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TEST REPORT

Applicant: Shenzhen Xunlong Software CO.,Limited

Address: Room 219, Area 2, Block B, Mingyou Purchasing Center, Baoyuan Road,

Xixiang Street, Bao'an, Shenzhen, Guangdong, China

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

Product name: Development Board

Test model: OPi 4 LTS Serial model: OPi 4

Trade: Orange Pi

Manufacturer: Orange Pi Electronic Technology (Dongguan) Co., Ltd

Address: Beike Base of Production, Education & Research, No. 48, Changping

International Innovation Port, Huancheng North Road, Changping Town,

Dongguan City

Sample Received

Date: Mar. 07, 2022

Testing Period: Mar. 07, 2022~ Apr. 01, 2022

Test Requirement:

As specified by client, to determine the Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium (Cr(VI)), Polybrominated Biphenyls(PBBs), Polybrominated, Diphenyl Ethers(PBDEs), Bis-(2-ethylhexyl) Phthalate (DEHP), Benzyl butyl Phthalate (BBP), Dibutyl Phthalate (DBP) and Diisobutyl Phthalate(DIBP)contents in the submitted sample in accordance with RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.

Test Result(s): Please refer to the following page(s);

Test Method: Please refer to the following page(s);

Compiled by:	Dora	Reviewed by:	Elmor
Approved by:	Montelian	Date:	2022-10-14



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Test Result(s):

1.Shell

1.Shell					
Part No.	Part Description	Test Items	XRF Screening Result(mg/kg)	Chemical Test Result(mg/kg)	Conclusion
		Pb	OL	250	4
	<i>□</i> 4	Cd	_IN _	N.D.	
		Hg	BL S	1	
	Black metal	Cr(Cr(VI))	BL	/	
1	case with	Br(PBBs&PBDEs)	1		Pass
4	lettering	DIBP			•
		DEHP	1 7	1	
	1	BBP	/		^
		DBP	/		
		Pb	OL	397	
	•	Cd	IN	N.D.	
•	4	Hg	BL	/	کے ہا
	Black metal	Cr(Cr(VI))	BL	*/ *	
2	cover	Br(PBBs&PBDEs)			Pass
	covei	DIBP		/	4
	4	DEHP	/	1	
		BBP	/		
*		DBP	41	1	*
		Pb	BL -	/	- (10)
4		Cd	BL	1	7
	کے ہے	Hg	BL	Ø / *	
*	Black metal	Cr(Cr(VI))	IN 🕇	N.D.	*
3	screw	Br(PBBs&PBDEs)	/ /	/	Pass
	SCIEW	DIBP	1		
	* *	DEHP	1	T	
* 3		BBP	1 4	/	*
4	·	DBP	1	/	



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2. Antenna 1

## Pb BL /	Z. Antenna					4
Hg			Pb	BL	1	
Black casing tube Cr(Cr(VI)) BL			_ Cd	BL	1	- 4
## Black casing tube Bright Bright			Hg	BL	+ 13	
## Tube Br(PBs&PBJEs) BL	<u> </u>	District of the second	Cr(Cr(VI))	BL	/	4
BIBP	4	_	Br(PBBs&PBDEs)	BL	/	Pass
BBP		lube	DIBP	7	N.D.	
DBP		<u> </u>	DEHP	1	N.D.	
Pb	大	٠ ١	BBP		N.D.	,
Cd			DBP	2 /		
Hg			Pb	OL	26020#1	
Solden metal shell of interface		J 2	Cd	IN 🕢	44	
Shell of interface	A 3		Hg	BL 🔷	1	
Interface		Golden metal	Cr(Cr(VI))	BL	/	
DEHP	5	shell of	Br(PBBs&PBDEs)	/	1	Pass
BBP		interface	DIBP	1 /	41 4	
DBP			DEHP	/	/	<u> </u>
Pb			BBP	/	/	کے کا
Cd		<u></u>	DBP	/	1	
Hg	*	3	Pb	BL	201 / 20	
White plastic of interface Cr(Cr(VI))			Cd	BL	1	L (4)
6			Hg 🕹	BL	1	
Of interface Br(PBBs&PBDEs) BL / Pass DIBP / N.D. DBP / N.D. Pb OL 26500*1 Cd IN N.D. Hg BL / Cr(Cr(VI)) BL / Br(PBBs&PBDEs) / / DIBP / / DEHP / / DEHP / / BBP / /		White plactic	Cr(Cr(VI))	BL	1	
DIBP	6_		Br(PBBs&PBDEs)	BL	/	Pass
BBP		Offitenace	DIBP		N.D.	
DBP	4		DEHP	1	N.D.	4
Pb OL 26500#1 Cd IN N.D. Hg BL / Cr(Cr(VI)) BL / Br(PBBs&PBDEs) / / / DEHP / / BBP / /		* 3	BBP	1	N.D.	
7 Metal plug pin of interface	4		DBP	1 2		*
7			Pb	OL	26500 ^{#1}	
7			Cd	IN	N.D.	
7 Metal plug pin of interface Br(PBBs&PBDEs)		4	Hg	BL 🕢	1	
of interface Br(PBBs&PBDEs)	* 4	Metal plug pin		BL 🗳	/	*
DIBP / / / DEHP / / BBP / /	7 7			1	/	Pass
BBP / / /		Of interface	DIBP	1		4
		+ 4	DEHP	1		
DBP / /			BBP		/	↓
	7		DBP	/	/	



