



Trend Micro™

Home Network Security 2020

Product Guide

V6.0

Trend Micro, Incorporated—US Headquarters
224 E. John Carpenter Freeway, Suite 1500
Irving, Texas 75062 U.S.A.
Phone: +1 (817) 569-8900
Toll-free: (888) 762-8763

www.trendmicro.com

Trend Micro Incorporated reserves the right to make changes to this document and to the service described herein without notice. Before implementing the service, please review the readme file and the latest version of the applicable user documentation.

Copyright © 2020 Trend Micro Inc., Consumer Technical Product Marketing. All rights reserved. Trend Micro, the Trend Micro t-ball logo, and Trend Micro Security are trademarks or registered trademarks of Trend Micro Incorporated. All other product or company names may be trademarks or registered trademarks of their owners. Android is a trademark of Google, Inc. Mac is a trademark of Apple, Inc.

Trend Micro™ Home Network Security 2020 - Product Guide provides help for analysts, reviewers, potential customers, and users who are evaluating or using Trend Micro™ Home Network Security.

DOCUMENT PROFILE:

Product: Trend Micro™ Home Network Security 2020 – v6.00.1739

Document Title: Trend Micro™ Home Network Security 2020 - Product Guide v6.0

Document Filename: PG - TM Home Network Security 2020 - Product Guide v6.0

Document Release Date: November 20, 2020

Team: Consumer Technical Product Marketing

Table of Contents

Executive Summary	5
Trend Micro Home Network Security Highlights	6
Section 1: Detailed Product Specifications	8
Key Features.....	8
Station Specifications	9
Starting with the HNS App	10
Router Compatibility List	10
Pairing the HNS App and Station	10
Minimum Requirements	11
Target Audience	11
Global Availability	11
Contacting Trend Micro	12
United States.....	12
Japan	12
Australia and New Zealand.....	12
Singapore	12
Free Phone, Email and Chat support.....	12
Premium Support Services	13
Section 2: The Home Network Security Application and Station	14
Install the HNS App and Conduct a Network Scan	14
To Learn More or Purchase a Home Network Security Station.....	18
Set Up the Station, Pair it with the HNS App, and Do a Network Scan.....	19
Dashboard.....	25
Check Devices.....	25
View Report	28
Using the Dashboard	30
Timeline	35
Devices.....	37
Family: Members, Devices, and Parental Controls	38

Add a Family Member and the Devices They Control	39
Install Trend Micro Guardian and Set Up Uninstall Protection.....	41
<i>Install Guardian on an iOS Device</i>	<i>41</i>
<i>Set Up Guardian Uninstall Protection on an iOS Device</i>	<i>50</i>
<i>Install Guardian on an Android Device</i>	<i>57</i>
<i>Set Up Guardian Uninstall Protection on an Android Device</i>	<i>64</i>
Filtering	68
Inappropriate App Used	72
Time Limits	73
Connection Alert	76
Report	78
Devices	81
Network.....	82
Voice Control.....	83
Help	89
Settings	90
Section 3: Core Technologies	97
Deep Packet Inspection (DPI) / Intrusion Prevention System (IPS)	97
Network Attacks.....	98
Web Threats	98
Device and Application Management	99
Automatic Device Recognition	99
Automatic Vulnerability Scan	99
Web Threat Protection (SPN)	99
Anomaly Detection	100
Network Attach Options	100
About Trend Micro	102

Executive Summary



Figure 1. Trend Micro Home Network Security Station

The modern home is filled with connected devices that provide added convenience, entertainment, and safety for family members. But these new smart devices also open up homes to privacy and security risks, much of which require technical expertise to manage. Issues like hacking, privacy violations and harassment are quickly becoming commonly associated with smart devices. In addition, monitoring and managing their children's internet safety is an ongoing headache for parents. Most homeowners are not security or network experts and are unprepared when it comes to managing their devices or their kids' access to them.

Trend Micro™ Home Network Security (HNS) empowers consumers to manage the security and privacy risks of their smart devices and home network without requiring them to be experts. It equips the home network with an extra layer of protection and offers visibility into smart device security status including threats, vulnerabilities and suspicious behavior.

For parents, HNS provides powerful tools not just for monitoring and managing access to the internet and devices, but also a way to help their kids build up healthy digital habits. Parents are provided with the ability to set flexible limits on time, content and especially YouTube. In addition, they can turn on notifications to receive alerts when children are detecting using potentially inappropriate apps, use the internet for too long or even when they arrive home from school.

An easy-to-use **Home Network Security Smartphone App (HNS App)** for Android and iOS mobile devices lets the "home technology manager" make changes on the go and stay aware of important security events in the home network with timely and insightful notifications. When used with **Trend Micro™ Guardian**, a client app also available for Android and iOS, parental controls can extend to kids' devices outside the home.

For security conscious consumers who are concerned about their own home's cybersecurity risks but don't yet have an HNS Station, the **HNS App – Free Edition** now offers free device and network scanning to detect devices and vulnerabilities in the home network and offers guidance on ways to reduce the risks at home.

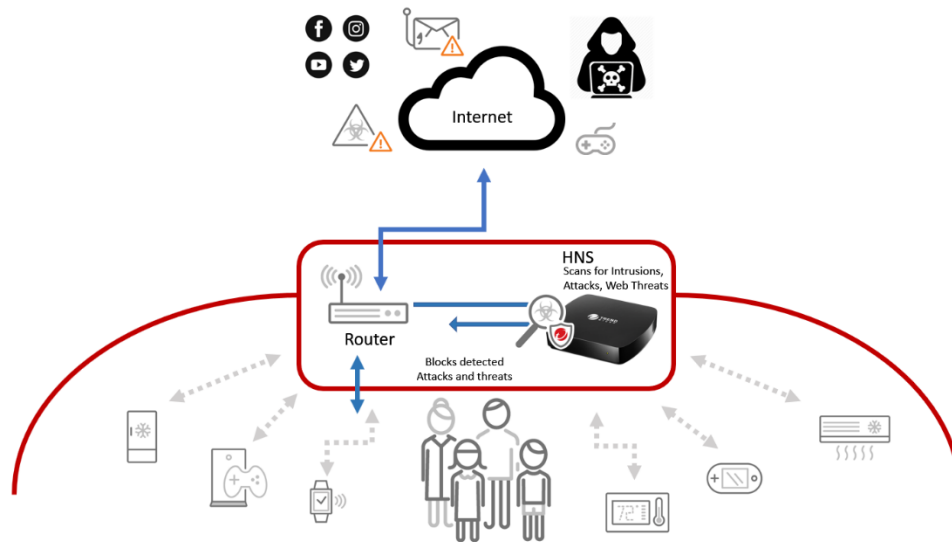


Figure 2. Protecting Your Smart Home. Trend Micro Home Network Security attaches to your gateway or router to detect and block network attacks, intrusions, and Web threats for all the networked devices in your smart home—and includes easy-to-use parental controls to protect your children.

Trend Micro Home Network Security Highlights

Trend Micro Home Network Security (HNS) provides an easy-to-use security solution to protect all the devices on your network.

- **Free Network and Device Scanner.** For security-conscious smart homeowners, use the HNS App's free scanner to check your network and devices for risks before deciding to purchase an HNS station.
- **Secure, Private Home Network.** Advanced, enterprise-grade Intrusion Prevention technology senses and blocks network attacks before they get to your devices. HNS scans your devices for vulnerabilities, to help you make sure that hackers can't get into your network.
- **Plug-n-Protect.** Unlike other security solutions requiring experts just to install it, our solution is a breeze to set up. Simply plug the HNS Station into your wireless router and a wall socket, download the mobile app, pair the app and the HNS Station—and your home network is immediately protected.
- **Home Device Management.** Check your security status in real-time and manage access for *all* the connected devices in your home—including your smart speakers, security cameras, smart TVs, mobile phones, and even smart home devices like lights and door locks.

- **Internet Safety for Kids and Family.** Set time limits on game consoles. Block access during homework and family time. Prevent mature content from making it to the screens of the immature. Know what they're doing online so you can teach them about using the Internet safely.
- **Extend Internet Safety to Any Network.** Install Trend Micro Guardian on your kid's mobile devices and pair with HNS to provide internet safety and time limits for kids, on any Wi-Fi or mobile network.
- **Anywhere, Anytime Visibility and Control.** Manage your network with our easy-to-use, real-time smartphone app. Customize the internet for family and guests at the touch of a button. Grant or block access to new computers, phones, tablets, or smart home devices entering your network. View Reports to see what's been happening recently on your network.
- **World-Class Protection.** Trend Micro Home Network Security taps into Trend Micro's World-Class AI security system, enabled by the Smart Protection Network (SPN). Your home network and all the devices on it are protected from wide range of threats, including network intrusions, malicious websites and files, default or weak passwords on your network devices, intranet or internet-based malicious behavior, system vulnerabilities, and privacy and network access violations.
- **Advanced Vulnerability Detection.** In HNS version 2.0, a Vulnerability Check was added to the Device Scan that assesses connected devices for high-severity vulnerabilities that have been exploited in the wild. Once a vulnerability is detected, HNS provides users with guidance on how to resolve the vulnerability.
- **Voice Control.** Use Amazon Alexa and Google Assistant voice control to execute commands through your smart speakers to perform specific functions on Trend Micro Home Network Security. [See Voice Control](#) for the lists of Google Assistant and Echo - Alexa voice commands.
- **Early Access Program.** HNS users now have the opportunity to try the very latest in security and protection for their network and devices. Early Access features include:
 - **Smart Alert.** HNS alerts you when any of your devices are behaving unusually. This new feature uses machine learning to first understand what behavior is normal for a device and then informs you if a device's behavior departs from the expected.
 - **Router Access Protection.** HNS helps prevent hackers from gaining control of your router and making changes to important settings that can leave your network and devices vulnerable. With Router Access Protection enabled, all attempts to login to your router will be blocked unless approved.
 - **Ad Block.** HNS helps you protect your family's privacy by blocking ads on all devices. It also brings the added benefit of faster load times for some sites.
 - **Cyberattack Shield.** HNS will deploy real-time emergency security policy to your network from the cloud in case of a global threat outbreak to prevent further spreading of threats like ransomware and botnets.

Section 1: Detailed Product Specifications

Key Features

Table 1. Trend Micro Home Network Security Key Features

TREND MICRO HOME NETWORK SECURITY		With Station	App Only
SECURITY			
THREAT BLOCKING Intrusion Prevention (IPS)	Internet (WAN) Traffic*	Yes	No
	Local (LAN) Traffic*	Yes	No
Web Threat Protection	Web Reputation Filtering	Yes	No
	Cloud File Scan	Yes	No
ACCESS CONTROL	New Device Approval	Yes	No
	Remote Access Protection	Yes	No
DEVICE SCAN	Password Check	Yes	No
	Vulnerability Check	Yes	Yes
PARENTAL CONTROLS			
WEB ACCESS CONTROL AND MONITORING	Daily Time Quota	Yes	No
	Customizable Schedule	Yes	No
	Pause Internet Access by Profile	Yes	No
	Online Connectivity Monitoring	Yes	No
WEBSITE & CONTENT FILTERING	Website Filtering	Yes	No
	Google Safe Search	Yes	No
	YouTube Restricted Mode	Yes	No
APP CONTROLS	YouTube Pause and Time Limits	Yes	No
	App Detection	Yes	No
TREND MICRO GUARDIAN	On-the-go Protection for Kids	Yes	No

TREND MICRO HOME NETWORK SECURITY		With Station	App Only
MANAGEMENT			
DEVICE MANAGEMENT	Profile-based Management	Yes	No
	Device Management	Yes	No
	Device Detection	Yes	Yes
	Device Approval	Yes	No
	Device Blocking	Yes	No
VISIBILITY	Notifications	Yes	No
	Dashboard	Yes	Yes
	View Report	Yes	No
	Timeline	Yes	No
	Network Usage	Yes	No
USER INTERFACE	Smartphone / Tablet	Yes	Yes
	Voice Control: Alexa, Google	Yes	No

Station Specifications

Table 2. Station Specifications

Trend Micro Home Network Security Station	
Dimensions	Length: 136.27 mm Width: 110.99 mm Height: 31.20 mm
Color	Black
Weight	0.5 lb. (226 g)
CPU	Dual Core 1.3 GHz
RAM	512 MB DDR3
Flash Memory	4 GB eMMC
Ports	1 Gbps Ethernet
Power Adaptor	AC Input: 90~260 VAC 47~63 Hz DC Output: 12V/1A Energy Star Version 2.0 Level VI efficiency requirements

Starting with the HNS App

The Trend Micro Home Network Security App (HNS App) is available for download on the Google Play Store and the Apple App Store. You can use the HNS App without the HNS Station to scan your network and discover vulnerabilities in your devices.

1. Ensure your phone is connected to the same network as the devices you wish to scan and that the devices are up and running.
2. Type “Trend Micro Home Network Security” into the app store search field. When you find the HNS App, download and install it on your Android or iOS smartphone.
3. Open the HNS App and tap **Scan Now** to conduct a free scan of your network. The HNS App will return the result and alert you if there are any issues on your network or your devices.
4. To address the issues highlighted by the scan, the user can purchase an HSN Station, then pair the HNS App to the Station.

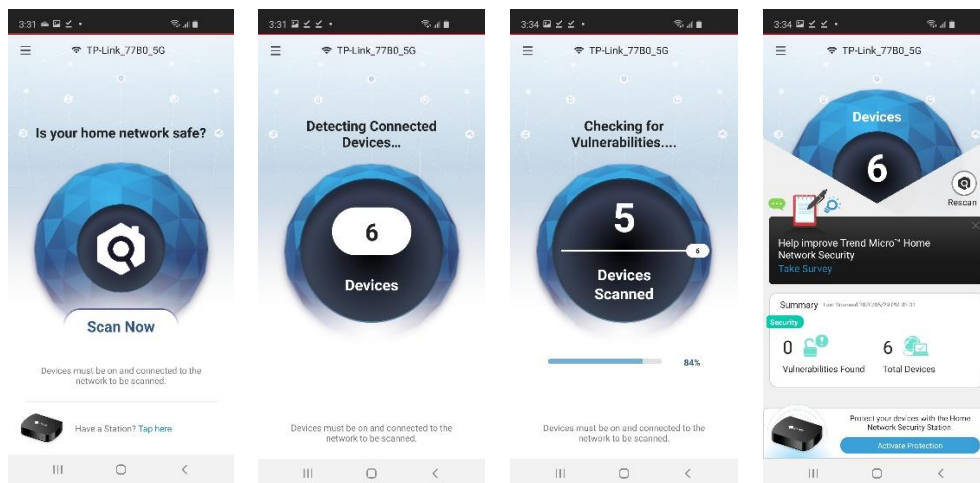


Figure 3. HNS App - Scan Now – Activate Protection

Router Compatibility List

Before purchasing a Trend Micro Home Network Security Station (HNS Station), make sure your home Wi-Fi-capable router is compatible with the HNS Station and that it has an available Ethernet port to attach the HNS Station. You can check the [Router Compatibility List](#) on the Trend Micro Home Network Security Help pages to see if your router is on the list.

Pairing the HNS App and Station

The HNS App works with the HNS Station to address a wide range of security issues on your home network and its smart devices. With most routers, the installation flow is as follows:

1. Plug the HNS Station *directly into a free LAN port on your router* (do not plug into a switch) and then plug in the power.

2. If you haven't already done so (see the previous section), download and install the HNS app on your [Android](#) or [iOS](#) smartphone. Again, the smartphone should be on the same network you wish to protect.
3. Locate the link in the HNS App Console. If you haven't done a scan, click **Tap Here** to begin the pairing and activation process. If you have done a scan, click **Activate Protection** to begin the pairing and activation process.
4. Follow the prompts to pair the HNS Station and the HNS App on your smartphone to activate the service.



Figure 4. HNS Setup Flow

Minimum Requirements

The minimum requirements for using Trend Micro Home Network Security are:

- A working internet connection.
- A **compatible router** with a free LAN port. To ensure the optimal experience with Home Network Security make sure you are using a compatible router. Again, click here for the [Router Compatibility List](#).
- A smartphone or tablet: Android 5.0+ or iOS 12.0+.

Target Audience

The primary users of Trend Micro Home Network Security are the “house geek” who’s responsible for setting up the network and monitoring the smart devices in the home, while keeping them—and the family members who use them—safe from hackers and malware; and protective parents, who want to make sure their kids stay safe from threats and protected from unwanted content on the Internet.

Global Availability

Available now (2020) in the United States, Japan, Australia, New Zealand and Singapore.

Contacting Trend Micro

United States

Trend Micro Incorporated
225 E. John Carpenter Freeway, Suite 1500
Irving, Texas 75062 U.S.A.
Phone: +1 (817) 569-8900
Toll-free: (888) 762-8763
www.trendmicro.com

Japan

Shinjuku MAYNDS Tower
2-1-1 Yoyogi, Shibuya-ku
Tokyo, Japan ZIP 151-0053
Phone: +81.3.5334.3618
www.trendmicro.co.jp

Australia and New Zealand

Level 15, 1 Pacific Highway
North Sydney, NSW 2060
Australia
Toll-free: 1-800-642-421
www.trendmicro.com.au

Singapore

6 Temasek Boulevard #16-01 to 05 Suntec Tower Four
Singapore 038986
Phone: +65 6379 2060
www.trendmicro.com.sg

Free Phone, Email and Chat support

Trend Micro offers free phone, email, and chat support. For more info, go to [Trend Micro Home and Home Office Support](#) and more specifically to the [Trend Micro Home Network Security](#) support page.

You can also go to the [Trend Micro Home Users Community](#) to get your questions answered and problems solved.

Free ransomware-specific tech support is provided for all users, whether you are a customer or not, by calling 1-877-558-7363 between 5:00 a.m. to 9:00 p.m. PST, Monday through Friday.

Premium Support Services

Trend Micro provides users with [Premium Support Services](#) for a wide variety of technical issues including installation, virus and spyware removal, PC Tune-ups, etc. These services are offered as a bundle with a purchase of Trend Micro Security or as stand-alone and ad-hoc services.

Section 2: The Home Network Security Application and Station

The free **Home Network Security Application (HNS App)**, all on its own, allows you to scan your network to discover its devices and vulnerabilities.

However, the **HNS App** also provides setup, monitoring, and control of your **Home Network Security Station (HNS Station)** and all the devices it protects on your network. You can purchase the HNS Station online, from the Trend Micro Store; or from a retail outlet.

In the following screens, the **HNS App** version shown is v6.001739, taken from an Android device. The screens for the iOS version are identical.

Install the HNS App and Conduct a Network Scan

To install the HNS App:

1. Launch **Google Play** (or the **Apple App Store**) and search for **Trend Micro Home Network Security**.
2. When it appears, tap **Home Network Security**, then **Install**.



Figure 5. Home Network Security

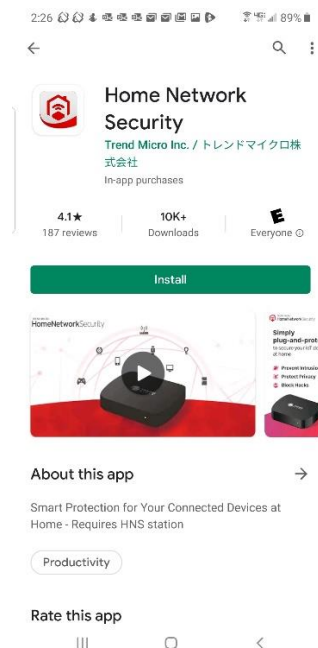


Figure 6. Install Home Network Security

3. When installation is complete, tap **Open** to launch the app.
4. The **Welcome** screen appears.
5. In this example, you do not yet have an **HNS Station** connected to the network, so click **Scan Without Station**.

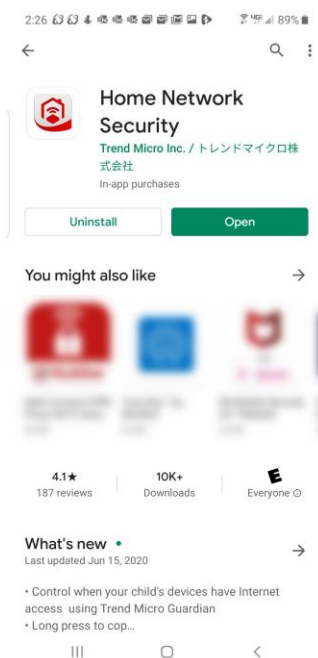


Figure 7. Open HNS App

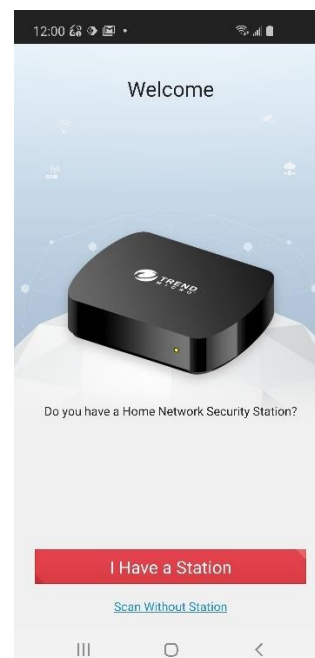


Figure 8. Scan Without Station

6. The **Privacy and Personal Data Collection Disclosure** appears.
7. Read the **Disclosure**. If you agree to the terms, tap **Accept and Continue**.
8. A screen appears, indicating you wish to scan your home network and its connected devices for risks. Tap **Trend Micro terms and conditions** to read the conditions.
9. If you agree to the conditions, click **Accept and Continue**.

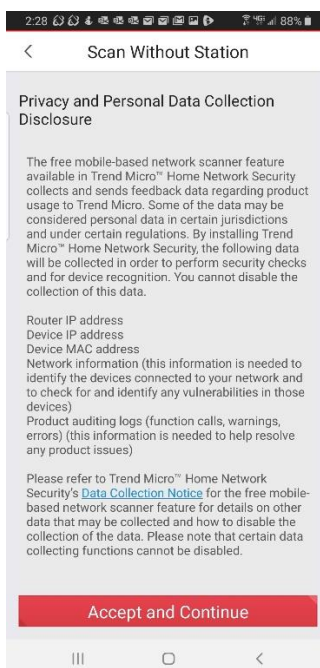


Figure 9. Privacy and Personal Data Collection Disclosure

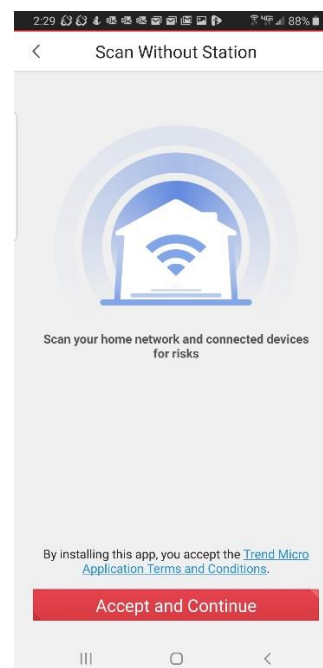


Figure 10. Accept and Continue

10. A popup appears, asking **Allow Home Network Security to access this device's location?**
11. If you agree, tap **Allow**.
12. The **Scan Now** screen appears, asking **Is your home network safe?**
13. Click **Scan Now** to conduct a scan and find out.

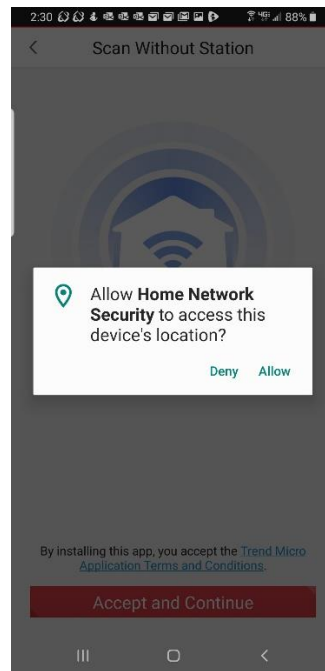


Figure 11. Access Location

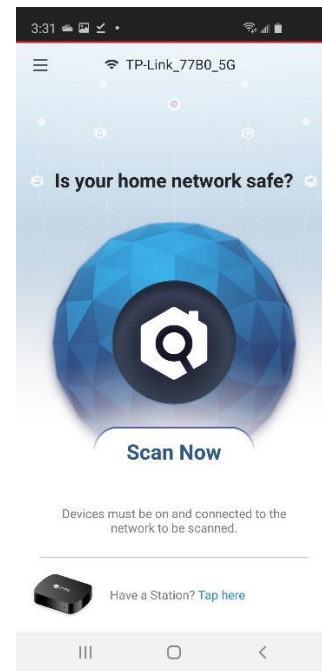


Figure 12. Scan Now

14. As the **HNS App** conducts the scan, it informs you it's **Detecting Connected Devices**.
15. It then informs you that it's **Checking for Vulnerabilities**.



Figure 13. Detecting Network Devices

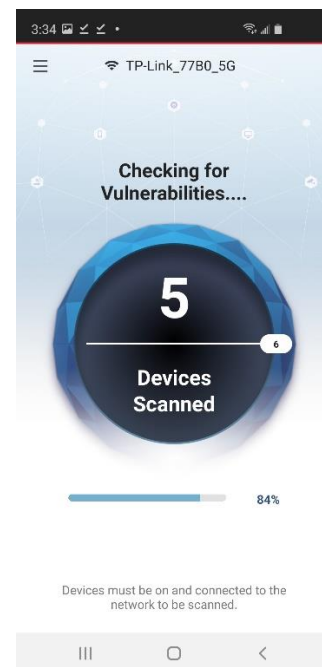


Figure 14. Checking for Vulnerabilities

16. When the scan is complete, it informs you of the **Total Devices** and the number of **Vulnerabilities Found**.
17. Tap the various panels and screens to get an idea for what the full solution with the **Home Network Security Station** provides.

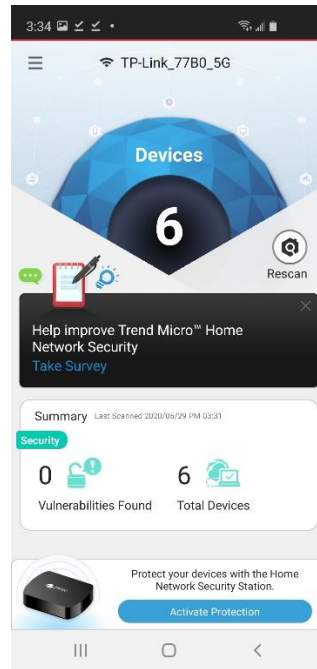


Figure 15. Total Devices and Vulnerabilities Found

To Learn More or Purchase a Home Network Security Station

To learn more or purchase a Home Network Security Station:

1. To find out about or to purchase the **Home Network Security Station**, click **Activate Protection**
2. A screen appears, asking **Do you have a Home Network Security Station?**
3. If you wish to purchase an HNS Station, click the link **Learn More About the Station**.

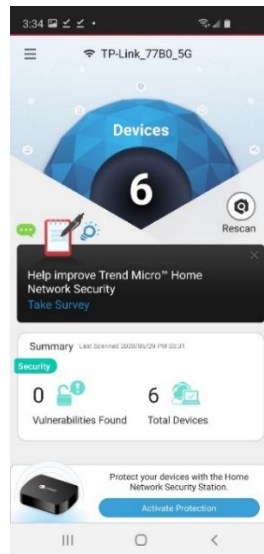


Figure 16. Activate Protection



Figure 17. Learn More About the Station

4. Your browser loads and takes you to the **Home Network Security** webpage, where you can learn more or purchase an **HNS Station**.
5. Click **Buy Now** to purchase an **HNS Station**, then follow the prompts to complete your transaction.



Figure 18. Home Network Security Webpage

Set Up the Station, Pair it with the HNS App, and Do a Network Scan

Once you receive your **Trend Micro Home Network Security Station (HNS Station)**, you need to set it up properly and pair it with the **Trend Micro Home Network Security App (HNS App)**, which you've already installed.

To set up the Station:

1. Plug the power adaptor and the Ethernet/LAN cable into the **Station**.
2. Connect the **Station** *directly* to one of your wireless router's Ethernet/LAN ports and plug the power adapter into a power outlet.

