



Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D) and Direct Mode Operation (DMO); Part 5: Peripheral Equipment Interface (PEI)

iTeh STANDARDS REVIEW
(Standard Review)
Full standard:
<https://standards.iteh.ai/catalog/standards/451-b47e-c408b1bf7d7/etsi-en-300-392-5-v2.7.1-2020-04>

Reference

REN/TCCE-03266

Keywords

data, interface, TETRA, V+D, voice

ETSI

650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C
Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse (06) N° 7803/88

Important notice

The present document can be downloaded from:
<http://www.etsi.org/standards-search>

The present document may be made available in electronic versions and/or in print. The content of any electronic and/or print versions of the present document shall not be modified without the prior written authorization of ETSI. In case of any existing or perceived difference in contents between such versions and/or in print, the prevailing version of an ETSI deliverable is the one made publicly available in PDF format at www.etsi.org/deliver.

Users of the present document should be aware that the document may be subject to revision or change of status.
Information on the current status of this and other ETSI documents is available at

<https://portal.etsi.org/TB/ETSIDeliverableStatus.aspx>

If you find errors in the present document, please send your comment to one of the following services:
<https://portal.etsi.org/People/CommitteeSupportStaff.aspx>

Copyright Notification

No part may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm except as authorized by written permission of ETSI.

The content of the PDF version shall not be modified without the written authorization of ETSI.
The copyright and the foregoing restriction extend to reproduction in all media.

© ETSI 2020.
All rights reserved.

DECT™, PLUGTESTS™, UMTS™ and the ETSI logo are trademarks of ETSI registered for the benefit of its Members.
3GPP™ and **LTE™** are trademarks of ETSI registered for the benefit of its Members and
of the 3GPP Organizational Partners.

oneM2M™ logo is a trademark of ETSI registered for the benefit of its Members and
of the oneM2M Partners.

GSM® and the GSM logo are trademarks registered and owned by the GSM Association.

Contents

Intellectual Property Rights	22
Foreword.....	22
Modal verbs terminology.....	23
1 Scope	24
2 References	24
2.1 Normative references	24
2.2 Informative references.....	26
3 Definition of terms, symbols and abbreviations.....	26
3.1 Terms.....	26
3.2 Symbols.....	26
3.3 Abbreviations	27
4 Overview of TETRA PEI.....	31
4.1 Introduction	31
4.2 Protocol architecture.....	31
4.3 Context model	32
4.4 Void.....	35
4.5 SDS Message stacks	35
4.5.0 General on SDS Message stacks.....	35
4.5.1 Status message texts.....	35
4.5.2 SDS 1 message texts	35
4.5.3 Status and SDS types 1, 2 and 3	36
4.5.4 SDS type 4	36
4.6 Phone books	36
4.7 Reserved status values considerations.....	36
4.8 SDS-TL considerations	37
4.9 AT commands	38
4.9.1 General on AT commands	38
4.9.2 AT command state	39
4.9.3 AT circuit mode data state	40
4.9.4 TNP1 and packet data state	40
4.9.5 Transitions between states	40
4.9.5.1 Transition from AT command state to AT circuit mode data state	40
4.9.5.2 Transition from AT circuit mode data state to AT command state	41
4.9.5.3 Transition from AT command state to TNP1 or packet data state	41
4.9.5.4 Transition from TNP1 and packet data state to AT command state.....	41
4.10 TNP1 and IP network layer	41
4.10.1 General operation.....	41
4.10.2 IP addressing.....	42
4.10.3 Local mode	42
4.10.4 Wide mode.....	42
4.11 TNP1 operation	43
4.12 Link start up at the MT	44
5 Physical layer	44
5.1 General on physical layer	44
5.2 Physical layer for V.24/V.28	44
5.2.1 Electrical characteristics for V.24/V.28.....	44
5.2.2 Physical connection	44
5.2.3 Character format	45
5.2.4 Data transmission rate for V.24/V.28	46
5.3 Wire-line high rate connectivity technologies.....	46
5.3.1 General.....	46
5.3.2 Universal Serial Bus	47
5.3.3 USB On-The-Go	47
5.4 Wireless high rate connectivity	48

