

TEST REPORT



KOTITI No. | 8220-1403-101150

Applicant | Piezoelectric Technology Co., Ltd.

Date In | 2020. 08. 13.

Date Out | 2020. 11. 18.

Product Name	Auto Focus Module
Model Name	PT-AF06-M12
Part Name	N/S
Testing Period	2020. 08. 13. ~ 2020. 11. 18.
Test Result	For further details, please refer to the following page(s).

Affirmation	Prepared by	Technical Manager
	Name : Ki woong Oh 	Name : Hae sung Kim 

KOTITI Testing & Research Institute



Contact Information for technical questions and general inquiries.

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QPF-16-06(rev.00)



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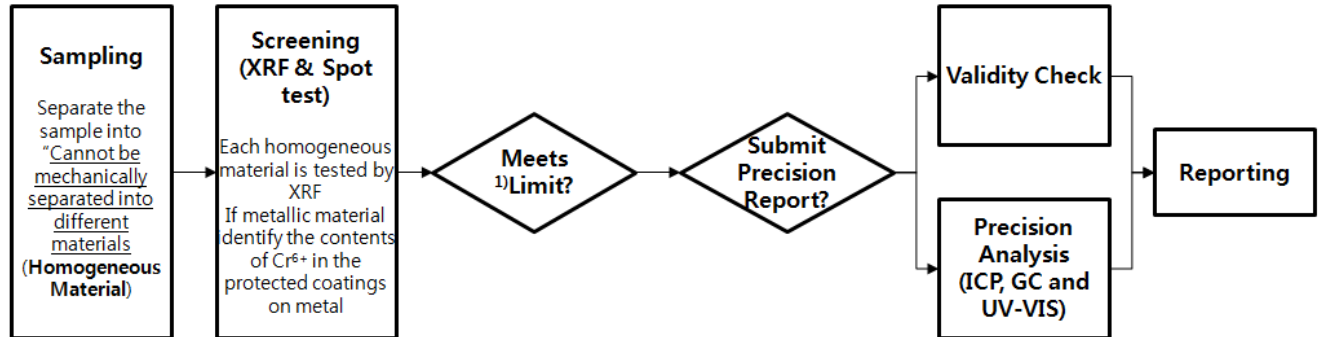
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Restriction of Hazardous Substances Directive (RoHS/2011/65/EU, 2015/863/EU), Unit : mg/kg

No.	Screening Test (Unit : mg/kg)						Precision Analysis (Unit : mg/kg)					
	Pb	Cd	Hg	Cr	Spot test	Br	Pb	Cd	Hg	Cr ⁶⁺	PBBs	PBDEs
1	N.D.	N.D.	N.D.	N.D.	N.A.	N.D.	-	-	-	-	-	-
2	N.D.	N.D.	N.D.	2 130	Negative	N.A.	-	-	-	-	-	-
3	N.D.	N.D.	N.D.	N.D.	N.A.	N.D.	-	-	-	-	-	-
4	N.D.	N.D.	N.D.	N.D.	N.A.	N.D.	-	-	-	-	-	-
5	N.D.	N.D.	N.D.	183 269	Negative	N.A.	-	-	-	-	-	-
6-1	N.D.	N.D.	N.D.	N.D.	Negative	N.A.	-	-	-	-	-	-
6-2	N.D.	N.D.	N.D.	N.D.	Negative	N.A.	-	-	-	-	-	-
6-3	N.D.	N.D.	N.D.	N.D.	Negative	N.A.	-	-	-	-	-	-
6-4	N.D.	N.D.	N.D.	N.D.	N.A.	N.D.	-	-	-	-	-	-
6-5	N.D.	N.D.	N.D.	N.D.	N.A.	N.D.	-	-	-	-	-	-
7	458	N.D.	N.D.	N.D.	N.A.	N.D.	-	-	-	-	-	-
8-1	N.D.	N.D.	N.D.	N.D.	N.A.	N.D.	-	-	-	-	-	-
8-2	N.D.	121	666	105	Negative	N.A.	-	N.D.	N.D.	-	-	-
8-3	N.D.	N.D.	N.D.	N.D.	Negative	N.A.	-	-	-	-	-	-
9-1	N.D.	N.D.	N.D.	N.D.	N.A.	N.D.	-	-	-	-	-	-
9-2	N.D.	86	369	135	Negative	N.A.	-	N.D.	-	-	-	-
10	N.D.	N.D.	N.D.	N.D.	N.A.	13 298	-	-	-	-	N.D.	N.D.
11	N.D.	N.D.	79	N.D.	N.A.	N.D.	-	-	-	-	-	-
12	N.D.	2 522	N.D.	10 811	Negative	N.A.	-	N.D.	-	-	-	-
13-1	N.D.	N.D.	N.D.	N.D.	Negative	N.A.	-	-	-	-	-	-
13-2	N.D.	N.D.	N.D.	N.D.	Negative	N.A.	-	-	-	-	-	-