Important Note:

There should be *no other device*, such as a switch, between your Router and the Station.

3. When the light turns a **Blinking Green**, the **Station** is ready to set up.
4. If the light remains red for more than 1 minute, consult the **Light Status** table shown here.
5. If the **Station** doesn't achieve a **Blinking Green**, you may need to reset the device by pushing a paperclip end into the **Reset** button for 5 seconds.

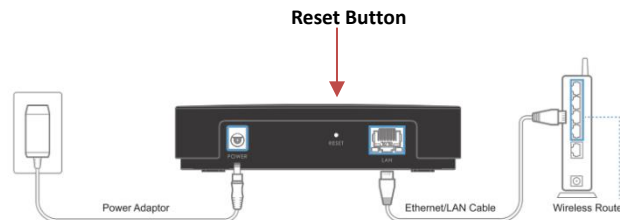


Figure 19. Back: Home Network Security – Power Adaptor, Reset Button, Router Ethernet Port Connection



Figure 20. Front: Station Ready

Steady Green	Normal
Blinking Green	Ready to setup
Steady Red	No Internet connection or subscription has expired
Blinking Red	The Station is starting or updating firmware. Please wait until the light is green.
Blinking Red and Green	System error

Figure 21. Light Status

6. When the light on the **Station** is **Blinking Green**, connect your phone to the same Wi-Fi network as the **Station**.



Figure 22. Connect to Same Wi-Fi Network

7. Since you've already installed the **HNS App** (see **HNS App Installation** section above), tap the **HNS App** icon on your smartphone to open the app.
8. Tap **I Have a Station**. The **Privacy and Personal Data Collection Disclosure** appears.
9. Read the **Disclosure**. If you accept, tap **I agree to share user usage data to help improve this app**, then tap **Accept and Continue**.

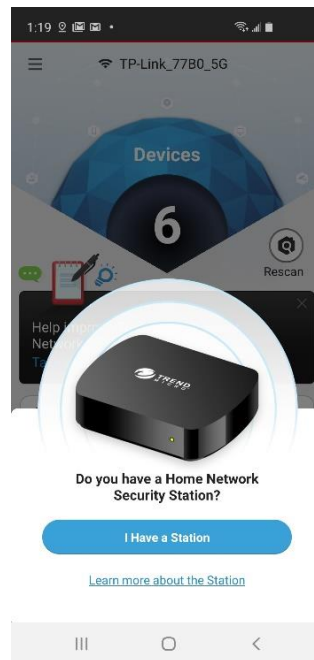


Figure 23. I Have a Station

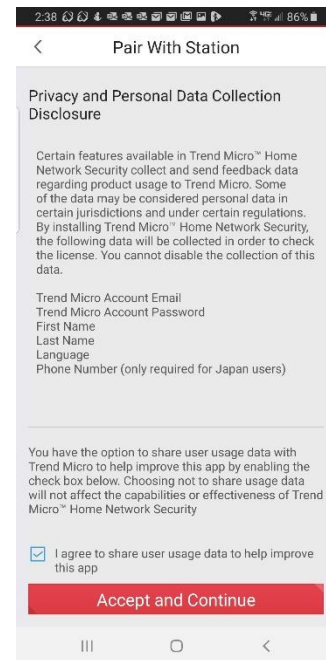


Figure 24. Privacy and Personal Data Collection Disclosure

10. A screen appears, to start the pairing process. **Tap Accept and Continue.**
11. If you haven't already connected the **HNS Station** directly to your Router, do so now and make sure the **HNS Station** light is **Blinking Green**. Otherwise, click **Next**.

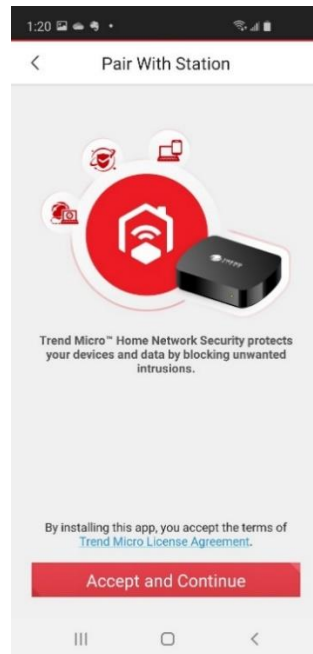


Figure 25. Accept and Continue



Figure 26. Next

12. Type the **Pairing Code** without dashes into the **Pair with the Station** field. The code is on the bottom of the **HNS Station** or in the card provided in your HNS box. Then click **Next**.

13. A **Connecting** screen appears showing that the **HNS App** is pairing with the **Station**.

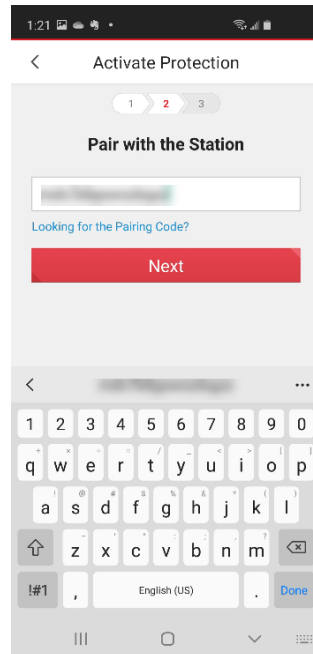


Figure 27. Pair with the Station

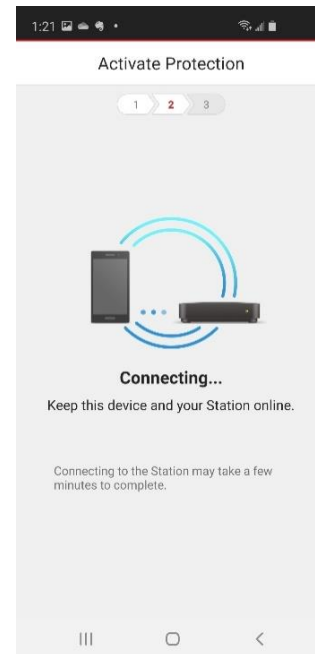


Figure 28. Connecting

14. When the pairing completes, a screen appears saying **Connection Successful**.

15. Another screen appears, prompting you to **Sign In** to your Trend Micro Account. Type the username and password you used to create your account during purchase, then click **Sign In**.

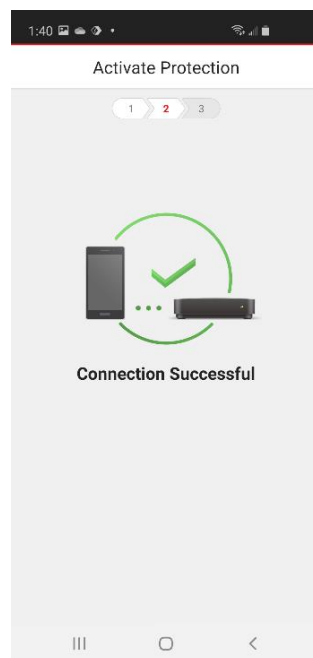


Figure 29. Connection Successful

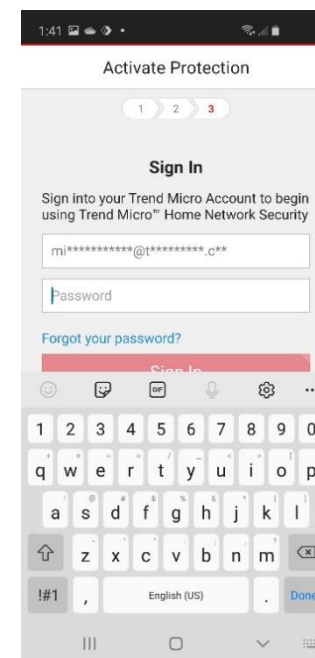


Figure 30. Sign In

16. Once you're signed in, the **HNS Station** activates and the **Dashboard** prompts you to **Scan Network**.
17. Tap **Scan Network**. A screen appears showing you that its **Starting Network Check**.

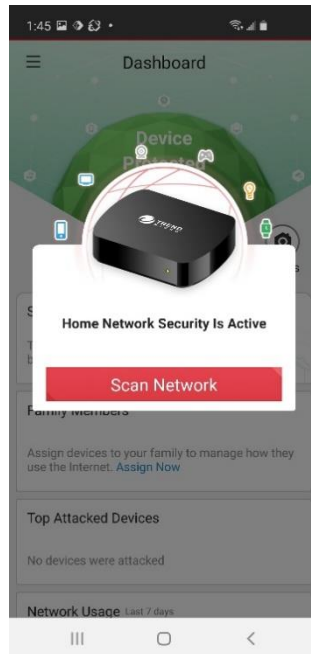


Figure 31. Scan Network

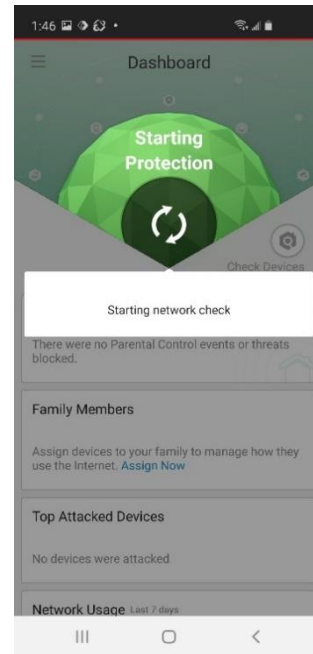


Figure 32. Starting Network Check

18. When the scan is complete, it shows the number of devices it has found on your network and prompts you to **View Devices**.
19. Tap the **View Devices** button to view your network devices.
20. **Home Network Security** provides you with a list of **All Devices** on the network.
21. Return to the **Dashboard** by tapping the three-bar **Command Menu Icon** in the upper left corner.

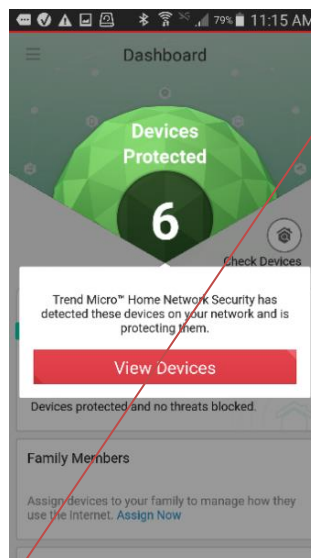


Figure 33. View Devices

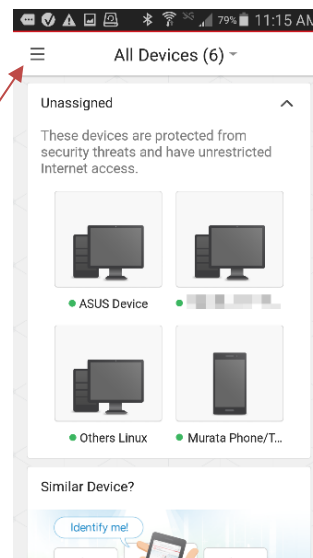


Figure 34. All Devices

22. Then tap **Dashboard** item in the menu.
23. View the **Dashboard** items by scrolling down the **Dashboard** screen.

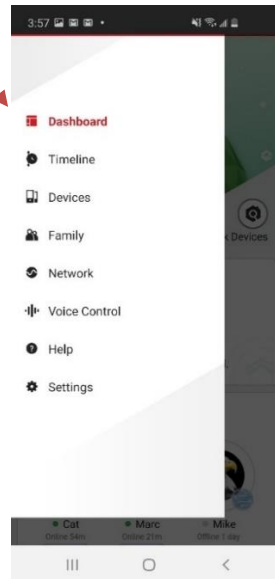


Figure 35. Command Menu

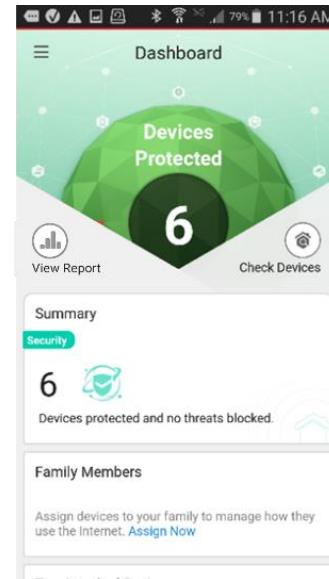


Figure 36. Dashboard

24. Tap **Family Members: Assign Now**, then **Add Someone** to begin to creating family members and assigning devices to them. (See the **Family** section below to learn how to do this.)
25. Congratulations! You're all set up! You may now begin using **Trend Micro Home Network Security** to monitor and manage all the smart devices on your network.

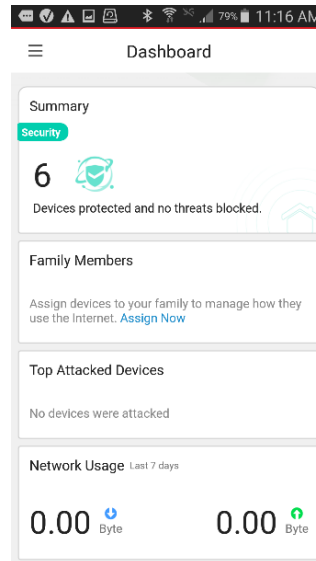


Figure 37. Dashboard Scrolled Down

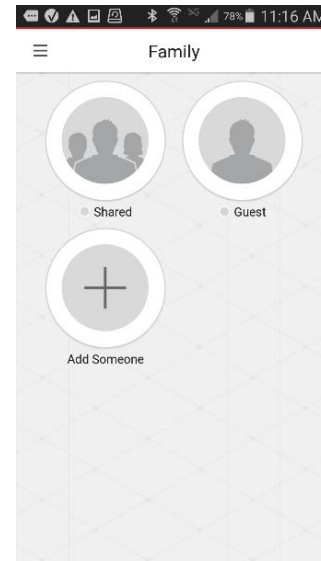


Figure 38. Family

Dashboard

The HNS App's **Dashboard** provides a quick overview of all the monitoring and security functions of Home Network Security, with easy-to-use screens showing the security status of all the connected devices on your network.

Check Devices

To check devices and actions required:

1. Tap the **Home Network Security (HNS)** icon on your home screen of your mobile device to open the **HNS App Console**. The **Console** opens and displays the **Dashboard**.
2. You can access any screen in the **Console** by tapping the **Command Menu** icon in the upper left-hand corner. The **Command Menu** displays, with menu items for all the main functions of the **HNS App**.

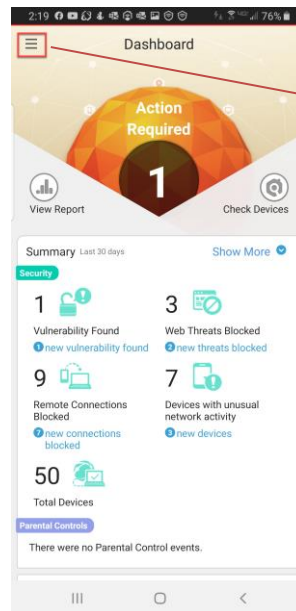


Figure 39. Dashboard | Command Menu

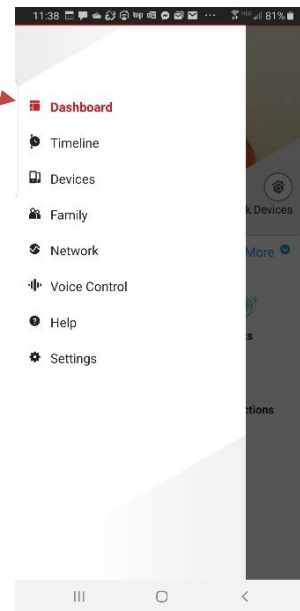


Figure 40. Command Menu > Dashboard Menu Item

3. If there are any past **Action Required** items, they'll display in the **Dashboard** indicator at the top; just tap to review them.
4. To view the report on your network, tap **View Report**.
5. To find all the connected devices on your network and to check their security status, tap **Check Devices**.
6. HNS conducts a network scan to determine what devices are connected to your network and to check their security status, providing a **Progress Indicator** and a popup showing the progress of the scan.

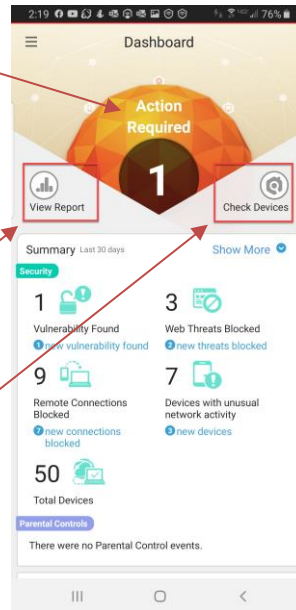


Figure 41. Dashboard > Action Required > View Report > Check Devices

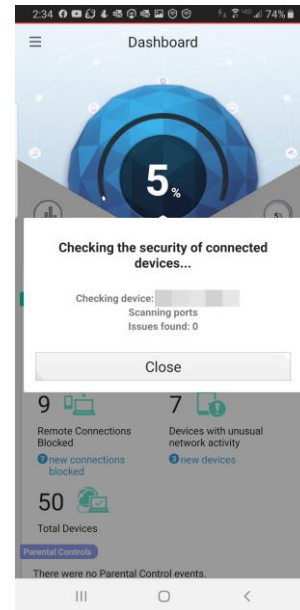


Figure 42. Device Scan Progress Indicator

7. While the scan is being conducted, you can tap the **Back-Arrow** on your device to go back to the **Dashboard**.
8. The **Check Devices** button now shows **Checking Progress**.
9. When the scan is done it returns the result. In this example, **1 Vulnerability Found**.
10. Tap **View Now** to view the issue it has found.

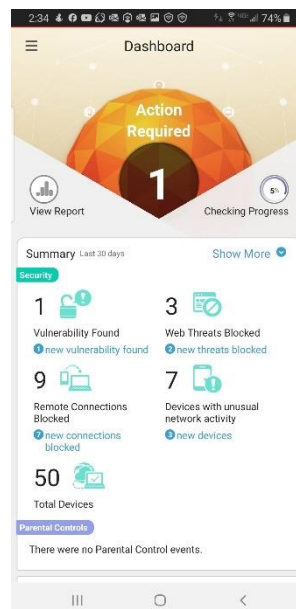


Figure 43. Checking Progress

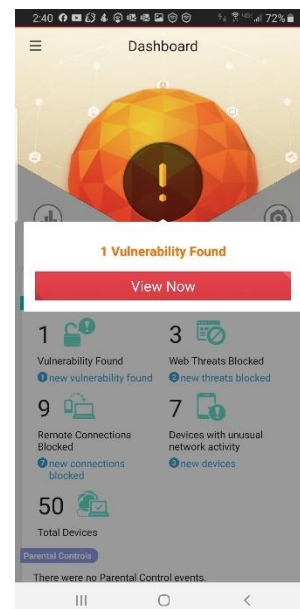


Figure 44. 1 Vulnerability Found

11. In this example, the **Action Required** screen indicates that the router has been discovered with a vulnerability.
12. Tap the panel to obtain the **Issue Details**. Read the **Potential Risk** description to understand the issue.
13. Tap **Recommended Actions** to see what **you can** do to resolve the issue. (You can also tap **Skip for Now** to skip the remediation process.)

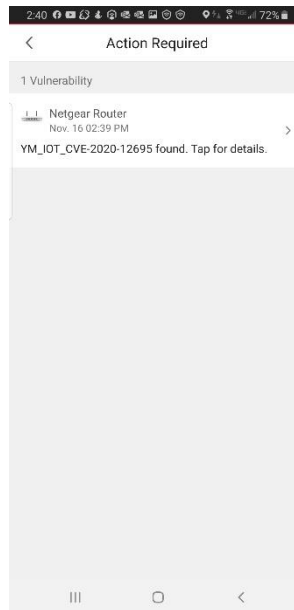


Figure 45. Action Required

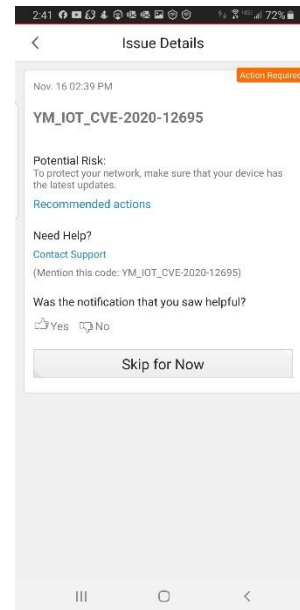


Figure 46. Issue Details

14. The **HNS App** loads your mobile browser and takes you to the **Trend Micro eSupport** site, which provides more details on the issue and recommended actions.
15. Scroll through the page to learn more about the possible risks, what you can do to prevent the problem from happening in the future, and places to go for more answers to any questions you may have about the issue.

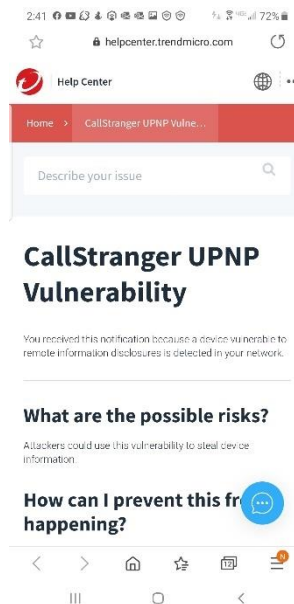


Figure 47. eSupport Page

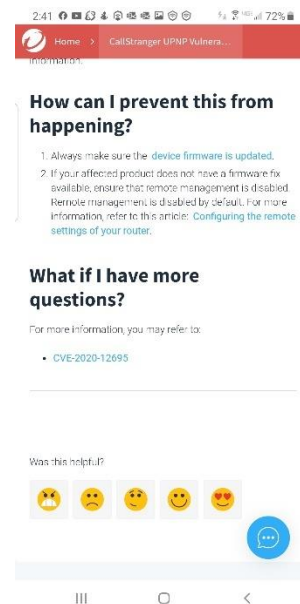


Figure 48. eSupport Page (2)

View Report

To View Report:

1. Back in the **Dashboard**, you can tap **View Report** to view a network report. The **Report** screen appears.
2. In the first tab, you can view **Security Events** by the **Past 14 Days: Previous Week** and **This Week**, and **Most Active - By Family Member**.
3. Scroll the **By Family Member** panel left and right, then tap the relevant icon to select the family member you wish to examine.

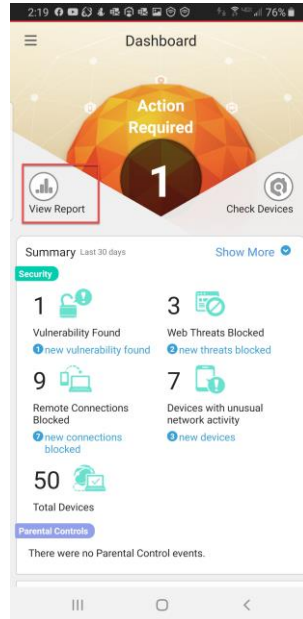


Figure 49. View Report



Figure 50. Security Events - By Family Member

4. Scroll down to view **Most Active** members of your network by **Online Time** and **Traffic Volume**.
5. Similarly, view **Security Events - By Device** for the **Past 14 Days** by tapping the device you wish to examine in the scrollbar.

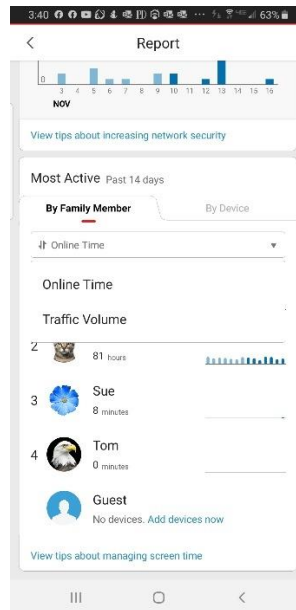


Figure 51. Most Active | Online Time | Traffic Volume - By Family Member

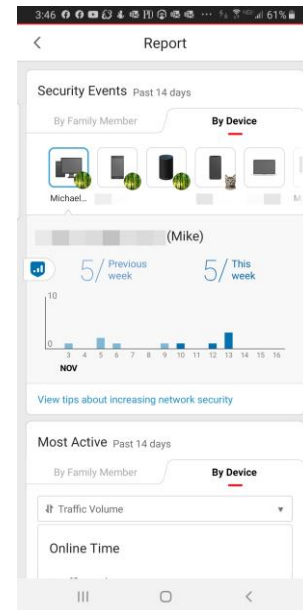


Figure 52. Security Events - By Device

6. Or scroll down to view **Most Active** for the **Past 14 Days - By Device**, either for **Online Time** or **Traffic Volume**.
7. Click the blue links to **View tips** about increasing network security or managing screen time.

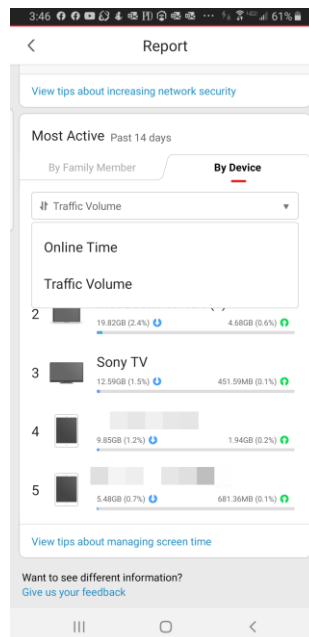


Figure 53. Most Active | Online Time | Traffic Volume – By Device



Figure 54. Tips - Best Practices

Using the Dashboard

To review Dashboard items:

1. Back in the **Dashboard**, you can review HNS **Summary** protection results in the **Security**, **Parental Controls**, **Family Members**, **Top Attacked Devices**, and **Network Usage** panels.
2. Tap the link **Show More/Show Less** to show more or less detail respectively.

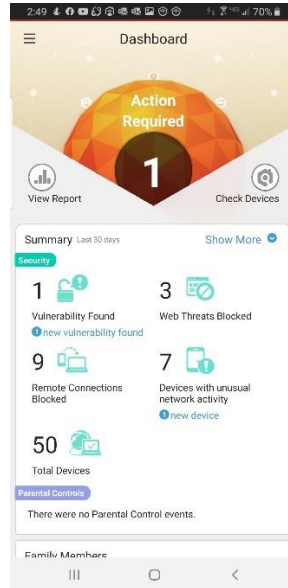


Figure 55. Summary Items > Showing Less

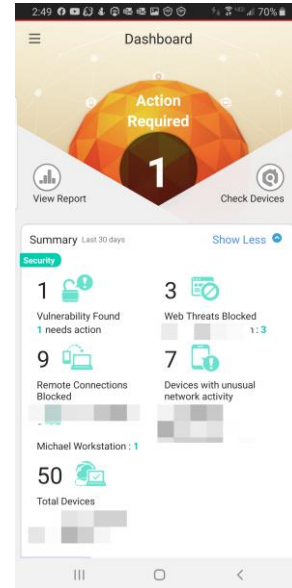


Figure 56. Summary Items > Showing More

3. Tap individual items, e.g., **Vulnerability Found**, **Web Threats Blocked**, **Remote Connections Blocked**, etc., to reveal information on the various threats by device.
4. Tap individual panels to show additional details about particular attacks or threats.

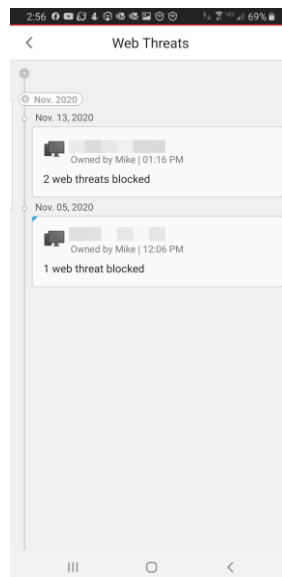


Figure 57. Network Attacks

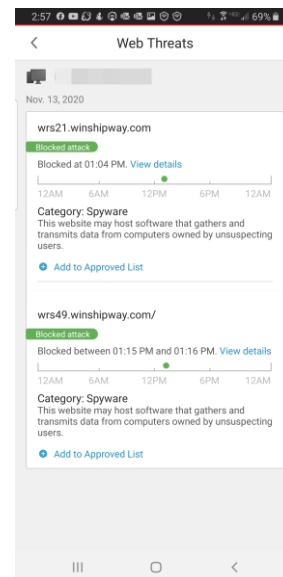


Figure 58. Network Attacks Detail

5. Do the same for **Remote Connections, Total Devices Protected**.
6. Again, tap individual panels to show details about the particular security issue: e.g. the **Remote Access** application blocked.

