

JAVNA SPECIFIKACIJA za korištenje vlastite terminalne opreme

SADRŽAJ

1.	Uvod	2
2.	. Tehničke karakteristike opreme krajnjih korisnika neophodne za instalaciju	2
	3.1 xDSL CPE/HGW SUČELJE	
	3.2 GPON/xgsPON-FIBER CPE/HGW SUČELJE	
	3.3 GENERAL CPE/HGW	
	3.4 KOFIGURACIJA CPE/HGW (3PLAY)	
	. Konfiguracija tehničke opreme_ postavke	



1. Uvod

Od 1. siječnja 2024. HT d.d. svojim krajnjim korisnicima omogućava da se koriste vlastitom terminalnom opremom za korištenje usluge širokopojasnog pristupa internetu. Ovim dokumentom "Javna specifikacija za korištenje vlastite terminalne opreme" definiraju se tehnički podaci i postavke neophodne za spajanje vlastite opreme korisnika u skladu s PRAVILNIKOM O NAČINU I UVJETIMA OBAVLJANJA DJELATNOSTI ELEKTRONIČKIH KOMUNIKACIJSKIH MREŽA I USLUGA.

Pojedinačne korisničke podatke za realizaciju predmetne usluge, uključujući lozinke, HT će dostaviti pri njezinoj realizaciji nakon autorizacije.

2. Tehničke karakteristike opreme krajnjih korisnika neophodne za instalaciju

Tehnička oprema, potrebna da bi se krajnji korisnici mogli koristiti njome za realizaciju usluga, mora zadovoljavati određene tehničke karakteristike kako bi se osigurala interoperabilnost korisničke opreme i instalirane HT-ove opreme u mreži s obzirom na različite prijenosne tehnologije i razine usluga.

U nastavku su navedene predmetne tehničke karakteristike koje mora zadovoljavati svaki komad tehničke opreme kako bi usluga radila kako je to definirano.

3.1 xDSL CPE/HGW SUČELJE

	WAN - xDSL requirements	
Ref.	Description	
1.	General requirements	
2.	The device must provide Forward Error Correction (FEC) at the physical DSL link.	
3.	The xDSL interface of the device must fundamentally satisfy the requirements of actual DSL standards.	
4.	The device must first try to sync at VDSL2 mode and then in ADSL2+ mode at all times.	
5.	The device must provide an internal VDSL2 Modem according to ITUT Recommendation G.993.2 Annex B (Region B: Europe)	
6.	To provide interoperability between VTU-C (VDSL Transceiver Unit – Central) and VTU-R (VDSL Transceiver Unit – Remote), Handshake Procedures for Digital Subscriber Line transceivers must be supported in VDSL device according to ITU-T Recommendation G.994.1.	
7.	In the VDSL2 device PTM must be used as basic encapsulation method for data transmission. The PTM layer must be implemented according to ITU-T Recommendation G.993.2.	
8.	VDSL2 device must provide PBO (Power Back-off) functionality according to ITU-T Recommendation G.993.2.	
9.	VDSL2 device must provide Power Management functionality according to ITU-T Recommendation G.993.2.	
10.	The VDSL2 device must support "Self-FEXT cancellation (vectoring) for use with VDSL2 transceivers" as specified in ITU-T G.993.5 Recommendation.	
11.	The VDSL2 device must support "Improved impulse noise protection for DSL transceivers, as specified in ITU-T G.998.4 Recommendation.	
12.	The VDSL2 device must support "On-line Reconfiguration" (OLR) mechanism, as specified in ITU-T G.993.2 Recommendation.	
13.	The VDSL2 device should support 2pairs Ethernet-based multi-pair bonding via VDSL interface, is implemented in ITU-T Recommendation G.998.2.	
14.	The device must support configurable ADSL/ADSL2+ operation mode.	
15.	The device must support automatic ADSL/ADSL2/ADSL2+ fallback operation, including automatic fallback from PTM to ATM mode	



