

Understanding the Contemporary Use of Vulnerability Disclosure in Consumer Internet of Things Product Companies



INTRODUCTION

What happens when someone discovers a security issue in a product? How do they tell a company about the problem and how does the problem get fixed? There are many security researchers in the hacking community who go through this process on a regular basis, but they often run into difficulties. So, what is the status for reporting vulnerabilities in Internet of Things products?

The subject of 'Vulnerability Disclosure' as it is known is an increasingly important topic, especially for providers of Internet-of-Things (IoT) products and solutions. To avoid unnecessary risk to both the providers and users of these offerings when security issues are found by external parties, providers should set expectations of a clear process for responding to reports of such issues and for managing the public disclosure of information regarding them.

The process should cover both the reporting of newly discovered security vulnerabilities to the product or service-providing organisation and the public announcement of security vulnerabilities by that organisation (usually following the release of a software patch, hardware fix, or other remediation).

The IoT Security Foundation (IoTSF) commissioned research to gain better visibility into the contemporary status of vulnerability disclosure practice in consumer companies providing connected products.

The variety of connected consumer products is both broad and diverse. Company websites analysed ranged from providers of connected speakers, to pet monitoring solutions, robots and even bed bug monitoring. One product was a precision-guided firearm allowing 'scope screen-sharing' functionality via a mobile application. The resultant list of manufacturers contained in this paper is not exhaustive but can be considered a gauge, representative of the global consumer IoT marketplace.

Our research results are presented in this paper together with a discussion on some of the finer points of detail and nuance. The core set of results is presented within this paper. The full dataset is publically available as open data on request.

This study and analysis was performed during August 2018.



STUDY AIM

The research sought to answer a fundamental question; how widely practised is vulnerability disclosure in the Consumer IoT product domain? As part of this, the study asked the following question at the company scale:

- Does the consumer IoT company have a dedicated channel for vulnerability disclosure?

METHOD

The target sample criteria were as follows:

- Consumer IoT products: Simply defined as Internet/network connected products that can be readily purchased through retail and utilised by non-technical users.
- Global Companies: the brands and manufacturers are typically international. The survey took into account products sold by major retailers across the world.
- Volume of the market: the coverage of the survey was such that the results may be considered representative of the global consumer IoT market as a whole.
- Company size: The results include a mix of companies contrasting brands and non-brands, mature vendors and start-ups, and companies both large and small.
- A key requirement was that products were available on the open market (at the time the research was conducted) and not prototypes or proof of concept (i.e. in volume production).

Some of the products under scrutiny were considered on the borderline for inclusion in this study – for example cloud services often support many consumer products and could be argued to be in scope, however for the purposes of this study they were omitted and the focus centred on the product itself. For this reason, the Android operating system software was considered in scope. Similarly Network Attached Storage (NAS) devices were also considered to be in scope, yet home routers were considered out of scope for this exercise.

We also considered whether we should test whether the advertised contact point for vulnerability disclosure was operational as part of the research. We decided against this as it would be inappropriate and likely trigger response mechanisms without reporting a real issue.

There are different types of vulnerability disclosure mechanisms defined and in use and we captured the different types that companies were using. Some companies use non-disclosure mechanisms to deal with security researchers, others use payment methods known as bug bounties to compensate researchers for discovered vulnerabilities and other companies use proxy services to handle disclosures and bug bounties on their behalf. Some companies have no mechanism in place for handling disclosures. Coordinated Vulnerability Disclosure (CVD) is a mechanism where the security and researcher will work together to fix an issue and then publicly issue both fix and a vulnerability report at the same time in order to minimise the potential harm to users of products.

We also captured data associated with the process. There are also different mechanisms used in the disclosure process for handling information. For example some companies will provide public encryption keys for researchers to protect information sent to them. The time for both the initial response to a researcher and the expected length of the process can vary considerably between companies.

It is common practice for some brands to offer products to market which are developed by a third party Original Design Manufacturer (ODM). Our research did not go as far as to study this domain as it can become complex and somewhat opaque.

Product Categories

Whilst our research focused on individual product manufacturing companies, it is important to note that many produce multiple types of consumer products varying from mobile phones to washing machines. Some companies choose to organise their disclosure schemes by a particular product category corresponding to the division of the company responsible (for example mobile phones or televisions). It should be noted that this may be confusing for security researchers and a common security contact for a company is preferable.

A complete list of product categories is contained in Appendix D. Some of the products crossed multiple categories, for example – camera products that were designed for security monitoring, but also used for monitoring pets or children. The majority of the products are classed as Smart Home products, with some in specific areas such as Pet Care, Garden or Health & Fitness.

For simplicity, drones were also excluded in this study as currently, many are not Internet-connected.



KEY FINDINGS AND SUMMARY RESULTS

Data Set

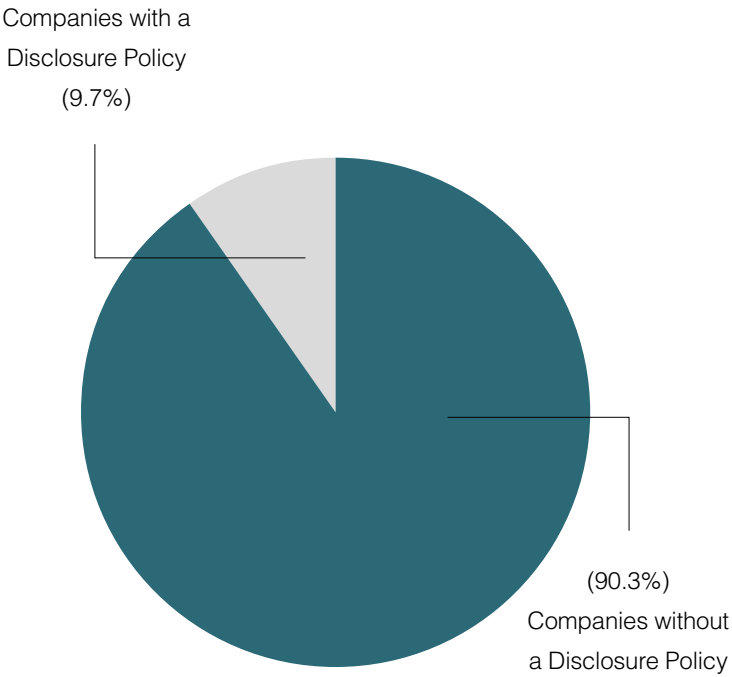
A total of 331 consumer product companies are included in the results. These companies are collectively responsible for hundreds, if not thousands of product lines, with many millions of products sold.

Data shown is rounded to the nearest decimal place.

Overall Finding

90.3% (299) of the consumer IoT product company data set have no form of public vulnerability disclosure policy, meaning that only 9.7% (32) have some form of a scheme available for researchers.

Breakdown of companies with/without a Public Disclosure Policy



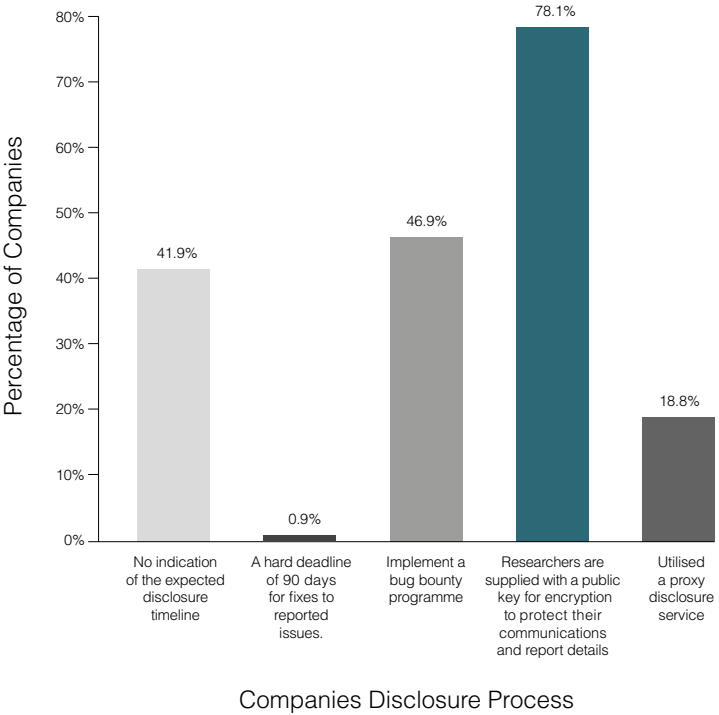
Disclosure Process Findings

Of those companies which had a disclosure policy:

- 41.9% (13) with disclosure policies gave no indication of the expected disclosure timeline.
- 0.9% (3) of the companies operated with a hard deadline of 90 days for fixes to reported issues.
- 46.9% (15) of policies also had a bug bounty programme. Two of these programmes were however by invitation only, so were not open for general contribution.
- 78.1% (25) of companies with policies supplied researchers with a public key for encryption to protect their communications and report details.
- 18.8% (6) of companies with policies utilised a proxy disclosure service (1.8% of total companies examined).

These are equally split between the proxy service companies BugCrowd and HackerOne.