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					, ,
		Pb	OL	249	
		Cd	BL	/	
	4	Hg 🐣	BL	1	- 3
	Tip of day of	Cr(Cr(VI))	BL	+ /3	•
8	Tin solder of	Br(PBBs&PBDEs)	41 5	/	Pass
	interface	DIBP	1	/	
		DEHP	1	1	
	C+ 2	BBP	1		
木	3	DBP	.07 1	1	4
		Pb	BL	/	
	A.	Cd	BL	//-	
	4	Hg	BL Ø	1	
A -	Golden metal	Cr(Cr(VI))	BL 🔷	/	
9	contact pin of	Br(PBBs&PBDEs)	/	/	Pass
	antenna	DIBP	/	47	
	* 3	DEHP	1.0	71 2	
		BBP	7 (/	
		DBP	/	/	
		Pb	BL	41	
*		Cd	BL	1 4	
		Hg	BL	1	L K
	Plack plactic	Cr(Cr(VI))	BL	1	
10	Black plastic of antenna	Br(PBBs&PBDEs)	BL	1	Pass
~	or anterma	DIBP	AL	N.D.	4
		DEHP		N.D.	
4		BBP	/	N.D.	4
	* 3	DBP	/	N.D.	
~		Pb	BL 🔷	/	*
	7	Cd	BL	/	
		Hg	BL	1	
	Black wire	Cr(Cr(VI))	BL Ø	1	
<u> 11</u>	jacket of	Br(PBBs&PBDEs)	BL 🐣	/	Pass
	antenna	DIBP	1	N.D.	
		DEHP	/	N.D.	4
4	+ 4	BBP	1	N.D.	
		DBP	F 12	N.D.	4



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		6 7			
		Pb	BL	1	
4		Cd	BL	/	
	4	Hg 💛	BL	1	
	Silvery metal	Cr(Cr(VI))	BL	4 / 3	¥
12	mesh of	Br(PBBs&PBDEs)	*/ <	1	Pass
3	antenna	DIBP	1	/	
		DEHP		1	4
		BBP	1		•
*		DBP		1	4
		Pb	BL	/	
	A C	Cd	BL		2
		Hg	BL 🕢	1	
A -	Transparent	Cr(Cr(VI))	BL C	1	
13	wire jacket of	Br(PBBs&PBDEs)	BL	/	Pass
	antenna	DIBP	1	N.D.	
	<i>* * * * * * * * * *</i>	DEHP	1	N.D.	
		BBP		N.D.	.4
		DBP	/	N.D.	کے یا
		Pb	BL	L/ X	
		Cd	BL	X / >	
		Hg	BL	1	4
	Core of wire of	Cr(Cr(VI))	BL	1	7
14	transparent	Br(PBBs&PBDEs)	/	1 4	Pass
*	wire jacket	DIBP	1	/	A
		DEHP	201 2	1	
4		BBP	7 /		4
	* 3	DBP	1		

3. Antenna 2

		Pb	BL	1	
	4	Cd	BL 🕢		
٠.		Hg	BL 🗸	/	ملہ
	Plack plactic	Cr(Cr(VI))	BL	1	
15	Black plastic rod	Br(PBBs&PBDEs)	BL		Pass
	t loat	DIBP	1	N.D.	
		DEHP	+ 15	N.D.	<u>ا</u>
		BBP	/	N.D.	
		DBP	/	N.D.	5. 4



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	. 0220001007120	2 2	•		page o or oo
		Pb	BL	/	
4		Cd	BL	/	.0
•	4	Hg 🕌	BL	1	
	Disable disable	Cr(Cr(VI))	BL	A 12	•
16	Black plastic	Br(PBBs&PBDEs)	BL	/	Pass
	shell	DIBP	////	N.D.	
		DEHP	7	N.D.	
	A 2	BBP	1	N.D.	
*		DBP	<i>(</i>) 1	N.D.	,
		Pb	BL	/	
	A.	Cd	BL	//-	2
	4	Hg	BL Ø		
* -	Dia di minatia	Cr(Cr(VI))	BL 🔷	/	
17	Black plastic	Br(PBBs&PBDEs)	IN	N.D.	Pass
	support	DIBP	/	N.D.	
	* 7	DEHP	1 1	N.D.	
		BBP	/	N.D.	A ^C
		DBP	/	N.D.	کے یا
		Pb	BL	* / *	
大	3	Cd	BL		
		Hg	BL	1	L K
	Plack socing	Cr(Cr(VI))	BL	1	7 7
18	Black casing tube	Br(PBBs&PBDEs)	BL		Pass
4	lube	DIBP		N.D.	4
		DEHP		N.D.	
4		BBP		N.D.	7
	* 3	DBP	1	N.D.	
↓	44	Pb	BL -	/	太
	7	Cd	BL	1	
		Hg	BL	1,47	7
	Golden metal	Cr(Cr(VI))	BL Ø	*	
19	tube	Br(PBBs&PBDEs)		/	Pass
() 	lube	DIBP	1	/	
		DEHP	1		4
4	+ 4	BBP	1		
		DBP	+ 15	/	4



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		Pb	OL	249	
4		Cd	BL	/	
		Hg 🐣	BL	1	
	Tin solder of	Cr(Cr(VI))	BL	+ 12	•
20	golden metal	Br(PBBs&PBDEs)	A-1 <	/	Pass
	tube	DIBP	1	/	
		DEHP	7	1	
	A 2	BBP			
*		DBP	<i>A</i> 1	7	
		Pb	BL	/	
	4	Cd	BL	1	3
	4 3	Hg	BL Ø	1	
* -		Cr(Cr(VI))	BL C	1	
21	Black plastic	Br(PBBs&PBDEs)	BL	/	Pass
	nut of interface	DIBP	1	N.D.	
4	* 3	DEHP	1 1	N.D.	
		BBP	7	N.D.	
		DBP	/	N.D.	
		Pb	OL	95	
人		Cd	IN	18	
		Hg	BL	1	L K
	Silvery metal	Cr(Cr(VI))	BL	1	
22	shell of	Br(PBBs&PBDEs)	/	1 /	Pass
ہا۔	interface	DIBP	<u> </u>	/	ما
		DEHP	201 2	/ 4	
4		BBP	7		4
	ک الم	DBP	1	Ø 14	
4	1467	Pb	BL 🔷	/	*
	7	Cd	BL	/	
		Hg	BL	1,47	7
	Red rubber	Cr(Cr(VI))	BL	1	
23	ring of	Br(PBBs&PBDEs)	BL 🐣	/	Pass
	interface	DIBP	1	N.D.	
		DEHP	1	192	4
	L X	BBP	1	N.D.	
		DBP	- 1	N.D.	<u>ــــــــــــــــــــــــــــــــــــ</u>