5.4.1	General.....	48
5.4.2	Wireless Security	48
5.4.3	Certified Wireless USB	48
5.4.4	Bluetooth	48
6	AT command set	49
6.1	General on AT command set.....	49
6.2	Limitations	49
6.3	SDS user data	49
6.4	AT command syntax	50
6.4.1	General on AT command syntax	50
6.4.2	Command line.....	50
6.4.2.0	Command line structure	50
6.4.2.1	Prefix.....	50
6.4.2.2	Body	50
6.4.2.3	Termination Character	51
6.4.2.4	Concatenating extended commands	51
6.4.2.5	Multiline extended commands	51
6.4.3	Command types	51
6.4.4	Parameters.....	52
6.4.5	AT command examples	52
6.4.6	Information responses and result codes	53
6.4.6.1	General on information responses and result codes.....	53
6.4.6.2	Information Responses.....	54
6.4.6.3	Result Code	54
6.4.6.4	AT result examples in verbose mode	54
6.4.6.5	AT result examples in numeric mode.....	56
6.4.6.6	Aborting information results and result codes.....	57
6.4.6.7	Unsolicited nested responses.....	57
6.4.7	Handling of unknown parameters.....	60
6.5	Existing V.250 commands for call control.....	60
6.5.1	Commands	60
6.5.2	Result Codes	61
6.5.3	Dialed string and user identity	61
6.6	Existing V.250 commands for PEI control.....	61
6.6a	Modified V.250 commands for PEI control.....	62
6.6a.1	General on modified V.250 commands for PEI control.....	62
6.6a.2	Line termination character: S3.....	62
6.6a.2.1	General on S3.....	62
6.6a.2.2	Description	62
6.6a.2.3	S3 set syntax.....	62
6.6a.2.4	S3 read syntax	62
6.6a.2.5	S3 read result code text	63
6.6a.2.6	S3 test syntax	63
6.6a.2.7	S3 test result syntax	63
6.6a.3	Response formatting character: S4	63
6.6a.3.1	General on S4.....	63
6.6a.3.2	Description	63
6.6a.3.3	S4 set syntax.....	63
6.6a.3.4	S4 read syntax	63
6.6a.3.5	S4 read result code text	63
6.6a.3.6	S4 test syntax	64
6.6a.3.7	S4 test result syntax	64
6.6a.4	Line editing character: S5	64
6.6a.4.1	General on S5.....	64
6.6a.4.2	Description	64
6.6a.4.3	S5 set syntax.....	64
6.6a.4.4	S5 read syntax	64
6.6a.4.5	S5 read result code text	64
6.6a.4.6	S5 test syntax	64
6.6a.4.7	S5 test result syntax	65
6.6a.5	Echo: E	65

