



ΟΜΙΛΟΣ ΕΤΑΙΡΕΙΩΝ

**Προδιαγραφές Διεπαφών Δικτύου
Σταθερής Πρόσβασης Ομίλου ΟΤΕ**

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Εισαγωγή

Στο κείμενο που ακολουθεί αναφέρονται οι προδιαγραφές όλων των διεπαφών ραδιοεξοπλισμού και τηλεπικοινωνιακού τερματικού εξοπλισμού μέσω των οποίων παρέχονται τηλεπικοινωνιακές υπηρεσίες στο κοινό από τον ΟΤΕ, σύμφωνα με το Προεδρικό Διάταγμα 98/2017 (ΦΕΚ /Α/139/20-9-2017) «Εναρμόνιση της Ελληνικής Νομοθεσίας προς την Οδηγία 2014/53/ΕΕ του Ευρωπαϊκού Κοινοβουλίου και του Συμβουλίου της 16ης Απριλίου 2014 (ΕΕ L 153/22.05.2014) σχετικά με την διαθεσιμότητα ραδιοεξοπλισμού στην αγορά και την κατάργηση της Οδηγίας 1999/5/ΕΚ», το νόμο 4070/2012 (ΦΕΚ 82/Α/10-04-2012) «Περί Ηλεκτρονικών Επικοινωνιών, Μεταφορών, Δημοσίων Έργων και άλλες διατάξεις», το νόμο 4313/2014 (ΦΕΚ 261/Α/17-12-2014) «Ρυθμίσεις θεμάτων Μεταφορών, Τηλεπικοινωνιών και Δημοσίων Έργων και άλλες διατάξεις» και την Οδηγία 2014/53/ΕΚ του Ευρωπαϊκού Κοινοβουλίου και του Συμβουλίου της 16ης Απριλίου 2014 σχετικά με την εναρμόνιση των νομοθεσιών των κρατών μελών σχετικά με τη διαθεσιμότητα ραδιοεξοπλισμού στην αγορά και την κατάργηση της Οδηγίας 1999/5/ΕΚ (Ο.Υ. L153, 22.05.2014).

Σημειώνεται ότι οι δορυφορικές υπηρεσίες (Inmarsat, Iridium κ.λπ.) παρέχονται από την ΟΤΕSAT-Maritel και όχι από τον ΟΤΕ. Επιπρόσθετα επισυνάπτονται επικαιροποιημένα κείμενα με ανάλυση των προδιαγραφών των διεπαφών για τις παρακάτω υπηρεσίες:

- **PSTN** - Απλή Αναλογική Γραμμή
- **PSTN** - Φυσικά Χαρακτ. Απλής Αναλογ. Γραμμής
- **CELL RELAY/ATM**
Προσβάσεις: E1 (75 Ω), E3 (75 Ω), STM-1 (75 Ω, SMF, MMF)
- **FRAME RELAY/ATM**
Προσβάσεις: nX64Kbps, E1 (75 Ω channelized-unchannelized)
- **CIRCUIT EMULATION /ATM**
Πρόσβαση: E1 (75 Ω channelized-unchannelized)

Οι χρήστες αυτού του κειμένου θα πρέπει να διενεργούν τις δικές τους δοκιμές ώστε να βεβαιωθούν ότι ο εξοπλισμός τους θα λειτουργήσει κανονικά, όταν διασυνδεθεί με το δίκτυο του ΟΤΕ.

1 Ψηφιακές μισθωμένες γραμμές

ΔΙΑΘΕΣΙΜΕΣ ΤΑΧΥΤΗΤΕΣ	ΕΙΔΟΣ ΔΙΕΠΑΦΩΝ	ΠΡΟΤΥΠΑ ΔΙΕΠΑΦΩΝ ¹
n x 64 kbit/s, n=1,2,4,6,8,12, 16,30	X.21, DB-15 DCE υποδοχή (ISO 4903)	ETSI ETS 300 766, ITU-T X.21, ITU-T X.24, ITU-T X.27/V.11
2 Mbit/s – μη δομημένη	<ul style="list-style-type: none"> G.703, 2 unbalanced 75 Ω BNC υποδοχές G.703, RJ-45, 120 Ω, balanced (είναι δυνατή η χρήση μετατροπέα, κατόπιν συνεννόησης) 	ETSI ETS 300 418, ETSI ETS 300 247, ETSI ETS 300 247/A1, ETSI ETS 300 248, ETSI ETS 300 248/A1, ITU-T G.703, ITU-T G.823
2 Mbit/s – δομημένη	<ul style="list-style-type: none"> G.703, 2 unbalanced 75 Ω BNC υποδοχές G.703, RJ-45, 120 Ω, balanced (είναι δυνατή η χρήση μετατροπέα, κατόπιν συνεννόησης) 	ETSI ETS 300 418, ETSI ETS 300 419, ETSI ETS 300 420, ITU-T G.703, ITU-T G.704, ITU-T G.706, ITU-T G.823
34 Mb/s	G.703, 2 unbalanced 75 Ω BNC υποδοχές	ETSI ETS 300 687, ETSI ETS 300 689, ITU-T G.703, ITU-T G.823
155 Mb/s (STM-1) electrical	G.703, 2 unbalanced 75 Ω BNC υποδοχές	ITU-T G.703, ITU-T G.707
155 Mb/s (STM-1) optical	S-1.1, ITU-T G.957, 1310 nm, ~ 15 Km Single Mode Fiber, 9/125 μm, ITU-T G.652, υποδοχή SC/PC ή LC/PC Physical Contact polished (κατόπιν συνεννόησης)	ITU-T G.707, ITU-T G.783, ITU-T G.825, ITU-T G.652, ITU-T G.957
622 Mb/s (STM-4) optical	S-4.1, ITU-T G.957, 1310 nm, ~ 15 Km Single Mode Fiber, 9/125 μm, ITU-T G.652, υποδοχή SC/PC ή LC/PC Physical Contact polished (κατόπιν συνεννόησης)	ITU-T G.707, ITU-T G.825, ITU-T G.652, ITU-T G.957

ETSI ETS 300 247 (10/1993), Business Telecommunications (BT); Open Network Provision (ONP) technical requirements; 2 048 kbit/s digital unstructured leased line (D2048U); Connection characteristics

ETSI ETS 300 247/A1 (11/1995), Business Telecommunications (BT); Open Network Provision (ONP) technical requirements; 2 048 kbit/s digital unstructured leased line (D2048U); Connection characteristics

ETSI ETS 300 248 (10/1993), Business Telecommunications (BT); Open Network Provision (ONP) technical requirements; 2 048 kbit/s digital unstructured leased line (D2048U) Terminal equipment interface

ETSI ETS 300 248/A1 (11/1995), Business Telecommunications (BT); Open Network Provision (ONP) technical requirements; 2 048 kbit/s digital unstructured leased line (D2048U) Terminal equipment interface

ETSI ETS 300 418 (11/1995), Business Telecommunications (BTC); 2 048 kbit/s digital unstructured and structured leased lines (2048U and D2048S); Network interface presentation

ETSI ETS 300 419 (11/1995), Business Telecommunications (BTC); 2 048 kbit/s digital structured leased lines (D2048S); Connection characteristics

ETSI ETS 300 420 (11/1995), Business Telecommunications (BTC); 2048 kbit/s digital structured leased lines (D2048S); Terminal equipment interface

¹ Τα πρότυπα των διεπαφών λεπτομερώς ακολουθούν μετά από κάθε πίνακα.

