

NOKIA

TMO HBR1.0

Nokia 3TG-01275-AAAA-TCZZA

Issue: DRAFT

July 2020

Nokia is a registered trademark of Nokia Corporation. Other products and company names mentioned herein may be trademarks or tradenames of their respective owners.

The information presented is subject to change without notice. No responsibility is assumed for inaccuracies contained herein.

© 2020 Nokia.

Contains proprietary/trade secret information which is the property of Nokia and must not be made available to, or copied or used by anyone outside Nokia without its written authorization. Not to be used or disclosed except in accordance with applicable agreements.

1 Preface

This preface provides general information about the Operator Manual for the T-Mobile High-Speed Internet Gateway.

1.1 Summary of document issue changes

Changes between document issues are cumulative. Therefore, the latest document issue contains all changes made to previous issues.

Issue 01 is the first issue of the document for this release of the T-Mobile High-Speed Internet Gateway.

1.2 Scope

This Operator Manual provides an overview of the T-Mobile High-Speed Internet Gateway, along with information about installing and configuring it.

1.3 Audience

This Operator Manual is primarily intended for planners, administrators, operators, and maintenance personnel who are involved in installing, upgrading, or maintaining the T-Mobile High-Speed Internet Gateway. The Operator Manual describes tasks that can be completed using the Web GUI; some which require the Super (access rights) user, user name superadmin.



Note — The tasks that can only be performed by the Normal Admin user are described in the T-Mobile High-Speed Internet Gateway User Guide.

Table 1 provides a summary of how the content of this manual is organized.

Table 1 Main content of manual

Chapter number	Chapter content	Description
This chapter	Document preface	Defines the purpose, scope, and intended audience of this document; explains how information is organized in this document.
4	Product description	Brief description of the T-Mobile High-Speed Internet Gateway.

(1 of 2)

Chapter number	Chapter content	Description
5	Installation	Steps to install the T-Mobile High-Speed Internet Gateway.
6	Remove battery and SIM card	Steps to remove battery and SIM card.
7	Replace battery and SIM card	Steps to replace battery and SIM card.
9	Configuration	Steps to configure the T-Mobile High-Speed Internet Gateway.

(2 of 2)

1.4 Required knowledge

It is recommended that the reader be familiar with general telecommunications principles.

1.5 Acronyms and initialisms

The expansions and optional descriptions of most acronyms and initialisms used in this document appear in the glossary at the back of the document.

1.6 Assistance and ordering phone numbers

Nokia provides global technical support through regional call centers. Phone numbers for the regional call centers are available at the following URL: <https://customer.nokia.com/support/s/>.

For ordering information, contact your Nokia sales representative.

1.7 Nokia quality processes

Nokia's T-Mobile High-Speed Internet Gateway quality practices are in compliance with TL 9000 requirements. These requirements are documented in the Fixed Networks Quality Manual 3FQ-30146-6000-QRZZA. The quality practices adequately ensure that technical requirements and customer end-point requirements are met. The customer or its representatives may be allowed to perform on-site quality surveillance audits, as agreed upon during contract negotiations.

1.8 Safety information

For safety information, see the appropriate safety guidelines.

1.9 Documents

The *T-Mobile High-Speed Internet Gateway Customer Release Notes* lists customer documentation for the T-Mobile High-Speed Internet Gateway. The documents are available from the Nokia Documentation Center.

Procedure 1 To access individual documents

Individual PDFs of customer documents are accessible to registered users through the Documentation Center website.

-
- 1 Navigate to <https://documentation.nokia.com> and click Login in the top right corner of the page.

The Support portal page opens.

-
- 2 Enter the username and password for your account.



Note — If you do not have an account, click New User or contact your Nokia representative.

-
- 3 Choose FastMile 5G Gateway from the list of products in the Product drop-down menu.

-
- 4 Configure the search criteria as needed (for example, by release, content type, or issue date) and click Search.

-
- 5 Click on the PDF document icon to access a document.



Note 1 — If you have not already logged in from the Support portal, you will be prompted to log in now.

Note 2 — Customer documentation is available at initial release for customers with applicable Service Level Agreements or from your Nokia support representative. Documentation is generally available to all customers at general availability release.

1.10 Special information

The following are examples of how special information is presented in this document.



Danger — Danger indicates that the described activity or situation may result in serious personal injury or death; for example, high voltage or electric shock hazards.



Warning — Warning indicates that the described activity or situation may, or will, cause equipment damage or serious performance problems.



Caution — Caution indicates that the described activity or situation may, or will, cause service interruption.



Note — A note provides information that is, or may be, of special interest.

1.10.1 Steps with options or substeps

When there are options in a step in this document, they are identified by letters. When there are required substeps in a step in this document., they are identified by roman numerals.

Procedure 2 Example of options in a step

At step 1, you must choose option a or b.

1 This step offers two options. You must choose one of the following:

- a This is one option.
- b This is another option.

2 You must perform this step.

Procedure 3 Example of required substeps in a step

At step 1, you must perform a series of substeps within the step.

-
- 1 This step has a series of substeps that you must perform to complete the step. You must perform the following substeps:
 - i This is the first substep.
 - ii This is the second substep.
 - iii This is the third substep.
 - 2 You must perform this step.
-

1.11 Multiple PDF document search

You can use Adobe Reader Release 6.0 and later to search multiple PDF files for a common term. Adobe Reader displays the results in a single display panel. The results are grouped by PDF file, and you can expand the entry for each file.



Note — The PDF files in which you search must be in the same folder.

Procedure 4 To search multiple PDF files for a common term

-
- 1 Open Adobe Acrobat Reader.
 - 2 From the Edit menu, choose Search.
The Search PDF panel appears.
 - 3 Enter the search criteria.
 - 4 Click on the All PDF Documents In radio button.
 - 5 Select the folder in which to search using the drop-down menu.
 - 6 Click on the Search button.
-

Acrobat Reader displays the search results. You can expand the entries for each document by clicking on the + symbol.

Table of contents

1	Preface	3
1.1	Summary of document issue changes	3
1.2	Scope	3
1.3	Audience.....	3
1.4	Required knowledge.....	4
1.5	Acronyms and initialisms	4
1.6	Assistance and ordering phone numbers	4
1.7	Nokia quality processes.....	4
1.8	Safety information.....	4
1.9	Documents	5
1.10	Special information	6
1.10.1	Steps with options or substeps.....	6
1.11	Multiple PDF document search	7
2	ETSI environmental and CRoHS guidelines	17
2.1	Hazardous Substances Table (HST).....	17
2.2	Hazardous Substances Table (HST).....	17
2.3	Other environmental requirements	17
2.3.1	Environmental requirements.....	18
2.3.2	Storage	18
2.3.3	Transportation	18
2.3.4	Stationary use.....	18
2.3.5	Thermal limitations	18
2.3.6	Material content compliance.....	19
2.3.7	End-of-life collection and treatment.....	19
3	ANSI safety guidelines	21
3.1	Safety instructions	21
3.1.1	Safety instruction boxes in customer documentation	21
3.1.2	Safety-related labels.....	22
3.2	Safety standards compliance	23
3.2.1	EMC, EMI, and ESD compliance.....	23
3.2.2	Equipment safety standard compliance.....	24
3.3	Electrical safety guidelines	24
3.3.1	Power supplies	24
3.3.2	Cabling	25
3.3.3	Protective earth	25
3.4	ESD safety guidelines	25
3.5	Environmental requirements.....	25
4	Product description	27
4.1	Product overview	27
4.2	4G/LTE and 5G radio support	29
4.3	4G and 5G band and antenna support	29
4.4	Subscriber Interfaces.....	30
4.5	Environment	30
4.6	Physical dimensions	30

4.7	Physical interfaces.....	31
4.8	Typical connection.....	32
4.9	Mesh Wi-Fi 6 System with the T-Mobile High-Speed Internet Gateway....	33
4.10	Management.....	34
4.11	QR code information.....	34
4.12	Power	36
4.13	Additional functional and feature information	36
5	Installation	39
5.1	Unpacking the T-Mobile High-Speed Internet Gateway	39
5.2	Product Warnings	41
5.3	Connecting power.....	41
5.4	Starting up	42
5.4.1	T-Mobile High-Speed Internet Gateway on boarding is not successful....	43
5.5	Downloading the T-Mobile Broadband App.....	44
5.6	Checking LCD	44
5.6.1	Connection	45
5.6.2	Devices.....	47
5.6.3	Battery	48
5.6.4	Settings.....	48
5.6.5	SMS.....	48
5.6.6	Alerts	49
5.6.7	Notifications	50
5.7	Connecting to Wi-Fi.....	51
5.8	Managing the Wi-Fi network.....	51
5.9	Connecting Accessories (Optional)	52
5.10	Repositioning the T-Mobile High-Speed Internet Gateway	52
5.11	Connecting devices for Wi-Fi or a mesh network	53
5.12	Connecting Ethernet LANs.....	53
6	Removing battery and SIM card	55
6.1	Purpose	55
6.2	General.....	55
6.3	Recommended tools.....	56
6.4	Safety information.....	56
6.5	Procedures	57
7	Replacing battery and SIM card	63
7.1	Purpose	63
7.2	General.....	63
7.3	Recommended tools.....	64
7.4	Prerequisites	64
7.5	Safety information.....	64
7.6	Procedures	65
8	FCC statements and label instructions	67
8.1	FCC compliance statement	67
8.2	FCC radiation exposure statement.....	67
8.3	FCC label instructions	67
9	Configuration	69
9.1	Getting started	69

9.2	Prerequisite for all procedures.....	71
9.3	Viewing the Overview screen	71
9.4	Logging In to the Web GUI	72
9.5	Viewing status information.....	73
9.6	Viewing statistics	77
9.7	Viewing networks.....	80
9.8	Configuring system parameters.....	86
9.9	Changing the web GUI language	89
10	Glossary	91

List of figures

1	Preface	3
2	ETSI environmental and CRoHS guidelines	17
Figure 1	Recycling/take back/disposal of product symbol	19
3	ANSI safety guidelines	21
Figure 2	Sample safety label- High-Speed Internet Gateway.....	23
4	Product description	27
Figure 3	The T-Mobile High-Speed Internet Gateway	28
Figure 4	Location of physical interfaces	32
Figure 5	Typical connectivity for the T-Mobile High-Speed Internet Gateway	33
Figure 6	QR code on T-Mobile High-Speed Internet Gateway	35
5	Installation	39
Figure 7	Placement of the T-Mobile High-Speed Internet Gateway	40
Figure 8	Connecting the power supply to the T-Mobile High-Speed Internet Gateway 42	
Figure 9	T-Mobile High-Speed Internet Gateway LCD screen	45
Figure 10	5G and 4G connection.....	45
Figure 11	No 5G or 4G signal.....	46
Figure 12	Battery life.....	46
Figure 13	UPS	47
Figure 14	Devices screen showing number of devices to pair	47
Figure 15	Charging battery	48
Figure 16	SSID and Password label.....	51
Figure 17	Location of the Gigabit Ethernet LAN ports	54
6	Removing battery and SIM card	55
Figure 18	Location of SIM and battery screws	57
Figure 19	Bottom of T-Mobile High-Speed Internet Gateway.....	58
Figure 20	Remove bottom cover	59
Figure 21	Location of the Pull Rib for battery	60
Figure 22	Remove battery	61
Figure 23	SIM finger pull.....	62
7	Replacing battery and SIM card	63
Figure 24	SIM tray	66
8	FCC statements and label instructions	67
9	Configuration	69
10	Glossary	91

List of tables

1	Preface	3
Table 1	Main content of manual	3
2	ETSI environmental and CROHS guidelines	17
3	ANSI safety guidelines	21
Table 2	Safety labels	22
4	Product description	27
Table 3	Maximum antenna gain for T-Mobile High-Speed Internet Gateway antennas 30	
Table 4	QR code information.....	35
5	Installation	39
Table 5	Troubleshooting alerts	49
Table 6	T-Mobile High-Speed Internet Gateway Notifications.....	50
6	Removing battery and SIM card	55
7	Replacing battery and SIM card	63
8	FCC statements and label instructions	67
9	Configuration	69
Table 7	T-Mobile High-Speed Internet Gateway Web Gui Tasks.....	70
Table 8	Wi-Fi 2.4GHz General Settings	81
Table 9	Configure SSID (#) for 2.4 GHz.....	82
Table 10	Wi-Fi 5GHz General Settings SSIDs 5 - 8 for 5GHz low and SSID 9 - 12 for 5GHz high.....	82
Table 11	Configure SSID 5-8 for 5GHz low and SSID 9 - 12 high	83
10	Glossary	91

2 ETSI environmental and CRoHS guidelines

This chapter provides information about the ETSI environmental China Restriction of Hazardous Substances (CRoHS) regulations that govern the installation and operation of the T-Mobile High-Speed Internet Gateway. This chapter also includes environmental operation parameters of general interest.

2.1 Hazardous Substances Table (HST)

This section describes the compliance of the T-Mobile High-Speed Internet Gateway to the CRoHS standard when the product and subassemblies contain hazardous substances beyond the MCV value. This information is found in this operator documentation where part numbers for the product and subassemblies are listed. It may be referenced in other documentation that describes the T-Mobile High-Speed Internet Gateway.

In accordance with the People's Republic of China Electronic Industry Standard Marking for the Control of Pollution Caused by Electronic Information Products (SJ/T11364-2006), customers may access the Nokia Hazardous Substance Table, in Chinese, from the following location:

- contact your Nokia representative for the link

2.2 Hazardous Substances Table (HST)

This section describes the compliance of the T-Mobile High-Speed Internet Gateway to the CRoHS standard when the product and subassemblies contain hazardous substances beyond the MCV value. This information is found in this operator documentation where part numbers for the product and subassemblies are listed. It may be referenced in other documentation that describes the T-Mobile High-Speed Internet Gateway.