Breakdown of Companies Disclosure Process



RESULTS DISCUSSION

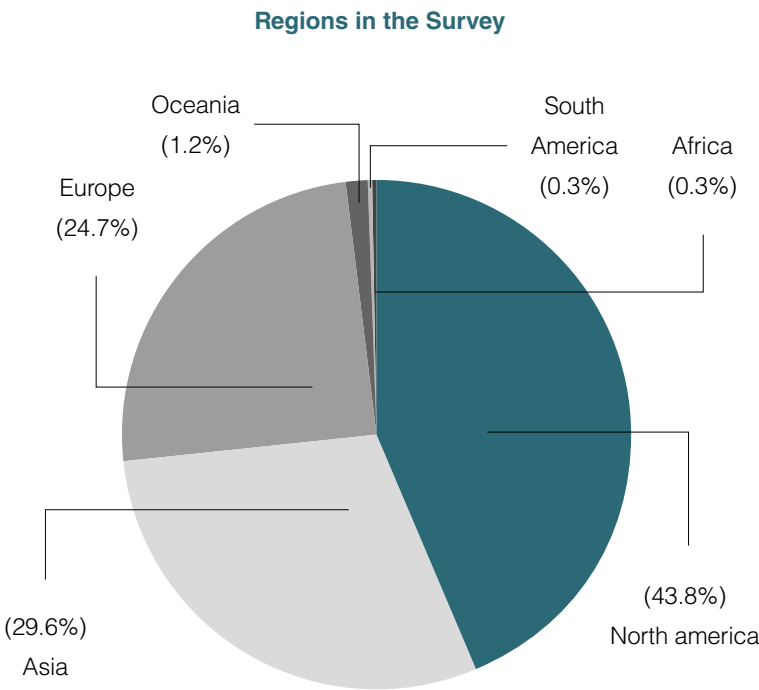
This section breaks down some of the results further.

Regional Differences

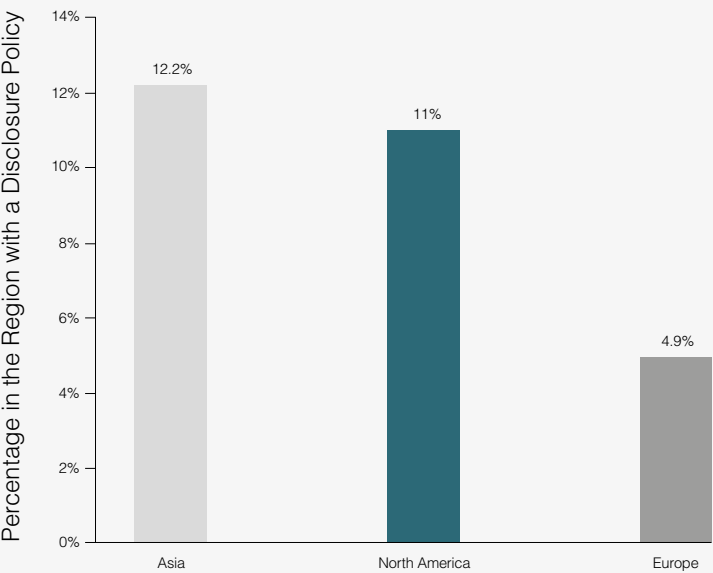
Many of the companies in this study operate globally, with regional offices and sometimes with local websites. The breakdown of companies listed by headquarter location is as follows:

- 43.8% North America
- 29.6% Asia
- 24.7% Europe
- 1.2% Oceania
- 0.3% Africa
- 0.3% South America

The reader should treat the breakdown with some caution as the complex nature of production and ownership means that attributing the location of these companies may be somewhat diffuse. Additionally some products are brand licensed, which further complicates the picture. However, the results do help to illustrate regional differences and have therefore been presented with the possibility of closer inspection in future studies.



Breakdown of Regions with a Disclosure Policy



Regions with a Disclosure Policy

Geographic Disclosure Policy Coverage

Of the companies that had some form of disclosure policy, the best covered continent was Asia, with 12.2% (12), followed by North America with 11% (16) and then Europe at 4.9% (4). The remaining regions of the world were not statistically significant.

Variation in Disclosure Practices

There are various types of vulnerability disclosure, so it is not a surprise that differences were observed between the methods advertised by companies that did support disclosure for security researchers. Some companies use the term 'responsible disclosure', a term which is in decline as it is seen to create an imbalance in the relationship with the researcher from being equivalent to the company.

Companies are often vague about the disclosure time. The majority of companies analysed did not give any timescale. Some are via coordination with the researcher and some say a 'reasonable time' or 'until resolved' which is both unclear and open-ended. By comparison, Google is very clear: the company has a 90 day process. Xiaomi has a unique method where they publicise vulnerabilities on a monthly rolling basis; at the end of the month they will make public a set of resolved vulnerabilities. It doesn't prescribe a particular timescale for disclosure and it is unknown as to whether a researcher is expected to monitor the vulnerability updates site before publishing their material.

Some companies have conditions attached to their disclosure policies which meant possible non-disclosure of an issue. Arlo and Lenovo request that researchers do not go public with their findings, for example, unless the company first consents to allow that. Samsung's SmartThings operates a non-disclosure scheme.

7.6% (25) of the overall companies publicised a public PGP key for researchers to use to encrypt, protecting their communications and disclosure report details.

Additionally 0.9% (3) of companies had forms for reporting vulnerabilities or contact points, but no published vulnerability disclosure policy.

Difficulties for Security Researchers

Alerts from security researchers can be an important early warning system for a commercial organisation. It would follow that researchers should be able to easily find a channel to report their findings – either directly or via a proxy disclosure scheme.

The following observations demonstrate the difficulties that security researchers face when attempting to report a security vulnerability to a company.

- In only one case did a company state that security research was not permitted. The company Hidrate which makes the Spark 'smart water bottle', attempts to put restrictions on security research in its terms of service. It is possible that other manufacturers have similar restrictions but this was the most visible during the research.
- ZTE's product security vulnerability disclosure page displays a page not found 404 error with the text 'The website content is under maintenance' when visited in August and September 2018.
- Webcam manufacturer Foscam has a 'suggestions' email address for security, but lacks a policy or mention of vulnerability disclosure.
- Complications to vulnerability disclosure for researchers can occur due to brand licensing. Examples in the research included:
 - Nokia's website does have a vulnerability disclosure scheme listed; however this is for its networks division. Nokia's brand for handsets and tablets are licensed to HMD Global. We could not find evidence that HMD Global have a vulnerability disclosure scheme.
 - Motorola Mobility is a brand of Lenovo. While vulnerability disclosure is available for mobile devices, it is less clear for other products. The name Motorola is also licensed to third parties for smart home devices such as webcams. Note also that Motorola Mobility is listed in this paper as a US company, but owned by Lenovo which is a Chinese company.





Bug Bounties and Reward Schemes

In recent years, some companies have opted to create or use financial-based incentive schemes, commonly known as bug bounties. The concept has matured and many bounties have been paid which has resulted in the closure of major vulnerabilities. These schemes are often supplementary to existing vulnerability disclosure schemes and are also offered by proxies which will provide the service on behalf of a company.

3.9% (15) of all companies offered some kind of reward scheme, usually in the form of a bug bounty. 95.5% (316) of companies do not offer such schemes.

1.8% (6) of the companies researched use proxy disclosure schemes where other companies are paid to operate their vulnerability disclosure schemes.

Apple and Dyson operate private invite-only bug bounty / reward programmes. A duopoly of Bugcrowd and HackerOne appears to exist for proxy both disclosure and bug bounty schemes.

Other Observations

Some of the products sold are still available in the market (for example Mattel's Hello Barbie) but they have been discontinued by vendors. This should be a concern as new users exist within the secondary sales market.

CONCLUSIONS

The level of detectable vulnerability disclosure mechanisms in practice at the time of our research is low – around 90% of global IoT companies have no form of vulnerability disclosure mechanism. Whilst some of the larger product manufacturers are mature in their approach to handling disclosures, the vast majority are not. This is of concern as it reflects a wider issue of poor practice. For companies that wish to demonstrate a duty of care to their customers, a vulnerability disclosure scheme is a good mechanism for receiving and fixing security issues during the working life of products, however it should not be used as a substitute for continuous maintenance of products to find and rectify security vulnerabilities. It is recommended that companies also avoid the term 'responsible disclosure' and move to Coordinated Vulnerability Disclosure in order to come in-line with international standards and to equalise the balance between security researcher and company.

Best practice guidance and standards from multiple organisations advise that adopting the processes of Coordinated Vulnerability Disclosure should be a priority for all producers of connected products.

The data presented here is a sample of IoT product companies. The commonalities in hardware supplied to companies, software libraries and operating systems in use, mean that vulnerabilities have a widespread impact in the consumer IoT space. Without recognition of this situation and action by the manufacturers, security researchers may revert to disclosing security concerns publicly because they have no outlet to report vulnerabilities to these companies. This is problematic because it may create reputational damage for the companies concerned, leave a window of vulnerability for consumers using those products and impact confidence in the internet of things as a whole.

The IoT Security Foundation's Best Practice Guideline on Vulnerability Disclosure can be downloaded at the following link: www.iotsecurityfoundation.org/best-practice-guidelines



APPENDIX A

Survey Countries

Australia	China	Germany	Japan	South Korea	UK
Brazil	Egypt	India	Russia	Spain	US
Canada	France	Italy	South Africa	Turkey	

APPENDIX B

Disclosure Policies by Region

Region	Vulnerability Disclosure Policy Detected?					
	No Number	% of Region	Yes Number	% of Region	Grand Total Number	%
Africa	1	100.00%	0	0	1	100.00%
Asia	86	87.76%	12	12.24%	98	100.00%
Europe	78	95.12%	4	4.88%	82	100.00%
N. America	129	88.97%	16	11.03%	145	100.00%
Oceania	4	100.00%	0	0	4	100.00%
S. America	1	100.00%	0	0	1	100.00%
Grand Total	299	90.33%	32	9.67%	331	100.00%

APPENDIX C

Disclosure Timescales

For those companies which have vulnerability disclosure, the timescales for disclosure.