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					, ,
	3	Pb	BL	1	
		Cd	BL	/	
		Hg 🐣	BL	1	
	VA United Salandin	Cr(Cr(VI))	BL	+ 13	
24	White plastic	Br(PBBs&PBDEs)	BL	/	Pass
	of interface	DIBP	////	N.D.	
		DEHP	1	N.D.	
		BBP		N.D.	
大	4	DBP	<i>A</i> 1	N.D.	,
		Pb	BL	/	
	4	Cd	BL	//-	
	4 3	Hg	BL Ø	1	
A 3		Cr(Cr(VI))	BL C	1	
25	Metal plug pin	Br(PBBs&PBDEs)	1	/	Pass
	of interface	DIBP	1	1	
	* 3	DEHP	1	41 2	
		BBP		/	
		DBP	/	/	
		Pb	BL	11	7
从		Cd	BL	1 /	
	D	Hg	BL	/	~L
	Brown	Cr(Cr(VI))	BL	1	> >
26	translucent	Br(PBBs&PBDEs)	BL	1	Pass
4	leather of antenna	DIBP	کے لیام	N.D.	A -
	antenna	DEHP	191 2	N.D.	
4		BBP	7	N.D.	
	<u>بر ک</u>	DBP	1	N.D.	
*		Pb	BL 🔷	/	太
	4	Cd	BL	/	
		Hg	BL	1,47	
	Silvery metal	Cr(Cr(VI))	BL 🕢	1	
27	mesh of	Br(PBBs&PBDEs)	A 1 4	/	Pass
Ø 4	antenna	DIBP	1	/	
		DEHP	/		5
	+ 4	BBP	1	-/	
		DBP	F 12	/	



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		Pb	BL	/	
4"		Cd	BL	1	
•	4	Hg 💛	BL	1	- 4
	Transparent	Cr(Cr(VI))	BL	4 13	·
28	wire jacket of	Br(PBBs&PBDEs)	BL	1	Pass
3	antenna	DIBP	1	N.D.	
	4 4	DEHP		N.D.	
		BBP		N.D.	
*		DBP		N.D.	4
		Pb	BL	/	
		Cd	BL		4
		Hg	BL 🕢		
A 3	Core of wire of	Cr(Cr(VI))	BL 🔷	1	
29	transparent	Br(PBBs&PBDEs)	1	/	Pass
	wire jacket	DIBP	/		
	* 4	DEHP		1	
		BBP	7	/	_
		DBP	/	/	

4. PCBA

				<u> </u>	
		Pb	BL	1	J
		Cd	BL	1	
		Hg	BL	1	
~		Cr(Cr(VI))	BL	1	4
30	Blue PCB	Br(PBBs&PBDEs)	N N	N.D.	Pass
4		DIBP		N.D.	
	* 3	DEHP	1	N.D.	
~		BBP	1	N.D.	*
	7	DBP		N.D.	
		Pb	BL	1,47	
	A 350	Cd	BL 🕢		
A- A		Hg	BL BL	/	4
0 4	Silvery metal	Cr(Cr(VI))	BL	1	
31	shell of USB	Br(PBBs&PBDEs)	1	147	Pass
	interface 1	DIBP	1	-/	
		DEHP	+ 14	/	4
		BBP	/	/	
		DBP	1	VY	5 4



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		Pb	BL	/	
		Cd	BL	/	
· ·	4	Hg 💛	BL	1	
	White plastic	Cr(Cr(VI))	BL	4 / 3	•
32	of USB	Br(PBBs&PBDEs)	BL	/	Pass
	interface 1	DIBP	1	N.D.	
		DEHP	7	N.D.	
		BBP	1	N.D.	
*	4	DBP	.07 1	N.D.	
		Pb	BL	/	
	A.	Cd	BL	/ <u>/</u>	
	J. 2	Hg	BL Ø		
A 3	Metal plug pin	Cr(Cr(VI))	BL 🔷	/	
33	of USB	Br(PBBs&PBDEs)	/	/	Pass
	interface 1	DIBP	1	1	
	* 3	DEHP	1.0	71 2	
		BBP		/	.4
		DBP	/	/	
		Pb	BL	L/ X	
*		Cd	BL	1 4	
		Hg	BL	1	~L
	Silvery metal	Cr(Cr(VI))	BL	1	
34	shell of cable	Br(PBBs&PBDEs)	/	1	Pass
٠,	interface	DIBP		/	ملم
		DEHP	201 2	/	
4		BBP	7 /		4
	* *	DBP	1	Ø 14	
		Pb	BL 🔶	/	太
	7	Cd	BL	/	
	_	Hg	BL	1,47	4
	Black plastic	Cr(Cr(VI))	BL Ø	1	
35	of cable	Br(PBBs&PBDEs)	IN S	N.D.	Pass
	interface	DIBP	1	N.D.	
		DEHP	/	N.D.	4
4	+ *	BBP	1	N.D.	
		DBP	- 1	N.D.	^



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	3	Pb	BL	/	
		Cd	BL	/	
*		Hg 🐣	BL	1	
	Metal plug pin	Cr(Cr(VI))	BL	+ 13	•
36	of cable	Br(PBBs&PBDEs)		/	Pass
350	interface	DIBP		/	
		DEHP	1	1	
		BBP	1		
*		DBP			
		Pb	BL	/	
		Cd	BL		
	C+ 21.	Hg	BL		
A - 2	Vallow LED of	Cr(Cr(VI))	BL	1	
37	Yellow LED of cable interface	Br(PBBs&PBDEs)	BL	/	Pass
	Cable interface	DIBP	/	N.D.	
	* 3	DEHP	1.0	N.D.	
		BBP	7 (-)	N.D.	
		DBP	/	N.D.	
		Pb	BL	41	
人		Cd	BL	1 /	
		Hg	BL	/	L .
	Crass LED of	Cr(Cr(VI))	BL	1	
38	Green LED of cable interface	Br(PBBs&PBDEs)	BL	1 7	Pass
4	cable interface	DIBP	کے لیار	N.D.	4
		DEHP	191 2	N.D.	
4		BBP	7	N.D.	
	4 3	DBP	1	N.D.	
↓		Pb	BL 🔶	/	太
	4	Cd	BL	/	
		Hg	BL	1	4
	Motel sin of	Cr(Cr(VI))	BL Ø	1	
39	Metal pin of	Br(PBBs&PBDEs)	J 1 4	/	Pass
	cable interface	DIBP	1	1,4	
		DEHP	/		4
	+ 4	BBP	1	71	
		DBP		/	4