In accordance with the People's Republic of China Electronic Industry Standard Marking for the Control of Pollution Caused by Electronic Information Products (SJ/T11364-2006), customers may access the Nokia Hazardous Substance Table, in Chinese, from the following location:

- contact your Nokia representative for the link

2.3 Other environmental requirements

Observe the following environmental requirements when handling the T-Mobile High-Speed Internet Gateway

2.3.1 Environmental requirements

See section [2.3.5](#) for thermal limitations and see chapter [4](#) for information about temperature ranges for the T-Mobile High-Speed Internet Gateway specifications.

2.3.2 Storage

According to ETS 300-019-1-1 - Class 1.1, storage of the T-Mobile High-Speed Internet Gateway must be in Class 1.1, weather-protected, temperature-controlled locations.

2.3.3 Transportation

According to EN 300-019-1-2 - Class 2.3, transportation of the T-Mobile High-Speed Internet Gateway must be in packed, public transportation.

2.3.4 Stationary use

According to EN 300-019-1-3 - Class 3.1/3.2/3.E, stationary use of the T-Mobile High-Speed Internet Gateway must be in a temperature-controlled location with no condensation allowed.

2.3.5 Thermal limitations

The thermal limitations for the T-Mobile High-Speed Internet Gateway are:

- operating temperature (ambient): -5°C to 45°C (23°F to 113°F)
- storage temperature (ambient) with no battery: -40°C to 70°C (-40°F to 158°F)
- storage temperature (ambient) with battery:
 - One year: -20°C to 23°C (-4°F to 73°F)
 - Three months: -20°C to 45°C (-4°F to 113°F)
 - One month: -20°C to 60°C (-4°F to 140°F)
- operating relative humidity: 5% to 85% relative humidity, non-condensing
- short-term relative humidity: 5% to 93% relative humidity, non-condensing

2.3.6 Material content compliance

European Union (EU) Directive 20011/65/EU and as amended, “Restriction of the use of certain Hazardous Substances” (RoHS), restricts the use of lead, mercury, cadmium, hexavalent chromium, and PBB, PBDE, DEHP, DBP, BBP, DIBP in electrical and electronic equipment. This Directive applies to electrical and electronic products placed on the EU market effective from July 22, 2019, with various exemptions, including an exemption for lead solder in network infrastructure equipment. Nokia products shipped to the EU after July 22 2019 comply with the EU RoHS Directive.

Nokia has implemented a material/substance content management process. The process is described in: Nokia process for ensuring RoHS Compliance (1AA002660031ASZZA). This ensures compliance with the European Union Directive 2011/65/EU on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS2). With the process equipment is assessed in accordance with the Harmonised Standard EN50581:2012 (CENELEC) on Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances.

2.3.7 End-of-life collection and treatment

Electronic products bearing or referencing the symbol shown in Figure 1, when put on the market within the European Union (EU), shall be collected and treated at the end of their useful life, in compliance with applicable EU and local legislation. They shall not be disposed of as part of unsorted municipal waste. Due to materials that may be contained in the product, such as heavy metals or batteries, the environment and human health may be negatively impacted as a result of inappropriate disposal.

Figure 1 Recycling/take back/disposal of product symbol



At the end of its life, the T-Mobile High-Speed Internet Gateway is subject to the applicable local legislations that implement the European Directive 2012/19/EU on waste electrical and electronic equipment (WEEE).

There can be different requirements for collection and treatment in different member states of the European Union.

In compliance with legal requirements and contractual agreements, where applicable, Nokia will offer to provide for the collection and treatment of Nokia products bearing the logo shown in Figure 1 at the end of their useful life, or products displaced by Nokia equipment offers. For information regarding take-back of equipment by Nokia, or for more information regarding the requirements for recycling/disposal of product, contact your Nokia account manager or Nokia take back support at sustainability.global@nokia.com.

3 ANSI safety guidelines

This chapter provides information about the mandatory regulations that govern the installation and operation of the T-Mobile High-Speed Internet Gateway in the North American or ANSI market.

3.1 Safety instructions

This section describes the safety instructions that are provided in the customer documentation and on the T-Mobile High-Speed Internet Gateway.

3.1.1 Safety instruction boxes in customer documentation

The safety instruction boxes are provided in the T-Mobile High-Speed Internet Gateway customer documentation. Observe the instructions to meet safety requirements.

The following is an example of the Danger box.



Danger — Possibility of personal injury.

The Danger box indicates that the described activity or situation may pose a threat to personal safety. It calls attention to a situation or procedure which, if not correctly performed or adhered to, may result in death or serious physical harm.

Do not proceed beyond a Danger box until the indicated conditions are fully understood and met.

The following is an example of the Warning box.



Warning 1 — Possibility of equipment damage.

Warning 2 — Possibility of data loss.

The Warning box indicates that the described activity or situation may, or will, cause equipment damage, loss of data, or serious performance problems. It identifies a possible equipment-damaging situation or provides essential information to avoid the degradation of system operations or data.

Do not proceed beyond a warning until the indicated conditions are fully understood and met.

The following is an example of the Caution box.



Caution 1 — Possibility of service interruption.

Caution 2 — Service interruption.

The Caution box indicates that the described activity or situation may, or will, cause service interruption.

Do not proceed beyond a caution until the indicated conditions are fully understood and met.

The following is an example of the Note box.



Note — Information of special interest.

The Note box provides information that assists the personnel working with the T-Mobile High-Speed Internet Gateway. It does not provide safety-related instructions.

3.1.2 Safety-related labels

The T-Mobile High-Speed Internet Gateway is labeled with specific safety compliance information and instructions that are related to a product, or product variant, of the equipment. Observe the instructions on the safety labels.

Table 2 provides examples of the text in the various T-Mobile High-Speed Internet Gateway safety labels.

Table 2 **Safety labels**

Description	Label text
ETL compliance	ETL/cETL
ESD warning	Caution: This assembly contains electrostatic sensitive device.

Figure 2 is an example safety labels.

Figure 2 Sample safety label- High-Speed Internet Gateway



3.2 Safety standards compliance

This section describes the T-Mobile High-Speed Internet Gateway compliance with North American safety standards.



Warning — Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

3.2.1 EMC, EMI, and ESD compliance

The T-Mobile High-Speed Internet Gateway equipment complies with the following EMC, EMI, and ESD requirements:

- Federal Communications Commission PART 15-RADIO FREQUENCY DEVICES Subpart C-INTENTIONAL RADIATORS Title 47 CFR Part 15. Part 15.247, Part 15.255

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is needed.
- Consult the dealer or an experienced radio/TV technician for help.

3.2.2 Equipment safety standard compliance

The T-Mobile High-Speed Internet Gateway complies with the requirements of:

- UL 62368-1, Audio/Video, Information And Communication Technology Equipment - Part 1: Safety Requirements
- CSA C22.2#62368-1, Audio/Video, Information And Communication Technology Equipment - Part 1: Safety Requirements

3.3 Electrical safety guidelines

This section provides the electrical safety guidelines for the T-Mobile High-Speed Internet Gateway.



Note — The T-Mobile High-Speed Internet Gateway complies with the U.S. National Electrical Code. However, local electrical authorities have jurisdiction when there are differences between the local and U.S. standards.

3.3.1 Power supplies

The use of any non-Nokia approved power supplies or power adapters is not supported or endorsed by Nokia. Such use will void any warranty or support contract with Nokia. Such use greatly increases the danger of damage to equipment or property.

3.3.2 Cabling

The following are the guidelines regarding cables used for the T-Mobile High-Speed Internet Gateway:

- All cables must be approved by the relevant national electrical code.
- The T-Mobile High-Speed Internet Gateway must be used with the cabling supplied with the equipment.

3.3.3 Protective earth

Earthing and bonding of the T-Mobile High-Speed Internet Gateway must comply with the requirements of NEC article 250 or local electrical codes.

3.4 ESD safety guidelines

The T-Mobile High-Speed Internet Gateway is sensitive to ESD if opened. Operations personnel must observe the following ESD instructions when they handle the T-Mobile High-Speed Internet Gateway.



Caution — This equipment is ESD sensitive if opened. Proper ESD protections should be used if you open the T-Mobile High-Speed Internet Gateway.

Service personnel are not required to wear wrist straps when performing normal installation or maintenance activities.

3.5 Environmental requirements

The environmental requirements for the T-Mobile High-Speed Internet Gateway are:

- operating temperature (ambient): -5°C to 45°C (23°F to 113°F)
- storage temperature (ambient): -40°C to 70°C (-40°F to 158°F)
- storage temperature (ambient):
 - One year: -20 °C to 23 °C (-4 °F to 73 °F)
 - Three months: -20 °C to 45°C (-4 °F to 113 °F)
 - One month: -20 °C to 60 °C (-4 °F to 1403 °F)
- operating relative humidity: 5% to 85% relative humidity, non-condensing
- short-term relative humidity: 5% to 93% relative humidity, non-condensing

See [chapter 4](#) in this guide for more information about the T-Mobile High-Speed Internet Gateway and for other T-Mobile High-Speed Internet Gateway specifications.

4 Product description

4.1 Product overview

4.2 4G/LTE and 5G radio support

4.3 4G and 5G band and antenna support

4.5 Environment

4.6 Physical dimensions

4.7 Physical interfaces

4.8 Typical connection

4.9 Mesh Wi-Fi 6 System with the T-Mobile High-Speed Internet Gateway

4.10 Management

4.12 Power

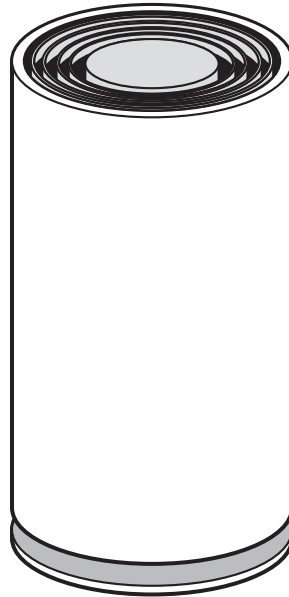
4.13 Additional functional and feature information

4.1 Product overview

The T-Mobile High-Speed Internet Gateway is a fully self-contained indoor gateway that is easy to deploy and can connect wirelessly to a 4G/LTE or 5G mobile network for Gigabit delivery of network services within the home.

With carrier aggregation, the T-Mobile High-Speed Internet Gateway improves performance and reliability by using the best available 4G/LTE or 5G signals. The plug-and-play solution is simple to install and uses visual cues to help you identify an installation location that will achieve the best performance from the 4G/LTE or 5G network.

Figure 3 shows the T-Mobile High-Speed Internet Gateway.

Figure 3 The T-Mobile High-Speed Internet Gateway

28932

The T-Mobile High-Speed Internet Gateway has the following main features:

- fully self-contained indoor gateway with self-guided touch screen placement for optimum signal connection.
- secure boot (Wi-Fi Soc device)
- RGW (IPv6 only)
- 4G/LTE WAN connectivity
- 5G NSA WAN connectivity with four wideband OMNI antenna that support all the LTE/5G bands.
- 4G/5G signal strength display on LCD
- EN-DC and CA band combinations for T-Mobile US
- IEEE 802.11ax Tri-Band 4+4+4 (Wi-Fi 6) to extend the 5G Sub-6GHz speeds indoor
- uses Mesh Wi-Fi 6 System
- 802.11 a/b/g and 4x4MIMO 802.11 n/ac/ax
- can function as the access point of a mesh network of Mesh Wi-Fi 6 system (up to two units supported)
- Bit Defender cyber security

4.2 4G/LTE and 5G radio support

The T-Mobile High-Speed Internet Gateway is designed to operate according to the 5G NSA 3GPP Rel-15 December-2018 and 3GPP Release 15 December 5G NR, NSA 3X, 3A and SA 2 standards. It can operate in LTE-only mode or 5G EN-DC mode.



Note — In accordance with the NSA standard, means that a 4G connection is mandatory for the T-Mobile High-Speed Internet Gateway to reach the 5G network.

When operating in LTE-only mode, the T-Mobile High-Speed Internet Gateway will only use the 4G/LTE network to connect to the operator's network.

When operating in LTE-5G EN-DC mode, the T-Mobile High-Speed Internet Gateway implements the 5G NSA (Option 3x) configuration, meaning it uses a 4G/LTE carrier and 5G NSA carrier at the same time to connect to the operator's network. The control plane is carried over the LTE network and the user plane is carried over both the LTE and 5G NSA networks.

The T-Mobile High-Speed Internet Gateway supports two APN with default bearer. It also supports dedicated bearers and QoS.



Note — There are two Access Points pre-configured for the T-Mobile High-Speed Internet Gateway: One for Internet and OAM traffic, one for voice traffic (VoLTE).

- Internet and OAM traffic, which can be edited by a superadmin, but cannot be deleted.
- Voice Traffic (VoLTE), which can be edited and deleted by the superadmin user. See procedure [22](#) for the procedure to remove an Access Point.