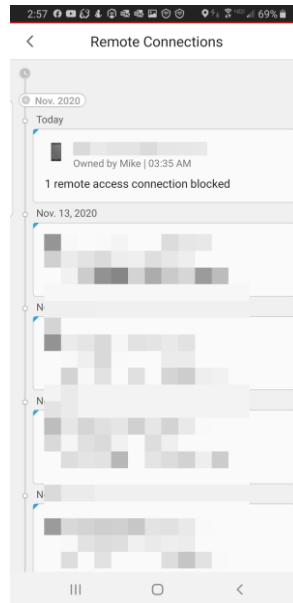


Figure 59. Remote Connections

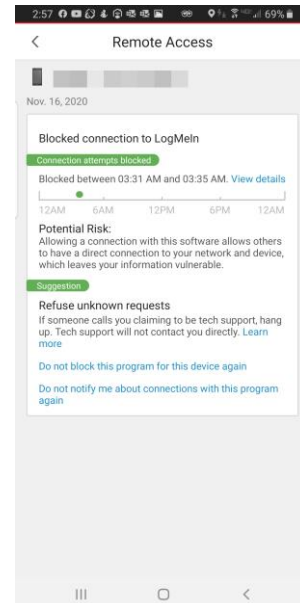


Figure 60. Remote Access App Blocked

7. Tap the **Parental Controls** panel to view **Inappropriate Websites Blocked or Visited**.
8. Tap the panels for the individual instances to get more details on the violation.
9. In the **Family Members** panel, tap an individual family member to access the **Report, Settings, and Device(s)** controlled by the member.

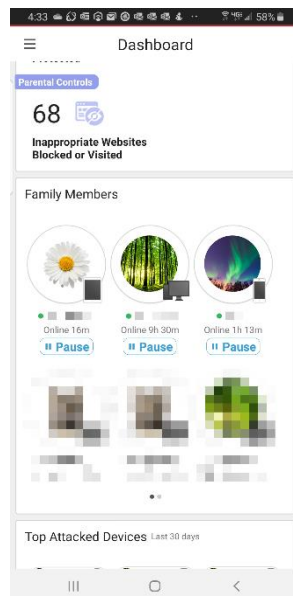


Figure 61. Family Members

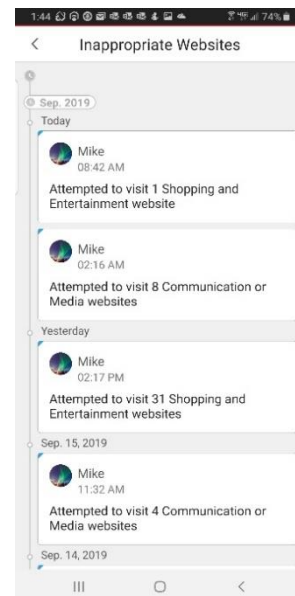


Figure 62. Inappropriate Websites

10. The family member's **Report** informs you about their **Internet Use Today**, including the **Total** number of hours and minutes used, and the total amount of time they spent watching **YouTube**.
11. Tap the **Pause** buttons to **Pause Internet** or **Pause YouTube** for that family member. Tap it again to **Resume** the usage.
12. Tap **Parental Controls** for that person. Here you can set up **Trend Micro Guardian** to protect your kids away from home, **Filtering**, **Inappropriate App(s) Used**, **Time Limits**, and **Connection Alert(s)**.

(See the [Family](#) section in this guide for setup details.)

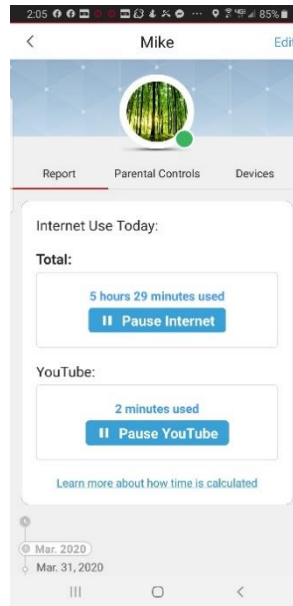


Figure 63. Pause Internet or YouTube

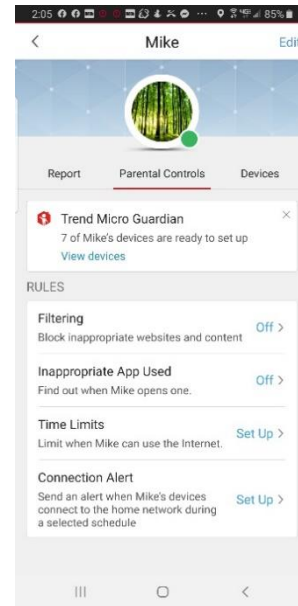


Figure 64. Parental Controls Setup

13. Tap the **Devices** tab to see a list of the devices controlled by the family member, then tap any individual device icon for more details about it.
14. In the device's **Settings** tab, toggle **Allow Home Network Access On** or **Off**, to control the device's access to the network.
15. Tap **Trend Micro Guardian Set Up** to set up the device for **Additional Protection** for a child's device outside the home network.
16. Tap the specific device information, e.g., **Owner, Name, Type**, etc., to assign new ownership or to view or edit the item, using the relevant menu or editor.

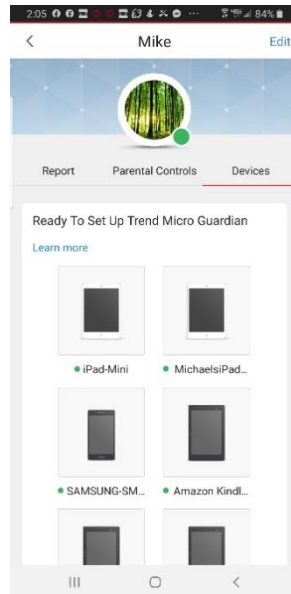


Figure 65. Device List by Owner

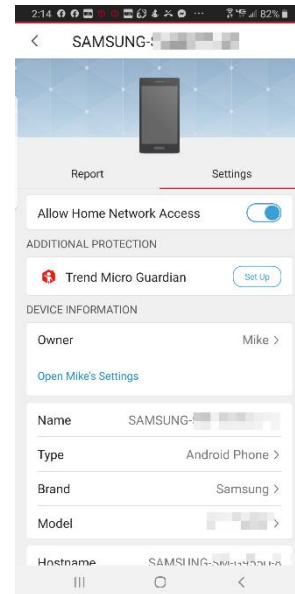


Figure 66. Device Settings

17. Tap the **Report** tab to obtain a **Protection Report** for the various categories of protection; then tap individual panels for more details on that section of the report.

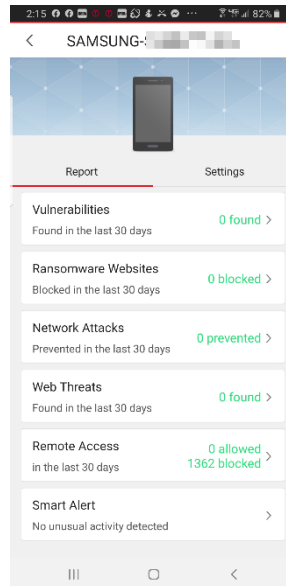


Figure 67. Device Report

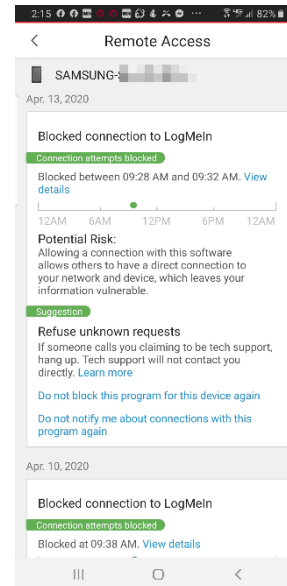


Figure 68. Remote Access Risk Blocked

18. The **Report** and **Settings** tabs for devices are also available by tapping a device icon in the **Top Attacked Devices** section of the **Dashboard**.
19. Back in the bottom of the main **Dashboard** screen, tap **Network Usage** to obtain **Download** and **Upload** network consumption for the **Last 7** or **30 Days**, with a graph showing overall consumption and a list of **Download/Upload** consumption by device.

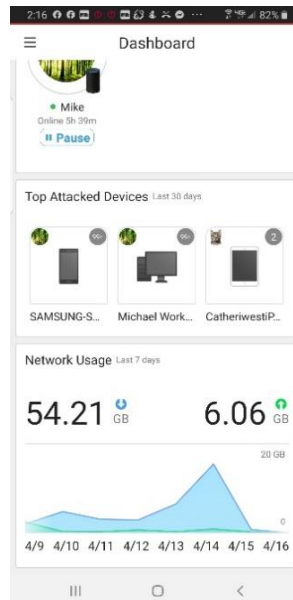


Figure 69. Network Usage

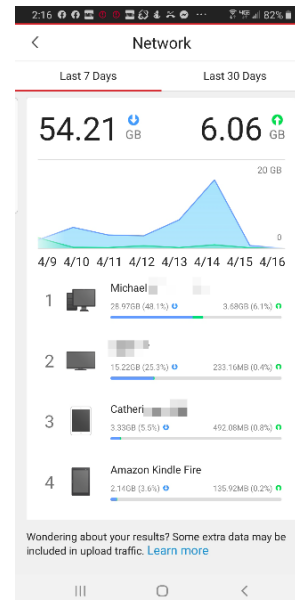


Figure 70. Network Usage > Last 30 Days

Timeline

The **Timeline** provides a handy list by date of all issues discovered by Home Network Security, letting you monitor or take action to address them.

To use the Timeline:

1. Tap **Timeline** in the **Command Menu**. The **Timeline** displays.
2. Review all items in the **Timeline** by tap-holding and scrolling down the screen.

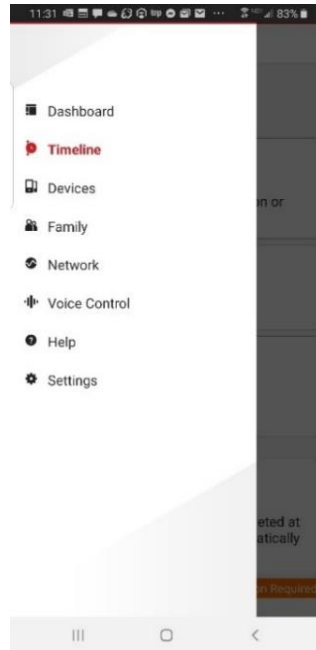


Figure 71. Timeline Menu Item

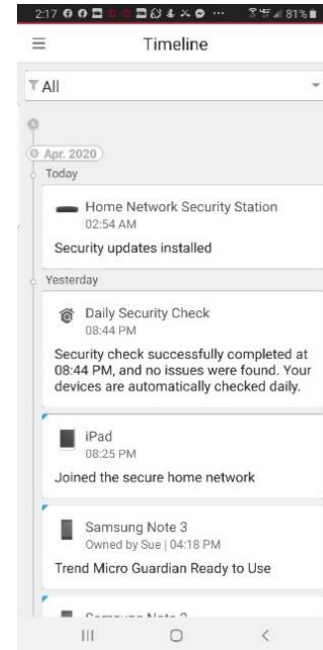


Figure 72. Timeline > Scroll Down

3. Use the **Filter** menu to filter issues by **Show All, Security, Parental Controls, Connections, Action Required, or System**.
4. Tap individual items to display the **Issue Details**.
5. As previously noted, tap **Recommended Actions**, if available, to obtain instructions for what you can do to address the problem.

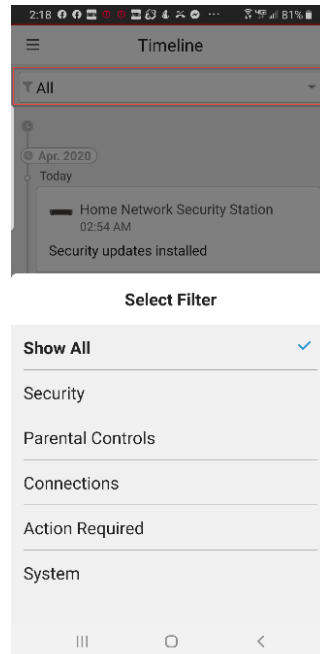


Figure 73. Timeline > Scrolled Down

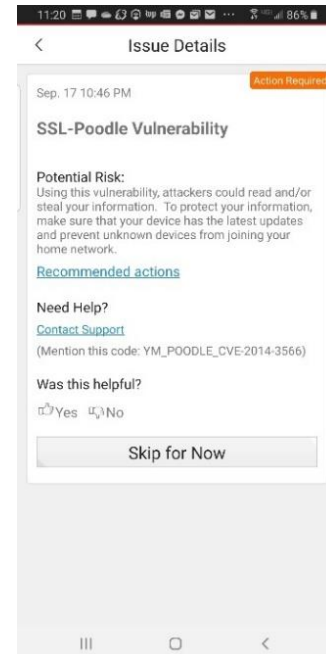


Figure 74. Issue Details

Devices

The **Devices** function lets you view **All Devices** or **Online Devices** assigned or unassigned to family members.

To use **Devices**:

1. Tap **Devices** in the **Command Menu**. The **Devices** screen appears.
2. Use the drop-down menu at the top to filter the **Devices** list by **All Devices** or **Online Devices**.
3. Tap the icon for an individual device to display the **Settings** screen for the device.

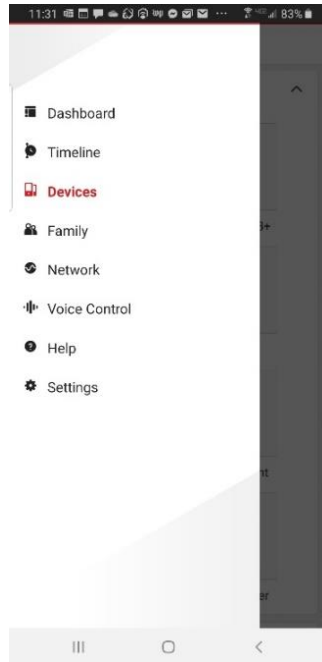


Figure 75. Devices Menu Item

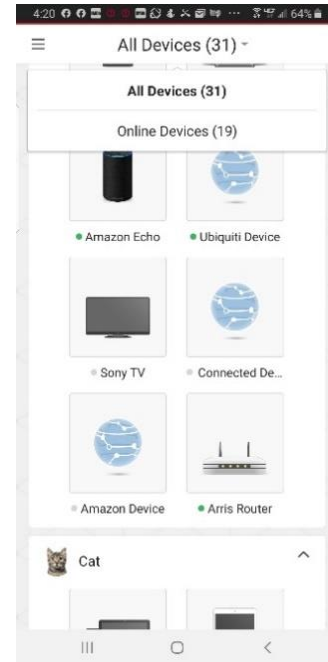


Figure 76. Online Devices > All Devices

4. Tap **Owner** to change the owner to another family member, guest, or to move the device back to the unassigned list by tapping **Move to Unassigned**.
5. Edit fields or selection menus allow you to edit/change items in the other settings.
6. As previously indicated, the **Report** tab provides details on security issues pertaining to the device.

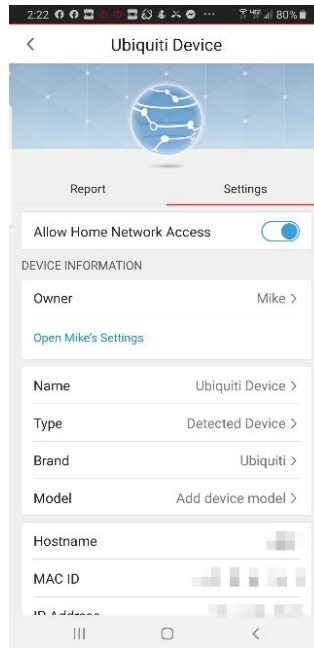


Figure 77. Access Point Device

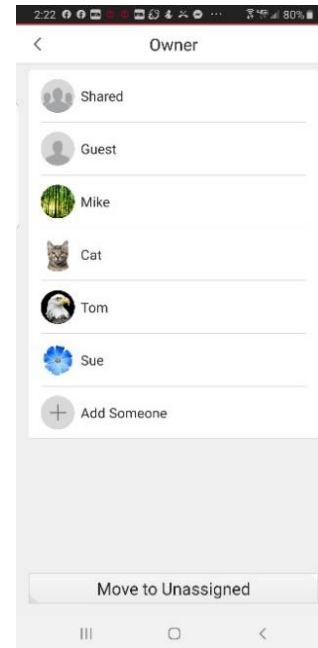


Figure 78. Owner > Move to Unassigned

Family: Members, Devices, and Parental Controls

You can add new family **Members** and the **Devices** they control. You can also set up **Parental Controls** for any family member and their devices, using the **Filtering** function to block **Inappropriate Websites and Content**. You can also block **Inappropriate Apps**, set **Time Limits** for internet use, and get a **Connection Alert** in your device's pull-down **Notification** menu whenever the family member's devices try to connect within the preset monitoring period.

To extend **Parental Controls** beyond your home network, you can install **Trend Micro Guardian** on your child's mobile devices and pair with HNS. Once set up, the supported **Parental Control** rules will apply to your child's device on any Wi-Fi or mobile network, at home or out in the world.

Add a Family Member and the Devices They Control

To add a family member:

1. Tap **Family** in the **Command Menu**. The **Family** member list appears.
2. In the **Family** member list, scroll down the list if you need to, then tap the **Plus (+)** button to **Add Someone**.

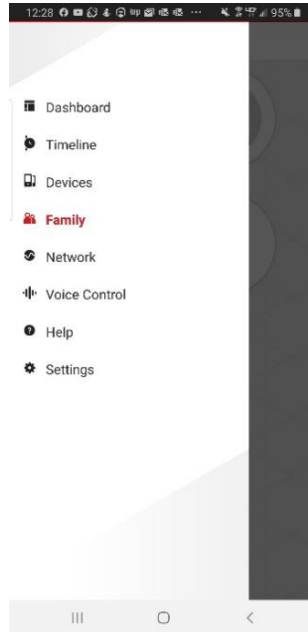


Figure 79. Family Menu Item

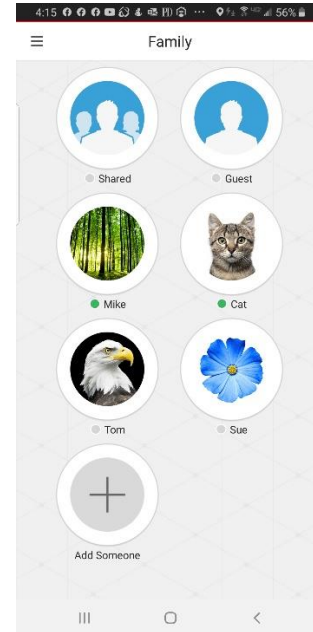


Figure 80. Family Member List > Add Someone (+)

3. In the **Name** field of the **Name This Person** screen, type a name, then tap **Next**.
4. **Choose a Picture** to help you identify the family member in your **Family Member** list, then tap **Next**.

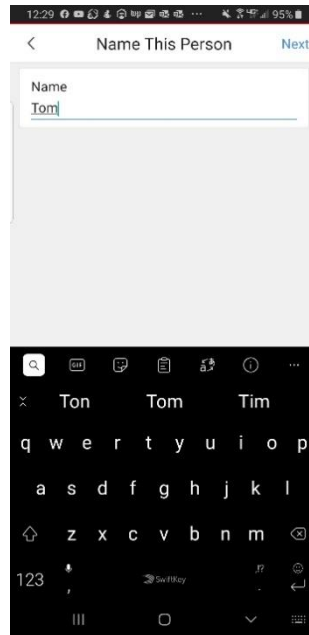


Figure 81. Name This Person

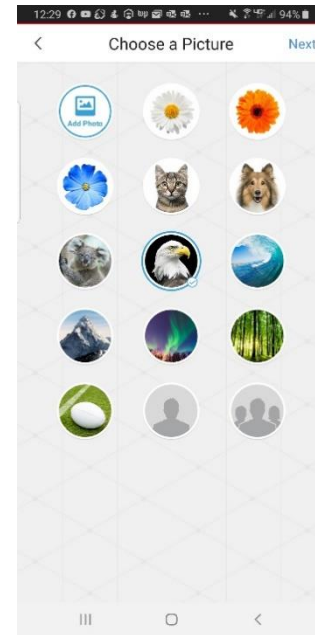


Figure 82. Choose a Picture

5. **Assign Devices** to the person by tapping the device(s) in the **Unassigned** panel. The devices you select will move into the ownership panel for that person.
6. Tap **Done**. You're then presented with the **Parental Controls** screen for that person, where you can apply **Parental Control Rules** as you see fit. (See below.)

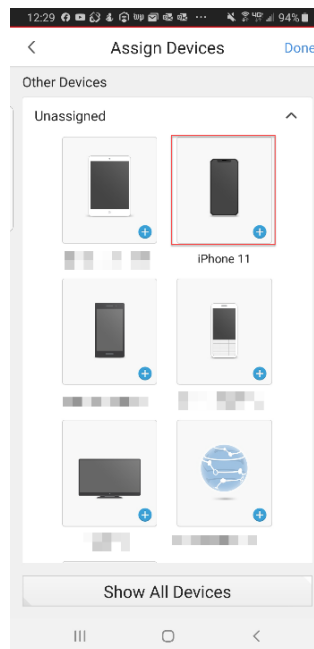


Figure 83. Assign Devices (1)

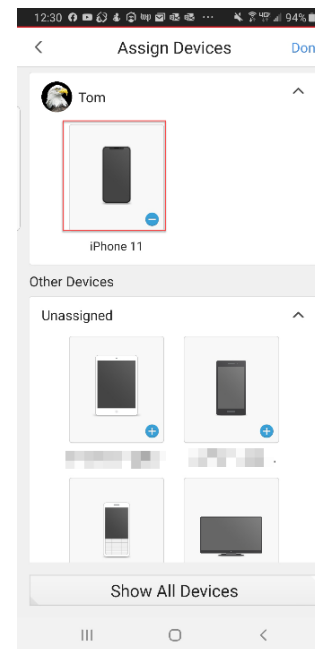


Figure 84. Assign Devices (2)

Install Trend Micro Guardian and Set Up Uninstall Protection

Once you've assigned a device to a child, it's recommended that you install **Trend Micro Guardian** on the child's device before setting up **Parental Controls**, because **Guardian** will extend those controls to the child's smartphone or tablet to protect them when they go beyond your network. Once installed, you need to protect it from uninstallation.

You may also conduct the **Trend Micro Guardian** setup process *after* you've defined the **Parental Controls** rules for your child. Once installed, **Guardian** accepts the rules already defined and applies them to the child's device when they're outside the home.

Both processes—**Guardian Installation** and **Uninstall Protection**—are set up slightly differently on an iOS or Android device. See the relevant sections below.

Install Guardian on an iOS Device

The install example below uses an Apple iPhone 11 assigned to the child "Tom."

To Install Trend Micro Guardian on an iOS Device:

- Once the iOS device is assigned to a family member, e.g., "Tom," you can install **Trend Micro Guardian** on it.
- Tap the **Trend Micro Guardian** popup panel in **Parental Controls** to begin the installation.
- An **Introducing Trend Micro Guardian** popup appears, where you can read about the protection **Trend Micro Guardian** provides:
 - >Mobile devices use the same rules as inside your home network.
 - >Your child is protected online, on all networks.
 - >Set Time Limits and block access, both inside and outside the home.
- Tap **Set Up Now**.

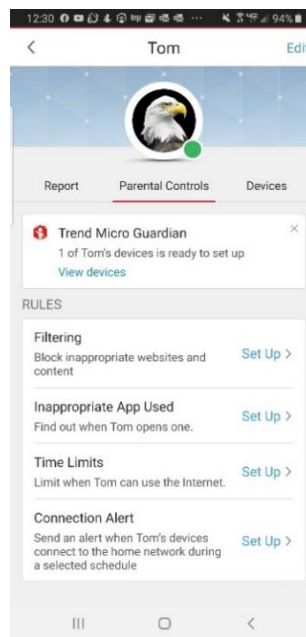


Figure 85. Trend Micro Guardian Popup Panel

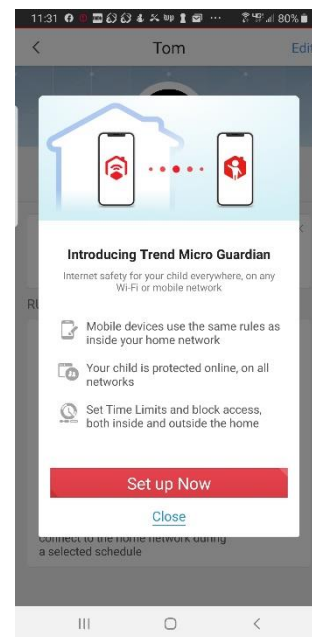


Figure 86. Introducing Trend Micro Guardian

5. A device list appears with device(s) ready for **Trend Micro Guardian**.
6. Tap a device to begin. A screen appears for you to install **Trend Micro Guardian** on your child's device.
7. Using the child's device, search for **Trend Micro Guardian** in the Apple App Store, or scan the **QR Code** with a QR Code Scanner to get the link to the app.



Figure 87. Device List for Child

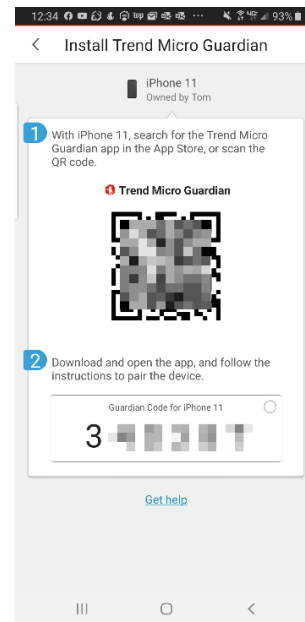


Figure 88. Install Trend Micro Guardian

8. **Trend Micro Guardian** appears in the Apple App Store on the child's device.
9. Tap the **Get** or **Cloud Download** icon or to get the app. If needed, the **App Store Account** screen appears for your approval.
10. If you approve the install, tap **Install**.



Figure 89. Trend Micro Guardian on Apple App Store

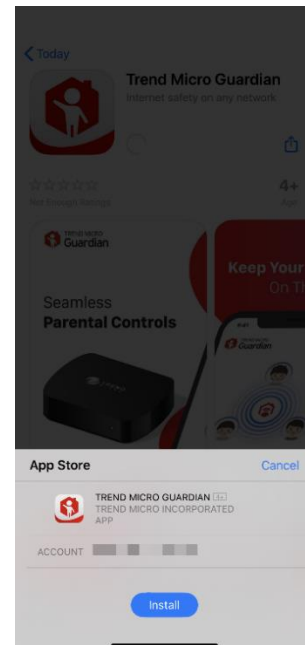


Figure 90. App Store Account Popup

11. If you're not signed in, the App Store asks you to **Sign In with Apple ID** password.
12. Enter your password and tap **Sign In**. **Trend Micro Guardian** downloads and installs
13. Tap **Open** to open the app.

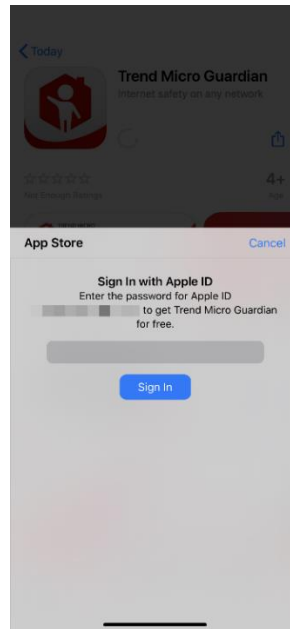


Figure 91. Sign in with Apple ID



Figure 92. Trend Micro Guardian Installed

14. The **Privacy and Personal Data Collection Disclosure** screen appears.
15. Read the disclosure, which outlines what kind of data **Trend Micro Guardian** collects.
16. If you agree, check **"I agree to share user usage data to help improve this app"** and tap **Accept and Continue**.
17. An instructional screen appears describing the Internet Security it provides for your child. Tap **Accept and Continue**.

