



# AppGuard

## AppGuard Acceptance Test Report

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INCA Internet Global Business QA

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### AppGuard Test Information

App : WinZO

Company : WinZO

Date : 2022/9/8

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## 1. Tested App Info

<b>App Name</b>	WinZO.WinZO.ID.And		
<b>Company</b>	WinZO		
<b>Country</b>	ID		
<b>Market</b>	Google Play Store		
<b>AppGuard Ver</b>	[22.01.12] Platform:11.3 Build:ef.71.22a (4a.ed)		
<b>Applied Security Policy</b>	<b>Security Option ( Critical Event )</b>		
		Kill Option	Enable Function Option
	APK Integrity (China)	OFF	OFF
	APK Integrity	ON	ON
	App Optimized DEX File Integrity	ON	ON
	System Library Integrity	ON	ON
	App Library Integrity	ON	ON
	Security Engine Integrity	ON	ON
	Java Debugging Detection	ON	ON
	Memory Tampering	ON	ON
	Android Framework File Integrity	OFF	ON
	Unity Assembly Integrity	ON	ON
	Memory Scanning Detection	ON	ON
	System App File Integrity	ON	ON
	Running Bad App Detection	ON	ON
	Native Debugging Detection	ON	ON
	Macro Suspicious Behavior Detection	OFF	ON
	SpeedHack Detection	ON	ON
	<b>Security Option ( Warning Event )</b>		
	Emulator Detection	ON	ON
	Installed Bad App Detection	OFF	OFF
	Rooting Detection	ON	ON
	USB Debugging Flag Detection	OFF	OFF
	Update Modules Integrity	ON	ON
	App Virtualization Detection	ON	ON

<b>Applied Options</b>	<b>Options</b>	Jar-sign with Sample certification Key	<input type="checkbox"/>
		Unity Assembly Encryption (with IL2CPP support) : Loaded IL2CPP Dumping Protection	<input checked="" type="checkbox"/>
		DEX Protection	<input checked="" type="checkbox"/>
		SO Library Encryption : liblogger.so : libjsc.so : libjsinspector.so : libreactnativeutilsjni.so : libbspatch.so : libreactnativejni.so : libjscexecutor.so : libreactnativeblob.so : libfbjni.so : libobjectbox-jni.so : libconscript_jni.so : libreactperfloggerjni.so	<input checked="" type="checkbox"/>
		Sensitive Anti-Debugging Support	<input checked="" type="checkbox"/>
	<b>Customize</b>	Assigning to the specified AppStore-Only	<input type="checkbox"/>
		Enable DEX Splitting	<input checked="" type="checkbox"/>
		Disable displaying security violation message	<input type="checkbox"/>
		Disable Anti-Attachment Barrier	<input checked="" type="checkbox"/>

## 2. Purpose of Test

1. Check that the AppGuard security function is normally applied to the app
2. Secure compatibility through executing app on multiple Android devices after security is applied
3. Response to troubleshoot when AppGuard failure occurs

### 3. AppGuard Function Test List

No	Check List	Test Result	
		Pass / Fail	Note
3-1	Confirm that AppGuard option is normally applied	Pass	N/A
3-2	Check normal detection when using basic hack tool	Warning	Emulator
3-3	Check message normal occurrence after hack found	Pass	N/A
3-4	Sending logs to AppGuard LogServer and checking version information	Pass	N/A
3-5	Confirm that server authentication is normally applied	N/A	Not applied

### 4. AppGuard's Compatibility Test List

No	Check List	Test Result	
		Pass / Fail	비고
4-1	Runs app normally and play to check (20 minutes or more)	Pass	
4-2	[Home button] → Relaunch [Recent application list] while running the app	Pass	
4-3	[Home button] → Restart [Home screen] while running the app	Pass	
4-4	[Lock button] → Re-run [Unlock] while running the app	Pass	
4-5	[Back button] → Close the app → Re-run [Home screen] while running the app	Pass	
4-6	[Back button] → Close the app → Re-launch [List of recent applications] while running the app	Pass	
4-7	[Home button] → Close the app [Recent applications list] → Relaunch [Home screen] while running the app	Pass	
4-8	[Home button] → Close the app [List of recent applications] while running the app	Pass	
4-9	[Back button] while running the app → Confirm the app is closed	Pass	
4-10	Check change of in-app environment settings	Pass	
4-11	Check in-app chat input	Pass	
4-12	Check using of the in-app store.	Pass	
4-13	Check for normal audio (sound) output	Pass	
4-14	Check my account linkage (Google, Facebook, LINE, etc.)	N/T	Not Supported
4-15	Check other items (app loading speed, CPU usage, content items in the app, etc.)	Pass	