■ Comments

1. Screening Methodology



1) Screening Limit

Element	Judgement		
	Polymer	Metal	Mixture
Cd	X < 50 (BL)	X < 50 (BL)	X < 50 (BL)
	50 < X < 170 (UD)	50 < X < 170 (UD)	50 < X < 170 (UD)
	170 < X (OL)	170 < X (OL)	170 < X (OL)
Pb	X < 500 (BL)	X < 500 (BL)	X < 500 (BL)
	500 < X < 1 500 (UD)	500 < X < 1 500 (UD)	500 < X < 1 500 (UD)
	1500 < X (OL)	1500 < X (OL)	1500 < X (OL)
Hg	X < 500 (BL)	X < 500 (BL)	X < 500 (BL)
Cr	X < 500 (BL)	X < 500 (BL)	X < 500 (BL)
	500 < X (UD)	500 < X (UD)	500 < X (UD)
Br	X < 500 (BL)	-	X < 500 (BL)
	500 < X (UD)	-	500 < X (UD)

※ BL = Below Limit, UD = Undecidable, OL = Over Limit

※ If " OL " or " UD " is determined, it is necessary to conduct a precision analysis.

2. Test Methods

- 1) Reference to IEC 62321-3-1:2013 determined by ED-XRF
- 2) Reference to IEC 62321-5:2013 by acid digestion and determined by ICP-OES (Pb, Cd)
- 3) Reference to IEC 62321-4:2013 by acid digestion and determined by ICP-OES (Hg)
- 4) Reference to IEC 62321-7-2:2017 by solvent extraction and determined by UV-VIS (Cr⁶⁺)
- 5) Reference to IEC 62321-7-1:2015 by boiling water extraction and determined by UV-VIS (Cr⁶⁺)
- 6) Reference to IEC 62321-6:2015 by solvent extraction and determined by GC-MS (PBBs, PBDEs)

3. Remarks

- 1) Unit = mg/kg
- 2) N.D. = Not Detected [< RL(Report Limit)], N.A. = Not Applicable,
- 3) Negative : Not Detected, Positive : Detected
- 4) Reporting Limit

(1) XRF Screening

Test Item(s)	Reporting Limit of XRF (mg/kg)	
	Polymer	Metal
Lead (Pb)	50	100
Cadmium (Cd)	20	50
Mercury (Hg)	50	100
Chromium (Cr)	30	50
Bromine (Br)	50	-

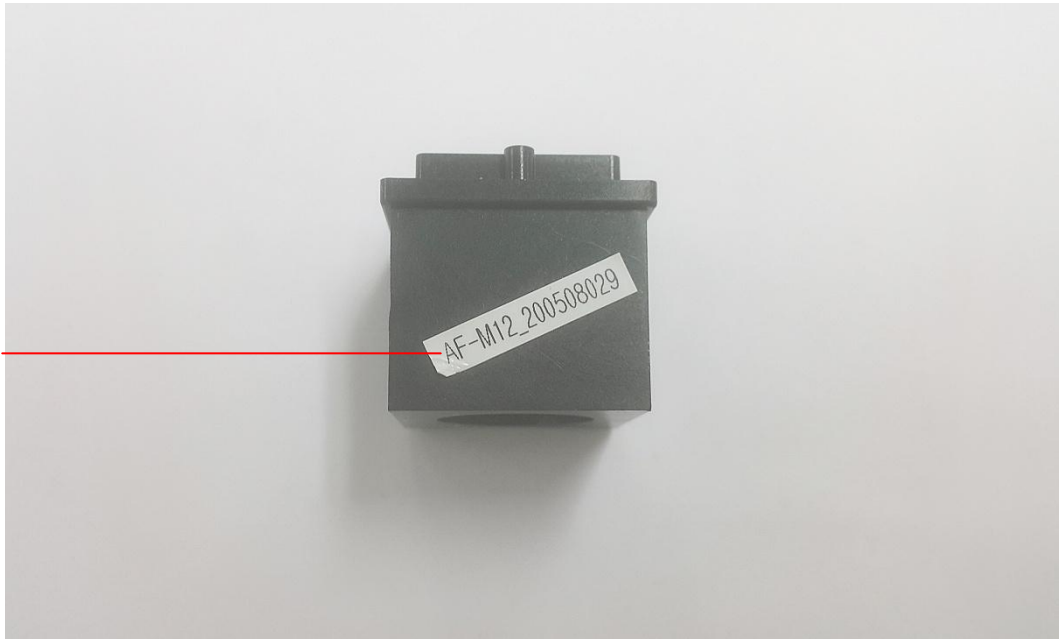
(2) Precision Analysis

Test Item(s)	Report Limit of Precision (mg/kg)
Lead (Pb)	5
Cadmium (Cd)	2
Mercury (Hg)	1
Hexavalent Chromium (Cr ⁶⁺)	8
Polybrominated Biphenyls (PBBs)	5
Polybrominated Diphenyl Ethers (PBDEs)	5

