

**Requirement Plan**

Plan Name: LTE\_ATCommands\_For\_Test\_Automation

Plan Id: LTEAT

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1	LTE AT commands for Test automation VZ_REQ_LTEAT_45	3
1.1	INTRODUCTION VZ_REQ_LTEAT_33075	4
1.1.1	APPLICABILITY VZ_REQ_LTEAT_33076	4
1.1.2	ACRONYMS/GLOSSARY/DEFINITIONS VZ_REQ_LTEAT_33077	4
1.1.3	REQUIREMENTS LANGUAGE VZ_REQ_LTEAT_33078	6
1.1.4	REQUIRED VERIZON WIRELESS DEVICE COMPLIANCE TEST PLANS VZ_REQ_LTEAT_33079	6
1.2	HARDWARE SPECIFICATIONS VZ_REQ_LTEAT_33080	6
1.2.1	The interface described in this document refers to the UE interaction with a Terminal Adaptor and Test Equipment VZ_REQ_LTEAT_21029	7
1.3	SOFTWARE SPECIFICATIONS VZ_REQ_LTEAT_33081	7
1.3.1	LTE devices shall support an interface capable of interpreting AT commands VZ_REQ_LTEAT_21030	7
1.3.2	The AT command interface shall be disabled on the device by default. The OEM shall provide a method (via PST to VZ_REQ_LTEAT_21031	7
1.3.3	LTE devices shall support all AT commands listed in sections 3.1.2 and 3.1.3. VZ_REQ_LTEAT_21032	7
1.3.4	In addition, LTE devices should support all mandatory and optional AT commands pertaining to the devices end us VZ_REQ_LTEAT_21033	8
1.3.5	Additional AT Commands Required All Device TypesStandards ReferenceDescriptionAT Command3GPP TS 27.0 VZ_REQ_LTEAT_21034	8
1.3.6	Additional AT Commands Required Handset Devices OnlyStandards ReferenceDescriptionAT Command3GPP TS VZ_REQ_LTEAT_21035	13
1.3.7	VZW Specific AT CommandLTE devices shall support the additional Verizon Wireless specific AT command.Edit VZ_REQ_LTEAT_21036	14
1.4	REFERENCES VZ_REQ_LTEAT_33082	18

# I LTE AT commands for Test automation VZ\_REQ\_LTEAT\_45

## Revision History

Rev.	Author	Description of Changes	Date
0.7	Verizon Wireless	Initial Release	12/17/2009
1.0	Verizon Wireless	Modified Required Command List	02/15/2010
1.1	Verizon Wireless	Modified Required Command List - (Added: +CKPD, +CMER, +CRSM, +CTSA, +CSO, +CSS, +CGEV, +CGEQREQ, +CMGF Removed: +CGSMS, +CSCB, +CSAS, +CRES, +CNMI, +CNMA, +CMSS, +CMGW, +CMGC, +CMMS)	June 2010
1.2	Verizon Wireless	Updated section 4	March 2011
1.3	Verizon Wireless	Updated sections 3.1.1 & 3.1.2	June 2011
1.4	Verizon Wireless	Updated sections 3.1.1 & 3.1.2 (Removed: +CDIS, +CSO)	September 2011
1.5	Verizon Wireless	Added AT command enable/disable feature to Section 3.1 Removed: +CSTF, +CPOL, +CPLS, +CPROT, +CGEQREQ, +CGDATA, +CGEQOS	April 2012
2.0	Verizon Wireless	Updated section 3.1.4.1.1 Added new commands: +VZWRSRP, +VZWRSRQ	June 2012
3.0	Verizon Wireless	Updates to sections: 3.1.4.3, 3.1.4.3.1	June 2013
4.0	Verizon Wireless	Updates to sections: 3.1.4.2.2, 3.1.4.3.2	February 2014

## 1.1 INTRODUCTION VZ\_REQ\_LTEAT\_33075

This publication is part of Verizon Wireless' compliance with the FCC's rules for 700 MHz C Block (47 C.F.R. § 27.16), as explained in the FCC's Second Report and Order in WT Docket No. 06-150, "Service Rules for the 698-746, 747-762 and 777-792 MHz Bands" released on August 10, 2007.

### 1.1.1 APPLICABILITY VZ\_REQ\_LTEAT\_33076

These requirements apply to all devices designed to operate on the Verizon Wireless LTE 3GPP Band 13 network. 3GPP Band 13 is per 3GPP TS 36.101: *Evolved Universal Terrestrial Radio Access (E-UTRA); User Equipment (UE) radio transmission and reception*.

For any questions related to this document, please contact Verizon Wireless through the Verizon Wireless Open Development website.

### 1.1.2 ACRONYMS/GLOSSARY/DEFINITIONS VZ\_REQ\_LTEAT\_33077

This section defines acronyms and terms used throughout the document.

Acronym/Term	Definition
3GPP	3 <sup>rd</sup> Generation Partnership Project, manages GSM, EDGE, UMTS, HSPA, and LTE standards
APN	Access Point Name
AT	ATtention; this two-character abbreviation is always used to start a command line to be sent from TE to TA

CDMA	Code Division Multiple Access
DCE	Data Communications Equipment
DUT	Device Under Test
E-UTRA	Evolved Universal Terrestrial Radio Access
EDGE	Enhanced Data rates for GSM Evolution
EPS	Evolved Packet System
GPRS	General Packet Radio Service
GSM	Global System for Mobile communications
HSPA	High Speed Packet Access
IMS	IP Multimedia Subsystem
IP	Internet Protocol
ITU-T	International Telecommunication Union Telecommunication Standardization Sector
LTE	Long Term Evolution
ME	Mobile Equipment
MO	Mobile Originated
PDN	Packet Data Network
PDP	Packet Data Protocol
PLMN	Public Land Mobile Network
SIM	Subscriber Identify Module
SMS	Short Message Service
TA	Terminal Adaptor
TE	Terminal Equipment

UE	User Equipment
UMTS	Universal Mobile Telecommunications System
VZW	Verizon Wireless

### 1.1.3 REQUIREMENTS LANGUAGE VZ\_REQ\_LTEAT\_33078

This document uses the following verbal forms in conjunction with requirements:

- "*Shall*" or "*Shall not*" indicates the requirement is mandatory
- "*Should*" indicates the requirement is recommended but not mandatory
- "*May*" indicates the requirement is optional

### 1.1.4 REQUIRED VERIZON WIRELESS DEVICE COMPLIANCE TEST PLANS VZ\_REQ\_LTEAT\_33079

All new devices submitted to operate on the Verizon Wireless LTE 3GPP Band 13 network are required to conform to the test plans listed in the Verizon Wireless document "LTE 3GPP Band 13 Lab Conformance Test Plan".

