EC25 Series &EG21-G eSIM AT Commands Manual

LTE Standard Module Series

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About the Document

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Contents

About the Document **3**
Contents **4**
Table Index **5**

1 Introduction **6**
1.1. Applicable Modules 6
1.2. Definitions 6
1.3. AT Command Syntax 6
1.4. AT Command Responses 8
1.5. Declaration of AT Command Examples 8

2 Local Management Commands **9**
2.1. AT+QESIM="list" List Profiles 9
2.2. AT+QESIM="enable" Enable Profiles 10
2.3. AT+QESIM="disable" Disable Profiles 11
2.4. AT+QESIM="delete" Remove Profiles 12
2.5. AT+QESIM="nickname" Set New Nickname for Profiles 13
2.6. AT+QESIM="eid" Get eUICC ID of the Module 14

3 Profile Download Commands **15**
3.1. External Network Mode 15
3.1.1. AT+QESIM="download" Initiate the Download Process of Profile 15
3.1.2. AT+QESIM="trans" Forward DP+ Messages 17
3.1.3. Download Profiles Through AT Commands 20
3.2. Internal Network Mode 22
3.2.1. AT+QESIM="ota" Download the Profile from DP+ and Install It to the eUICC 22

4 eSIM Related Notifications **24**

5 Summary of Error Codes **25**

Table Index

Table 1: Applicable Modules 6
Table 2: Types of AT Commands 7
Table 3: eSIM Related Notifications 24
Table 4: Internal Error 25
Table 5: eUICC Error 25
Table 6: SMDP+ Error 28

1 Introduction

This Document introduce the AT command of ESIM in EC25 series and EG21-G Module.

1.1. Applicable Modules

Table 1: Applicable Modules

Module Series	Module
EC25	EC25-E
	EC25-EU
EG21	EG21-G

1.2. Definitions

- **<CR>** Carriage return character.
- **<LF>** Line feed character.
- **<...>** Parameter name. Angle brackets do not appear on command line.
- **[...]** Optional parameter of a command or an optional part of TA information response. Square brackets do not appear on the command line. When an optional parameter is not given in a command, the new value equals its previous value or the default settings, unless otherwise specified.
- **Underline** Default setting of a parameter.

1.3. AT Command Syntax

All command lines must start with **AT** or **at** and end with **<CR>**. Information responses and result codes always start and end with a carriage return character and a line feed character: **<CR><LF><response><CR><LF>**. In tables presenting commands and responses throughout this

document, only the commands and responses are presented, and **<CR>** and **<LF>** are deliberately omitted.

The AT Commands Set implemented by EC25 series and EG21-G is a combination of *3GPP TS 27.007*, *3GPP TS 27.005* and *ITU-T recommendation V.25ter* as well as the AT Commands developed by Quectel.

AT commands implemented by EC25 series and EG21-G fall into one category syntactically:

- **Extended**

Extended commands can be executed in several modes, as shown in the following table:

Table 2: Types of AT Commands

Command Type	Syntax	Description
Test Command	**AT+<cmd>=?**	Test the existence of the corresponding command and return information about the type, value, or range of its parameter.
Read Command	**AT+<cmd>?**	Check the current parameter value of the corresponding command.
Write Command	**AT+<cmd>=<p1>[,<p2>[,<p3>[...]]]**	Set user-definable parameter value.
Execution Command	**AT+<cmd>**	Return a specific information parameter or perform a specific action.

Multiple commands can be placed on a single line using a semi-colon (**;**) between commands. In such cases, only the first command should have **AT** prefix. Commands can be in upper or lower case.

Spaces should be ignored when you enter AT commands, except in the following cases:

- Within quoted strings, where spaces are preserved;
- Within an unquoted string or numeric parameter;
- Within an IP address;
- Within the AT command name up to and including a **=**, **?** or **=?**.

On input, at least a carriage return is required. A newline character is ignored so it is permissible to use carriage return/line feed pairs on the input.

If no command is entered after the **AT** token, **OK** will be returned. If an invalid command is entered, **ERROR** will be returned.

Optional parameters, unless explicitly stated, need to be provided up to the last entered parameter.

1.4. AT Command Responses

When the AT command processor has finished processing a line, it will output **OK**, **ERROR** or **+CME ERROR: <err>** to indicate that it is ready to accept a new command. Solicited information responses are sent before the final **OK**, **ERROR** or **+CME ERROR: <err>**.

Responses will be in the format of:

<CR><LF>+CMD1:<parameters><CR><LF>
<CR><LF>OK<CR><LF>

Or

<CR><LF><parameters><CR><LF>
<CR><LF>OK<CR><LF>

1.5. Declaration of AT Command Examples

The AT command examples in this document are provided to help you learn about the use of the AT commands introduced herein. The examples, however, should not be taken as Quectel's recommendations or suggestions about how to design a program flow or what status to set the module into. Sometimes multiple examples may be provided for one AT command. However, this does not mean that there is a correlation among these examples, or that they should be executed in a given sequence.

