

Test Report No.: 48.400.23.1087.01-00/18

Rev.: 00

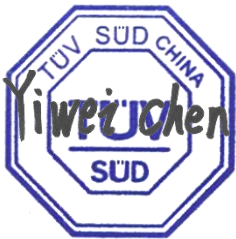
Dated: 2023-11-10



Applicant: Jiangsu Acrel Electrical Manufacturing. Co., Ltd.  
Address: No. 5, Dongmeng Road, Nanzha Street, Jiangyin, Jiangsu, P. R. China  
Attn: Han Zhonghua  
Sample Description: Meter  
Model No.: APM  
Sample Received Date: 2023-10-12  
Test Period: 2023-10-12~2023-10-27  
Test Location: TÜV SÜD Certification and Testing (China) Co., Ltd.  
Shanghai Branch, SHA Chemical Lab.  
Purpose of examination: Verification of RoHS (Restriction of Hazardous Substances) directive 2011/65/EU and its amendment (EU) 2015/863 on submitted samples  
Test Results: Refer to following page(s)  
Remark:  
- The result relates only to the items tested.  
- The reference model(s) was declared by client.  
- The test sample(s) and item(s) was specified by client.

TEC\_WUX\_F\_25.05E - Rev. 00 2021-06-24

TÜV SÜD Certification and Testing (China) Co., Ltd.  
TÜV SÜD Group  
Prepared by:



Mr. Yiwei CHEN

Reviewed by:



Mr. Feng ZHANG

Disclaimer Measurement Uncertainty: Unless otherwise agreed upon, Pass or Fail verdicts are given base on the measured values without any considerations of measurement uncertainties. Please note, every test method has a measurement uncertainty which has been evaluated by the laboratory according to ISO/IEC 17025 requirements. By taking measurement uncertainties into account it might happen that measured values can neither be assessed as Pass nor as Fail. Any use for advertising purposes must be granted in writing. This test report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4.

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Test Report No.: 48.400.23.1087.01-00/18

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### SUMMARY OF TEST RESULTS

No.	Test Requested	Conclusion	Remarks
1.	Heavy Metal (Pb, Cd, Hg and Cr VI) Content	<b>PASS</b>	
2.	Polybrominated Biphenyls (PBBs) and Polybrominated Diphenyl Ethers (PBDEs) Content	<b>PASS</b>	
3.	Phthalates (DEHP, BBP, DBP and DIBP) Content	<b>PASS</b>	

TEC\_WUX\_F\_25.05E - Rev. 00 2021-06-24



1. TESTED SUBJECT DESCRIPTION

Sample No.	Description (Material, colour)	Photograph/Location
01	Black hard plastic cover	
02	Transparent hard plastic plate	
03	Black rubber button	
04	Gray soft plastic label	
05	Black hard plastic shell	

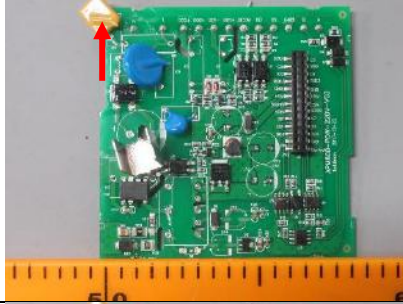
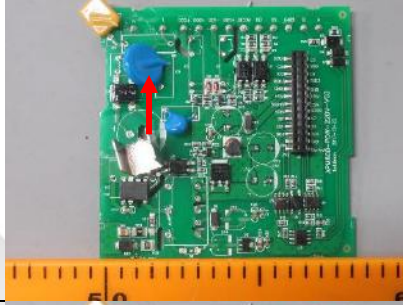
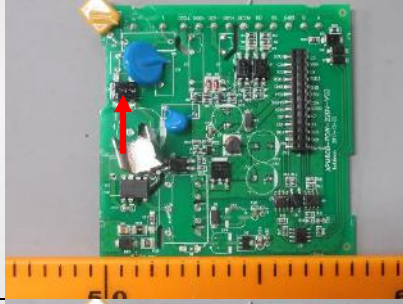
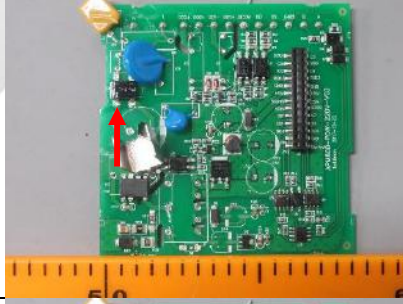

TEC\_WUX\_F\_25.05E - Rev. 00 2021-06-24



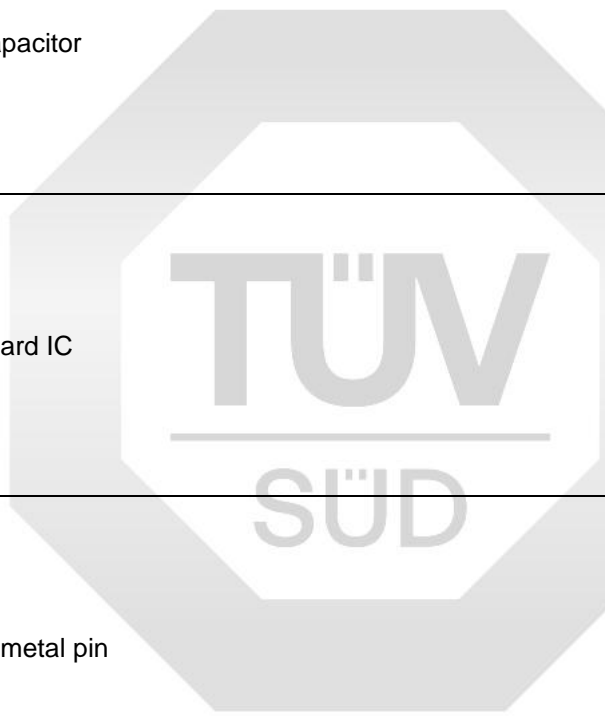
TEC\_WUX\_F\_25.05E - Rev. 00 2021-06-24

Sample No.	Description (Material, colour)	Photograph/Location
06	Silvery soft plastic label	
07	White soft plastic label	
08	Yellow soft plastic label	
09	Green hard PCB	
10	Silver metal solder	



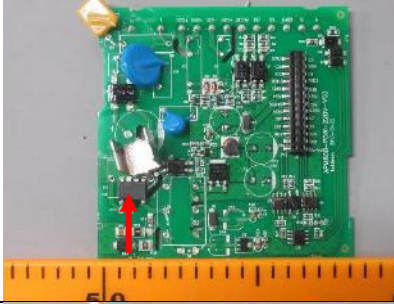
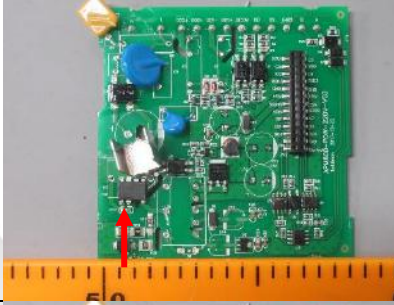
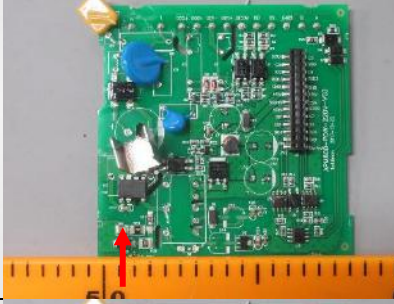
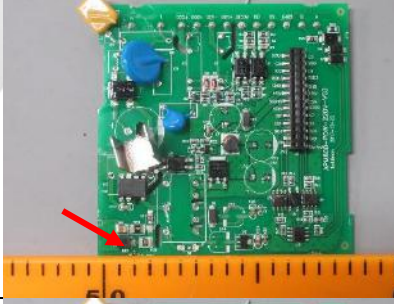

Sample No.	Description (Material, colour)	Photograph/Location
11	Yellow capacitor	
12	Blue capacitor	
13	Black hard IC	
14	Silvery metal pin	
15	Silvery metal bracket	