Public Disclosure Time (Days)	No. of Companies	Percentage
90 Days	3	9.68%
By Consent	3	9.68%
Coordinated	2	6.45%
Last Day of Each Month	1	3.23%
Not Given	13	41.94%
Reasonable Time	4	12.90%
Until Resolved	4	12.90%
Reasonable Time	1	3.23%
Grand Total	31	100.00%

APPENDIX D

Disclosure Policies by Product Type

Product Category	Vulnerability Disclosure Policy		Grand Total
	N	Y	
Appliances	2	0	2
Audio	1	0	1
Child Care, Health & Fitness	1	0	1
Energy	1	0	1
Garden	1	0	1
Garden, Maintenance	1	0	1
Health & Fitness	22	3	25
Health & Fitness, Appliances	1	0	1
Health & Fitness	1	0	1
Leisure & Hobbies	3	0	3
Leisure & Hobbies, Security	1	0	1
Mobile	9	3	12
Mobile, Smart Home	0	1	1
Mobile, Smart Home, Audio	0	1	1
Mobile, TV	0	2	2
Pet Care	2	0	2
Security	10	0	10
Smart Home	19	1	20
Smart Home, Appliances	25	1	26
Smart Home, Appliances, Hub, Environment Control	0	1	1
Smart Home, Appliances, Security	1	0	1
Smart Home, Audio	29	0	29
Smart Home, Bathroom	1	0	1
Smart Home, Energy	3	0	3
Smart Home, Energy, Lighting	1	0	1
Smart Home, Environment Control	11	3	14
Smart Home, Environment Control, Health & Fitness	2	0	2
Smart Home, Environment Control, Hub	1	0	1
Smart Home, Environment Control, Security	2	0	2
Smart Home, Garden	2	0	2
Smart Home, Health & Fitness	8	0	8
Smart Home, Health & Fitness, Appliances	1	0	1
Smart Home, Health & Fitness, Environment Control	3	0	3
Smart Home, Hub	2	3	5
Smart Home, Hub, Maintenance, Lighting	0	1	1
Smart Home, Hub, Mobile	0	1	1
Smart Home, Hub, Security, Lighting	1	0	1
Smart Home, Lighting	46	0	46
Smart Home, Lighting, Audio	1	0	1
Smart Home, Lighting, Environment Control	4	0	4
Smart Home, Lighting, Environment Control, Hub	1	0	1
Smart Home, Lighting, Health & Fitness	1	0	1
Smart Home, Lighting, Mobile	1	0	1
Smart Home, Lighting, Security	4	0	4
Smart Home, Lighting, Security, Hub	1	0	1
Smart Home, Lighting, TV	0	1	1
Smart Home, Maintenance	2	0	2
Smart Home, Maintenance, Energy	1	0	1
Smart Home, Mobile	2	2	4
Smart Home, Pet Care	5	0	5
Smart Home, Security	36	1	37
Smart Home, Security, Child Care	0	1	1
Smart Home, Security, Child Care, Pet Care, Mobile	0	1	1
Smart Home, Security, Lighting	3	0	3
Smart Home, Security, Lighting, Environment Control	0	1	1
Smart Home, Security, Maintenance	1	0	1
Smart Home, TV	1	1	2
Smart Home, Workplace	10	1	11
Smart Home, Workplace, Security	2	0	2
Toys	7	1	8
TV	0	1	1
Workplace	2	0	2
Grand Total	299	32	331

APPENDIX E

Vulnerability Disclosure Policy Situation by Company

Note: This is a subset of the published data and does not include details of formal reporting system, use of encryption keys disclosure times, proxy company names and additional notes. The full dataset is publically available as open data on request.

Company	Product	Product Category	Website	Vulnerability Disclosure Policy	Disclosure Type	Bug Bounty / Reward Programme	Proxy Disclosure
ACEMAX	SONOFF Wifi Switch, Smart Home, Smart WIFI LED	Smart Home, Lighting	www.acemax.net.cn/products	N	N/A	N	N
ACTi	D series, B series, I series, E series	Smart Home, Security	www.acti.com	N	N/A	N	N
AdhereTech	Wireless Pill Bottle	Smart Home, Health & Fitness	www.adheretech.com	N	N/A	N	N
ADT	Smart Home System	Smart Home, Security	www.adt.co.uk/home-security/smart-home	N	N/A	N	N
Aeon Labs, Aeotec	Wall Switch, Door/ Window Sensor, Doorbell, Garage Door Controller, Energy Meter, LED Bulb, LED Strip, MultiSensor6, NanoMote, WallMote	Smart Home, Lighting, Security	www.aeotec.com/homeautomation	N	N/A	N	N
Airboxlab	Foobot	Smart Home, Environment Control	www.foobot.io	N	N/A	N	N
AISIRER	Smart Plug Mini	Smart Home	www.amazon.co.uk/AISIRER-Assistant-Control-Required-Support/dp/B07BS82N54/ref=sr_1_1?s=diy&ie=UTF8&qid=1533134766&sr=1-1&keywords=AISIRER	N	N/A	N	N
Aiwa	XR-WS100	Smart Home, Audio	www.aiwa.co, www.yamada-denkiweb.com/4216921012?q=WIFIcom/4216921012?q=WIFI	N	N/A	N	N
Allure Energy	Eversense Thermostat	Smart Home, Environment Control	www.buyeversense.com	N	N/A	N	N
Amaryllo	Security Robot, Home Security, Outdoor Security	Smart Home, Security	www.amaryllo.eu	N	N/A	N	N
Amazon	Echo, Echo Dot, Echo Show, Fire, Kindle, Echo Plus	Smart Home, Hub, Mobile	www.amazon.com/gp/help/customer/display.html?nodeId=200724850	Y	Coordinated	N	N
Amor Gummiwaren GmbH	Vibratissimo	Health & Fitness	www.vibratissimo.com/en	N	N/A	N	N
Aniken	Sports Bracelet, Smart Plug	Smart Home, Health & Fitness	www.ianeken.com, www.amazon.co.uk/ANEKEN-Assistant-Control-Function-Required/dp/B075F4SNPZ/ref=sr_1_11?ie=UTF8&qid=1533132890&sr=8-11&keywords=Smart	N	N/A	N	N
Anker, Eufy	SMART, Lumos	Smart Home, Lighting	www.eufylife.com/collections/smart	N	N/A	N	N
Anki	Cozmo	Toys	www.anki.com/en-gb/cozmo	N	N/A	N	N
ANOOPSYCHE	WiFi Smart Plug	Smart Home	www.amazon.co.uk/ANOOPSYCHE-Control-Required-%EF%BC%88Amazon%EF%BC%89-Assistant/dp/B079JGDQJD/ref=sr_1_32?ie=UTF8&qid=1533134213&sr=8-32&keywords=Smart	N	N/A	N	N
Anoto	Livescribe, Echo	Smart Home, Workplace	www.livescribe.com/int/smartpen/lis3/	N	N/A	N	N
Anova	Precision Cooker	Smart Home, Appliances	www.anovaculinary.com/anova-precision-cooker/	N	N/A	N	N

Company	Product	Product Category	Website	Vulnerability Disclosure Policy	Disclosure Type	Bug Bounty / Reward Programme	Proxy Disclosure
Anova Culinary	Sous Vide Precision Cooker	Smart Home, Appliances	www.anovaculinary.com/anova-precision-cooker/?gclid=CjwKCAjw14rbBRB3EiwAKeoG_yia578Htf27KoEnLDwyCthbJ0m_xDJLN47bRoyG59AZL2nJ4z-xoCZ5AQAvD_BwE	N	N/A	N	N
ANTCOOL	Ampoule Intelligente	Smart Home, Lighting	www.cdiseout.com/bricolage/domotique/antcool-r-ampoule-smart-bluetooth-3-0-sans-fil-6w/l-166190101-ant060279893221.html?dOffre=218353752#pres	N	N/A	N	N
Apollo Tech USA	Momentum Smart Camera	Smart Home, Security	www.momentumcam.com	N	N/A	N	N
Appkettle	Appkettle	Smart Home, Appliances	www.myappkettle.com	N	N/A	N	N
Apple	HomePod, iPhone	SmartHome, Mobile	www.hackerone.com/apple, www.support.apple.com/en-us/HT201220, www.developer.apple.com/bug-reporting	Y	Coordinated	Invite Only	N
Apption Labs	Meater	Smart Home, Appliances	www.meater.com	N	N/A	N	N
Aramatix	iP1 Pistol	Leisure & Hobbies	www.aramatix.de/iP1-Pistol.779.0.html?&L=1	N	N/A	N	N
Atom Labs	ALC Wireless Security	Smart Home, Security	www.alcwireless.com/products	N	N/A	N	N
Audio Pro	ADDON, DRUMFIRE	Smart Home, Audio	www.audiopro.com	N	N/A	N	N
August	Smart Lock, Doorbell	Smart Home, Security	www.august.com	N	N/A	N	N
AUSEIN	Wifi Smart Bulb	Smart Home, Lighting	www.amazon.co.uk/Dimmable-Bayonet-Equivalent-Required-Daylight/dp/B07BQXRM6/ref=sr_1_83?ie=UTF8&qid=1533137310&sr=8-83&keywords=Smart	N	N/A	N	N
Awair	Awair	Smart Home, Environment Control, Health & Fitness	www.getawair.com/index.html	N	N/A	N	N
AWOS	SmartLight	Smart Home, Lighting	www.awox.com/en/awox_product/smartlight-color	N	N/A	N	N
B&O	Beoplay	Smart Home, Audio	www.beoplay.com/en	N	N/A	N	N
Bawoo	Alexa Smart Bulb	Smart Home, Lighting	www.amazon.co.uk/Bawoo-Dimmable-Changing-Smartphone-Required/dp/B07868TST4/ref=sr_1_51?s=lighting&ie=UTF8&qid=1534339535&sr=1-51&keywords=smart+bulb	N	N/A	N	N
Beatife	Smart WiFi Plug Socket, Smart WiFi Bulb	Smart Home, Lighting	www.amazon.co.uk/Beatife-Equivalent-Compatible-Smartphone-Christmas/dp/B078HQWMP6/ref=sr_1_50?s=lighting&ie=UTF8&qid=1534339535&sr=1-50&keywords=smart+bulb, www.amazon.co.uk/Beatife-Applicable-Assistant-Wireless-Required/dp/B078B9DFGL	N	N/A	N	N
Beeline	Bicycle Compass	Health & Fitness	www.beeline.co	N	N/A	N	N
Behmor	Brewer, Roaster	Smart Home, Appliances	www.behmor.com	N	N/A	N	N
Belkin	Wemo	Smart Home, Hub	www.belkin.com/us/security	Y	Coordinated	N	N
Best Buy, Insignia	WiFi Smart Plug, WiFi convertible Fridge/Freezer, WiFi Chest Freezer, WiFi Camera	Smart Home, Appliances, Security	www.insigniaproducts.com/smart-home	N	N/A	N	N
Bizfeat	i-see WiFi IP Static Camera	Smart Home, Security	www.bizfeat.co.za/product-category/i-see-wifi-cameras	N	N/A	N	N
BLU Products	Advance, C, Dash, Energy, Grand, Life, Neo, Pure, R, S, Studio, Tank Xtreme, Touchbook, Vivo	Mobile	www.bluproducts.com/home	N	N/A	N	N
BlueAir	BlueAir Classic Series	Smart Home, Health & Fitness, Environment Control	www.blueair.com/gb/air-purifiers	N	N/A	N	N
BlueStork	Caméra Cloud Intérieure, Serena	Smart Home, Security	www.bluestork.eu	N	N/A	N	N