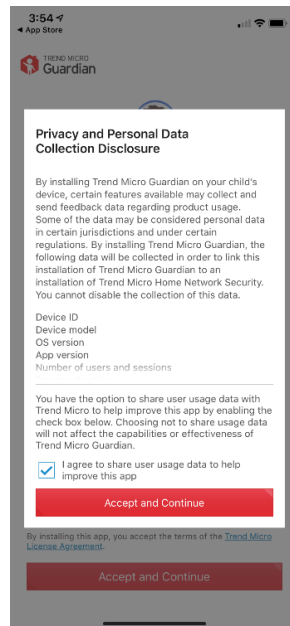


Figure 93. Privacy and Personal Data Collection Disclosure

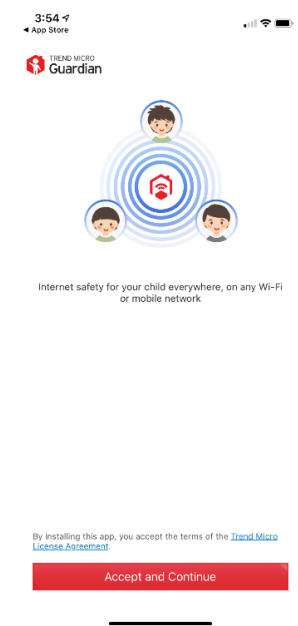


Figure 94. Instructional Screen (1) - Accept and Continue

18. A second instructional screen appears describing how mobile devices use the same rules inside and outside the home network.
19. Tap **Next**. The **Pair Now** screen appears.
20. Tap **Pair Now**.



Figure 95. Instructional Screen (2) - Next



Figure 96. Pair Now

21. Back on the managing device, view the **Pairing Code** in the **Trend Micro Home Network Security** application.
22. On the child's device, enter the **Pairing Code** that's currently showing on the managing device into the **Trend Micro Guardian** app.

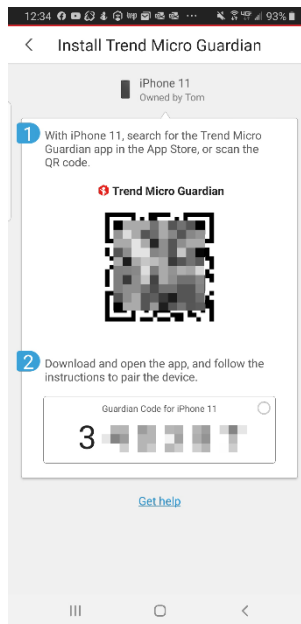


Figure 97. Get Pairing Code

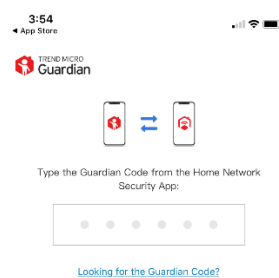


Figure 98. Type in Guardian Pairing Code

23. The **Pairing Complete** screen appears, showing the process of pairing as it checks the settings and pairs.
24. When the pairing process has finished, a screen appears indicating that **Trend Micro Guardian** needs the following permissions: **Notification** and **Install the Configuration Profile**.
25. Tap **Allow Permissions**.



Figure 99. Pairing Process

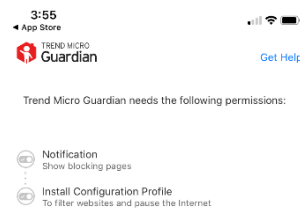


Figure 100. Allow Permissions

26. A popup appears, asking **“Guardian” Would Like to Send You Notifications**.
27. Tap **Allow**. The **Profile installation** screen appears.
28. Tap **Download Profile** to download and install the profile.

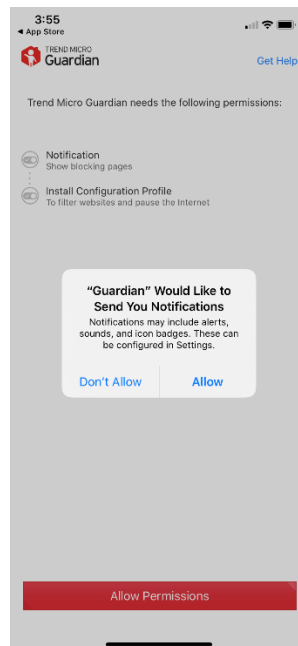


Figure 101. Notifications

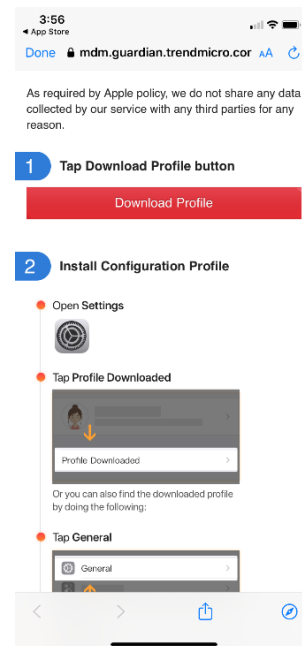


Figure 102. Download Profile

29. A popup appears, indicating **“This website is trying to download a configuration profile. Do you want to allow this?”**
30. Tap **Allow**. A popup appears, indicating **Profile Downloaded**.
31. Tap **Close**, then go to your device **Settings** screen.

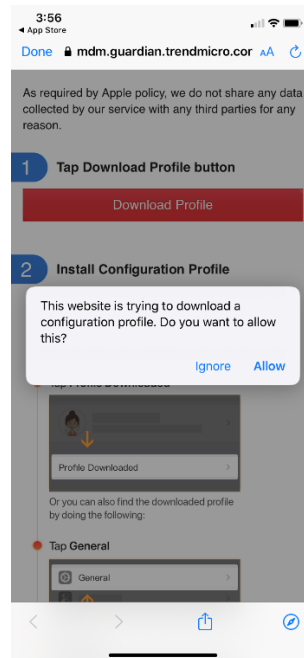


Figure 103. Allow Download of Profile

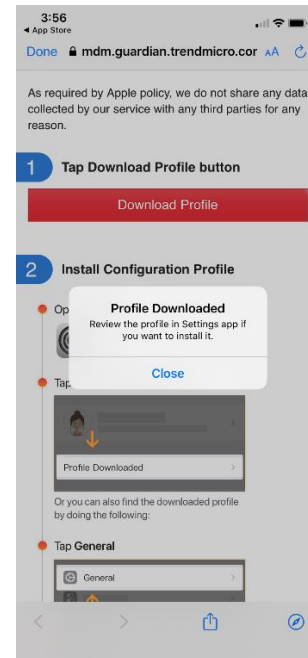


Figure 104. Profile Download

32. In the **Settings** screen, tap **Profile Downloaded**. A screen appears for you to **Install Profile**.
33. Tap **Install**.

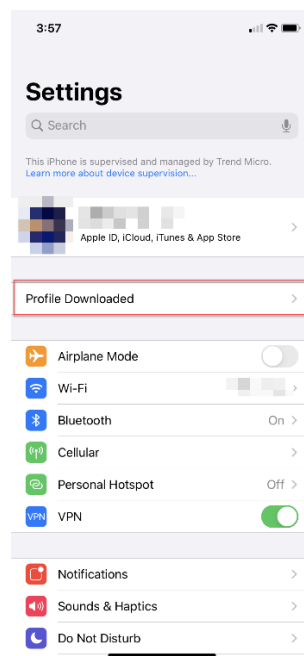


Figure 105. Profile Downloaded

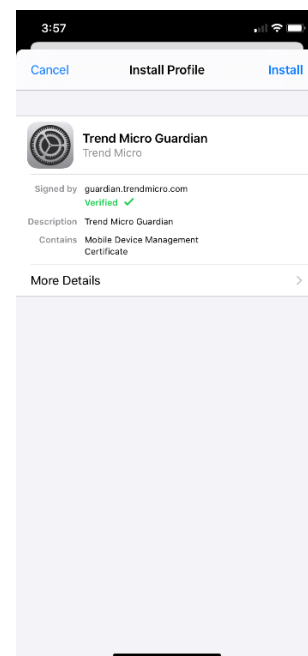


Figure 106. Install Profile

34. The **Enter Passcode** screen appears.
35. Enter the passcode you use to access your Apple device.
36. A **Warning** screen appears, indicating the **Mobile Device Management (MDM)** controls and data collection processes that will allow the administrator to remotely manage the phone.
37. Read the warning and if you agree, tap **Install**.

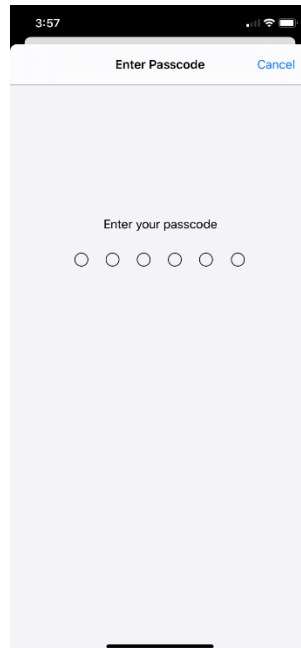


Figure 107. Enter Passcode

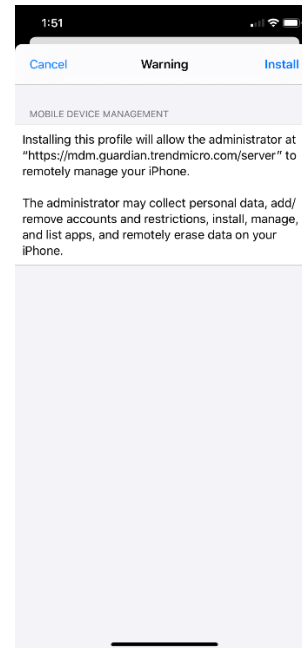


Figure 108. Warning

38. A popup appears, asking if you trust this profile's source to enroll your phone into **Remote Management**.
39. If you agree, tap **Trust**, then **Done**.
40. The **Trend Micro Guardian Profile** installs and displays the **Trend Micro Guardian Device Management** screen (MDM). The **MDM Profile** is now installed.

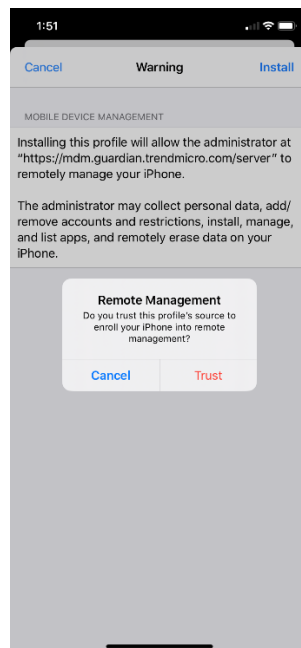


Figure 109. Trust Remote Management

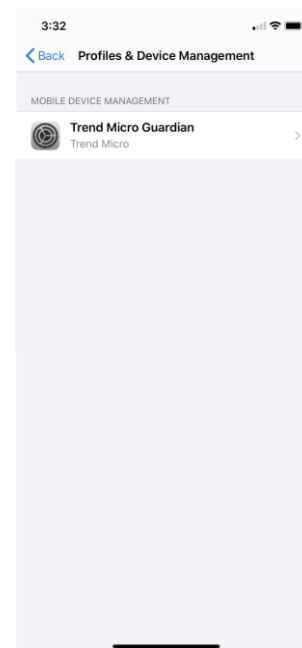


Figure 110. Trend Micro Guardian MDM Installed

41. Tap **Trend Micro Guardian** to view the **Profile**.
42. In the future, if you need to remove the profile for **Trend Micro Guardian** you'll return to this screen and tap **Remove Management**.
43. For now, exit **Settings** and tap the **Guardian** icon on your child's device.

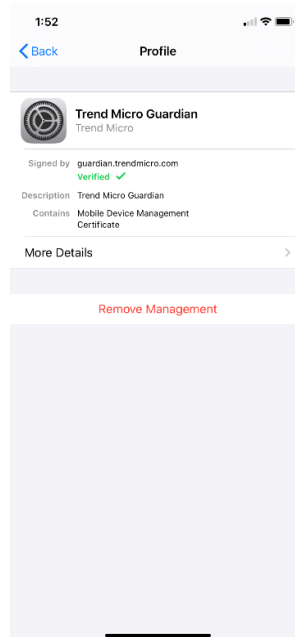


Figure 111. Profile - Remove Management

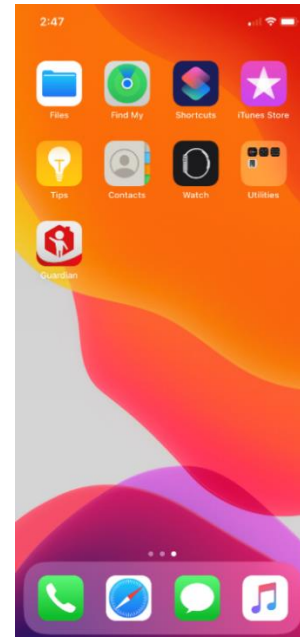


Figure 112. Guardian Icon

44. **Guardian** loads and a popup indicates **Ready to Manage**.
45. Tap **OK**. A popup appears, asking if you **Need Uninstall Protection?** This lets you set up **Restricted Mode** to prevent your child from uninstalling **Guardian**.
46. Tap **Learn More** to learn how to set up **Restricted Mode** for the **Guardian** app. An **Instructional** screen appears.

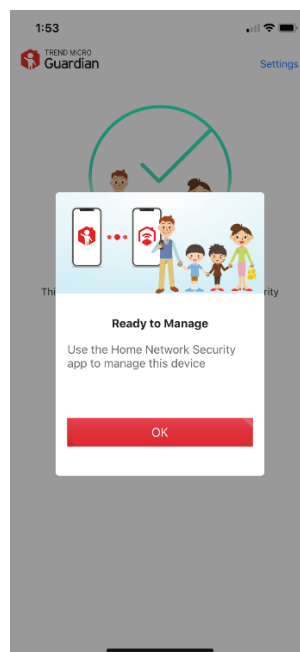


Figure 113. Ready to Manage

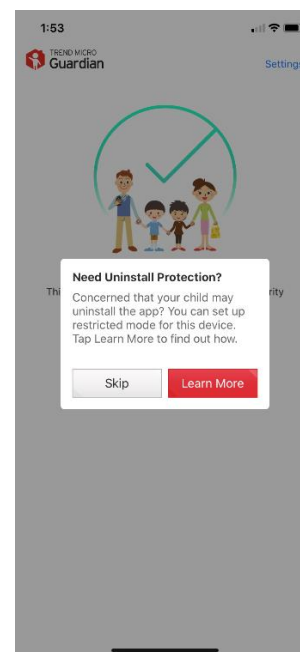


Figure 114. Need Uninstall Protection?

47. Follow the instructions for your child's device to set up **Restricted Mode**. (See the section **Restricted Mode** following for more detailed instructions.)
48. Back in **Guardian**, the main screen shows **Trend Micro Guardian is Active**.

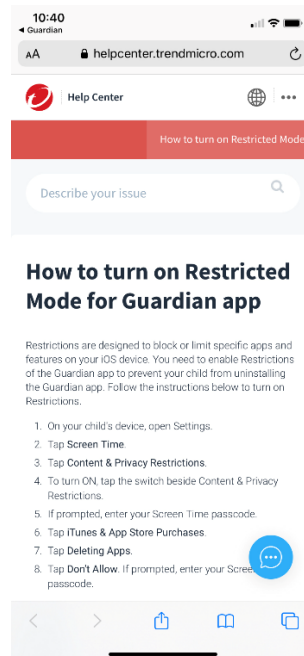


Figure 115. Restricted Mode

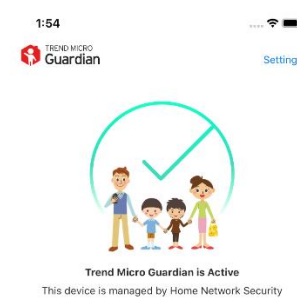


Figure 116. Trend Micro Guardian is Active

49. Back on your managing device, click **Continue**.
50. A screen appears, showing that **Trend Micro Guardian** is now installed on the child's phone.
51. You may tap the panel **Owned by "Child"** to open the **Parental Control Settings**, or tap **Uninstall Protection** panel to learn more about activating uninstall protection.

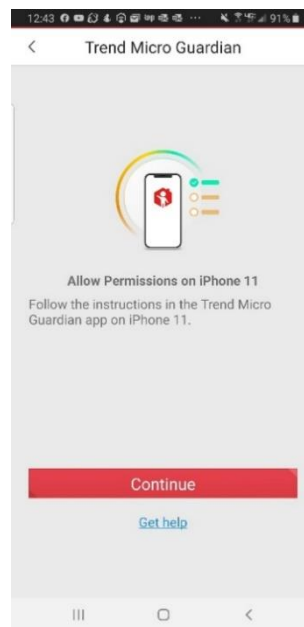


Figure 117. HNS Managing Device: Continue



Figure 118. Guardian Installed on Child's Device

52. In the future, you'll tap a **Family Member** to access the **Report** panel, **Parental Controls**, and **Devices** controlled by that member.

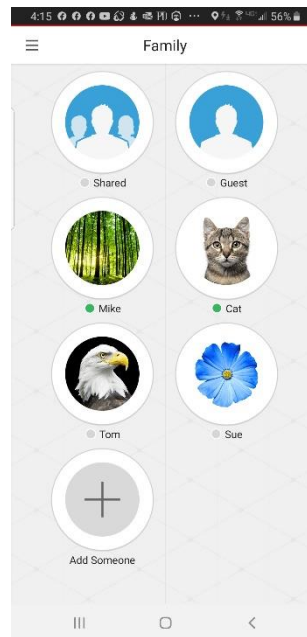


Figure 119. Family Member List

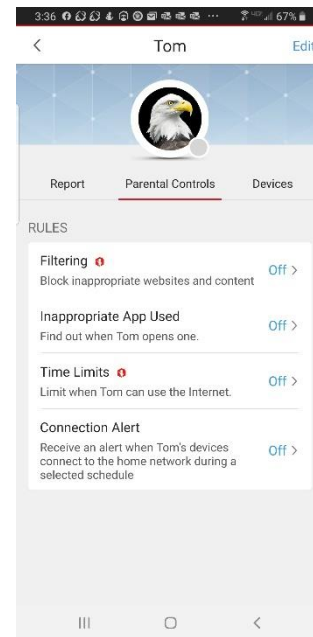


Figure 120. Family Member: Report, Parental Controls, Devices

Set Up Guardian Uninstall Protection on an iOS Device

On your child's device, turn on **Restricted Mode** to prevent the child from uninstalling **Trend Micro Guardian**. While you're at it, turn on **Always Allowed** to make sure you can manage your child's device at all times using the **Home Network Security** management app with **Guardian**.

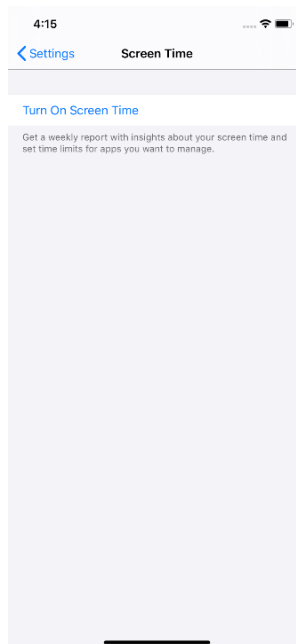
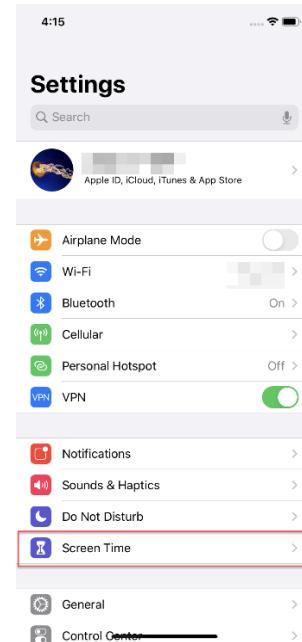
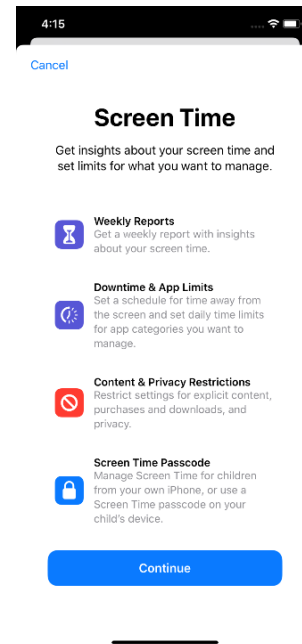
The instructions below use an iPhone 11 and provide the fastest route to turning on **Uninstall Protection** and **Always Allowing Guardian** within the **Screen Time** settings. Your choices may differ depending on the age of your child. You can enable/disable additional **Screen Time** functions later at any time.

To turn on Restricted Mode:

1. On your child's device, tap **Settings**. The **Settings** screen appears.
2. In the **Settings** screen, tap **Screen Time**. The **Turn On Screen Time** screen appears.

**Figure 121. Settings**

3. Tap **Turn On Screen Time**. An overview screen appears.
4. Tap **Continue**.

**Figure 123. Turn On Screen Time****Figure 122. Screen Time****Figure 124. Screen Time Overview**

5. The resulting **Screen Time** screen asks: **Is This iPhone for Yourself or Your Child?** Tap **This is My Child's iPhone**.
6. In the **Downtime** screen, tap **Not Now**. This setting will be managed by **Home Network Security**.

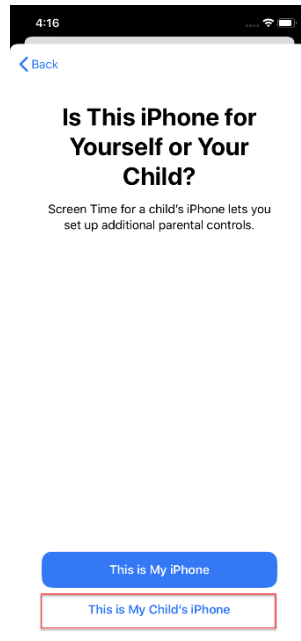


Figure 125. This is My Child's Phone

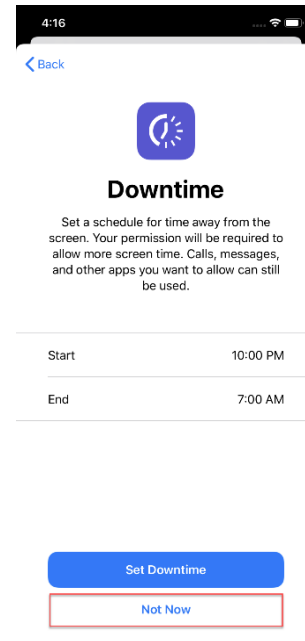


Figure 126. Downtime > Not Now

7. In the **App Limits** screen (a future item), tap **Not Now**. This also will be managed by **Home Network Security** when it's available.
8. In the **Content & Privacy** screen, tap **Continue**.

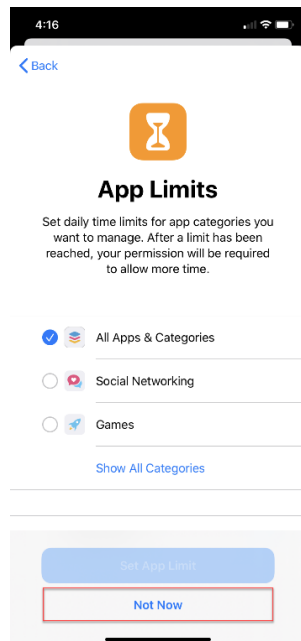


Figure 127. App Limits > Not Now

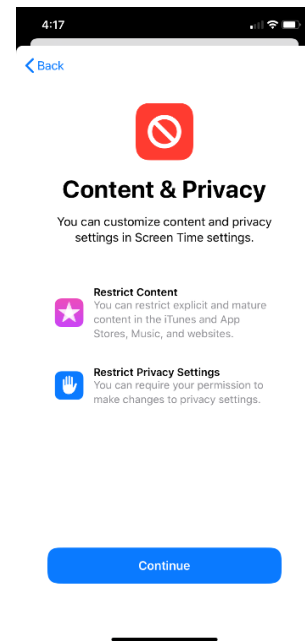


Figure 128. Content & Privacy > Continue

9. Enter a **Screen Time Passcode** in the first screen. A second screen appears for validation of the passcode.
10. **Re-enter your Passcode** in the second **Screen Time Passcode** screen. The **Screen Time Passcode Recovery** screen appears, to save your passcode in your Apple account, so you can recover it should you forget it.

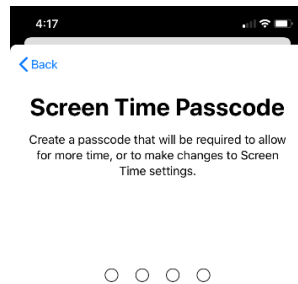


Figure 129. Screen Time Passcode (1)

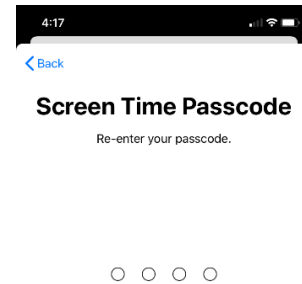


Figure 130. Screen Time Passcode (2)

11. In the **Screen Time Passcode Recovery** screen, enter your **Apple ID and Password**. Make sure the credentials you enter are your own—not the same ones you used to register the child's device.
12. The **Screen Time** screen appears. Tap **Always Allowed**.

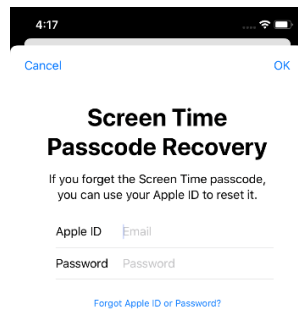


Figure 131. Screen Time Passcode Recovery

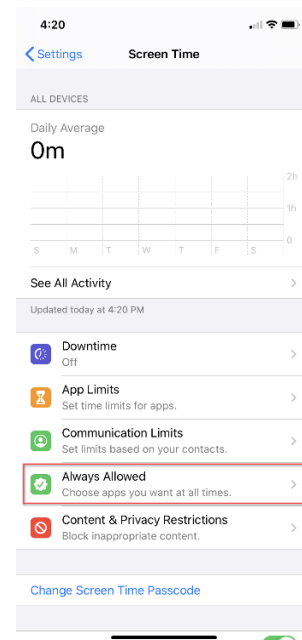
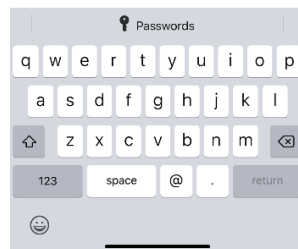


Figure 132. Screen Time > Always Allowed

13. In the **Always Allowed** screen, tap the **Guardian Add (+)** sign to add it to **Allowed Apps**.
14. Enter your **Screen Time Passcode** again, to ensure **Guardian's Always Allowed** status cannot be changed without the passcode.

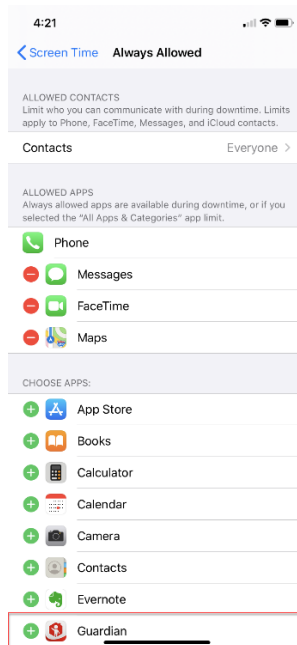


Figure 133. Guardian

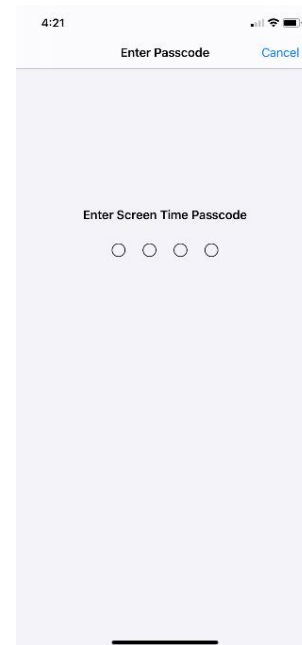


Figure 134. Enter Screen Time Passcode

15. **Guardian** is now listed in **Allowed Apps** list.
16. Back in the **Screen Time Settings**, tap **Content & Privacy Restrictions**.