TEC\_WUX\_F\_25.05E - Rev. 00 2021-06-24

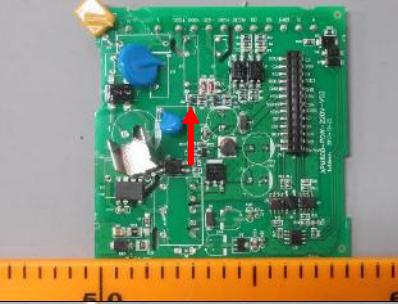
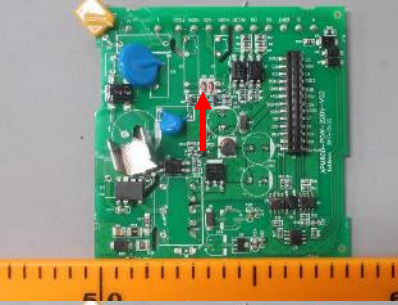
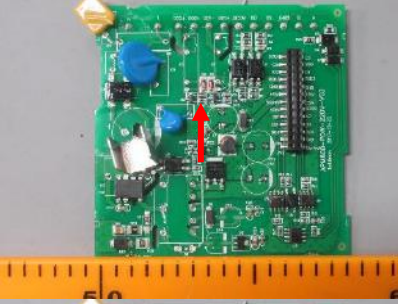






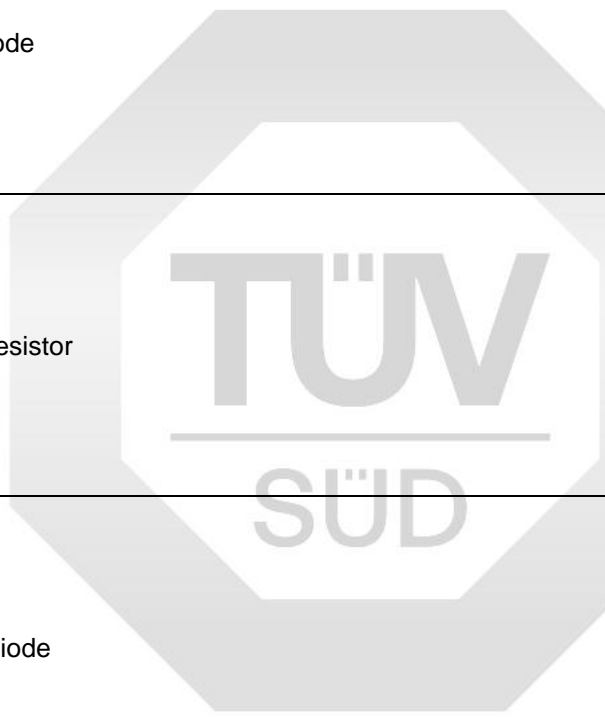
TEC\_WUX\_F\_25.05E - Rev. 00 2021-06-24

Sample No.	Description (Material, colour)	Photograph/Location
16	Black hard IC	
17	Brown capacitor	
18	Brown capacitor	
19	Black diode	
20	Black resistor	

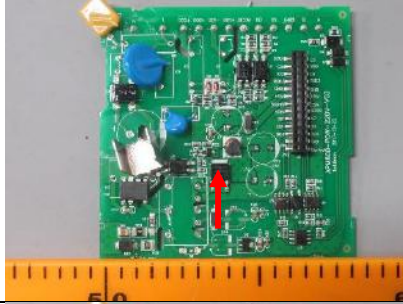

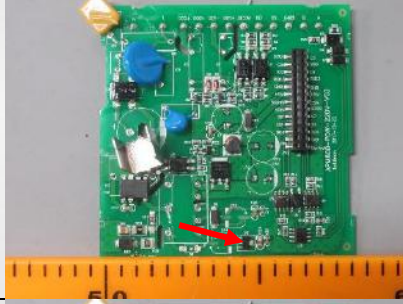




Sample No.	Description (Material, colour)	Photograph/Location
21	Black triode	
22	Red diode	
23	Black resistor	
24	Black diode	
25	Black metal inductance	

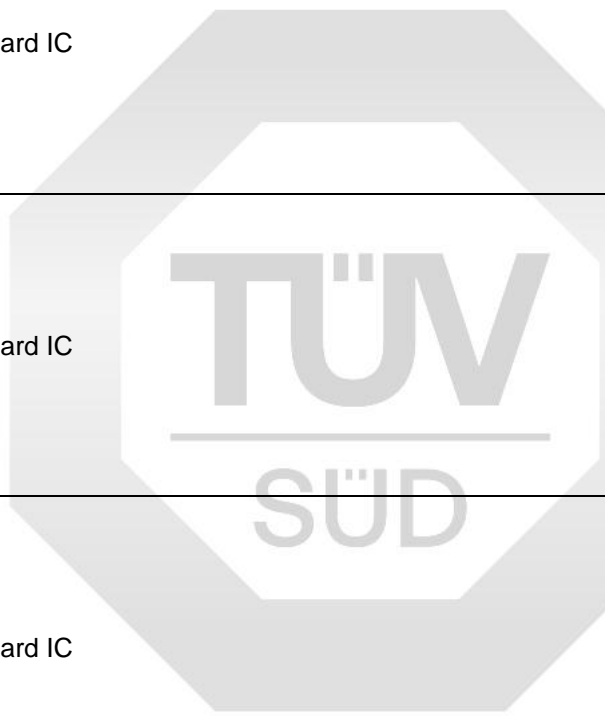
TEC\_WUX\_F\_25.05E - Rev. 00 2021-06-24





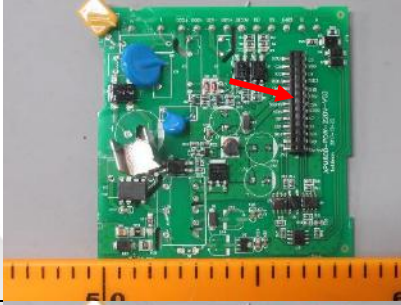

Sample No.	Description (Material, colour)	Photograph/Location
26	Black hard IC	
27	Black hard IC	
28	Black hard IC	
29	Black hard IC	
30	Black hard IC	

TEC\_WUX\_F\_25.05E - Rev. 00 2021-06-24

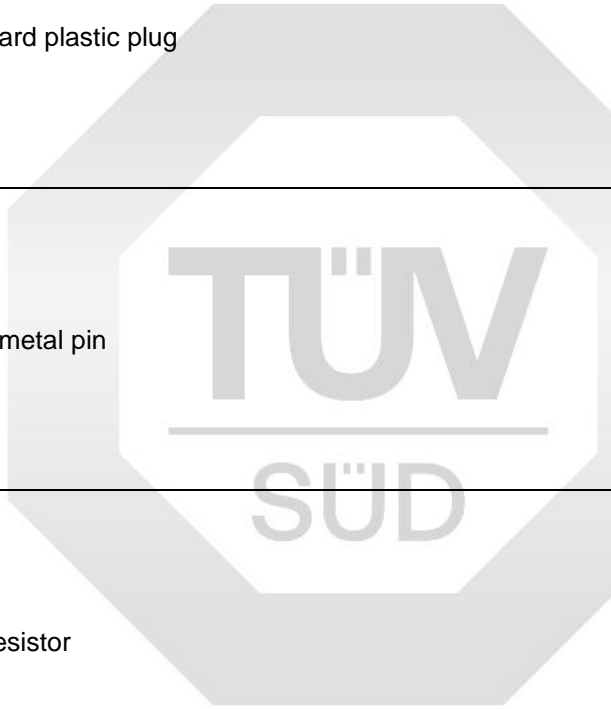






Sample No.	Description (Material, colour)	Photograph/Location
31	Black hard IC	
32	Black hard plastic plug	
33	Silvery metal pin	
34	Black resistor	
35	Black resistor	

TEC\_WUX\_F\_25.05E - Rev. 00 2021-06-24





Sample No.	Description (Material, colour)	Photograph/Location
36	Black hard plastic plug	
37	Silvery metal pin	
38	Black soft plastic sheath	
39	Silvery metal pin	
40	Silvery metal shell	

TEC\_WUX\_F\_25.05E - Rev. 00 2021-06-24



TEC\_WUX\_F\_25.05E - Rev. 00 2021-06-24

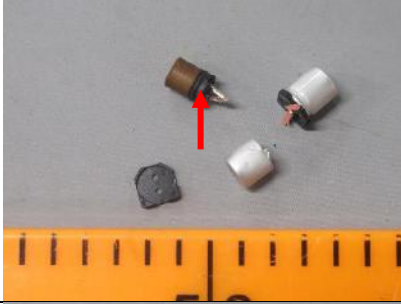




Sample No.	Description (Material, colour)	Photograph/Location
41	Brown paper film	
42	Black rubber cushion	
43	Brown soft plastic sheath	
44	Silvery metal shell	
45	Gray paper film	



