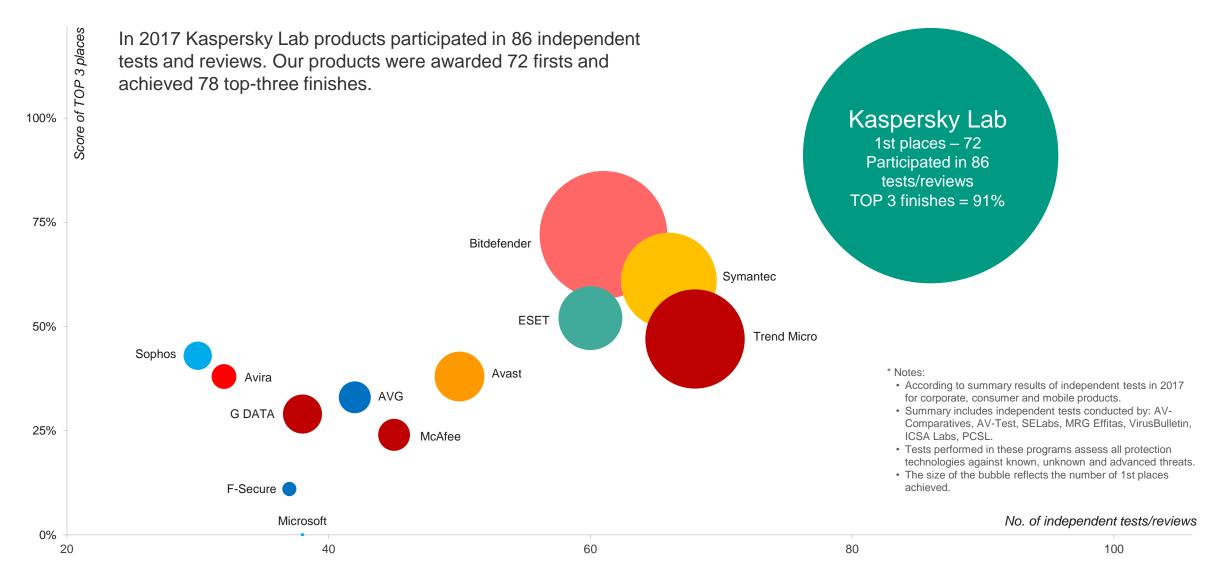
# MOST TESTED. MOST AWARDED. KASPERSKY LAB PROTECTION.\*





# The TOP metric reflects the percentage of times a vendor placed in the top-three in independent tests over a calendar year.

Among the security vendors participating in the TOP3 measurements are: Avast, AVG, Avira, BitDefender, ESET, F-Secure, G DATA, Kaspersky Lab, McAfee, Microsoft, Sophos, Symantec and Trend Micro. A complete list of participating vendors appears at the end of this document.

Only those who participate in 35% or more of the tests have their results represented in the chart.

Participation in any test affects two counters for each vendor: TOP3 and Participation.

- 1. Every time a vendor ranks in the first three places or wins an award in a test, a TOP3 counter is awarded incrementally. Counters are not increased for placing outside the top three. In cases where several vendors share the same place in a test, the next vendor's place is calculated as "number of higher ranked vendors + 1". For instance, 1,2,2,4 is possible, but 1,2,2,3 is not. It means that in the sequence "1,2,2,4" only the three first vendors get their TOP3 counters incremented. There is an exception for tests with 'levels' as a final result. In this case, several vendors can receive 'Level1', 'Level2', etc., with the three first levels incrementing the vendor's Participation counter in TOP3. Individual products can independently and separately increment a vendor's TOP3 counter.
- 2. A vendor's Participation counter is incremented each time one of its products participates in a test/review/overview (regardless of the final result).

The final result (TOP3 score) is calculated by dividing the number of TOP3 counters by the number of vendor's participation counters to give an overall percentage placement.

The database for submitting 2017 scores was frozen on February 1 2018, with no option to add test results or reviews after this date. .

	No of tests entered	No of TOP3 places	Score of TOP3 places (%)	No of 1 <sup>st</sup> places
Kaspersky	86	78	91%	72
Bitdefender	61	44	72%	36
Symantec	66	40	61%	27
Trend Micro	68	32	47%	28
ESET	60	31	52%	18
Avast	50	19	38%	14
AVG	42	14	33%	9
Sophos	30	13	43%	8
Avira	32	12	38%	7
G Data	38	11	29%	11
McAfee	45	11	24%	9
F-Secure	37	4	11%	4
Microsoft	38	0	0%	0



Tests assessed performance against various types of malware, including advanced threats. False positives were also measured.