Company	Product	Product Category	Website	Vulnerability Disclosure Policy	Disclosure Type	Bug Bounty / Reward Programme	Proxy Disclosure
Bosch	Smart Home	Smart Home, Appliances, Hub, Environment Control	www.psirt.bosch.com/en/responsibleDisclosurePolicy.html	Y	Coordinated	N	N
Bose	Multi-Room Speakers	Smart Home, Audio	www.bose.co.uk/en_gb/products/speakers/multi_room_speakers.html	N	N/A	N	N
Breathometer	Mint	Health & Fitness	www.breathometer.com	N	N/A	N	N
Brita	Infinity Pitcher	Infinity Pitcher Smart Home, Health & Fitness	www.infinity.brita.com	N	N/A	N	N
Brother Industries, Ltd	DCP Series, MFC Series	Smart Home, Workplace	www.brother.co.uk/printers/wireless-printers	N	N/A	N	N
Buddy	Ohm	Smart Home, Environment Control	www.buddy.works/disclosure-policy	Y	Coordinated	N	N
BUTEFO	Smart Plug	Smart Home	www.amazon.co.uk/Plug-BUTEFO-Scheduling-Function-Compatible-Assistant/dp/B077VK1X5S/ref=sr_1_93?ie=UTF8&qid=1533137310&sr=8-93&keywords=Smart	N	N/A	N	N
Canary	View, Flex, All-in-One	Smart Home, Security	www.canary.is/security	N	N/A	N	N
Candy	Connected Appliances	Smart Home, Appliances	www.candy-domestic.co.uk/en_GB/bianca	N	N/A	N	N
Canon	Pixma	Smart Home, Workplace	www.canon.co.uk/printers/wifi-connectivity	N	N/A	N	N
Canon, IRIS	IRISNotes 3, Portable Scanners	Smart Home, Workplace	www.irislink.com/EN-GB/c1521/IRISNotes-3---Digital-Pen.aspx	N	N/A	N	N
Catapult Sports	ClearSky, OptimEye	Health & Fitness	www.catapultsports.com	N	N/A	N	N
Chamberlain	MyQ	Smart Home, Security	www.chamberlain.com	N	N/A	N	N
Circle	Home, Go, On Netgear	Smart Home	www.meetcircle.com/contact	N	N/A	N	N
Clever Dog	Wireless Security	Smart Home, Security	www.cleverdog.com.cn	N	N/A	N	N
Click and Grow	Smart Garden	Smart Home, Garden	www.clickandgrow.com	N	N/A	N	N
CloudCover365	My Android Smart Mirror	Smart Home	www.amazon.co.uk/Cloudcover365-My-Android-Smart-Mirror/dp/B0791CB5T5/ref=sr_1_29?ie=UTF8&qid=1533134213&sr=8-29&keywords=Smart	N	N/A	N	N
COOSA	Smart Plug	Smart Home	www.amazon.co.uk/Packs%E3%80%91WiFi-COOSA-Control-Sockets-Required/dp/B075DYQ6JY/ref=sr_1_17?ie=UTF8&qid=1533132890&sr=8-17&keywords=Smart	N	N/A	N	N
CrockPot	WeMo Smart Slow Cooker	Smart Home, Appliances	www.crockpot.co.uk/#q=wemo&start=1	N	N/A	N	N
Curb	Energy Monitor	Smart Home, Maintenance, Energy	www.energycurb.com	N	N/A	N	N
Current Labs	FishBit	Smart Home, Pet Care	www.getfishbit.com	N	N/A	N	N
D-Link	Smart Plug, Sensors	Smart Home, Security, Maintenance	www.us.dlink.com/security-advisories/report-vulnerabilities	N	N/A	N	N
Dahua	EZ-IP Cameras, Smart Locks	Smart Home, Security	www.dahuasecurity.com	N	N/A	N	N
Deeper	Sonar, Smart Fish Finder	Leisure & Hobbies	www.deepersonar.com/en	N	N/A	N	N
Delta Five	Bed Bug Monitoring System	Smart Home, Health & Fitness, Environment Control	www.deltafive.com	N	N/A	N	N
DENON	HEOS, CEOL	Smart Home, Audio	www.denon.co.uk/uk/support/home	N	N/A	N	N
Devialet	Phantom	Smart Home, Audio	www.devialet.com/en-gb	N	N/A	N	N
Devolo	Home Control	Smart Home, Environment Control	www.devolo.co.uk/home-control	N	N/A	N	N

Company	Product	Product Category	Website	Vulnerability Disclosure Policy	Disclosure Type	Bug Bounty / Reward Programme	Proxy Disclosure
DigitalKeys	IoT Smart Locks	Security	www.digitalkeys.io	N	N/A	N	N
Doogee	S Series, BL Series, Mix Series, X Series	Mobile	www.doogee.cc/category/mobile	N	N/A	N	N
Double Robotics	Telepresence Robot	Workplace	www.doublerobotics.com	N	N/A	N	N
Drayton	Wiser	Smart Home, Environment Control	www.draytoncontrols.co.uk/products/Smart-Thermostats/Wiser/wiser-multi-zone-kit-1	N	N/A	N	N
Drop	Scale, kCook Multi Smart, Wifi Connected Ovens	Smart Home, Appliances	www.getdrop.com	N	N/A	N	N
Dyson	Pure Hot + Cool Link	Smart Home, Environment Control	www.hackerone.com/dyson	Y	Coordinated	Invite Only	Y
E-JIAEN	Wi-Fi Smart LED	Smart Home, Lighting	www.amazon.co.uk/JIAEN-Bayonet-Million-Dimmable-Multicolored/dp/B077T1HSP4/ref=sr_1_24?s=lighting&ie=UTF8&qid=1534336796&sr=1-24&keywords=smart+bulb	N	N/A	N	N
Ecobee	Ecobee4, Room Sensors, Switch+	Smart Home, Environment Control	www.ecobee.com	N	N/A	N	N
Edimax	Network Cameras, Smart Plugs, Wireless Sensors	Smart Home, Workplace, Security	www.edimax.co.uk	N	N/A	N	N
Edsun	Smart LED Bulb	Smart Home, Lighting	www.amazon.co.uk/Smart-Bulb-Alexa-Google-Home/dp/B076H75RMG/ref=sr_1_1?s=lighting&ie=UTF8&qid=1533138113&sr=1-1&keywords=EDSUN	N	N/A	N	N
EletecPro	Smart Plug	Smart Home	www.amazon.co.uk/EletecPro-Wireless-Required-Control-Anywhere/dp/B071W46FHT/ref=sr_1_53?ie=UTF8&qid=1533136314&sr=8-53&keywords=Smart	N	N/A	N	N
Elgato, Eve	Smart Home Products	Smart Home, Lighting, Security	www.evehome.com/en	N	N/A	N	N
Eminent	RFID Key, Alarm System, IP Camera	Security	www.eminent-online.com	N	N/A	N	N
Energenie	MiJHome	Smart Home, Lighting, Environment Control, Hub	www.energenie4u.co.uk/catalogue/product/MIHO001	N	N/A	N	N
eq-3	eqiva	Smart Home, Environment Control, Security	www.eq-3.com/products/eqiva.html	N	N/A	N	N
Estimote	Beacons	Smart Home, Workplace, Security	www.estimote.com	N	N/A	N	N
Etekcity	Wifi Outlet, Wifi Switch, Scale	Smart Home, Health & Fitness	www.etekcity.com	N	N/A	N	N
Expower	B22 Smart WiFi Bulb	Smart Home, Lighting	www.iexpower.com/en/h_contact	N	N/A	N	N
EXTSUD	E14 WiFi Smart Bulb, Smart WiFi Bulb	Smart Home, Lighting	www.amazon.co.uk/EXTSUD-Dimmable-Compatible-Smartphone-Equivalent/dp/B07D3Q7JSJ/ref=sr_1_54?s=lighting&ie=UTF8&qid=1534344626&sr=1-54&keywords=smart+bulb, www.amazon.co.uk/EXTSUD-2700K-6500K-Adjustable-Compatible-Smartphone/dp/B07D6ZKR6Q/ref=sr_1_56?s=lighting&ie=UTF8&qid=1534344626&sr=1-56&keywords=smart+bulb	N	N/A	N	N
EZVIZ	C Series, Mini, Alarm Devices	Smart Home, Security	www.ezvizlife.com/uk	N	N/A	N	N
Fender	Mustang GT 100	Smart Home, Audio	www.shop.fender.com/en-GB/guitar-amplifiers/contemporary-digital/mustang-gt-100/product-231020.html	N	N/A	N	N
FIBARO	Sensors, Actors, Intercom, Remotes, Gateways	Smart Home, Lighting	www.fibaro.com/en	N	N/A	N	N
Filmodent	Dental Camera	Health & Fitness	www.ebay.co.uk/itm/Dental-camera-connected-to-smartphones-and-tablets-via-Wifi-Wireless/122851106286?hash=item1c9a7f1dee:g:h5QAAOSw-XpZ.jpg	N	N/A	N	N
FireAngel	Wireless Smoke Alarm	Smart Home	www.screwfix.com/p/fireangel-wst-630q-wireless-interlink-thermoptek-smoke-alarm/87048	N	N/A	N	N
FirstBuild	Opal Nugget Ice Maker	Smart Home, Appliances	www.firstbuild.com/products/opal	N	N/A	N	N