TEC\_WUX\_F\_25.05E - Rev. 00 2021-06-24

Sample No.	Description (Material, colour)	Photograph/Location
46	Black rubber cushion	
47	Silvery metal pin	
48	Silvery metal shell	
49	Black hard plastic base	
50	Brown paper film	



Sample No.	Description (Material, colour)	Photograph/Location
51	Black rubber cushion	
52	Silvery metal pin	
53	Yellow hard plastic shell	
54	Silvery metal pin	
55	Yellow potting compound	

TEC\_WUX\_F\_25.05E - Rev. 00 2021-06-24



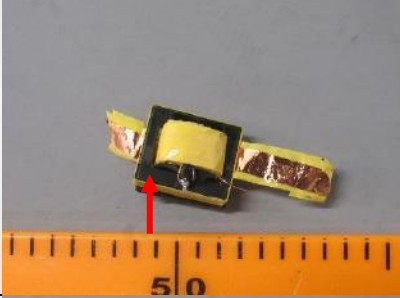




Sample No.	Description (Material, colour)	Photograph/Location
56	Silvery soft plastic film	
57	Black hard plastic base	
58	Golden metal wire	
59	Green metal magnet	
60	Yellow hard plastic slice	

TEC\_WUX\_F\_25.05E - Rev. 00 2021-06-24



TEC\_WUX\_F\_25.05E - Rev. 00 2021-06-24

Sample No.	Description (Material, colour)	Photograph/Location
61	Yellow soft plastic adhesive tape	
62	Black hard plastic base	
63	Black metal magnet	
64	Golden metal slice	
65	Golden metal wire	



TEC\_WUX\_F\_25.05E - Rev. 00 2021-06-24

Sample No.	Description (Material, colour)	Photograph/Location
66	White soft plastic strip	
67	White hard plastic shell	
68	Beige hard plastic frame	
69	Silvery metal bracket	
70	Golden metal wire	





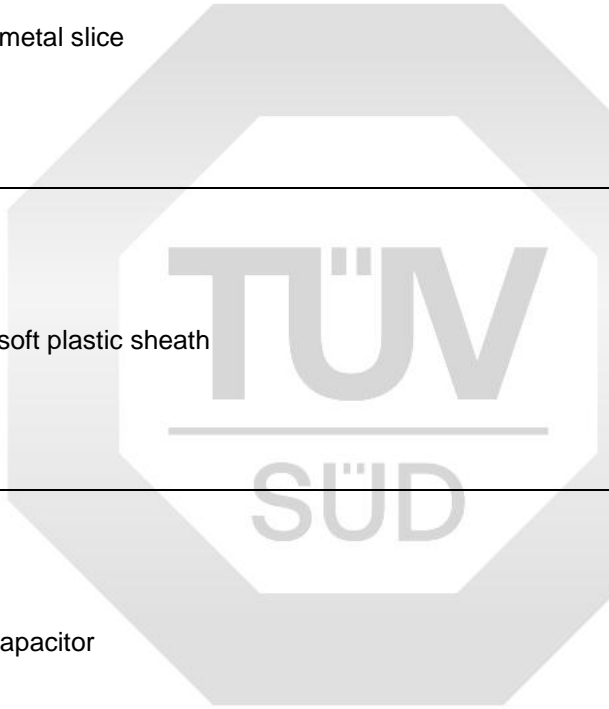
TEC\_WUX\_F\_25.05E - Rev. 00 2021-06-24

Sample No.	Description (Material, colour)	Photograph/Location
71	Black hard plastic frame	
72	Golden metal slice	
73	Silvery metal contact	
74	Green hard PCB	
75	Silver metal solder	



Sample No.	Description (Material, colour)	Photograph/Location
76	White paper label	
77	Silvery metal slice	
78	Yellow soft plastic sheath	
79	White capacitor	
80	Black diode	

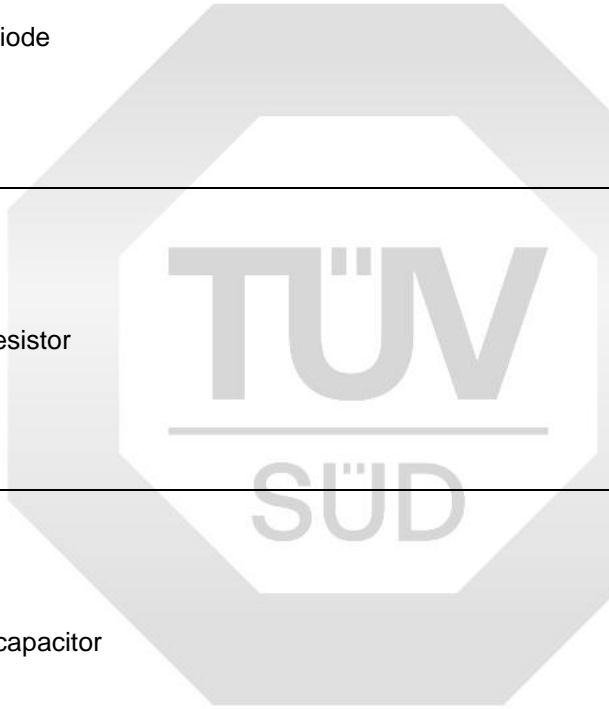
TEC\_WUX\_F\_25.05E - Rev. 00 2021-06-24





Sample No.	Description (Material, colour)	Photograph/Location
81	White diode	
82	Black triode	
83	Black resistor	
84	Brown capacitor	
85	Black hard IC	

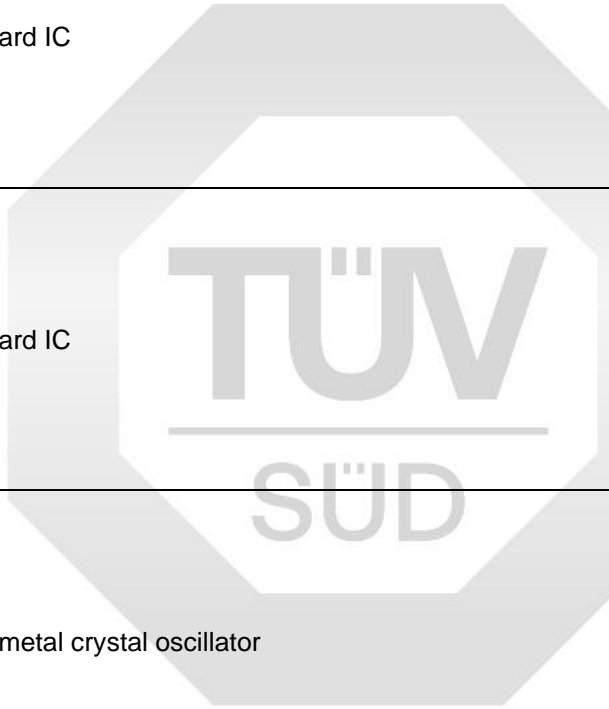
TEC\_WUX\_F\_25.05E - Rev. 00 2021-06-24





Sample No.	Description (Material, colour)	Photograph/Location
86	Brown capacitor	
87	Black hard IC	
88	Black hard IC	
89	Silvery metal crystal oscillator	
90	Black hard IC	

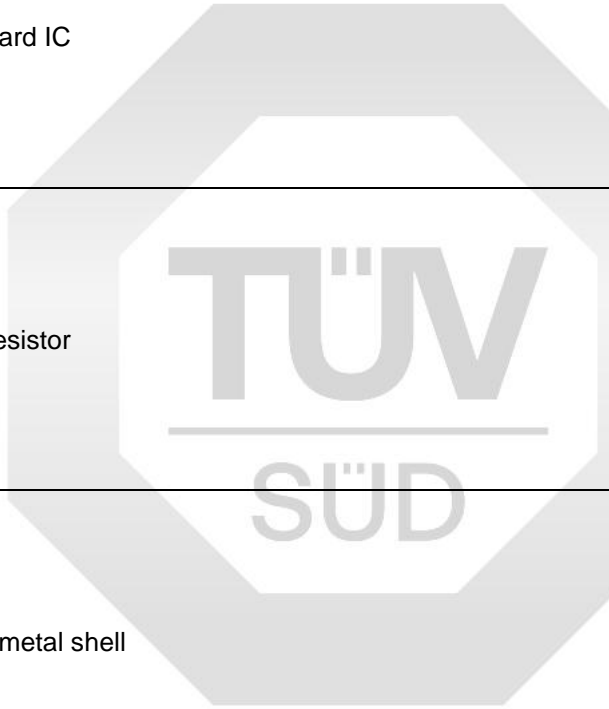
TEC\_WUX\_F\_25.05E - Rev. 00 2021-06-24