Photo of the submitted sample(s)

Remarks	S = SOLDER
	P = PAINT
	M = METAL

1



2

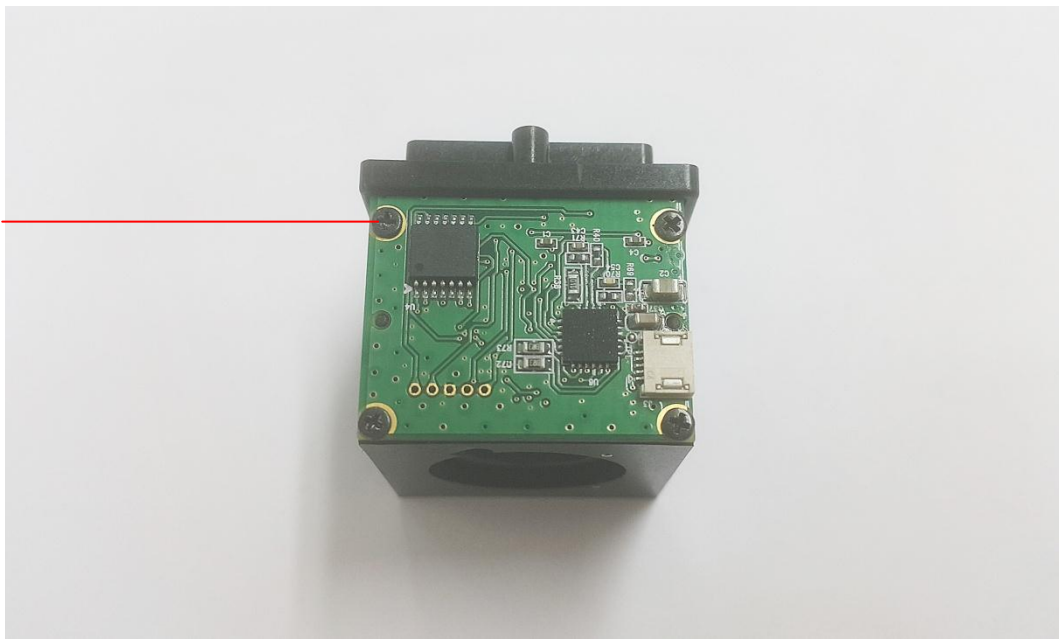


Photo of the submitted sample(s)

Remarks	S = SOLDER
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	M = METAL

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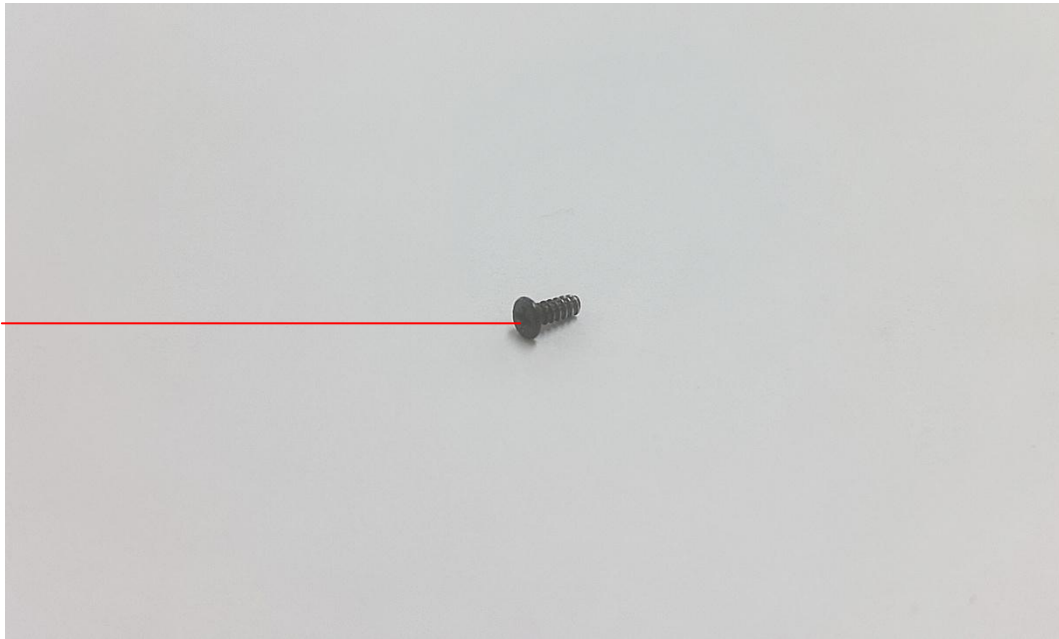