ETSI ETS 300 687 (03/1996), Business TeleCommunications (BTC); 34 Mbit/s digital leased lines (D34U and D34S); Connection characteristics

ETSI ETS 300 689 (12/1996), Business TeleCommunications (BTC); 34 Mbit/s digital leased lines (D34U and D34S); Terminal equipment interface

ETSI ETS 300 766 (03/1998), Business TeleCommunications (BTC); Multiple 64 kbit/s digital unrestricted leased lines with octet integrity presented at a structured 2048 kbit/s interface at either or both ends (D64M); Connection characteristics and network interface presentation

ITU-T Rec. G.652 (11/2009), Transmission media and optical systems characteristics – Optical fibre cables; Characteristics of a single-mode optical fibre and cable

ITU-T Rec. G.703 (11/2001), Digital terminal equipments – General; Physical/electrical characteristics of hierarchical digital interfaces

ITU-T Rec. G.704 (10/1998), Digital terminal equipments – General; Synchronous frame structures used at 1544, 6312, 2048, 8448 and 44 736 kbit/s hierarchical levels

ITU-T Rec. G.706 (04/1991), Terminal equipments – Frame alignment and cyclic redundancy check (CRC) procedures relating to basic frame structures defined in recommendation G.704

ITU-T Rec. G.707/Y.1322 (01/2007), Internet protocol aspects – Transport; Network node interface for the synchronous digital hierarchy (SDH)

ITU-T Rec. G.783 (03/2006), Digital terminal equipments – Principal characteristics of multiplexing equipment for the synchronous digital hierarchy; Characteristics of synchronous digital hierarchy (SDH) equipment functional blocks

ITU-T Rec. G.823 (03/2000), Digital networks – Quality and availability targets, The control of jitter and wander within digital networks which are based on the 2048 kbit/s hierarchy

ITU-T Rec. G.825 (03/2000), Digital networks – Quality and availability targets, The control of jitter and wander within digital networks which are based on the synchronous digital hierarchy (SDH)

ITU-T Rec. G.957 (03/2006), Digital sections and digital line system – Digital line systems;; Optical interfaces for equipments and systems relating to the synchronous digital hierarchy

ISO 4903:1989, Information technology -- Data communication -- 15-pole DTE/DCE interface connector and contact number assignments

ITU-T X.21 (09/1992), Interface between Data Terminal Equipment and Data Circuit-terminating Equipment for synchronous operation on public data networks

ITU-T X.24 (11/1988), List of definitions for interchange circuits between Data Terminal Equipment (DTE) and Data Circuit-terminating Equipment (DCE) on public data networks

ITU-T X.27/V.11 (10/1996), Electrical Characteristics for balanced double current interchange circuits operating at data signaling rates up to 10 Mbit/s

2 Αναλογικές μισθωμένες γραμμές

ΔΙΑΘΕΣΙΜΕΣ ΤΑΧΥΤΗΤΕΣ	ΕΙΔΟΣ ΔΙΕΠΑΦΩΝ	ΠΡΟΤΥΠΑ ΔΙΕΠΑΦΩΝ
Αναλογική, εύρους ζώνης φωνής συνήθους ποιότητας	Δισύρματη ή Τετρασύρματη	ETSI ETS 300 448 ETSI ETS 300 451
Αναλογική, εύρους ζώνης φωνής ειδικής ποιότητας.	Δισύρματη ή Τετρασύρματη	ETSI ETS 300 449 ETSI ETS 300 452

ETSI EN 300 448 (07/2001), Ordinary quality voice bandwidth 2-wire analogue leased line (A2O); Connection characteristics and network interface presentation

ETSI EN 300 449 (07/2001), Special quality voice bandwidth 2-wire analogue leased line (A2S); Connection characteristics and network interface presentation

ETSI EN 300 451 (07/2001), Ordinary quality voice bandwidth 4-wire analogue leased line (A4O); Connection characteristics and network interface presentation

ETSI EN 300 452 (07/2001), Special quality voice bandwidth 4-wire analogue leased line (A4S); Connection characteristics and network interface presentation

3 Υπηρεσίες TETRA

ΠΡΟΤΥΠΑ ΥΠΗΡΕΣΙΑΣ	ΠΕΡΙΓΡΑΦΗ
ETSI EN 300 392-2	Voice plus Data (V+D) - Air Interface (AI)
ETSI TR 100 392-17	TETRA V+D and DMO specifications
ETSI EN 300 392-5	Peripheral Equipment Interface (PEI)
ETSI EN 300 392-7	Security
ETSI EN 300 392-9	General requirements for supplementary services
ETSI EN 300 392-10, Sub parts 1, 8, 10, 14, 16, 18, 19, 21, 22	Supplementary services stage 1
ETSI EN 300 392-11, Sub parts 1, 8, 10, 14, 16, 18, 19, 21	Supplementary services stage 2
ETSI EN 300 392-12, Sub parts 1, 3, 8, 10, 14, 16, 18, 19, 20, 21, 22	Supplementary services stage 3

ETSI EN 300 392-2, Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 2: Air Interface (AI)

ETSI EN 300 392-5, Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D) and Direct Mode Operation (DMO); Part 5: Peripheral Equipment Interface (PEI)

ETSI EN 300 392-7, Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 7: Security

ETSI EN 300 392-9, Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 9: General requirements for supplementary services

ETSI EN 300 392-10-1, Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 10: Supplementary services stage 1; Sub-part 1: Call Identification (CI)

ETSI EN 300 392-10-8, Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 10: Supplementary services stage 1; Sub-part 8: Area Selection (AS)

ETSI EN 300 392-10-10, Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 10: Supplementary services stage 1; Sub-part 10: Priority Call (PC)