Sample No.	Description (Material, colour)	Photograph/Location
91	Black hard IC	
92	Black hard IC	
93	Black resistor	
94	Silvery metal shell	
95	Black hard plastic base	

TEC\_WUX\_F\_25.05E - Rev. 00 2021-06-24





TEC\_WUX\_F\_25.05E - Rev. 00 2021-06-24

Sample No.	Description (Material, colour)	Photograph/Location
96	Brown paper film	
97	Black rubber cushion	
98	Yellow soft plastic wire harness	
99	Black glue	
100	Transparent glass	



TEC\_WUX\_F\_25.05E - Rev. 00 2021-06-24

Sample No.	Description (Material, colour)	Photograph/Location
101	Transparent black soft plastic film	
102	Silvery soft plastic film	
103	White soft plastic film	
104	Transparent white soft plastic film	
105	Transparent hard plastic plate	



TEC\_WUX\_F\_25.05E - Rev. 00 2021-06-24

Sample No.	Description (Material, colour)	Photograph/Location
106	Silvery soft plastic film	
107	Silvery metal frame	
108	White hard PCB	
109	White hard LED	
110	Black resistor	



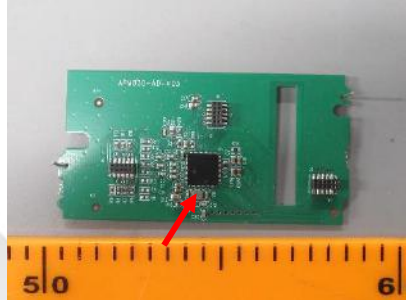
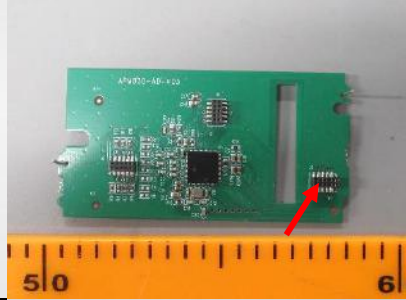



TEC\_WUX\_F\_25.05E - Rev. 00 2021-06-24

Sample No.	Description (Material, colour)	Photograph/Location
111	Green hard PCB	
112	Silver metal solder	
113	Brown capacitor	
114	Black resistor	
115	White capacitor	



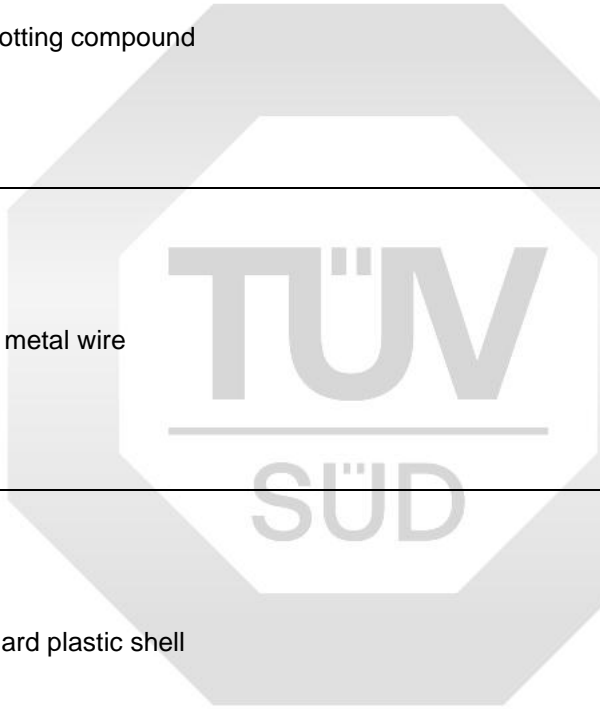
TEC\_WUX\_F\_25.05E - Rev. 00 2021-06-24

Sample No.	Description (Material, colour)	Photograph/Location
116	Black hard IC	
117	Silvery metal crystal oscillator	
118	Black hard plastic plug	
119	White paper label	
120	Black resistor	



Sample No.	Description (Material, colour)	Photograph/Location
121	Black hard plastic shell	
122	Black potting compound	
123	Golden metal wire	
124	White hard plastic shell	
125	Silvery metal ring	

TEC\_WUX\_F\_25.05E - Rev. 00 2021-06-24





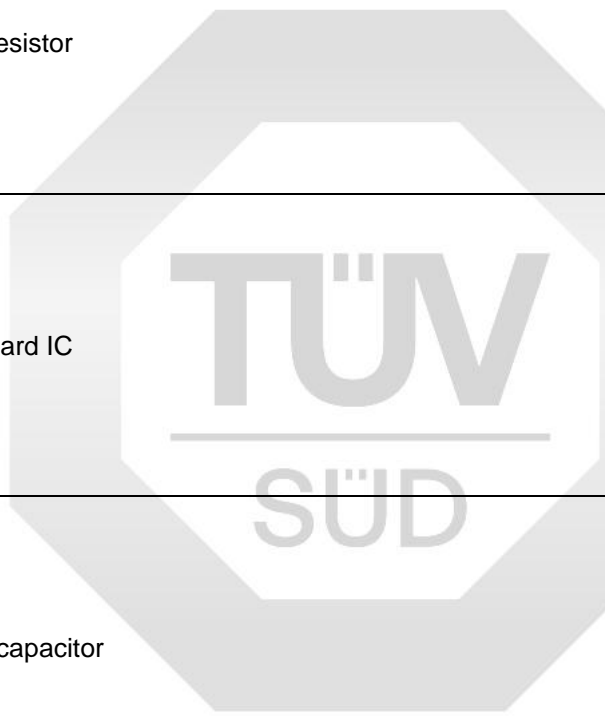
TEC\_WUX\_F\_25.05E - Rev. 00 2021-06-24

Sample No.	Description (Material, colour)	Photograph/Location
126	Black hard plastic base	
127	Golden metal pin	
128	Black hard IC	
129	Black resistor	
130	Brown capacitor	



Sample No.	Description (Material, colour)	Photograph/Location
131	Black triode	
132	Black resistor	
133	Black hard IC	
134	Brown capacitor	
135	Black hard IC	

TEC\_WUX\_F\_25.05E - Rev. 00 2021-06-24





TEC\_WUX\_F\_25.05E - Rev. 00 2021-06-24

Sample No.	Description (Material, colour)	Photograph/Location
136	Black hard IC	
137	Black hard plastic shell	
138	Black potting compound	
139	Green hard PCB	
140	Black hard plastic component	



TEC\_WUX\_F\_25.05E - Rev. 00 2021-06-24

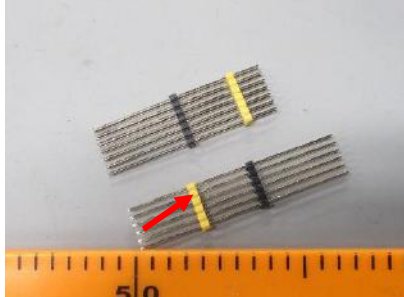
Sample No.	Description (Material, colour)	Photograph/Location
141	Silvery metal screw	
142	Silvery metal cushion	
143	Silvery metal touches	
144	Golden metal pin	
145	Black hard plastic bracket	

Test Report No.: 48.400.23.1087.01-00/18

Rev.: 00

Dated: 2023-11-10



Sample No.	Description (Material, colour)	Photograph/Location
146	Yellow hard plastic bracket	

TEC\_WUX\_F\_25.05E - Rev. 00 2021-06-24







2. TEST RESULT(S)

2.1 SCREENING TEST

Test method: With reference to EN 62321-1:2013, EN IEC 62321-2:2021, EN 62321-3-1:2014 and EN 62321-8:2017.

For Heavy Metals and Flame Retardants, analyzed by Energy Dispersive X-ray Fluorescence Spectrometer (XRF); for phthalates, analyzed by Gas Chromatography and Mass Spectrometer (GC-MS).