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	0220001007120	2 4			page 12 01 00
	3	Pb	BL	1	
		Cd	BL	1	
•		Hg 🐣	BL	1	
	Silvery metal	Cr(Cr(VI))	IN	N.D.	•
40	shell of USB	Br(PBBs&PBDEs)	4-1	/	Pass
	interface 2	DIBP	1	/	
		DEHP	1	1	
		BBP	1		
*		DBP		1	4
		Pb	BL	/	
	. A	Cd	BL	<u>/</u>	
	Ct 21	Hg	BL		
* 3	Blue plastic of	Cr(Cr(VI))	BL 🔷	/	
41	USB interface	Br(PBBs&PBDEs)	IN	N.D.	Pass
	2	DIBP	1	N.D.	
	* 2	DEHP	1	N.D.	
		BBP		N.D.	
		DBP	/	N.D.	
		Pb	BL	*/	
*		Cd	BL		
		Hg	BL	1	~ <
	Metal plug pin	Cr(Cr(VI))	BL	1	
42	of USB	Br(PBBs&PBDEs)	/	1	Pass
	interface 2	DIBP		1	4
		DEHP		/	
4		BBP			
	* 3	DBP	1		
~		Pb	BL 🔷	/	*
		Cd	BL	/	
		Hg	BL	1	
	Black plastic	Cr(Cr(VI))	BL Ø	1	
43	of DC5V	Br(PBBs&PBDEs)	IN A	N.D.	Pass
0 4	interface	DIBP	1	N.D.	
		DEHP	1	N.D.	4
	+ &	BBP	1	N.D.	
		DBP	F 15	N.D.	~



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					. •
		Pb	BL	/	
		Cd	BL	/	
V	C:h com com a tol	Hg 🐣	BL	1	
	Silvery metal	Cr(Cr(VI))	BL	+ /3	
44	contact pin of DC5V	Br(PBBs&PBDEs)	*/ \$	/	Pass
	interface	DIBP	1	/	
	interrace	DEHP	1	1	
	C+ 2	BBP	1		
*	3	DBP	.07 1	7	
		Pb	BL	/	
	L.	Cd	BL	/ /	
	d 2	Hg	BL Ø	1	
* -	Metal plug pin	Cr(Cr(VI))	BL C	/	
45	of DC5V	Br(PBBs&PBDEs)	1	/	Pass
	interface	DIBP	/		
	* 3	DEHP	1	41 3	
		BBP	7	/	
		DBP	/	/	
		Pb	BL	AL /	
人		Cd	BL	1 7	
		Hg	BL	/	L K
	Silvery metal	Cr(Cr(VI))	IN	N.D.	X 4
46	shell of	Br(PBBs&PBDEs)	/	1 7	Pass
٨_	Type-C interface	DIBP		/	ملہ
	interrace	DEHP	201 2	/	
4		BBP	7		4
	<u>لا</u>	DBP	1	Ø 14	
A L	76	Pb	BL 🔶	/	*
		Cd	BL	/	
		Hg	BL	1,47	4
	Black plastic	Cr(Cr(VI))	BL	1	
47	of Type-C	Br(PBBs&PBDEs)	BL 💍	/	Pass
	interface	DIBP	1	N.D.	
		DEHP	/	N.D.	4
	+ *	BBP	1	N.D.	
		DBP	- 1	N.D.	<u>ــــــــــــــــــــــــــــــــــــ</u>



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					1.13.
		Pb	BL	1	
4		Cd	BL	/	
•	4	Hg 💛	BL	1	- 3
	Metal plug pin	Cr(Cr(VI))	BL	+ 12	•
48	of Type-C	Br(PBBs&PBDEs)	*/ \$	/	Pass
	interface	DIBP	1	/	
		DEHP	/	1	
	J	BBP	1		
*	3	DBP	-0 1	7	4
		Pb	BL	/	
	A.	Cd	BL	<u>//</u>	
		Hg	BL Ø	1	
* -	Silvery metal	Cr(Cr(VI))	BL 🔷	/	
49	shell of HDMI	Br(PBBs&PBDEs)	/	/	Pass
	interface	DIBP	/	47	
	A 250	DEHP	1.47	71 2	
		BBP	7 /2	/	
		DBP	/	/	
		Pb	BL	1	
\tag{\tau}		Cd	BL	1 4	
		Hg	BL	/	L K
	Black plastic	Cr(Cr(VI))	BL	1	
50	of HDMI	Br(PBBs&PBDEs)	BL	1	Pass
٨_	interface	DIBP		N.D.	*
		DEHP		N.D.	
4		BBP	7	N.D.	7
	<i>*</i>	DBP	/	N.D.	
		Pb	BL -	/	¥
		Cd	BL	/	
		Hg	BL	1	
	Metal plug pin	Cr(Cr(VI))	BL		
51	of HDMI	Br(PBBs&PBDEs)		/	Pass
	interface	DIBP	/	/	40
		DEHP	/	147	4
	+ *	BBP	1		
		DBP	F 12	/	L