Photo of the submitted sample(s)

Remarks	S = SOLDER
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	M = METAL

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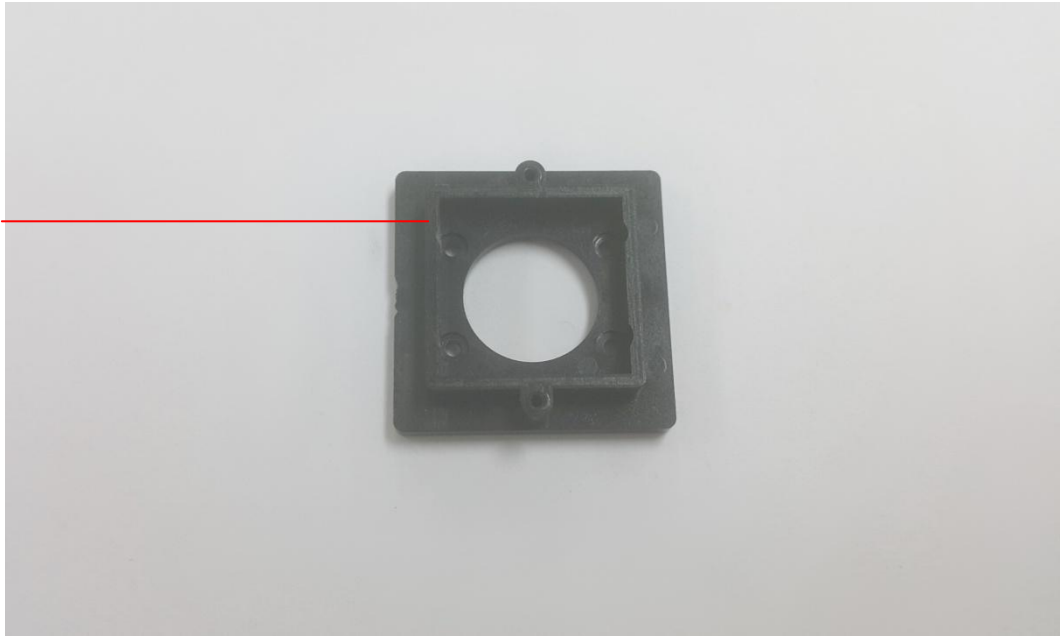