6.6a.5.1	General on E.....	65
6.6a.5.2	Description	65
6.6a.5.3	E set syntax	65
6.6a.5.4	E read syntax	65
6.6a.5.5	E read result code text	65
6.6a.5.6	E test syntax	65
6.6a.5.7	E test result syntax	65
6.6a.6	Result code suppression: Q.....	66
6.6a.6.1	General on Q	66
6.6a.6.2	Description	66
6.6a.6.3	Q set syntax	66
6.6a.6.4	Q read syntax	66
6.6a.6.5	Q read result code text.....	66
6.6a.6.6	Q test syntax.....	66
6.6a.6.7	Q test result syntax	66
6.6a.7	MT response format: V	66
6.6a.7.1	General on V	66
6.6a.7.2	Description	66
6.6a.7.3	V set syntax	67
6.6a.7.4	V read syntax	67
6.6a.7.5	V read result code text.....	67
6.6a.7.6	V test syntax.....	67
6.6a.7.7	V test result syntax	67
6.6a.8	Circuit 109 (DCD) behavior: &C	67
6.6a.8.1	General on &C	67
6.6a.8.2	Description	67
6.6a.8.3	&C set syntax	67
6.6a.8.4	&C read syntax.....	67
6.6a.8.5	&C read result code text.....	68
6.6a.8.6	&C test syntax	68
6.6a.8.7	&C test result syntax	68
6.6a.9	Circuit 108/2 (DTR) behavior: &D	68
6.6a.9.1	General on &D	68
6.6a.9.2	Description	68
6.6a.9.3	&D set syntax	68
6.6a.9.4	&D read syntax	68
6.6a.9.5	&D read result code text	68
6.6a.9.6	&D test syntax	69
6.6a.9.7	&D test result syntax	69
6.6a.10	PEI data rate: +IPR	69
6.6a.10.1	General on +IPR.....	69
6.6a.10.2	Description	69
6.6a.10.3	+IPR set syntax	69
6.6a.10.4	+IPR read syntax	69
6.6a.10.5	+IPR read result code text	69
6.6a.10.6	+IPR test syntax	69
6.6a.10.7	+IPR test result syntax	69
6.7	Existing V.250 commands for generic MT control	70
6.7a	Modified V.250 commands for generic MT control	70
6.7a.1	General on modified V.250 commands for generic MT control.....	70
6.7a.2	Full factory defaults Z.....	70
6.7a.2.1	General on full factory defaults Z	70
6.7a.2.2	Description	70
6.7a.2.3	Z execution syntax	71
6.7a.2.4	Z test syntax	71
6.7a.3	Factory defaults &F	71
6.7a.3.1	General on factory defaults &F.....	71
6.7a.3.2	Description	71
6.7a.3.3	&F execution syntax	71
6.7a.3.4	&F test syntax	71
6.8	Existing Hayes AT commands for PEI control	72
6.9	Existing 3GPP commands for MT and call control.....	72

6.10	Modified PCCA wireless extended commands	72
6.11	Modified Cellular commands for MT control	73
6.11.1	General on cellular commands for MT control.....	73
6.11.2	MT Capabilities +GCAP	73
6.11.2.1	General on +GCAP	73
6.11.2.2	Description	73
6.11.2.3	GCAP execution syntax	73
6.11.2.4	GCAP execution read syntax	74
6.11.2.5	GCAP execution read and unsolicited result code text	74
6.11.2.6	GCAP test syntax	74
6.11.3	Network registration +CREG	74
6.11.3.1	General on +CREG	74
6.11.3.2	CREG set syntax	74
6.11.3.3	Description of set command.....	74
6.11.3.4	CREG execution read syntax	75
6.11.3.5	CREG execution read and unsolicited result code text	75
6.11.3.6	CREG test syntax	75
6.11.3.7	CREG test result syntax	75
6.11.4	Get MT TETRA identities +CNUM	75
6.11.4.1	General on +CNUM	75
6.11.4.2	Description	75
6.11.4.3	CNUM execution mode syntax	75
6.11.4.4	CNUM execution read mode syntax	75
6.11.4.5	CNUM execution read result code text	76
6.11.4.6	CNUM test syntax.....	76
6.11.5	Get MT TETRA Identities (alternative commands)	76
6.11.5.1	Get MT TETRA Fixed identity number(s); ITSI, and Gateway address(es) +CNUMF	76
6.11.5.1.1	General on +CNUMF	76
6.11.5.1.2	Description	76
6.11.5.1.3	CNUMF execution mode syntax	76
6.11.5.1.4	CNUMF execution read mode syntax	76
6.11.5.1.5	CNUMF execution read result code text	77
6.11.5.1.6	CNUMF test syntax.....	77
6.11.5.2	Get MT static group identities +CNUMS	77
6.11.5.2.1	General on +CNUMS	77
6.11.5.2.2	Description	77
6.11.5.2.3	CNUMS set or execution/set syntax	78
6.11.5.2.4	CNUMS execution read or read syntax	78
6.11.5.2.5	CNUMS execution read or execution/set and unsolicited result code text	79
6.11.5.2.6	CNUMS test syntax	80
6.11.5.2.7	CNUMS test result syntax	80
6.11.5.3	Get MT dynamic group identities +CNUMD	80
6.11.5.3.1	General on +CNUMD	80
6.11.5.3.2	Description	80
6.11.5.3.3	CNUMD set or execution/set syntax	81
6.11.5.3.4	CNUMD execution read or read syntax	82
6.11.5.3.5	CNUMD execution read or execution/set and unsolicited result code text	82
6.11.5.3.6	CNUMD test syntax	82
6.11.5.3.7	CNUMD test result syntax	82
6.12	SDS message stack commands.....	83
6.12.1	General on SDS message stack commands.....	83
6.12.2	Delete message +CMGD	83
6.12.2.1	General on +CMGD	83
6.12.2.2	CMGD execution syntax	83
6.12.2.3	Description	83
6.12.2.4	CMGD test syntax	83
6.12.2.5	CMGD test result syntax	84
6.12.3	List messages +CMGL	84
6.12.3.1	General on +CMGL	84
6.12.3.2	CMGL execution syntax	84
6.12.3.3	Description	84
6.12.3.4	CMGL execution result code text	84