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					. 9
		Pb	BL	1	
		Cd	BL	/	
		Hg 🕌	BL	1	
	Dia Malastia	Cr(Cr(VI))	BL	+ 13	
52	Black plastic	Br(PBBs&PBDEs)	BL	/	Pass
	of AV interface	DIBP	////	N.D.	
		DEHP	7	N.D.	
	A 2	BBP		N.D.	
大	3	DBP	<i>A</i> 1	N.D.	,
		Pb	BL	/	
	L.	Cd	BL	/ /	
	A 3	Hg	BL Ø	1	
_ _	Golden metal	Cr(Cr(VI))	BL C	1	
53	contact pin of	Br(PBBs&PBDEs)	1	/	Pass
	AV interface	DIBP	1	1	
	* 300	DEHP	1	41 2	
. 3		BBP		/	
		DBP	/	/	
		Pb	BL	1	
*		Cd	BL	XV / A	
		Hg	BL	1	.L .K
	District the second	Cr(Cr(VI))	BL	1	7
54	Black rubber	Br(PBBs&PBDEs)	BL	1 7	Pass
٠,	sleeve of MIC	DIBP	<u> </u>	N.D.	ملہ
		DEHP	201 2	363	
4.		BBP	7 /	N.D.	4
	<u>ک</u> کہ ک	DBP	1	N.D.	
4	160	Pb	BL 🔷	/	*
		Cd	BL	/	
		Hg	BL	1,47	4
	Manageles	Cr(Cr(VI))	BL Ø	1	
55	Microphone	Br(PBBs&PBDEs)	BL 🐣	/	Pass
	body of MIC	DIBP	1	N.D.	
		DEHP	/	N.D.	4
	+ ×	BBP	1	N.D.	
		DBP	F 15	N.D.	4



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					. •
		Pb	BL	1	
		Cd	BL	/	
		Hg 🕌	BL	1	- 4
	Dia Malastia	Cr(Cr(VI))	BL	* 13	
56	Black plastic	Br(PBBs&PBDEs)	ALIN C	N.D.	Pass
	of pin header	DIBP	1	N.D.	
		DEHP	1	N.D.	
	4 3	BBP		N.D.	
太		DBP	<i>4</i> 1	N.D.	
		Pb	BL	/	
	4	Cd	BL	1/2	
	4 3	Hg	BL Ø	1	
* -		Cr(Cr(VI))	BL	1	
57	Metal plug pin	Br(PBBs&PBDEs)	1	1.	Pass
	of pin header	DIBP	1		
	* Z	DEHP	1.0	41 3	
		BBP		/	
		DBP	/	/	
	*	Pb	BL	AL / A	
*		Cd	BL	1 4	
		Hg	BL	1	<
4	Silvery metal	Cr(Cr(VI))	BL	1	1 4
58	shell of	Br(PBBs&PBDEs)	/	1	Pass
٠,ـ	U1000chip	DIBP		/	علم ا
		DEHP	101 2	/	
4,		BBP	7 1		4
	ک ہہ	DBP	1	7	
٠ــــــــــــــــــــــــــــــــــــــ		Pb	BL 🗲	/	*
	7	Cd	BL	/	
		Hg	BL	1.40	
		Cr(Cr(VI))	BL .	1	
59	Green PCB of	Br(PBBs&PBDEs)	BL 🐣	/	Pass
	U1000chip	DIBP	/	N.D.	
		DEHP	/	N.D.	
	L &	ВВР	1	N.D.	
		DBP	F 15	N.D.	ا ا
				1	



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		Pb	BL	1	
4		Cd	BL	/	
•		Hg Hg	BL	1	
	Okis of	Cr(Cr(VI))	BL	A 13	
60	Chip of	Br(PBBs&PBDEs)	BL	/	Pass
	U1000chip	DIBP	////	N.D.	
		DEHP	7	N.D.	
	A 2	BBP		N.D.	
*		DBP		N.D.	
		Pb	BL	/	
	4	Cd	BL	1/2	31
	4 5	Hg	BL Ø	1	
*		Cr(Cr(VI))	BL	1	
61	Grey colloid of	Br(PBBs&PBDEs)	BL	/	Pass
	U1000chip	DIBP	1	N.D.	
	* 3	DEHP	1.0	N.D.	
		BBP		N.D.	
		DBP	/	N.D.	
		Pb	BL	AL /	
		Cd	BL	1 7	
		Hg	BL	/	.L .K
	Black plastic	Cr(Cr(VI))	BL	1	7
62	of GP102	Br(PBBs&PBDEs)	BL	1 7	Pass
4	interface	DIBP	کی لیام	N.D.	٨-
		DEHP	191 2	N.D.	
4		BBP	7 /	N.D.	4
	<u>لا</u>	DBP	1	N.D.	
~	160	Pb	BL 🔷	/	太
		Cd	BL	/	
		- Hg	BL	1.47	4
	White plastic	Cr(Cr(VI))	BL Ø	1	
63	of GP102	Br(PBBs&PBDEs)	BL 🐣	/	Pass
	interface	DIBP	1	N.D.	
		DEHP	1	N.D.	4
	+ ×	BBP	1	N.D.	
		DBP	- 1	N.D.	ال م
			_		7.3



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rtoport rto	.07				
	3	Pb	BL	1	
4		Cd	BL	1	
_	4	Hg 🐣	BL	1	
	Metal plug pin	Cr(Cr(VI))	BL	+ 12	•
64	of GP102	Br(PBBs&PBDEs)	4-1	/	Pass
	interface	DIBP	1	/	
		DEHP	1	1	
		BBP	1		
大		DBP		1	4
		Pb	IN	333	
	. A	Cd	IN	N.D.	
	Ct 21	Hg	BL		
火 3	Caldan mastal	Cr(Cr(VI))	BL 💎	1	
65	Golden metal shell	Br(PBBs&PBDEs)	/	/	Pass
	Sileii	DIBP	/	1	
	* 3	DEHP	1 4	41 4	
		BBP	/-	/	
		DBP	/	/	
		Pb	BL	1	
*		Cd	BL	1 4	
		Hg	BL	/	L <
		Cr(Cr(VI))	BL	1	
66	White plastic	Br(PBBs&PBDEs)	BL	1	Pass
~		DIBP		N.D.	4
		DEHP		N.D.	
4		BBP		N.D.	
	* 3	DBP	1	N.D.	
*		Pb	BL -	/	大
		Cd	BL	/	
		Hg	BL	1,47	
1	Silvery metal	Cr(Cr(VI))	IN Ø	N.D.	
67	shell of TF	Br(PBBs&PBDEs)		/	Pass
0 4	interface	DIBP	1	/	
		DEHP	/	147	4
	+ &	BBP	1		
		DBP	F 15	/	~