ETSI EN 300 392-10-14, Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 10: Supplementary services stage 1; Sub-part 14: Late Entry (LE)

ETSI EN 300 392-10-16, Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 10: Supplementary services stage 1; Sub-part 16: Pre-emptive Priority Call (PPC)

ETSI EN 300 392-10-18, Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 10: Supplementary services stage 1; Sub-part 18: Barring of Outgoing Calls (BOC)

ETSI EN 300 392-10-19, Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 10: Supplementary services stage 1; Sub-part 19: Barring of Incoming Calls (BIC)

ETSI EN 300 392-10-21, Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 10: Supplementary services stage 1; Sub-part 21: Ambience Listening (AL)

ETSI EN 300 392-10-22, Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 10: Supplementary services stage 1; Sub-part 22: Dynamic Group Number Assignment (DGNA)

ETSI EN 300 392-11-1, Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 11: Supplementary services stage 2; Sub-part 1: Call Identification (CI)

ETSI EN 300 392-11-8, Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 11: Supplementary services stage 2; Sub-part 8: Area Selection (AS)

ETSI EN 300 392-11-10, Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 11: Supplementary services stage 2; Sub-part 10: Priority Call (PC)

ETSI EN 300 392-11-14, Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 11: Supplementary services stage 2; Sub-part 14: Late Entry (LE)

ETSI EN 300 392-11-16, Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 11: Supplementary services stage 2; Sub-part 16: Pre-emptive Priority Call (PPC)

ETSI EN 300 392-11-18, Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 11: Supplementary services stage 2; Sub-part 18: Barring of Outgoing Calls (BOC)

ETSI ETS 300 392-11-19, Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 11: Supplementary services stage 2; Sub-part 19: Barring of Incoming Calls (BIC)

ETSI ETS 300 392-11-21, Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 11: Supplementary services stage 2; Sub-part 21: Ambience Listening (AL)

ETSI ETS 300 392-12-1, Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 12: Supplementary services stage 3; Sub-part 1: Call Identification (CI)

ETSI ETS 300 392-12-3, Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 12: Supplementary services stage 3; Sub-part 3: Talking Party Identification (TPI)

ETSI ETS 300 392-12-8, Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 12: Supplementary services stage 3; Sub-part 8: Area Selection (AS)

ETSI ETS 300 392-12-10, Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 12: Supplementary services stage 3; Sub-part 10: Priority Call (PC)

ETSI ETS 300 392-12-14, Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 12: Supplementary services stage 3; Sub-part 14: Late Entry (LE)

ETSI ETS 300 392-12-16, Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 12: Supplementary services stage 3; Sub-part 16: Pre-emptive Priority Call (PPC)

ETSI ETS 300 392-12-18, Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 12: Supplementary services stage 3; Sub-part 18: Barring of Outgoing Calls (BOC)

ETSI ETS 300 392-12-19, Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 12: Supplementary services stage 3; Sub-part 19: Barring of Incoming Calls (BIC)

ETSI ETS 300 392-12-20, Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 12: Supplementary services stage 3; Sub-part 20: Discreet Listening (DL)

ETSI ETS 300 392-12-21, Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 12: Supplementary services stage 3; Sub-part 21: Ambience Listening (AL)

ETSI ETS 300 392-12-22, Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 12: Supplementary services stage 3; Sub-part 22: Dynamic Group Number Assignment (DGNA)

ETSI TR 100 392-17, Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 17: TETRA V+D and DMO specifications;

4 Κυκλώματα ETHERNET

ΔΙΑΘΕΣΙΜΕΣ ΤΑΧΥΤΗΤΕΣ	ΕΙΔΟΣ ΔΙΕΠΑΦΩΝ	ΠΡΟΤΥΠΑ ΔΙΕΠΑΦΩΝ
6 -100 Mbps (βήμα 2 Mbps, για 6-10 Mbps, βήμα 5 Mbps, για 10-50 Mbps, βήμα 10 Mbps, για 50-100 Mbps)	Fast Ethernet, electrical, 2 pairs of min. Cat.5 UTP cable, RJ-45	IEEE Std. 802.3-2008 100BASE-T (Clauses 21 & 25, Section 2), IEEE Std. 802.1Q-2011, L2 802.1p priority tags
6 -1000 Mbps (βήμα 2 Mbps, για 6-10 Mbps, βήμα 5 Mbps, για 10-50 Mbps, βήμα 10 Mbps, για 50-100 Mbps, βήμα 50 Mbps, για 100-500 Mbps, βήμα 100Mbps, για 500-1000 Mbps)	Gigabit Ethernet, electrical, 4 pairs of min. Cat.5 UTP cable, RJ-45	IEEE Std. 802.3-2008 1000BASE-T (Clause 40, Section 3) or 10/100/1000BASE-T, IEEE Std. 802.1Q-2011, L2 802.1p priority tags
6 -1000 Mbps (βήμα 2 Mbps, για 6-10 Mbps, βήμα 5 Mbps, για 10-50 Mbps, βήμα 10 Mbps, για 50-100 Mbps, βήμα 50 Mbps, για 100-	Gigabit Ethernet, optical, LC/PC, SFP, SFP+ 9/125 μm Single Mode Fiber, up to 10 Km, 1310 nm	IEEE Std. 802.3-2008 1000BASE-LX (Clause 38, Section 3), IEEE Std. 802.1Q-2011,

ΔΙΑΘΕΣΙΜΕΣ ΤΑΧΥΤΗΤΕΣ	ΕΙΔΟΣ ΔΙΕΠΑΦΩΝ	ΠΡΟΤΥΠΑ ΔΙΕΠΑΦΩΝ
500 Mbps, βήμα 100Mbps, για 500-1000 Mbps)	(μπορούν να καλυφθούν και αποστάσεις >10 Km σε περιορισμένο αριθμό, κατόπιν συνεννόησης)	L2 802.1p priority tags
2 - 10 Gbps (2, 4, 6, 8, 10 Gbps) Active/ Standby ή Load Balancing υλοποιήσεις	Gigabit Ethernet, optical, LC/PC, SFP, SFP+ 9/125 μm Single Mode Fiber, up to 10 Km, 1310 nm (μπορούν να καλυφθούν και αποστάσεις >10 Km σε περιορισμένο αριθμό, κατόπιν συνεννόησης)	IEEE Std. 802.3-2008 1000BASE-LX (Clause 38, Section 3), IEEE Std. 802.1Q-2011, L2 802.1p priority tags

IEEE Std. 802.3-2008 Part 3: Carrier Sense Multiple Access with Collision Detection (CSMA/CD) access method and Physical Layer specifications