6.12.3.5 CMGL test syntax	85
6.12.4 Read message +CMGR.....	85
General on +CMGR	85
CMGR execution syntax	85
Description	85
CMGR execution result code text	85
CMGR test syntax	86
6.12.5 Write message +CMGW.....	86
General on +CMGW	86
CMGW execution syntax	86
Description	86
CMGW execution result code text	87
CMGW test syntax	87
6.12.6 Message send from store +CMSS.....	87
General on +CMSS	87
CMSS execution syntax	88
Description	88
CMSS test, execution and unsolicited result code text.....	88
CMSS test syntax	88
6.12.7 New message indication +CMTI	88
General on +CMTI.....	88
Description	89
CMTI unsolicited result code text.....	89
6.13 SDS direct commands	89
General on SDS direct commands	89
Send message +CMGS	89
General on +CMGS	89
CMGS execution syntax	90
Description	90
CMGS execution and unsolicited result code text.....	90
CMGS test syntax	90
TETRA SDS Receive +CTSDSR	91
General on +CTSDSR	91
Description	91
CTSDSR unsolicited result code text	91
6.14 TETRA MT control commands.....	91
General on TETRA MT control commands	91
TETRA Broadcast +CTBCT	91
General on +CTBCT	91
Description	92
CTBCT execution read and unsolicited result code text	92
CTBCT execution read syntax	92
CTBCT test syntax	92
TETRA Status Text Read +CTSTR	92
General on +CTSTR	92
CTSTR execution syntax	92
Description	92
CTSTR execution result code text	92
CTSTR test syntax	92
TETRA Service Profile +CTSP	93
General on +CTSP	93
CTSP set syntax	93
Description	93
CTSP read syntax	95
CTSP read result code text	95
CTSP test syntax	95
CTSP test result syntax	95
TETRA service definition for Circuit Mode services +CTSDC	96
General on +CTSDC	96
CTSDC set syntax	96
Description	97
CTSDC read syntax	97