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Black plastic of TF interface Black plastic Cr(Cr(VI))	Pass
Hg	Pass
Black plastic of TF interface Br(PBBs&PBDEs) BL	Pass
Black plastic of TF interface Br(PBBs&PBDEs) BL	Pass
68 of TF interface Br(PBBS&PBDES) BL	Pass
DIBP	
BBP	
DBP	
Pb BL /	
Cd BL /	4
Hg BL /	
Metal plug pin of TF interface Cr(Cr(VI)) BL	
Br(PBBs&PBDEs)	>
of TF interface Br(PBBS&PBDES)	
DIBP	Pass
BBP	
DBP	
Pb BL	
Cd BL / Hg BL /	
Black plactic Hg BL /	
Rlack plactic	
Black plastic Cr(Cr(VI))	
button of SW1	
70 Br(PBBs&PBDEs) Bl /	Pass
light touch switch DIBP / N.D.	~
DEHP / N.D.	
BBP / N.D.	
DBP / N.D.	
Pb BL /	*
Cd BL /	
Silvery motel Hg BL /	
Silvery metal Silvery metal Cr(Cr(VI)) IN N.D.	
Stiell of SW1 Br(PBBs&PBDEs) / / /	Pass
switch DIBP / /	
DEHP /	
BBP / -/	
DBP / /	



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	.477				
		Pb	BL	1	
4		Cd	BL	/	
•	4	Hg 🐣	BL	1	
	Black plastic	Cr(Cr(VI))	BL	大 / 3	•
72	of SW1 light	Br(PBBs&PBDEs)	BL	/	Pass
3	touch switch	DIBP	1	N.D.	
		DEHP	1	N.D.	
		BBP	1	N.D.	
大	3	DBP		N.D.	4
		Pb	BL	/	
		Cd	BL		
		Hg	BL Ø		
大。	Metal shrapnel	Cr(Cr(VI))	IN C	N.D.	
73	of SW1 light	Br(PBBs&PBDEs)	/	/	Pass
	touch switch	DIBP	/	1	
A.		DEHP	1	71 4	
کے ج		BBP	/	/	<u> </u>
		DBP -	/	/	کے یا
		Pb	BL	4/ 4	
4		Cd	BL	X" / Z	
		Hg	BL	/	L (
		Cr(Cr(VI))	BL	1	
74	Chip 1 of SMD	Br(PBBs&PBDEs)	BL	1 7	Pass
*		DIBP	<u> </u>	N.D.	4
		DEHP		N.D.	
4		BBP	7 /	N.D.	4
	<u> </u>	DBP	1	N.D.	
*		Pb	BL -	/	*
		Cd	BL	/	
		Hg	BL	1.47	
	L	Cr(Cr(VI))	BL Ø	1	
75	Chip 2 of SMD	Br(PBBs&PBDEs)	BL 🐣	/	Pass
(\ \ \ \		DIBP	1	N.D.	
		DEHP	/	N.D.	4
	+ 4	BBP	1	N.D.	
		DBP	+ 15	N.D.	4



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					. •
		Pb	BL	/	
4		Cd	BL	/	
•		Hg 🐣	BL	1	- 4
		Cr(Cr(VI))	BL	+ 12	•
76	Chip 3 of SMD	Br(PBBs&PBDEs)	BL	/	Pass
		DIBP	1	N.D.	
		DEHP	1	N.D.	
		BBP	1	N.D.	
*	3	DBP	.07 1	N.D.	,
		Pb	BL	/	
		Cd	BL	<u>/</u>	
	J 2	Hg	BL Ø	1	
A -		Cr(Cr(VI))	BL 🔷	/	
77	SMD capacitor	Br(PBBs&PBDEs)	BL	/	Pass
		DIBP	/	N.D.	
	A 200	DEHP	1.47	N.D.	
		BBP	<i>Y</i> (2)	N.D.	
		DBP	/	N.D.	
		Pb	BL	1	
人		Cd	BL	1 /	
		Hg	BL	/	L K
		Cr(Cr(VI))	BL	1	\(\)
78	SMD resistor	Br(PBBs&PBDEs)	BL	1 7	Pass
ملہ		DIBP	کی لیام	N.D.	4
		DEHP	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	N.D.	
4		BBP	7	N.D.	4
	4 3	DBP	1	N.D.	
^	140	Pb	BL 🔷	/	*
		Cd	BL	/	
		Hg	BL	1,40	
	4	Cr(Cr(VI))	BL	1	
7 9	SMD diode	Br(PBBs&PBDEs)	BL 😜	/	Pass
		DIBP	1	N.D.	
		DEHP	/	N.D.	4
	+ *	BBP	1	N.D.	
		DBP	F 12	N.D.	<u>ــــــــــــــــــــــــــــــــــــ</u>