4.3 4G and 5G band and antenna support

The T-Mobile High-Speed Internet Gateway supports the following 4G/LTE radio bands:

- LTE FDD bands supported: B2, B4, B12, B71, B66, B5, B25, B26
- LTE TDD bands supported: B41, B46 LAA, B48
- DL 256 QAM with CA and 4x4 MIMO: supported 2CA, 3CA, 4CA, 5CA in down link
- UL 256 QAM on 5G UL, 2x2MIMO
- supports channel bandwidths: 5MHz, 10MHz, 15MHz, 20MHz
- 5G NR FDD bands supported: n2, n25, n66, and n71
- 5G NR TDD bands supported: n41

Table describes the Maximum Antenna Gain for T-Mobile High-Speed Internet Gateway antennas that supports all 4G/LTE interface and 5G bands:

Table 3 Maximum antenna gain for T-Mobile High-Speed Internet Gateway antennas

Band	Maximum Antenna Gain
B2, B4, B25, B66, n2, and n25	2 - 5 dB
B5, B12, B26, B71, and n71	0 - 3 dB
B41	3.5 - 5.5 dB
B48	4 - 6.5 dB
B46	3.5 - 5.5 dB
Wi-Fi 2.4 GHz	3 - 4.5 dB
Wi-Fi 5 GHz	3.5 - 6 dB
Bluetooth	4 dB

4.4 Subscriber Interfaces

The subscriber interfaces include:

- tri-band Wi-Fi: 802.11ax 4+4+4
- one USB 3.0 type-C port for connecting a USB-connected storage device
- slot for 4FF/nano-sized SIM card
- Bluetooth 4.1

4.5 Environment

The T-Mobile High-Speed Internet Gateway is intended for indoor use. It is not rated with respect to IP class.

The T-Mobile High-Speed Internet Gateway must be used in a temperature between -5°C and 45°C (23°F and 113°F).

4.6 Physical dimensions

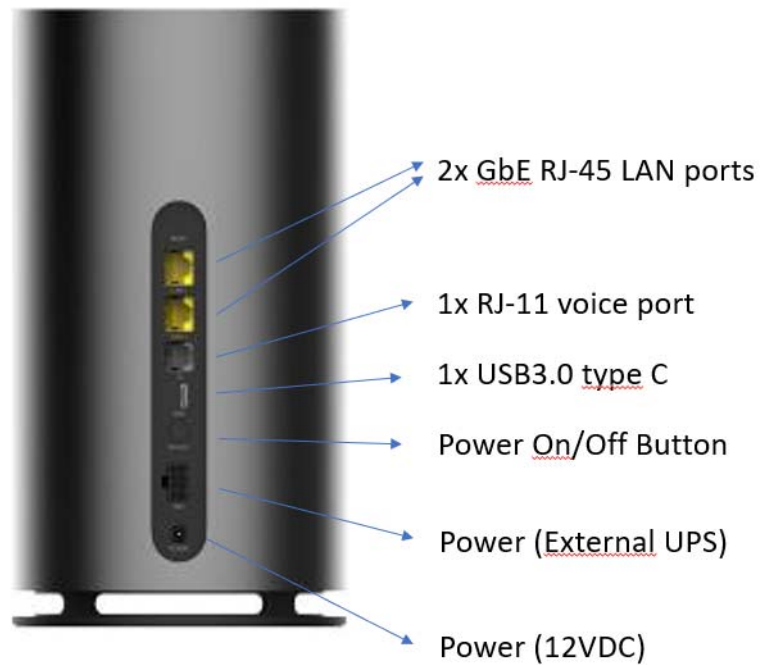
The T-Mobile High-Speed Internet Gateway has the following dimensions:

- height: 216 mm (8.5 in)
- diameter: 120 mm (4.7.in)
- weight: 1.2 kg (2.6 lb) without the power adapter

4.7 Physical interfaces

All physical interfaces for the T-Mobile High-Speed Internet Gateway, including physical connectivity, are located on the backside of the unit as shown in Figure 4 and include:

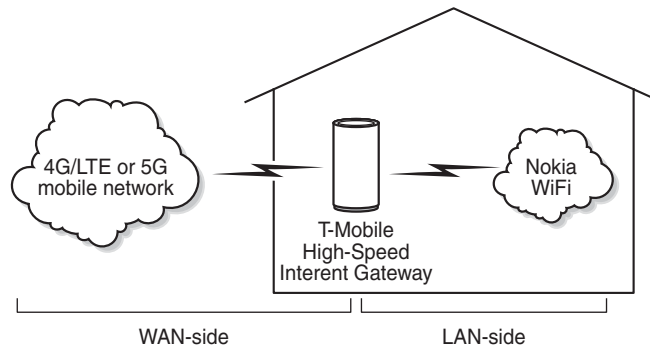
- one 100-240V AC power input port
- 5000 mAh battery
- UPS system battery (optional)
- two RJ45 LAN ports that can be used:
 - to connect up to two Gigabit Ethernet LAN ports (all ports are supported while the Wi-Fi is working)
 - for local management of the T-Mobile High-Speed Internet Gateway through a locally-connected PC, laptop, phone, or tablet (local management can also be done through the Wi-Fi or Mesh Wi-Fi 6 system) using a Web-based Graphical Interface (Web-GUI). See Chapter 9 for configuration procedures.
- one USB 3.0 type-C port for connecting a USB-connected storage device
- slot for 4FF/nano-sized SIM card
- the following buttons:
 - power on/off button (see procedure 24)
 - reset button (see procedure 25)

Figure 4 Location of physical interfaces

4.8 Typical connection

The T-Mobile High-Speed Internet Gateway typically has 4G/LTE or 5G NSA WAN mobile network connectivity with four wideband OMNI antenna that supports all LTE/5G bands as shown in Figure 5.

Figure 5 Typical connectivity for the T-Mobile High-Speed Internet Gateway



36076

The T-Mobile High-Speed Internet Gateway can also have the following physical network connections:

- Gigabit Ethernet LAN connections (two ports)

The T-Mobile High-Speed Internet Gateway can also function as the access point of a Mesh Wi-Fi 6 System on the LAN-side as described in section 4.9.

4.9 Mesh Wi-Fi 6 System with the T-Mobile High-Speed Internet Gateway

Mesh Wi-Fi 6 system can be connected to the T-Mobile High-Speed Internet Gateway to create a mesh network. The T-Mobile High-Speed Internet Gateway serves as the access point to the WAN while up to two units stretch the Wi-Fi coverage to every corner of the home, providing seamless roaming to wireless connected devices.

Unlike typical Wi-Fi networks that require unique SSIDs for each of the access points or tedious set-up of Wi-Fi Mesh, which complicate the user experience, a Mesh Wi-Fi 6 System provides easy device on boarding and automated network optimization.

The Mesh Wi-Fi 6 system are not included as part of the T-Mobile High-Speed Internet Gateway.

4.10 Management

The T-Mobile High-Speed Internet Gateway supports local management (HTTPS / TLS), using a web GUI through a PC, laptop, phone, or tablet that has an Ethernet LAN connection or a Wi-Fi or Mesh Wi-Fi 6 System to the T-Mobile High-Speed Internet Gateway.



Note — The Web GUI screens are designed for 1920 * 1080 pixels. The Web GUI supported browsers include Chrome, Edge, and Safari.

The T-Mobile High-Speed Internet Gateway supports remote management through:

- TR-069 access through the WAN
- TR-143 with Access Control Service (ACS) access
- TR-157 support for module upgrade (5G)
- TR-181 data model

The T-Mobile High-Speed Internet Gateway also supports:

- OpenWRT support
- Firmware Over-The-Air (FOTA) using T-Mobile ACS server where the operating firmware of a mobile device is updated wirelessly. The upgrades are downloaded directly from the service provider.
- RESTful application program interface (API) for Mobile App

4.11 QR code information

The QR code content is aligned with the T-Mobile Mobile App. The QR code is located on a label on bottom of the T-Mobile High-Speed Internet Gateway:

Figure 6 QR code on T-Mobile High-Speed Internet Gateway



Table 4 describes the information that is contained in the QR code:

Table 4 QR code information

Parameter	Definition	JSON Data ID	Data Identifiers
SSID	Each gateway has a unique SSID.	ID	(ID)TMOBILE-XXXX
Wi-Fi key	Each gateway has a unque Wi-Fi key.	KY	(KY) XXXXXXXXXX
Username	Normal admin username	U	(U)admin
Password	Each gateway has a unque web GUI password.	P	(P)XXXXXXXXXX
Bluetooth HW address	Bluetooth hardward address	BT	(BT)TMOBILE-XX-XX
Part number	Gateway part number	PN	(PN)3TG00739AA
MAC address	Gateway MAC address	23S	(23S)XXXXXXXXXX

4.12 Power

The T-Mobile High-Speed Internet Gateway is powered by an external 12 VDC power adapter. The AC power adapter mains 100 - 240V. Other power specifications include:

- Battery: 5000 mAh
 - 5000 mAh
 - Height: 70.2 +/- 0.2mm (2.7 inches +/- 0.008 inches)
 - Length: 37 +/- 0.15mm (1.4 inches +/- 0.006 inches)
 - Width: 19 +/- 0.2mm (0.7 inches +/- 0.08 inches)
 - Weight: 101 +/- 5 g (0.2 inches +/- 0.01 lbs)
- Theoretical power consumption: 36 W
- UPS external (optional)
- Internal battery as replacement (optional)

4.13 Additional functional and feature information

Some main functions of the T-Mobile High-Speed Internet Gateway include an integrated residential gateway functionality.

The following is additional feature information for the T-Mobile High-Speed Internet Gateway:

REVIEW QUESTION: Can the TMO High-Speed Internet Gateway support radio - Nokia WIFI (LAN-side) features: seamless roaming (IEEE 802.11k, 802.11v)?

- Model number: 5G21-12W-A
- Part number: 3TG00739AB
- International Mobile Equipment Identity (IMEI): 3510011 XXXXXX X
- TAC: 3510011
- 4G/LTE features:
 - LTE CAT20 / 20 layers
 - supported channel bandwidths: 1.4~20MHz
 - LTE Latency Reduction: Shorten Semi-Persistent Scheduling (SPS) / Fast Uplink
- 5G NSA features:
 - 3GPP Rel15 Release 5G NR, 3A
 - carrier bandwidth of interest: 5~100MHz
 - maximum transmit power: 23 dBm
 - 5G NSA interface: 1T4R
- radio - cellular (WAN-side) features:
 - Support for Dynamic Spectrum Sharing on NSA and SA
 - Support for Dynamic Power Sharing between LTE and NR
 - T-Mobile EN-Dual Connectivity (DC) band combinations
 - 3GPP Release 15 December - 5G NSA option 3X, 3A

- radio - Wi-Fi (LAN-side) features Mesh Wi-Fi 6 system
- power classes:
 - Power class 2 (26 dBm) at LTE B41
 - Power class 3 (23 dBm) at all other bands.
- security features:
 - adheres to strict Nokia security standards
 - WPA support including WPA-PSK, WPA2, WPA3
 - only advertises and accepts TLS/HTTPS
- certifications:
 - FCC EMC
 - FCC 4GLTE RF bands: B12, B71, B5, B26, B2, B4, B66, B48, B25, B41, B46 LAA
 - FCC 5G NR RF bands: n2, n41, n25, n71, n66
 - FCC RF 2.4GHz Wi-Fi
 - FCC RF 5GHz Wi-Fi
 - FCC RF BT
 - FCC RF SAR
 - ETL Safety
 - IEEE1725
 - PTCRB
 - WFA, Prop65
- OS supports 64-bit architecture.
- Two liquid damage indicator (LDI) sticks pasted in the T-Mobile High-Speed Internet Gateway:
 - On the side of the inner frame close to the vents
 - On the bottom door, which is attached with screws

5 Installation

5.1 Unpacking the T-Mobile High-Speed Internet Gateway

5.3 Connecting power

5.4 Starting up

5.5 Downloading the T-Mobile Broadband App

5.6 Checking LCD

5.7 Connecting to Wi-Fi

5.8 Managing the Wi-Fi network

5.9 Connecting Accessories (Optional)

5.10 Repositioning the T-Mobile High-Speed Internet Gateway

5.11 Connecting devices for Wi-Fi or a mesh network

5.12 Connecting Ethernet LANs

5.1 Unpacking the T-Mobile High-Speed Internet Gateway

Installation of the T-Mobile High-Speed Internet Gateway is intended to be a simple “Plug and Play” user experience for most installations. The T-Mobile High-Speed Internet Gateway has four wide band OMNI antenna and 4G/5G signal strength display on LCD on the top of the Gateway to allow you to locate an optimal location for 5G signal reception. The self-guided device placement through touch screen for optimal signal connection is also supported under battery mode.



Note — Refer to the *T-Mobile High-Speed Internet Gateway Customer Release Notes* before installing the T-Mobile High-Speed Internet Gateway.

Unbox the T-Mobile High-Speed Internet Gateway and ensure that all the package includes one of the following:

- 5G Gateway
- AC cable
- Ethernet cable

- Power supply
- Quick Start Guide (QSG)



Note — A digital version of the QSG is available here: [TBD:
Add a Link]

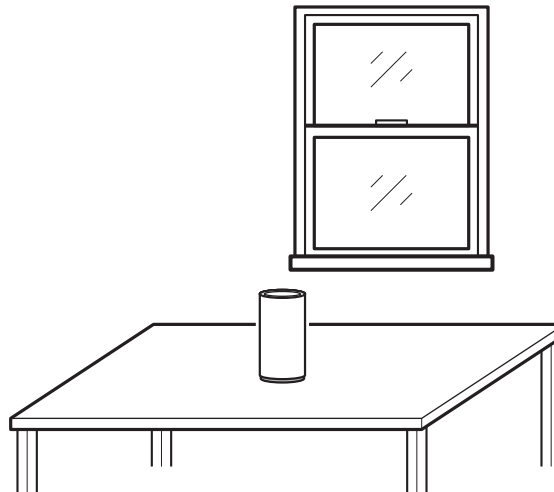
- Safety card
- Warranty card
- External UPS battery (optional)



Note — The T-Mobile High-Speed Internet Gateway has a pre-installed SIM card and battery.

For 4G/LTE or 5G service, place the T-Mobile High-Speed Internet Gateway at a possible installation location such as a table top or similar close to a window or an outer wall with few obstructions; ideally near a window as shown in Figure 7. Make sure there is an electrical outlet nearby. Be prepared to move the T-Mobile High-Speed Internet Gateway to another location later on in the installation process if needed.