16.	The VDSL2 device must be able to correctly work with MSAN with different maximum, minimum and target SNR marging configuration			
17.	The VDSL2 device must support DELT loop diagnostic			
18.	G 993.2 VDSL2 device must operating in Europe regional annexes			
19.	G 993.2 VDSL2 device must suport US0 types B, M and NUS0			
20.	The device should support VDSL2 AnnexQ as specified in ITU G-993.2			
21.	In case of vectoring and AnnexQ the device must fully interwork at least with the following MSAN boards:			
	- Huawei VCMM (vect), VCPM (vect), SDMM (vect + AnnexQ) and SDPM (vect + AnnexQ) - Nokia NDLT-G (vect), NDLT-F (vect) and NDLT-J (vect + AnnexQ)			
22				
22.	Profile requirements			
23.	The device must support the 8a, 8b, 8c, 8d VDSL2 profiles.			
24.	The device must support the 12a, 12b VDSL2 profile.			
25.	The device must support the 17a VDSL2 profile.			
26.	The device must meet the maximum aggregate upstream transmit power requirements specified in ITU-T Recommendation G.993.2.			
27.	The device should support the 35b VDSL2 profile.			
28.	Band plan requirements			
29.	The device must support band plan 998 implemented according to ITU-T Recommendation G.993.2 Annex B.			
30.	The device must support band plan 998ADE17 implemented according to ITU-T Recommendation G.993.2 Annex B.			
31.	The device must support band plan 997 implemented according to ITU-T Recommendation G.993.2 Annex B.			
32.	The device should support band plan 998ADE35 implemented according to ITU-T Recommendation G.993.2 Annex B.			
33.	PSD mask			
34.	Operating with all PSD profile in 998 band plan the device must support the Upstream Limit PSD masks for band plan 998 according to ITU-T Recommendation G.993.2 Annex B.			
35.	Operating with all PSD profile in 997 band plan the device must support the Upstream Limit PSD masks for band plan 998 in ITU-T Recommendation G.993.2 Annex B.			
36.	VDSL2 device should provide carrier MASK functionality all the VDSL2 band defined in ITU-T G.993.2			
37.	Bit rate single line VDSL			
38.	Operating in 12a mode the device should support minimum bi-directional net data rate 68 Mbps.			
39.	Operating in 17a mode the device should support minimum bi-directional net data rate 100 Mbps.			
40.	Operating in 17a mode the device must support minimum bi-directional net data rate 100 Mbps.			
40.				
41.	The device must support rate adaptivity at initialization.			
42.	The device must support SRA LCL			
44.	Operating in VDSL2 mode, the LCL at the U-R interface must be greater than 38 dB over the 120 kHz up to 12000 kHz frequency range, according to the ITU-T Recommendation G.993.2 Annex B.			
45.	Micro interruptions			
46.	According to ETSI TS 101 388 v1.3.1, the VDSL2 transceiver must not be reset by a micro interruption event of duration t=10ms, which must occur at an event frequency of 0,2 Hz.			
47.	Performance			
48.	Performance of line transmission device (BER) must be 10-7 or better in normal operation.			
49.	The Bidder must provide performance test reports of their VDSL2 equipment if any available.			
50.	VDSL2 modem performance must provide at least 30 Mbps data rate (physical layer) at 1000 m distance			
51.	Access protocols			
52.	The device must support bridging of untagged and 802.1g tagged Ethernet frames between its LAN and WAN interfaces.			
53.	The device must support bridging PPPoE over the encapsulated Ethernet as defined in IETF RFC 2516.			
54.	The device must be able to bridge IP over Ethernet.			
55.	Interfaces			
56.	The physical layer of the WAN interface must be compliant with ITU-T recommendation G.993.2.			
57.	The connector must be RJ11 female and must conform to MSZ 25021:1999 (Terminal Equipment (TE). Attachment requirements for pan-			
57.	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) standard.			
58.	Management requirements			
59.	The device must indicate near and far-end loss of power (Dying Gasp) as it is specified in ITU-T Recommendation G.993.2 chapter 11.3.3 Power-related primitives.			
60.	Multiple VLAN			
61.	The device must support to handle of at least 8 VLANs at the same time.			