IEEE Std. 802.1Q-2011 Virtual Bridged Local Area Networks

MEF 4 (05/2004), Metro Ethernet Network Architecture Framework – Part 1: Generic Framework

MEF 6-1 (04/2008), Ethernet Services Definitions - Phase 2 (E-line EPL service)

MEF 11 (11/2004), User Network Interface (UNI) Requirements and Framework (υποστηρίζονται: UNI Type 1 διεπαφές, different bandwidth profiles (αναφέρονται πιο πάνω οι διαθέσιμες ταχύτητες), point-to-point EVCs)

MEF 12.1 (04/2010), Carrier Ethernet Architecture Framework Part 2: Ethernet Services Layer – Base Elements

MEF 13 (11/2005), User Network Interface (UNI) Type 1 Implementation Agreement (αφορά διεπαφές UNI Type 1.1, η δυνατότητα per-UNI BW profiling δεν υποστηρίζεται)

IETF RFC 2544 (03/1999), Benchmarking Methodology for Network Interconnect Devices (κατόπιν συνεννόησης)

ITU-T Y.1564 (03/2011), Service activation methodology, throughput testing (κατόπιν συνεννόησης)

5 Υπηρεσίες ασύρματης πρόσβασης τεχνολογίας Wi-Fi

ΠΡΟΤΥΠΑ ΔΙΕΠΑΦΩΝ	ΠΕΡΙΓΡΑΦΗ
IEEE 802.11-2012	Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications (802.11b/g/n supported)

6 Υπηρεσίες τηλεφωνίας PSTN

ΕΙΔΟΣ ΔΙΕΠΑΦΩΝ	ΠΡΟΤΥΠΑ ΔΙΕΠΑΦΩΝ
PSTN - Απλή Αναλογική Γραμμή	ETSI TR 101 730, ETSI EN 300 001, ETSI EG 201 120, ETSI ES 201 235-2, ETSI TBR 21, ITU-T Q.552, ETSI EN 300 659-1, ETSI EN 300 659-2, ETSI EN 300 659-3, ΕΛΟΤ 1326
PSTN - Φυσικά Χαρακτ. Απλής Αναλογ. Γραμμής	FCC 47 CFR 68.500

ETSI TR 101 730 (05/2001), Access and Terminals (AT); Publication of interface specification under Directive 1999/5/EC; Guidelines for describing analogue interfaces

ETSI Standard EN 300 001 (10/1998), Attachments to Public Switched Telephone Network (PSTN); General technical requirements for equipment connected to an analogue subscriber interface in the PSTN;

ETSI EG 201 120 (01/1998), Public Switched Telephone Network PSTN); Method of rating terminal equipment so that it can be connected in series and/or in parallel to a Network Termination Point (NTP)

ETSI ES 201 235-2 (05/2002), Access and Terminals (AT); Specification of Dual-Tone Multi-Frequency (DTMF) Transmitters and Receivers; Part 2: Transmitters

ETSI TBR 21 (01/1998), Terminal Equipment (TE); Attachment requirements for pan-European approval for connection to the analogue Public Switched Telephone Networks (PSTNs) of TE (excluding TE supporting the voice telephony service) in which network addressing, if provided, is by means of Dual Tone Multi Frequency (DTMF) signaling

ΕΛΟΤ 1326 (12/1993), Απαιτήσεις για έγκριση τύπου σε τηλεφωνικές συσκευές που πρόκειται να έχουν πρόσβαση στο δημόσιο τηλεφωνικό δίκτυο μεταγωγής

FCC 47 CFR 68.500 Connection of terminal equipment to the telephone network – Connectors specifications

ITU-T Q.552 (11/2001), Transmission characteristics at 2-wire analogue interfaces of digital exchanges

ETSI EN 300 659-1 V1.3.1 (01/2001), Access and Terminals (AT); Analogue access to the Public Switched Telephone Network (PSTN); Subscriber line protocol over the local loop for display (and related) services; Part 1: On-hook data transmission

ETSI EN 300 659-2 V1.3.1 (01/2001), Access and Terminals (AT); Analogue access to the Public Switched Telephone Network (PSTN); Subscriber line protocol over the local loop for display (and related) services; Part 2: Off-hook data transmission

ETSI EN 300 659-3 V1.1.1 (01/2001), Access and Terminals (AT); Analogue access to the Public Switched Telephone Network (PSTN); Subscriber line protocol over the local loop for display (and related) services; Part 3: Data link message and parameter codings

7 Υπηρεσίες τηλεφωνίας ISDN

ΔΙΑΘΕΣΙΜΕΣ ΤΑΧΥΤΗΤΕΣ	ΕΙΔΟΣ ΔΙΕΠΑΦΩΝ	ΠΡΟΤΥΠΑ ΔΙΕΠΑΦΩΝ
64 Kbps – 2.048 Kbps (n x 64, n=1-32)	Primary Rate Access (PRA)	ITU-T G.703 <u>LAYER 1</u> ETSI ETS 300 233, ETSI ETS 300 166, ETSI ETS 300 167 <u>LAYER 2</u> ETSI ETS 300 125, ETSI ETS 300 402-1 & 2 <u>LAYER 3</u> ETSI ETS 300 102, ETSI ETS 300 403-1 & 2
64-128 Kbps (+ 16 Kbps)	Basic Rate Access (BRA)	<u>LAYER 1</u> ETSI ETS 300 297, ETSI ETR 080 <u>LAYER 2</u> ETSI ETS 300 125, ETSI ETS 300 402-1 & 2 <u>LAYER 3</u> ETSI ETS 300 102-1 & A2 ETSI ETS 300 403-1 & 2

ITU-T Rec. G.703 (11/2001), Digital terminal equipments – General; Physical/electrical characteristics of hierarchical digital interfaces

ETSI ETS 300 102-1 (12/1990), Integrated Services Digital Network (ISDN); User-network interface layer 3 Specifications for basic call control

ETSI ETS 300 102-1/A2 (10/1993), Integrated Services Digital Network (ISDN); User-network interface layer 3 Specifications for basic call control – Amendment A2

ETSI ETS 300 125 (09/1991) Integrated Services Digital Network (ISDN); User-network interface data link layer specification; Application of CCITT Recommendations Q.920/I.440 and Q.921/I.441

ETSI ETS 300 166 (08/1993), Transmission and Multiplexing (TM); Physical and electrical characteristics of hierarchical digital interfaces for equipment using the 2 048 kbit/s - based plesiochronous or synchronous digital hierarchies