Figure 7 Placement of the T-Mobile High-Speed Internet Gateway



28790

The following are some tips that could help when installing the T-Mobile High-Speed Internet Gateway.

Place the gateway:

- for best user experience, place the T-Mobile High-Speed Internet Gateway where the 5G signal is strongest.
- for convenience, choose the best location by moving your device using the internal battery.
- in a location with few Wi-Fi obstructions, ideally close to a window
- close to an AC socket (if not using the internal battery)
- on the side of the room closest to the base station (if known)
- on higher elevation or an upper floor of the home
- away from possible sources of interference, electronic devices, such as printers, microwave ovens, and so on
- away from metal fixtures, enclosures, cabinets, appliances, blinds, reinforced concrete, and pipes
- not in a location where radio signals might be weak, such as the basement

5.2 Product Warnings

Follow these guidelines when using the T-Mobile High-Speed Internet Gateway and its battery:



Danger 1 — Do not attempt to access, manipulate, insert foreign objects into, re-manufacture or change the device battery. Improper battery use may result in fire, explosion, or other hazard.

Danger 2 — Do not immerse or expose the device battery to water or other liquids. Do not expose it to fire or other explosion hazards.

Danger 3 — Do not attempt to charge the device outside of the device itself. Use of an unqualified charger may present a risk of fire, explosion, leakage, or other hazards.



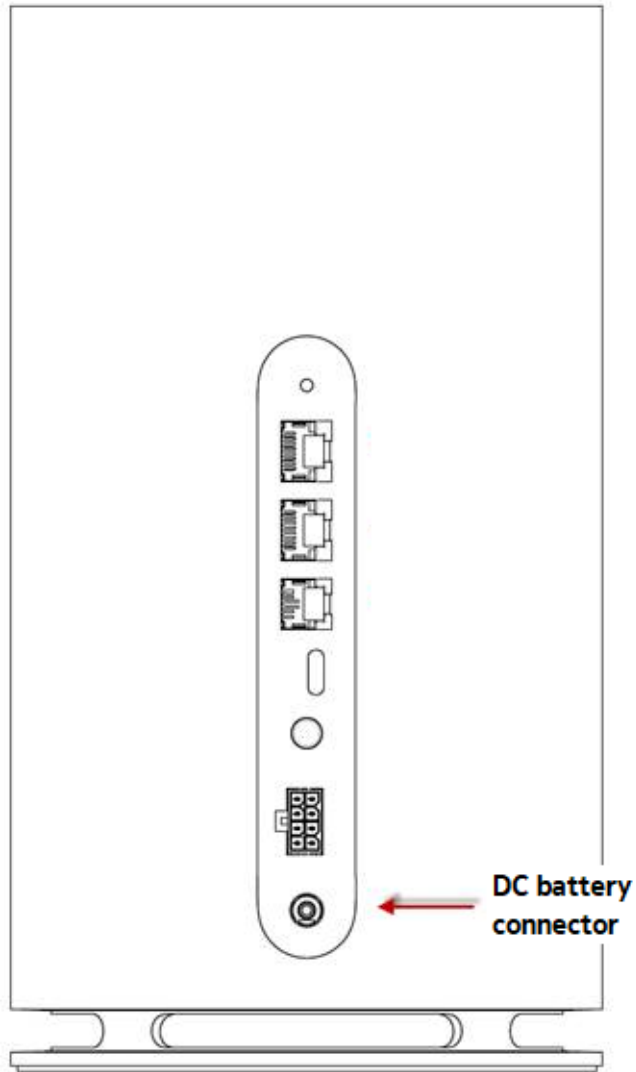
Warning 1 — If the gateway is dropped, especially on a hard surface, or in case of suspected damage, contact the T-Mobile service center for inspection.

Warning 2 — Contact a T-Mobile service center to promptly dispose of used or ineffective batteries in accordance with local regulations.

5.3 Connecting power

Connect the AC cable to the power supply, and then plug the other end of the AC cable into the electrical outlet.

Figure 8 Connecting the power supply to the T-Mobile High-Speed Internet Gateway



5.4 Starting up

Before pressing the on/off button, determine if your T-Mobile High-Speed Internet Gateway is powered by AC or battery.

Start up the T-Mobile High-Speed Internet Gateway by pressing the power on/off button located on the backside of the unit.

The screen on the top of the T-Mobile High-Speed Internet Gateway displays the T-Mobile logo with three screens appearing with sequential dots. After about 4 seconds, concentric circles appear from the center of the LCD screen outwards. The booting process is complete when:

- “CONNECTION” appears on the top of the LCD
- up to five bars appears indicating signal strength
- six small dots indicating the screen that appears

If the T-Mobile High-Speed Internet Gateway is to use 4G/LTE or 5G service, the results of searching for 4G/LTE and 5G signals will be shown through the LCD in a couple of minutes. Check the LEDs as described in section 5.6 and follow the actions indicated in the section.

5.4.1 T-Mobile High-Speed Internet Gateway on boarding is not successful

If after the boot up process, the LCD screen does not show:

- “CONNECTION” appears on the top of the LCD
- up to four bars appears indicating signal strength
- six small dots indicating the screen that appears

Instead “LANGUAGES” appears on the LCD screen with the choice of ENGLISH or ESPANOL.

Tap to select the preferred language.

The T-Mobile logo and the Wi-Fi symbol appears. Tap to toggle between the T-Mobile App advertisement and the QR code.

While showing the QR code, use the QR code scanner on your phone to scan the QR code with your mobile device. When scanned correctly, a check mark appears on the LCD screen. Wait approximately five seconds.

The booting process is complete when:

- “CONNECTION” appears on the top of the LCD
- up to four bars appears indicating signal strength

Then, the App submit a new Wi-Fi SSID and password screen appears.

Tap the screen.

The name of the Wi-Fi service appears on the LCD screen indicating that it is READY.

Wait approximately five seconds.

The LCD screen displays:

- “CONNECTION” appears on the top of the LCD
- up to four bars appears indicating signal strength

5.5 Downloading the T-Mobile Broadband App

Download the T-Mobile Broadband App to your phone to configure the T-Mobile High-Speed Internet Gateway. Create an account by scanning the QR code.

Locate the QR code on the bottom of the device or conveniently displayed on the touch screen. Use the in-app QR code scanner.

The TMO Broadband app may ask you to enable the phone’s Bluetooth in case it is disabled.



Note — Ensure that Bluetooth is enabled on your phone.

The T-Mobile High-Speed Internet Gateway pairs with your phone. When the onboarding and initial configuration of the gateway is complete, “Pairing Complete” appears on the LCD touch screen.

5.6 Checking LCD

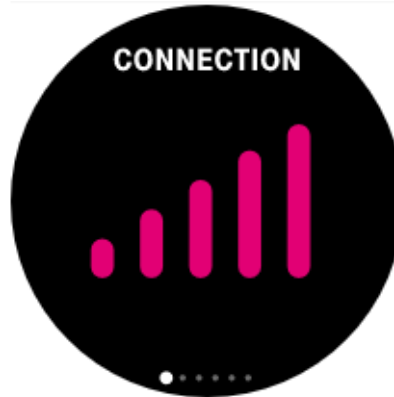
There are seven screens available on the T-Mobile High-Speed Internet Gateway LCD after pairing:

- Connection (Section [5.6.1](#))
- Device (Section [5.6.2](#))
- Battery (Section [5.6.3](#))
- Settings (Section [5.6.4](#))
- Messages (Section [5.6.5](#))
- Alerts (Section [5.6.6](#))
- Notification (Section [5.6.7](#))

Swipe the screen to move between displays. The dot on the bottom of the screen indicates the screen that is displayed.

Check the 5G signal strength by looking at the touch screen on the top of the T-Mobile High-Speed Internet Gateway. The T-Mobile High-Speed Internet Gateway displays up to five bars to identify the signal strength. Figure 9 shows the location of the LCD on the top of the T-Mobile High-Speed Internet Gateway.

Figure 9 T-Mobile High-Speed Internet Gateway LCD screen



Note — Once you have a good signal, do not relocate or rotate the T-Mobile High-Speed Internet Gateway. If the position of the T-Mobile High-Speed Internet Gateway is changed, check the signal strength again.

5.6.1 Connection

The Connection screen is the first that is displayed after on boarding is successful. The Connection screen displays the RSRP of 4G/LTE and 5G signals. The title of the screen is "CONNECTION". The bars indicate the signal strength. The RSRP of 5G signal is shown when there is only 5G connection (in SA mode). The strongest RSRP signal (4G and 5G) are shown when both 4G and 5G connections are established.

Figure 10 5G and 4G connection



An X indicates no signal for either 5G or 4G signals, which may be the result of the 5G cell equipment being unavailable or down momentarily, or perhaps antenna sweeping is configured according to a schedule. The possibility for a 4G/LTE connection is always available in this case, but the 4G/LTE connection may be medium or weak.

Figure 11 No 5G or 4G signal



See Section 5.10 for the procedure to reposition the T-Mobile High-Speed Internet Gateway.

If your T-Mobile High-Speed Internet Gateway has an optional UPS battery, the Signal screen will show either a battery with bars, indicating the life of the battery or “UPS” to indicate that an optional battery is available.

Figure 12 Battery life

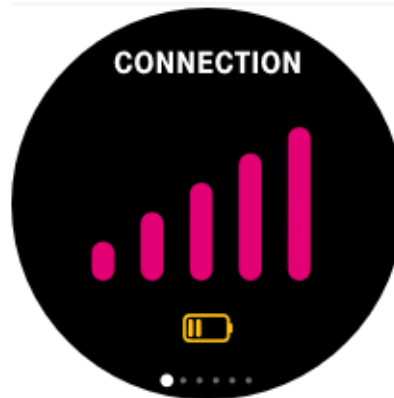


Figure 13 UPS



5.6.2 Devices

The Devices screen indicates the number of devices ready for pairing.

Figure 14 Devices screen showing number of devices to pair



For example, when you connect an Ethernet cable between the T-Mobile High-Speed Internet Gateway and a laptop, the LCD screen displays the name of the network that has paired. The screen is then updated with the number of devices ready to pair.



Note — Manage connected devices in the T-Mobile High-Speed Internet Gateway app.

To remove a device from the TMO High-Speed Internet Gateway, do one of the following:

- Disconnect using your phone.
- Remove the Gigabit Ethernet cable from the T-Mobile High-Speed Internet Gateway.

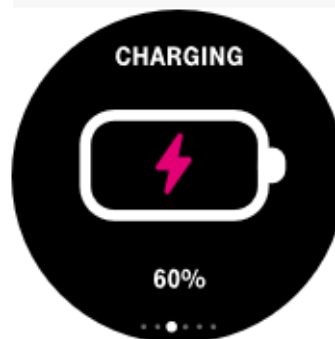
After a minute, the DEVICES screen will update the number of devices ready to pair.

5.6.3 Battery

The T-Mobile High-Speed Internet Gateway LCD displays the battery life is shown in bars on the battery icon. Otherwise, the battery is shown without bars and the message “NOT READY” appears on the LCD screen.

When the power adapter is plugged in the battery LCD screen will show the percentage that the T-Mobile High-Speed Internet Gateway is charged. The title will change to “CHARGING” and a lightening bolt appears on the battery icon.

Figure 15 Charging battery



5.6.4 Settings

Settings allows you to set the language for the LCD display. The TMO High-Speed Internet Gateway supports Spanish or English. Tap to choose the language.

5.6.5 SMS

The SMS LCD screen shows short test messages. The number of messages appear in parenthesis. Tap the “>” to view the next message. Tap the bin icon to delete a message. Another message will appear to ensure you would like to delete the message. Tap “Yes” to delete the message.

“No messages” appear when there are no SMS messages.

5.6.6 Alerts

The T-Mobile High-Speed Internet Gateway has two types of information:

- Notifications: Appears on the LCD at any time during operation (See Section 5.6.7)
- Alerts: Alarm information that is displayed on the Alerts LCD screen.

Swipe the LCD screen five times to view the alerts. The Alerts screen shows the type and number of alerts. The types of alerts include:

- Critical (CRI)
- Major (MAJ)
- Minor (MIN)
- Warning (WARN)
- NO ALERTS

The number of alerts is indicated by the number in parentheses beside the type of alert.

Tap the LCD once to see the description of the alert. Table 5 describes the actions you may take for each type of alert.

Table 5 Troubleshooting alerts

Alarm	Severity	Action
NO ALERTS		Do nothing
WARN (#)		See Table 6 for the action to clear the notification(s).
SIMBlock	Warning	Call operator to recover service.
InternalBatteryInUse	Warning	Plug DC cable or UPS cable to device to draw power from DC or UPS.
InternalBatteryLowPower	Warning	Low power of internal battery. Plug DC cable or UPS cable to device to draw power from DC or UPS and charge the internal battery.
UPSBatteryLowPower	Warning	Lower power of UPS battery. Plug AC cable or UPS to draw power from AC and charge the UPS.
UPSBatteryMissing	Warning	UPS battery is missing. Install UPS battery. See Section 7 for the procedure.
UPSBatteryReplacementRequired	Warning	Replace UPS battery with new one. See Section 7 for the procedure.
ModemChipDown	Warning	Reset or power cycle the device.
ApplicationProcessExit	Warning	Reset or power cycle the device.
ApplicationHeartBeatFailure	Warning	Do nothing. Recovered by the device automatically.
CPUOverload	Warning	Reset or power cycle the device.