2 Local Management Commands

2.1. AT+QESIM="list" List Profiles

This command lists profiles currently installed for the module.

AT+QESIM="list" List Profiles	

Write Command
AT+QESIM="list"[,<mode>]
	Response
	if **<result>** is 0:
	+QESIM: "list",0[
	<iccid>,<status>,<nickname>,<provider>
	<iccid>,<status>,<nickname>,<provider>
	...]
	
	OK
	
	if **<result>** is not 0:
	+QESIM: "list",<result>[,<errinfo1>,<errinfo2>]
	
	OK
	Or
	ERROR
	
	If there is an error related to ME functionality:
	+CME ERROR: <err>

Maximum Response Time	6000 ms
Characteristics	/

Parameter

<mode>	Integer type. List mode. 0 List profiles with profile class = 2 in eUICC 1 List all profiles in eIUCC
<iccid>	String type. ICCID of the current profile.
<status>	Integer type. Profile state.

	0 Profile Disabled 1 Profile Enabled
<nickname>	String type. Profile nickname.
<provider>	String type. Service provider name.
<result>	Integer type. Result code. Range: 0–3. Please refer to ***Chapter 5*** for specific error information.
<errinfo1>	String type. Error information 1. If **<result>** is 0, it will not be presented.
<errinfo2>	String type. Error information 2. If **<result>** is 0, it will not be presented.

Example

```
AT+QESIM="list"
+QESIM: "list",0
"89320420000000199885F",1,"sim1","V-Telekom"
"89320420000002068839",0,"YFL1","YFL1"

OK
```

NOTE

IF the optional parameter **<mode>** is omitted, the default value 0 will be used.

2.2. AT+QESIM="enable" Enable Profiles

This command enables profiles currently installed for the module.

AT+QESIM="enable" Enable Profiles	
Write Command **AT+QESIM="enable",<iccid>**	Response **+QESIM: "enable",<result>[,<errinfo1>,<errinfo2>]** **OK** Or **ERROR** If there is an error related to ME functionality: **+CME ERROR: <err>**
Maximum Response Time	6000 ms
Characteristics	/

Parameter

<iccid>	String type. The ICCID number of the profile.
<result>	Integer type. Result code. Range: 0–3. Please refer to ***Chapter 5*** for specific error information.
<errinfo1>	String type. Error information 1. If **<result>** is 0, it will not be presented.
<errinfo2>	String type. Error information 2. If **<result>** is 0, it will not be presented.

Example

```
AT+QESIM="enbale","89320420000000199885F"
+QESIM: "enable",0

OK
```

2.3. AT+QESIM="disable" Disable Profiles

This command disables profiles currently enabled for the module.

AT+QESIM="disable" Disable Profiles	
Write Command **AT+QESIM="disable",<iccid>**	Response **+QESIM: "disable",<result>[,<errinfo1>,<errinfo2>]** **OK** Or **ERROR** If there is an error related to ME functionality: **+CME ERROR: <err>**
Maximum Response Time	6000 ms
Characteristics	/

Parameter

<iccid>	String type. The ICCID number of the profile.
<result>	Integer type. Result code. Range: 0–3. Please refer to ***Chapter 5*** for specific error information.
<errinfo1>	String type. Error information 1. If **<result>** is 0, it will not be presented.
<errinfo2>	String type. Error information 2. If **<result>** is 0, it will not be presented.

Example

```
AT+QESIM="disable","8932042000000199885F"
+QESIM: "disable",0

OK
```

2.4. AT+QESIM="delete" Remove Profiles

This command removes profiles currently installed for the module.

AT+QESIM="delete" Remove Profiles	
Write Command **AT+QESIM="delete",<iccid>**	Response **+QESIM: "delete",<result>[,<errinfo1>,<errinfo2>]** **OK** Or **ERROR** If there is an error related to ME functionality: **+CME ERROR: <err>**
Maximum Response Time	6000 ms
Characteristics	/

Parameter

<iccid>	String type. The ICCID number of the profile.
<result>	Integer type. Result code. Range: 0–3. Please refer to ***Chapter 5*** for specific error information.
<errinfo1>	String type. Error information 1. If **<result>** is 0, it will not be presented.
<errinfo2>	String type. Error information 2. If **<result>** is 0, it will not be presented.

Example

```
AT+QESIM="delete","8932042000000199885F"
+QESIM: "delete",0

OK
```

2.5. AT+QESIM="nickname" Set New Nickname for Profiles

This command sets new nickname for profiles.