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FitBit	FitBit	Health & Fitness	www.bugcrowd.com/fitbit, www.hackerone.com/fitbit	Y	Coordinated	Y	Y
FLIR	Thermal Camera	Security	www.flir.com	N	N/A	N	N
Flux Smart	Smart LED	Smart Home, Lighting	www.fluxsmartlighting.com/products/flux-wifi	N	N/A	N	N
Foscam	IP Camera, Network Video Recorder	Smart Home, Security	www.foscam.com/company/contact-us.html	N	N/A	N	N
FREDI	Wifi Camera	Smart Home, Security	www.fredicctv.com	N	N/A	N	N
Furbo	Dog Camera	Smart Home, Pet Care	www.shopuk.furbo.com	N	N/A	N	N
Garadget	Remote Garage Door Controller	Smart Home	www.garadget.com	N	N/A	N	N
Gardena	SmartFlow Meter	Garden, Maintenance	www.gardena.com/uk/products/watering/hose-fittings/water-smart-flow-meter/966780901	N	N/A	N	N
Garmin	Fitness Tracker	Health & Fitness	www.garmin.com/en-US/legal/security#report	Y	Coordinated	N	N
GE Appliances	Connected Appliances	Smart Home, Appliances	www.ge.com/security	N	N/A	N	N
Generic	Smart Plug	Smart Home	www.amazon.co.uk/Alexa-Wifi-Smart-Plug-Smartphone/dp/B0761LJ5ZN/ref=sr_1_10?ie=UTF8&qid=1533813360&sr=8-10&keywords=wifi+plug	N	N/A	N	N
Genetic International, Ultralink	Smart Plug, Smart Bulb, IP Camera	Smart Home, Security, Lighting	www.ultralinkhome.com	N	N/A	N	N
GeniCan	GeniCan	Smart Home, Appliances	www.genican.com	N	N/A	N	N
Genius Hub	Hub, Heat Genius, Smart Plugs	Smart Home, Environment Control, Hub	www.geniushub.co.uk	N	N/A	N	N
Good Sound of Himalayan	Good Sound Void AI-001	Smart Home, Audio	www.item.jd.com/4524325.html	N	N/A	N	N
Google	Android OS	Mobile	www.google.com/about/appsecurity/android-rewards	Y	Coordinated	Y	N
Google	Home	Smart Home, Hub	www.google.com/about/appsecurity/reward-program/index.html	Y	Coordinated	Y	N
Google	Nest	Smart Home, Environment Control	www.google.com/about/appsecurity/reward-program, www.hackerone.com/nest	Y	Coordinated	Y	Y
Gourmia	GTA2800 Turbo Cooker - WiFi	Smart Home, Appliances	www.gourmia.com/item.asp?item=10130	N	N/A	N	N
Greater Goods	Appsync Smart Scale, Food Scale, BPM	Health & Fitness, Appliances	www.greatergoods.com/products	N	N/A	N	N
GREMAG	Smart Bulb	Smart Home, Lighting	www.amazon.co.uk/Aluminum-Dimmable-Colorful-Function-Controlled/dp/B0787PJTBJ/ref=sr_1_58?s=lighting&ie=UTF8&qid=1534344626&sr=1-58&keywords=smart+bulb	N	N/A	N	N
GresatekEU	Smart Bulb	Smart Home, Lighting	www.amazon.co.uk/s/ref=bl_dp_s_web_0?ie=UTF8&field-keywords=GresatekEU&index=lighting&search-type=ss	N	N/A	N	N
Guardian Technologies	Smart Air Purifier	Smart Home, Health & Fitness, Environment Control	www.guardiantechnologies.com/smart-purifier	N	N/A	N	N
Guardzilla	WiFi Video Security Cameras	Smart Home, Security	www.guardzilla.com	N	N/A	N	N
Hangzhou XiongMai Technology	Wifi Camera	Smart Home, Security	www.xiongmaitech.com/en	N	N/A	N	N
Hank	Smart Plugs, Smart LED, Z-Wave Scene Controllers	Smart Home	www.hankelectronics.manufacturer.globalsources.com/si/6008839043141/-Homepage.htm	N	N/A	N	N
Hanwha, Wisenet	Smart Home Cameras, Wireless Baby Monitors, All in one CCTV Kits	Smart Home, Security, Child Care	www.hanwha-security.com/support/tutrl/list.do?menuCd=MN000252	Y	Coordinated	N	N

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Hapi	HAPIFork	Smart Home, Health & Fitness	www.hapi.com/product/hapifork	N	N/A	N	N
Hasbro	Furby Connect	Toys	www.hasbro.com/en-gb/brands/furby	N	N/A	N	N
Hatch Baby	Rest (Smart Nightlight), Grow (Smart Changing Pad)	Child Care, Health & Fitness	www.shop.hatchbaby.com	N	N/A	N	N
Hidrate	Spark	Health & Fitness	www.hidratespark.com/pages/terms-of-service	N	N/A	N	N
Hikvision	Network Cameras, Video Intercom	Smart Home, Security	www.hikvision.com/europe	N	N/A	N	N
HMD Global (Nokia Mobile)	Nokia Mobile handsets	Mobile	www.nokia.com/mobile	N	N/A	N	N
Honeywell International	Home	Smart Home, Security, Lighting, Environment Control	www.honeywell.com/contact-us/vulnerability-reporting, www.hackerone.com/honeywell	Y	N/A	N	N
Hoover	Axi, Dynamic Next, Link	Smart Home, Appliances	www.hoover.co.uk/en_GB	N	N/A	N	N
Horsky	Smart UK Plug, Smart LED Bulb	Smart Home, Lighting	www.amazon.co.uk/Horsky/b/ref=bl_dp_s_web_13825932031?ie=UTF8&node=13825932031&field-lbr_brands_browse-bin=Horsky	N	N/A	N	N
HowsieAcc	Wifi Smart Plug	Smart Home	www.amazon.co.uk/HowiseAcc-Wireless-Function-Required-Assistant/dp/B075XCP7D9/ref=sr_1_13?ie=UTF8&qid=1533813360&sr=8-13&keywords=wifi+plug	N	N/A	N	N
HP	Deskjet, WorkplaceJet, Sprocket	Smart Home, Workplace	www.hpe.com/us/en/services/security-vulnerability.html	Y	N/A	N	N
HTC	U12, Desire, U11	Mobile	www.htc.com/us/terms/product-security	Y	Coordinated	N	N
Huawei	P20, Mate, P Smart, Smart Home	Mobile, Smart Home	www.huawei.com/en/psirt	Y	Coordinated	N	N
Hunterfan	Signal	Smart Home, Lighting, Environment Control	www.hunterfan.com/ceiling-fans/signal-with-led-light-54-inch-fan740	N	N/A	N	N
Husqvarna	Automower	Garden	www.husqvarna.com/uk/products/robotic-lawn-mowers/#B1A534457183458D96943E204F9CA341	N	N/A	N	N
Icontrol Networks Canada	Piper	Smart Home, Security	www.getpiper.com	N	N/A	N	N
iFAVINE	iSomellier	Smart Home, Appliances	www.ifavine.com	N	N/A	N	N
IFITech	Smart Lighting, Security	Smart Home, Security, Lighting	www.ifihomes.com	N	N/A	N	N
iku	Smart Tag, Smart Bulb, i Series, K Series, U Series, Zeus Series, LEO Series, C Series	Smart Home, Lighting, Mobile	www.iku-mobile.com/all-products	N	N/A	N	N
ilumi	LED Smart Light Bulbs	Smart Home, Lighting	ilumi.co	N	N/A	N	N
Infinix	Zero, Note, Hot, Quiet	Mobile	www.infinixmobility.com	N	N/A	N	N
Innr	Smart Lighting	Smart Home, Lighting	www.innrlighting.com/en	N	N/A	N	N
Insteon	Hub, Plug-In Devices, Wall Switches, Wall Outlets, Wall Keypads, LED Bulbs, Thermostats, Remotes	Smart Home, Lighting, Environment Control	www.insteon.com/products	N	N/A	N	N
Intelbras	WiFi Camera	Smart Home, Security	www.produto.mercadolivre.com.br/MLB-1029405521-cmera-intelbras-mibo-wifi-hd-720p-ic3-micro-sd-nota-fiscal-JM	N	N/A	N	N
InteraXon Inc	MUSE Meditation Headband	Health & Fitness	www.choosemuse.com	N	N/A	N	N

