

011 010110 101 01011101 010 001 011010

01 110 101 011 011 0



Android Malware Detection Test (Enterprise)

2021 Dec

••• Celebrating Technology Innovation

TABLE OF CONTENTS

P1

Background

P2

Test Process &
Test Software

P3

Tested Result

P4

Test Summary &
Monthly Award

P5

Information

P6

Disclaimer

Chap.1 Background

Android is a mobile operating system developed by Google. It is based on a modified version of the Linux kernel and other open source software, and is designed primarily for touchscreen mobile devices such as smartphones and tablets. In addition, Google has further developed Android TV for televisions, Android Auto for cars, and Wear OS for wrist watches, each with a specialized user interface. Variants of Android are also used on game consoles, digital cameras, PCs and other electronics.

Android's smartphone share will hover with around 85% throughout the forecast. Volumes are expected to grow at a five-year compound annual growth rate (CAGR) of 1.7% with shipments approaching 1.36 billion in 2022. Android maintained its position as the leading mobile operating system worldwide in June 2021, controlling the mobile OS market with a close to 73 percent share. Google's Android and Apple's iOS jointly possess over 99 percent of the global market share. Overall this is a positive sign that consumers are seeing the benefits of moving to a slightly more premium device than they likely previously owned.

Android security software can protect you away from the following malware activities (all are actual cases):

1. Send messages to "premium service" SMS numbers that cost extra money.
2. Send your personal information to unknown parties.
3. Turn your phone into a part of a botnet so others can execute commands remotely for nefarious purposes, such as spam, DDOS attack, and more.
4. Non-authorized persons may monitor your phone calls and text messages.
5. Open you to blackmail, if something embarrassing can be found and sent elsewhere.
6. Trick you into entering financial information, such as account number, birth date, and more.
7. Even stuff on your PC if you connect your PC to your smartphone.

Chap.2 Test Process & Test Software

Several android mobility devices will be prepared and backup images are created then.

Detailed process is as follows:

1. 1915 malware samples and bulks of clean android applications (453 different installers) are prepared and delivered to the internal storage of devices. The malware were collected in multiple sources (including China region), clean apps were taken from Google AppStore and other legitimate app stores.
2. Install a security product on the physical phone device with default configuration.
3. Update the security product and perform a full scan against the malware set and clean applications. Malware detection rate and false positive status will be recorded.
4. Restore the backup image and repeat the three steps above.
5. Platform: PixelExperience Android 10 on Redmi Note 4X
6. Test date: December, 2021

Vendor	Software	Version
<i>ESET</i>	<i>ESET Endpoint Security for Android</i>	<i>v 3.0.13.0-0</i>
<i>Kaspersky</i>	<i>Kaspersky Endpoint Security</i>	<i>10.33.11</i>
<i>Sophos</i>	<i>Sophos Intercept X for Mobile</i>	<i>9.7.3464</i>
<i>Trend Micro</i>	<i>Trend Micro Mobile Security for Enterprise</i>	<i>9.8.1.3087</i>

Chap.3 Tested Result (The test results are shown on the following tab)

Vendor	Total Samples	Missed Samples	Detected Samples	Detection Rate	False Positive Counts	Total Score
<i>ESET</i>	<i>1915</i>	<i>0</i>	<i>1915</i>	<i>100.000%</i>	<i>0</i>	<i>100.000</i>
<i>Kaspersky</i>	<i>1915</i>	<i>0</i>	<i>1915</i>	<i>100.000%</i>	<i>0</i>	<i>100.000</i>
<i>Sophos</i>	<i>1915</i>	<i>0</i>	<i>1915</i>	<i>100.000%</i>	<i>0</i>	<i>100.000</i>
<i>Trend Micro</i>	<i>1915</i>	<i>2</i>	<i>1913</i>	<i>99.896%</i>	<i>0</i>	<i>99.896</i>

Remarks: Final Score= (Detection %) *100-0.1*FP

Chap.4 Test Summary & Monthly Award

During the test, we had helped some vendors fix the crashes that we discovered and then we also had verified and confirmed the fixes.

Monthly Award

2021.12	
<i>ESET</i> <i>Kaspersky</i> <i>Sophos</i> <i>Trend Micro</i>	5 Star Monthly Award 2021 December

Chap.5 Rights Statement

Unless otherwise stated, Testing Ground Labs (hereinafter referred to as “TG Labs”), owns the copyright of this report. Without prior written consent of TG Labs, no other unit or individual shall have the right to alter the contents of this report and use it for commercial purposes by any means (including but not limited to transmission, dissemination, reproduction, excerpt, etc.).

Unless otherwise stated, TG Labs shall be the rightful owner of the trademarks and service marks used in the report. Any action of infringing upon the legal rights of TG Labs is prohibited. TG Labs shall have the right to pursue the legal liability of the infringer in accordance with the law.

Chap.6 Disclaimer

Note that before using the report issued by Testing Ground Labs (hereinafter referred to as “TG Labs”), please carefully read and fully understand the terms and conditions of this disclaimer (hereinafter referred to as “Disclaimer”), including the clauses of exclusion or restriction of the liabilities of TG Labs and the limitations of the rights of users. If you have any objection to the terms and conditions of this Disclaimer, you have the right not to use this report, the act of using this report will be regarded as acceptance and the recognition of the terms and conditions of this Disclaimer, so by using this report, you agree to the following terms and conditions:

1. The report is provided by TG Labs, all the contents contained herein are for reference purposes only, and will not be regarded as the suggestion, invitation, or warranty for readers to choose, purchase or use the products mentioned herein. TG Labs will not guarantee the absolute accuracy and completeness of the contents of the report; you should not rely solely on this report, or substitute the viewpoints of the report for your independent judgment. If you have any queries, please consult the relevant departments of the State, and then choose, purchase or use products by your independent judgment.
2. The contents contained herein is the judgment made by TG Labs to the product characteristics as of the date the report was published. In the future, TG Labs will have the right to issue new reports which contain different contents or draw different conclusions, but TG Labs has no obligation or responsibility to update the original report or inform readers of the update of it. In this case, TG Labs will bear no responsibility for readers’ loss for using the original report.

3. The report may contain links to other websites, which are provided solely for the readers' convenience. The contents of the linked websites are not any part of this report. Readers shall assume the risks and losses or bear the costs when visiting such websites. TG Labs will not guarantee the authenticity, completeness, accuracy, and legitimacy of the contents of such websites (including but not limited to advertising, products or other information). TG Labs does not accept any liability (direct or indirect) for readers' damages or losses arising from their clicking on or viewing such websites to obtain some information, products, or service.
4. TG Labs may have or will have a business relationship with the companies which produce the products mentioned in this report, but have no obligation to notify readers about it, it doesn't matter if there has already been, or there will be such business relationship in the future.
5. The act of readers' receiving this report is not regarded as the establishment of the business relationship between readers and TG Labs, so there is no customer relationship existing. TG Labs does not accept any legal liability as the readers' customer.
6. The products which are used to be tested as samples by TG Labs are bought through the official channels and legal means, so the report is proper for products bought through the same, not for products bought through unofficial channels and/or illegal means. Therefore, it's the users buying such products that will be responsible for any risk or loss arising there from. TG Labs will not have or accept any liability whatsoever for any such risk or loss.
7. Some trademarks, photos or patterns owned by units or individuals will probably be used in this report, if you think your legal right and interests are infringed, please contact TG Labs promptly, TG Labs will handle the matter as quickly as possible.

TG Labs reserves the rights to interpret, modify, and update the Disclaimer.

Attorney: Zhejiang CongDian Law Firm