(1 of 2)

Alarm	Severity	Action
MemoryOverload	Warning	Reset or power cycle the device.
StorageOverload	Warning	Reset, power cycle or factory reset the device.
HighCPUTemperature	Warning	Reset or power cycle the device.
LowCPUTemperature	Warning	Reset or power cycle the device.
ModemCPUOverload	Warning	Reset or power cycle the device.
ModemMemoryOverload	Warning	Reset or power cycle the device.
ModemStorageOverload	Warning	Reset, power cycle, or factory reset the device.
ModemHighCPUTemperature	Warning	Reset or power cycle the device.
SIPServerRegistrationFailure	Warning	Contact the operator to resolve registration for voice call.
ModemRFHWFailure	Major	Contact the operator to replace the device.
UPSBatteryInUse	Warning	Plug AC cable to UPS or DC cable to the device.
ModemFlashingFailure	Warning	Do nothing. Automatic recovery.

(2 of 2)

5.6.7 Notifications

Notifications can appear at any time during the T-Mobile High-Speed Internet Gateway operation. The notifications are displayed for five seconds.

Table 6 describes the T-Mobile High-Speed Internet Gateway Notifications:

Table 6 T-Mobile High-Speed Internet Gateway Notifications

Notification	TMO	5G CPE 2	Acknowledgment Required?	Action
Successful Device Pairing	Yes	Yes	No	No
Wi-Fi SSID Change	Yes	Yes	No	
Switch to internal battery	Yes	No	No	
Switch to UPS	Yes	No	No	Optional
Cellular connection lost	Yes	Yes	No	
ETWS primary notification	Yes	Yes	Yes	
No USIM inserted	Yes	Yes	Yes	Insert the SIM
Successful SW upgrade	Yes	Yes	No	Do nothing
Failed SW upgrade	Yes	Yes	No	Do nothing
Start antenna sweeping	No	Yes	No	
Complete antenna sweeping	No	Yes	No	
Interrupted antenna sweeping	No	Yes	Yes	

(1 of 2)

Notification	TMO	5G CPE 2	Acknowledgment Required?	Action
USIM Error	Yes	Yes	Yes	Replace the SIM.
ETWS secondary notification & CMAS notification	Yes	Yes	No	
New SMS	Yes	Yes	No	Do nothing
Third Party Notification	Yes	No	No	

(2 of 2)

5.7 Connecting to Wi-Fi

The SSID and Password are located in the Quick Start Guide and on the product label on the underside of the T-Mobile High-Speed Internet Gateway.

Figure 16 SSID and Password label



Note — The Wi-Fi connection is not available when using the internal battery.

5.8 Managing the Wi-Fi network

Use the T-Mobile Broadband App to manage your Wi-Fi network. Visit <http://192.168.12.1> in your browser.

5.9 Connecting Accessories (Optional)

The optional UPS battery guarantees extended power, in case of AC main power loss. To install the UPS battery accessory (optional) from T-Mobile, plug in the power adapter and then connect the other end to the T-Mobile High-Speed Internet Gateway through the DC output cable.

5.10 Repositioning the T-Mobile High-Speed Internet Gateway

The T-Mobile High-Speed Internet Gateway can display up to 5 bars to identify signal strength. Use the device's LCD screen to check the 5G signal strength.



Note — Once you have a good signal, it is recommended that you do not reposition the device. If the position changes, you may need to check the signal strength again.

Do the following if the LCD activity described in section 5.6 indicates that you should reposition the T-Mobile High-Speed Internet Gateway for a better signal:

Procedure 5 Reposition the T-Mobile High-Speed Internet Gateway

- 1 Power off the T-Mobile High-Speed Internet Gateway and disconnect it from the electrical outlet.
- 2 Move the T-Mobile High-Speed Internet Gateway to a different location.
- 3 Connect the T-Mobile High-Speed Internet Gateway to an electrical outlet at the new location and power it on.
- 4 Check the LCD as described in section 5.6 and follow the actions indicated in the section.



Note — You might need to repeat this cycle several times before finding the final location for the T-Mobile High-Speed Internet Gateway

If the LCD continues to either show an X or shows the “LANGUAGES” screen after the onboarding process, you might need to connect the T-Mobile High-Speed Internet Gateway to a Gigabit Ethernet LAN because 4G/LTE or 5G service cannot be received at this time.

5.11 Connecting devices for Wi-Fi or a mesh network

If the T-Mobile High-Speed Internet Gateway is to be used for Wi-Fi, connect devices that are going to use Wi-Fi for service and communications through the T-Mobile High-Speed Internet Gateway by using the SSID and Wi-Fi key shown on the underside of the T-Mobile High-Speed Internet Gateway.

To connect a WiFi device using SSID and password, using your phone, select the the correct Wi-Fi network name, then enter the SSID and password.

If the T-Mobile High-Speed Internet Gateway is to be used as the access point of a Mesh Wi-Fi 6 System, see section [4.9](#).

5.12 Connecting Ethernet LANs

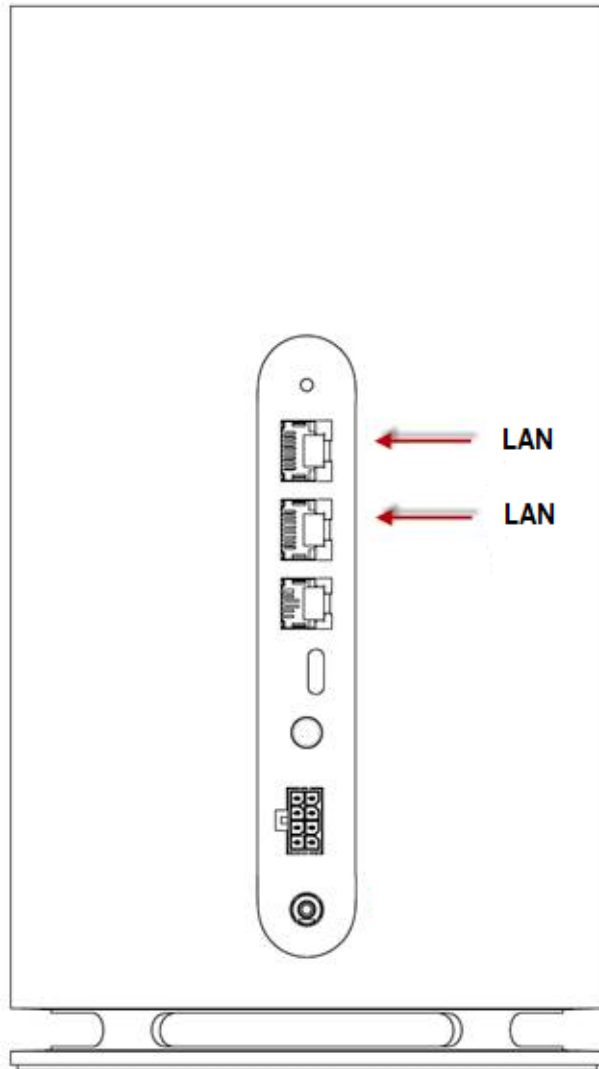
In addition to supporting the Mesh Wi-Fi 6 system on the LAN side, the T-Mobile High-Speed Internet Gateway also supports connection of up to two Gigabit Ethernet LAN ports.

Before connecting a Gigabit Ethernet LAN to the T-Mobile High-Speed Internet Gateway, observe the LCD screen, which displays the CONNECTION screen. Tap the LCD screen four times to display the DEVICES screen.

You connect a Gigabit Ethernet LAN to the T-Mobile High-Speed Internet Gateway by connecting the cable from the Ethernet LAN to any of two Gigabit Ethernet LAN ports on the backside of the T-Mobile High-Speed Internet Gateway.

Figure [17](#) shows the location of the Gigabit Ethernet LAN ports.

Figure 17 Location of the Gigabit Ethernet LAN ports



After connecting the Gigabit Ethernet LAN to the T-Mobile High-Speed Internet Gateway, the DEVICES LCD screen shows a plus sign (+) and the name of the network that just joined. The next screen shows the updated number of devices ready to pair. For example, Zero (0) changes to One (1).

6 Removing battery and SIM card

6.1 Purpose

6.2 General

6.3 Recommended tools

6.4 Safety information

6.5 Procedures

6.1 Purpose

This chapter provides the steps to remove the battery and SIM.

Removing the battery or SIM card from the T-Mobile High-Speed Internet Gateway is intended to be a simple user experience for most installations. The battery and SIM card are located in the T-Mobile High-Speed Internet Gateway and is accessed by removing the base.



Note — The T-Mobile High-Speed Internet Gateway has a pre-installed SIM card and battery.



Note — There are two liquid damage indicator (LDI) sticks pasted in the T-Mobile High-Speed Internet Gateway:

- On the side of the inner frame close to the vents
- On the bottom door, which is attached with screws



Note — Refer to the *T-Mobile High-Speed Internet Gateway Customer Release Notes* before removing the battery or SIM from the T-Mobile High-Speed Internet Gateway.

6.2 General

The steps listed in this chapter describe how to replace the battery and SIM from the T-Mobile High-Speed Internet Gateway.

6.3 Recommended tools

You will need a Phillips screw driver (Cross) to replace the battery or the SIM.

6.4 Safety information

Read the following safety information before replacing the battery or SIM.

Locate the QR code either on the bottom of the device or conveniently displayed on the touch screen. Use the in-app QR code scanner.



Danger 1 — Hazardous electrical voltages and currents can serious physical harm or death. Always use insulated tools and follow proper safety precautions when connecting or disconnecting power circuits.

Danger 2 — Ensure that all sources of power are turned off and have not live voltages present on feed lines or terminals. Use a voltmeter to measure for voltage before proceeding.

Danger 3 — Always contact the local utility company before connecting the enclosure to the utilities.



Caution — Keep indoor devices out of direct sunlight. Prolonged exposure to direct sunlight can damage the device.



Caution — Do not disassemble or open crush, bend or deform, puncture or shred



Caution — Do not modify or re manufacture, attempt to insert foreign objects into the battery, immerse or expose to water or other liquids, expose to fire, explosion or other hazard.



Caution — Only use the battery with a charging system that has been qualified with the system per CTIA Certification Requirements for Battery System Compliance to IEEE 1725. Use of an unqualified battery or charger may present a risk of fire, explosion, leakage, or other hazard.



Caution — Promptly dispose of used batteries in accordance with local regulations



Caution — Avoid dropping the phone or battery. If the phone or battery is dropped, especially on a hard surface, and the user suspects damage, take it to a service center for inspection.



Caution — Improper battery use may result in a fire, explosion, or other hazard.



Note 1 — Observe the local and national laws and regulations that may be applicable to this procedure.

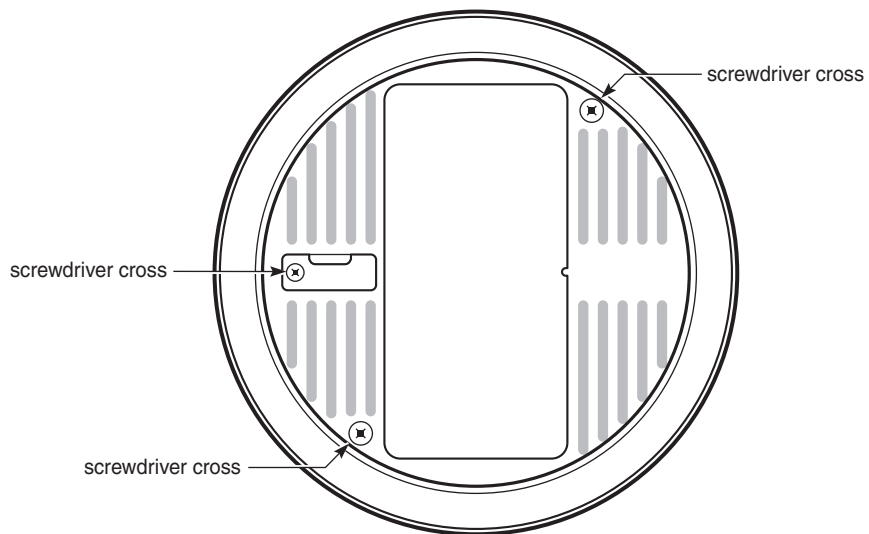
Note 2 — Observe the following:

- The battery or SIM must be removed by a qualified service personnel.
- Indoor units must be installed with cables that are suitably rated and listed for indoor use.
- See Section 4.5 for temperature ranges of this device.

6.5 Procedures

These procedures describe how to remove the battery and SIM to replace. See Chapter 7 for the procedure to replace the battery and SIM.