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Invoxia	Triby Smart Speaker	Smart Home, Audio	www.invoxia.com/be/fr/smart-speaker/triby	N	N/A	N	N
Iris Ohyama	IRW-2217C-W Air conditioner	Smart Home, Environment Control	www.yamada-denkiweb.com/546543016?q=WIFI	N	N/A	N	N
iSmartAlarm	iCamera Keep Pro	Smart Home, Security	www.ismartalarm.com/icamera-keep-pro	N	N/A	N	N
JAM Audio	Rhythm	Smart Home, Audio	www.uk.jamaudio.com/jam-rhythm-wireless-wifi-speaker	N	N/A	N	N
Jasco	Lighting, Fan Control	Smart Home, Lighting	www.ezzwave.com/z-wave-products	N	N/A	N	N
JBL	Link, Horizon, Playlist, CONTROL XSTREAM, LINK VIEW	Smart Home, Audio	www.uk.jbl.com	N	N/A	N	N
JingDong	DingDong	Smart Home, Audio	www.item.jd.com/7343289.html	N	N/A	N	N
JOMARTO	WiFi Smart Bulb, WiFi Smart Plug	Smart Home, Lighting	www.amazon.co.uk/JOMARTO-Dimmable-Equivalent-Controlled-Required/dp/B07F6XJGZK/ref=sr_1_29?s=lighting&ie=UTF8&qid=1534336796&sr=1-29&keywords=smart+bulb, www.amazon.co.uk/s/ref=bl_dp_s_web_0?ie=UTF8&field-keywords=JOMARTO&index=diy&search-type=ss	N	N/A	N	N
June	Intelligent Oven	Smart Home, Appliances	www.juneoven.com	N	N/A	N	N
Kainsy	WiFi LED Light	Smart Home, Lighting	www.amazon.co.uk/Changing-Equivalent-Function-Controlled-Decorative-Silver/dp/B075WTD8Z/ref=sr_1_9?s=lighting&ie=UTF8&qid=1534260170&sr=1-9&keywords=smart+bulb	N	N/A	N	N
Keen Home	Smart Vent, Temp Sensor	Smart Home, Environment Control	www.keenhome.io	N	N/A	N	N
KeySmart	Keysmart Pro	Security	www.getkeysmart.com/pages/introducing-keysmart-pro-with-tile-smart-location	N	N/A	N	N
Kolibree, Baracoda	Magic, Ara	Health & Fitness	www.kolibree.com/en/ara	N	N/A	N	N
Koogeek	Smart Plug, Smart Switch, Thermometer, Padlock, Scales	Smart Home, Environment Control, Health & Fitness	www.koogeek.com	N	N/A	N	N
Kuvée	Kuvée Bottle	Smart Home, Appliances	www.kuvee.com	N	N/A	N	N
Kwikset	Smart Security	Smart Home, Security	www.kwikset.com/smartsecurity/default.aspx	N	N/A	N	N
Lampaous, LUMENMAX	Smart Home Connected LED Light Bulb	Smart Home, Lighting	www.amazon.co.uk/Lampaous-Connected-Replacement-2700K-6500K-Adjustable/dp/B075WTX5F3/ref=sr_1_32?s=lighting&ie=UTF8&qid=1534336796&sr=1-32&keywords=smart+bulb	N	N/A	N	N
Laurastar	Smart	Appliances	www.smarthnews.laurastar.com	N	N/A	N	N
LEAGOO	S Series, M Series, T Series, Z Series, Power Series, XRover Series, Smart Plug	Smart Home, Mobile	www.leagoo.com/Products/index.html#Smart%20Phone	N	N/A	N	N
Lenbrook Industries, Bluesound	Pulse	Smart Home, Audio	www.bluesound.com/en-gb/?cl	N	N/A	N	N
Lenovo	Smart Assistant, Think Centre, Think Pad, ThinkStation	Smart Home, Hub	www.support.lenovo.com/gb/en/solutions/ht103338	Y	Non-Disclosure, Coordinated	N	N
Leotec	Vigilancia Remota, Crontrolia Temperatura, Diseños adaptativos	Smart Home, Environment Control, Security	www.smarthome.leotec.com	N	N/A	N	N
LetsFit	Fitness Tracker	Health & Fitness	www.iletsfit.com	N	N/A	N	N
Lexmark	X Series, C Series, Pro Series, Interact	Smart Home, Workplace	www.lexmark.com/en_us.html	N	N/A	N	N
LG	G Series, V Series, Q Series, Stylus Series, K Series, Signature Series Smart TV	Mobile, TV	www.lgsecurity.lge.com	Y	Coordinated	N	N

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Lifx	Smart Light Bulb	Smart Home, Lighting	www.uk.lifx.com	N	N/A	N	N
Lightwave	Lighting, Power, Heating	Smart Home, Lighting, Environment Control	www.lightwaverf.com	N	N/A	N	N
LightwaveRF	Plug in on-off kit, Smart Switches, Heating Control	Smart Home, Lighting, Environment Control	www.lightwaverf.com/smart-power/plug-in-on-off-kit	N	N/A	N	N
Linkplay Technology Inc, Muzo	Cobblestone	Smart Home, Audio	www.muzohifi.com	N	N/A	N	N
Lithe	WiFi Multi-Room Ceiling Speakers	Smart Home, Audio	www.litheaudio.com/wifi-multi-room-ceiling-speakers.html	N	N/A	N	N
Lockstate, smartLOCK, RemoteLOCK	Remote Lock 7i	Security	www.lockstate.eu	N	N/A	N	N
Locus Energy	Solar Power Meter	Energy	www.locusenergy.com	N	N/A	N	N
Logitech	Harmony	Smart Home, Hub	www.logitech.com/en-gb/harmony-universal-remotes	N	N/A	N	N
Logitech, Ultimate Ears	Blast, MegaBlast, MegaBoom, Boom 2, Wonder-Boom	Smart Home, Audio	www.ultimateears.com/en-gb/wireless-speakers.html	N	N/A	N	N
Lohas	Smart Bulb	Smart Home, Lighting	www.lohas-led.com	N	N/A	N	N
Lombex	Smart WiFi Plug, Smart WiFi Wall Switch, Smart WiFi Multicolor Bulb	Smart Home, Lighting	www.lombex.com/collections/all	N	N/A	N	N
Lorex	Home Security Camera System	Smart Home, Security	www.lorextechnology.com	N	N/A	N	N
Lovense	Remote sex toys	Health & Fitness	www.lovense.com	N	N/A	N	N
Loxone	Miniserver, Lighting, Security	Smart Home, Hub, Security, Lighting	www.loxone.com/enen/products/overview	N	N/A	N	N
Ludia	Equil SmartPen 2, SmartMarker, Edge, Touch	Smart Home, Workplace	www.luidia.com	N	N/A	N	N
Lumo Bodytech	Lift, Run	Health & Fitness	www.lumobodytech.com	N	N/A	N	N
Lutron	Caseta Wireless	Smart Home, Lighting	www.lutron.com/en-US/Products/Pages/SingleRoomControls/CasetaWireless/overview.aspx	N	N/A	N	N
Lutron Electronics Company	Single room controls, Whole building Systems, Shading Systems, Whole Home Systems	Smart Home, Energy, Lighting	www.lutron.com/europe/Pages/default.aspx	N	N/A	N	N
LYASI	Smart Switch, Smart Bulb	Smart Home, Lighting	www.amazon.co.uk/s/ref=bl_dp_sweb_0?ie=UTF8&field-keywords=LYASI&index=lighting&search-type=ss	N	N/A	N	N
Marshall	CODE50	Smart Home, Audio	www.marshall.com/marshall-amps/products/amps/code50	N	N/A	N	N
Mattel	Hello Barbie	Toys	www.hellobarbiefaq.mattel.com	N	N/A	N	N
Mattel, Fisher-Price	Smart Toy	Toys	www.fisher-price.com/en_CA/brands/smarttoy/index.html	N	N/A	N	N
MEAMOR	Smart Bulb	Smart Home, Lighting	www.amazon.co.uk/MEAMOR-Dimmable-Multicolored-Decorative-Controlled/dp/B075ZLTVNX/ref=sr_1_20?s=lighting&ie=UTF8&qid=1534260170&sr=1-20&keywords=smart+bulb	N	N/A	N	N
Medion AG	Intelligente Steckdose, Life Series	Smart Home, Mobile	www.otto.de/p/medion-intelligente-steckdose-mit-funksteckdosen-set-md-16173-623351873/#variationId=623351874	N	N/A	N	N
Mellow	Sous Vide Machine	Smart Home, Appliances	www.cookmellow.com	N	N/A	N	N
Meross	Smart Plugs, Smart Lighting	Smart Home, Lighting	www.meross.com/index.html	N	N/A	N	N