#### SPECIALIZED THREATS

#### **RANSOMWARE**

- MRG-Effitas. 360 Degree Assessment & Certification
- MRG-Effitas. Comparative Efficiency Assessment of Enterprise Security Suites against In-the-wild Ransomware
- SELabs. Enterprise Anti-Virus Protection Test
- · SELabs. Home Anti-Virus Protection Test
- SELabs, Small Business Anti-Virus Protection Test
- AV-TEST. Bi-Monthly Certification: Consumer and Business
- AV-Comparatives. Whole Product Dynamic "Real-World" Test
- AV-Comparatives. Malware Protection Test

#### **EXPLOITS**

- · SELabs. Enterprise Anti-Virus Protection Test
- · SELabs. Home Anti-Virus Protection Test
- SELabs. Small Business Anti-Virus Protection Test
- AV-Comparatives. Business Security Test

#### FINANCIAL MALWARE

- MRG-Effitas. Online Banking/Browser Security Certification
- MRG-Effitas. 360 Degree Assessment & Certification

#### **APT**

• ICSA. Advanced Threat Detection Certification

#### **PHISHING**

· AV-Comparatives. Anti-Phishing Test

#### **DEDICATED TESTS**

#### ANDROID TESTS

- AV-Comparatives. Mobile Security Test & Review
- AV-Comparatives. Android Test
- AV-TEST. Android Mobile Security Products Test
- MRG-Effitas. Android 360 AV Efficacy Test
- PCSL. Mobile Security Product Test for Android

#### MAC TESTS

- AV-Comparatives. Mac Security Test & Review
- AV-TEST, Mac Detection & Performance Test

#### REMEDIATION TESTS

- AV-Comparatives. Malware Removal Test
- AV-TEST. Remediation Product Test
- AV-TEST. Comparative Remediation Test

#### **REAL-WORLD TESTS**

- AV-Comparatives. Whole Product Dynamic "Real-World" Protection Test
- AV-TEST Bi-Monthly Certification Consumer and Business
- SELabs. Enterprise Anti-Virus Protection Test
- · SELabs. Home Anti-Virus Protection Test
- · SELabs. Small Business Anti-Virus Protection Test

### **TESTS ON A STATIC COLLECTION**

• Virus Bulletin. VB100 Comparative Review and Certification

## **FALSE POSITIVES (FP)**

· All the tests mentioned above include FP measurements



# The following tests were performed in 2017 and used to calculate the metric:

#### **AV-COMPARATIVES**

#### · Product of the Year

This award is given to the vendor that reaches the highest awards in an entire year's testing cycle, involving the following tests:

Malware Protection Test (MPT as known as Online File Detection Test + files execution) + Whole Product Dynamic Test (WPDT) + Malware Removal Test + Performance Test. According to AV-Comparatives' rules, in cases where two or more vendors receive the same maximum score, the award goes to the vendor that has not previously received it, or was the last one of the participants who received it previously. The seal is counted as a first place in the TOP3 metric.

Vendors that were nominated for, but did not receive, the 'Product of the Year' award are given the 'Outstanding Product' rank. This counts as a second place in the TOP3 metric.

Vendors that achieve at least 90 points across the entire test cycle are awarded the 'Top Rated' rank. This counts as a third place in the TOP3 metric. Vendors that fail to score any points in at least one test are excluded.

At the end of the year, Gold, Silver and Bronze medals are awarded for the best results in specific tests: FDT, WPDT, Performance, Malware Removal. As these results have already contributed to overall TOP3 metrics, the medals themselves do not count towards it.

Since 2015, only awards can contribute towards TOP3 counters in AV-Comparatives tests.

#### Malware Protection Test

The test consists of two parts: Detection Rate and False Positives. Products receive the following awards: "Advanced+", "Advanced", "Standard" or "Tested".

Only products with "Advanced+" gain an increment of TOP3 counters for a vendor.

### • WPDT (Whole Product Dynamic "Real-World" Protection Test)

The test lasts for five months using mainly current, visible, and relevant malicious websites/malware. Because all product components play a significant role in overall protection, results in this category are a good indicator of anti-malware product efficiency in real-world scenarios.

Products receive the following awards: "Advanced+", "Advanced", "Standard" or "Tested". Only products with "Advanced+" gain an increment of TOP3 counters for a vendor.

## Anti-Phishing Test

This test simulates a common situation: users relying on the antiphishing protection provided by their security products while browsing the web.

Only products that were certified gain an increment of TOP3 counters for corresponding vendors.

#### Android Test

This test evaluates protection capabilities of mobile security applications for Android in the Google Play Store.

Products achieving the highest three places, based on Protection Rate and False Positives, gain an increment of TOP3 counters for their vendors.

#### Mobile Security Test & Review

This review includes a malware protection test along with an overview of additional features (theft protection, battery consumption, etc.).

Products achieving the highest three places, based on Protection Rate and False Positives, gain an increment of TOP3 counters for their vendors.