## 1.2 HARDWARE SPECIFICATIONS VZ\_REQ\_LTEAT\_33080

Add requirement body here:

## 1.2.1 The interface described in this document refers to the UE interaction with a Terminal Adaptor and Test Equipment VZ\_REQ\_LTEAT\_21029

The interface described in this document refers to the UE interaction with a Terminal Adaptor and Test Equipment. A single primary port (modem port) shall be made available, that supports all AT commands listed in section VZ\_REQ\_LTEAT\_33081. In addition, a single secondary port shall be made available for backchannel communications. For additional information regarding the test interface refer to 3GPP TS 36.523-3. For additional hardware specifications refer to the Verizon Wireless document Device Requirements LTE 3GPP Band 13 Network Access.

## 1.3 SOFTWARE SPECIFICATIONS VZ\_REQ\_LTEAT\_33081

Add requirement body here:

### 1.3.1 LTE devices shall support an interface capable of interpreting AT commands VZ\_REQ\_LTEAT\_21030

LTE devices shall support an interface capable of interpreting AT commands. The commands required for implementation are described in the following sections.

### 1.3.2 The AT command interface shall be disabled on the device by default. The OEM shall provide a method (via PST to VZ\_REQ\_LTEAT\_21031

The AT command interface shall be disabled on the device by default. The OEM shall provide a method (via PST tool or similar) to enable/disable the AT command interface for certain instances such as test plan automation.

### 1.3.3 LTE devices shall support all AT commands listed in sections 3.1.2 and 3.1.3. VZ\_REQ\_LTEAT\_21032

LTE devices shall support all AT commands listed in sections 3.1.2 and 3.1.3.

### 1.3.4 In addition, LTE devices should support all mandatory and optional AT commands pertaining to the devices end use VZ\_REQ\_LTEAT\_21033

In addition, LTE devices should support all mandatory and optional AT commands pertaining to the devices end use as described in 3GPP TS 27.007, 3GPP TS 27.005, and ITU-T V.250.

### 1.3.5 Additional AT Commands Required All Device Types VZ\_REQ\_LTEAT\_21034

Standards Reference	Description	AT Command
3GPP TS 27.007 (Sec. 5.1)	Request Manufacturer Identification	+CGMI
3GPP TS 27.007 (Sec. 5.2)	Request Model Identification	+CGMM
3GPP TS 27.007 (Sec. 5.3)	Request Revision Identification	+CGMR
3GPP TS 27.007 (Sec. 5.4)	Request Product Serial Number Identification	+CGSN
3GPP TS 27.007 (Sec. 5.5)	Select TE Character Set	+CSCS
3GPP TS 27.007 (Sec. 5.6)	Request International Mobile Subscriber Identity	

Additional AT Commands Required All Device Types

3GPP TS 27.007 (Sec. 5.1)  
Request Manufacturer Identification  
+CGMI

3GPP TS 27.007 (Sec. 5.2)  
Request Model Identification  
+CGMM

3GPP TS 27.007 (Sec. 5.3)  
Request Revision Identification  
+CGMR

3GPP TS 27.007 (Sec. 5.4)  
Request Product Serial Number Identification  
+CGSN

3GPP TS 27.007 (Sec. 5.5)  
Select TE Character Set  
+CSCS

3GPP TS 27.007 (Sec. 5.6)  
Request International Mobile Subscriber Identity



+CIMI

3GPP TS 27.007 (Sec. 5.9)  
PCCA STD 101 [17] select wireless network  
+WS46

3GPP TS 27.007 (Sec. 6.10)  
Extended Error Report  
+CEER

3GPP TS 27.007 (Sec. 7.1)  
Subscriber Number  
+CNUM

3GPP TS 27.007 (Sec. 7.3)  
PLMN Selection  
+COPS

3GPP TS 27.007 (Sec. 7.4)  
Facility Lock  
+CLCK

3GPP TS 27.007 (Sec. 7.5)  
Change Password  
+CPWD

3GPP TS 27.007 (Sec. 7.21)  
Read Operator Names  
+COPN

3GPP TS 27.007 (Sec. 8.1)  
Phone Activity Status  
+CPAS

3GPP TS 27.007 (Sec. 8.2)  
Set Phone Functionality  
+CFUN

3GPP TS 27.007 (Sec. 8.3)

Enter PIN

+CPIN

3GPP TS 27.007 (Sec. 8.5)

Signal Quality

+CSQ

3GPP TS 27.007 (Sec. 8.9)

Indicator Control

+CIND

3GPP TS 27.007 (Sec. 8.15)

Clock

+CCLK

3GPP TS 27.007 (Sec. 8.17)

Generic SIM Access

+CSIM

3GPP TS 27.007 (Sec. 8.18)

Restricted SIM access

+CRSM

3GPP TS 27.007 (Sec. 8.37)

List All Available AT Commands

+CLAC

3GPP TS 27.007 (Sec. 8.62)

Printing IP Address Format

+CGPIAF

3GPP TS 27.007 (Sec. 8.69)

Extended Signal Quality

+CESQ

3GPP TS 27.007 (Sec. 9.1)

Report Mobile Termination Error

+CMEE

3GPP TS 27.007 (Sec. 10.1.1)

Define PDP Context

+CGDCONT

3GPP TS 27.007 (Sec. 10.1.2)

Define Secondary PDP Context

+CGDSCONT

3GPP TS 27.007 (Sec. 10.1.3)

Traffic Flow Template

+CGTFT

3GPP TS 27.007 (Sec. 10.1.9)

PS Attach Or Detach

+CGATT

3GPP TS 27.007 (Sec. 10.1.10)

PDP Context Activate Or Deactivate

+CGACT

3GPP TS 27.007 (Sec. 10.1.11)

PDP Context Modify

+CGCMOD

3GPP TS 27.007 (Sec. 10.1.14)

Show PDP Address

+CGPADDR

3GPP TS 27.007 (Sec. 10.1.19)