ETSI ETS 300 167 (08/1993), Transmission and Multiplexing (TM); Functional characteristics of 2 048 kbit/s interfaces

ETSI ETS 300 233 (05/1994), Integrated Services Digital Network (ISDN); Access digital section for ISDN primary rate

ETSI ETS 300 297 (05/1995), Integrated Services Digital Network (ISDN); Access digital section for ISDN basic access

ETSI ETS 300 402-1 (11/1995), Integrated Services Digital Network (ISDN); Digital Subscriber Signaling System No. one (DSS1) protocol; Data link layer; Part 1: General aspects [ITU-T Recommendation Q.920 (1993), modified]

ETSI ETS 300 402-2 (11/1995), Integrated Services Digital Network (ISDN); Digital Subscriber Signaling System No. one (DSS1) protocol; Data link layer; Part 2: General protocol specification

ETSI ETS 300 403-1 (11/1999), Integrated Services Digital Network (ISDN); Digital Subscriber Signaling System No. one (DSS1) protocol; Signaling network layer for circuit-mode basic call control; Part 1: Protocol specification

ETSI ETS 300 403-2 (11/1995), Integrated Services Digital Network (ISDN); Digital Subscriber Signaling System No. one (DSS1) protocol; Signaling network layer for circuit-mode basic call control; Part 2: Specification and Description Language (SDL) diagrams

ETSI ETR 080 (11/1996), 2nd Edition Transmission and Multiplexing (TM); Integrated Services Digital Network (ISDN) basic rate access; Digital transmission system on metallic local lines

8 Υπηρεσίες τηλεφωνίας με διασύνδεση Voice over IP (VoIP)

ITU-T G.711 (11/1988), General Aspects of Digital Transmission Systems; Terminal Equipments; Pulse Code Modulation (PCM) of Voice frequencies

ITU.T G.722 (09/2012), 7 kHz audio-coding within 64 kbit/s

ITU-T G.729 (06/2012), Coding of speech at 8 kbit/s using conjugate-structure algebraic-code-excited linear prediction (CS-ACELP)

IETF RFC 2617 (06/1999), HTTP Authentication: Basic and Digest Access Authentication

IETF RFC 2833 (05/2000), RTP Payload for DTMF Digits, Telephony Tones and Telephony Signals

IETF RFC 3261 (07/2007), SIP: Session Initiation Protocol

IETF RFC 3262 (07/2002), Reliability of Provisional Responses in Session Initiation Protocol (SIP)

IETF RFC 3264 (07/2002), An Offer/Answer Model with Session Description Protocol (SDP)

IETF RFC 3265 (06/2009), Session Initiation Protocol (SIP)-Specific Event Notification

IETF RFC 3362 (08/2002), Real-time Facsimile (T.38) - image/t38

IETF RFC 3515 (04/2003), The Session Initiation Protocol (SIP) Refer Method

IETF RFC 3550 (07/2003), RTP: A Transport Protocol for Real-Time Applications

IETF RFC 3842 (08/2004), A Message Summary and Message Waiting Indication Event Package for the Session Initiation Protocol (SIP)

IETF RFC 3966 (12/2004), The tel URI for Telephone Numbers
IETF RFC 4028 (07/2002), Session Timers in the Session Initiation Protocol (SIP)
IETF RFC 4566 (07/2006), SDP: Session Description Protocol
IETF RFC 5589 (06/2009), Session Initiation Protocol (SIP) Call Control – Transfer
IETF RFC 6080 (03/2011), A Framework for Session Initiation Protocol User Agent Profile Delivery

ETSI TS 183 005 V2.6.0 (06/2008), Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); PSTN/ISDN simulation services: Conference (CONF); Protocol specification

ETSI TS 183 007 V2.0.0 (06/2008), Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); PSTN/ISDN simulation services; Originating Identification Presentation (OIP) and Originating Identification Restriction (OIR); Protocol specification

ETSI TS 183 008 V2.8.0 (06-2008), Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); PSTN/ISDN simulation services Terminating Identification Presentation (TIP) and Terminating Identification Restriction (TIR); Protocol specification

ETSI TS 183 010 V2.0.0 (06/2008), Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); NGN Signaling Control Protocol; Communication HOLD (HOLD) PSTN/ISDN simulation services; Protocol specification

ETSI TS 183 011 V2.0.0 (06/2008), Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); PSTN/ISDN simulation services: Anonymous Communication Rejection (ACR) and Communication Barring (CB); Protocol specification

ETSI TS 183 016 V2.6.0 (06/2008), Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); PSTN/ISDN simulation services; Malicious Communication Identification (MCID); Protocol Specification

ETSI TS 183 023 V2.0.0 (06/2008) Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); PSTN/ISDN simulation services; Extensible Markup Language (XML) Configuration Access Protocol (XCAP) over the Ut interface for Manipulating NGN PSTN/ISDN Simulation Services

ETSI TS 183 029, V2.6.1 (06-2008), Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); PSTN/ISDN simulation services: Explicit Communication Transfer (ECT); Protocol specification

ETSI TS 183 036 V.3.5.1 (08/2012), Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); ISDN/SIP interworking; Protocol specification

ETSI TS 183 042 V2.1.1 (01-2009), Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); PSTN/ISDN Simulation Services; Completion of Communications to Busy Subscriber (CCBS), Completion of Communications by No Reply (CCNR); Protocol Specification

ETSI TS 183 043 V3.4.1 (04/2011), Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); IMS-based PSTN/ISDN Emulation; Stage 3 specification

3GPP TS 23.167 Rel.13, IP Multimedia Subsystem (IMS) emergency sessions

ETSI TS 124 647 V12.0.0 (10/2014), Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); LTE; Advice Of Charge (AOC) using IP Multimedia (IM) Core Network (CN) subsystem (3GPP TS 24.647 version 12.0.0 Release 12)

Η υπηρεσία Voice over IP παρέχεται μέσα από residential Home Gateways (HGWs) και business Voice Gateways (VGWs). Οι FXS πόρτες των HGWs & VGWs ακολουθούν τα πρότυπα των απλών αναλογικών γραμμών που αναφέρονται στην παράγραφο **6 Υπηρεσίες τηλεφωνίας PSTN**.

