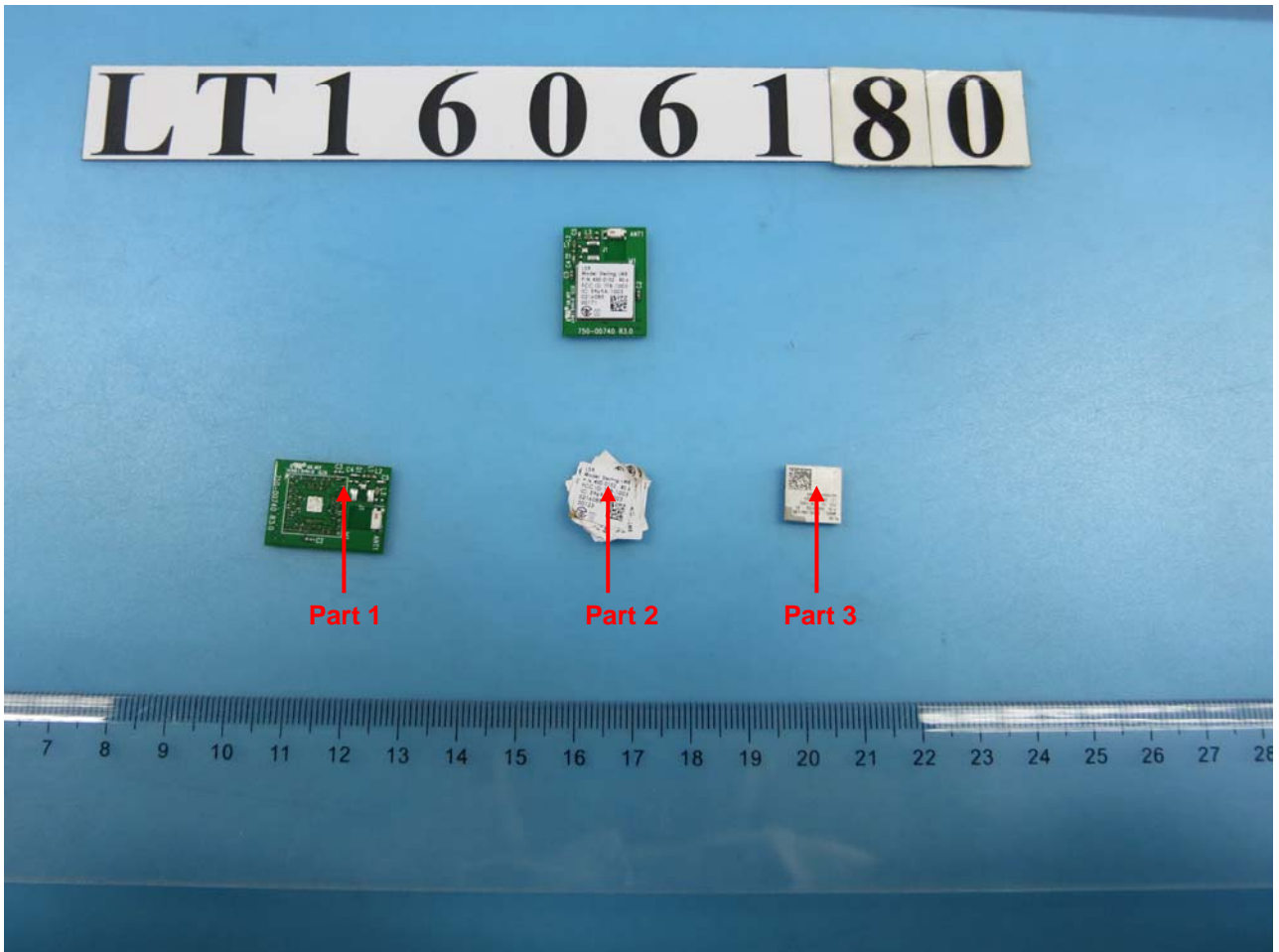
Flow chart for Halogen test

- 1) The test was done by: Milly Wei
- 2) The test was reviewed by: Jin Chen



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Photo of the sample



End of report