Packet Domain Event Reporting

+CGEREP

3GPP TS 27.007 (Sec. 10.1.21)

Select Service for MO SMS Messages

+CGSMS

3GPP TS 27.007 (Sec. 10.1.22)  
EPS Network Registration Status  
+CEREG

3GPP TS 27.007 (Sec. 10.1.23)  
PDP Context Read Dynamic Parameters  
+CGCONTRDP

3GPP TS 27.007 (Sec. 10.1.24)  
Secondary PDP Context Read Dynamic Parameters  
+CGSCONTRDP

3GPP TS 27.007 (Sec. 10.1.25)  
Traffic Flow Template Read Dynamic Parameters  
+CGTFTTRDP

3GPP TS 27.007 (Sec. 10.1.27)  
EPS Quality Of Service Read Dynamic Parameters  
+CGEQOSRDP

3GPP TS 27.007 (Sec. 10.1.28)  
UE Modes of Operation for EPS  
+CEMODE

3GPP TS 27.005 (Sec. 3.2.1)  
Select Message Service  
+CSMS

3GPP TS 27.005 (Sec. 3.2.2)  
Preferred Message Storage  
+CPMS

3GPP TS 27.005 (Sec. 3.2.3)  
Message Format  
+CMGF

3GPP TS 27.005 (Sec. 3.3.1)  
Service Centre Address

+CSCA

3GPP TS 27.005 (Sec. 3.3.2)

Set Text Mode Parameters

+CSMP

3GPP TS 27.005 (Sec. 3.4.2)

List Messages

+CMGL

3GPP TS 27.005 (Sec. 3.4.3)

Read Message

+CMGR

3GPP TS 27.005 (Sec. 3.5.1)

Send Message

+CMGS

3GPP TS 27.005 (Sec. 3.5.2)

Send Message From Storage

+CMSS

3GPP TS 27.005 (Sec. 3.5.3)

Write Message to Memory

+CMGW

3GPP TS 27.005 (Sec. 3.5.4)

Delete Message

+CMGD

### 1.3.6 Additional AT Commands Required Handset Devices Only Standards

Reference	Description	AT Command	3GPP TS
VZ_REQ_LTEAT_21035			

Additional AT Commands Required Handset Devices Only

Standards Reference

Description

## AT Command

3GPP TS 27.007 (Sec. 8.6)  
Mobile Termination Control Mode  
+CMEC

3GPP TS 27.007 (Sec. 8.7)  
Keypad control  
+CKPD

3GPP TS 27.007 (Sec. 8.10)  
Mobile Termination event reporting  
+CMER

3GPP TS 27.007 (Sec. 8.52)  
Command Touch Screen Action  
+CTSA

3GPP TS 27.007 (Sec. 8.54)  
Command Screen Size  
+CSS

### 1.3.7 VZW Specific AT CommandLTE devices shall support the additional Verizon Wireless specific AT command.Edit VZ\_REQ\_LTEAT\_21036

#### VZW Specific AT Command

LTE devices shall support the additional Verizon Wireless specific AT command.

Edit APN Table +VZWAPNE  
+VZWAPNE action command syntax  
Command  
Possible response(s)

+VZWAPNE=<wapn>,<apncl>,<apnni>,<apntype>,<apnb>,<apned>,<apntime>  
+CME ERROR: <err>

+VZWAPNE?

+VZWAPNE: <apncl>1,<apnni>1,<apntype>1,<apnb>1,<apned>1,<apntime>1,  
<apncl>2,<apnni>2,<apntype>2,<apnb>2,<apned>2,<apntime>2,&  
<apncl>n,<apnni>n,<apntype>n,<apnb>n,<apned>n,<apntime>n,

+CME ERROR: <err>

+VZWAPNE=?

+VZWAPNE: (list of supported <wapn>s), (list of supported <apncl>s), (list of supported <apnni>s),  
(list of supported <apntype>s), (list of supported <apnb>s), (list of supported <apned>s), (list of  
supported <apntime>s)

+CME ERROR: <err>

## Description

Write command causes the APN table on the DUT to be overwritten. One write command must be issued for each APN edit.

If command fails, +CME ERROR: <err> is returned. Refer to 3GPP TS 27.007 subclause 9.2 for <err> values.

Read command queries the APN table that is currently on the DUT, starting from the first entry to the last. The numbers following each value (for example the numbers 1, 2, & n in the following cases: <apncl>1, <apncl>2, <apncl>n) indicate from which of the available APNs the entry is from. The maximum number of APNs being n.

If command fails, +CME ERROR: <err> is returned. Refer to 3GPP TS 27.007 subclause 9.2 for <err> values.

Test command returns the supported entry values.

If command fails, +CME ERROR: <err> is returned. Refer to 3GPP TS 27.007 subclause 9.2 for <err> values.

See the APNs section of the Verizon Wireless document Device Requirements LTE 3GPP Band 13 Network Access for more information on the APN table.

This AT command shall be enabled and disabled using a non-volatile memory setting. By default, this AT command shall be DISABLED. The vendor shall provide a lab application to modify this memory setting during device acceptance testing. The device vendor shall not allow the user to modify this memory setting through the device user interface or the remote access user interface for tethered

devices. This AT command shall be DISABLED in all commercial devices sold to end customers.

Defined Values:

<wapn> : Integer type; Indicates which APN entry to edit.

The maximum number of APNs being n.

Take no action

Edit APN entry #1

Edit APN entry #2

Edit APN entry #3

Edit APN entry #4

n Edit APN entry #n

<apncl> : Integer type; Indicates the APN Class

The maximum number of APNs being n.

APN Class #1

APN Class #2

APN Class #3

APN Class #4

n APN Class #n

<apnni> : String type; Indicates the Network Identifier

IMS Verizon Wireless IMS PDN, VZWIMS is obsolete Verizon Wireless IMS PDN.