9 Υπηρεσίες πρόσβασης xDSL

ΔΙΑΘΕΣΙΜΕΣ ΤΑΧΥΤΗΤΕΣ	ΕΙΔΟΣ ΔΙΕΠΑΦΩΝ	ΠΡΟΤΥΠΑ ΔΙΕΠΑΦΩΝ
up to 2.048 Kbps/ 512 Kbps (Downstream/ Upstream ή DS/US)	ADSL	ITU-T G.992.1 (G.DMT) Annex A (ADSL over POTS) ITU-T G.992.1 Annex B (ADSL over ISDN) ITU-T G.992.2 (G.Lite)
up to 2.048 Kbps/ 512 Kbps (DS/US)	ADSL2	ITU-T G.992.3 Annex A (ADSL over POTS) ITU-T G.992.3 Annex B (ADSL over ISDN)
<ul style="list-style-type: none"> up to 4.096 Kbps/ 1.024 Kbps (DS/US) up to 24.576 Kbps/ 1024 Kbps (DS/US) 	ADSL2+	ITU-T G.992.5 Annex A (ADSL over POTS) ITU-T G.992.5 Annex B (ADSL over ISDN)
<ul style="list-style-type: none"> up to 4.096 Kbps/ 1.024 Kbps (DS/US) up to 24.576 Kbps/ 1024 Kbps (DS/US) Conn-X 30, up to 30 Mbps/ 2,5 Mbps (DS/US) Conn-X 50, up to 50 Mbps/ 5 Mbps (DS/US) 	VDSL2	ITU-T G.993.2 Annex B (Europe)
<ul style="list-style-type: none"> Up to 100Mbps / 10Mbps (DS/US) 	VDSL2	ITU-T G.993.2 Annex B & ITU-T G.993.5 Annex B (Self FEXT cancellation profile 17a)
<ul style="list-style-type: none"> Up to 200Mbps / 20Mbps (DS/US) 	VDSL2	ITU-T G.993.2 Annex Q & ITU-T G.993.5 Annex B (Self FEXT cancellation profile 35b)
<ul style="list-style-type: none"> 1.024 Kbps & 2.048 Kbps (1 pair of twisted copper cable) <ul style="list-style-type: none"> 4.096 Kbps (2 pairs of twisted copper cable) 	SHDSL	ITU-T G.991.2 Annex B (Europe)
1Mbps, 2Mbps, 4Mbps, 6 Mbps, 8 Mbps, 10 Mbps & 20 Mbps (1 to 4 pairs of twisted copper cable)	SHDSL.bis	ITU-T G.991.2 Appendix F (G.SHDSL.bis)

ITU-T Rec. G.992.1 (07/1999): Asymmetric digital subscriber line (ADSL) transceivers

ITU-T Rec. G.992.2 (07/1999): Splitterless digital subscriber line (ADSL) transceivers

ITU-T Rec. G.992.3 (04/2009): Asymmetric digital subscriber line transceivers 2 (ADSL2)

ITU-T Rec. G.992.5 (01/2009): Asymmetric digital subscriber line transceivers 2 (ADSL2) – Extended bandwidth (ADSL2plus)

ITU-T Rec. G.993.2 (12/2011): Very high speed digital subscriber line transceivers 2 (VDSL2)

ITU-T Rec. G.991.2 (12/2003): Single-pair high-speed digital subscriber line (SHDSL)

Transceivers

ITU-T Rec. G.993.5 (01/2015): Self-FEXT cancellation (vectoring) for use with VDSL2 transceivers

10 Υπηρεσίες πρόσβασης FTTH

ΔΙΑΘΕΣΙΜΕΣ ΤΑΧΥΤΗΤΕΣ	ΕΙΔΟΣ ΔΙΕΠΑΦΩΝ	ΠΡΟΤΥΠΑ ΔΙΕΠΑΦΩΝ
<ul style="list-style-type: none"> Up to 100Mbps / 10Mbps (DS/US) 	GPON	ITU-T G.984.1 Gigabit-capable Passive Optical Networks (GPON): General characteristics ITU-T G.984.2 Gigabit-capable Passive Optical Networks (GPON): Physical Media Dependent (PMD) layer specification ITU-T G.984.3 Gigabit-capable Passive Optical Networks (GPON): Transmission convergence layer specification ITU-T G.984.4 Gigabit-capable Passive Optical Networks (GPON): ONT management and control interface specification ITU-T G.984.5 Enhancement band for gigabit capable optical access networks ITU-T G.984.6 Gigabit-capable Passive Optical Networks (GPON): Reach extension
<ul style="list-style-type: none"> Up to 200Mbps / 20Mbps (DS/US) 	GPON	ITU-T G.984.1 Gigabit-capable Passive Optical Networks (GPON): General characteristics ITU-T G.984.2 Gigabit-capable Passive Optical Networks (GPON): Physical Media Dependent (PMD) layer specification ITU-T G.984.3 Gigabit-capable Passive Optical Networks (GPON): Transmission convergence layer specification ITU-T G.984.4 Gigabit-capable Passive Optical Networks (GPON): ONT management and control interface specification ITU-T G.984.5 Enhancement band for gigabit capable optical access networks ITU-T G.984.6 Gigabit-capable Passive Optical Networks (GPON): Reach extension
<ul style="list-style-type: none"> Up to 300Mbps / 30Mbps (DS/US) 	GPON	ITU-T G.984.1 Gigabit-capable Passive Optical Networks (GPON): General characteristics

		<p>ITU-T G.984.2 Gigabit-capable Passive Optical Networks (GPON): Physical Media Dependent (PMD) layer specification</p> <p>ITU-T G.984.3 Gigabit-capable Passive Optical Networks (GPON): Transmission convergence layer specification</p> <p>ITU-T G.984.4 Gigabit-capable Passive Optical Networks (GPON): ONT management and control interface specification</p> <p>ITU-T G.984.5 Enhancement band for gigabit capable optical access networks</p> <p>ITU-T G.984.6 Gigabit-capable Passive Optical Networks (GPON): Reach extension</p>
<ul style="list-style-type: none"> Up to 500Mbps / 50Mbps (DS/US) 		<p>ITU-T G.984.1 Gigabit-capable Passive Optical Networks (GPON): General characteristics</p> <p>ITU-T G.984.2 Gigabit-capable Passive Optical Networks (GPON): Physical Media Dependent (PMD) layer specification</p> <p>ITU-T G.984.3 Gigabit-capable Passive Optical Networks (GPON): Transmission convergence layer specification</p> <p>ITU-T G.984.4 Gigabit-capable Passive Optical Networks (GPON): ONT management and control interface specification</p> <p>ITU-T G.984.5 Enhancement band for gigabit capable optical access networks</p> <p>ITU-T G.984.6 Gigabit-capable Passive Optical Networks (GPON): Reach extension</p>
<ul style="list-style-type: none"> Up to 1000Mbps / 100Mbps (DS/US) 		<p>ITU-T G.984.1 Gigabit-capable Passive Optical Networks (GPON): General characteristics</p> <p>ITU-T G.984.2 Gigabit-capable Passive Optical Networks (GPON): Physical Media Dependent (PMD) layer specification</p> <p>ITU-T G.984.3 Gigabit-capable Passive Optical Networks (GPON): Transmission convergence layer specification</p> <p>ITU-T G.984.4 Gigabit-capable Passive Optical Networks (GPON): ONT management and control interface specification</p> <p>ITU-T G.984.5 Enhancement band for gigabit capable optical access networks</p>