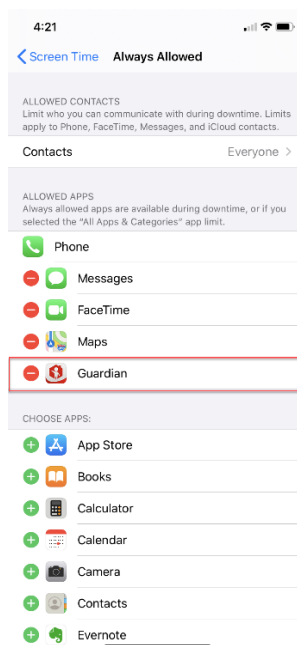


Figure 135. Guardian Always Allowed

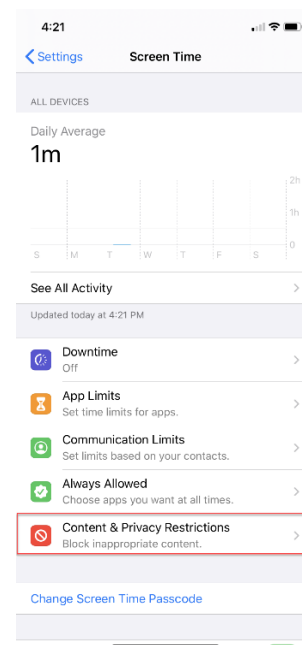


Figure 136. Content & Privacy Restrictions

17. Toggle **Content & Privacy Restrictions** to **On**.
18. Tap **iTunes & App Store Purchases**.
19. The settings for **Installing, Deleting, and In-app Purchases** are shown in the **iTunes & App Store Purchases** screen as **Allow** by default.
20. Change the settings as you see fit, appropriate to the age and app options you give to your child, but ensure you tap **Don't Allow** for **Deleting Apps**.
21. In our example, in **Store Purchases & Redownloads** we check **Don't Allow** for **Installing Apps...** for **Deleting apps...**

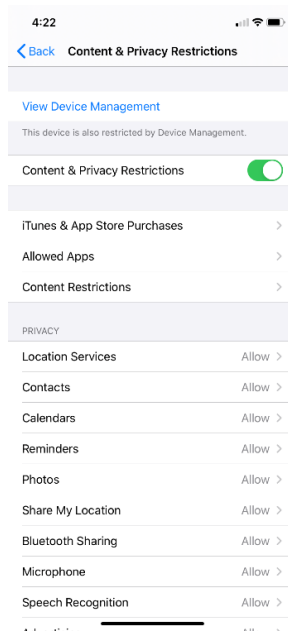


Figure 137. Content & Privacy Restrictions On

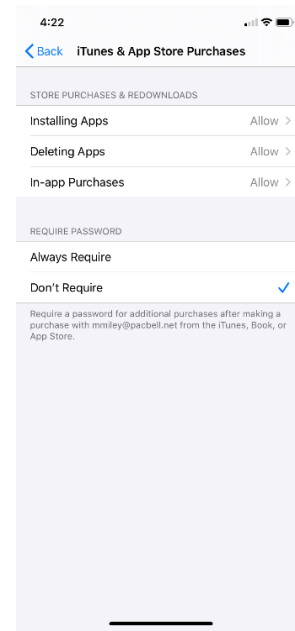


Figure 138. Store Purchases & Downloads - Change to Don't Allow

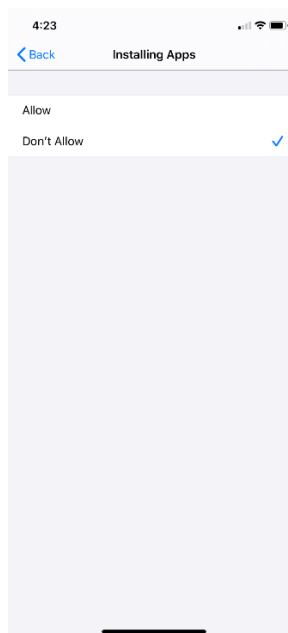


Figure 139. Installing Apps > Don't Allow

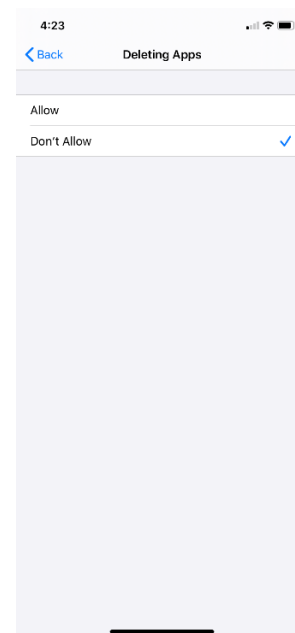


Figure 140. Deleting Apps > Don't Allow

and for **In-App Purchases**.

22. Tap **Always Require** to require the passcode anytime an attempt is made to change these settings.
23. In summary, your child will now be restricted from **Installing apps**, **Deleting apps**, and making **In-app Purchases** and the password is required to change the settings.
24. Also, **Trend Micro Guardian** cannot be uninstalled without first entering the **Screen Time Passcode/Password**.

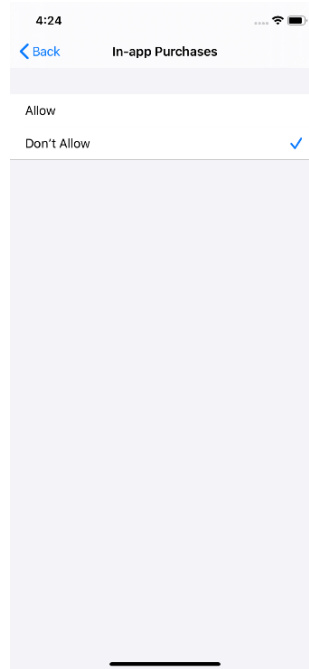


Figure 141. In-app Purchases > Don't Allow

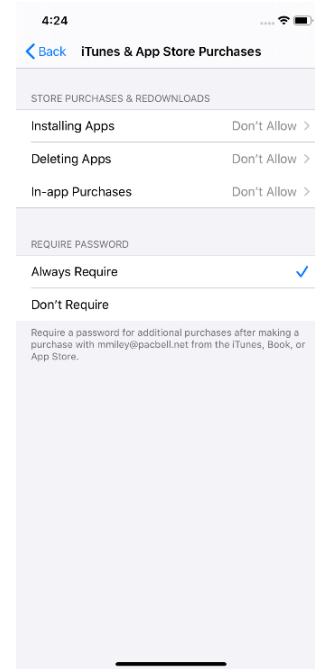


Figure 142. Always Require Password for Changes

Install Guardian on an Android Device

The install example below uses a Samsung Galaxy Note 3 assigned to the child “Sue.”

To install Guardian on an Android Device:

1. Once you’ve assigned the Android device to a family member, e.g., “Sue,” you can install **Trend Micro Guardian** on it.
2. Tap **View Devices** in the **Trend Micro Guardian** popup panel in **Parental Controls** to begin the installation.
3. An **Introducing Trend Micro Guardian** popup appears, where you can read about the protection **Trend Micro Guardian** provides.
4. Tap **Next**.

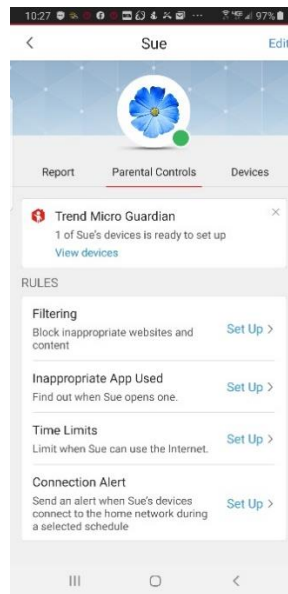


Figure 143. Parental Controls

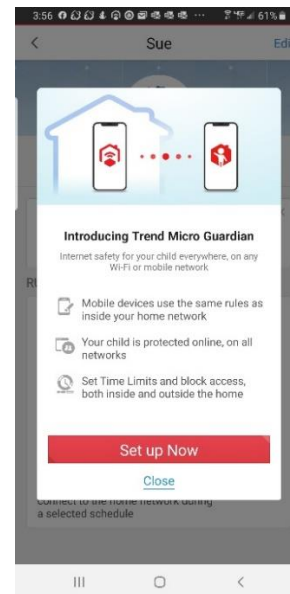


Figure 144. Introducing Trend Micro Guardian

5. A device list appears with device(s) ready for **Trend Micro Guardian**.
6. Tap a device to begin. A screen appears for you to install **Trend Micro Guardian**.
7. Using the child's device, search for **Trend Micro Guardian** in **Google Play**, or scan the **QR Code** with a QR Code Scanner to get the link to the app.



Figure 145. Tap a Device to Begin

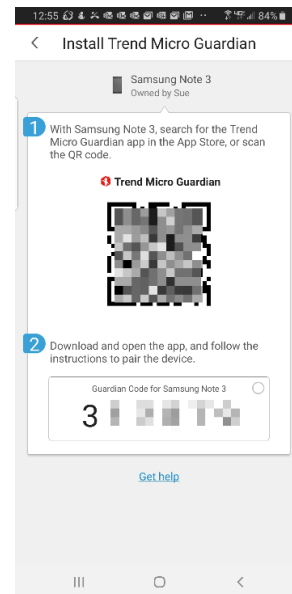


Figure 146. Install Trend Micro Guardian

8. **Trend Micro Guardian** appears in **Google Play** on the child's device. (Or you may pick it from a list if you searched for it, and the **Install** screen shows.)
9. Tap **Install**. The **App Manifest** appears, showing what data on your device **Trend Micro Guardian** has access to. Tap the down-arrows for details.
10. If you approve the install, tap **Accept**.

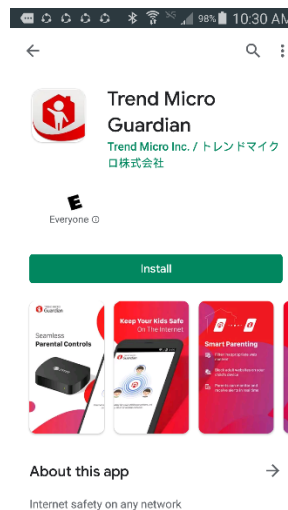


Figure 147. Google Play > Trend Micro Guardian

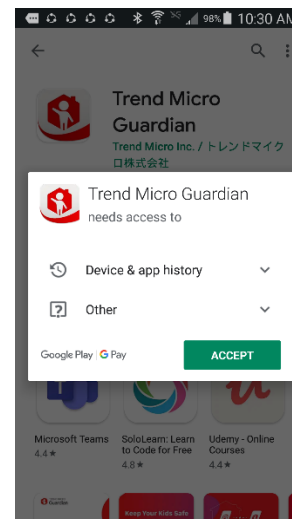


Figure 148. Continue

11. If you're not signed into **Google Play**, it asks you to sign in with your **Account** credentials.
12. Enter your Account ID and Password and tap **Next**. **Trend Micro Guardian** downloads and installs.
13. Tap **Open** to open the app.

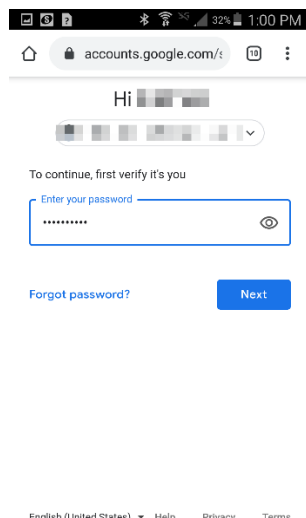


Figure 149. Enter Google Account Credentials

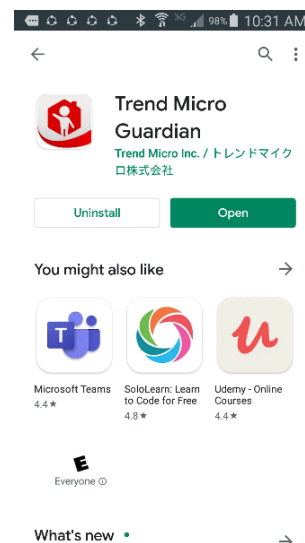


Figure 150. Trend Micro Guardian Installed

53. The **Privacy and Personal Data Collection Disclosure** screen appears.
54. Read the disclosure, which outlines what kind of data **Trend Micro Guardian** collects.
55. If you agree, check “**I agree to share user usage data to help improve this app**” and tap **Accept and Continue**.

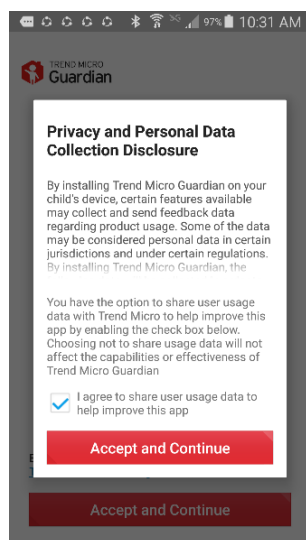


Figure 151. Privacy and Personal Data Collection Disclosure



Figure 152. Accept and Continue

14. An instructional screen appears describing the Internet Security it provides for your child.
15. Tap **Accept and Continue**.

16. A second instructional screen appears describing how mobile devices use the same rules inside and outside the home network.
17. Tap **Next**. The **Pair Now** screen appears.
18. Tap **Pair Now**.

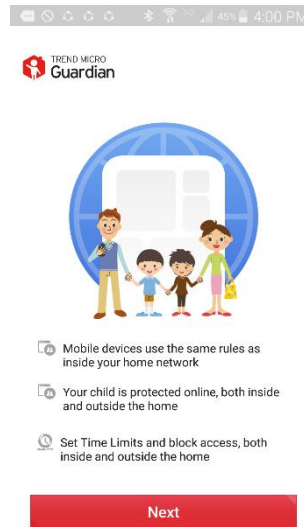


Figure 153. Next

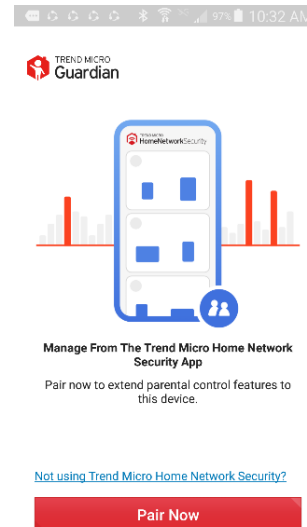


Figure 154. Pair Now

19. Back on the managing device, view the **Pairing Code** in the **Trend Micro Home Network Security** application.
20. On the child's device, enter the **Pairing Code** that's currently showing on the managing device into the **Trend Micro Guardian** app.

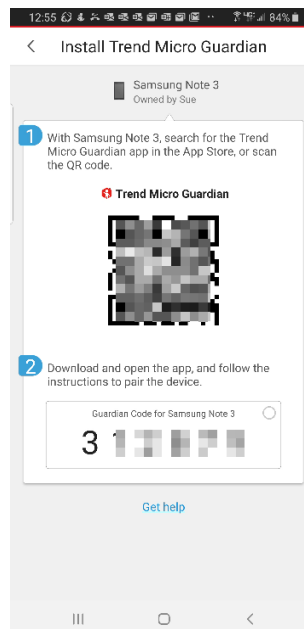


Figure 155. Managing Device > View Pairing Code

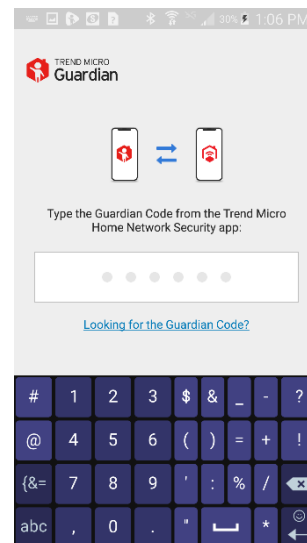


Figure 156. Child's Device > Enter Pairing Code

21. The **Pairing Complete** screen appears, showing the process of pairing as it checks the settings and pairs.
22. When the pairing process has finished, a screen appears indicating that **Trend Micro Guardian** needs the following permissions: **Install VPN Profile**, **Accessibility**, **Notification Access**, **Display Over Other Apps**, and **Device Administrators** (for uninstallation protection).
23. Tap **Allow Permissions**. An **Allow Connection** screen appears, indicating Guardian wants to set up a VPN. Tap **OK**.
24. An **Accessibility Permission** screen appears. Tap **OK**.

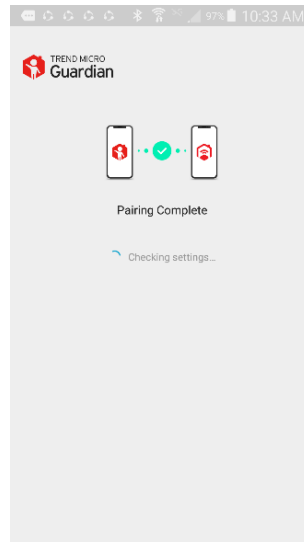


Figure 157. Pairing in Process

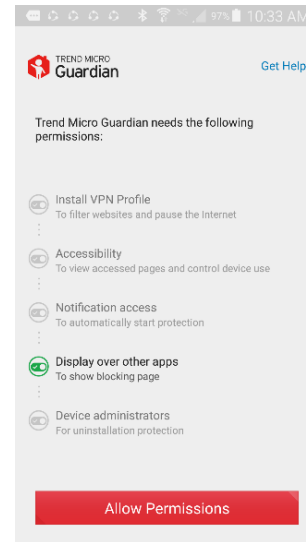


Figure 158. Allow Permissions

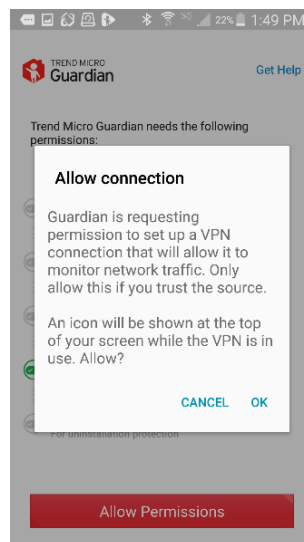


Figure 159. Allow Connection

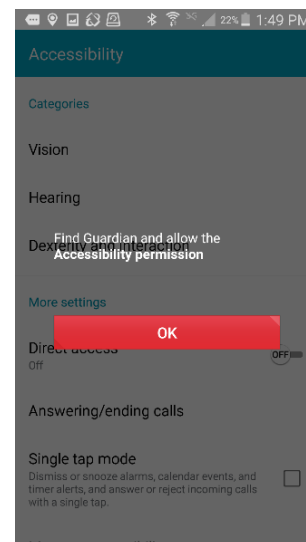


Figure 160. Allow Accessibility Permission

25. The **Accessibility** screen appears.
26. Scroll down and tap **Guardian** to enable it. A **Guardian** screen appears.
27. Tap **Guardian** to Toggle **Accessibility On** for it.

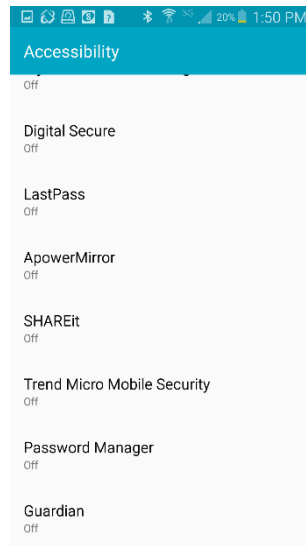


Figure 161. Accessibility > Guardian

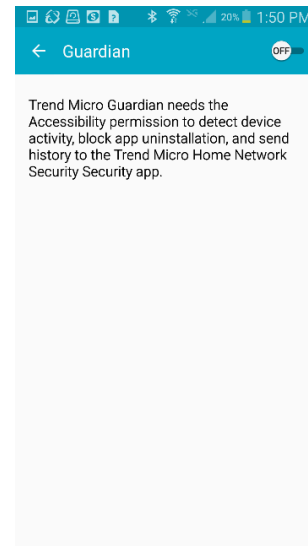


Figure 162. Guardian > Toggle Accessibility Permission On

28. A **Use Guardian** popup appears, asking if you want to grant Guardian the ability to **Monitor your actions** and **Retrieve window content**.
29. Tap **OK**.
30. A **Notification Access** popup appears. Tap **OK** to close it.

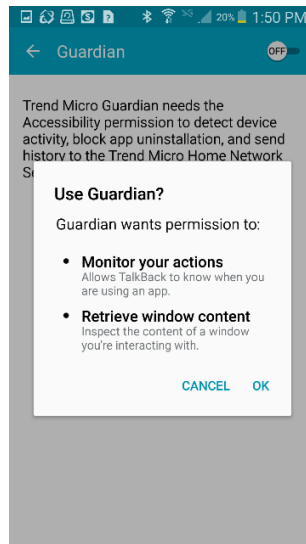


Figure 163. Use Guardian?

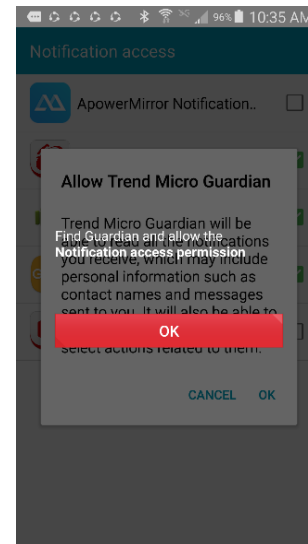


Figure 164. Notification Access Popup

31. Locate **Trend Micro Guardian** in the list and tap the checkbox to check it.
32. A popup appears, asking if you wish to **Allow Trend Micro Guardian** the ability to read all the notifications you receive.
33. Tap **OK**.

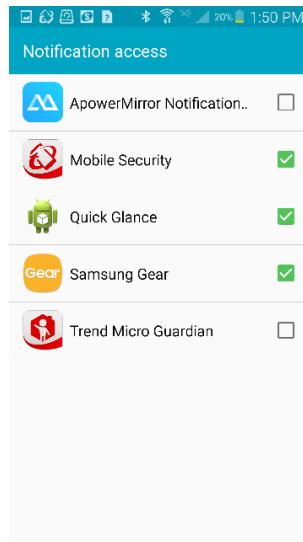


Figure 165. Notification Access > Trend Micro Guardian

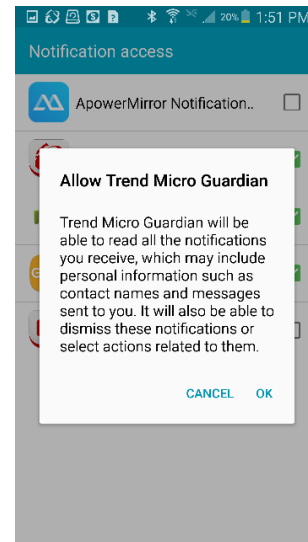


Figure 166. Allow Trend Micro Guardian

34. **Trend Micro Guardian** now has the ability to receive notifications.
35. An **Allow Display over other apps** popup appears, which lets **Guardian** show blocking pages.
36. Tap **Allow Permission** to let **Guardian** appear on top of other apps.
37. You'll now set up **Device Administration**, for **Uninstall Protection**. See the section following.

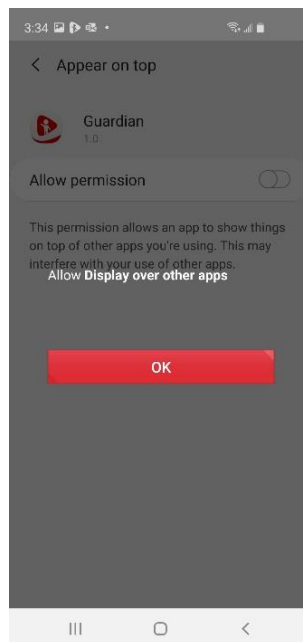


Figure 167. Allow Display Over Other Apps

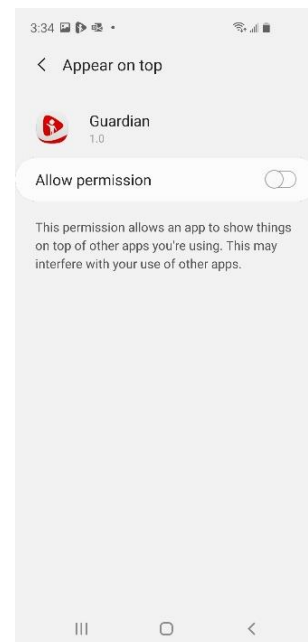


Figure 168. Allow Guardian to Appear on Top of Other Apps

Set Up Guardian Uninstall Protection on an Android Device

To set up Device Administration for Uninstallation Protection:

38. Continuing from the instructions above, a popup appears to instruct you to **Activate device admin app**.
39. Tap **OK**. A screen appears to **Activate Device Administrator?**
40. Tap **Activate**. **Uninstallation Protection** is now active on the Android device.

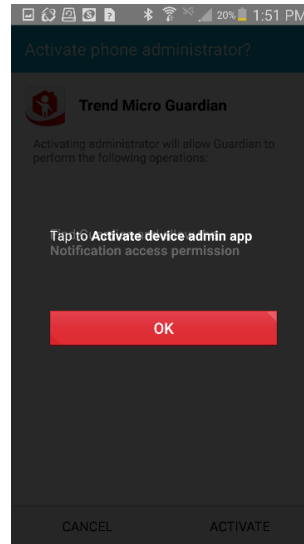


Figure 169. Activate Device Admin

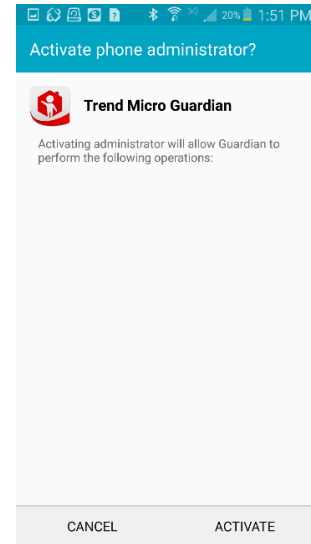


Figure 170. Activate Phone Administrator for Trend Micro Guardian

41. A popup appears, indicating **Guardian is Ready to Manage** your child's phone.
42. Tap **OK**. A screen appears indicating **Trend Micro Guardian Is Active**.
43. Tap **Settings** to review the settings.

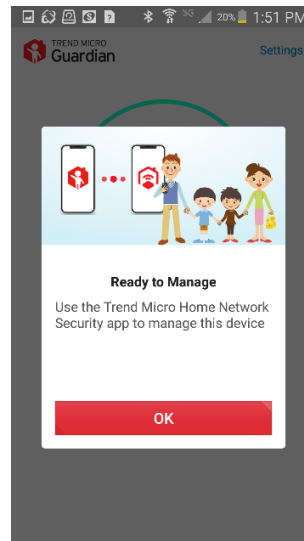


Figure 171. Ready to Manage

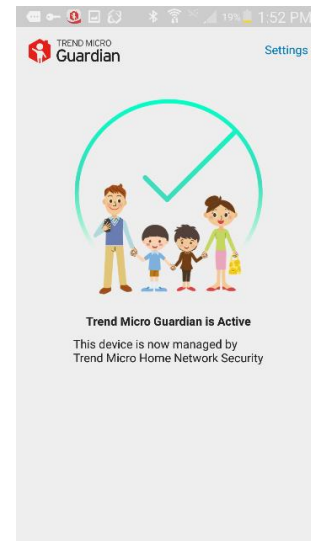


Figure 172. Trend Micro Guardian is Active

44. Here you'll view **About** to learn more about the Guardian app, to **Send Troubleshooting Logs**, and to toggle **On/Off the Help improve this App** function, which shares usage data with Trend Micro.
45. Tap **About** to get information about the app. Here you'll view the **Trend Micro Guardian** app details, along with **User ID** and Guardian's connection to your **Trend Micro Home Network Security Station** and its ID.
46. Back in the **Home Network Security** app on your managing device, complete the **Trend Micro Guardian** permissions process by tapping **Continue**.
47. A screen appears, showing **Trend Micro Guardian** is now installed on the device, e.g., the Samsung Note 3; and that the device is **Owned by Sue**.
48. Tap **Uninstall Protection** to view the protection.