VZWADMIN Verizon Wireless Administrative PDN

VZWINTERNET Verizon Wireless Internet PDN

VZWAPP Verizon Wireless Application PDN

<apntype> : String type; APN type

IPv6 IPv6 type

IPv4v6 IPv4 and IPv6 type

<apnb> : String type; APN Bearer

LTE LTE bearer used

<apned> : String type; Enable/Disable the APN

Enabled The APN is enabled

Disabled The APN is disabled

<apntime> : Integer type; APN inactivity timer value



Indicating that the timer is infinity  
x Integer indicating the timer value in minutes

Read RSRP Values +VZWRSPR  
+VZWRSPR action command syntax  
Command  
Possible response(s)

+VZWRSPR?  
+VZWRSPR:  
<cellID>1,<EARFCN>1,<RSRP>1,<cellID>2, <EARFCN>2,<RSRP>2,&,<cellID>n,  
<EARFCN>n,<RSRP>n

+CME ERROR: <err>

Description  
Execution command returns the RSRP values for all cells which the UE is measuring. The device shall be capable of returning the RSRP values of up to 8 cells. This device shall support this command in both RRC\_IDLE and RRC\_CONNECTED modes.

If command fails, +CME ERROR: <err> is returned. Refer to 3GPP TS 27.007 subclause 9.2 for <err> values.

Defined Values  
<cellID> : Integer type; Cell ID where the format is XXX

<EARFCN> : Integer type; EARFCN for given cell where EARFCN is per 3GPP TS 36.101

<RSRP> : String type; RSRP value where the format is -XXX.XX dBm/15kHz

Read RSRQ Values +VZWRSRQ  
+VZWRSRQ action command syntax  
Command  
Possible response(s)

+VZWRSRQ?  
+VZWRSRQ:  
<cellID>1,<EARFCN>1,<RSRQ>1,<cellID>2, <EARFCN>2,<RSRQ>2,&,<cellID>n,

<EARFCN>n,<RSRQ>n

+CME ERROR: <err>

#### Description

Execution command returns the RSRQ values for all cells which the UE is measuring. The device shall be capable of returning the RSRQ values of up to 8 cells. This device shall support this command in both RRC\_IDLE and RRC\_CONNECTED modes.

If command fails, +CME ERROR: <err> is returned. Refer to 3GPP TS 27.007 subclause 9.2 for <err> values.

#### Defined Values

<cellID> : Integer type; Cell ID where the format is XXX

<EARFCN> : Integer type; EARFCN for given cell where EARFCN is per 3GPP TS 36.101

<RSRQ> : String type; RSRQ value where the format is -XX.XX dBm/15kHz

## 1.4 REFERENCES VZ\_REQ\_LTEAT\_33082

Change requests may cause modification to the specifications listed below. Please refer to [www.3gpp.org](http://www.3gpp.org) for the latest version of the 3GPP specifications and to [www.itu.int](http://www.itu.int) for the latest version of the ITU specification. Verizon Wireless LTE 3GPP Band 13 network specifications are available at <http://opennetwork.verizonwireless.com>.

#### <Industry Standards References>

1. 3GPP TS 27.005: *Use of Data Terminal Equipment - Data Circuit terminating Equipment (DTE - DCE) interface for Short Message Service (SMS) and Cell Broadcast Service (CBS)*
2. 3GPP TS 27.007: *AT command set for User Equipment (UE)*
3. ITU-T V.250: *Serial Asynchronous Automatic Dialling And Control*
4. 3GPP TS 36.101: *Evolved Universal Terrestrial Radio Access (E-UTRA); User Equipment (UE) radio transmission and reception*

5. 3GPP TS 36.523-3: *Evolved Universal Terrestrial Radio Access (E-UTRA); User Equipment (UE) conformance specification; Part 3: Test Suites*

<Verizon Specific Documentation References>

6. "Verizon Wireless Device Requirements LTE 3GPP Band 13 Network Access"
7. "Verizon Wireless LTE AT Commands For Test Automation Test Plan"
8. "Verizon Wireless LTE 3GPP Band 13 Lab Conformance Test Plan"

## TestPlanCoverageForRequirement

The interface described in this document refers to the UE interaction with a Terminal Adaptor and Test Equipment VZ\_REQ\_LTEAT\_21029

Test Case Name	Test Plan Id	Created By	Created Date
CHANGE PASSWORD (+CPWD)	LTEAT	Admin User	11-08-2013 00:00:00
CLOCK (+CCLK)	LTEAT	Admin User	11-08-2013 00:00:00
COMMAND TOUCH SCREEN ACTION (+CTSA)	LTEAT	Admin User	11-08-2013 00:00:00
DEFINE PDP CONTEXT (+CGDCONT)	LTEAT	Admin User	11-08-2013 00:00:00
DEFINE SECONDARY PDP CONTEXT (+CGDSCONT)	LTEAT	Admin User	11-08-2013 00:00:00
DELETE MESSAGE (+CMGD)	LTEAT	Admin User	11-08-2013 00:00:00
EDIT APN TABLE (+VZWAPNE)	LTEAT	Admin User	11-08-2013 00:00:00
ENTER PIN (+CPIN)	LTEAT	Admin User	11-08-2013 00:00:00
EPS NETWORK REGISTRATION STATUS (+CEREG)	LTEAT	Admin User	11-08-2013 00:00:00
EPS QUALITY OF SERVICE READ DYNAMIC PARAMETERS (+CGEQOSRDP)	LTEAT	Admin User	11-08-2013 00:00:00

EXTENDED ERROR REPORT (+CEER)	LTEAT	Admin User	11-08-2013 00:00:00
EXTENDED SIGNAL QUALITY (+CESQ)	LTEAT	Admin User	11-08-2013 00:00:00
FACILITY LOCK (+CLCK)	LTEAT	Admin User	11-08-2013 00:00:00
GENERIC SIM ACCESS (+CSIM)	LTEAT	Admin User	11-08-2013 00:00:00
INDICATOR CONTROL (+CIND)	LTEAT	Admin User	11-08-2013 00:00:00
KEYPAD CONTROL (+CKPD)	LTEAT	Admin User	11-08-2013 00:00:00
LIST ALL AVAILABLE AT COMMANDS (+CLAC)	LTEAT	Admin User	11-08-2013 00:00:00
LIST MESSAGES (+CMGL)	LTEAT	Admin User	11-08-2013 00:00:00
MESSAGE FORMAT (+CMGF)	LTEAT	Admin User	11-08-2013 00:00:00
MOBILE TERMINATION EVENT REPORTING (+CMER)	LTEAT	Admin User	11-08-2013 00:00:00
PACKET DOMAIN EVENT REPORTING (+CGEREP)	LTEAT	Admin User	11-08-2013 00:00:00
PCCA STD 101 [17] SELECT WIRELESS NETWORK (+WS46)	LTEAT	Admin User	11-08-2013 00:00:00
PDP CONTEXT ACTIVATE OR DEACTIVATE	LTEAT	Admin	11-08-2013