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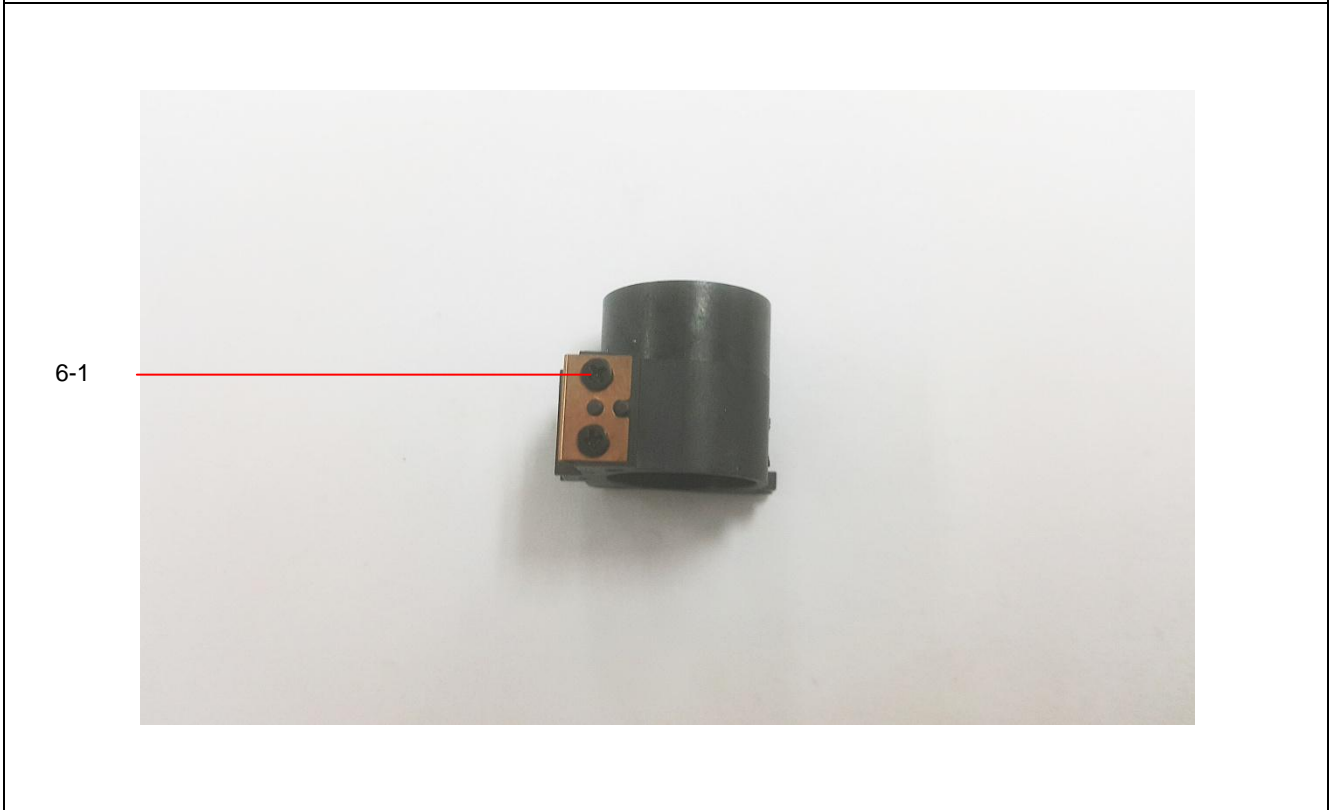
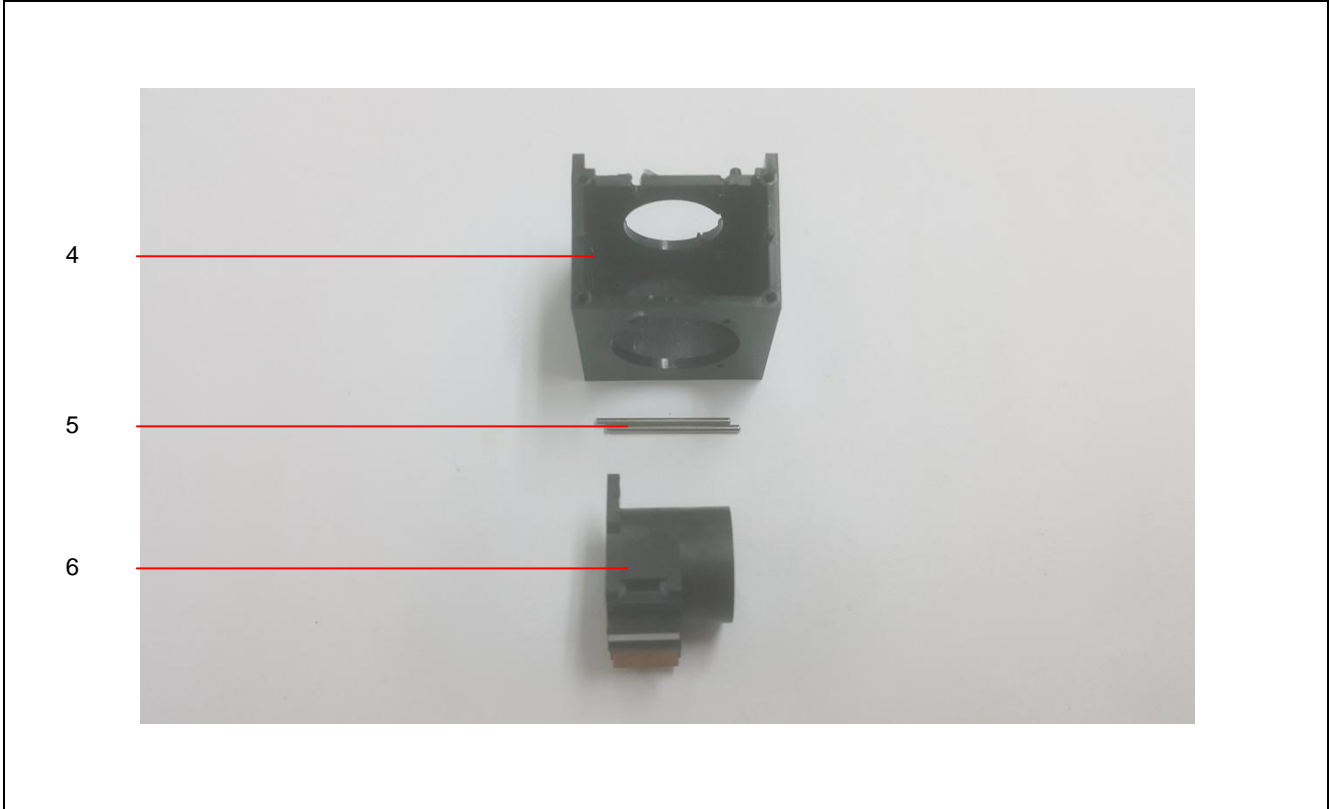