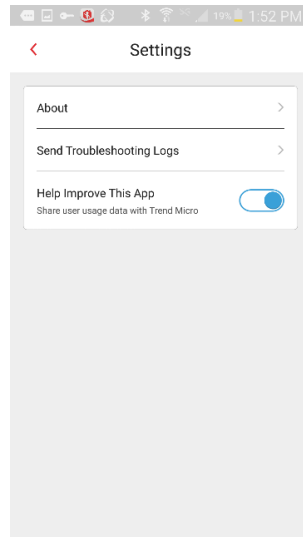


Figure 173. Settings

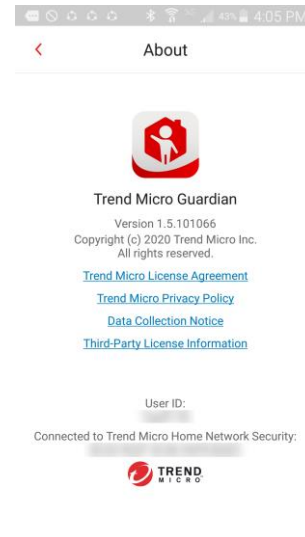


Figure 174. About > Trend Micro Guardian

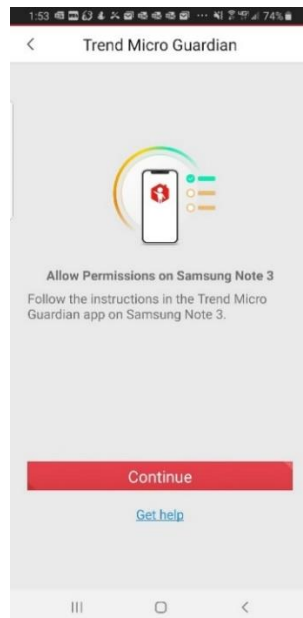


Figure 175. Allow Permissions on Samsung Note 3 > Continue

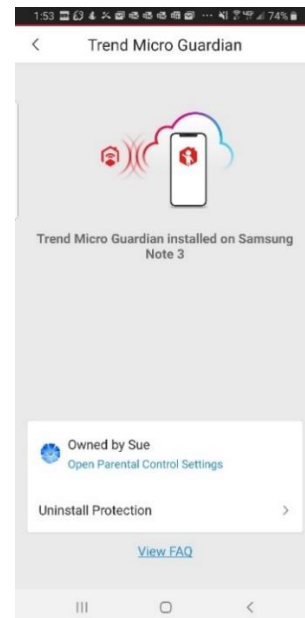


Figure 176. Owned by Sue > Uninstall Protection

49. A screen appears, indicating that **Uninstall Protection** is **On** for the child's device.
50. Tap **Turn Off Uninstall Protection** to view the **Uninstall Protection** screen
51. To remove **Trend Micro Guardian** from the child's device at any time, follow the steps shown in the screen. On the child's device
 - >Deactivate **Device Administrator**, using the **Guardian Code** shown here
 - >**Uninstall Guardian** on the child's device
 - >Return to the managing device and tap **Uninstall Confirmed**.

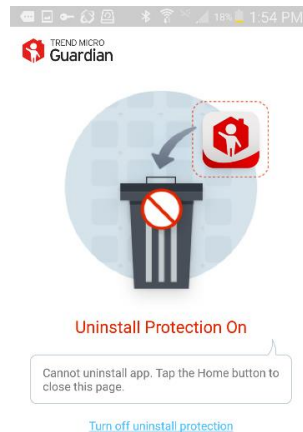


Figure 177. Child's Device > Uninstall Protection On

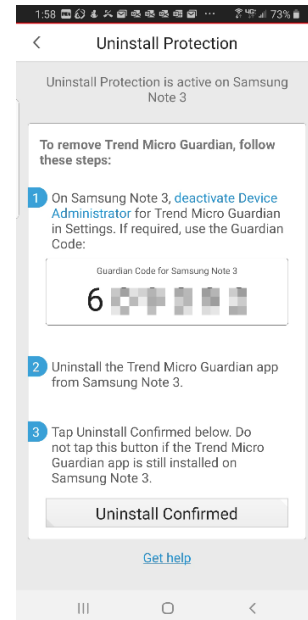


Figure 178. Managing Device > Uninstall Procedure

52. Tap the back-arrow to return to **Trend Micro Guardian** screen for the device.
53. Tap the **Open Parental Controls Settings** link in the panel **Owned by "Child"**.
54. You may now begin setting up **Parental Controls** for this child.

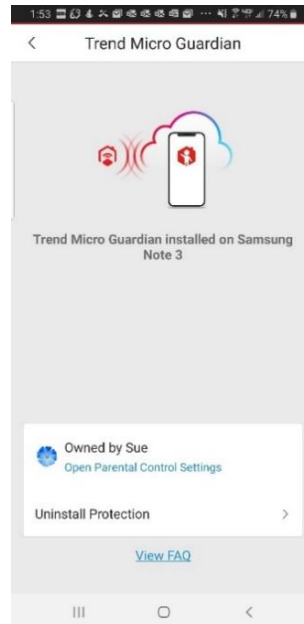


Figure 179. Trend Micro Guardian Installed on Device

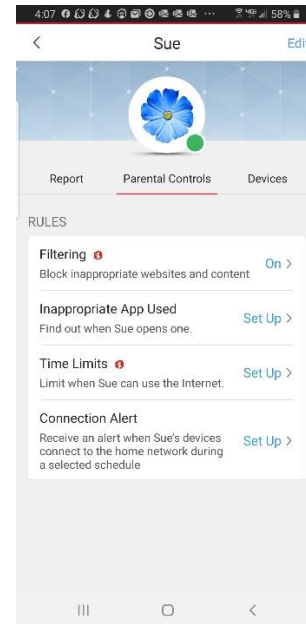


Figure 180. Parental Controls

Filtering

To set up Filtering:

1. To begin setting up **Parental Controls** for a family member's devices, tap their icon from the **Family Members List**. The **Parental Controls** screen appears.
2. Note the red icon in the **Filtering** panel. This indicates remote **Filtering** can be enabled via **Guardian**.
3. Tap **Filtering** to set it up to block inappropriate websites and content. The **Filtering** screen appears.

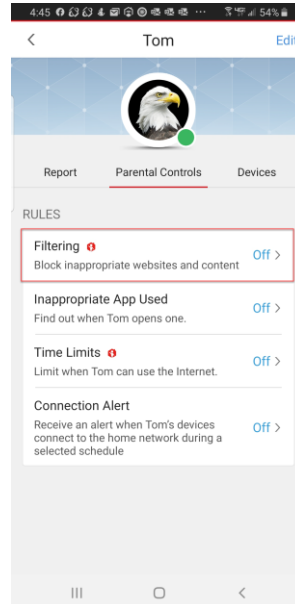


Figure 181. Filtering

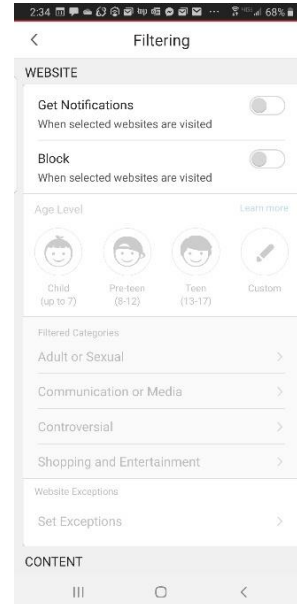


Figure 182. Filtering Setup

4. Toggle on **Get Notifications** for this family member when selected websites are visited.
5. Toggle on **Block** to block selected websites for this family member.
6. Tap the **Age Level** for this child, or tap **Custom** to manually select categories and subcategories to block.
7. You may begin with an **Age Level** filter and customize it.

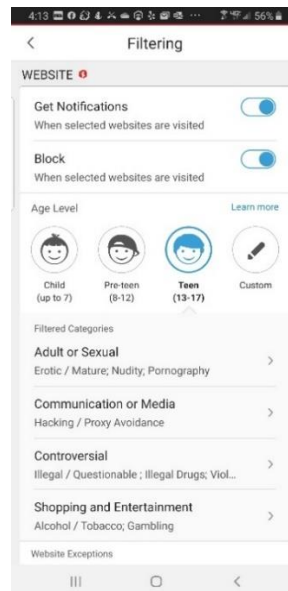


Figure 183. Toggle On Filtering

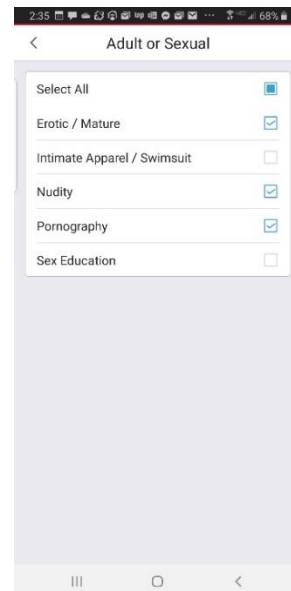


Figure 184. Adult or Sexual Category

8. Add items in the **Adult or Sexual** category by tapping the checkbox(es).
9. Check items in the **Communication or Media** list.
10. Do the same for **Controversial** or **Shopping and Entertainment**.

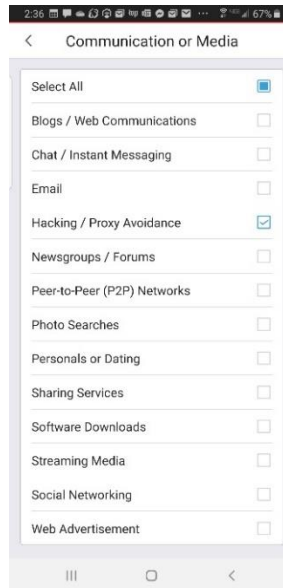


Figure 185. Communications or Media

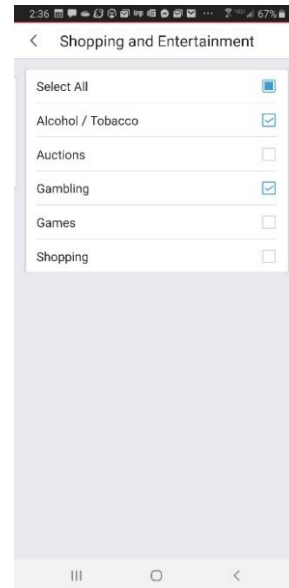


Figure 186. Shopping and Entertainment

11. Back in the **Filtering** screen, tap **Set Exceptions** to set them.
12. Tap **Allowed List** or **Denied List** to add exceptions to that list.

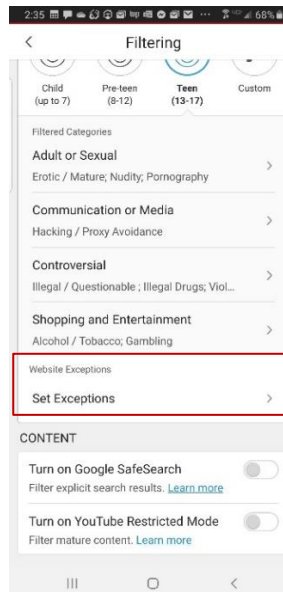


Figure 187. Set Exceptions

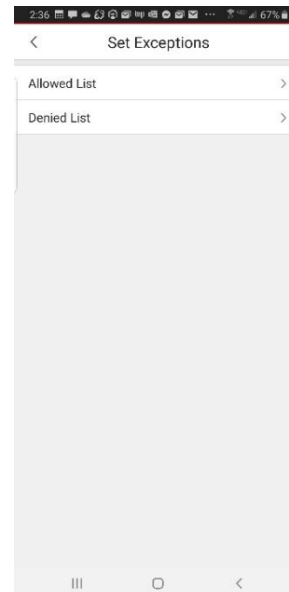


Figure 188. Allowed/Denied Lists

13. Tap **Add a new website** to add the exception to the list.
14. Type in the URL for the website you wish to add, then tap **Done**.

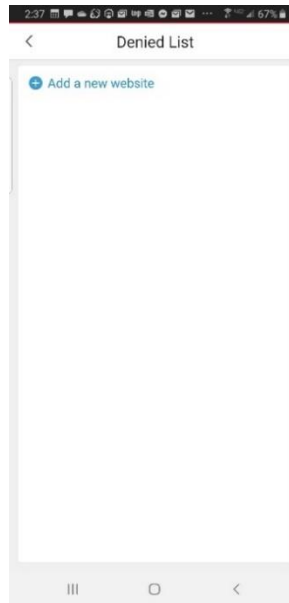


Figure 189. Denied List

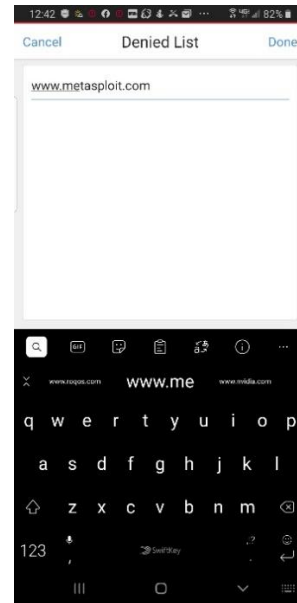


Figure 190. Add Denied Website

15. The website is added to the list.

Test the site on the child's device by typing the URL in its browser. HNS blocks you from going to the website, providing an **Off Limits** notice. This is the notice child will see when they attempt to go to this website. You (as the parent) will also be notified that they attempted to access it.

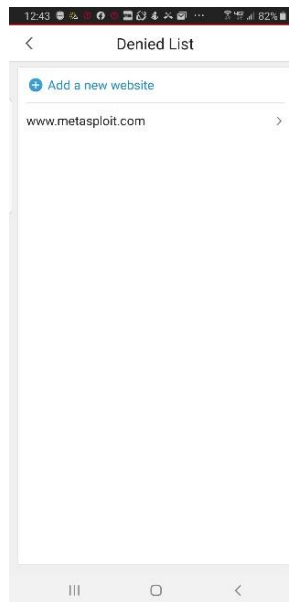


Figure 191. Denied List > Website Added

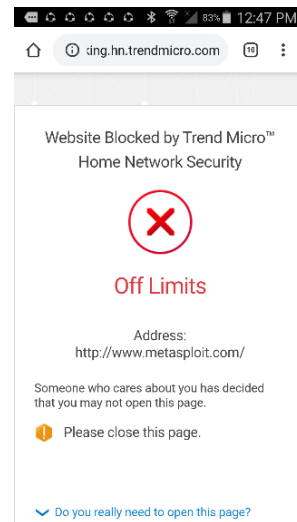


Figure 192. Child's Device > Off Limits

16. Toggle on **Google SafeSearch** to filter explicit search results in the family member's mobile browser and **YouTube Restricted Mode** to filter out mature content on YouTube.
17. Back in the **Parental Controls** screen for Tom, **Filtering** is now **On**, blocking inappropriate websites and content.

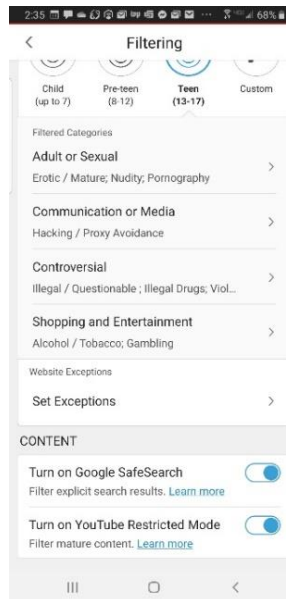


Figure 193. Content Toggles

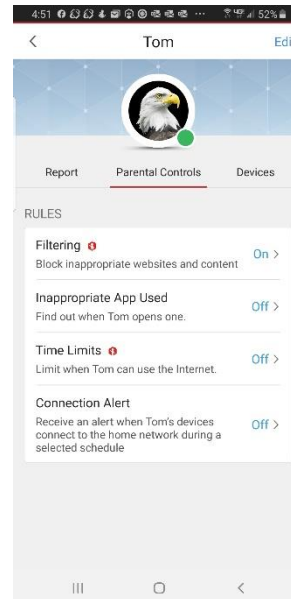


Figure 194. Filtering On

Inappropriate App Used

To set up Inappropriate App Used:

1. Tap **Inappropriate App Used** panel to set it up. The **Inappropriate App Used** screen appears.
2. Tap **Get Notifications** to toggle the feature **On**.

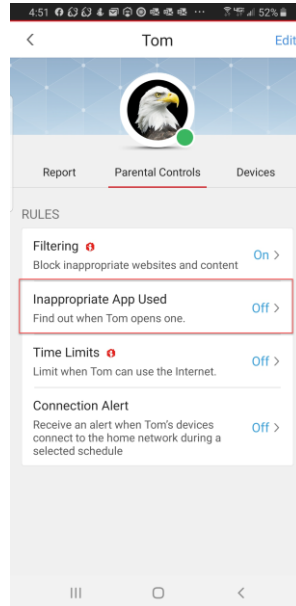


Figure 195. Inappropriate App Used

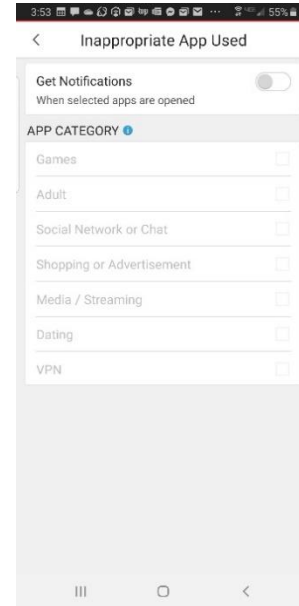


Figure 196. Toggle On Notifications

3. Tap the checkboxes for **App Categories** you wish to receive notifications for.

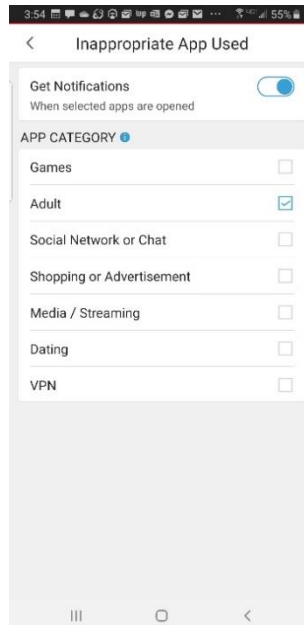


Figure 197. App Categories

Time Limits

To set up Time Limits:

1. Tap the **Time Limits** panel to set it up. The **Time Limits** screen appears.
2. Tap **Add First Rule** to add it.

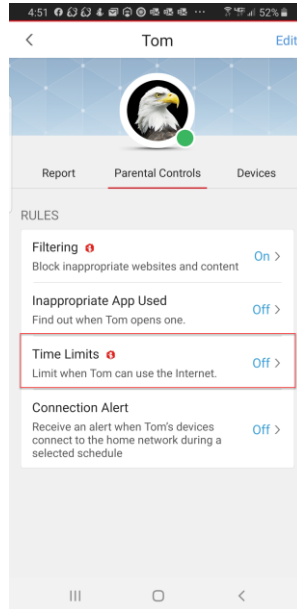


Figure 198. Set Up Time Limits

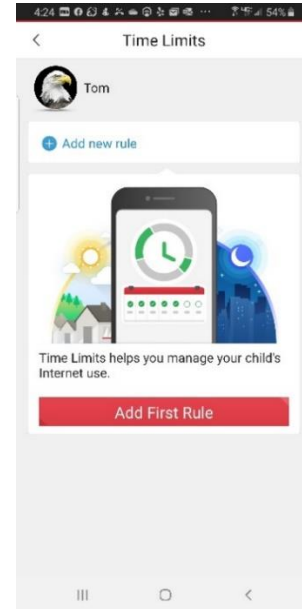


Figure 199. Add First Rule

3. **Select the Days** for this rule; e.g., **Mon-Fri**, and tap **Next**.
4. Set the **Internet Time Limit** and **Time on YouTube** by scrolling back and forth to see the limits available, then tap the limits you want to set them.
5. Toggle on **Get Notifications**.

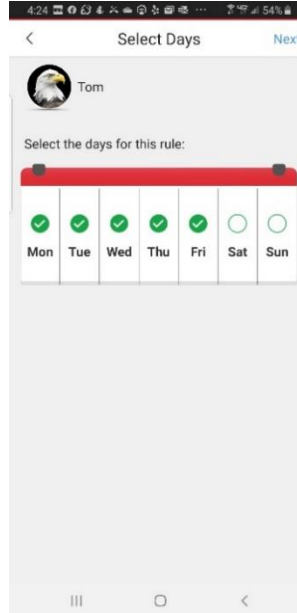


Figure 200. Select Days

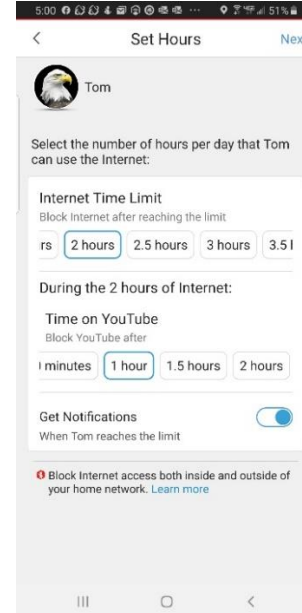


Figure 201. Set Hours

6. Set the time period when the family member can use the Internet by tapping the **From** field, then move the **Time Clock** to the beginning time.
7. When the **Time Clock** sets the time, tap **AM** or **PM** to set it, then **OK**.

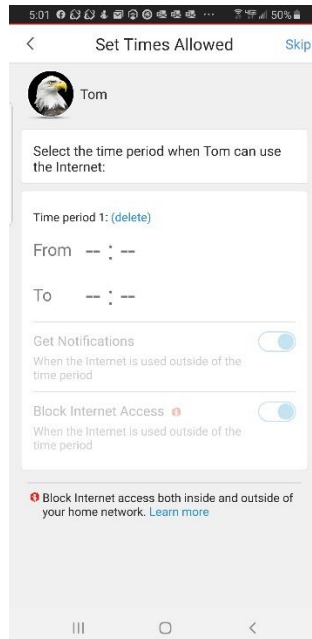


Figure 202. Set Times Allowed

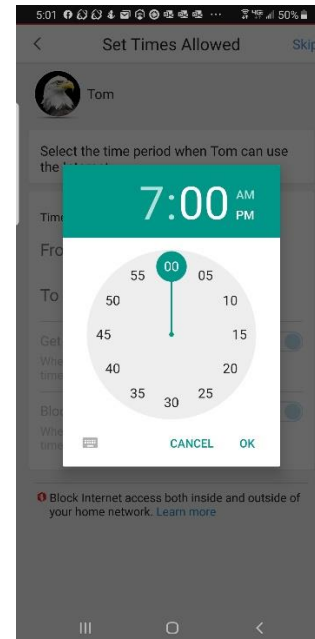


Figure 203. Set Beginning Time

8. Do the same operations for the **Ending** time and tap **OK**.
9. Toggle on **Get Notifications** and **Block Internet Access**, for when the Internet is used outside of the time period.
10. Tap **Add another time period** if you wish and repeat the processes outlined above.
11. Tap **Next** to complete the rule setup

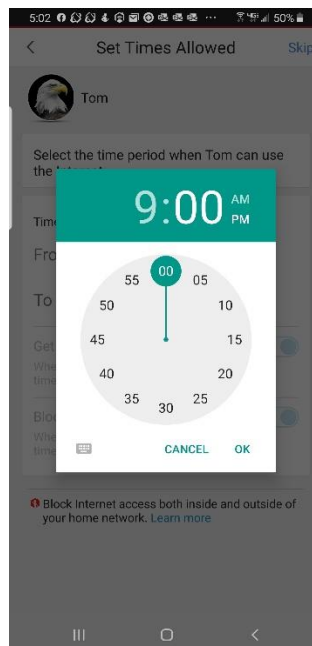


Figure 204. Set Ending Time

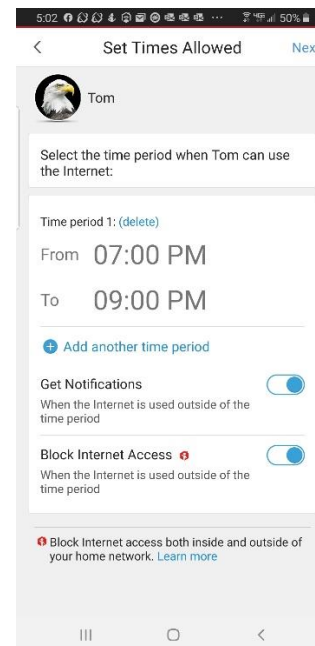


Figure 205. Time Period, Get Notifications, Block Internet

12. When you have finished setting the rule(s), the **Rule Complete** screen shows a summary of the rule you set, providing a clock to show the **Allowed Time**, the **Days** for which the rule is set, the **Hours** of Internet allowed, including any time allowed for **YouTube** viewing, and the **Times** allowed.
13. Tap **Done** to finalize the rule. The Time Limits screen shows you the rule for the family member. Toggle the rule **Off** if you wish, or **Add new rule** to set a new rule.

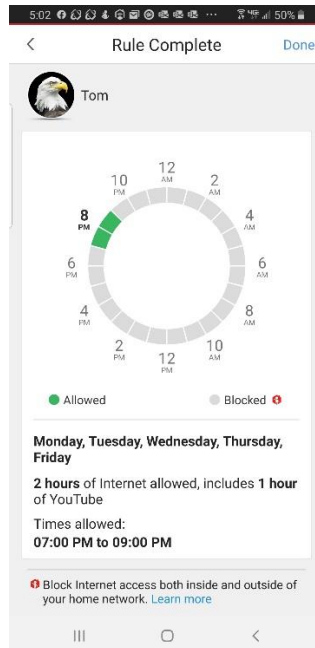


Figure 206. Rule Complete

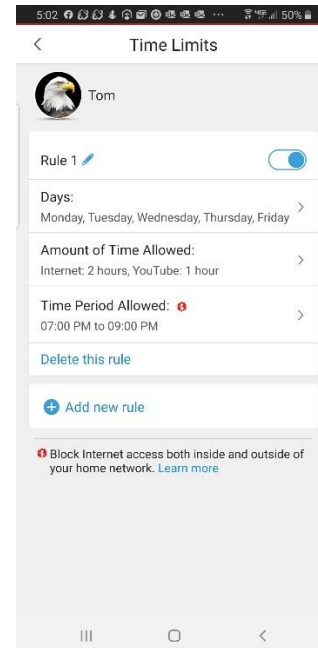


Figure 207. Family Member Rule

Connection Alert

To set up Connection Alert:

1. Tap **Set Up** to set up **Connection Alert** and the screen appears
2. Tap the **Get Notifications** toggle to **On**, then set the **Schedule** for the **Connection Alert** as you did for the **Time Limits**, by using the **Time Clock**. In this example, we'll leave the default.
3. The checkboxes for the Child's device(s) should be automatically checked in the **Select Devices** panel to enable the **Connection Alert** for those devices.
4. Uncheck to remove the device(s) for the monitoring period (e.g., when they connect to the internet between 12 and 10pm.)