(+CGACT)		User	00:00:00
PDP CONTEXT MODIFY (+CGCMOD)	LTEAT	Admin User	11-08-2013 00:00:00
PDP CONTEXT READ DYNAMIC PARAMETERS (+CGCONTRDP)	LTEAT	Admin User	11-08-2013 00:00:00
PHONE ACTIVITY STATUS (+CPAS)	LTEAT	Admin User	11-08-2013 00:00:00
PLMN SELECTION (+COPS)	LTEAT	Admin User	11-08-2013 00:00:00
PREFERRED MESSAGE STORAGE (+CPMS)	LTEAT	Admin User	11-08-2013 00:00:00
PRINTING IP ADDRESS FORMAT (+CGPIAF)	LTEAT	Admin User	11-08-2013 00:00:00
PS ATTACH OR DETACH (+CGATT)	LTEAT	Admin User	11-08-2013 00:00:00
READ MESSAGE (+CMGR)	LTEAT	Admin User	11-08-2013 00:00:00
READ OPERATOR NAMES (+COPN)	LTEAT	Admin User	11-08-2013 00:00:00
REPORT MOBILE TERMINATION ERROR (+CMEE)	LTEAT	Admin User	11-08-2013 00:00:00
REQUEST INTERNATIONAL MOBILE SUBSCRIBER IDENTITY (+CIMI)	LTEAT	Admin User	11-08-2013 00:00:00
REQUEST MANUFACTURER IDENTIFICATION (+CGMI)	LTEAT	Admin User	11-08-2013 00:00:00

REQUEST MODEL IDENTIFICATION (+CGMM)	LTEAT	Admin User	11-08-2013 00:00:00
REQUEST PRODUCT SERIAL NUMBER IDENTIFICATION (+CGSN)	LTEAT	Admin User	11-08-2013 00:00:00
REQUEST REVISION IDENTIFICATION (+CGMR)	LTEAT	Admin User	11-08-2013 00:00:00
RESTRICTED SIM ACCESS (+CRSM)	LTEAT	Admin User	11-08-2013 00:00:00
SECONDARY PDP CONTEXT READ DYNAMIC PARAMETERS (+CGSCONTRDP)	LTEAT	Admin User	11-08-2013 00:00:00
SELECT MESSAGE SERVICE (+CSMS)	LTEAT	Admin User	11-08-2013 00:00:00
SELECT SERVICE FOR MO SMS MESSAGES (+CGSMS)	LTEAT	Admin User	11-08-2013 00:00:00
SELECT TE CHARACTER SET (+CSCS)	LTEAT	Admin User	11-08-2013 00:00:00
SEND MESSAGE (+CMGS)	LTEAT	Admin User	11-08-2013 00:00:00
SEND MESSAGE FROM STORAGE (+CMSS)	LTEAT	Admin User	11-08-2013 00:00:00
SERVICE CENTRE ADDRESS (+CSCA)	LTEAT	Admin User	11-08-2013 00:00:00
SET PHONE FUNCTIONALITY (+CFUN)	LTEAT	Admin User	11-08-2013 00:00:00
SET TEXT MODE PARAMETERS (+CSMP)	LTEAT	Admin User	11-08-2013 00:00:00

SHOW PDP ADDRESS (+CGPADDR)	LTEAT	Admin User	11-08-2013 00:00:00
SIGNAL QUALITY (+CSQ)	LTEAT	Admin User	11-08-2013 00:00:00
SUBSCRIBER NUMBER (+CNUM)	LTEAT	Admin User	11-08-2013 00:00:00
TRAFFIC FLOW TEMPLATE (+CGTFT)	LTEAT	Admin User	11-08-2013 00:00:00
TRAFFIC FLOW TEMPLATE READ DYNAMIC PARAMETERS (+CGTFTTRDP)	LTEAT	Admin User	11-08-2013 00:00:00
WRITE MESSAGE TO MEMORY (+CMGW)	LTEAT	Admin User	11-08-2013 00:00:00

LTE devices shall support an interface capable of interpreting AT commands

VZ\_REQ\_LTEAT\_21030

Test Case Name	Test Plan Id	Created By	Created Date
CHANGE PASSWORD (+CPWD)	LTEAT	Admin User	11-08-2013 00:00:00
CLOCK (+CCLK)	LTEAT	Admin User	11-08-2013 00:00:00
COMMAND TOUCH SCREEN ACTION (+CTSA)	LTEAT	Admin User	11-08-2013 00:00:00
DEFINE PDP CONTEXT (+CGDCONT)	LTEAT	Admin User	11-08-2013 00:00:00



DEFINE SECONDARY PDP CONTEXT (+CGDSCONT)	LTEAT	Admin User	11-08-2013 00:00:00
DELETE MESSAGE (+CMGD)	LTEAT	Admin User	11-08-2013 00:00:00
EDIT APN TABLE (+VZWAPNE)	LTEAT	Admin User	11-08-2013 00:00:00
ENTER PIN (+CPIN)	LTEAT	Admin User	11-08-2013 00:00:00
EPS NETWORK REGISTRATION STATUS (+CEREG)	LTEAT	Admin User	11-08-2013 00:00:00
EPS QUALITY OF SERVICE READ DYNAMIC PARAMETERS (+CGEQOSRDP)	LTEAT	Admin User	11-08-2013 00:00:00
EXTENDED ERROR REPORT (+CEER)	LTEAT	Admin User	11-08-2013 00:00:00
EXTENDED SIGNAL QUALITY (+CESQ)	LTEAT	Admin User	11-08-2013 00:00:00
FACILITY LOCK (+CLCK)	LTEAT	Admin User	11-08-2013 00:00:00
GENERIC SIM ACCESS (+CSIM)	LTEAT	Admin User	11-08-2013 00:00:00
INDICATOR CONTROL (+CIND)	LTEAT	Admin User	11-08-2013 00:00:00
KEYPAD CONTROL (+CKPD)	LTEAT	Admin User	11-08-2013 00:00:00
LIST ALL AVAILABLE AT COMMANDS (+CLAC)	LTEAT	Admin User	11-08-2013 00:00:00