#### Mac Security Test & Review

This review evaluates various Mac protection products against a product feature list and measures protection levels in categories such as Detection Rate on separate Mac and Windows-related malware sets and a False Positive level.

Products placing in the highest three positions based on Protection Rate gain an increment of TOP3 counters for their corresponding vendors.

#### Malware Removal Test

This eight-month-long test focuses on the malware removal/cleaning capabilities of security products, assessing their ability to disinfect a system successfully i.e. to remove malware and its leftovers from an already infected/compromised system.

Products receive the following awards: "Advanced+", "Advanced," "Standard" or "Tested". Only products with "Advanced+" gain an increment of TOP3 counters for a particular vendor.



#### Business Security Test

This test evaluates the protection efficiency of different business security products, including one calling themselves 'Next-Generation.' Test categories include detection rate on different malware sets, websites, exploits and false positives.

Prodicts that achieve at least 90% detection rate with no false positives are certified and gain an increment of TOP3 counters for the corresponding vendor.

#### Parental Control Test

This test evaluates the efficiency of security products designed to prevent children from visiting inappropriate websites. Only products that are certified gain an increment of TOP3 counters for their vendor.

### **AV-Test**

#### Best Protection Award Consumer and Business

This award is given for perfect results in the Protection category over the course of an entire year, during which bi-monthly certification takes place. Consumer and business-related products are assessed separately. Only products that receive this award gain a TOP3 counter increment for their vendor.

#### Best Performance Award Consumer and Business

This award is given for perfect results in the Performance category over the course of an entire year, during which bi-monthly certification takes place. Consumer and business-related products are assessed separately. Only products that receive this award gain a TOP3 counter increment for their vendor.

#### Best Usability Award Consumer and Business

This award is given for perfect results in the Usability category over the course of an entire year, during which bi-monthly certification takes place. Consumer and business-related products are assessed separately. Only products that receive this award gain a TOP3 counter increment for their vendor.

#### Best Repair Award

This award is given for perfect results in the Repair category over the course of an entire year, for integrated and dedicated Consumer products. Only products that receive this award gain a TOP3 counter increment for their vendor.

#### Best Android Security

This award is given for perfect results in the Android security testing over the course of a whole year. Only products that receive this award gain a TOP3 counter increment for the corresponding vendor.

#### • Bi-Monthly Certification: Consumer and Business

This year-long certification series consists of Consumer and Business segments, each divided into six separate, two-month-long tests. All participating products are evaluated and receive points in Protection, Performance and Usability categories. The sum of the points gained in each category makes the overall score; products placing in the top three have their TOP3 counters incremented.

#### Android Mobile Security Products Test

This year-long certification series is divided into six separate, month-long tests. All participating products are evaluated and receive points in categories of Protection, Usability (combined results in Performance and False Positives) and Features.

The sum of the points gained in each category makes the overall score; products placing in the top three have their TOP3 counters incremented.

#### Parental Control Test for Android, iOS & Windows

This test evaluates the efficiency of security products in preventing children from visiting unwanted web sites. Only products that were certified gain an increment of TOP3 counters for their corresponding vendors.

#### Comparative Remediation Test

This vendor-commissioned test evaluates capabilities of security products to remediate changes on the infected system.

Products placing in the highest three positions based on Remediation Rate gain an increment of TOP3 counters for their corresponding vendors.

#### Mac Detection & Performance test

This test evaluates various security protection products for Mac OS X. Based on Detection Rate, products that achieve the highest three places gain an increment of TOP3 counters for their vendors.



# SELabs (formerly known as Dennis Technology Labs)

- Enterprise Anti-Virus Protection Test
- Home Anti-Virus Protection Test
- Small Business Anti-Virus Protection Test

These quarter-long tests aim to compare the effectiveness of antimalware products provided by well-known security companies. The products were exposed to Internet threats that were live during the test period. This exposure was carried out in a realistic way, closely reflecting customer experience. The results reflect how products perform under real-life, customer-use-case scenarios, i.e. what happens when a user visits an infected website. The tests include a detection subtest and a false positive one.

Three products with the highest Accuracy scores (calculated as a combination of points of the two subsets) gain an increment of TOP3 counters for corresponding vendors.

### **MRG Effitas**

Online Banking/Browser Security certification <sup>1</sup>

This test assesses the efficiency of products against financial malware by implementing different test methodologies and scenarios: 'In The Wild' real financial malware sets, botnet environments, and simulations of different sensitive data interception techniques. Only products that successfully pass the first two steps receive the certification and gain a TOP3 counter increment for their yendors.

360 Assessment & Certification <sup>1</sup>

This test evaluates both the ability to block initial infection and time taken to detect and remediate malware on a compromised system. This test replaces the older "Time to Detect & Remediate Assessment" Test. Only products that receive certification gain an increment of TOP3 counters for their vendors.