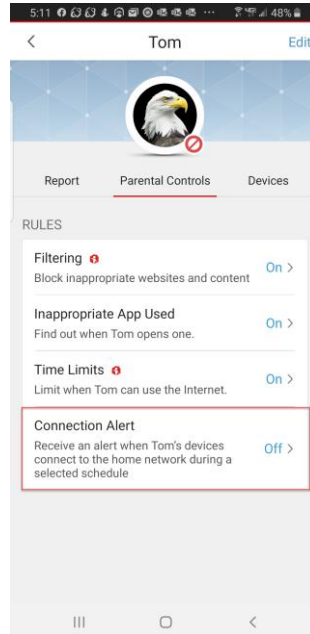


Figure 208. Set Up Connection Alert

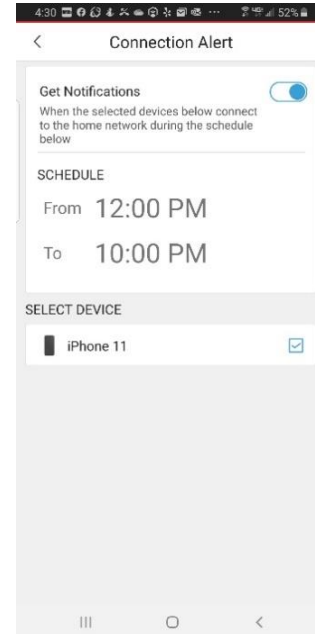


Figure 209. Get Notifications for Devices Connecting to Network

5. Tap the back arrow to return to the main screen for the family member.
6. All **Parental Controls** for the family member have now been set to **On**.

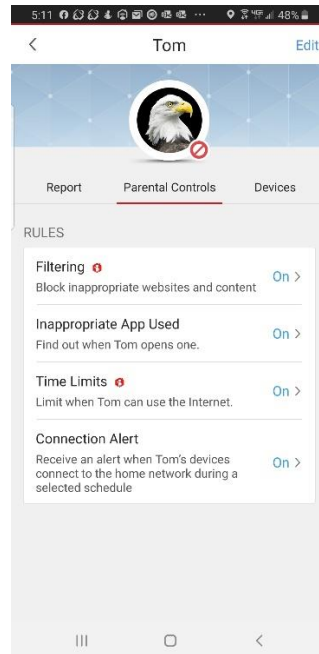


Figure 210. Parental Controls Set for Family Member

Report

The **Report** tab for a family member shows details on **Internet** and **YouTube** usage, plus information on **Filtering** rules that are enabled; e.g., blocking of inappropriate sites.

To view the Report:

1. Tap the **Report** tab in the family member's screen. The **Report** screen appears.
2. In this instance, the screen shows **Internet Blocked: Out of allowed time periods**.
3. Tap **Cancel Today's Time Limits**, if you choose to do so for the child.
4. A popup appears, asking if you truly wish to cancel the time limits. Tap **Yes**.

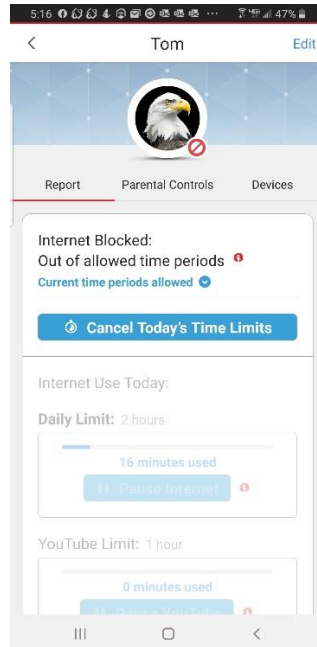


Figure 211. Cancel Today's Time Limits (1)

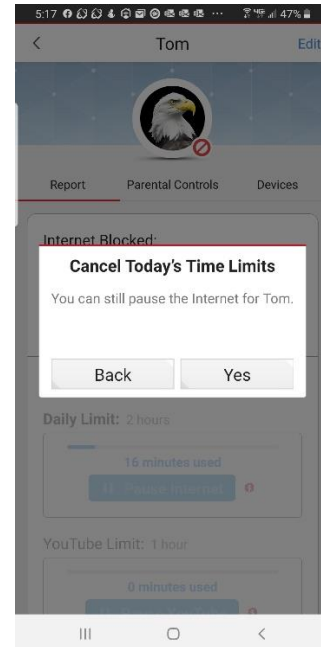


Figure 212. Cancel Today's Time Limits (2)

5. View **Internet Use Today** in the **Daily Limit** and **YouTube Limit** panels.
6. Tap **Pause Internet** to pause it for the family member.
7. Tap **Resume Internet** to resume it for the family member.

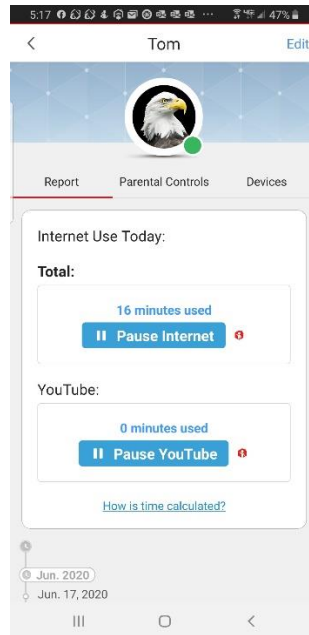


Figure 213. Pause Internet

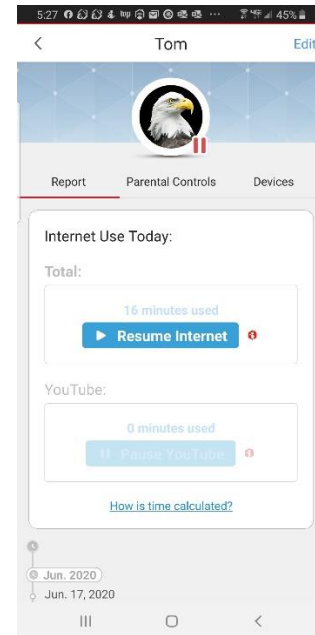


Figure 214. Resume Internet

8. Tap **Pause YouTube** to pause it for the family member.
9. Tap **Resume YouTube** to resume it for the family member.

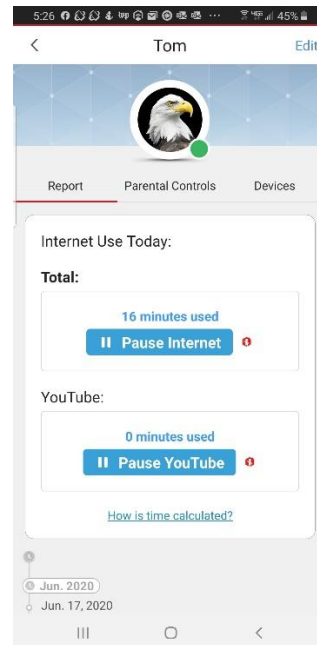


Figure 215. Pause YouTube

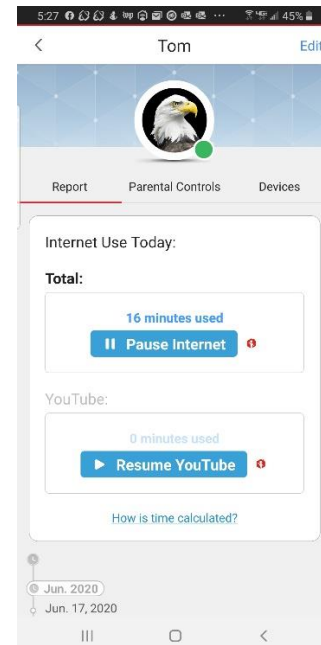


Figure 216. Resume YouTube

10. Scroll down to provide usage details for the family member, including reports on **Filters** that have been triggered.

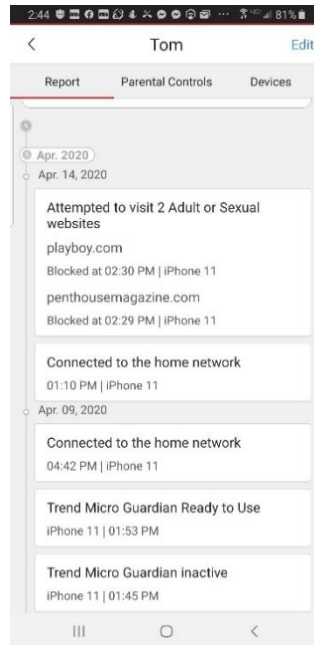


Figure 217. Report Details

Devices

The **Devices** tab for the family member shows the devices under their control and allows you to add devices to their list.

To view the devices under control of the family member:

1. Tap the **Devices** tab to view the devices under control of the family member.
2. Tap **Manage Devices** to view the list **Assigned** and **Unassigned** / **Show All Devices**; then simply tap an **Unassigned** device to moved it into the **Managed** panel.

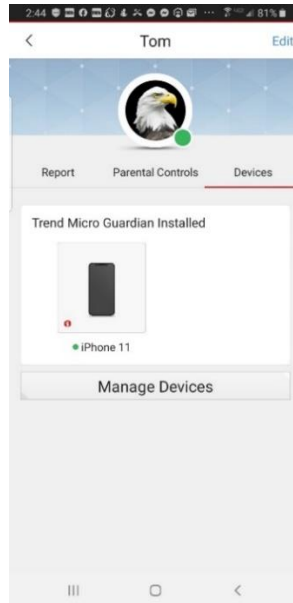


Figure 218. Devices

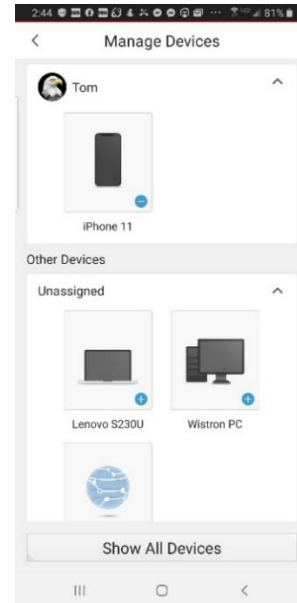


Figure 219. Manage Devices

3. In the first screen, tap the **Managed** device to obtain details about the **Settings** on the device.
4. Toggle **Allow Home Network Access** Off or **On** to disable/enable it.
5. Note the **Additional Protection** installed on this device: **Trend Micro Guardian**.
6. View **Device Information**, including the **Owner**, **Settings**, and other details about the device.



Figure 220. Device Settings (1)

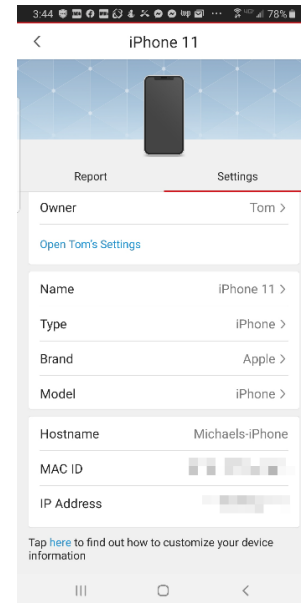


Figure 221. Device Settings (2)

Network

The **Network** control allows you to view the total amount of data you've downloaded and uploaded over your network for the Last 7 or 30 Days. It also provides individual upload and download amounts per device.

1. Tap **Network** in the **Command Menu** to display the **Network** screen.
2. View the graph by date for the total amount downloaded and uploaded over the network for the **Last 7 Days**, as well as the amounts downloaded and uploaded per device.

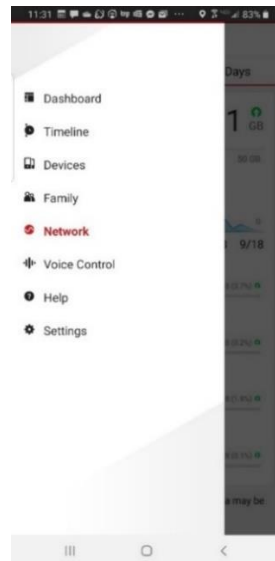


Figure 222. Network

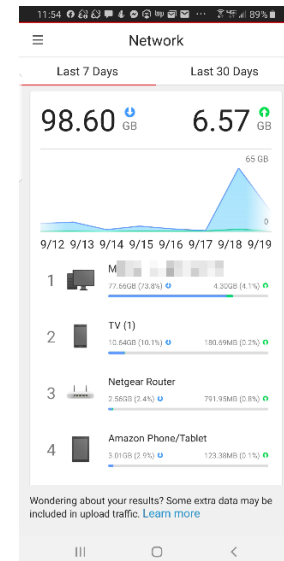


Figure 223. Network > Last 7 Days

3. Tap **Last 30 Days** to view the graph and data for the past 30 days.

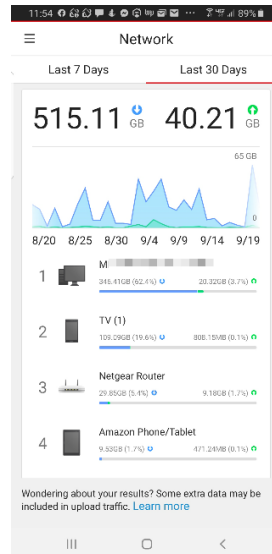


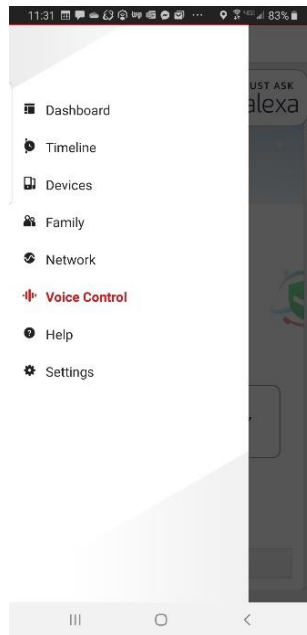
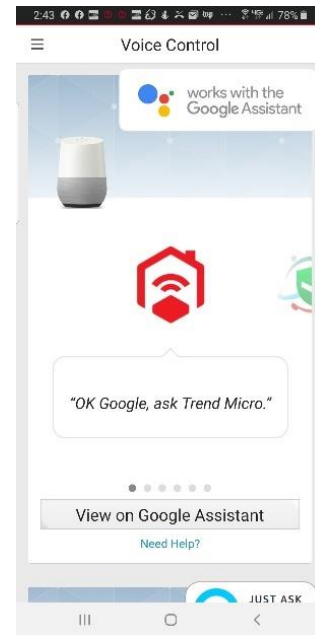
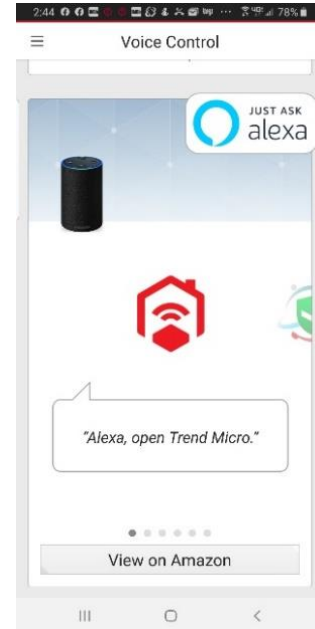
Figure 224. Network > Last 30 Days

Voice Control

Voice Control lets you give voice commands through **Google Assistant**- or the **Alexa**-enabled device or smart speakers to conduct a scan and obtain security data from Home Network Security. To use **Voice Control** you need a Google Assistant- or Alexa -enabled device and a valid Google or Amazon account. The example below uses Amazon Echo and Alexa, but the same controls are available through Google Assistant for Google smart devices.

To use Voice Control:

1. Tap **Voice Control** in the **Command Menu**. The **Voice Control** demo page appears.
2. Tap **View on Google Assistant** or **View on Amazon** to enable **Voice Control** for your **HNS Station** via your **Google Assistant** or **Alexa-enabled device** (e.g., an Echo).
3. In this example, we tap on **View on Amazon**.

**Figure 225. Voice Control****Figure 226. View on Google Assistant****Figure 227. View on Amazon**

4. The **HNS App** loads your browser and takes you to the **Amazon** login page to enable you to **Sign In** to your Amazon account to enable **Voice Control**.
5. Here we assume you've already created your **Amazon** account. Simply add your email address and password to the entry fields and tap **Sign In**.



Figure 228. Amazon Sign In

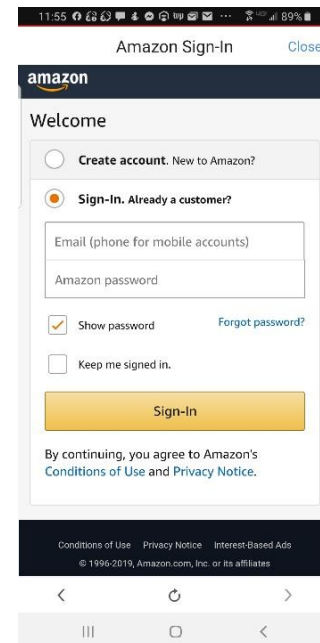


Figure 229. Enter Email and Password

6. In the **Trend Micro Home Network Security** enabling page, tap **Enable** to enable Voice Control.
7. You're taken to the **Home Network Security Trend Micro Account** page to sign in with your **Trend Micro Account** to connect to Alexa.
8. Enter the email address and password you used to create your account and tap **Sign In**.



Figure 230. Enable Alexa Voice Commands

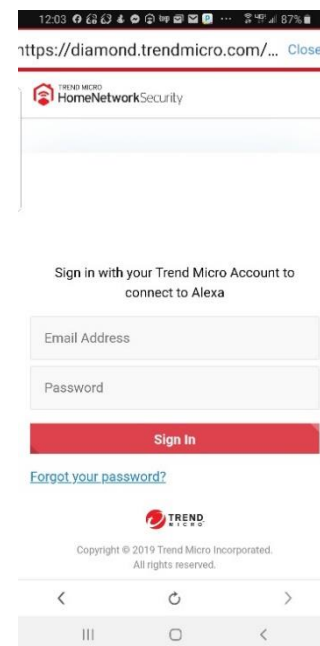


Figure 231. Sign In to Trend Micro Account

9. As you proceed through the **Account Linking** process, you're notified as you go along.

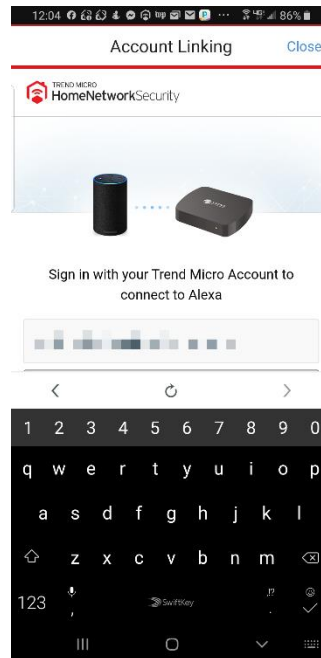


Figure 232. Account Linking (1)

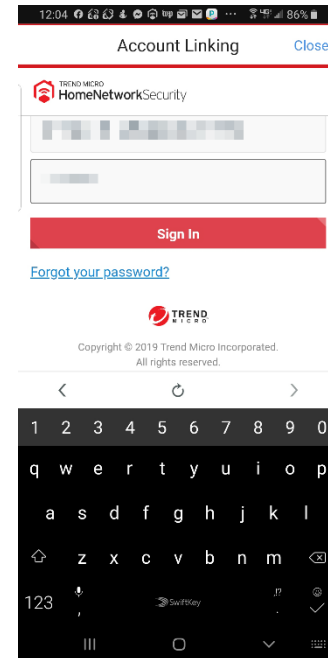


Figure 233. Account Linking (2)

10. Once completed, you're informed that **Trend Micro Home Network Security** has been successfully linked in your **Amazon Alexa** skill page.
11. Tap **Close** to close the linking page.
12. You now have five **Voice Control Commands** ("intents") you may now use via Alexa to control your **HNS Station**.
13. The following launch request opens a skill *without* an intent:
"Alexa, open Trend Micro."

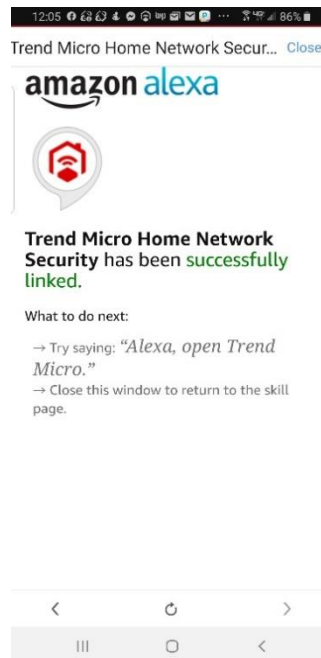


Figure 234. HNS Linked

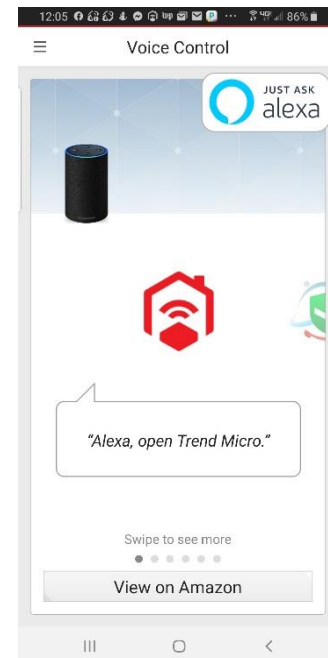


Figure 235. Open Command

14. The following commands open a skill *with* an intent.
15. “Alexa, ask Trend Micro if my network is OK.”
16. “Alexa, ask Trend Micro what Tom (or other name) did today.”

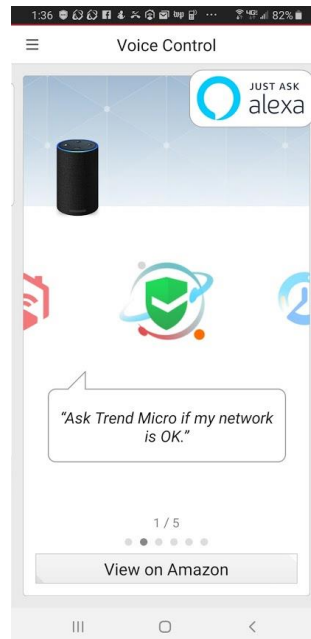


Figure 236. Network OK?

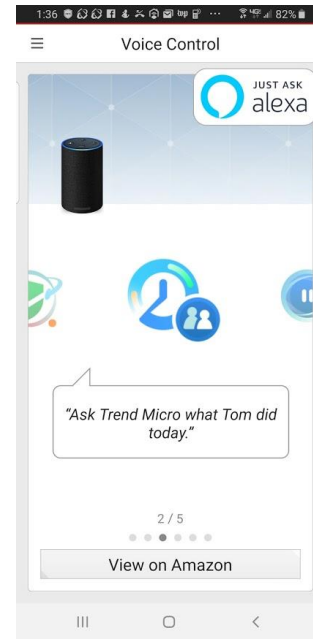


Figure 237. What did Tom do Today?

17. “Alexa, ask Trend Micro to pause the Internet for Tom (or other name).”
18. “Alexa, ask Trend Micro to turn off YouTube for Tom (or other name).”



Figure 238. Pause Internet for Tom

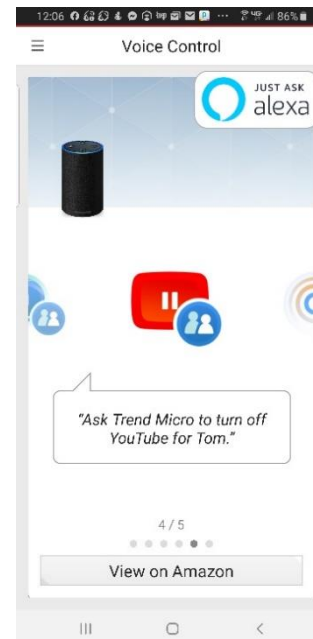


Figure 239. Turn Off YouTube for Tom

19. **“Alexa, tell Trend Micro to scan my network.”**
20. At any time, if you wish to disable **Voice Commands** via Alexa, simply log into your Amazon account by tapping **View on Amazon**, log in, then tap **Disable Skill**.
21. **Voice Commands** will be disabled on your **HNS Station**.

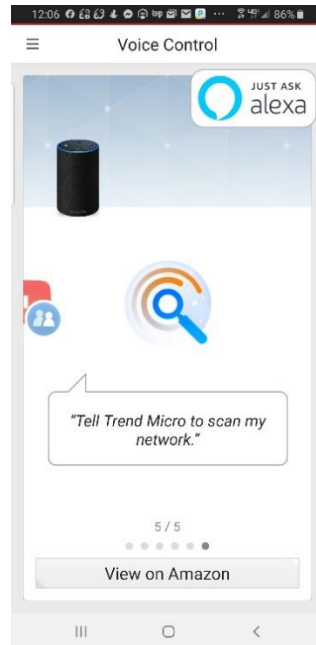


Figure 240. Scan Network

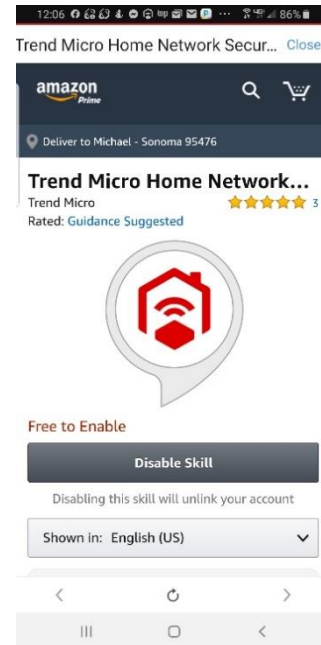


Figure 241. Disable Skill

Help

Home Network Security provides various kinds of **Help**, to facilitate the smooth operation of the **HNS Station**.

To obtain **Help**:

1. Tap **Help** in the **Command Menu**. The **Help** screen appears.
2. Here you'll find a phone number to **Contact Support**.
3. You can also tap **Request a call from Support**; enter your phone number in the form provided.
4. If need be, scroll down the screen to reveal more items.

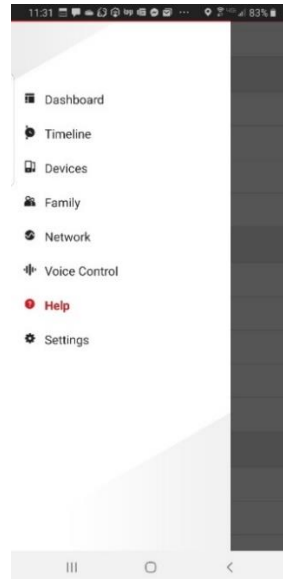


Figure 242. Help Menu

5. Tap the items in the **Troubleshooting** section, or the **How Do I** section to take you to individual **Help** pages.

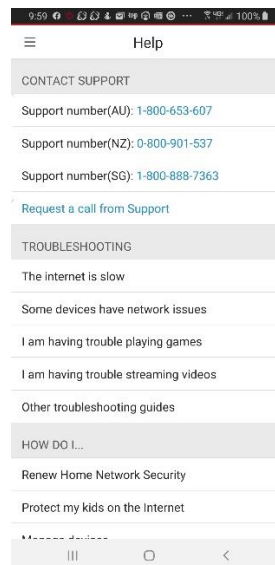


Figure 244. Help (Other Regions)

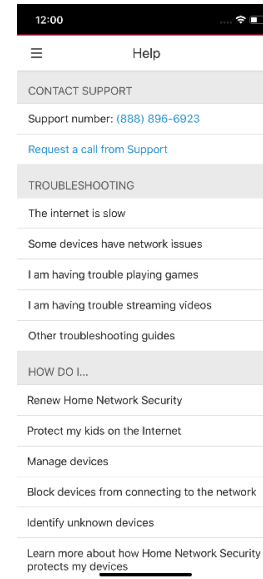


Figure 243. Help (US)



Figure 245. Item Tapped

Settings

The **Settings** in the **HNS App** help you set up and configure **Home Network Security** to fit your needs.

To configure **Settings**:

1. Tap **Settings** in the **Command Menu** to open the **Settings** screen.
2. In the **NETWORK AND SECURITY** section, tap **Threat Blocking** to configure the settings that block threats.