LIST MESSAGES (+CMGL)	LTEAT	Admin User	11-08-2013 00:00:00
MESSAGE FORMAT (+CMGF)	LTEAT	Admin User	11-08-2013 00:00:00
MOBILE TERMINATION EVENT REPORTING (+CMER)	LTEAT	Admin User	11-08-2013 00:00:00
PACKET DOMAIN EVENT REPORTING (+CGEREP)	LTEAT	Admin User	11-08-2013 00:00:00
PCCA STD 101 [17] SELECT WIRELESS NETWORK (+WS46)	LTEAT	Admin User	11-08-2013 00:00:00
PDP CONTEXT ACTIVATE OR DEACTIVATE (+CGACT)	LTEAT	Admin User	11-08-2013 00:00:00
PDP CONTEXT MODIFY (+CGCMOD)	LTEAT	Admin User	11-08-2013 00:00:00
PDP CONTEXT READ DYNAMIC PARAMETERS (+CGCONTRDP)	LTEAT	Admin User	11-08-2013 00:00:00
PHONE ACTIVITY STATUS (+CPAS)	LTEAT	Admin User	11-08-2013 00:00:00
PLMN SELECTION (+COPS)	LTEAT	Admin User	11-08-2013 00:00:00
PREFERRED MESSAGE STORAGE (+CPMS)	LTEAT	Admin User	11-08-2013 00:00:00
PRINTING IP ADDRESS FORMAT (+CGPIAF)	LTEAT	Admin User	11-08-2013 00:00:00
PS ATTACH OR DETACH (+CGATT)	LTEAT	Admin	11-08-2013

		User	00:00:00
READ MESSAGE (+CMGR)	LTEAT	Admin User	11-08-2013 00:00:00
READ OPERATOR NAMES (+COPN)	LTEAT	Admin User	11-08-2013 00:00:00
REPORT MOBILE TERMINATION ERROR (+CMEE)	LTEAT	Admin User	11-08-2013 00:00:00
REQUEST INTERNATIONAL MOBILE SUBSCRIBER IDENTITY (+CIMI)	LTEAT	Admin User	11-08-2013 00:00:00
REQUEST MANUFACTURER IDENTIFICATION (+CGMI)	LTEAT	Admin User	11-08-2013 00:00:00
REQUEST MODEL IDENTIFICATION (+CGMM)	LTEAT	Admin User	11-08-2013 00:00:00
REQUEST PRODUCT SERIAL NUMBER IDENTIFICATION (+CGSN)	LTEAT	Admin User	11-08-2013 00:00:00
REQUEST REVISION IDENTIFICATION (+CGMR)	LTEAT	Admin User	11-08-2013 00:00:00
RESTRICTED SIM ACCESS (+CRSM)	LTEAT	Admin User	11-08-2013 00:00:00
SECONDARY PDP CONTEXT READ DYNAMIC PARAMETERS (+CGSCONTRDP)	LTEAT	Admin User	11-08-2013 00:00:00
SELECT MESSAGE SERVICE (+CSMS)	LTEAT	Admin User	11-08-2013 00:00:00
SELECT SERVICE FOR MO SMS MESSAGES (+CGSMS)	LTEAT	Admin User	11-08-2013 00:00:00

SELECT TE CHARACTER SET (+CSCS)	LTEAT	Admin User	11-08-2013 00:00:00
SEND MESSAGE (+CMGS)	LTEAT	Admin User	11-08-2013 00:00:00
SEND MESSAGE FROM STORAGE (+CMSS)	LTEAT	Admin User	11-08-2013 00:00:00
SERVICE CENTRE ADDRESS (+CSCA)	LTEAT	Admin User	11-08-2013 00:00:00
SET PHONE FUNCTIONALITY (+CFUN)	LTEAT	Admin User	11-08-2013 00:00:00
SET TEXT MODE PARAMETERS (+CSMP)	LTEAT	Admin User	11-08-2013 00:00:00
SHOW PDP ADDRESS (+CGPADDR)	LTEAT	Admin User	11-08-2013 00:00:00
SIGNAL QUALITY (+CSQ)	LTEAT	Admin User	11-08-2013 00:00:00
SUBSCRIBER NUMBER (+CNUM)	LTEAT	Admin User	11-08-2013 00:00:00
TRAFFIC FLOW TEMPLATE (+CGTFT)	LTEAT	Admin User	11-08-2013 00:00:00
TRAFFIC FLOW TEMPLATE READ DYNAMIC PARAMETERS (+CGTFTTRDP)	LTEAT	Admin User	11-08-2013 00:00:00
WRITE MESSAGE TO MEMORY (+CMGW)	LTEAT	Admin User	11-08-2013 00:00:00

LTE devices shall support all AT commands listed in sections 3.1.2 and 3.1.3.

## VZ\_REQ\_LTEAT\_21032

Test Case Name	Test Plan Id	Created By	Created Date
CHANGE PASSWORD (+CPWD)	LTEAT	Admin User	11-08-2013 00:00:00
CLOCK (+CCLK)	LTEAT	Admin User	11-08-2013 00:00:00
COMMAND TOUCH SCREEN ACTION (+CTSA)	LTEAT	Admin User	11-08-2013 00:00:00
DEFINE PDP CONTEXT (+CGDCONT)	LTEAT	Admin User	11-08-2013 00:00:00
DEFINE SECONDARY PDP CONTEXT (+CGDSCONT)	LTEAT	Admin User	11-08-2013 00:00:00
DELETE MESSAGE (+CMGD)	LTEAT	Admin User	11-08-2013 00:00:00
ENTER PIN (+CPIN)	LTEAT	Admin User	11-08-2013 00:00:00
EPS NETWORK REGISTRATION STATUS (+CEREG)	LTEAT	Admin User	11-08-2013 00:00:00
EPS QUALITY OF SERVICE READ DYNAMIC PARAMETERS (+CGEQOSRDP)	LTEAT	Admin User	11-08-2013 00:00:00
EXTENDED ERROR REPORT (+CEER)	LTEAT	Admin User	11-08-2013 00:00:00
EXTENDED SIGNAL QUALITY (+CESQ)	LTEAT	Admin User	11-08-2013 00:00:00