AT+QESIM="nickname" Set New Nickname for Profiles	
Write Command **AT+QESIM="nickname",<nickname>,<iccid>**	Response **+QESIM: "nickname",<result>[,<errinfo1>,<errinfo2>]** **OK** Or **ERROR** If there is an error related to ME functionality: **+CME ERROR: <err>**
Maximum Response Time	6000 ms
Characteristics	The command takes effect immediately.

Parameter

<nickname>	String type. The new nickname of the profile. Maximum length is 32 characters.
<iccid>	String type. The ICCID number of the profile.
<result>	Integer type. Result code. Range: 0–3. Please refer to ***Chapter 5*** for specific error information.
<errinfo1>	String type. Error information 1. If **<result>** is 0, it will not be presented.
<errinfo2>	String type. Error information 2. If **<result>** is 0, it will not be presented.

Example

```
AT+QESIM="nickname","simcad_test","89320420000000199885F"
+QESIM: "nickname",0

OK
```

2.6. AT+QESIM="eid" Get eUICC ID of the Module

This command gets eUICC ID of the module.

AT+QESIM="eid" Get eUICC ID of the Module	
Write Command **AT+QESIM="eid"**	Response If **<result>** is 0: **+QESIM: "eid",0,<eid>** If **<result>** is not 0: **+QESIM: "eid",<result>,<errinfo1>,<errinfo2>** **OK** Or **ERROR** If there is an error related to ME functionality: **+CME ERROR: <err>**
Maximum Response Time	6000 ms
Characteristics	/

Parameter

<eid>	String type. eUICC ID.
<result>	Integer type. Result code. Range: 0–3. Please refer to ***Chapter 5*** for specific error information.
<errinfo1>	String type. Error information 1. If **<result>** is 0, it will not be presented.
<errinfo2>	String type. Error information 2. If **<result>** is 0, it will not be presented.

Example

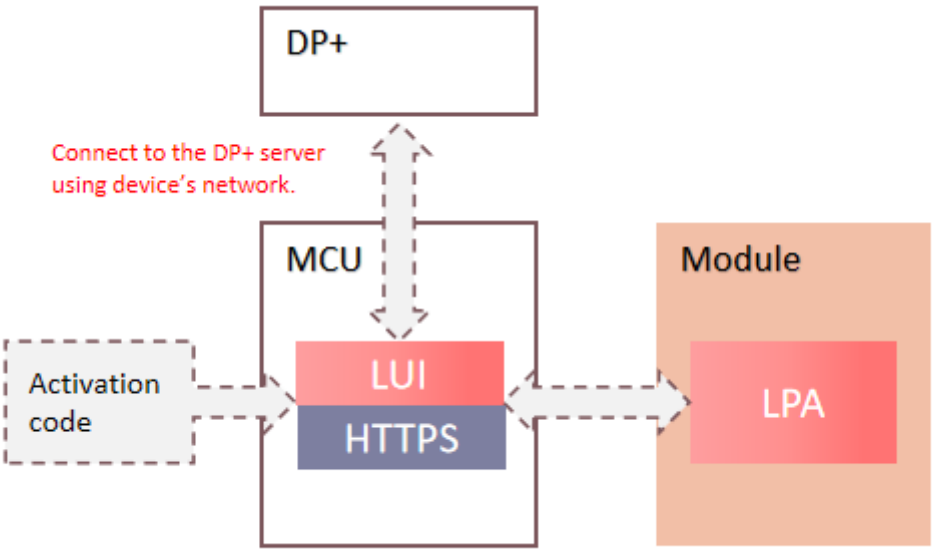
```
AT+QESIM="eid"
+QESIM: "eid",0,"89049032000001000000092092075457"

OK
```

3 Profile Download Commands

3.1. External Network Mode

In this mode, the MCU acts as a communication channel between the module and DP+ to transfer messages. The MCU should establish a connection with DP+ via HTTPS, and use UART to communicate with the module**.** This applies to scenarios where the eUICC does not have an initial profile and the MCU has networking capability (e.g. WIFI). Please refer to ***Chapter 3.1.3*** for the detailed process.



3.1.1. AT+QESIM="download" Initiate the Download Process of Profiles

This command initiates the download process of profile. The module will report an unsolicited result code : **+QESIM: "download",<ret>** to indicate the profile download result when the process of download and the profile installation end.