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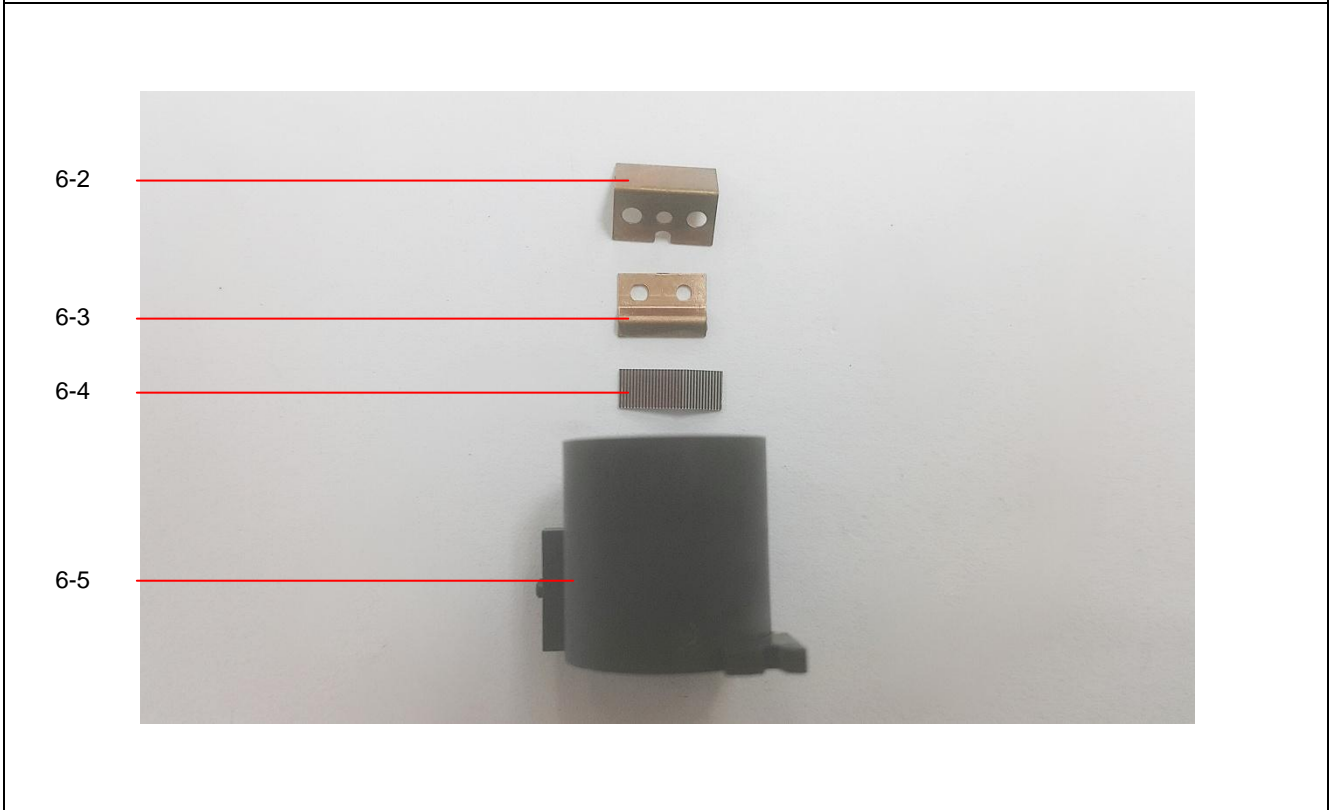
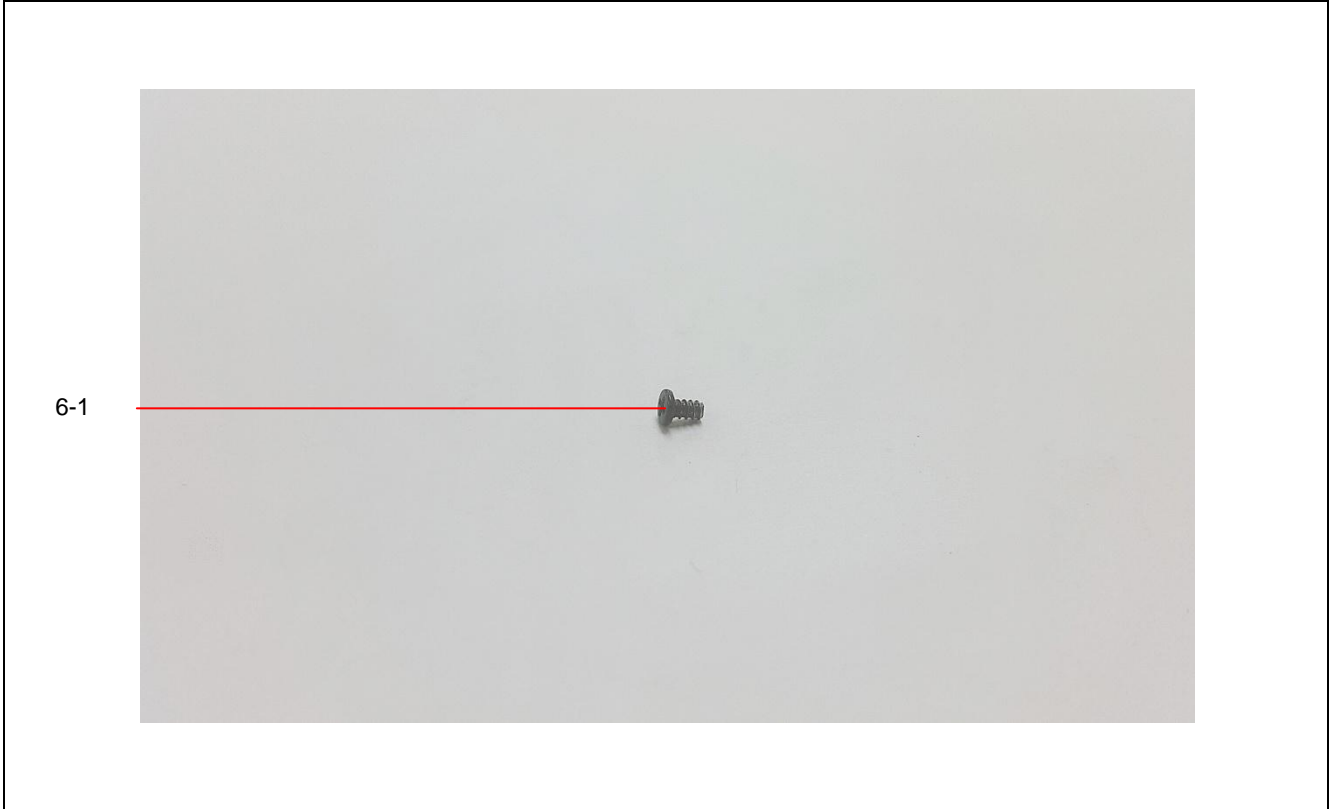