6.14.5.5	CTSDC read result code text.....	97
6.14.5.6	CTSDC test syntax.....	97
6.14.5.7	CTSDC test result syntax	97
6.14.6	TETRA service definition for SDS Service +CTS DS	98
6.14.6.1	General on +CTS DS	98
6.14.6.2	CTS DS set syntax	98
6.14.6.3	Description	98
6.14.6.4	CTS DS read syntax	98
6.14.6.5	CTS DS read result code text	98
6.14.6.6	CTS DS test syntax	98
6.14.6.7	CTS DS test result syntax	99
6.14.7	TETRA operating mode +CT OM	99
6.14.7.1	General on +CT OM	99
6.14.7.2	CT OM set syntax	99
6.14.7.3	Description	99
6.14.7.4	CT OM read syntax	99
6.14.7.5	CT OM read and unsolicited result code text	99
6.14.7.6	CT OM test syntax	100
6.14.7.7	CT OM test result	100
6.14.8	TETRA DM communication type +CT DCT	100
6.14.8.1	General on +CT DCT	100
6.14.8.2	CT DCT set syntax	100
6.14.8.3	Description	100
6.14.8.4	CT DCT read syntax	100
6.14.8.5	CT DCT read and unsolicited result code text	100
6.14.8.6	CT DCT test syntax	100
6.14.8.7	CT DCT test result text	100
6.14.9	TETRA Transient communication type +CT T CT	101
6.14.9.1	General on +CT T CT	101
6.14.9.2	CT T CT set syntax	101
6.14.9.3	Description	101
6.14.9.4	CT T CT unsolicited result code text	101
6.14.9.5	CT T CT read syntax	101
6.14.9.6	CT T CT read result syntax	101
6.14.9.7	CT T CT test syntax	101
6.14.9.8	CT T CT test result syntax	101
6.14.10	TETRA DMO visible gateways/repeaters +CT DGR	101
6.14.10.1	General on +CT DGR	101
6.14.10.2	CT DGR set syntax	102
6.14.10.3	Description	102
6.14.10.4	CT DGR execution read and unsolicited result code text	102
6.14.10.5	CT DGR execution read syntax	102
6.14.10.6	CT DGR test syntax	102
6.14.11	TETRA DM Carrier Selection +CT DC S	102
6.14.11.1	General on +CT DC S	102
6.14.11.2	CT DC S set syntax	102
6.14.11.3	Description	103
6.14.11.4	CT DC S read and unsolicited result code text	103
6.14.11.5	CT DC S read syntax	103
6.14.11.6	CT DC S test syntax	103
6.14.12	MT Reboot R	103
6.14.12.1	General on MT Reboot R	103
6.14.12.2	Description	103
6.14.12.3	R execution syntax	103
6.14.12.4	R test syntax	103
6.14.13	TETRA Broadcast +CT BCF	104
6.14.13.1	General on +CT BCF	104
6.14.13.2	Description	104
6.14.13.3	CT BCF set syntax	104
6.14.13.4	CT BCF execute syntax	104
6.14.13.5	CT BCF execute and unsolicited result code text	104
6.14.13.6	CT BCF read syntax	104

6.14.13.7	CTBCF test syntax	104
6.14.13.8	CTBCF test result text.....	105
6.14.14	TETRA radio frequency sensitive area mode +CTRDSA	105
6.14.14.1	General on +CTRDSA.....	105
6.14.14.2	Description	105
6.14.14.3	CTRDSA set syntax.....	105
6.14.14.4	CTRDSA read syntax	105
6.14.14.5	CTRDSA read and unsolicited result code text	105
6.14.14.6	CTRDSA test syntax.....	105
6.14.14.7	CTRDSA test result text	106
6.15	New TETRA call handling commands.....	106
6.15.1	General on new TETRA call handling commands	106
6.15.2	TETRA Call Connect +CTCC	106
6.15.2.1	General on +CTCC	106
6.15.2.2	Description	106
6.15.2.3	CTCC unsolicited result code text	106
6.15.3	TETRA Call Release +CTCR.....	106
6.15.3.1	General on +CTCR	106
6.15.3.2	Description	106
6.15.3.3	CTCR unsolicited result code text	106
6.15.4	TETRA Incoming Call Notification +CTICN	107
6.15.4.1	General on +CTICN	107
6.15.4.2	Description	107
6.15.4.3	CTICN unsolicited result code text	107
6.15.5	TETRA outgoing Call progress notification +CTOCP	107
6.15.5.1	General on +CTOCP	107
6.15.5.2	Description	108
6.15.5.3	CTOCP unsolicited result code text	108
6.15.6	TETRA Group Set up +CTGS	108
6.15.6.1	General on +CTGS.....	108
6.15.6.2	CTGS set syntax.....	108
6.15.6.3	Description	108
6.15.6.4	CTGS read syntax	108
6.15.6.5	CTGS read and unsolicited result code text	108
6.15.6.6	CTGS test syntax	109
6.15.6.7	CTGS test result syntax.....	109
6.15.7	Void	109
6.15.8	Transmit Demand +CTXD	109
6.15.8.1	General on +CTXD	109
6.15.8.2	CTXD execution syntax	109
6.15.8.3	Description	109
6.15.8.4	CTXD test syntax	109
6.15.8.5	CTXD test result syntax	109
6.15.9	Up Transmit Ceased +CUTXC	110
6.15.9.1	General +CUTXC	110
6.15.9.2	CUTXC execution syntax	110
6.15.9.3	Description	110
6.15.9.4	CUTXC test syntax	110
6.15.10	Transmission Grant +CTXG.....	110
6.15.10.1	General on +CTXG	110
6.15.10.2	Description	110
6.15.10.3	CTXG unsolicited result code text	110
6.15.11	Down Transmission Ceased +CDTXC	110
6.15.11.1	General on +CDTXC	110
6.15.11.2	Description	111
6.15.11.3	CDTXC unsolicited result code text	111
6.15.12	Transmission Continue +CTXN	111
6.15.12.1	General on +CTXN	111
6.15.12.2	Description	111
6.15.12.3	CTXN unsolicited result code text	111
6.15.13	Transmission Interrupt +CTXI	111
6.15.13.1	General on +CTXI	111