AT+QESIM="download" Initiate the Download Process of Profiles	
Write Command **AT+QESIM="download",<activationCode>[,<confirmationCode>]**	Response If **<result>** is 0: **+QESIM: "trans",0,<url>,<payloadlen>,<payload>**

	If **<result>** is not 0: **+QESIM: "trans",<result>,<errinfo1>,<errinfo2>** **OK** Or **ERROR** If there is an error related to ME functionality: **+CME ERROR: <err>**
Maximum Response Time	6000 ms
Characteristics	/

Parameter

<activationCode>	String type. From the QR code scan.
<confirmationCode>	String type. A code used to authorize the usage of the MatchingID to confirm the download and installation of the profile.
<url>	String type. HTTP URL. This is the specific address used by DP+ to process messages.
<payloadlen>	Integer type. The length of **<payload>**.
<payload>	String type. The jason format data that needs to be sent to DP+.
<result>	Integer type. Result code. Range: 0–3. Please refer to ***Chapter 5*** for specific error information.
<errinfo1>	String type. Error information 1. If **<result>** is 0, it will not be presented.
<errinfo2>	String type. Error information 2. If **<result>** is 0, it will not be presented.
<ret>	Integer type. Range: 0–1. The profile download and installation result. 0 Success 1 Failure

Example

```
AT+QESIM="download","LPA:1$testsmdpplus.infineon.com$0000-0000-0000-3003"
+QESIM:  "trans",0,"/gsma/rsp2/es9plus/initiateAuthentication",239,"{"euiccChallenge":"hOuZDcgULnLzkOZv8hWO3w==","euiccInfo1":"vyBhggMCAgKpLAQUwLxwujaSnUO0Z/9XVwUw5Xq4/NgEFPVBcr35ipXWXL64ijihwR2ACoXDqiwEFMC8cLo2kp1DtGf/V1cFMOV6uPzYBBT1QXK9+YqV1ly+ulo4ocEdgAqFww==","smdpAddress":"testsmdpplus.infineon.com"}"

OK
```

NOTE

1. If the Confirmation code required Flag in **<activationCode>** is 1, **<confirmationCode>** is required. Please refer to ***Chapter 3.1.3*** for the download process.

2. Activation Codes are typically obtained from Mobile Network Operator and are structured as follows:

Name	Description	MOC
AC_Format	Format of the Activation Code. SHALL be set to "1" for this Format of the Activation Code and any subsequent backward compatible Format	M
Delimiter	SHALL be set to "$"	M
SM-DP+ Address	FQDN (Fully Qualified Domain Name) of the SM-DP+ (e.g., SMDP.GSMA.COM) restricted to the Alphanumeric mode character set defined in table 5 of ISO/IEC 18004 [15] excluding '$'	M
Delimiter	SHALL be set to "$"	M
AC_Token	MatchingID as described in section (4.1.1)	M
Delimiter	SHALL be present and set to "$" if any of the following optional parameters is present	C
SM-DP+ OID	SM-DP+ OID in the CERT.DPauth.ECDSA	O
Delimiter	SHALL be present and set to "$" if any of the following optional parameters is present	C
Confirmation Code Required Flag	SHALL be present and set to "1" if Confirmation Code is required; otherwise it SHALL be absent	O

3.1.2. AT+QESIM="trans" Forward DP+ Messages

This command forwards DP+ messages to the module during the process of downloading and installing the profile, and the module will report an unsolicited result code: **+QESIM: "trans",0,<url>,<payloadlen>,<payload>** or **+QESIM: "trans",<result>[,<errinfo1>,<errinfo2>]** when the module receives a complete and correct DP+ message.

AT+QESIM="trans" Forward DP+ Messages	
Write Command **AT+QESIM="trans",<totallen>,<state>,<seq>,<len>,<data>**	Response **+QESIM: "trans",<result>[,<errinfo1>,<errinfo2>]** **OK** Or **ERROR** If there is an error related to ME functionality: **+CME ERROR: <err>**
Maximum Response Time	500 ms
Characteristics	/

Parameter

<totallen>	Integer type. The total length of the DP+ message after it is converted into a HEX string. Range: 0–65535. If the DP+ message is greater than the maximum value of **<len>**, the DP+ message needs to be divided into multiple data packets for forwarding.
<state>	Integer type. Data block status. 0 Last packet of DP+ message 1 Not last packet of DP+ message
<seq>	Integer type. Serial number. Range: 0–255.
<len>	Integer type. The length of data to be sent. Range: 0–1400. If **<totallen>** is greater than the maximum value of **<len>**, the DP+ message needs to be divided into multiple data packets for forwarding.
<data>	Hex string type. The send data of DP+ message.
<url>	String type. HTTP URL. This is the specific address used by DP+ to process messages.
<payloadlen>	Integer type. The length of **<payload>**.
<payload>	String type. The jason format data that needs to be sent to DP+.
<result>	Integer type. Result code. Range: 0–3. Please refer to Chapter 5 for specific error information.
<errinfo1>	String type. Error information 1. If **<result>** is 0, it will not be presented.
<errinfo2>	String type. Error information 2. If **<result>** is 0, it will not be presented.

NOTE

The maximum data length that **AT+QESIM="trans"** command can send per packet is 1400 hex string, If the data is greater than 1400, it needs to be sent in multiple packets.