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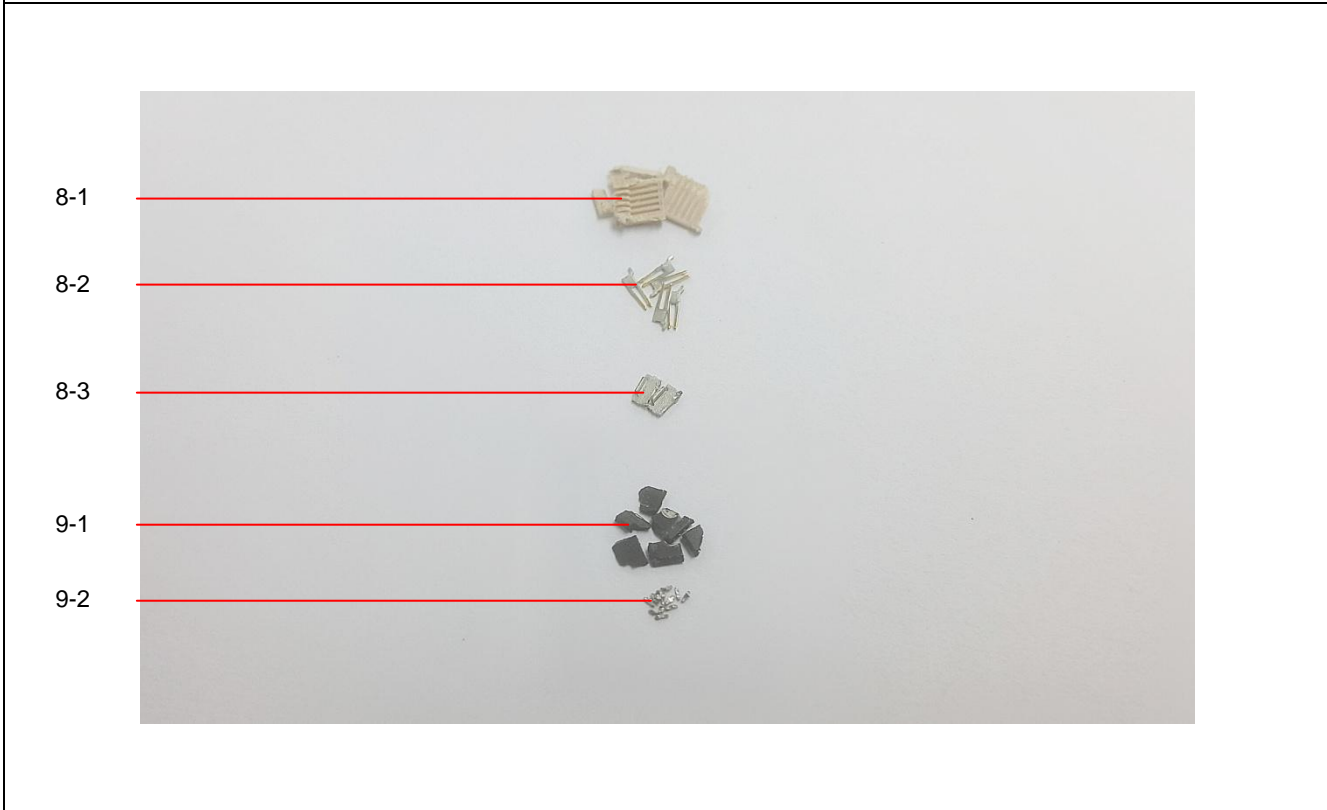