		ITU-T G.984.6 Gigabit-capable Passive Optical Networks (GPON): Reach extension
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11 Υπηρεσίες ασύρματης πρόσβασης τεχνολογίας WiMAX

ΔΙΑΘΕΣΙΜΕΣ ΤΑΧΥΤΗΤΕΣ	ΔΙΕΠΑΦΗ	ΠΡΟΤΥΠΑ ΔΙΕΠΑΦΗΣ
Ανάλογα με τις απαιτήσεις της κάθε υλοποίησης. Μπορεί να υποστηρίξει διασύνδεση απομακρυσμένων σημείων πελατών στα κεντρικά γραφεία της επιχείρησής τους ή DSLAM σε απομακρυσμένα Αστικά Κέντρα. Μέγιστη ταχύτητα για ένα χρήστη: ~20 Mbps/ 3 Mbps (Downlink/ Uplink)	Fixed WiMAX	IEEE 802.16-2012

IEEE 802.16-2012 (08/2012) IEEE Standard for Air Interface for Broadband Wireless Access Systems

12 Ραδιοτηλεοπτικά κυκλώματα

ΕΙΔΟΣ ΔΙΕΠΑΦΩΝ	ΠΡΟΤΥΠΑ ΔΙΕΠΑΦΩΝ
SD-SDI (BNC, 75Ω)	SMPTE* 259M
HD-SDI (BNC, 75Ω)	SMPTE 292
ASI (BNC, 75Ω)	ISO/IEC 13818

*SMPTE: Society of Motion Picture & Television Engineers

13 Κυκλώματα TELEX

ΕΙΔΟΣ ΔΙΕΠΑΦΗΣ	ΠΡΟΤΥΠΑ ΔΙΕΠΑΦΗΣ
2 or 4 wires	ITU-T M.1040 (Ordinary Quality Voice Bandwidth)

ITU-T M.1040 (11/1988), Maintenance: International Leased Circuits, Characteristics of Ordinary Quality International Leased Circuits

14 Κυκλώματα ATM

ΔΙΑΘΕΣΙΜΕΣ ΤΑΧΥΤΗΤΕΣ	ΕΙΔΟΣ ΔΙΕΠΑΦΩΝ	ΠΡΟΤΥΠΑ ΔΙΕΠΑΦΩΝ
CELL RELAY/ ATM 2,048 Mbps 34,075 Mbps 155, Mbps	E1 (BNC 75 Ω), E3 (BNC 75 Ω), STM-1 (BNC 75 Ω, FC/PC, SC/PC or LC/PC SMF, MMF)	ATM Forum UNI 3.1, ITU-T I.432.1, ITU-T I.432.2, ITU-T I.432.3, ITU-T G.703, ITU-T G.957, ETSI ETS 300 337, ITU-T G.832, ITU-T G.707, ITU-T G.804, ETSI ETS 300 213, ITU-T I.150, ITU-T I.361
FRAME RELAY/ ATM nX64Kbps, n=1-32	E1 (75 Ω channelized - unchannelized)	ITU-T G.703, ITU-T I.363.5, ATM Forum ATM UNI 3.1, ITU-T I.150, ITU- T I.361, Frame Relay Forum FRF.5, Frame Relay Forum FRF.2.2, Frame Relay Forum FRF.8.1
CIRCUIT EMULATION / ATM nX64Kbps, n=1-30	E1 (75 Ω channelized - unchannelized)	ITU-T G.703, ITU-T G.704, ATM Forum UNI 3.1, ITU-T I.150, ITU-T I.361, ITU- T I.610, ATM Forum CES-IS

ATM User-Network Interface Specification V3.1 (af-uni-0010.002)

Frame Relay Forum FRF.5 (12/1994), Frame Relay/ATM PVC Network Interworking Implementation Agreement

Frame Relay Forum FRF.2.2 (03/2002), PVC Network-to-Network Interface (NNI) Implementation Agreement

Frame Relay Forum FRF.8.1 (02/2000), Frame Relay/ATM PVC Service Interworking Implementation Agreement

ATM Forum CES-IS (01/1997), Circuit Emulation Service 2.0 (af-vtoa-0078.000)

ITU-T Rec. I.432.1 (02/1999), ISDN user-network interfaces – Layer 1 Recommendations B-ISDN user-network interface – Physical layer specification: General characteristics

ITU-T Rec. I.432.2 (02/1999), ISDN user-network interfaces – Layer 1 Recommendations B-ISDN user-network interface – Physical layer specification: 155 520 kbit/s and 622 080 kbit/s operation

ITU-T Rec. I.432.3 (02/1999), ISDN user-network interfaces – Layer 1 Recommendations B-ISDN user-network interface – Physical layer specification: 1544 kbit/s and 2048 kbits operation

ITU-T Rec. G.703 (11/2001), Digital terminal equipments – General; Physical/electrical characteristics of hierarchical digital interfaces

ITU-T Rec. G.704 (10/1998), Digital terminal equipments – General; Synchronous frame structures used at 1544, 6312, 2048, 8448 and 44 736 kbit/s hierarchical levels

ITU-T Rec. G.957, (03/2006), Digital sections and digital line system – Digital line systems;; Optical interfaces for equipments and systems relating to the synchronous digital hierarchy

ETSI ETS 300 213 (12/1992), Network Aspects (NA); Metropolitan Area Network (MAN) Physical layer convergence procedure for 2,048 Mbit/s

ETSI ETS 300 337, Transmission and Multiplexing (TM); Generic frame structures for the transport of various signals (including Asynchronous Transfer Mode (ATM) cells and Synchronous Digital Hierarchy (SDH) elements) at the ITU-T Recommendation G.702 hierarchical rates of 2 048 kbit/s, 34 368 kbit/s and 139 264 kbit/s

ITU-T Rec. G.832 (10/1998), Transport of SDH elements on PDH networks – Frame and multiplexing structures

ITU-T G.707/Y.1322 (01/2007), Internet protocol aspects – Transport; Network node interface for the synchronous digital hierarchy (SDH)