Example

```
AT+QESIM="download","LPA:1$demo-consumer.validspereachdpplus.com$1BINSTP8J0EFCWLLE4JY4S0YGO7II40ZXSQESI06THYWPLZ-W65CXYWK5-KPZJCZ"
+QESIM: "trans",0,"/gsma/rsp2/es9plus/initiateAuthentication",195,"{"euiccChallenge":"WbVmufInshaRFR2d/Vm+1w==","euiccInfo1":"vyA1ggMCAgKpFgQUgTcPUSXQsdQI1MOyMubSXnlb6/uqFgQUgTcPUSXQsdQI1MOyMubSXnlb6/uQAA==","smdpAddress":"demo-consumer.validspereachdpplus.com"}"

OK
AT+QESIM="trans",2924,1,0,1400,"485454502F312E312032303041646D696E2D50726F746F636F6C3A2067736D612F7273702F76322E322E32436F6E74656E742D547970653A206170706C6963617469 6F6E2F6A736F6E3B636861727365743D5554462D38436F6E74656E742D4C656E6774683A2031333230446174653A204D6F6E2C203235204F637420323032312030323A32393A343820474D547B22686561646572223A7B2266756E6374696F6E457865637574696F6E537461747573223A7B227374617475 73223A2245786563757465642D53756363657373227D7D2C227472616E73616374696F6E4964223A2233343643333839353839443936414538424239443141393241423935364637372 22C22736572766572
```

5369676E656431223A224D463241454452734F4A574A3257726F753530616B7175566233654245466
D315A726E794A3749576B5255646E66315A767465444A57526C625738745932397563335674 5A584
975646D46736157527A634756795A57466A614752776347783163793 56A623232454545724C34342F
59427344704F42706B507A43694671733D222C22736572766572536967 6E617475726531223A22587
A6441396D6573684A517878723142656A58743042686A656E64627A373958396C7530337A6E42644
C6A36696C4A6C525A6C464577326A514554656E53714B34736333797A496B41505652542F415266
315564644E556C75773D3D222C22657569636343695 04B4964546F426555736564223A22424253424
E7739524A64437831416A557737497935744A65655676722B773D3D222C22736572766572436572 74
6966696361746522 3A224D4949436744434341696167417749424167495163 7A5A456B562B7646523
8335936656B4E363636447A414B42676771686B6A4F50515144416A42454D5267774667594456515 1
4B4577394855303067515 84E7A62324E7059585270623234784B44416D"
+QESIM: "trans",0

OK
AT+QESIM="trans",2924,1,1,1400,"42674E5642414D5448306454545342426333 4E7659326C686447
6C766269417449464A5455444967556D39766443424453544577486863 4E4D6A41774E6A45774D44
41774D4441775768634E4D6A4D774E6A41354D6A4D314F545535576A42734D51737743515944565
1514745774A46557A45734D436F474131554543684D6A566D467361575167553239736457 4E706232
356C637942555A574E75623278765A326C6A59584D67557935424C6C5578465441544267 4E564241
735444464E5855794257595778705A434246557A45594D4259474131554541784D50566B464D53555
167553030745246427762485 67A4D466B77457759484B6F5A497A6A3043415159494B6F5A497A6A
304441516344516741455446363049 6F575930687A4630715959657A765A614D6A4D6A5A6368376C
383958456A377468365A354B35673957336A6E795937713450634E695555517A63683535475271486
56C4630664C366A6E6A7431345079364F42305443427A6A416442674E5648513445466751553031 55
614234516A41663178414467724F4E6D55737A3659427641774677594456523067415148 2F42413077
437A414A4267646E67524942416745454D4530474131556448775247 4D455177517142416F4436475
047683064484136 4C79396E633231684C574E796243357A655731686458526F4C6D4E76625339765
A6D5A736157356C593245765A334E7459533179633341794C584A766233517459326B784C6D4E796
244414F42674E5648513842416638454241 4D4342344177464159445652305242413077433467 4A4B7
7594242414743343077494D42384741315564497751594D4261414649453344314 56C304C4855434E5
444736A4C6D306C3535572B76374D416F4743437147534D343942414D43413067414D45554349514
3763266576141673737 6B4C5047766234624584453 4E54765155746B59"
+QESIM: "trans",0

OK
AT+QESIM="trans",2924,0,2,124,"776167517071436145596C5A7551496752524359 4A78646135784
767546C7073436A317A5868376E496666624261536B753738683462617735 4F6F3D227D"
+QESIM: "trans",0