6.15.13.2	Description	111
6.15.13.3	CTXI unsolicited result code text.....	111
6.15.14	Transmission Wait +CTXW	111
6.15.14.1	General on +CTXW	111
6.15.14.2	Description	111
6.15.14.3	CTXW unsolicited result code text	112
6.15.15	Key Status +CTKST	112
6.15.15.1	General on +CTKST	112
6.15.15.2	CTKST set syntax	112
6.15.15.3	Description	112
6.16	MT errors.....	112
6.16.1	General on MT errors	112
6.16.2	Report MT error +CMEE	112
6.16.2.1	General on +CMEE	112
6.16.2.2	CMEE set syntax.....	113
6.16.2.3	Description	113
6.16.2.4	CMEE set result code text.....	113
6.16.2.5	CMEE read syntax	113
6.16.2.6	CMEE read result code text	113
6.16.2.7	CMEE test syntax.....	113
6.16.3	MT error result code +CME ERROR	113
6.16.3.1	General on +CME ERROR	113
6.16.3.2	Description	113
6.16.3.3	CME ERROR unsolicited result code text	114
6.16.4	MT result code +CME PARAMETER	114
6.16.4.1	General on +CME PARAMETER	114
6.16.4.2	Description	114
6.16.4.3	CME PARAMETER unsolicited result code text	114
6.17	Parameter description and values	114
6.17.1	General on parameters	114
6.17.2	Access Priority.....	114
6.17.3	AI service.....	114
6.17.4	AI mode	115
6.17.5	Alpha	115
6.17.5a	Ancillary ID	115
6.17.6	Area	116
6.17.6a	Baud rate.....	116
6.17.7	BS service	117
6.17.8	Call status	117
6.17.9	Called party identity.....	117
6.17.10	Calling party identity	118
6.17.11	Called party identity type.....	118
6.17.12	Calling party identity type	118
6.17.13	CC instance.....	118
6.17.13a	Cell load CA	119
6.17.13b	Cell load CA control	119
6.17.13c	Cell load DA TCH	119
6.17.13d	Cell load DA TCH control	119
6.17.13e	Cell load DA PDCH	119
6.17.13f	Cell load DA PDCH control	120
6.17.13g	Cell load DA CCH/SDS	120
6.17.13h	Cell load DA CCH/SDS control	120
6.17.14	Class of MS.....	120
6.17.14a	Circuit 108/2 behaviour	122
6.17.14b	Circuit 109 behaviour	123
6.17.15	CLIR control.....	123
6.17.15a	Command line echo	123
6.17.16	Comms type	123
6.17.17	CT unsolic.....	124
6.17.18	Disconnect cause	124
6.17.19	DM carrier	125
6.17.20	DM communication type	125