Figure 18 Location of SIM and battery screws

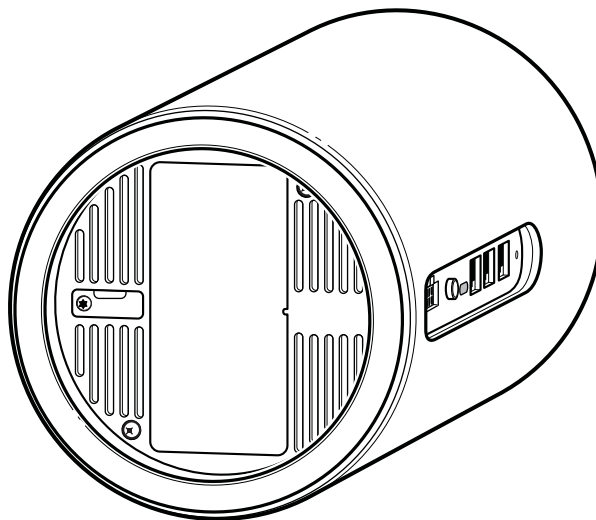


35872

Procedure 6 Remove the Battery

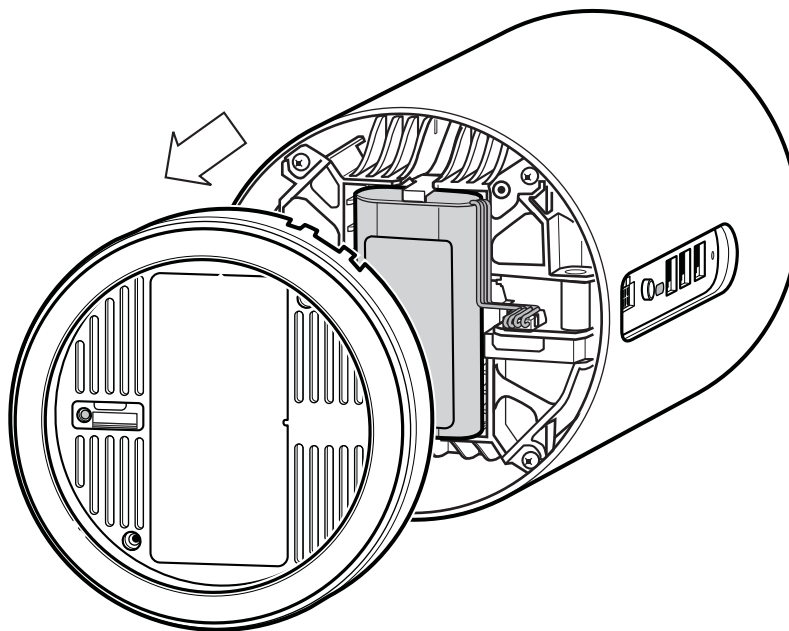
- 1 Turn off the T-Mobile High-Speed Internet Gateway by pressing the power on/off button located on the side.
- 2 Remove AC cable from the power supply, and then unplug the other end of the AC cable from the electrical outlet.
- 3 Remove the Gigabit Ethernet LAN cables from all of the two Gigabit Ethernet LAN ports (LAN1 and LAN 2) on the side of the T-Mobile High-Speed Internet Gateway.
- 4 Turn the T-Mobile High-Speed Internet Gateway upside down so that you can see the base cover. See Figure 19.
- 5 Using the Phillips screwdriver (Cross), remove the two screws located on opposite corners of the bottom cover. See Figure 18.
- 6 Carefully remove the bottom cover. See Figure 20.
- 7 Unplug the battery by gently pulling on pull rib, then pull out the battery connectors. See Figure 21 and 22.
- 8 STOP. This procedure is complete.

Figure 19 Bottom of T-Mobile High-Speed Internet Gateway



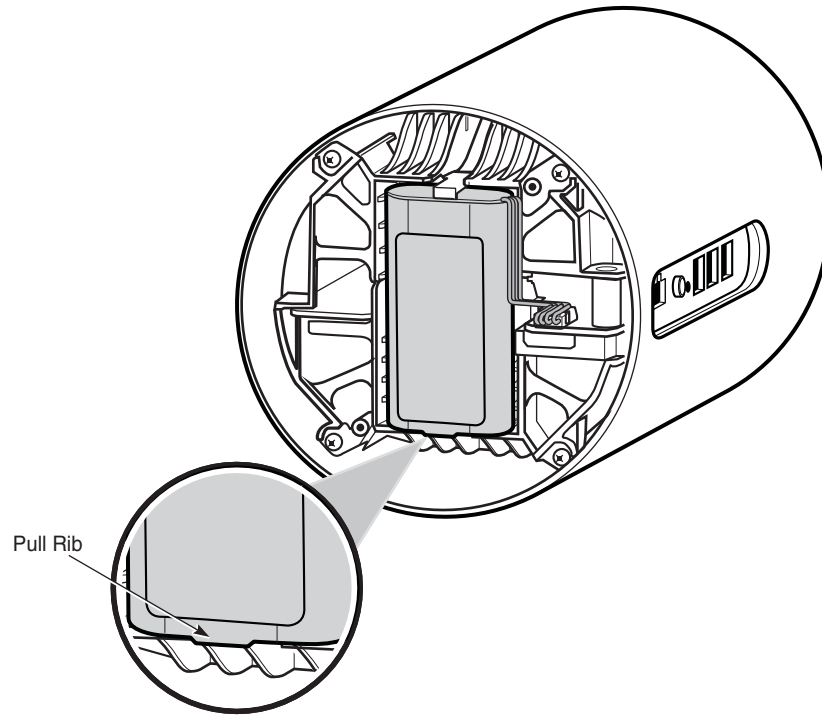
35865

Figure 20 Remove bottom cover



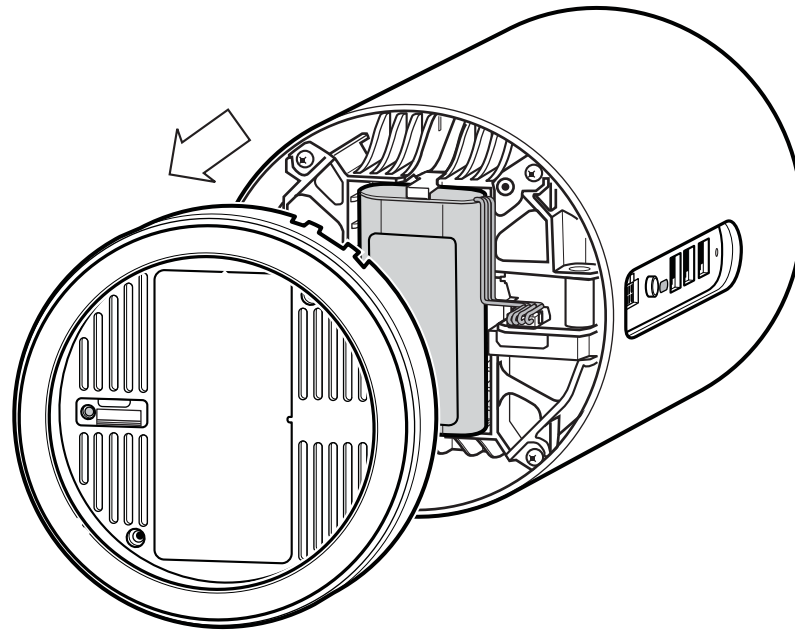
35866

Figure 21 Location of the Pull Rib for battery



35870

Figure 22 Remove battery



35866

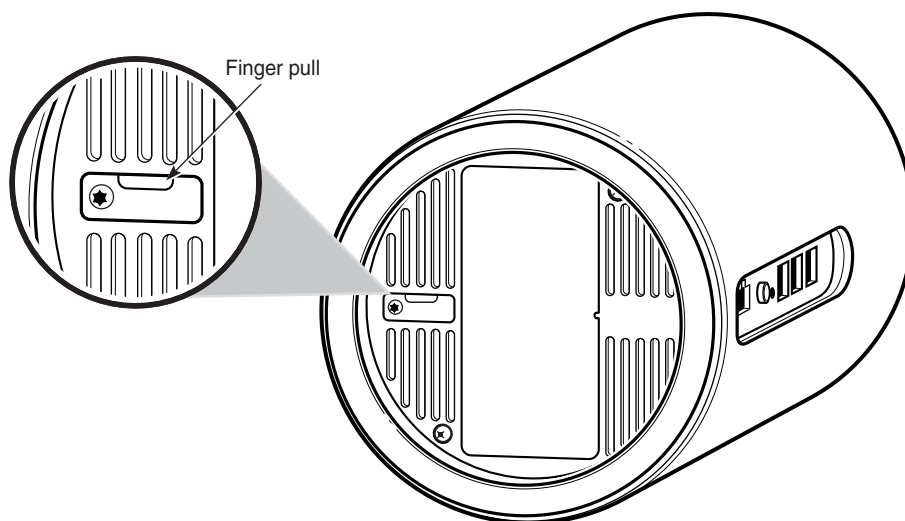
Procedure 7 Remove the SIM card

- 1 Turn off the T-Mobile High-Speed Internet Gateway by pressing the power on/off button located on the side.
- 2 Remove AC cable from the power supply, and then unplug the other end of the AC cable from the electrical outlet.
- 3 Remove the Gigabit Ethernet LAN cables from all of the two Gigabit Ethernet LAN ports (LAN1, LAN 2, and LAN 3) on the side of the T-Mobile High-Speed Internet Gateway.
- 4 Turn the T-Mobile High-Speed Internet Gateway upside down so that you can see the base cover. See Figure 19.
- 5 Using the Phillips screwdriver (Cross), remove the screw on the small SIM door/tray. See Figure 18.

6 Using the finger pull on the SIM door, remove the SIM tray. See Figure 23.

7 STOP. This procedure is complete.

Figure 23 SIM finger pull



35871

7 Replacing battery and SIM card

7.1 Purpose

7.2 General

7.3 Recommended tools

7.5 Safety information

7.6 Procedures

7.1 Purpose

This chapter provides the steps to replace the battery and SIM.

Replacing the battery from the T-Mobile High-Speed Internet Gateway is intended to be a simple user experience for most installations. The battery and SIM card are located in the T-Mobile High-Speed Internet Gateway and is accessed by removing the base.



Note — The T-Mobile High-Speed Internet Gateway has a pre-installed SIM card and battery.



Note — There are two liquid damage indicator (LDI) sticks pasted in the T-Mobile High-Speed Internet Gateway:

- On the side of the inner frame close to the vents
- On the bottom door, which is attached with screws



Note — Refer to the *T-Mobile High-Speed Internet Gateway Customer Release Notes* before removing the battery or SIM from the T-Mobile High-Speed Internet Gateway.

7.2 General

The steps listed in this chapter describe how to remove the battery and SIM from the T-Mobile High-Speed Internet Gateway.

7.3 Recommended tools

You will need a Phillips screwdriver (Cross) to remove the battery or the SIM.

7.4 Prerequisites

You must complete the steps described in Section 7.6 before replacing the battery or SIM card from the T-Mobile High-Speed Internet Gateway.

7.5 Safety information

Read the following safety information before replacing the battery or SIM.

Locate the QR code either on the bottom of the device or conveniently displayed on the touch screen. Use the in-app QR code scanner.



Danger 1 — Hazardous electrical voltages and currents can sericious physical harm or death. Always use insulated tools and follow proper safety precautions when connecting or disconnecting power circuits.

Danger 2 — Ensure that all sources of power are turned off and have not live voltages present on feed lines or terminals. Use a voltmeter to measure for voltage before proceeding.

Danger 3 — Always contact the local utility company before connecting the enclosure to the utilities.



Caution — Keep indoor devices out of direct sunlight. Prolonged exposure to direct sunlight can damage the device.



Caution — Do not disassemble or open crush, bend or deform, puncture or shred



Caution — Do not modify or re manufacture, attempt to insert foreign objects into the battery, immerse or expose to water or other liquids, expose to fire, explosion or other hazard.



Caution — Only use the battery with a charging system that has been qualified with the system per CTIA Certification Requirements for Battery System Compliance to IEEE 1725. Use of an unqualified battery or charger may present a risk of fire, explosion, leakage, or other hazard.



Caution — Promptly dispose of used batteries in accordance with local regulations



Caution — Avoid dropping the phone or battery. If the phone or battery is dropped, especially on a hard surface, and the user suspects damage, take it to a service center for inspection.



Caution — Improper battery use may result in a fire, explosion, or other hazard.



Note 1 — Observe the local and national laws and regulations that may be applicable to this procedure.

Note 2 — Observe the following:

- The battery or SIM must be removed by a qualified service personnel.
- Indoor units must be installed with cables that are suitably rated and listed for indoor use.
- See Section 4.5 for temperature ranges of this device.

7.6 Procedures

Procedure 8 Replacing the Battery

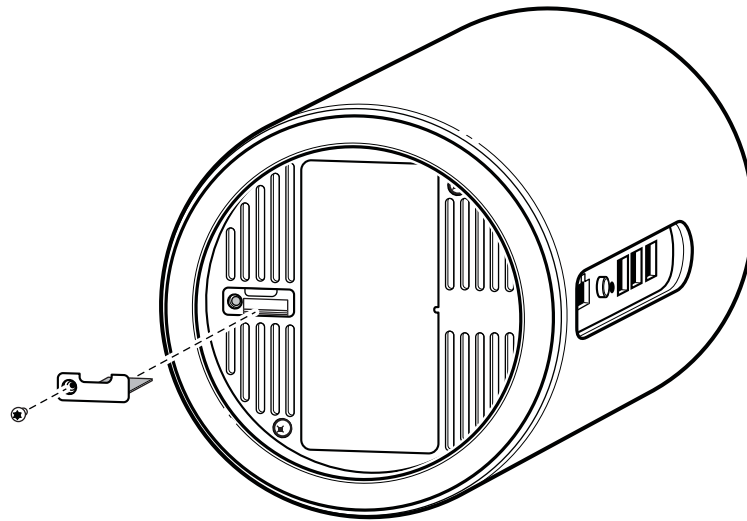
-
- 1 With the bottom cover removed, connect the battery connectors.

 - 2 Place the battery right-side up in the battery cavity on the pull rib. See Figure 21.

 - 3 Using the Phillips screwdriver (Cross), carefully replace the bottom cover and replace the small screw to secure the bottom cover. See Figure 18.

Procedure 9 Replacing the SIM card

- 1 With the SIM door and card tray removed, carefully place the new SIM card in the tray. See Figure 24.
- 2 Using the Phillips screwdriver (Cross), carefully replace the SIM tray and replace the small screw to secure the SIM card. See Figure 18.

Figure 24 SIM tray

35868

8 FCC statements and label instructions

8.1 FCC compliance statement

8.2 FCC radiation exposure statement

8.3 FCC label instructions

8.1 FCC compliance statement

The FCC ID for the T-Mobile High-Speed Internet Gateway is 2ADZR5G2112WA.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- 1) This device may not cause harmful interference, and
- 2) This device must accept any interference received, including Interference that may cause undesired operation.

8.2 FCC radiation exposure statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 50 cm (20 in) between the radiator and your body.