## 5. Tested Devices Info

No	Device	Model	OS	Installation	Update	*Play	*Check List No / Note
5-1	P8 Max	DAV-701L	6.0	Pass	Pass	Pass	
5-2	P9 Plus	VIE-L09	6.0	Pass	Pass	Pass	
5-3	Galaxy A5	SM-A500S	6.0.1	Pass	Pass	Pass	
5-4	OPPO R9S	R9S	6.0.1	Pass	Pass	Pass	
5-5	TORQUE G02	KYV35	6.0.1	Pass	Pass	Pass	
5-6	Galaxy ON 7	SM-G610K	7.0	Pass	Pass	Pass	
5-7	Galaxy Note 5	SM-N920S	7.0	Pass	Pass	Pass	
5-8	ARROWS M04	ARROWS M04	7.1.1	Pass	Pass	Pass	
5-9	KINDLE FIRE	FIRE HD 10	FIRE OS: 7.3.1	Pass	Pass	Pass	
5-10	Galaxy A8 2016	SM-A810S	8.0	Pass	Pass	Pass	
5-11	Zenfone Max M1	ASUS_X00PD	8.0	Pass	Pass	Pass	
5-12	Galaxy S8	SM-G950N	9.0	Pass	Pass	Pass	
5-13	Essential	PH-1	9.0	Pass	Pass	Pass	
5-14	Galaxy Note 9	SM-N960N	10.0	Pass	Pass	Pass	
5-15	Galaxy S20 Plus	SM-G986N	11.0	Pass	Pass	Pass	
5-16	Redmi Note 10	M2101K7AG	11.0	Pass	Pass	Pass	
5-17	Galaxy Tab S6 Lite	SM-P615N	11.0	Pass	Pass	Pass	
5-18	Galaxy A21	SC-42A	11.0	Pass	Pass	Pass	
5-19	ARROWS Be3	F-02L	11.0	Pass	Pass	Pass	
5-20	Galaxy S10 5G	SM-G977N	12.0	Pass	Pass	Pass	
5-21	Pixel 3a XL	G020C	9.0	Pass	Pass	Pass	
5-22	P12 Pro	TB-Q706F	12L	Pass	Pass	Pass	
5-23	Pixel 5a	G4S1M	12L	Pass	Pass	Pass	
5-24	Pixel 4 XL	G020J	13.0	Pass	Pass	Pass	

\*Check List No: During testing 'Check List' on page 3, once special issue occurs, number is input from 'Check List' No

## 6. Tested Emulator Info

No	Device	Model	OS	Installation	Update	*Play	*Check List No / Note
6-1	BlueStacks 4 64bit	4.280.4.4002	7.1.2	Pass	Pass	Pass	
6-2	BlueStacks 5 64bit	5.9.100.1075	7.1.2	Pass	Pass	Pass	
6-3	LDPlayer 4 64bit	4.0.83	7.1.2	Pass	Pass	Pass	
6-4	Nox 64bit	7.0.3.5	7.1.2	Pass	Pass	Pass	
6-5	Memu 64bit	8.0.3	7.1.2	Pass	Pass	Pass	
6-6	Peak	1.2.1	6.0.1	Pass	Pass	Pass	

## 7. Vaccine Compatibility Test

No	Vaccine's Name	Vaccine's Version	Device	OS	Detection	*Check List No / Note
7-1	Norton 360	v5.31.0.220323007	Essential	9.0	Pass	
7-2	McAfee	v6.7.0.374	Galaxy S8	9.0	Pass	
7-3	Trend Micro	v12.15.0.4019	Galaxy Note 9	10.0	Pass	
7-4	AVG	v6.48.2-510581-823cb829d0	Pixel 2 XL	11.0	Fail	4-15/Suspicious app detection (same as original apk)
7-5	Bitdefender	v3.3.166.1970	Galaxy S20 Plus	11.0	Pass	
7-6	Kaspersky	v11.84.4.7744	Galaxy Tab S6 Lite	11.0	Pass	
7-7	Avira	v7.12.6	Galaxy S10 5G	12.0	Pass	
7-8	G-Data	v27.4.617b1ea	Galaxy S10 5G	12.0	Pass	
7-9	F-Secure	v19.0.0021030	Pixel 3a XL	9.0	Pass	
7-10	ALYacM	v2.1.47.9	Lenovo Tab P12 Pro	12L	Pass	
7-11	Ahnlab V3	v3.3.1.2	Pixel 5a	12L	Pass	
7-12	AVAST	v6.48.1-510579-6740db4852	Pixel 4 XL	13.0 beta	Fail	4-15/Suspicious app detection (same as original app)

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## 8. Summary of Test Result

Issue and Special Note
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N/A

SUMMARY
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1. When App is running on an emulator, AppGuard detects an emulator after selecting and running the in-app games. It will be fixed in the new version of AppGuard v.[22.01.13] so that it can be detected right after the App is launched even when the in-app game is not running.
  2. To enhance security for your App, we recommend that you enable 'Installed Bad Application Detection' feature to avoid any attempts such as using a hacktool through bypassing rooting. Using this feature will improved the security of your App.
  3. 'Suspicious app detection' occurs in AVG, AVAST Anti-virus environment(same as original app). Please check again whether you can install and run the App properly in that environment after deploying this App in live service later.
  4. The 'App Library Integrity' policy is disabled in live service. Please note that the issue related to this option has been resolved before, and this Acceptance test was tested with the 'App Library Integrity' policy' feature activated(Kill ON) using an internal tool.
  4. Check that the game is running normally except the above information.
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