Sample No.	Heavy Metals and Flame Retardants					Phthalates			
	Cd	Pb	Hg	Cr	Br	DEHP	BBP	DBP	DIBP
01	BL	BL	BL	BL	Inc. <sup>(a)</sup>	BL	BL	BL	BL
02	BL	BL	BL	BL	BL	BL	BL	BL	BL
03	BL	BL	BL	BL	BL	BL	BL	BL	BL
04	BL	BL	BL	BL	BL	BL	BL	BL	BL
05	BL	BL	BL	BL	Inc. <sup>(a)</sup>	BL	BL	BL	BL
06	BL	BL	BL	BL	BL	BL	BL	BL	BL
07	BL	BL	BL	BL	BL	BL	BL	BL	BL
08	BL	BL	BL	BL	Inc. <sup>(a)</sup>	BL	BL	BL	BL
09	BL	BL	BL	BL	Inc. <sup>(a)</sup>	BL	BL	BL	BL
10	BL	BL	BL	BL	NA	NA	NA	NA	NA
11	BL	BL	BL	BL	BL	BL	BL	BL	BL
12	BL	BL	BL	BL	BL	BL	BL	BL	BL
13	BL	BL	BL	BL	BL	BL	BL	BL	BL
14	BL	BL	BL	BL	NA	NA	NA	NA	NA
15	BL	BL	BL	BL	NA	NA	NA	NA	NA
16	BL	BL	BL	BL	BL	BL	BL	BL	BL
17	BL	BL	BL	BL	BL	BL	BL	BL	BL
18	BL	BL	BL	BL	BL	BL	BL	BL	BL
19	BL	BL	BL	BL	BL	BL	BL	BL	BL
20	BL	Inc. <sup>(a)</sup>	BL	BL	BL	BL	BL	BL	BL

TEC\_WUX\_F\_25.05E - Rev. 00 2021-06-24



TEC\_WUX\_F\_25.05E - Rev. 00 2021-06-24

Sample No.	Heavy Metals and Flame Retardants					Phthalates			
	Cd	Pb	Hg	Cr	Br	DEHP	BBP	DBP	DIBP
21	BL	BL	BL	BL	BL	BL	BL	BL	BL
22	BL	Inc. <sup>(a)</sup>	BL	BL	BL	BL	BL	BL	BL
23	BL	Inc. <sup>(a)</sup>	BL	BL	BL	BL	BL	BL	BL
24	BL	BL	BL	BL	BL	BL	BL	BL	BL
25	BL	BL	BL	BL	NA	NA	NA	NA	NA
26	BL	BL	BL	BL	BL	BL	BL	BL	BL
27	BL	BL	BL	BL	BL	BL	BL	BL	BL
28	BL	BL	BL	BL	BL	BL	BL	BL	BL
29	BL	BL	BL	BL	BL	BL	BL	BL	BL
30	BL	BL	BL	BL	BL	BL	BL	BL	BL
31	BL	BL	BL	BL	BL	BL	BL	BL	BL
32	BL	BL	BL	BL	Inc. <sup>(a)</sup>	BL	BL	BL	BL
33	BL	BL	BL	BL	NA	NA	NA	NA	NA
34	BL	Inc. <sup>(a)</sup>	BL	BL	BL	BL	BL	BL	BL
35	BL	BL	BL	BL	BL	BL	BL	BL	BL
36	BL	BL	BL	BL	BL	BL	BL	BL	BL
37	BL	BL	BL	BL	NA	NA	NA	NA	NA
38	BL	BL	BL	BL	BL	BL	BL	BL	BL
39	BL	BL	BL	BL	NA	NA	NA	NA	NA
40	BL	BL	BL	BL	NA	NA	NA	NA	NA
41	BL	BL	BL	BL	BL	BL	BL	BL	BL
42	BL	BL	BL	BL	BL	BL	BL	BL	BL
43	BL	BL	BL	BL	BL	BL	BL	BL	BL
44	BL	BL	BL	BL	NA	NA	NA	NA	NA



TEC\_WUX\_F\_25.05E - Rev. 00 2021-06-24

Sample No.	Heavy Metals and Flame Retardants					Phthalates			
	Cd	Pb	Hg	Cr	Br	DEHP	BBP	DBP	DIBP
45	BL	BL	BL	BL	BL	BL	BL	BL	BL
46	BL	BL	BL	BL	BL	BL	BL	BL	BL
47	BL	BL	BL	BL	NA	NA	NA	NA	NA
48	BL	BL	BL	BL	NA	NA	NA	NA	NA
49	BL	BL	BL	BL	BL	BL	BL	BL	BL
50	BL	BL	BL	BL	BL	BL	BL	BL	BL
51	BL	BL	BL	BL	BL	BL	BL	BL	BL
52	BL	BL	BL	BL	NA	NA	NA	NA	NA
53	BL	BL	BL	BL	Inc. <sup>(a)</sup>	BL	BL	BL	BL
54	BL	BL	BL	BL	NA	NA	NA	NA	NA
55	BL	BL	BL	BL	Inc. <sup>(a)</sup>	BL	BL	BL	BL
56	BL	BL	BL	BL	BL	BL	BL	BL	BL
57	BL	BL	BL	BL	BL	BL	BL	BL	BL
58	BL	BL	BL	BL	NA	NA	NA	NA	NA
59	BL	BL	BL	BL	NA	NA	NA	NA	NA
60	BL	BL	BL	BL	Inc. <sup>(a)</sup>	BL	BL	BL	BL
61	BL	BL	BL	BL	BL	BL	BL	BL	BL
62	BL	BL	BL	BL	BL	BL	BL	BL	BL
63	BL	BL	BL	BL	NA	NA	NA	NA	NA
64	BL	BL	BL	BL	NA	NA	NA	NA	NA
65	BL	BL	BL	BL	NA	NA	NA	NA	NA
66	BL	BL	BL	BL	Inc. <sup>(a)</sup>	BL	BL	BL	BL
67	BL	BL	BL	BL	Inc. <sup>(a)</sup>	BL	BL	BL	BL
68	BL	BL	BL	BL	Inc. <sup>(a)</sup>	BL	BL	BL	BL



TEC\_WUX\_F\_25.05E - Rev. 00 2021-06-24

Sample No.	Heavy Metals and Flame Retardants					Phthalates			
	Cd	Pb	Hg	Cr	Br	DEHP	BBP	DBP	DIBP
69	BL	BL	BL	BL	NA	NA	NA	NA	NA
70	BL	BL	BL	BL	NA	NA	NA	NA	NA
71	BL	BL	BL	BL	BL	BL	BL	BL	BL
72	BL	BL	BL	BL	NA	NA	NA	NA	NA
73	BL	BL	BL	BL	NA	NA	NA	NA	NA
74	BL	BL	BL	BL	Inc. <sup>(a)</sup>	BL	BL	BL	BL
75	BL	BL	BL	Inc. <sup>(a)</sup>	NA	NA	NA	NA	NA
76	BL	BL	BL	BL	BL	BL	BL	BL	BL
77	BL	BL	BL	Inc. <sup>(a)</sup>	NA	NA	NA	NA	NA
78	BL	BL	BL	BL	BL	BL	BL	BL	BL
79	BL	BL	BL	BL	BL	BL	BL	BL	BL
80	BL	BL	BL	BL	BL	BL	BL	BL	BL
81	BL	BL	BL	BL	BL	BL	BL	BL	BL
82	BL	BL	BL	BL	BL	BL	BL	BL	BL
83	BL	Inc. <sup>(a)</sup>	BL	BL	BL	BL	BL	BL	BL
84	BL	BL	BL	BL	BL	BL	BL	BL	BL
85	BL	BL	BL	BL	BL	BL	BL	BL	BL
86	BL	BL	BL	BL	BL	BL	BL	BL	BL
87	BL	BL	BL	BL	BL	BL	BL	BL	BL
88	BL	BL	BL	BL	BL	BL	BL	BL	BL
89	BL	BL	BL	BL	NA	NA	NA	NA	NA
90	BL	Inc. <sup>(a)</sup>	BL	BL	BL	BL	BL	BL	BL
91	BL	BL	BL	BL	BL	BL	BL	BL	BL
92	BL	BL	BL	BL	BL	BL	BL	BL	BL