8.3 FCC label instructions

The outside of final products that contains this module device must display a label referring to the enclosed module. This exterior label can use wording such as: "Contains Transmitter Module FCC ID: 2ADZR5G2112WA". Any similar wording that expresses the same meaning may be used.

9 Configuration

9.1 Getting started

9.2 Prerequisite for all procedures

9.3 Viewing the Overview screen

9.4 Logging In to the Web GUI

9.5 Viewing status information

9.6 Viewing statistics

9.7 Viewing networks

9.8 Configuring system parameters

9.9 Changing the web GUI language

9.1 Getting started

You can configure the T-Mobile High-Speed Internet Gateway using a web-based GUI (Web GUI) available on a PC, laptop, smart phone, or tablet. These devices must have an Ethernet LAN connection or a Wi-Fi or Mesh Wi-Fi 6 System to the T-Mobile High-Speed Internet Gateway. The web GUI can also be used through a smart phone that has access to the T-Mobile High-Speed Internet Gateway.



Note — Refer to the *T-Mobile High-Speed Internet Gateway Customer Release Notes* before configuring the T-Mobile High-Speed Internet Gateway.

Use the T-Mobile High-Speed Internet Gateway web GUI to view and configure the tasks listed in Table 7.



Note 1 — Overview, Status, and Statistics parameters can be viewed without logging in or entering any credentials. To view these parameters, enter the IP address located on the label on the bottom of the gateway.

Note 2 — The tasks that can only be performed by the Normal Admin user are described in the T-Mobile High-Speed Internet Gateway User Guide.

Table lists the procedures the login requirements for the procedures described in this chapter.

Table 7 T-Mobile High-Speed Internet Gateway Web Gui Tasks

Type of task	Parameters	See Procedure Number (#)	Super Admin credentials required?
Connecting to the Gateway	All parameters	Procedure 10	No
Viewing the Overview screen parameters	<ul style="list-style-type: none"> • Network Overview • Internet Connection • Devices • Gateway Information 	Procedure 11	No
Logging into the Web GUI	<ul style="list-style-type: none"> • Network> 2.4 GHz • Network> 5 GHz • AP • ACS 	Procedure 12	Yes
Viewing the Status screen parameters	Data Usage	Procedure 13	No
	SIM	Procedure 14	
	Cellular Network	Procedure 15	
	Ethernet	Procedure 16	
	Wi-Fi	Procedure 17	
Viewing Statistics screen parameters	LAN	Procedure 18	No
	Cellular	Procedure 19	
	WLAN	Procedure 20	
Network and Wi-Fi Networks screen parameters	2.4 GHz and 5 GHz	Procedure 21	Yes
Access Point Settings		Procedure 22	Yes
Auto Configuration Server (ACS) Settings		Procedure 23	Yes
Rebooting		Procedure 24	Yes
Resetting		Procedure 25	Yes
Firmware update		Procedure 26	Yes
Enable debug control		Procedure 27	Yes
Changing the language		Procedure 28	Yes

Section [9.3](#) describes how to establish the connection to the T-Mobile High-Speed Internet Gateway. Section [9.4](#) describes how to log in to the web GUI.

9.2 Prerequisite for all procedures

Use the procedure in this section to establish a connection from the PC, laptop, tablet or Smart phone to the T-Mobile High-speed Internet Gateway.



Note — You will need to know the IP address of the T-Mobile High-Speed Internet Gateway. This information is located on the label located on the bottom of the gateway.

Procedure 10 Connecting to the Gateway

-
- 1 Connect your PC, laptop, smart phone, or tablet through one of the RJ45 Gigabit Ethernet LAN ports on the backside of the T-Mobile High-Speed Internet Gateway or establish a Wi-Fi or Mesh Wi-Fi 6 System from your device to the T-Mobile High-Speed Internet Gateway, and make sure that the Local Area Connection setting for your device is configured as “Obtain an IP address automatically”.

 - 2 Open a web browser through your device and enter one of the following IP addresses in the address bar of the web browser:

`http://192.168.12.1`

 - 3 STOP. This procedure is complete.
-

9.3 Viewing the Overview screen

Use the procedure below to view the T-Mobile High-speed Internet Gateway web GUI Overview screen:



Note — You will need to know the IP address of the T-Mobile High-Speed Internet Gateway. This information is located on the label located on the bottom of the gateway.

Procedure 11 Viewing the Overview screen

- 1 If you have not done so yet, complete the steps in procedure 10.

The Overview Dashboard screen appears with the web GUI menu. The Overview screen includes:

- Network Overview: illustrates the type and number of connected devices
- Internet Connection: shows the 4G and 5G signal strength (RSRP, SNR, RSRQ)
- Devices: lists the types of devices, which include Mesh Wi-Fi 6 System, Wireless, and Ethernet
- Gateway Information: lists the name, serial number, hardware version, software version, and running time for the gateway.

-
- 2 STOP. This procedure is complete.
-

9.4 Logging In to the Web GUI

The Super (access rights) user credentials are required to view and configure the following procedures:

- Network
 - Wi-Fi networks: 2.4 GHz and 5 GHz
 - Access Point
 - ACS Auto Configuration Server
- System
 - Reboot Device
 - Factory Reset
 - Firmware Upgrade
 - Enable Debug Control



Note — You will need to know the IP address of the T-Mobile High-Speed Internet Gateway along with the user name and password to perform these procedures. This information is located on the label located on the bottom of the gateway.

Procedure 12 Logging into the web GUI

To log into the T-Mobile High-Speed Internet Gateway using the web GUI:

-
- 1 If you have not done so yet, complete the steps in procedure [10](#).

The Overview Dashboard screen appears with the web GUI menu.

-
- 2 Click Log In.

The Login screen appears.

-
- 3 Using the information from the label on the bottom of the T-Mobile High-Speed Internet Gateway, enter the Super (access rights) Username and Password.

REVIEW QUESTION: Where does the Operator find the Superadmin credentials??

-
- 4 Navigate to one of the following procedures:

- Network
 - Wi-Fi networks: 2.4 GHz and 5 GHz (Procedure [21](#))
 - Access Point (Procedure [22](#))
 - ACS Auto Configuration Server (Procedure [23](#))
- System
 - Reboot Device - Web GUI (Procedure [24](#))
 - Factory Reset - Web GUI (Procedure [25](#))
 - Firmware Upgrade (Procedure [26](#))
 - Enable Debug Control (Procedure [27](#))

-
- 5 STOP. This procedure is complete.
-

9.5 Viewing status information

Use the T-Mobile High-Speed Internet Gateway web GUI to view the following status and information:

- Data Usage (see Procedure [13](#))
- SIM (see Procedure [14](#))
- Cellular Network and Access Point (see Procedure [15](#))

- Ethernet (see Procedure 16)
- Wi-Fi (see Procedure 17)



Note — You will need to know the IP address of the T-Mobile High-Speed Internet Gateway. This information is located on the label located on the bottom of the gateway.

Procedure 13 Viewing Data Usage

Use this procedure to view Data Usage for the T-Mobile High-Speed Internet Gateway.

- 1 If you have not done so yet, complete the steps in procedure 10.
The Overview Dashboard screen appears with the web GUI menu.
- 2 Select Status from the web GUI menu.
The Status screen appears.
- 3 View the Data Usage, which shows the amount of data that is downloaded and uploaded from the T-Mobile High-Speed Internet Gateway since the last restart.
- 4 STOP. This procedure is complete.

Procedure 14 Viewing the SIM information

Use this procedure to view SIM information for the T-Mobile High-Speed Internet Gateway.

- 1 If you have not done so yet, complete the steps in procedure 10.
The Overview Dashboard screen appears with the web GUI menu.
- 2 Select Status from the web GUI menu.
The Status screen appears.
- 3 View the color of the dot beside SIM.

If the dot is grey, there is no SIM card, the SIM card may not be working, or is not installed correctly.

If the dot is green, the SIM card is installed and connected.

-
- 4 View the SIM information, which includes the Status, IMSI, and MSISDN of the T-Mobile High-Speed Internet Gateway.
 - 5 STOP. This procedure is complete.
-

Procedure 15 Viewing the Cellular Network and Access Point information

Use this procedure to view Cellular Network status information for the T-Mobile High-Speed Internet Gateway.

-
- 1 If you have not done so yet, complete the steps in procedure [10](#).
The Overview Dashboard screen appears with the web GUI menu.
 - 2 Select Status from the web GUI menu.
The Status screen appears.
 - 3 View the color of the dot beside Cellular Network.
If the dot is grey, there is no cellular connection.
If the dot is green, there is cellular connection.
 - 4 Click the down arrow besides 4G or 5G.
View the selected 4G information including PCI and Band. View selected 5G information including PCI.
 - 5 Click the down arrow beside Default Access Point.
View the access point information which includes: the APN, IPv4, and IPv6 addresses.
 - 6 View the Total Download and Total Upload Bytes.
 - 7 STOP. This procedure is complete.
-

Procedure 16 Viewing the Ethernet information

Use this procedure to view the Ethernet status information for the Mobile High-Speed Internet Gateway.

-
- 1** If you have not done so yet, complete the steps in procedure [10](#).
The Overview Dashboard screen appears with the web GUI menu.

 - 2** Select Status from the web GUI menu.
The Status screen appears.

 - 3** View the color of the dot beside Ethernet.
If the dot is grey, there is no Ethernet connection.
If the dot is green, there is an Ethernet connection.

 - 4** View the Ethernet information, which includes IP address, subnet mask, total download and upload (MB).

 - 5** STOP. This procedure is complete.
-

Procedure 17 Viewing Wi-Fi information

Use this procedure to view Wi-Fi information for the T-Mobile High-Speed Internet Gateway.

-
- 1** If you have not done so yet, complete the steps in procedure [10](#).
The Overview Dashboard screen appears with the web GUI menu.

 - 2** Select Status from the web GUI menu.
The Status screen appears.

 - 3** View the color of the dot beside Wi-Fi.
If the dot is grey, there is no Wi-Fi connection.
If the dot is green, there is Wi-Fi connection.

 - 4** From 2.4 GHz, click the down arrow to view the number of channels and Transmission Power (%).

-
- 5 From 5GHz Low Frequency, click the down arrow to view the number of channels and Transmission Power (%).

 - 6 From 5GHz High Frequency, click the down arrow to view the number of channels and Transmission Power (%).

 - 7 View the total download and upload (Bytes).

 - 8 STOP. This procedure is complete.
-

9.6 Viewing statistics

Use the T-Mobile High-Speed Internet Gateway web GUI to view the following statistic counters:

- LAN (See Procedure [18](#))
- Cellular (See Procedure [19](#))
- WLAN (See Procedure [20](#))



Note — You will need to know the IP address of the T-Mobile High-Speed Internet Gateway. This information is located on the label located on the bottom of the gateway.

Procedure 18 Viewing LAN Statistics

Use this procedure to view LAN statistic counters for the T-Mobile High-Speed Internet Gateway.

-
- 1 If you have not done so yet, complete the steps in procedure [10](#).
The Overview Dashboard screen appears with the web GUI menu.

 - 2 Select Statistics from the web GUI menu.
The Statistics screen appears.

 - 3 Click LAN from the T-Mobile High-Speed Internet Gateway tabs on the Statistics screen.
The LAN counters appear.

-
- 4 View the following LAN counters for up to four LAN connections:
 - Status
 - Sent Bytes
 - Received Bytes
 - Sent Packet
 - Received Packet
 - Discarded Sent Packets
 - Discarded Received Packets
 - Sent Errors
 - Received Errors
-

- 5 Click Refresh.

- 6 STOP. This procedure is complete.

Procedure 19 Viewing Cellular Statistics

Use this procedure to view Cellular statistic counters for the T-Mobile High-Speed Internet Gateway.

-
- 1 If you have not done so yet, complete the steps in procedure [10](#).

The Overview Dashboard screen appears with the web GUI menu.

 - 2 Select Statistics from the web GUI menu.

The Statistics screen appears.

 - 3 Click Cellular tab from the T-Mobile High-Speed Internet Gateway tabs on the Statistics screen.

The Cellular counters appear.

 - 4 View the following Cellular statistics:
 - Sent Bytes
 - Received Bytes
 - Sent Packets
 - Received Packets
 - Packets Error
 - Packets Drop

5 Click Refresh.

6 STOP. This procedure is complete.

Procedure 20 Viewing WLAN Statistics

Use this procedure to view WLAN statistic counters for the T-Mobile High-Speed Internet Gateway.

1 If you have not done so yet, complete the steps in procedure 10.

The Overview Dashboard screen appears with the web GUI menu.

2 Select Statistics from the web GUI menu.

The Statistics screen appears.

3 Click WLAN from the T-Mobile High-Speed Internet Gateway tabs on the Statistics screen.

The WLAN counters appear.

4 View the following WLAN counters (per SSID, also high/low for 5 GHz):

- SSID
- Sent Bytes
- Received Bytes
- Sent Packets
- Received Packets
- Discarded Sent Packets
- Discarded Received Packets
- Sent Errors

5 Click Refresh.

6 Click Refresh.

7 STOP. This procedure is complete.

9.7 Viewing networks

You can view the network parameters, add an Access Point (AP), or configure the Auto Configuration Server (ACS) from the Network web GUI menu option:

- Wi-Fi Networks (Procedure [21](#))
- Access Point (Procedure [22](#))
- Auto Configuration Server (ACS) - (Procedure [23](#))



Note — You will need to know the IP address of the T-Mobile High-Speed Internet Gateway along with the user name and password to perform these procedures. This information is located on the label located on the bottom of the gateway.

Procedure 21 Wi-Fi 2.4GHz and 5GHz Wi-Fi networks settings

Use this procedure to configure the Wi-Fi 2.4GHz General Settings parameters for the T-Mobile High-Speed Internet Gateway.