6.17.21	End to end encryption	125
6.17.22	Extended error report	125
6.17.23	Extended error report codes	126
6.17.24	Gateway/repeater address	127
6.17.24a	Gateway/repeater type	127
6.17.25	Group type	127
6.17.26	GR unsolic	128
6.17.27	Hook	128
6.17.28	Ident unsolic	128
6.17.29	Importance factor	128
6.17.29a	Key name	128
6.17.29b	Key status	129
6.17.30	LA	129
6.17.31	Length	129
6.17.31a	Line editing character	129
6.17.31b	Line termination character	129
6.17.32	Link identifier	130
6.17.33	Lower range Limit	130
6.17.34	Message index	130
6.17.35	Message reference	130
6.17.36	MNI	130
6.17.37	Number of groups	130
6.17.38	Num type	130
6.17.39	Parameter number	131
6.17.40	Void	131
6.17.41	Presence information	131
6.17.42	Priority	131
6.17.43	Priority level	132
6.17.44	Proprietary	132
6.17.45	Proprietary element owner	132
6.17.46	Reg stat	132
6.17.47	Reg unsolic	133
6.17.47a	RF SA mode	133
6.17.47b	RF SA unsolic	133
6.17.47c	Response format mode	133
6.17.47d	Response formatting character	133
6.17.47e	Result code suppression	133
6.17.48	RqTx	134
6.17.49	SDS instance	134
6.17.50	SDS-TL addressing	134
6.17.51	SDS Status	134
6.17.52	Security information	134
6.17.53	Service profile	135
6.17.54	Service layer1	135
6.17.55	Service layer2	135
6.17.56	Serviced GSSI	136
6.17.57	Simplex	136
6.17.58	Slots/Codec	136
6.17.59	Stack full	137
6.17.60	Stack present	137
6.17.61	TPI (Transmitting Party Identity)	137
6.17.62	TPI (Transmitting Party Identity) type	137
6.17.63	Transient communication type	137
6.17.64	TxCont	138
6.17.65	TxDemandPriority	138
6.17.66	TxGrant	138
6.17.67	TxRqPrmsn	138
6.17.68	Upper range limit	138
6.17.69	User data	138
6.17.70	Version number	138
6.18	Outgoing call set up methodology	139
6.18.1	General on outgoing call set up methodology	139

6.18.2	Voice calls	139
6.18.3	Circuit mode data calls	140
6.18.4	Sending of SDS messages.....	141
6.18.4.1	General on sending of SDS messages	141
6.18.4.2	Send via Stack.....	141
6.18.4.3	Direct Send.....	141
6.19	Incoming call set up methodology	141
6.19.1	General on incoming call set up methodology.....	141
6.19.2	Voice calls	141
6.19.3	Circuit mode data calls	142
6.19.4	Reception of SDS messages.....	142
6.19.4.1	Received via Stack.....	142
6.19.4.2	Direct Received.....	142
6.20	Voice and circuit mode data call maintenance commands	142
6.21	Call clear down commands	143
6.21.1	General on call clear down commands	143
6.21.2	TE Initiated clear	143
6.21.3	Network and MT Initiated clear.....	143
6.22	MEX layer support	143
6.22.0	General on support of MEX layer commands.....	143
6.22.1	MEX Capability +CTMCAP	143
6.22.1.1	General on +CTMCAP	143
6.22.1.2	CTMCAP execution syntax	143
6.22.1.3	CTMCAP execution result code text.....	144
6.22.1.4	CTMCAP test syntax	144
6.22.2	MEX Connect +CTMCON	144
6.22.2.1	General on +CTMCON.....	144
6.22.2.2	CTMCON execution syntax.....	144
6.22.2.3	CTMCON execution result code text.....	144
6.22.2.4	CTMCON test syntax.....	144
6.22.3	MEX End +CTMEND	144
6.22.3.1	General on +CTMEND	144
6.22.3.2	CTMEND execution syntax	144
6.22.3.3	CTMEND execution and unsolicited result code text	144
6.22.3.4	CTMEND test syntax	145
6.22.4	MEX Handle +CTMHDL	145
6.22.4.1	General on +CTMHDL	145
6.22.4.2	CTMHDL execution syntax	145
6.22.4.3	CTMHDL execution result code text	145
6.22.4.4	CTMHDL test syntax	145
6.22.5	MEX Modify +CTMMOD	145
6.22.5.1	General on +CTMMOD	145
6.22.5.2	CTMMOD execution syntax	145
6.22.5.3	CTMMOD result code text	145
6.22.5.4	CTMMOD unsolicited result code syntax	146
6.22.5.5	CTMMOD test syntax	146
6.22.6	MEX QOS Class +CTMQC	146
6.22.6.1	General on +CTMQC	146
6.22.6.2	CTMQC execution syntax	146
6.22.6.3	CTMQC execution result code text	146
6.22.6.4	CTMQC test syntax	146
6.22.7	Request new logical PEI Connection +CTPCON	146
6.22.7.1	General on +CTPCON	146
6.22.7.2	CTPCON execution syntax	146
6.22.7.3	CTPCON execution result code text	147
6.22.7.4	CTPCON test syntax	147
6.22.8	MEX related parameters	147
6.22.8.1	CONTEXT_READY timer	147
6.22.8.2	Data class	147
6.22.8.3	Data importance	148
6.22.8.4	Data priority	148
6.22.8.5	DCOMP	148