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MIPOW	PLAYBULB	Smart Home, Lighting	www.mipow.com	N	N/A	N	N
Miric	Smart Bulb	Smart Home, Lighting	www.amazon.co.uk/Miric-Changing-Bluetooth-Multicolor-Smartphone/dp/B0768GG6WS/ref=sr_1_85?ie=UTF8&qid=1533137310&sr=8-85&keywords=Smart	N	N/A	N	N
Mirubee	Mirubox Mono	Smart Home, Energy	www.mirubee.com/en/products/33-mirubox-v2.html	N	N/A	N	N
Misfit	Fitness Tracker	Health & Fitness	www.misfit.com	N	N/A	N	N
Moen	U	Smart Home, Bathroom	www.moen.com/whats-new/innovation/u	N	N/A	N	N
Moleskine	Pen+	Smart Home, Workplace	www.us.moleskine.com/pen-plus-ellipse/p0655	N	N/A	N	N
Motorola Mobility	moto z, moto x, moto g, moto e, moto c, Smart Nursery, Home Monitors, Pet Monitors	Smart Home, Security, Child Care, Pet Care, Mobile	www.motorolasolutions.com/en_us/about/security-vulnerability.html	Y	Coordinated	Y	N
Muvit	Ampoule Musicale LED, Smart Sound System	Smart Home, Lighting, Audio	www.mymuvit.net	N	N/A	N	N
NAIM	Mu-so, Uniti, ND series	Smart Home, Audio	www.naimaudio.com/streaming-and-multiroom	N	N/A	N	N
NanoLeaf	NanoLeaf	Smart Home, Lighting	www.us-shop.nanoleaf.me	N	N/A	N	N
Neato	Botvac Connected	Smart Home, Maintenance	www.neatorobotics.com/robot-vacuum/botvac-connected-series/botvac-connected	N	N/A	N	N
NEC	IP Video Cameras	Smart Home, Security	www.necam.com/Video_Communications/doc.cfm?t=IPVideoCameras	N	N/A	N	N
Neo	Smart Pen	Smart Home, Workplace	www.neosmartpen.com/en/?noredirect=en_US	N	N/A	N	N
Nespresso	Prodigio	Smart Home, Appliances	www.nespresso.com/uk/en/prodigio-machines-range	N	N/A	N	N
Netatmo	Air Quality, Energy, Weather, Security	Smart Home, Environment Control	www.deltafive.com	N	N/A	N	N
Netgear, ARLO	Security Cameras, Security Light	Smart Home, Security	www.arlo.com/en-us/about/security/default.aspx	Y	Non-Disclosure, Coordinated	Y	Y
Neurio	Energy Monitor	Smart Home, Energy	www.neurio.com	N	N/A	N	N
Nightingale Smart Solutions	Home Sleep System	Smart Home, Health & Fitness	www.meetnightingale.com	N	N/A	N	N
NINETY7	VAUX, LOFT	Smart Home, Audio	www.ninety7.com/collections/all	N	N/A	N	N
Ninja Blocks Inc	Ninja Block, Ninja Sphere	Smart Home	www.ninjablocks.com	N	N/A	N	N
Nokia Health (Withings)	Wireless BPM	Health & Fitness	www.networks.nokia.com/responsible-disclosure, www.hackerone.com/nokia	Y	Coordinated	N	N
Nologie	WiFi Smart 60W Bulb, Smart Plug	Smart Home, Lighting	www.amazon.co.uk/s?marketplaceID=A1F83G8C2AR07P&me=A37B6ZLV5DEYRG&merchant=A37B6ZLV5DEYRG&redirect=true	N	N/A	N	N
Novostella, Ustellar	B22 Smart WiFi Bulb	Smart Home, Lighting	www.amazon.co.uk/s/ref=bl_dp_s_web_0?ie=UTF8&field-keywords=NOVOSTELLA&index=lighting&search-type=ss	N	N/A	N	N
OnePlus	3, 5, 6	Mobile	www.oneplus.com/uk	N	N/A	N	N
ONKYO	VC Series	Smart Home, Audio	www.eu.onkyo.com/en	N	N/A	N	N
OPPO	Find X, A3, A73, R15, A83, F7, R11, F5	Mobile	www.oppo.com	N	N/A	N	N
Osram	Lightify	Smart Home, Lighting	www.osram.com/cb/lightify/index.jsp	N	N/A	N	N

Company	Product	Product Category	Website	Vulnerability Disclosure Policy	Disclosure Type	Bug Bounty / Reward Programme	Proxy Disclosure
Otio, Beewi	Ampule LED, Capteurs, Prises connectées, Caméras, Traceurs, Pasarellas	Smart Home, Lighting, Security, Hub	www.bee-wi.com	N	N/A	N	N
Ovni	Prophix	Health & Fitness	www.getprophix.com	N	N/A	N	N
Panasonic	TX Series Smart TV, Smart Home	Smart Home, TV	www.panasonic.com/global/corporate/product-security/sec/psirt.html	Y	N/A	N	N
Perfect Company	Perfect Drink, Perfect Bake, Perfect Blend	Smart Home, Appliances	www.makeitperfectly.com	N	N/A	N	N
PetCube	Play, Bites	Smart Home, Pet Care	www.petcube.com/en-gb	N	N/A	N	N
Petnet	SmartFeeder, SmartBowl	Smart Home, Pet Care	www.petnet.io	N	N/A	N	N
Phillips	Lighting, 7500 Series Smart TV	Smart Home, Lighting, TV	www.philips.com/a-w/security/coordinated-vulnerability-disclosure.html	Y	Coordinated	N	N
PicoBrew	KegSmarts	Smart Home, Appliances	www.picobrew.com	N	N/A	N	N
Procter & Gamble, Oral B	Smart Series Toothbrush	Health & Fitness	www.oralb.co.uk/en-gb/products/electric-toothbrushes/smartseries, www.elcorteingles.es/electrodomesticos/A23908466-cepillo-de-dientes-electrico-oral-b-smart-6-6000n	N	N/A	N	N
Quardio	Base, Arm, Core	Health & Fitness	www.getquardio.com	N	N/A	N	N
Quirky	Egg Minder	Smart Home, Appliances	www.amazon.co.uk/Quirky-Minder-Accessory-11-1-White/dp/B00GN92KQ4	N	N/A	N	N
Rachio	2, 3, Smart Flow Meter	Smart Home, Garden	www.rachio.com	N	N/A	N	N
Ratoc Systems	REX-WFIREX 1	Smart Home, Hub	www.yamada-denkiweb.com/1267698016?q=WiFi, www.ratocsystems.com	N	N/A	N	N
Remotec	Scene Master	Smart Home	www.shop.zwave.eu/products/z-wave-controller/remote-controls/706/remotec-scene-master	N	N/A	N	N
RENPHO	Bluetooth Scale	Health & Fitness	www.renpho.com	N	N/A	N	N
Reolink Digital Technology	Argus, Go	Smart Home, Security	www.reolink.com	N	N/A	N	N
Ring	Doorbell	Smart Home, Security	www.en-uk.ring.com	N	N/A	N	N
Roberts Radio	R-Line MultiRoom Speakers	Smart Home, Audio	www.robertsradio.com/uk/products/wireless-speakers	N	N/A	N	N
Roku	Express, Streaming Stick +	Smart Home, TV	www.roku.com	N	N/A	N	N
Roost	Battery, Leak Detector, Garage Door	Smart Home, Maintenance	www.getroost.com	N	N/A	N	N
Ruark	MRx Connected Wireless Speaker	Smart Home, Audio	www.ruarkaudio.com/products/mrx-connected-wireless-speaker	N	N/A	N	N
SAINKO	Smart Bulb	Smart Home, Lighting	www.amazon.co.uk/s/ref=bl_dp_s_web_0?ie=UTF8&field-keywords=SAINKO&index=lighting&search-type=ss	N	N/A	N	N
Samsung	Galaxy Series	Mobile	www.security.samsungmobile.com/securityReporting.smsb	Y	Coordinated	Y	N
Samsung	UE Series Smart TV	TV	www.samsungtvbounty.com/Home.aspx	Y	Coordinated	Y	N
Samsung	SmartThings	Smart Home	www.bugcrowd.com/smartthings	Y	Non-Disclosure	Y	Y
Schlage	Sense	Smart Home, Security	www.schlage.com/en/home/keyless-deadbolt-locks/sense.html	N	N/A	N	N
Seiko Epson	Expression	Smart Home, Workplace	www.epson.co.uk/for-home/expression-home-series	N	N/A	N	N
Seneye	Home, Pond, Reef	Smart Home, Pet Care	www.seneye.com	N	N/A	N	N

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Sengled	Audio, Security, Connectivity	Smart Home, Lighting, Security	www.eu.sengled.com/en	N	N/A	N	N
Sensoria	Garments, Hardware	Health & Fitness	www.store.sensoriafitness.com	N	N/A	N	N
Shenzhen Neo	WiFi Smart Devices, Z-Wave Devices, IP Camera, iDoorbell, Smart Home Kits	Smart Home, Security	www.szneo.com	N	N/A	N	N
Siemens	Home Connect	Smart Home, Appliances	www.siemens.com/global/en/home/products/services/cert/vulnerability-process.html	Y	Coordinated	N	N
SimpliSafe	SimpliSafe	Security	www.simplisafe.com	N	N/A	N	N
SingHong Technology	Smart Light, Air Monitor	Smart Home, Lighting, Health & Fitness	www.singhong.cn/en	N	N/A	N	N
Skybell	Skybell	Smart Home, Security	www.skybell.com	N	N/A	N	N
Sleep Number	360	Smart Home, Health & Fitness	www.sleepnumber.com/360	N	N/A	N	N
Small	Intelligent Speaker	Smart Home, Audio	www.item.jd.com/7344084.html	N	N/A	N	N
Smanos	Wireless Alarm, Smart Doorbell, IP Camera, Panic Button	Smart Home, Security	www.smanos.com	N	N/A	N	N
Smarter Applications	iKettle, Smarter Coffee, Fridge Cam	Smart Home, Appliances	www.smarter.am	N	N/A	N	N
SmartHalo	SmartHalo	Health & Fitness	www.smarthalo.bike	N	N/A	N	N
SmartPlate	TopView	Smart Home, Health & Fitness, Appliances	www.getsmartplate.com	N	N/A	N	N
SmartyPans	SmartyPans	Smart Home, Appliances	www.smartypans.io	N	N/A	N	N
Sonos	Speakers	Smart Home, Audio	www.sonos.com	N	N/A	N	N
Sony	Xperia Series, Master Series Smart TV	Mobile, TV	www.hackerone.com/sony	Y	Coordinated	Y	Y
Sparin	Smart Bulb B22	Smart Home, Lighting	www.amazon.co.uk/Bulb-SPARIN-Light-Valentines-Decoration/dp/B0774H7KV8/ref=sr_1_45?s=lighting&ie=UTF8&qid=1534339535&sr=1-45&keywords=smart+bulb, www.sparindirect.com	N	N/A	N	N
Sphero	Connected Toys	Toys	www.support.sphero.com/article/5drs94lhk5-vulnerability-disclosure-program	Y	Coordinated	Y	N
SPlug	IoT WiFi Outlet	Smart Home	www.global.11st.co.kr/product/SellerProductDetail.tmall?method=getSellerProductDetail&prdNo=1707323161	N	N/A	N	N
StoryLink	WiFi Smart Plug	Smart Home	www.global.11st.co.kr/product/SellerProductDetail.tmall?method=getSellerProductDetail&prdNo=1699381071	N	N/A	N	N
Tado	Smart Thermostat, Smart AC	Smart Home, Environment Control	www.tado.com/gb	N	N/A	N	N
Tanita	Body Composition Monitors	Health & Fitness	www.tanita.eu/products	N	N/A	N	N
Tapplock	One	Security	www.tapplock.com	N	N/A	N	N
TCL Corporation (Alcatel)	1, 1T 7, 1X, 1C mobiles	Mobile	www.us.alcatelmobile.com	N	N/A	N	N
Teckin	Smart Plug	Smart Home	www.amazon.co.uk/TECKIN-Outlet-Function-Control-Required/dp/B07D7BH6N8/ref=sr_1_7?ie=UTF8&qid=1533813360&sr=8-7&keywords=wifi+plug	N	N/A	N	N
Tefal	Cook4Me Connect, Actify Smart	Smart Home, Appliances	www.tefal.co.uk	N	N/A	N	N
Tend Insights	Lynx	Smart Home, Security	www.tendinsights.com/products/tend-secure-lynx-indoor2	N	N/A	N	N