TEC\_WUX\_F\_25.05E - Rev. 00 2021-06-24

Sample No.	Heavy Metals and Flame Retardants					Phthalates			
	Cd	Pb	Hg	Cr	Br	DEHP	BBP	DBP	DIBP
93	BL	Inc. <sup>(a)</sup>	BL	BL	BL	BL	BL	BL	BL
94	BL	BL	BL	BL	NA	NA	NA	NA	NA
95	BL	BL	BL	BL	BL	BL	BL	BL	BL
96	BL	BL	BL	BL	BL	BL	BL	BL	BL
97	BL	BL	BL	BL	BL	BL	BL	BL	BL
98	BL	BL	BL	BL	BL	BL	BL	BL	BL
99	BL	BL	BL	BL	BL	BL	BL	BL	BL
100	BL	BL	BL	BL	BL	BL	BL	BL	BL
101	BL	BL	BL	BL	BL	BL	BL	BL	BL
102	BL	BL	BL	BL	BL	BL	BL	BL	BL
103	BL	BL	BL	BL	BL	BL	BL	BL	BL
104	BL	BL	BL	BL	BL	BL	BL	BL	BL
105	BL	BL	BL	BL	BL	BL	BL	BL	BL
106	BL	BL	BL	BL	BL	BL	BL	BL	BL
107	BL	BL	BL	Inc. <sup>(a)</sup>	NA	NA	NA	NA	NA
108	BL	BL	BL	BL	Inc. <sup>(a)</sup>	BL	BL	BL	BL
109	BL	BL	BL	BL	BL	BL	BL	BL	BL
110	BL	Inc. <sup>(a)</sup>	BL	BL	BL	BL	BL	BL	BL
111	BL	BL	BL	BL	Inc. <sup>(a)</sup>	BL	BL	BL	BL
112	BL	BL	BL	BL	NA	NA	NA	NA	NA
113	BL	BL	BL	BL	BL	BL	BL	BL	BL
114	BL	Inc. <sup>(a)</sup>	BL	BL	BL	BL	BL	BL	BL
115	BL	BL	BL	BL	BL	BL	BL	BL	BL
116	BL	BL	BL	BL	BL	BL	BL	BL	BL



TEC\_WUX\_F\_25.05E - Rev. 00 2021-06-24

Sample No.	Heavy Metals and Flame Retardants					Phthalates			
	Cd	Pb	Hg	Cr	Br	DEHP	BBP	DBP	DIBP
117	BL	BL	BL	BL	NA	NA	NA	NA	NA
118	BL	BL	BL	BL	Inc. <sup>(a)</sup>	BL	BL	BL	BL
119	BL	BL	BL	BL	BL	BL	BL	BL	BL
120	BL	Inc. <sup>(a)</sup>	BL	BL	BL	BL	BL	BL	BL
121	BL	BL	BL	BL	Inc. <sup>(a)</sup>	BL	BL	BL	BL
122	BL	BL	BL	BL	BL	BL	BL	BL	BL
123	BL	BL	BL	BL	NA	NA	NA	NA	NA
124	BL	BL	BL	BL	Inc. <sup>(a)</sup>	BL	BL	BL	BL
125	BL	BL	BL	BL	NA	NA	NA	NA	NA
126	BL	BL	BL	BL	Inc. <sup>(a)</sup>	BL	BL	BL	BL
127	BL	BL	BL	BL	NA	NA	NA	NA	NA
128	BL	BL	BL	BL	BL	BL	BL	BL	BL
129	BL	BL	BL	BL	BL	BL	BL	BL	BL
130	BL	BL	BL	BL	BL	BL	BL	BL	BL
131	BL	BL	BL	BL	BL	BL	BL	BL	BL
132	BL	Inc. <sup>(a)</sup>	BL	BL	BL	BL	BL	BL	BL
133	BL	BL	BL	BL	BL	BL	BL	BL	BL
134	BL	BL	BL	BL	BL	BL	BL	BL	BL
135	BL	BL	BL	BL	BL	BL	BL	BL	BL
136	BL	BL	BL	BL	BL	BL	BL	BL	BL
137	BL	BL	BL	BL	BL	BL	BL	BL	BL
138	BL	BL	BL	BL	BL	BL	BL	BL	BL
139	BL	BL	BL	BL	Inc. <sup>(a)</sup>	BL	BL	BL	BL
140	BL	BL	BL	BL	BL	BL	BL	BL	BL

Test Report No.: 48.400.23.1087.01-00/18

Rev.: 00

Dated: 2023-11-10



Sample No.	Heavy Metals and Flame Retardants					Phthalates			
	Cd	Pb	Hg	Cr	Br	DEHP	BBP	DBP	DIBP
141	BL	BL	BL	BL	NA	NA	NA	NA	NA
142	BL	BL	BL	BL	NA	NA	NA	NA	NA
143	BL	BL	BL	BL	NA	NA	NA	NA	NA
144	BL	BL	BL	BL	NA	NA	NA	NA	NA
145	BL	BL	BL	BL	Inc. <sup>(a)</sup>	BL	BL	BL	BL
146	BL	BL	BL	BL	Inc. <sup>(a)</sup>	BL	BL	BL	BL

TEC\_WUX\_F\_25.05E - Rev. 00 2021-06-24





Remark:

- "BL" denotes below limit
- "OL" denotes over limit
- "Inc." denotes inconclusive
- "NA" denotes not applicable
- "(a)" denotes further confirmation test was conducted, results are listed in 2.2 and 2.3.
- XRF screening limits in mg/kg for regulated elements in various matrices

ELEMENT	POLYMER		
	BL	INCONCLUSIVE	OL
Cd	$X \leq (70-3\sigma)$	$(70-3\sigma) < X < (130+3\sigma)$	$X \geq (130+3\sigma)$
Pb	$X \leq (700-3\sigma)$	$(700-3\sigma) < X < (1300+3\sigma)$	$X \geq (1300+3\sigma)$
Hg	$X \leq (700-3\sigma)$	$(700-3\sigma) < X < (1300+3\sigma)$	$X \geq (1300+3\sigma)$
Br	$X \leq (300-3\sigma)$	$X > (300-3\sigma)$	NA
Cr	$X \leq (700-3\sigma)$	$X > (700-3\sigma)$	NA

ELEMENT	METAL		
	BL	INCONCLUSIVE	OL
Cd	$X \leq (70-3\sigma)$	$(70-3\sigma) < X < (130+3\sigma)$	$X \geq (130+3\sigma)$
Pb	$X \leq (700-3\sigma)$	$(700-3\sigma) < X < (1300+3\sigma)$	$X \geq (1300+3\sigma)$
Hg	$X \leq (700-3\sigma)$	$(700-3\sigma) < X < (1300+3\sigma)$	$X \geq (1300+3\sigma)$
Cr	$X \leq (700-3\sigma)$	$X > (700-3\sigma)$	NA

ELEMENT	COMPLEX MATERIAL		
	BL	INCONCLUSIVE	OL
Cd	$X \leq (50-3\sigma)$	$(50-3\sigma) < X < (150+3\sigma)$	$X \geq (150+3\sigma)$
Pb	$X \leq (500-3\sigma)$	$(500-3\sigma) < X < (1500+3\sigma)$	$X \geq (1500+3\sigma)$
Hg	$X \leq (500-3\sigma)$	$(500-3\sigma) < X < (1500+3\sigma)$	$X \geq (1500+3\sigma)$
Br	$X \leq (250-3\sigma)$	$X > (250-3\sigma)$	NA
Cr	$X \leq (500-3\sigma)$	$X > (500-3\sigma)$	NA

- Screening limits in mg/kg for regulated phthalates in various matrices

PHTHALATES	BL	INCONCLUSIVE
DEHP	$X < 600$	$X \geq 600$
BBP	$X < 600$	$X \geq 600$
DBP	$X < 600$	$X \geq 600$
DIBP	$X < 600$	$X \geq 600$

TEC\_WUX\_F\_25.05E - Rev. 00 2021-06-24





**2.2 HEAVY METAL CONTENT**

Test method: With reference to EN 62321-4:2014 /A1:2017, EN 62321-5:2014, EN 62321-7-1:2015 and EN 62321-7-2:2017, analyzed by Inductively Coupled Plasma Optical Emission Spectrometer (ICP-OES) and Ultraviolet-visible spectrophotometer (UV-Vis).

[Reporting Limit: 2.0 mg/kg for Cadmium; 5.0 mg/kg or 0.10 µg/cm² for Hexavalent Chromium, 10.0 mg/kg for Lead and Mercury.]