6.22.8.6	Delay class	148
6.22.8.7	Device address	148
6.22.8.8	Endpoint address	148
6.22.8.9	Maximum transmission unit.....	149
6.22.8.10	Mean active throughput.....	149
6.22.8.11	Mean throughput	149
6.22.8.12	MEX capability	150
6.22.8.13	MEX connect reject cause.....	150
6.22.8.14	MEX connect report.....	151
6.22.8.15	MEX data importance	151
6.22.8.16	MEX data priority	151
6.22.8.17	MEX deactivation type	152
6.22.8.18	MEX escalate DSCP5 Flag Enable	152
6.22.8.19	MEX escalate DSCP5 Flag Reset	152
6.22.8.20	MEX filter	152
6.22.8.21	MEX filter operation	152
6.22.8.22	MEX filter type	152
6.22.8.23	MEX handle	153
6.22.8.24	MEX mode	153
6.22.8.25	MEX modify reject cause.....	153
6.22.8.26	MEX modify report.....	153
6.22.8.27	MEX NSAPI usage	154
6.22.8.28	MEX PDP address	154
6.22.8.29	MEX PDP type.....	154
6.22.8.30	MEX PDU priority max	154
6.22.8.31	MEX precedence	155
6.22.8.32	MEX precedence rank.....	155
6.22.8.33	MEX precedence supported	155
6.22.8.34	MEX peer IP filter.....	155
6.22.8.35	MEX QoS.....	155
6.22.8.36	MEX QoS class	155
6.22.8.37	MEX QoS class access	155
6.22.8.38	MEX QoS class upper/lower (Downlink).....	156
6.22.8.39	MEX QoS class upper/lower (Uplink).....	156
6.22.8.40	MEX QoS filter	156
6.22.8.41	MEX transaction type	156
6.22.8.42	Minimum peak throughput.....	156
6.22.8.43	Mobile IPv4 information.....	157
6.22.8.44	NSAPI.....	157
6.22.8.45	NSAPI data priority	157
6.22.8.46	NSAPI QoS negotiation	157
6.22.8.47	PCOMP	157
6.22.8.48	PCON result	158
6.22.8.49	PDU priority	158
6.22.8.50	PDU priority max	158
6.22.8.51	Reliability class	158
6.22.8.52	Schedule availability	158
6.22.8.53	Scheduled access	158
6.22.8.54	Scheduled number of N-PDUs per grant.....	159
6.22.8.55	Scheduled N-PDU size.....	159
6.22.8.56	Schedule repetition period.....	159
6.22.8.57	Schedule timing error	159
6.22.8.58	Share response flag	160
7	TNP1 service description	160
7.1	Service primitives at the TNP1A-SAP	160
7.2	Service primitives at the TNP1B-SAP	160
7.3	Service primitives at TNP1A-SAP and TNP1B-SAP	160
7.4	Primitive descriptions.....	161
7.4.1	TNP1-Services CAPABILITY	161
7.4.2	TNP1-SDS-TL CAPABILITY	161
7.4.3	TNP1-IDENTIFICATION.....	161