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Thalmic	Myo Gesture Control	Smart Home, Workplace	www.myo.com	N	N/A	N	N
Theatro	Workforce Communications	Workplace	www.theatro.com	N	N/A	N	N
TIBO	Wifi Speakers, Internet Radio, Amplifiers	Smart Home, Audio	www.tibo-electronics.com	N	N/A	N	N
Tile	Mate, Sport, Style, Slim	Security	www.thetileapp.com	N	N/A	N	N
Tingkam	WiFi B22 Smart LED Bulb	Smart Home, Lighting	www.amazon.co.uk/Tingkam-Changing-Controlled-Android-devices/dp/B07BBLVMY4/ref=sr_1_19?s=lighting&ie=UTF8&qid=1534260170&sr=1-19&keywords=smart+bulb, www.itingkam.com/home/index	N	N/A	N	N
Tomshine	Smart LED Bulb Intelligent Light	Smart Home, Lighting	www.tomshine.com/indoor-lighting-3219/#Bulb%20&%20Tube%20%20Lights	N	N/A	N	N
TomTom	Fitness Tracker	Health & Fitness	www.tomtom.com/en_gb/sports/running-watches	N	N/A	N	N
TOP-MAX	Smart Power	Smart Home	www.amazon.co.uk/TOP-MAX/b/ref=bl_dp_s_web_5379117031?ie=UTF8&node=5379117031&field-lbr_brands_browse-bin=TOP-MAX	N	N/A	N	N
Top-Vigor	Bedside Lamp, Alexa Light Bulbs	Smart Home, Lighting	www.amazon.co.uk/s/ref=bl_dp_s_web_0?ie=UTF8&field-keywords=Top-Vigor&index=lighting&search-type=ss	N	N/A	N	N
TP-Link	Smart Bulbs, Smart Plugs, Cloud Cameras	Smart Home, Lighting	www.tp-link.com/uk	N	N/A	N	N
Tracking Point	Precision-Guided Firearm	Leisure & Hobbies	www.tracking-point.com	N	N/A	N	N
TrackR	pixel, bravo	Security	www.secure.thetrackr.com/products/online-pixel-5-pack/?discount=V0T73FUGUKEB&gclid=Cj0KCQjwnZXbBRC8ARIsABEYg6CaCOFkhpvO2DobT_yAeLT76sD-Zxvsek96FwON7rI3dMznM_uIMaAlIjEALw_wcB	N	N/A	N	N
Trakz	Trakz	Pet Care	www.trakz.io	N	N/A	N	N
Trane	Connected Controls (Thermostats)	Smart Home, Environment Control	www.trane.com	N	N/A	N	N
TrendingObjects	Smart Bulb	Smart Home, Lighting	www.trendingobjects.com/product/product.aspx	N	N/A	N	N
Trust	Plus Line, Smart Switches, LED Bulb	Smart Home, Security, Lighting	www.trust.com/en/smarthome	N	N/A	N	N
TVT	IP Cameras	Smart Home, Security	www.en.tvt.net.cn	N	N/A	N	N
UBTECH	Star Wars, Lynx, Alpha, Jimu, Cruzr	Toys	www.ubtrobot.com	N	N/A	N	N
URBANEARS	Baggen, Stammen, Lotsen	Smart Home, Audio	www.urbanears.com/ue_gb_en/speakers	N	N/A	N	N
Ustellar	Smart LED Strip, Smart Light Switches, WiFi Control Smart Plug, Smart WiFi LED Bulb	Smart Home, Lighting	www.ustellar.com/?lang=en	N	N/A	N	N
Vaultek	Gun Safes	Leisure & Hobbies, Security	www.vaulteksafe.com/vaultek-view-all-models	N	N/A	N	N
Veho	Kasa Smart Lighting, Cave Smart Home, IP Camera, Motion Sensor	Smart Home, Lighting, Security	www.veho-world.com	N	N/A	N	N
Velco	Wink Handlebar	Health & Fitness	www.velco.bike/en	N	N/A	N	N
Vivint	Sky Control Panel, Security, Cameras, Sensors, Smart Doorbell	Smart Home, Security	www.vivintsource.com	N	N/A	N	N

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Vivitar	WiFi Lights, WiFi Outlets	Smart Home, Lighting	www.vivitar.com	N	N/A	N	N
Vivo	X29, V9, V7	Mobile	www.global.vivo.com/en	N	N/A	N	N
Voxx International, Klipsch	The One	Smart Home, Audio	www.klipsch.com/products/the-one	N	N/A	N	N
Wallfire	Wifi Led Light bulbs	Smart Home, Lighting	www.amazon.co.uk/s/ref=bl_dp_s_web_0?ie=UTF8&field-keywords=Wallfire&index=lighting&search-type=ss	N	N/A	N	N
Wattcost	Wattcost	Smart Home, Energy	www.wattcost.com	N	N/A	N	N
We-Vibe	Remote sex toys	Health & Fitness	www.we-vibe.com/app-products	N	N/A	N	N
Wearble X	Nadi X, Fundawear	Health & Fitness	www.wearblex.com	N	N/A	N	N
Weber	iGrill	Appliances	www.weber.com/US/en/igrill/weber-25969.html	N	N/A	N	N
Weenect	Geolocation	Security	www.weenect.com/en	N	N/A	N	N
Western Digital	MyCloud	Smart Home	www.wdc.com/security/reporting.html	N	N/A	N	N
Whirlpool	Connected Appliances	Smart Home, Appliances	www.whirlpool.com/home-innovations/connected-appliances.html	N	N/A	N	N
Whistle	Pet Tracker	Pet Care	www.whistle.com	N	N/A	N	N
Wicked Cool Toys	Teddy Ruxpin	Toys	www.wickedcooltoys.com/products/teddy-ruxpin	N	N/A	N	N
Winix America	Smart	Smart Home, Environment Control	www.winixamerica.com/winix-smart	N	N/A	N	N
Wink	Bright, Lookout, Leak Protection	Smart Home, Hub, Maintenance, Lighting	www.security.wink.com	Y	Coordinated	Y	N
WyzeCam	WyzeCam	Smart Home, Security	www.wyzecam.com	N	N/A	N	N
Xiaomi (MI)	Mi Phone, Redmi, Mi Router, Mi TV, Mi Pad, Mi Box, Mi Band, Mi Air Purifier, Blood Pressure Monitor, Xiao Yi Smart Camera	Mobile, Smart Home, Audio	www.sec.xiaomi.com/post/84	Y	Coordinated	Y	N
XiaoShuai	Intelligent Robot	Toys	www.item.jd.com/7615207.html	N	N/A	N	N
XOLO	Era Series	Mobile	www.xolo.in	N	N/A	N	N
Xoopar	X5 Xoopar Boy Stereo	Audio	www.xoopar.com	N	N/A	N	N
Xperi, DTS	Play-Fi	Smart Home, Audio	www.play-fi.com	N	N/A	N	N
Yale	Smart Living	Smart Home, Security	www.yale.co.uk/en/yale/couk/products/smart-living	N	N/A	N	N
Yamaha Pro Audio, Yamaha Corporation	MusicCast	Smart Home, Audio	www.uk.yamaha.com/en/products/audio_visual/desktop_audio/index.html	N	N/A	N	N
Yeelight	Smart Bulb	Smart Home, Lighting	www.yeelight.com	N	N/A	N	N
Zeeq	Smart Pillow	Smart Home, Health & Fitness	www.rem-fit.co.uk/zeeq-smart-pillow	N	N/A	N	N
Zmodo Technology	Greet	Smart Home, Security	www.zmodo.com/greetpro-1080p-wifi-video-doorbell	N	N/A	N	N
ZTE	Axon, Blade, Z Max, Smart Home	Smart Home, Mobile	www.hackerone.com/zte, www.en.zte.com.cn/en/about/corporate_citizenship/security/201403/t20140327_421951.html	Y	N/A	N	N

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