62. 63.	The device must support any VLAN number between 1-4095 Each VLAN connection must use different MAC address		
64.	Each VLAN connection must use different MAC address Special requirements for VDSL2 AnnexQ device All requirements listed in this chapter are valid for this device type as well.		
65.			
66.	The device must support VDSL2 AnnexQ as specified in ITU G-993.2.		
67.	The device must support band plan 998ADE35 implemented according to ITU-T Recommendation G.993.2 Annex B.		
 68. The device must support backward compatibility to VDSL2 and VDSL2 vectoring mode (as defined in G.993.2 a) 			
69.	The device should support VDSL2 2 pairs bonding mode upto 35b profile.		
70.	Operating in 35b mode the device must support minimum bi-directional net data rate 300 Mbps.		
71.	ADSL requirements		
72.	General requirements		
73.	The device must use Frequency Division Multiplexing (FDM) for separation of the upstream and downstream signals, as it is specified ITU-T Recommendations G.992.1, G.992.3 and G.992.5.		
74.	To provide interoperability between device and DSLAM/MSAN, Handshake Procedures for Digital Subscriber Line transceivers must be supported according to ITU-T Recommendation G.994.1.(2007-02)		
75.	In ADSL mode ATM must be used as basic encapsulation method for data transmission. ATM Layer must be implemented according to ITU-T Recommendation G.992.1.		
76.	The device must provide a synchronisation time of: \leq 60 s with all ADSL modes.		
77.	The device must include a high pass filter at its ADSL line input. The high pass filter must be implemented according to IT Recommendation G.99		
78.	ADSL operation mode		
79.	The device must support the following operating modes based on ITU-T Recommendation: G.992.1 Annex A and B, G.992.3 Annex A and B/J, G.992.5 Annex A and B/J and M.		
80.	Bit rate		
81.	Operating in ADSL mode, ADSL device must support downstream data rate from 32 kbit/s to 8 Mbit/s and upstream data rate from kbit/s to 800 kbit/s.		
82.	Operating in ADSL2 mode, ADSL2 device must support downstream data rate from 32 kbit/s to 10800 kbit/s and upstream data rate fr 32 kbit/s to 1500 kbit/s.		
83.	Operating in ADSL2+ mode, ADSL2+ device must support downstream data rate from 32 kbit/s to 24 Mbit/s, upstream data upstream data rate from 32 kbit/s to 2800 kbit/s (for those ADSL2+ modes where it is supported).		
84.	If the line parameters are changing, rate adaptivity must be performed automatically.		
85.	The device must support bit swap.		
86.	Performance		
87.	Operating in ADSL and ADSL2 mode, ADSL device must be able to operate on loop ranges and under noise conditions as it is defined in ETSI TS 101 388 v1.4.1 Chapter 5, Transmission performance objectives and test methods.		
88.	Performance of line transmission device (BER) must be 10-7 or better in normal operation.		
89.	The Bidder should provide performance test reports of their device(s) if any available.		
90.	ADSL2+ modem performance must provide at least 4 Mbps data rate (physical layer) at 3000 m distance		
91.	Interoperability		
92.	The device must be interoperable with all type of DSLAM/MSAN used by HT.		
93.	PSD masks		
94.	The device must support the following PSD masks: Operating in ADSL mode, device must support the PSD masks defined in ETSI TS 101 388 v1.4.1, FDD ADSL over POTS and FDD ADSL ov ISDN.		
	Operating in ADSL2 mode, device must support the PSD mask defined in ITU-T Recommendation G.992.3, Annex A and Annex B and Annex J.		
05	Operating in ADSL2+ mode, device must support the PSD mask defined in ITU-T Recommendation G.992.5, Annex A and Annex B and Annex J.		
95.	Micro interruptions		
96.	According to ETSI TS 101 388 v1.3.1, the ADSL transceiver must not be reset by a micro interruption event of duration t = 10ms, which must occur at an event frequency of 0,2 Hz.		
97.	Longitudinal Conversion Loss (LCL)		
98.	Operating in ADSL and ADSL2 mode the LCL at the U-R interface must be greater than 40 dB over the 120 kHz up to 1104 kHz and 25 up to 1104 kHz frequency range, according to the DSL Forum Technical Report TR-067.		
99.	Operating in ADSL2+ mode the LCL at the U-R interface must be greater than 40 dB over the 120 kHz up to 2208 kHz and 25kHz up to 2208 kHz frequency range, according to the ITU-T Recommendation G.992.5, Annex A and Annex B.4		



100.	Operating in ADSL2 mode the LCL at the U-R interface should be greater than 40 dB over the 5 kHz to 1104 kHz frequency range, according to the ITU-T Recommendation G.992.3, Annex J.4.
101.	Operating in ADSL2+ mode the LCL at the U-R interface must be greater than 40 dB over the 5 kHz to 2208 kHz frequency range, according to the ITU-T Recommendation G.992.5, Annex J.4.
102.	ATM
103.	The device must support UBR, CBR and VBR-rt traffic class.
104.	The device must support VPI values from 0 to 127.
105.	The device must support VCI values from 32 to 127.
106.	The device must support LLC-SNAP encapsulation method according to IETF RFC2684.
107.	Multiple PVC
108. The device must support to use of at least 8 PVCs at the same time.	
109.	All supported PVCs should not require the same VPI value.
110.	Each PVC must use different MAC address
111.	DSL management requirements
112. The device must store valid ATU-R Data register values as it is specified in ITU-T Recommendation G.992.1.	
113.	The ATU-R Data register value of "serial number" must be unique for each device.
114.	Any DSLAM/MSAN used by any HT must be able to read the ATU-R Data register values of the device through the DSLAM/MSAN's management
115.	The device must have "Dying Gasp" function as it is specified in ITU-T Recommendation G.992.1.