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		6 2			
		Pb	BL	/	
4		Cd	BL	/	
	4	Hg Hg	BL	1	- 4
	Silver envetele	Cr(Cr(VI))	BL	4 / 3	¥
80	Silver crystals of SMD	Br(PBBs&PBDEs)	BL	1	Pass
	OI SIVID	DIBP	1	N.D.	
	4	DEHP	1	N.D.	4
		BBP	1	N.D.	
大	3	DBP		N.D.	4
		Pb	BL	/	
	A.	Cd	BL	<u>/</u>	21
	J 2	Hg	BL Ø	1	
* -		Cr(Cr(VI))	BL 🔷	1	
81	SMD LED	Br(PBBs&PBDEs)	BL	/	Pass
		DIBP	/	N.D.	
	* 3	DEHP	1.47	N.D.	
		BBP	7 (N.D.	
		DBP	/	N.D.	ک کا
		Pb	BL	1	
*		Cd	BL	<i>2</i> / 4	
		Hg	BL	1	L (
	,	Cr(Cr(VI))	BL	1	7
82	SMD audion	Br(PBBs&PBDEs)	BL	1	Pass
~		DIBP		N.D.	A+
		DEHP		N.D.	
4		BBP	/	N.D.	4
	* 3	DBP	1	N.D.	
~		Pb	BL 🔷	/	本
		Cd	BL	/	
		Hg	BL	1,40	7
	Plack on ratals	Cr(Cr(VI))	BL	7	
83	Black crystals of SMD	Br(PBBs&PBDEs)	BL 🐣	/	Pass
	טו טואט	DIBP	1	N.D.	
		DEHP	/	N.D.	4
	+ 4	BBP	1	N.D.	
		DBP	<u> </u>	N.D.	4
					7



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					. 9
-0		Pb	BL	1	
4.		Cd	BL	1	
*		Hg 🐣	BL	1	- 3
		Cr(Cr(VI))	IN	N.D.	
84	SMD inductor	Br(PBBs&PBDEs)	A-1 <	/	Pass
		DIBP	1	/	
		DEHP	1	1	
	A 2	BBP			
大		DBP	<i>A</i> 1	1	,
		Pb	BL	/	
	A.	Cd	BL	/ /	
	J 2	Hg	BL Ø	1	
A -	Silvery metal	Cr(Cr(VI))	BL 🔷	/	
85	cover of SMD	Br(PBBs&PBDEs)	/	/	Pass
	PCBA	DIBP	/	1	
	* 3,	DEHP	1	41 2	
		BBP		/	.4
		DBP	/	/	
		Pb	BL	1	
大		Cd	BL	1 /	
		Hg	BL	/	L
	Green PCB of	Cr(Cr(VI))	BL	1	
86	SMD PCBA	Br(PBBs&PBDEs)	BL	1	Pass
ملہ	SIVID PCBA	DIBP	کے لیام	N.D.	٨-
		DEHP		N.D.	
4		BBP	7	N.D.	
	* 3	DBP	1	N.D.	
A	140	Pb	BL 🔶	/	*
	7	Cd	BL	/	
		Hg	BL	1	
	Chin of CMD	Cr(Cr(VI))	BL	1	
87	Chip of SMD	Br(PBBs&PBDEs)	BL 🗢	/	Pass
	PCBA	DIBP	1	N.D.	
		DEHP	/	N.D.	4
	+ 4	BBP	1	N.D.	
		DBP	F 15	N.D.	4



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		Pb	BL	1	
4		Cd	BL	/	
, and the second	4	Hg 💛	BL	1	- 4
	Crystal	Cr(Cr(VI))	BL	A 13	•
88	oscillator of	Br(PBBs&PBDEs)	BL	/	Pass
	SMD PCBA	DIBP		N.D.	
	4	DEHP	_	N.D.	
		BBP		N.D.	
*		DBP		N.D.	4

Note: 1.N.D. = Not Detected (<MDL) MDL = Method Detection Limit 1mg/kg = 1ppm =0.0001% /=Not Regulated or Not Applicable

2. BL = Below the XRF screening limit

IN = Further chemical test will be conducted when the screening result inconclusive
OL = Further chemical test will be conducted while the result is above the screening limit.

3. For metal samples, the sample is negative for Cr(VI), if the Cr(VI) concentration is less than 0.10 µg/cm², the coating is considered a non- Cr(VI) based coating;

The sample is positive for Cr(VI), if the Cr(VI) concentration is greater than 0.13 μ g/cm², The sample coating is considered to contain Cr(VI);

The result is considered to be inconclusive, the Cr(VI) concentration is between the 0.10 μ g/cm² and 0.13 μ g/cm², unavoidable coating variations may influence the determination. Because the storage condition and production date of the sample are not known, the test results of the sample of hexavalent chromium can only represent the state of hexavalent chromium in the samples tested.

Remark:

- 1. When conducting the test for PBBs&PBDEs, XRF was introduced to screen Br Exclusively; When conducting the test for Hexavalent Chromium, XRF was introduced to screen Chromium exclusively.
- 2. According to the client's statement, the material of the sample(s) comply with RoHS directive 2011/65/EU Annex III Exemption, Corresponding exemption clause:
- #1 6(c) Lead is exempted as copper alloy containing up to 4% lead by weight .
- 3. Part No.8, 20 Resubmitted Date: Mar. 30, 2022.



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Test Method:

When screening results exceed the XRF screening limit in IEC 62321-3-1: 2013, further use of chemical methods are required to test the Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr(VI)), Polybrominated Biphenyls(PBBs) and Polybrominated Diphenyl Ethers(PBDEs)

1. XRF screening limits in mg/kg for regulated elements according to IEC 62321-3-1:2013

Element	Limit of IEC 62321-3-1:2013 (mg/kg)				
Element	Polymers	Metals	Composite material		
Pb	BL≤(700-3σ) <x< td=""><td>BL≤(700-3σ) <x< td=""><td>BL≤(500-3σ)<x< td=""></x<></td></x<></td></x<>	BL≤(700-3σ) <x< td=""><td>BL≤(500-3σ)<x< td=""></x<></td></x<>	BL≤(500-3σ) <x< td=""></x<>		
	<(1300+3σ)≤OL	<(1300+3σ)≤OL	<(1500+3σ)≤OL		
Cd	BL≤(70-3σ) <x <<="" td=""><td>BL≤(70-3σ)<x <<="" td=""><td>LOD <x<(150+3σ)< td=""></x<(150+3σ)<></td></x></td></x>	BL≤(70-3σ) <x <<="" td=""><td>LOD <x<(150+3σ)< td=""></x<(150+3σ)<></td></x>	LOD <x<(150+3σ)< td=""></x<(150+3σ)<>		
	(130+3σ) ≤OL	(130+3σ) ≤OL	≤OL		
Hg	BL≤(700-3σ) <x< td=""><td>BL≤(700-3σ)<x< td=""><td>BL≤(500-3σ)<x< td=""></x<></td></x<></td></x<>	BL≤(700-3σ) <x< td=""><td>BL≤(500-3σ)<x< td=""></x<></td></x<>	BL≤(500-3σ) <x< td=""></x<>		
	<(1300+3σ)≤OL	<(1300+3σ)≤OL	<(1500+3σ)≤OL		
Cr	BL≤(700-3σ)< X	BL≤(700-3σ)< X	BL≤(500-3σ)< X		
Br	BL≤(300-3σ)< X		BL≤(250-3σ)< X		