-
- 1 If you have not done so yet, complete the steps in procedure [10](#).
The Overview Dashboard screen appears with the web GUI menu.

 - 2 If you have not already logged in, log into the web GUI by completing the steps in procedure [12](#).

 - 3 Click Network.
Wi-Fi Networks, Access Point, and Auto Configuration Server (ACS) appear in the web GUI menu.

 - 4 Click the arrow beside Wi-Fi Networks.
2.4 GHz and 5GHz appear in the web GUI menu.

 - 5 Click the down arrow beside Wi-Fi Networks.
The 2.4 GHz and 5GHz options appear in the web GUI menu.

6 Do click one of the following:

- Click 2.4 GHz
- Click 5 GHz



Note — The possible channels depend on the Country ID sent in the device.

Depending on your selection, 2.4 GHz or 5 GHz General Settings and Configure SSID (#) appear.

Table 8 describes the Wi-Fi 2.4GHz General Settings parameters to be configured.

Table 9 describes the Configure SSID (#) 2.4 GHz parameters.

Table 10 describes the Wi-Fi 5GHz General Settings parameters SSID 5 - 8 (low) and SSID 9 - 12 (high) to be configured.

Table 11 describes the Configure SSID 5 - 8 (low) and SSID 9- 12 (high) 5 GHz parameters.

Table 8 Wi-Fi 2.4GHz General Settings

General Setting	Definition	Range/Options/Example
Transmission Mode	The transmission mode for Wi-Fi 2.4 GHz.	<ul style="list-style-type: none"> • Auto (ax/g) • b • g • b/g • n/g
Channel Bandwidth	The channel bandwidth in MHz.	<ul style="list-style-type: none"> • 20MHz (default) • 40MHz •
Channel	Select the 2.4 GHz channel.	<ul style="list-style-type: none"> • Auto (default) • 1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11
Transmission Power	The transmission power in percentage (%).	<ul style="list-style-type: none"> • 100% (default) • 50% • 25% • 12%
Maximum Number of Clients	The total number of clients can range between 1 and 128.	<ul style="list-style-type: none"> • 1 - 128 • 128 (default)

Table 9 Configure SSID (#) for 2.4 GHz

Enable 2.4 GHz	Definition	Range/Options/Example
Select SSID to Configure [TBD - this row]	A list of possible SSIDs to configure.	SSID 1
SSID name [TBD - this row]	Enter the SSID name.	TMOBILE-5580
Enable SSID [TBD - this row]	Turn Enable SSID on or off.	On/Off
Enable Broadcast [TBD - this row]	Turn Enable Broadcast on or off.	On/Off
Total Number of Clients	The total number of web GUI clients can range between 1 and 128.	1 - 128 128 (default)
Select Encryption Mode	A list of encryption modes.	<ul style="list-style-type: none"> WPA/WPA2/WPA3 Personal (default) WPA/WPA2 Enterprise No encryption
WPA Version	A list of WPA versions.	<ul style="list-style-type: none"> WPA/WPA2 (default) WPA2 WPA2/WPA3 WPA 3
WPA Encryption Mode	The WPA encryption.	<ul style="list-style-type: none"> AES (for WPA2, WPA2/WPA3, WPA3) TKIP/AES (for WPA/WPA2)
WPA Key	Enter the WPA key. The WPA Key has a minimum of eight characters.	Click on the eye icon to view or hide the WPA key.

Table 10 Wi-Fi 5GHz General Settings SSIDs 5 - 8 for 5GHz low and SSID 9 - 12 for 5GHz high

General Setting	Definition	Range/Options
Channel Bandwidth	The Channel Bandwidth (MHz).	<ul style="list-style-type: none"> 20MHz 40MHz 80MHz (default) Auto

(1 of 2)

General Setting	Definition	Range/Options
Channel	Select the 5 GHz low channel	<ul style="list-style-type: none"> Auto (default) 36, 40, 44, 48, 52, 56, 60, and 64
	Select the 5 GHz high channel	<ul style="list-style-type: none"> Auto (default) 100,104,108,112,116,120,124,128,132,136,140,149,153,157,161,165
	Select these 5 GHz channels if the channel bandwidth is 40 MHz, 80 MHz, or Auto.	<ul style="list-style-type: none"> Auto (default) 100,104,108,112,116,120,124,128,149,153,157,161
Transmission Power	The transmission power in percentage (%).	<ul style="list-style-type: none"> 100% (default) 50% 25% 12%
Wi-Fi 5 GHz Multimedia (WMM) [TBD - the entire row]	Turn the WMM on or off.	On/Off
Enable MIMO [TBD - the entire row]	Turn MIMO on or off.	On/Off
Maximum Number of Clients	The maximum number of web GUI clients.	<ul style="list-style-type: none"> 1 - 128 128 (default)

(2 of 2)

Table 11 Configure SSID 5-8 for 5GHz low and SSID 9 - 12 high

Parameter	Definition	Range/Options/Example
Select SSID To Configure [TBD - the entire row]	A list of possible SSIDs to configure for SSID 5 to 12 (low and high).	SSID 5 (default)
SSID Name [TBD - the entire row]	Enter the SSID name.	T-Mobile
Enable SSID [TBD - the entire row]	Turn Enable SSID on or off.	On/Off
Enable Broadcast [TBD - the entire row]	Turn Enable Broadcast on or off.	On/Off
Total Number of Clients [TBD - the entire row]	The total number of web GUI clients can range between 1 and 128.	<ul style="list-style-type: none"> 1 - 128 128 (default)
Select Encryption Mode [TBD - the entire row]	List of encryption modes.	<ul style="list-style-type: none"> WPA2+WPA (default) WPA2+AES WPA2/WPA3 (AES) WPA (AES) WPA/WPA2 Enterprise No Encryption

(1 of 2)

Parameter	Definition	Range/Options/Example
WPA Key	Enter the WPA key. The WPA Key has a minimum of eight characters.	Click on the eye icon to view or hide the WPA key.

(2 of 2)

7 Click Save Changes.

8 STOP. This procedure is complete.

Procedure 22 Viewing and editing the Access Point parameters

Up to two Access Points can connect to the T-Mobile High-Speed Internet Gateway.



Note — There are two Access Points pre-configured for the T-Mobile High-Speed Internet Gateway: One for Internet and OAM traffic, one for voice traffic (VoLTE).

- Internet and OAM traffic, which can be edited by a superadmin, but cannot be deleted.
- Voice Traffic (VoLTE), which can be edited and deleted by the superadmin user.

Use this procedure to view and edit the Access Point parameters for the T-Mobile High-Speed Internet Gateway.

1 If you have not done so yet, complete the steps in procedure 10.

The Overview Dashboard screen appears with the web GUI menu.

2 If you have not already logged in, log into the web GUI by completing the steps in procedure 12.

3 Click Network.

Wi-Fi Networks, Access Point, and Auto Configuration Server (ACS) appear in the menu.

4 Click Access Point.

5 View the following parameters: service, authentic mode, IPv4, IPv4 Net mask, IPv6, and MTU.

6 Click the “...” symbol on the top right corner of each Access Point.

-
- 7 Click Edit.
 - 8 If you desire to delete the VoLTE AP (ims-default AP), click Delete Access Point.
 - 9 STOP. This procedure is complete.
-

Procedure 23 Viewing the Auto Configuration Server (ACS) parameters

Use this procedure to configure the ACS parameters for the T-Mobile High-Speed Internet Gateway.

-
- 1 If you have not done so yet, complete the steps in procedure [10](#).
The Overview Dashboard screen appears with the web GUI menu.
 - 2 If you have not already logged in, log into the web GUI by completing the steps in procedure [12](#).
 - 3 Click Network.
Wi-Fi Networks, Access Point, and Auto Configuration Server (ACS) appear in the web GUI menu.
 - 4 Click Auto Configuration Server (ACS).
The ACS screen appears.
 - 5 Turn Periodic inform on or off.
 - 6 Select the Periodic inform interval.
 - 7 Enter a URL in the text box.
 - 8 View the Username.
 - 9 View the Password.
 - 10 Enter a Connection Request Username.
 - 11 Enter a Connection Request Password.

12 Click Save Changes.

13 STOP. This procedure is complete.

9.8 Configuring system parameters

The following tasks can be configured using the web GUI or LCD:

- Reboot device using the web GUI or LCD (Procedure [24](#))
- Factory reset using the web GUI or LCD (Procedure [25](#))
- Firmware upgrade (Procedure [26](#))
- Enable debug control (Procedure [27](#))



Note — You will need to know the IP address of the T-Mobile High-Speed Internet Gateway along with the user name and password to perform these procedures. This information is located on the label located on the bottom of the gateway.

Procedure 24 Rebooting the T-Mobile High-Speed Internet Gateway using the web GUI or LCD

Follow this procedure to reboot the T-Mobile High-Speed Internet Gateway using the web GUI:

1 If you have not done so yet, complete the steps in procedure [10](#).

The Overview Dashboard screen appears with the web GUI menu.

2 If you have not already logged in, log into the web GUI by completing the steps in procedure [12](#).

3 Select System from the web GUI menu.

The System screen appears

4 Click Reboot.

The T-Mobile High-Speed Internet Gateway reboots.

5 STOP. This procedure is complete.

Follow this procedure to reboot the T-Mobile High-Speed Internet Gateway using the LCD:

Press the Reset button, located on the backside of the gateway, for less than 10 seconds. See Section 5.6 for information about the LCDs.

Procedure 25 Resetting the T-Mobile High-Speed Internet Gateway to factory default using the web GUI or LCD

Follow this procedure to reset the T-Mobile High-Speed Internet Gateway to the factory default using the using the web GUI:

-
- 1** If you have not done so yet, complete the steps in procedure 10.

The Overview Dashboard screen appears with the web GUI menu.

 - 2** If you have not already logged in, log into the web GUI by completing the steps in procedure 12.

 - 3** Select System from the web GUI menu.

The System screen appears

 - 4** Click Factory Reset.

The T-Mobile High-Speed Internet Gateway resets.

 - 5** STOP. This procedure is complete.

Follow this procedure to reset the T-Mobile High-Speed Internet Gateway to the factory default setting using the LCD:

Press the Reset button, located on the backside of the gateway, for longer than 10 seconds. See Section 5.6 for information about the LCDs.

Procedure 26 Firmware upgrade

Use this procedure to upgrade the firmware for the High-Speed Internet Gateway:

-
- 1** If you have not done so yet, complete the steps in procedure 10.

The Overview Dashboard screen appears with the web GUI menu.

 - 2** If you have not already logged in, log into the web GUI by completing the steps in procedure 12.

-
- 3 Select System from the web GUI menu.
The System screen appears.

 - 4 From the System tab, locate Firmware Upgrade, and click Upgrade.

 - 5 If you have not already logged in, log in as describe in Procedure [12](#).

 - 6 Click Log In.
The Upgrade screen appears.

 - 7 Select a file by either dragging and dropping a file into the screen or browse and select the file.

 - 8 Click Upgrade.

 - 9 STOP. This procedure is complete.
-

Procedure 27 Enable debug control

Use this procedure to enable the debug control:

-
- 1 If you have not done so yet, complete the steps in procedure [10](#).
The Overview Dashboard screen appears with the web GUI menu.

 - 2 If you have not already logged in, log into the web GUI by completing the steps in procedure [12](#).

 - 3 Select System from the web GUI menu.
The System screen appears

 - 4 TBD

 - 5 STOP. This procedure is complete.
-

9.9 Changing the web GUI language

Use this procedure to change the language on the T-Mobile High-Speed Internet Gateway web GUI.

Procedure 28 Changing the language

-
- 1 From the Change language drop-down menu located at the bottom of the web GUI menu, change the language between English and Spanish. The default value is en (English).

The language of the web GUI changes to the selected languages.

-
- 2 STOP. This procedure is complete.
-

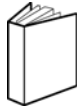
10 Glossary

This glossary provides the expansions and optional descriptions of most acronyms and initialisms that appear in this document.

3GPP	3rd Generation Partnership Project
ANSI	American National Standards Institute
APN	Access Point Name
CA	Certificate authority
CRoHS	China Restriction of Hazardous Substances
EIRP	Equivalent Isotropically Radiated Power
EMC	Electromagnetic Compatibility
EMI	Electromagnetic Interference
ESD	Electrostatic Discharge
ETL	Electrotechnical Laboratory
FCC	Federal Communications Commission
FDD	Frequency Division Duplex
HSS	Home Subscriber Server
HST	Hazardous Substance Table
IEEE	Institute of Electrical and Electronics Engineers
IP	International Protection or Internet Protocol
ISED	Innovation, Science and Economic Development
LAN	Local Area Network
LED	Light Emitting Diode
LTE	Long-Term Evolution
MAC	Media Access Control
MCV	Maximum Concentration Value or Minimum Concentration Value
MIMO	Multiple-Input Multiple-Output
MME	Mobility Management Entity
NEC	National Electrical Code

NSA	Non-Standalone
OAM	Operations and Maintenance
PC	Personal Computer
PCI	Physical Cell Identifier
PDF	Portable Document Format
PIN	Personal Identification Number
QoS	Quality of Service
QR	Quick Response
RF	Radio Frequency
RGW	Residential GateWay
RoHS	Restriction of Hazardous Substances
RSRP	Reference Signal Received Power
RSRQ	Reference Signal Received Quality
SIM	Subscriber Identify Module
TDD	Time Division Duplex
UL	Underwriters' Laboratories
URL	Uniform Resource Locater
VDC	Volts Direct Current
VPN	Virtual Private Network
Wi-Fi	Wireless Fidelity

Customer document and product support



Customer documentation

[Customer Documentation Welcome Page](#)



Technical Support

[Product Support Portal](#)



Documentation feedback

[Customer Documentation Feedback](#)