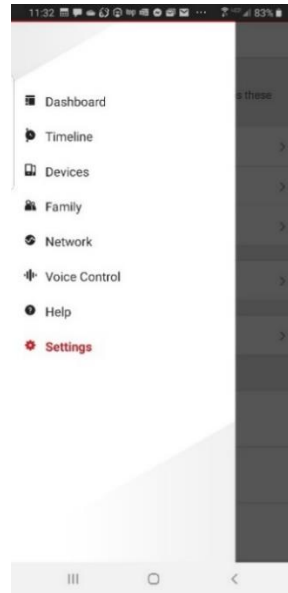


Figure 246. Settings Menu

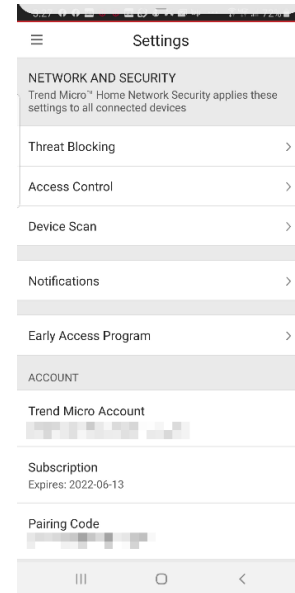


Figure 247. Settings

3. Toggle On/Off **Network Protection**. When this protection is **On**, HNS helps prevent external attacks and malicious network behavior using IPS protection.
4. To help prevent attacks between devices in your home network, tap **Internal Attack Blocking**.
5. A popup appears because some routers may not support this feature and you may have network instability issues.

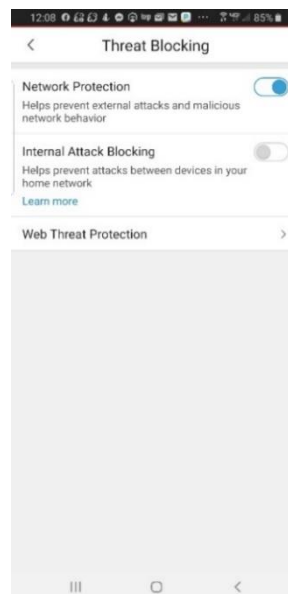


Figure 248. Threat Blocking

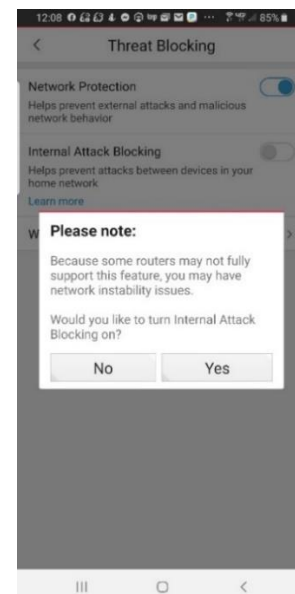


Figure 249. Internal Attack Blocking Popup

6. Tap **Web Threat Protection** on the **Threat Blocking** screen to open the settings.
7. Toggle **On/Off Dangerous Websites Blocked** and **Dangerous Files Blocked**.
8. Tap **Approved List** to add websites to the list.
9. Tap **Add a new website** to add a new website by entering the URL in the entry field provided.

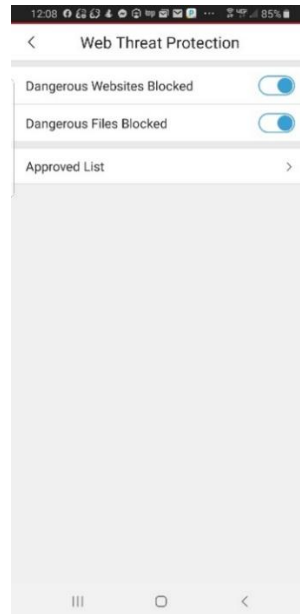


Figure 250. Web Threat Protection

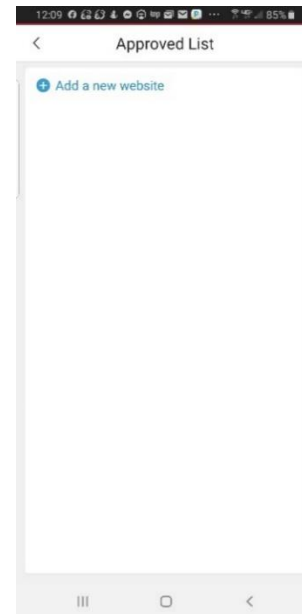


Figure 251. Add a new website

10. Back in the main **Settings** page, tap **Access Control** to access the settings.
11. Tap **Remote Access Protection** to limit remote access to your devices, or toggle **New Device Approval** **On/Off** to require permission when a new device joins the network.
12. In **Remote Access Protection**, toggle **Block Remote Access** **On/Off** to control the function.
13. Tap **Approved List** to add an approved remote access program to the list.

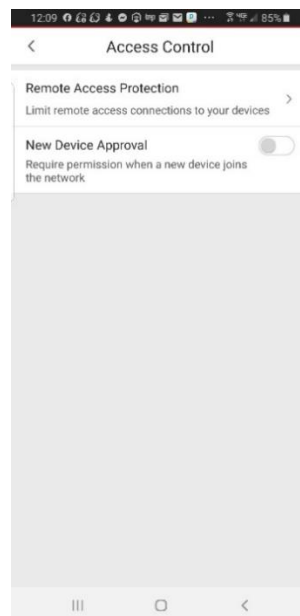


Figure 252. Access Control

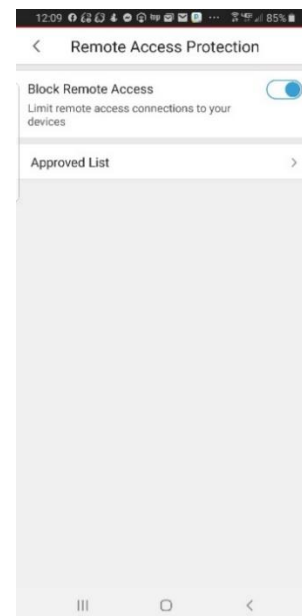


Figure 253. Remote Access Protection

14. Tap **Add Program** to add programs or tap existing apps to remove them from the list.
15. Back in the main **Settings** screen, tap **Device Scan** to access the **Device Scan** settings.
16. Toggle **Password Check** and **Vulnerability Check** **On/Off** to control the settings.

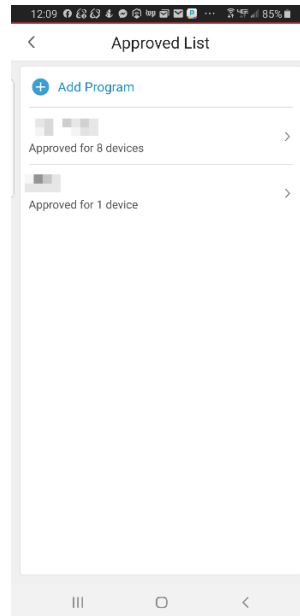


Figure 254. Approved List

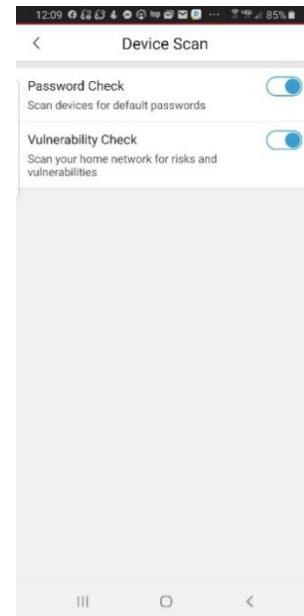


Figure 255. Device Scan

17. Back in the main **Settings** screen, tap **Notifications** to access the settings for notifications.

NOTE: Notifications show up in the drop-down menu of your device.

18. Tap **Network Attacks Blocked** to choose the notifications options:

>No Notifications

>Only Notify Me for High Severity Attacks

>Notify Me for All Attacks

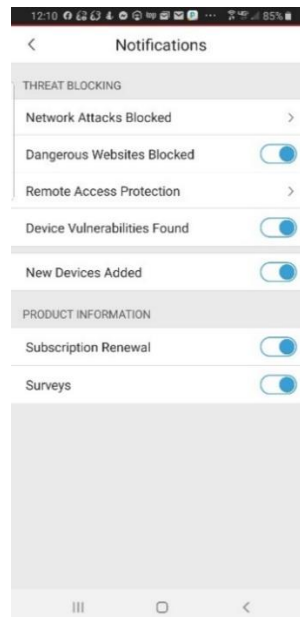


Figure 256. Notifications

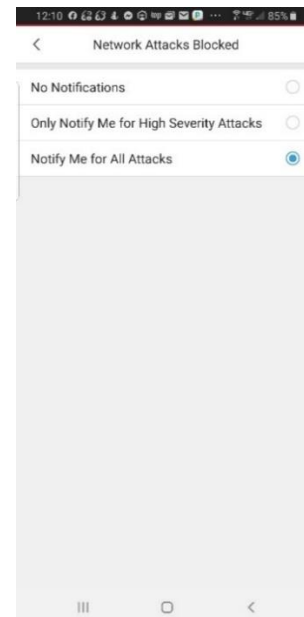


Figure 257. Network Attacks Blocked

19. Toggle the various other options **On/Off** to **Enable/Disable** the respective setting.
20. Continuing in the **Notifications** screen, tap **Remote Access Protection** to access the various options:
 - >No notifications
 - >Notify me when remote access connections are blocked
 - >Notify me for all remote access connections

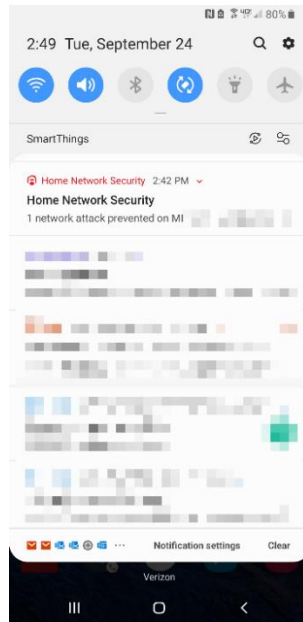


Figure 258. Network Attack Notification

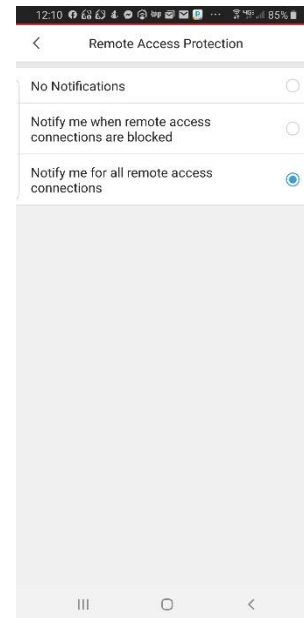


Figure 259. Remote Access Protection

21. Back in the main **Settings** screen, tap **Early Access Program** to access the settings.
22. Enable the **Early Access** features to be the first to try the latest protections and give feedback
23. Toggle the **Early Access Notification On/Off** to Enable/Disable the notification.
24. Toggle on **Smart Alert**, **Router Access Protection**, **Ad Block**, and **Cyberattack Shield** to test and give feedback on these features.

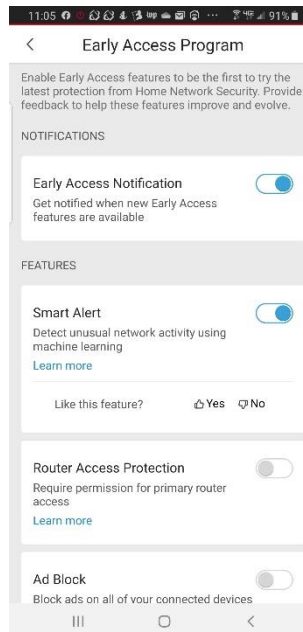


Figure 260. Early Access Program (1)

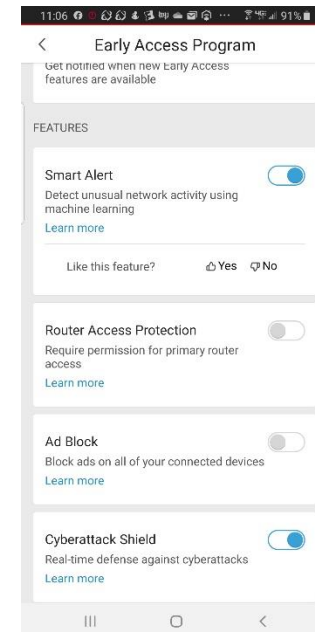


Figure 261. Early Access Program (2)

25. Back in the main **Settings** screen under **ACCOUNT**, view your **Trend Micro Account**, **Subscription Expiration Date**, and 16-character **Pairing Code**.

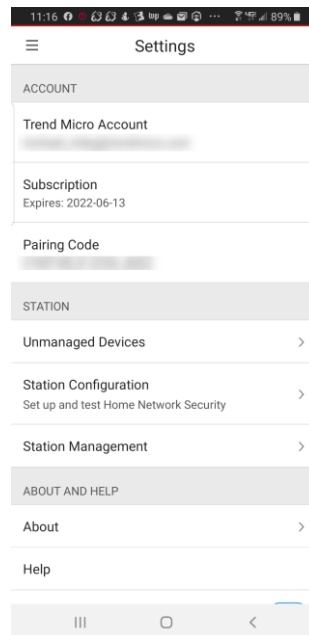


Figure 262. Pairing Code

26. Tap **Unmanaged Devices** to add such devices or to remove them from the **Managed Devices** list.

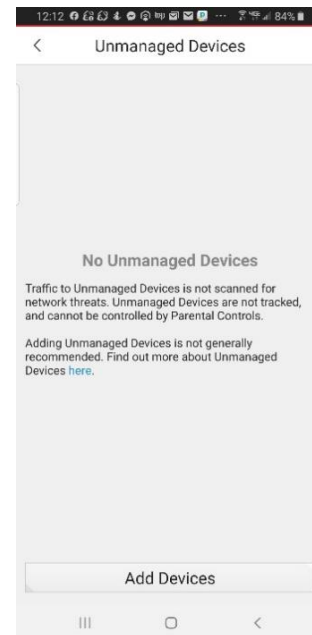


Figure 263. Unmanaged Devices

27. Tap **Station Configuration** to change the **Mode** to optimize the connection to your router, or to enable **DHCP Mode**.

(See **Network Attach Options** in the following section).

28. Once you've made your change, tap **Test Status** to ensure the change has taken effect and the HNS Station is functioning well.

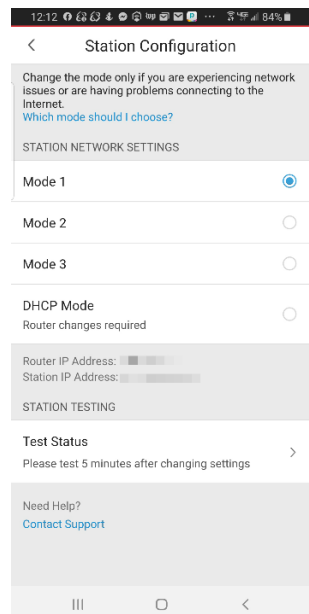


Figure 264. Station Configuration > Mode Settings



Figure 265. Check Station Network Status

29. If it's functioning correctly, you'll see a **Dangerous Page** alert showing the test website has been blocked.
30. In the main **Settings** screen, tap **Station Management** to access the settings.
31. If you wish to **End Station Management**, tap the setting.

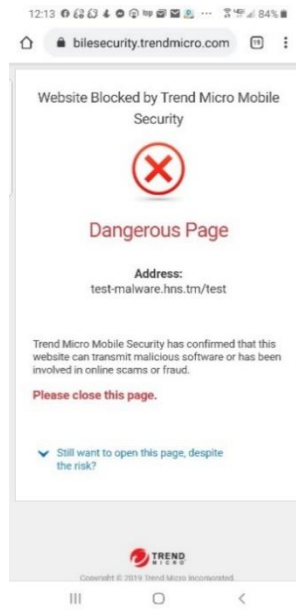


Figure 266. Dangerous Page

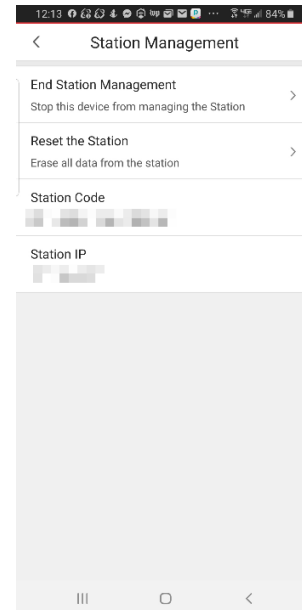


Figure 267. Station Management

32. A popup appears, asking if you really wish to **End Station Management**?
33. Tap **Cancel** to abort the process, or **End** to **End Station Management**.
34. To **Reset the Station**, tap the setting.
35. A popup appears, asking if you sure you wish to **Reset the Station**? All of your data will be deleted.
36. Tap **Cancel** to abort the process or **Reset** to complete it.



Figure 268. End Station Management?

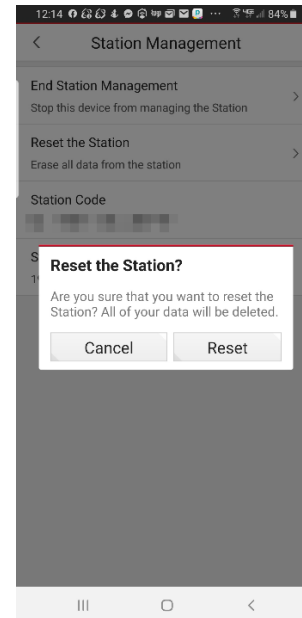


Figure 269. Reset the Station?

37. Back in the main **Settings** screen, tap **About** to obtain information about Trend Micro Home Network Security, including **App Version**, **DPI Pattern Version**, **Firmware Version**, and the **Mac ID** for the **Station**. The screen also provides the various agreements policies, and notices.



Figure 270. About

38. Back in the main **Settings** screen, tap **Help** to obtain help using **Home Network Security**. You're taken to the **Help** pages in eSupport.

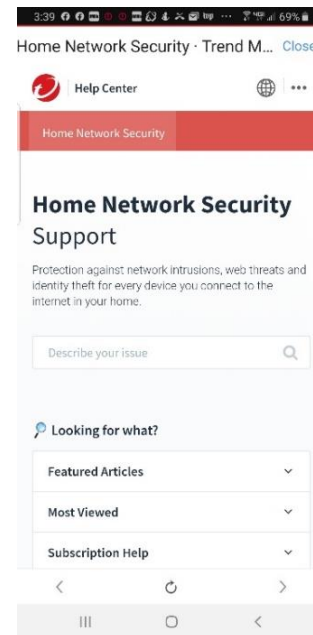


Figure 271. Home Network Security Support

39. Back in the main **Settings** page, toggle **Help Improve This App On or Off**, to share/not share anonymous data with Trend Micro.

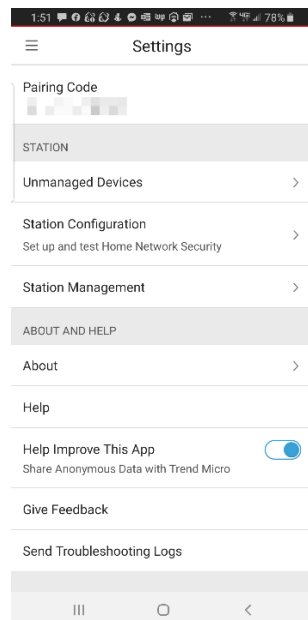


Figure 272. Help Improve This App, Give Feedback, Send Troubleshooting Logs

40. Tap **Give Feedback** to send feedback to Trend Micro about Home Network Security.

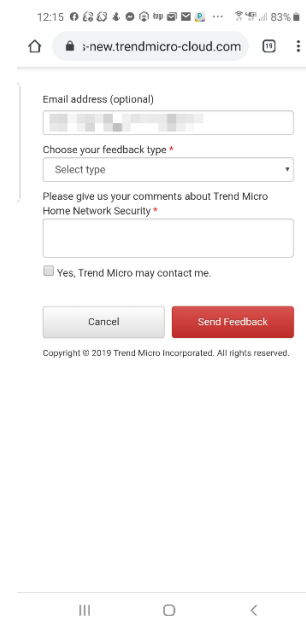


Figure 273. Give Feedback

41. During a troubleshooting session with a Trend Micro Support Technician, you may be asked to **Send Troubleshooting Logs** to help solve your problem. Simply tap this function when asked.

Section 3: Core Technologies

Trend Micro Home Network Security provides an array of technologies that enable the key functions of the solution. These include:

- A Deep Packet Inspection (DPI) engine / Intrusion Prevention System (IPS)
- Automatic Device Recognition
- Automatic Vulnerability Scan
- Web Threat Protection
- Anomaly Detection
- Network Attach Options

Deep Packet Inspection (DPI) / Intrusion Prevention System (IPS)

HNS's Intrusion Prevention System (IPS) security technology covers a broad spectrum of threats and vulnerabilities that home networks face today. Behind HNS's IPS is the Deep Packet Inspection (DPI) engine, an advanced technology for analyzing and managing network traffic.

DPI goes beyond packet filtering, which only analyzes packet headers, by inspecting the data and payload of the traffic. This scan returns multiple results for security and management applications in a performant, single-pass process. This approach allows HNS to protect you and your devices against sophisticated network intrusion and device compromise attempts while minimizing impact on network throughput.

The threat coverage of IPS far exceeds the protection provided by DNS-based security implementations in a number of important areas, including device compromise through inbound attacks that use techniques like brute force logins and exploit system vulnerabilities.



Figure 274. HNS Single-Pass DPI Scan Engine

Network Attacks

Where HNS's IPS protection really shines is detecting and blocking network attacks. Because it scans traffic coming in and going out of a network, HNS's IPS is able to protect consumer home networks against inbound device compromise attempts, remote device control (botnets) and even cryptocurrency mining. Recent and well-known examples of these types of threats include WannaCry, Heartbleed and Shellshock. DNS-based solutions aren't able to see or analyze these attack attempts, let alone block them from reaching their targeted victims.

Web Threats

By forwarding URL requests to Trend Micro's Smart Protection Network (SPN), HNS's IPS is able to provide granular and accurate web-threat protection to consumers. DNS-based solutions are limited when it comes to URL filtering because the precision of their reputation systems only cover the domain of a requested URL. In addition, any requests which directly use an IP address are not covered by a DNS-based solution. Trend Micro's own data shows that two-thirds of all web threats are matched at the directory or URL level, not the domain level, indicating that a majority of web threats could be missed by DNS-based solutions.

Trend Micro's SPN also dynamically scans potentially executable files, including .EXE and .PDF files, *in the cloud and in real-time* to ensure that those files are not malware.

Table 5. Threat coverage of DPI-based IPS vs DNS-based security

Threat Category	HNS (DPI-based IPS)	DNS-based Solution
Web Threats		
DNS Reputation	Yes	Yes
URL Reputation	Yes	Partial (domain-level only)
Dynamic Cloud-based File Scan	Yes	No
Inbound Device Compromise		
Brute Force Login	Yes	No
Default Credential Exploitation	Yes	No
Vulnerability Exploitation	Yes	No
Remote Device Control		
Botnet Participation via DoS / DDoS	Yes	No
Others		
Cryptocurrency Mining	Yes	No

Device and Application Management

Additional benefits of DPI include the identification and management of devices and applications. Metadata picked up during traffic inspection allows Trend Micro to show consumers the devices that are connected to their network as well as the applications that are in use. Beyond visibility, DPI allows for the management of those devices and applications, including allowing or blocking devices and applications and setting time limits.

Trend Micro Guardian, which integrates with HNS's parental control rules, utilizes Mobile Device Management technology to enforce those rules on any network, Wi-Fi or mobile.

Automatic Device Recognition

Automatic Device Recognition takes the output of an active network scan, which analyzes the response metadata to assess a device's brand, model and category. Metadata from scanned network traffic offers additional input used in recognition.

In cases where the recognition is incomplete or inaccurate, users can modify the recognition result generated by HNS. That learning is fed back into the system to improve recognition going forward.

Automatic Vulnerability Scan

HNS's Automatic Vulnerability Scan probes for default/weak password settings on devices that have administrative consoles like routers, IP cameras and network attached storage (NAS) units.

After version 2.0 has been released (Fall 2019), high severity vulnerabilities like Heartbleed and Poodle will be tested for in connected devices. If found, users will be provided with a notice giving advice on how to mitigate the vulnerability (like updating their device's firmware).

Web Threat Protection (SPN)

Trend Micro maintains one of the world's largest web reputation databases—a key component of the Trend Micro Smart Protection Network (SPN), which also includes world-class file and email reputation databases, as well as other advanced technologies including Trend Micro™ XGen machine learning, the artificial intelligence powering Trend Micro Home Network Security.

With its Web Threat Protection (WTP) technology, websites are scored on age, location changes, and suspicious behavior. Through a two-tier system, Trend Micro examines both single and multi-component testing of web sites, sandboxing and testing of new components on existing sites, and monitoring of cyber-criminal activity. Real-time page analysis, using script analyzers and browser exploit prevention technology, identifies new malicious URLs at the time of access. The result is industry-leading blocking of both existing and evolving web threats to Trend Micro's customers.

In short, Trend Micro Home Network Security's Web Threat Protection (WTP) feature taps into the SPN's web reputation database as soon as it's installed, ensuring the safety of your home users whenever they access the web on any device that's part of your network. If a user clicks a bad link in a browser, an email or instant message, or on a social networking site, they're instantly notified and blocked from going to the malicious website—and the home network administrator is notified of the blocking action, by user and device, as part of HNS's normal reporting mechanism.

Anomaly Detection

Anomaly Detection has been introduced into HNS as a forward-looking intelligent monitoring capability. HNS's Smart Alert is an Early Access feature that uses machine learning to build patterns from smart devices' network behavior so that it can identify anomalies, particularly behavior that indicates device compromise or privacy violations.

When an anomaly is detected, users are alerted with more details and potential further actions they can take to confirm their device's health.

Network Attach Options

HNS acts as the gateway when attached to the network router in the following ways:

- Automatically.** Setup occurs without user configuration, by utilizing ARP Spoofing. This technique is important for helping get even the least tech-savvy customer up and running and their network and devices secured. No decision-making or networking knowledge is required on the part of the user when using this mode.

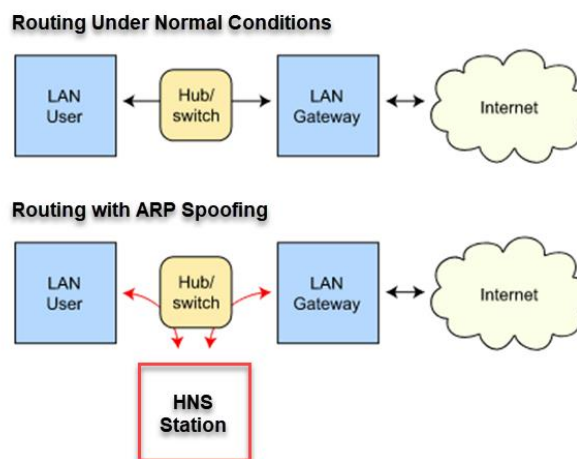


Figure 275. HNS ARP Spoofing for MITM Security

- Mode 1, Mode 2, Mode 3.** Mode 1 is the default setting. Mode 2 or Mode 3, which are also ARP Spoofing modes, may be triggered automatically or can be used manually (just tap the option) if you are experiencing network issues or are having problems

connecting to the Internet. If you change the mode, run a **Test Status** check 5 minutes after changing the settings.

- **DHCP Mode.** Using DHCP Mode you can configure Home Network Security as a DHCP Server. Enabling DHCP Mode requires you to first disable the router's DHCP server. With a small number of routers, this configuration is required so HNS can secure the network and devices. Also, some more technical customers who are willing and able may feel more comfortable with this setup and make the changes themselves.

HNS will attempt to determine the correct method during the setup process based on the router it is connected to. Most routers support the automatic method, though a very small number do require manual setup. An even smaller number are not compatible with HNS.

To ensure the optimal experience with Home Network Security, make sure you are using a compatible router. Click here for a [List of Compatible Routers](#).

About Trend Micro

Trend Micro Incorporated, a global leader in cyber security solutions, helps to make the world safe for exchanging digital information. Our innovative solutions for consumers, businesses, and governments provide layered security for data centers, cloud environments, networks, and endpoints. All our products work together to seamlessly share threat intelligence and provide a connected threat defense with centralized visibility and control, enabling better, faster protection. With more than 6,000 employees in over 50 countries and the world's most advanced global threat intelligence, Trend Micro enables users to enjoy their digital lives safely.

For more information, visit [Trend Micro Security for Home](#) or [Home Network Security](#).