FACILITY LOCK (+CLCK)	LTEAT	Admin User	11-08-2013 00:00:00
GENERIC SIM ACCESS (+CSIM)	LTEAT	Admin User	11-08-2013 00:00:00
INDICATOR CONTROL (+CIND)	LTEAT	Admin User	11-08-2013 00:00:00
KEYPAD CONTROL (+CKPD)	LTEAT	Admin User	11-08-2013 00:00:00
LIST ALL AVAILABLE AT COMMANDS (+CLAC)	LTEAT	Admin User	11-08-2013 00:00:00
LIST MESSAGES (+CMGL)	LTEAT	Admin User	11-08-2013 00:00:00
MESSAGE FORMAT (+CMGF)	LTEAT	Admin User	11-08-2013 00:00:00
MOBILE TERMINATION EVENT REPORTING (+CMER)	LTEAT	Admin User	11-08-2013 00:00:00
PACKET DOMAIN EVENT REPORTING (+CGEREP)	LTEAT	Admin User	11-08-2013 00:00:00
PCCA STD 101 [17] SELECT WIRELESS NETWORK (+WS46)	LTEAT	Admin User	11-08-2013 00:00:00
PDP CONTEXT ACTIVATE OR DEACTIVATE (+CGACT)	LTEAT	Admin User	11-08-2013 00:00:00
PDP CONTEXT MODIFY (+CGCMOD)	LTEAT	Admin User	11-08-2013 00:00:00
PDP CONTEXT READ DYNAMIC PARAMETERS	LTEAT	Admin	11-08-2013

(+CGCONTRDP)		User	00:00:00
PHONE ACTIVITY STATUS (+CPAS)	LTEAT	Admin User	11-08-2013 00:00:00
PLMN SELECTION (+COPS)	LTEAT	Admin User	11-08-2013 00:00:00
PREFERRED MESSAGE STORAGE (+CPMS)	LTEAT	Admin User	11-08-2013 00:00:00
PRINTING IP ADDRESS FORMAT (+CGPIAF)	LTEAT	Admin User	11-08-2013 00:00:00
PS ATTACH OR DETACH (+CGATT)	LTEAT	Admin User	11-08-2013 00:00:00
READ MESSAGE (+CMGR)	LTEAT	Admin User	11-08-2013 00:00:00
READ OPERATOR NAMES (+COPN)	LTEAT	Admin User	11-08-2013 00:00:00
REPORT MOBILE TERMINATION ERROR (+CMEE)	LTEAT	Admin User	11-08-2013 00:00:00
REQUEST INTERNATIONAL MOBILE SUBSCRIBER IDENTITY (+CIMI)	LTEAT	Admin User	11-08-2013 00:00:00
REQUEST MANUFACTURER IDENTIFICATION (+CGMI)	LTEAT	Admin User	11-08-2013 00:00:00
REQUEST MODEL IDENTIFICATION (+CGMM)	LTEAT	Admin User	11-08-2013 00:00:00
REQUEST PRODUCT SERIAL NUMBER IDENTIFICATION (+CGSN)	LTEAT	Admin User	11-08-2013 00:00:00

REQUEST REVISION IDENTIFICATION (+CGMR)	LTEAT	Admin User	11-08-2013 00:00:00
RESTRICTED SIM ACCESS (+CRSM)	LTEAT	Admin User	11-08-2013 00:00:00
SECONDARY PDP CONTEXT READ DYNAMIC PARAMETERS (+CGSCONTRDP)	LTEAT	Admin User	11-08-2013 00:00:00
SELECT MESSAGE SERVICE (+CSMS)	LTEAT	Admin User	11-08-2013 00:00:00
SELECT SERVICE FOR MO SMS MESSAGES (+CGSMS)	LTEAT	Admin User	11-08-2013 00:00:00
SELECT TE CHARACTER SET (+CSCS)	LTEAT	Admin User	11-08-2013 00:00:00
SEND MESSAGE (+CMGS)	LTEAT	Admin User	11-08-2013 00:00:00
SEND MESSAGE FROM STORAGE (+CMSS)	LTEAT	Admin User	11-08-2013 00:00:00
SERVICE CENTRE ADDRESS (+CSCA)	LTEAT	Admin User	11-08-2013 00:00:00
SET PHONE FUNCTIONALITY (+CFUN)	LTEAT	Admin User	11-08-2013 00:00:00
SET TEXT MODE PARAMETERS (+CSMP)	LTEAT	Admin User	11-08-2013 00:00:00
SHOW PDP ADDRESS (+CGPADDR)	LTEAT	Admin User	11-08-2013 00:00:00
SIGNAL QUALITY (+CSQ)	LTEAT	Admin User	11-08-2013 00:00:00



SUBSCRIBER NUMBER (+CNUM)	LTEAT	Admin User	11-08-2013 00:00:00
TRAFFIC FLOW TEMPLATE (+CGTFT)	LTEAT	Admin User	11-08-2013 00:00:00
TRAFFIC FLOW TEMPLATE READ DYNAMIC PARAMETERS (+CGTFTTRDP)	LTEAT	Admin User	11-08-2013 00:00:00
WRITE MESSAGE TO MEMORY (+CMGW)	LTEAT	Admin User	11-08-2013 00:00:00

Additional AT Commands Required All Device Types Standards Reference Description AT  
Command 3 GPP TS 27.0 VZ\_REQ\_LTEAT\_21034

Test Case Name	Test Plan Id	Created By	Created Date
CHANGE PASSWORD (+CPWD)	LTEAT	Admin User	11-08-2013 00:00:00
CLOCK (+CCLK)	LTEAT	Admin User	11-08-2013 00:00:00
DEFINE PDP CONTEXT (+CGDCONT)	LTEAT	Admin User	11-08-2013 00:00:00
DEFINE SECONDARY PDP CONTEXT (+CGDSCONT)	LTEAT	Admin User	11-08-2013 00:00:00
DELETE MESSAGE (+CMGD)	LTEAT	Admin User	11-08-2013 00:00:00
ENTER PIN (+CPIN)	LTEAT	Admin User	11-08-2013 00:00:00