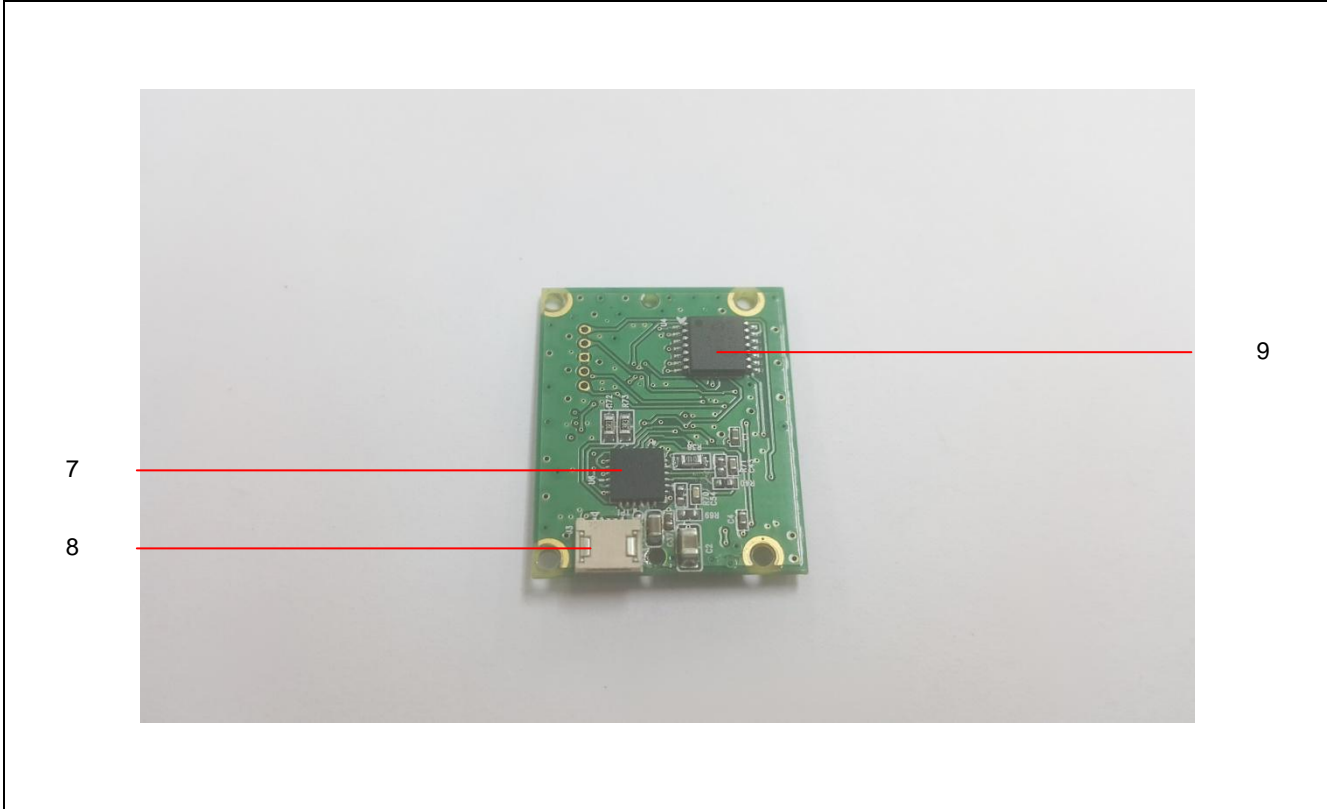


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