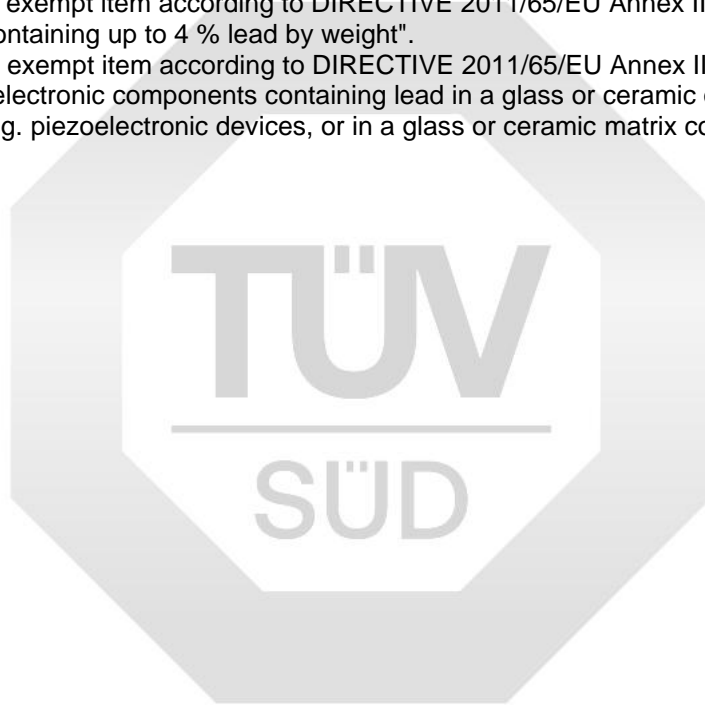
Sample No.	Result(s)				
	Total Cadmium	Hexavalent Chromium	Hexavalent Chromium	Total Mercury	Total Lead
20	--	--	--	--	4834.0 <sup>(d)</sup>
22	--	--	--	--	132915.0 <sup>(d)</sup>
23	--	--	--	--	2312.0 <sup>(d)</sup>
34	--	--	--	--	2770.0 <sup>(d)</sup>
75	--	/	Negative	--	--
77	--	/	Negative	--	--
83	--	--	--	--	2753.0 <sup>(d)</sup>
90	--	--	--	--	2471.0 <sup>(d)</sup>
93	--	--	--	--	3184.0 <sup>(d)</sup>
107	--	/	Negative	--	--
110	--	--	--	--	1779.0 <sup>(d)</sup>
114	--	--	--	--	1685.0 <sup>(d)</sup>
120	--	--	--	--	5211.0 <sup>(d)</sup>
132	--	--	--	--	6948.0 <sup>(d)</sup>
<b>Unit</b>	mg/kg	mg/kg	µg/cm²	mg/kg	mg/kg
<b>RoHS Requirement</b>	100	1000	Negative <sup>#</sup>	1000	1000

TEC\_WUX\_F\_25.05E - Rev. 00 2021-06-24



Remark:

- "mg/kg" denotes milligram per kilogram
- " $\mu\text{g}/\text{cm}^2$ " denotes micrograms per square centimeter
- "<" denotes less than
- "Positive" denotes the absorbance value of sample is  $> 0.13 \mu\text{g}/\text{cm}^2$ , the sample is considered to be positive for Hexavalent Chromium.
- "Inconclusive" denotes the absorbance value of sample is  $\geq 0.10 \mu\text{g}/\text{cm}^2$  and  $\leq 0.13 \mu\text{g}/\text{cm}^2$ , the sample is considered to be Inconclusive for Hexavalent Chromium.
- "Negative" denotes the absorbance value of sample is  $< 0.10 \mu\text{g}/\text{cm}^2$ , the sample is considered to be negative for Hexavalent Chromium.
- "#" According to DIRECTIVE 2011/65/EU Article 4(1) and Annex II. While, positive means the presence of CrVI on tested areas and the result(s) was (were) regarded as in conflict with European Parliament and Council Directive 2011/65/EU, Article 4(1) and Annex II.
- "--" denotes tested by XRF, result is listed in 2.1
- "(c)" denotes the exempt item according to DIRECTIVE 2011/65/EU Annex III item 6(c)  
Copper alloy containing up to 4 % lead by weight".
- "(d)" denotes the exempt item according to DIRECTIVE 2011/65/EU Annex III item 7(c)-I  
"Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound".





**2.3 POLYBROMINATED BIPHENYLS (PBBs) AND POLYBROMINATED DIPHENYL ETHERS (PBDEs) CONTENT**

Test Method: With reference to EN 62321-6:2015, extracted by toluene and analyzed by Gas Chromatography and Mass Spectrometer (GC-MS). [Reporting Limit : 5 mg/kg]

Test Item		Result(s) [mg/kg]					RoHS Requirement [mg/kg]
		01	05	08	09	32	
PBBs	Monobromobiphenyl	<5	<5	<5	<5	<5	-
	Dibromobiphenyl	<5	<5	<5	<5	<5	-
	Tribromobiphenyl	<5	<5	<5	<5	<5	-
	Tetrabromobiphenyl	<5	<5	<5	<5	<5	-
	Pentabromobiphenyl	<5	<5	<5	<5	<5	-
	Hexabromobiphenyl	<5	<5	<5	<5	<5	-
	Heptabromobiphenyl	<5	<5	<5	<5	<5	-
	Octabromobiphenyl	<5	<5	<5	<5	<5	-
	Nonabromobiphenyl	<5	<5	<5	<5	<5	-
	Decabromobiphenyl	<5	<5	<5	<5	<5	-
<b>Sum of detected PBBs</b>		<50	<50	<50	<50	<50	1000
PBDEs	Monobromodiphenyl ether	<5	<5	<5	<5	<5	-
	Dibromodiphenyl ether	<5	<5	<5	<5	<5	-
	Tribromodiphenyl ether	<5	<5	<5	<5	<5	-
	Tetrabromodiphenyl ether	<5	<5	<5	<5	<5	-
	Pentabromodiphenyl ether	<5	<5	<5	<5	<5	-
	Hexabromodiphenyl ether	<5	<5	<5	<5	<5	-
	Heptabromodiphenyl ether	<5	<5	<5	<5	<5	-
	Octabromodiphenyl ether	<5	<5	<5	<5	<5	-
	Nonabromodiphenyl ether	<5	<5	<5	<5	<5	-
	Decabromodiphenyl ether	<5	<5	<5	<5	<5	-
<b>Sum of detected PBDEs</b>		<50	<50	<50	<50	<50	1000

TEC\_WUX\_F\_25.05E - Rev. 00 2021-06-24



**2.3 POLYBROMINATED BIPHENYLS (PBBs) AND POLYBROMINATED DIPHENYL ETHERS (PBDEs) CONTENT**

Test Method: With reference to EN 62321-6:2015, extracted by toluene and analyzed by Gas Chromatography and Mass Spectrometer (GC-MS). [Reporting Limit : 5 mg/kg]

Test Item		Result(s) [mg/kg]					RoHS Requirement [mg/kg]
		53	55	60	66	67	
PBBs	Monobromobiphenyl	<5	<5	<5	<5	<5	-
	Dibromobiphenyl	<5	<5	<5	<5	<5	-
	Tribromobiphenyl	<5	<5	<5	<5	<5	-
	Tetrabromobiphenyl	<5	<5	<5	<5	<5	-
	Pentabromobiphenyl	<5	<5	<5	<5	<5	-
	Hexabromobiphenyl	<5	<5	<5	<5	<5	-
	Heptabromobiphenyl	<5	<5	<5	<5	<5	-
	Octabromobiphenyl	<5	<5	<5	<5	<5	-
	Nonabromobiphenyl	<5	<5	<5	<5	<5	-
	Decabromobiphenyl	<5	<5	<5	<5	<5	-
	<b>Sum of detected PBBs</b>	<50	<50	<50	<50	<50	1000
PBDEs	Monobromodiphenyl ether	<5	<5	<5	<5	<5	-
	Dibromodiphenyl ether	<5	<5	<5	<5	<5	-
	Tribromodiphenyl ether	<5	<5	<5	<5	<5	-
	Tetrabromodiphenyl ether	<5	<5	<5	<5	<5	-
	Pentabromodiphenyl ether	<5	<5	<5	<5	<5	-
	Hexabromodiphenyl ether	<5	<5	<5	<5	<5	-
	Heptabromodiphenyl ether	<5	<5	<5	<5	<5	-
	Octabromodiphenyl ether	<5	<5	<5	<5	<5	-
	Nonabromodiphenyl ether	<5	<5	<5	<5	<5	-
	Decabromodiphenyl ether	<5	<5	<5	<5	<5	-
	<b>Sum of detected PBDEs</b>	<50	<50	<50	<50	<50	1000