EPS NETWORK REGISTRATION STATUS (+CEREG)	LTEAT	Admin User	11-08-2013 00:00:00
EPS QUALITY OF SERVICE READ DYNAMIC PARAMETERS (+CGEQOSRDP)	LTEAT	Admin User	11-08-2013 00:00:00
EXTENDED ERROR REPORT (+CEER)	LTEAT	Admin User	11-08-2013 00:00:00
EXTENDED SIGNAL QUALITY (+CESQ)	LTEAT	Admin User	11-08-2013 00:00:00
FACILITY LOCK (+CLCK)	LTEAT	Admin User	11-08-2013 00:00:00
GENERIC SIM ACCESS (+CSIM)	LTEAT	Admin User	11-08-2013 00:00:00
INDICATOR CONTROL (+CIND)	LTEAT	Admin User	11-08-2013 00:00:00
LIST ALL AVAILABLE AT COMMANDS (+CLAC)	LTEAT	Admin User	11-08-2013 00:00:00
LIST MESSAGES (+CMGL)	LTEAT	Admin User	11-08-2013 00:00:00
MESSAGE FORMAT (+CMGF)	LTEAT	Admin User	11-08-2013 00:00:00
PACKET DOMAIN EVENT REPORTING (+CGEREP)	LTEAT	Admin User	11-08-2013 00:00:00
PCCA STD 101 [17] SELECT WIRELESS NETWORK (+WS46)	LTEAT	Admin User	11-08-2013 00:00:00
PDP CONTEXT ACTIVATE OR DEACTIVATE (+CGACT)	LTEAT	Admin User	11-08-2013 00:00:00

PDP CONTEXT MODIFY (+CGCMOD)	LTEAT	Admin User	11-08-2013 00:00:00
PDP CONTEXT READ DYNAMIC PARAMETERS (+CGCONTRDP)	LTEAT	Admin User	11-08-2013 00:00:00
PHONE ACTIVITY STATUS (+CPAS)	LTEAT	Admin User	11-08-2013 00:00:00
PLMN SELECTION (+COPS)	LTEAT	Admin User	11-08-2013 00:00:00
PREFERRED MESSAGE STORAGE (+CPMS)	LTEAT	Admin User	11-08-2013 00:00:00
PRINTING IP ADDRESS FORMAT (+CGPIAF)	LTEAT	Admin User	11-08-2013 00:00:00
PS ATTACH OR DETACH (+CGATT)	LTEAT	Admin User	11-08-2013 00:00:00
READ MESSAGE (+CMGR)	LTEAT	Admin User	11-08-2013 00:00:00
READ OPERATOR NAMES (+COPN)	LTEAT	Admin User	11-08-2013 00:00:00
REPORT MOBILE TERMINATION ERROR (+CMEE)	LTEAT	Admin User	11-08-2013 00:00:00
REQUEST INTERNATIONAL MOBILE SUBSCRIBER IDENTITY (+CIMI)	LTEAT	Admin User	11-08-2013 00:00:00
REQUEST MANUFACTURER IDENTIFICATION (+CGMI)	LTEAT	Admin User	11-08-2013 00:00:00
REQUEST MODEL IDENTIFICATION (+CGMM)	LTEAT	Admin	11-08-2013

		User	00:00:00
REQUEST PRODUCT SERIAL NUMBER IDENTIFICATION (+CGSN)	LTEAT	Admin User	11-08-2013 00:00:00
REQUEST REVISION IDENTIFICATION (+CGMR)	LTEAT	Admin User	11-08-2013 00:00:00
RESTRICTED SIM ACCESS (+CRSM)	LTEAT	Admin User	11-08-2013 00:00:00
SECONDARY PDP CONTEXT READ DYNAMIC PARAMETERS (+CGSCONTRDP)	LTEAT	Admin User	11-08-2013 00:00:00
SELECT MESSAGE SERVICE (+CSMS)	LTEAT	Admin User	11-08-2013 00:00:00
SELECT SERVICE FOR MO SMS MESSAGES (+CGSMS)	LTEAT	Admin User	11-08-2013 00:00:00
SELECT TE CHARACTER SET (+CSCS)	LTEAT	Admin User	11-08-2013 00:00:00
SEND MESSAGE (+CMGS)	LTEAT	Admin User	11-08-2013 00:00:00
SEND MESSAGE FROM STORAGE (+CMSS)	LTEAT	Admin User	11-08-2013 00:00:00
SERVICE CENTRE ADDRESS (+CSCA)	LTEAT	Admin User	11-08-2013 00:00:00
SET PHONE FUNCTIONALITY (+CFUN)	LTEAT	Admin User	11-08-2013 00:00:00
SET TEXT MODE PARAMETERS (+CSMP)	LTEAT	Admin User	11-08-2013 00:00:00

SHOW PDP ADDRESS (+CGPADDR)	LTEAT	Admin User	11-08-2013 00:00:00
SIGNAL QUALITY (+CSQ)	LTEAT	Admin User	11-08-2013 00:00:00
SUBSCRIBER NUMBER (+CNUM)	LTEAT	Admin User	11-08-2013 00:00:00
TRAFFIC FLOW TEMPLATE (+CGTFT)	LTEAT	Admin User	11-08-2013 00:00:00
TRAFFIC FLOW TEMPLATE READ DYNAMIC PARAMETERS (+CGTFTTRDP)	LTEAT	Admin User	11-08-2013 00:00:00
WRITE MESSAGE TO MEMORY (+CMGW)	LTEAT	Admin User	11-08-2013 00:00:00

Additional AT Commands Required Handset Devices Only Standards Reference Description AT  
Command 3 GPP TS VZ\_REQ\_LTEAT\_21035

Test Case Name	Test Plan Id	Created By	Created Date
COMMAND TOUCH SCREEN ACTION (+CTSA)	LTEAT	Admin User	11-08-2013 00:00:00
KEYPAD CONTROL (+CKPD)	LTEAT	Admin User	11-08-2013 00:00:00
MOBILE TERMINATION EVENT REPORTING (+CMER)	LTEAT	Admin User	11-08-2013 00:00:00

VZW Specific AT Command LTE devices shall support the additional Verizon Wireless specific AT  
command. Edit VZ\_REQ\_LTEAT\_21036



Test Case Name	Test Plan Id	Created By	Created Date
EDIT APN TABLE (+VZWAPNE)	LTEAT	Admin User	11-08-2013 00:00:00
READ RSRP VALUES (+VZWRSRP)	LTEAT	Admin User	11-08-2013 00:00:00
READ RSRQ VALUES (+VZWRSRQ)	LTEAT	Admin User	11-08-2013 00:00:00