Note: BL= Below the XRF screening limit OL=Over the XRF screening limit X=The symbol"X"marks the region where further investigation is necessary. 3σ =The reproducibility of analytical instruments LOD= Detection limit

2. Chemical Test

Test item	Test method	Test instrument	MDL	Limit [△]
Lead (Pb)	IEC 62321-5:2013 Ed.1.0	ICP-OES	10 mg/kg	1000 mg/kg
Cadmium (Cd)	IEC 62321-5:2013 Ed.1.0	ICP-OES	10 mg/kg	100 mg/kg
Mercury (Hg)	IEC 62321-4:2013+AMD1:2017	- ICP-OES	10 mg/kg	1000 mg/kg
Hexavalent	IEC 62321-7-1:2015 Ed.1.0		0.10 μg/cm ²	4.000 mm m/l cm
Chromium(Cr(VI))	IEC 62321-7-2:2017 Ed.1.0	UV-Vis	8 mg/kg	1000 mg/kg
Polybrominated Biphenyls(PBBs)	IEC 62321-6:2015 Ed.1.0	GC-MS	100 mg/kg	1000 mg/kg
Polybrominated, Diphenyl Ethers(PBDEs)	IEC 62321-6:2015 Ed.1.0	GC-MS	100 mg/kg	1000 mg/kg
Bis-(2-ethylhexyl) Phthalate (DEHP)	IEC 62321-8:2017 Ed.1.0	GC-MS	50 mg/kg	1000 mg/kg
Benzyl butyl Phthalate (BBP)	IEC 62321-8:2017 Ed.1.0	GC-MS	50 mg/kg	1000 mg/kg
Dibutyl Phthalate (DBP)	IEC 62321-8:2017 Ed.1.0	GC-MS	50 mg/kg	1000 mg/kg
Diisobutyl Phthalate (DIBP)	IEC 62321-8:2017 Ed.1.0	GC-MS	50 mg/kg	1000 mg/kg

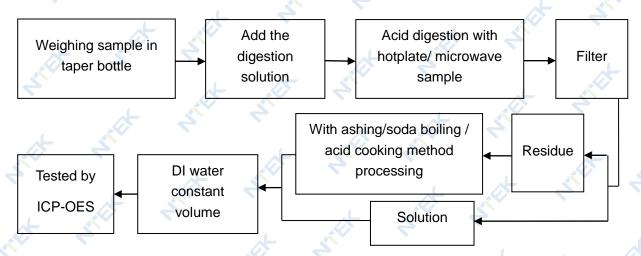
Shenzhen NTEK Testing Technology Co., Ltd. | Address: 1/F, Building E, Fenda Science Park, Sanwei Community, Xixiang Street, Bao'an District, Shenzhen 518126 P.R.China. | Tel: +86-755-2320 0050 | http://www.ntek.org.cn Complaint Tel: +86-755-23218370 | Complaint E-mail: complaint@ntek.org.cn



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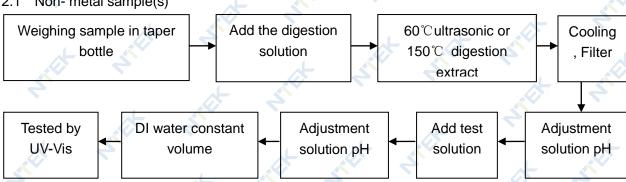
Test Flow:

Lead(Pb), Cadmium(Cd), Mercury (Hg)



2. Hexavalent Chromium(Cr(VI))

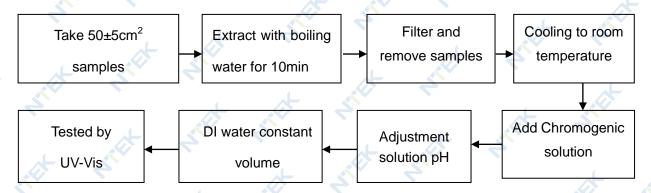
Non- metal sample(s)



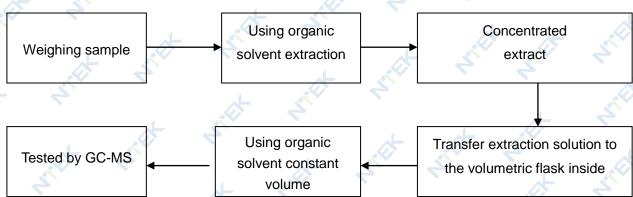


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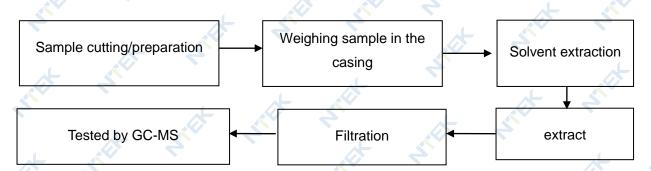
2.2 Metal sample(s)



3. PBBs/ PBDEs



4. Phthalates





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Sample photo(s):



Fig.1



Fia 2



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Fig.3



Fig.4



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Fig.5



Fig.6



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Fig.7



Fig.8



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Fig.9



Fig.10



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Fig.11

****End of Report****

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