 Comparative Efficiency Assessment of Enterprise Security Suites against In-the-wild Ransomware

This vendor-commissioned test evaluates the ability of products to detect and remediate ransomware on the infected system. Products with the highest Ransomware protection scores (which were calculated according to the ability of products to remediate the system and decrypt the files) gain increment of TOP3 counters for corresponding vendors.

Android 360 AV Efficacy Test

This test assesses the protection capabilities of mobile security applications to detect malware before its installation on the user devices. Three products with the highest Detection Rates gain an increment of TOP3 counters for corresponding vendors.

### **Virus Bulletin**

• VB100 Comparative Review and Certification

These tests are held every two months on operating systems Microsoft Windows 7 and Microsoft Windows 10 in parallel to evaluate different types of products. Each product that passes the certification gains an increment of TOP3 counter for the corresponding vendor.

### **ICSA Labs**

Advanced Threat Detection Certification

This test evaluates the efficiency of security solutions in detecting new and little-known threats while minimizing false positives.. Each product that passes the certification gains an increment of TOP3 counter for the corresponding vendor.

## **PCSL (PC Security Labs)**

Mobile Security Product Test for Android <sup>1</sup>

This test evaluates Detection Rate and False Positives of mobile products. Products achieving the highest three Final scores, based on Detection Rate and False Positives, gain an increment of TOP3 counters for their vendors.



<sup>&</sup>lt;sup>1</sup> Results for the fourth quarter were not taken into account in the TOP3 metrics as they had not been published by the time of the database freeze.

• 1E	Bornaria	• Enigma Software Group	• Intego	<ul> <li>Mobile Agency</li> </ul>	Rising	<ul> <li>Viettel Security</li> </ul>
AegisLab	BullGuard	• eScan	Invincea	MSecure Data Labs	SafeDNS	• VIPRE
AhnLab	• CA Uber Apps	• ESET	• IObit	• NANO	<ul> <li>Safer Networking</li> </ul>	<ul> <li>Watchdog</li> </ul>
Al Max Dev Labs	Carbon Black	• ESTsoft	<ul> <li>Iobit Mobile Security</li> </ul>	<ul> <li>NOAH Security</li> </ul>	Salfeld	<ul> <li>Webroot</li> </ul>
<ul> <li>AiDevLab</li> </ul>	Check Point	• Faronics	• JusProg	<ul> <li>nProtect</li> </ul>	Secucloud	<ul> <li>WeMakeItHappen</li> </ul>
Alibaba	Cheetah Mobile	Fast Track	• K7	NQ mobile	SecureTeen	<ul> <li>WhiteArmor</li> </ul>
Antiy Labs	• ClamXav	• FireEye	<ul> <li>Kaspersky Lab</li> </ul>	• NSHC	SentinelOne	<ul> <li>Witigo</li> </ul>
Apple	<ul> <li>Clearsight</li> </ul>	<ul> <li>Fortinet</li> </ul>	Kiddoware	<ul> <li>ONE App Limited</li> </ul>	Seqrite	• Wontok
ArcaBit	• Comodo	Fotoable	Kingsoft	Palo Alto	• Sophos	<ul> <li>Z Security Apps</li> </ul>
Ars Nova Systems	CompuClever	• F-Secure	KromTech	<ul> <li>Panda Security</li> </ul>	• STOPzilla	• Zemana
Avast	<ul> <li>ContentWatch</li> </ul>	• G Data	<ul> <li>Lavasoft</li> </ul>	<ul> <li>PC Pitstop</li> </ul>	<ul> <li>Super Security Tech</li> </ul>	<ul> <li>Zerospam</li> </ul>
<ul> <li>Avc Security</li> </ul>	<ul> <li>CrowdStrike</li> </ul>	<ul> <li>GO Security</li> </ul>	• Libra	• PCKeeper	Symantec	• Zilya!
• AVG	Cylance	Google	• LINE	• Pocao	• TeamViewer	• Zoner
Avira	<ul> <li>Cyphort</li> </ul>	Gpaddy	• LionMobi	• Pribno	• Tencent	
• Baidu	• CYREN	Green Booster	• Lookout	• ProtectWorks AntiVirus	• TGSoft	
Barracuda	• Defenx	• Heise	<ul> <li>Malwarebytes</li> </ul>	PSafe	Total Defense	
Bastiv	• Dr.Web	• Hi Dev Team	• McAfee	• Qihoo 360	Trend Micro	
Bitdefender	<ul> <li>DU Apps Studio</li> </ul>	<ul> <li>HitmanPro</li> </ul>	Microsoft	• Quarri	• TrustGo	
BitMedic	• Emsisoft	• IBM	Microworld	Quick Heal	Trustlook	
• BKAV	• EndGame	• Ikarus	Mobicip	<ul> <li>Qustodio</li> </ul>	TrustPort	