OK

+QESIM: "trans",0,"/gsma/rsp2/es9plus/authenticateClient",2304,"{"transactionId":"346C389589
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C0gUlNQMiBSb290IENJMTAeFw0xOTA0MTEwMDAwMDBaFw00OTA0MTAyMzU5NTlaMGYxCzAJ
BgNVBAYTAkVTMSowKAYDVQQKDCFWQUxJRCBTT0xVQ0lPTkVTIFRFQ05PTE9HSUNBUyBTQV
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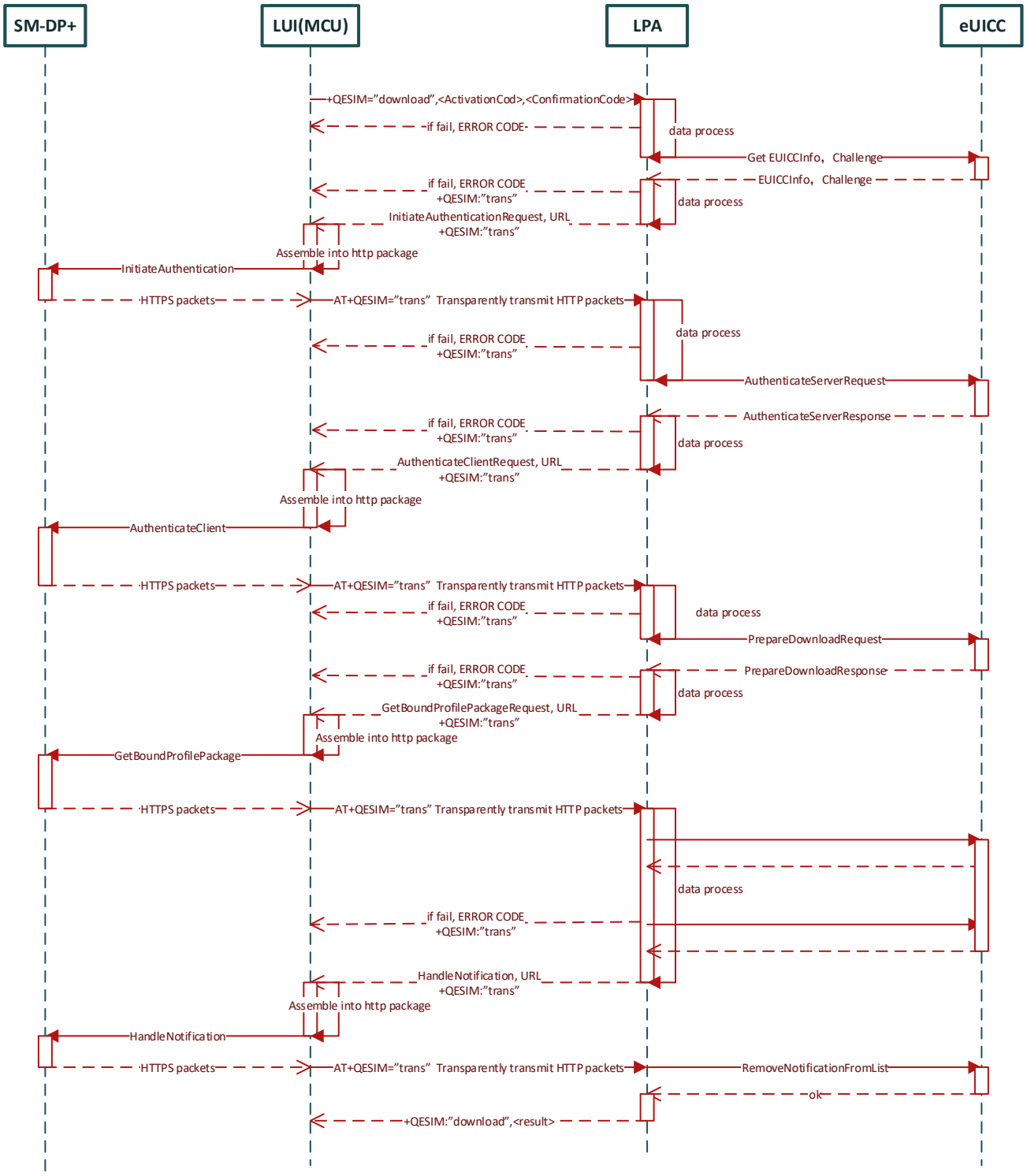
2h/eUPzuma4UZ/I2j4GOUh1ZeSxQYk2KpMLBvcqt4Y="}"**

3.1.3. Download Profiles Through AT Commands

HTTPS establishes a connection between the MCU and SM-DP+. The MCU uses the POST method to send data, where the URL and payload are obtained from the result code returned for each step of the module **+QESIM: "trans",0,<url>,<payloadlen>,<payload>**. The content of the HTTPS header during POST is as follows:

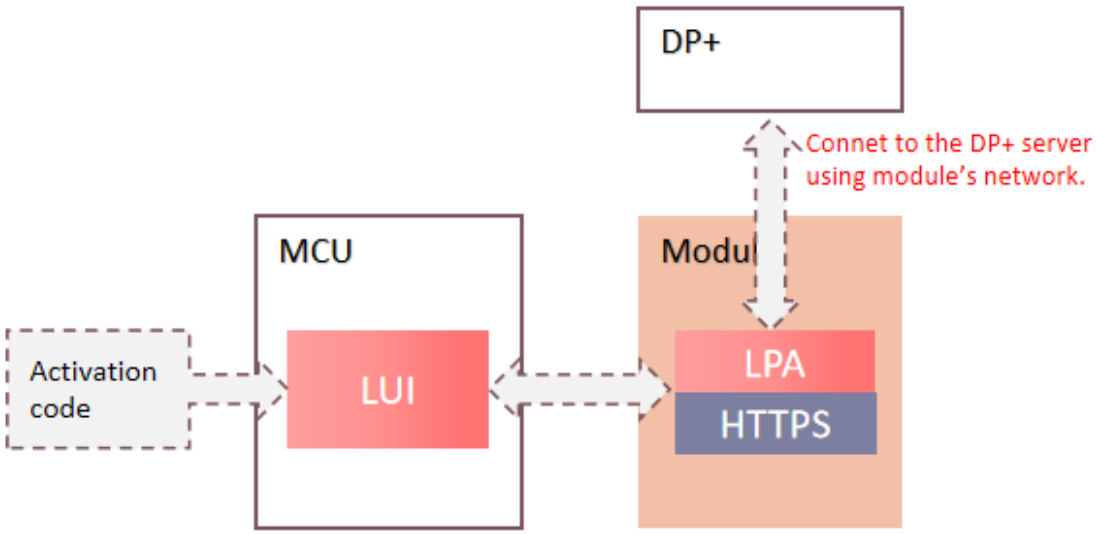
Header	Value
X-Admin-Protocol:	gsma/rsp/v2.2.0
Content-Type:	application/json

charset:	utf-8
User-Agent:	gsma-rsp-lpad
Host:	Host and port, e.g. demo-consumer.validspereachdpplus.com:443
Content-Length:	Content length



3.2. Internal Network Mode

In this mode, the module needs to establish a HTTPS connection with DP+. This applies to scenarios where the eUICC has an initial profile and module can use this profile to connect to the network.



3.2.1. AT+QESIM="ota" Download the Profile from DP+ and Install It to the eUICC

This command downloads the profile from DP+ and install it to the eUICC. The module will report an unsolicited result code used to indicate the profile download result: **+QESIM: "ota",<result>[, <errinfo1>,<errinfo2>]** when the process of download and the profile installation end.

AT+QESIM="ota" Download the Profile from DP+ and Install It to the eUICC	
Write Command **AT+QESIM="ota",<activationCode>[, <confirmationCode>]**	Response **OK** Or **ERROR** If there is an error related to ME functionality: **+CME ERROR: <err>**
Maximum Response Time	500 ms
Characteristics	/

Parameter

<activationCode>	String type. From the QR code scan.
<confirmationCode>	String type. A code used to authorize the usage of the MatchingID to confirm the download and installation of the profile.

<result>	Integer type. Result code. Range: 0–3. Please refer to ***Chapter 5*** for specific error information.
<errinfo1>	String type. Error information 1. If **<result>** is 0, it will not be presented.
<errinfo2>	String type. Error information 2. If **<result>** is 0, it will not be presented.

Example

```
AT+QESIM="ota","LPA:1$testsmdpplus.infineon.com$0000-0000-0000-3003"
OK
```

NOTE

If the Confirmation Code Required Flag in **<activationCode>** is 1, **<confirmationCode>** is required. Please refer to ***Chapter 3.1.3*** for the download process.

4 eSIM Related Notifications

This chapter gives eSIM related notifications and their descriptions.

Table 3: eSIM Related Notifications

SN	URC Format	Description
[1]	**+QESIM: "download",<ret>**	The profile download and install process ends. The related resources of the module are released. **<ret>**: 0 Success 1 Failure
[2]	**+QESIM: "trans",0,<url>,<payloadlen>,<payload>**	Messages that need to be reported to DP+. **<url>**: HTTP URL **<payloadlen>**: The length of **<payload>**. **<payload>**: The jason format data that needs to be sent to DP+.
[3]	**+QESIM: "trans",<result>[,<errinfo1>,<errinfo2>]**	The profile download or installation error. **<result>:** Result code. Range: 0–3. **<errinfo1>:** Error information 1 **<errinfo2>:** Error information 2 Please refer to ***Chapter 5*** for specific error information.
[4]	**+QESIM: "ota",<result> [,<errinfo1>,<errinfo2>]**	The profile download and install process ends. **<result>:** Result code. Range: 0–3. **<errinfo1>:** Error information 1 **<errinfo2>**: Error information 2 Please refer to ***Chapter 5*** for specific error information.

5 Summary of Error Codes

If an error occurs in LPA, you can find the cause of the error by the following error code.Result code includes Success, Internal Error, eUICC Error, SMDPP Error.If Result code is 0, it means Success.