ITU-T Rec. G.804 (06/2004), ATM cell mapping into plesiochronous digital hierarchy (PDH)

ETSI ETS 300 213 (12/1992), ATM cell mapping into plesiochronous digital hierarchy (PDH)
 ITU-T Rec. I.150 (02/1999), B-ISDN asynchronous transfer mode functional characteristics
 ITU-T Rec. I.361 (02/1999), B-ISDN ATM layer specification
 ITU-T Rec. I.363.5 (08/1996), B-ISDN ATM Adaptation Layer specification: Type 5 AAL
 ITU-T Rec. I.610 (02/1999), B-ISDN operation and maintenance principles and functions

15 Κυκλώματα IP VPN

ΔΙΑΘΕΣΙΜΕΣ ΤΑΧΥΤΗΤΕΣ	ΕΙΔΟΣ ΔΙΕΠΑΦΩΝ	ΠΡΟΤΥΠΑ ΔΙΕΠΑΦΩΝ
- Ψηφιακές μισθωμένες γραμμές (<=155 Mbps) - ETHERNET <ul style="list-style-type: none"> • 6 -100 Mbps • 6 -1000 Mbps • 2 - 10 Gbps (βλ. παράγραφο 4 Κυκλώματα ETHERNET)	X.21, BNC G.703 (75Ω), RJ-45 G.703 (120 Ω), SMF 9/125 μm	IETF RFC 1930, IETF RFC 2328, IETF RFC 4271, IETF RFC 4364, IETF RFC 4456, IETF RFC 4760

IETF RFC 1930 (03/1996), Guidelines for creation, selection, and registration of an Autonomous System (AS)

IETF RFC 2328 (04/1998), OSPF Version 2

IETF RFC 4271 (01/2006), A Border Gateway Protocol 4 (BGP-4) (obsoletes RFC 1771)

IETF RFC 4364 (02/2006), BGP/MPLS IP Virtual Private Networks (VPNs) (obsoletes RFC 2547)

IETF RFC 4456 (04/2006), BGP Route Reflection: An Alternative to Full Mesh Internal BGP (IBGP) (obsoletes RFC 2796)

IETF RFC 4760 (01/2007), Multiprotocol Extensions for BGP-4 (obsoletes RFC 2858)

16 Τερματικός εξοπλισμός

Ο τηλεπικοινωνιακός τερματικός εξοπλισμός ή ραδιοεξοπλισμός, μέσω του οποίου ο πελάτης συνδέεται στο δίκτυο του ΟΤΕ, πρέπει να είναι συμβατός με τις απαιτήσεις της Ευρωπαϊκής Οδηγίας 2014/3/ΕΚ, η οποία έχει μεταφερθεί στην ελληνική νομοθεσία με το Π.Δ. 98/2017.

Κατά τη διάθεση του τερματικού εξοπλισμού στην αγορά, ο κατασκευαστής πρέπει να εξασφαλίζει ότι ο ραδιοεξοπλισμός κατασκευάζεται έτσι ώστε να ικανοποιούνται οι παρακάτω απαιτήσεις:

α) Συμμόρφωση με το κανονιστικό πλαίσιο που ορίζεται από την οδηγία 2014/53/ΕΕ και αφορά στη διαθεσιμότητα του ραδιοεξοπλισμού στην αγορά.

β) Υψηλό επίπεδο προστασίας της υγείας και της ασφάλειας των προσώπων καθώς και των κατοικίδιων ζώων και της ιδιοκτησίας, συμπεριλαμβανομένων των στόχων της οδηγίας 2014/35/ΕΕ, όσον αφορά τις απαιτήσεις ασφαλείας, αλλά χωρίς την επιβολή ορίου τάσης.

γ) Επαρκές επίπεδο ηλεκτρομαγνητικής συμβατότητας, όπως ορίζεται στην οδηγία 2014/30/ΕΕ.

17 Συντομογραφίες

ADSL	Asynchronous Digital Subscriber Line
DS	Downstream
EMC	Electromagnetic Compatibility
ETSI	European Telecommunications Standards Institute
IEEE	Institute of Electrical and Electronics Engineers
IETF	Internet Engineering Task Force
ISDN	Integrated Services Digital Network
ITU-T	International Telecommunication Union–Telecommunication standardization sector
RF	Radio Frequency
RFC	Request For Comments
SHDSL	Single-pair High-speed Digital Subscriber Line
SMPTE	Society of Motion Picture & Television Engineers
TETRA	Terrestrial Trunked RADio
US	Upstream
WiMAX	Worldwide Interoperability for Microwave Access
Wi-Fi	Wireless Fidelity
WLAN	Wireless Local Area Network
VDSL2	Very high speed Digital Subscriber Line 2
VPN	Virtual Private Services
FTTH	Fiber To The Home

18 Ιστορικό Αρχείου

Έκδοση αρχείου	Παρατηρήσεις	Σύνταξη από:
Έκδοση 1η (Φεβρουάριος 2012)	Αρχική συγγραφή	ΟΤΕ Α.Ε.(Δ/ση Σχεδ. & Προγρ. Δικτύων & Πλατφορμών)
Έκδοση 2η (Φεβρουάριος 2013)	Επικαιροποίηση τεχνικών προδιαγραφών διεπαφών	ΟΤΕ Α.Ε. (Ηλιάδου Π. & συνεργάτες Δ/σης Σχεδ. & Προγρ. Δικτύων & Πλατφορμών)
Έκδοση 3η (Οκτώβριος 2015)	Επικαιροποίηση τεχνικών προδιαγραφών διεπαφών	ΟΤΕ (Ηλιάδου Π. & συνεργάτες Γεν. Δ/σης Σχεδιασμού και Ανάπτυξης, Δικτύου Σταθερής & Κινητής)
Έκδοση 4η (Ιούλιος 2018)	Εισαγωγή τεχνικών προδιαγραφών Υπηρεσιών Πρόσβασης FTTH	Προσθήκη προδιαγραφών από Υποδ/ση ΣΧΕΔΙΑΣΜΟΥ ΔΙΚΤΥΟΥ ΣΤΑΘΕΡΗΣ ΠΡΟΣΒΑΣΗΣ & ΦΟΡΕΩΝ ΥΠΟΔΟΜΗΣ ΣΤΑΘΕΡΗΣ
Έκδοση 5η (Σεπτέμβριος 2023)	Επικαιροποίηση τεχνικών προδιαγραφών διεπαφών	ΤΜΗΜΑ FIXED BROADBAND ACCESS NETWORK SYSTEMS & SERVICES DEVOPS