TEC\_WUX\_F\_25.05E - Rev. 00 2021-06-24



**2.3 POLYBROMINATED BIPHENYLS (PBBs) AND POLYBROMINATED DIPHENYL ETHERS (PBDEs) CONTENT**

Test Method: With reference to EN 62321-6:2015, extracted by toluene and analyzed by Gas Chromatography and Mass Spectrometer (GC-MS). [Reporting Limit : 5 mg/kg]

Test Item		Result(s) [mg/kg]					RoHS Requirement [mg/kg]
		68	74	108	111	118	
PBBs	Monobromobiphenyl	<5	<5	<5	<5	<5	-
	Dibromobiphenyl	<5	<5	<5	<5	<5	-
	Tribromobiphenyl	<5	<5	<5	<5	<5	-
	Tetrabromobiphenyl	<5	<5	<5	<5	<5	-
	Pentabromobiphenyl	<5	<5	<5	<5	<5	-
	Hexabromobiphenyl	<5	<5	<5	<5	<5	-
	Heptabromobiphenyl	<5	<5	<5	<5	<5	-
	Octabromobiphenyl	<5	<5	<5	<5	<5	-
	Nonabromobiphenyl	<5	<5	<5	<5	<5	-
	Decabromobiphenyl	<5	<5	<5	<5	<5	-
	<b>Sum of detected PBBs</b>	<50	<50	<50	<50	<50	1000
PBDEs	Monobromodiphenyl ether	<5	<5	<5	<5	<5	-
	Dibromodiphenyl ether	<5	<5	<5	<5	<5	-
	Tribromodiphenyl ether	<5	<5	<5	<5	<5	-
	Tetrabromodiphenyl ether	<5	<5	<5	<5	<5	-
	Pentabromodiphenyl ether	<5	<5	<5	<5	<5	-
	Hexabromodiphenyl ether	<5	<5	<5	<5	<5	-
	Heptabromodiphenyl ether	<5	<5	<5	<5	<5	-
	Octabromodiphenyl ether	<5	<5	<5	<5	<5	-
	Nonabromodiphenyl ether	<5	<5	<5	<5	<5	-
	Decabromodiphenyl ether	<5	<5	<5	<5	<5	-
	<b>Sum of detected PBDEs</b>	<50	<50	<50	<50	<50	1000

TEC\_WUX\_F\_25.05E - Rev. 00 2021-06-24



**2.3 POLYBROMINATED BIPHENYLS (PBBs) AND POLYBROMINATED DIPHENYL ETHERS (PBDEs) CONTENT**

Test Method: With reference to EN 62321-6:2015, extracted by toluene and analyzed by Gas Chromatography and Mass Spectrometer (GC-MS). [Reporting Limit : 5 mg/kg]

Test Item		Result(s) [mg/kg]					RoHS Requirement [mg/kg]
		121	124	126	139	145	
PBBs	Monobromobiphenyl	<5	<5	<5	<5	<5	-
	Dibromobiphenyl	<5	<5	<5	<5	<5	-
	Tribromobiphenyl	<5	<5	<5	<5	<5	-
	Tetrabromobiphenyl	<5	<5	<5	<5	<5	-
	Pentabromobiphenyl	<5	<5	<5	<5	<5	-
	Hexabromobiphenyl	<5	<5	<5	<5	<5	-
	Heptabromobiphenyl	<5	<5	<5	<5	<5	-
	Octabromobiphenyl	<5	<5	<5	<5	<5	-
	Nonabromobiphenyl	<5	<5	<5	<5	<5	-
	Decabromobiphenyl	<5	<5	<5	<5	<5	-
	<b>Sum of detected PBBs</b>		<50	<50	<50	<50	<50
PBDEs	Monobromodiphenyl ether	<5	<5	<5	<5	<5	-
	Dibromodiphenyl ether	<5	<5	<5	<5	<5	-
	Tribromodiphenyl ether	<5	<5	<5	<5	<5	-
	Tetrabromodiphenyl ether	<5	<5	<5	<5	<5	-
	Pentabromodiphenyl ether	<5	<5	<5	<5	<5	-
	Hexabromodiphenyl ether	<5	<5	<5	<5	<5	-
	Heptabromodiphenyl ether	<5	<5	<5	<5	<5	-
	Octabromodiphenyl ether	<5	<5	<5	<5	<5	-
	Nonabromodiphenyl ether	<5	<5	<5	<5	<5	-
	Decabromodiphenyl ether	<5	<5	<5	<5	<5	-
	<b>Sum of detected PBDEs</b>		<50	<50	<50	<50	<50

TEC\_WUX\_F\_25.05E - Rev. 00 2021-06-24



**2.3 POLYBROMINATED BIPHENYLS (PBBs) AND POLYBROMINATED DIPHENYL ETHERS (PBDEs) CONTENT**

Test Method: With reference to EN 62321-6:2015, extracted by toluene and analyzed by Gas Chromatography and Mass Spectrometer (GC-MS). [Reporting Limit : 5 mg/kg]

Test Item		Result(s) [mg/kg]	RoHS Requirement [mg/kg]
		146	
PBBs	Monobromobiphenyl	<5	-
	Dibromobiphenyl	<5	-
	Tribromobiphenyl	<5	-
	Tetrabromobiphenyl	<5	-
	Pentabromobiphenyl	<5	-
	Hexabromobiphenyl	<5	-
	Heptabromobiphenyl	<5	-
	Octabromobiphenyl	<5	-
	Nonabromobiphenyl	<5	-
	Decabromobiphenyl	<5	-
	<b>Sum of detected PBBs</b>	<50	1000
PBDEs	Monobromodiphenyl ether	<5	-
	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	-
	<b>Sum of detected PBDEs</b>	<50	1000

Remark:

- "mg/kg" denotes milligram per kilogram
- "<" denotes less than

TEC\_WUX\_F\_25.05E - Rev. 00 2021-06-24


Test Report No.: 48.400.23.1087.01-00/18

Rev.: 00

Dated: 2023-11-10



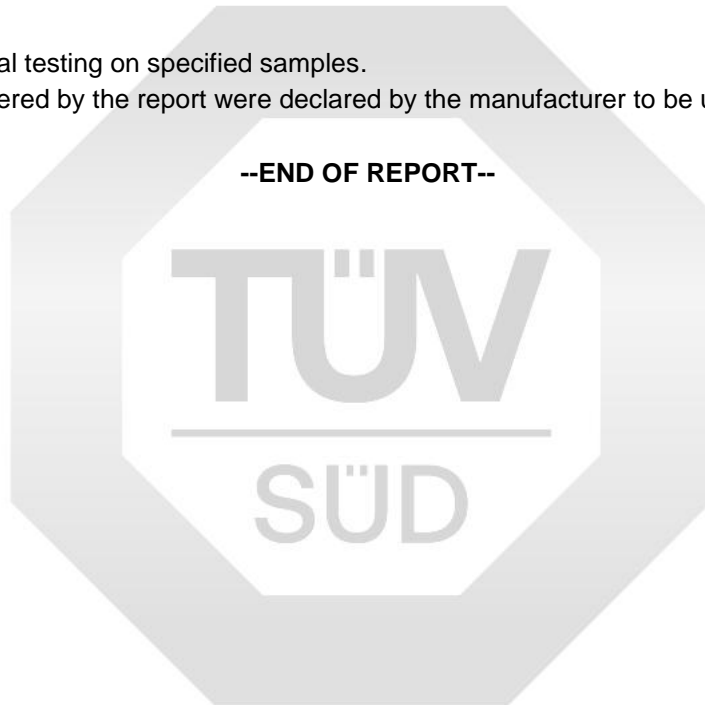
**APPENDIX I: Product Model**

Product: Meter	Test model: APM
	
Additional model: APM510, APM520, APM800, APM801, APM810, APM830, APM510-S, APM520-S, APM850	

**Remark:**

1. The report covers material testing on specified samples.
2. The tested materials covered by the report were declared by the manufacturer to be used on the additional model.

**--END OF REPORT--**



TEC\_WUX\_F\_25.05E - Rev. 00 2021-06-24