Table 4: Internal Error

<result>	<errinfo1>	<errinfo1>
InternalError（1）	Analyse False（99）	0
/	Parm Error（98）	0
/	Http Errorcode（1）	Errorcode（eg. 400,450,500）
/	APDUError（2）	SW code（eg. 6985,6A82,6700）

Table 5: eUICC Error

<result>	<errinfo1>	<errinfo1>
eUICCError（2）	ProfileInfoListResponse（1）	incorrectInputValues(1), undefinedError(127)
/	PrepareDownloadResponse（2）	invalidCertificate(1), invalidSignature(2), unsupportedCurve(3), noSessionContext(4), invalidTransactionId(5), undefinedError(127)
/	AuthenticateServerResponse（3）	invalidCertificate(1), invalidSignature(2), unsupportedCurve(3), noSessionContext(4), invalidOid(5), euiccChallengeMismatch(6), ciPKUnknown(7), undefinedError(127)
/	CancelSessionResponse（4）	invalidTransactionId(5),

		undefinedError(127)
/	ProfileInstallationResultData（5）	incorrectInputValues(1), invalidSignature(2), invalidTransactionId(3), unsupportedCrtValues(4), unsupportedRemoteOperationType(5), unsupportedProfileClass(6), scp03tStructureError(7), scp03tSecurityError(8), installFailedDueToIccidAlreadyExistsOnEuicc(9), installFailedDueToInsufficientMemoryForProfile(10), installFailedDueToInterruption(11), installFailedDueToPEProcessingError (12), installFailedDueToDataMismatch(13), testProfileInstallFailedDueToInvalidNaaKey(14), pprNotAllowed(15), installFailedDueToUnknownError(127)
/	listNotificationsResultError（6）	undefinedError(127)
/	setNicknameResult（7）	iccidNotFound (1), undefinedError(127)
/	RetrieveNotificationsListResponse（8）	undefinedError(127)
/	NotificationSentResponse（9）	nothingToDelete(1), undefinedError(127)
/	EnableProfileResponse（10）	iccidOrAidNotFound (1), profileNotInDisabledState(2), disallowedByPolicy(3), wrongProfileReenabling(4), catBusy(5), undefinedError(127)
/	DisableProfileResponse（11）	iccidOrAidNotFound (1), profileNotInEnabledState(2), disallowedByPolicy(3), catBusy(5), undefinedError(127)
/	DeleteProfileResponse（12）	iccidOrAidNotFound (1), profileNotInDisabledState(2), disallowedByPolicy(3), undefinedError(127)

/	LoadCRLResponseError（13）	invalidSignature(1), invalidCRLFormat(2), notEnoughMemorySpace(3), verificationKeyNotFound(4), fresherCrlAlreadyLoaded(5), baseCrlMissing(6), undefinedError(127)

Table 6: SMDP+ Error

<result>	<errinfo1>	<errinfo1>
SMDPPError（3）	Subject Code（eg. 8.2）	Reason Code（eg. 3.1）

Subject Code
1. Generic
1.1. Function Requester
1.2. Function Provider
1.2.1. Validity Period
1.3. Protocol
1.3.1. Protocol Format
1.3.2. Protocol Version
1.4. External Resource
1.5 Extension Resource
1.6 Function
8. eUICC Remote Provisioning
8.1 eUICC
8.1.1 EID
8.2 Profile
8.2.1 Profile ICCID
8.2.2 POL1
8.2.3 POL2
8.2.4 Void
8.2.5 Profile Type
8.2.6 Subscription Address
8.3 ISD-P
8.3.1 ISD-P-AID
8.4 ISD-R
8.5 ECASD
8.5.1 Certification Request
8.5.2 Embedded UICC Certificate Authority
8.6 EIS
8.7 SM-SR
8.7.1 SM-SR certificate

Reason Code
1. Access Error
1.1. Unknown (Identification or Authentication)
1.2. Not Allowed (Authorisation)
2. Format Error
2.1. Invalid
2.2. Mandatory Element Missing
2.3. Conditional Element Missing
3. Conditions of Use Not Satisfied
3.1. Unsupported
3.2. Maximum Size Exceeded
3.3. Already in Use (Uniqueness)
3.4. Invalid Destination
3.5. Invalid Transition
3.6. Related Objects Exists
3.7. Unavailable
3.8. Refused
3.9 Unknown
4. Processing Error
4.1. Function Already in Progress
4.2. Execution Error
4.3. Stopped on Warning
4.4. Busy
4.5. Operation Already Processed
4.6. Not Present / Missing
4.7. Generation Not Possible
4.8. Insufficient Memory
4.9. Unassigned
5. Transport Error
5.1. Inaccessible
5.2. Timeout
5.3. Time to Live Expired
5.4 Delivered With No Response
5.5 Connection Lost
6. Security Error
6.1. Verification Failed
6.2. Decipher Failed
6.3. Certificate Expired