3.2 GPON/xgsPON-FIBER CPE/HGW SUČELJE

	WAN - ETH
Ref	Detailed description
116.	General requirements
117.	LAN/WAN port - WAN-port for connection of an external Ethernet Uplink Device (e.g. external DSL-modem, ONT).
118.	The device should provide separated 10/100/1000Base-T WAN port
119.	WAN ETH port must be configurable as "access' or "trunk".
120.	The device must be able to detect loss of connectivity on the primary WAN interface.
121.	The device must be able to detect the return of connectivity on the primary WAN interface and automatically revert to the primary interface.
122.	The device must provide IEEE 802.1Q for separating and tagging of traffic.
123.	The device must provide suport for minimum 8 different IEE 802.1Q vlans using VID's between 1-4095
124.	IEEE 802.1Q support/tagging must be configurable
 125. The device in Ethernet WAN scenario must support: Internet traffic – 1 Gbps downstream and 500 Mbps upstream Internet traffic The device in Ethernet WAN scenario must simultaneously support: 3 HD (High Definition Video) stream (~3X9Mbps on Ethernet layer) and 2 SD (Standard Definition Video) stream (~2x3,5Mbps on Ethernet layer) 3 additional informational multicast streams (~256Kbps on Ethernet layer) Internet traffic – 500 Mbps downstream and 250 Mbps upstream up to 15 G.711(a-law) or 15 G.722 VoIP calls 	



3.3 GENERAL CPE/HGW

	ROUTER REQUIREMENTS Detailed description			
Ref				
126.	General requirements			
127.	The device must conform to Ethernet standard frame sizes at the WAN/LAN/WLAN ports.			
128.	The Ethernet LAN ports should support an MTU of 9000 bytes (Jumbo Frames).			
129.	The device must provide a non-blocking switch fabric in Full Duplex Mode.			
130.	The device must provide port-by-port auto-negotiation .			
131.	The device must provide auto-crossover.			
132.	The device must support Ethernet (IEEE 802.3).			
133.	The device must support IP Version 4.			
134.				
135.	The device must support IP over Ethernet (IPoE).			
136.	The device must support PPP over Ethernet (PPPoE) as defined in IETF RFC 2516.			
137.	The device must support concurrent PPPoE and IPoE connections to be created.			
138.	The device must use different MAC addresses on different WAN connections automatically.			
139.	There must not be any restriction on the number of clients connected to each LAN port of the device (routed or bridged-IPTV)			
140.	The device must not forward packets from LAN/WLAN to the WAN side if the Destination Address contains:			
	 - IPv4 Link-Local addresses (IPV4LL) 169.254.0.0/16 acc. RFC3927 - IPv6 Link-Local addresses (IPV6LL) acc. RFC4862 			
	- Loopback addresses 127.0.0.0/8 acc. RFC5735			
	- Broadcast to the 'all hosts' address acc. RFC919			
	- Directed Broadcast addresses acc. RFC2644			
	 - Link-Local Multicast addresses 224.0.0.0/8 acc. RFC5771 and http://www.iana.org/assignments/multicast-addresses - Private addresses (IPv4) if HG acts as a 'public host' acc. RFC1918 (see also requirement <1463>) 			
141.	The device must support bridging and routing between WAN and LAN ports.			
142.	The device must provide functionality to define static IP address for WAN ports			
143.	The device must assure ≤2 ms latency for internal propagation of data-packets between any ingress-port and any			
	egress-port of the HGW.			
144.	PPPoE client			
145.	The device must support PPPoE function as described in RFC2516			
146.	The device must provide PPPoE with LCP:CHAP/LCP:PAP and IPv4-NCP:IPCP.			
147.	The device must not retry to establish a failed PPPoE-session if the account credential was wrongly configured.			
148.	The device must retry to establish a failed PPPoE-session if not the account credential was wrongly configured.			
149.	PPPoE service must include "IP type" with 2 below options:			
	a) Dynamic IP address			
	b) Fixed IP address			
150.	The device must have the functionality to connect via PPPoE in "always-on" mode all the time. In this mode the device			
	must automatically re-establish any session after disconnection (except manual disconnection by User), lease			
	expiration or loss and restoration of power.			
151.	PPPoE username and password must support at least 100 characters. Symbols such as "-"(minus) and "_" (underscore)			
	must be allowed in the username			
152.	PPPoE password must support all alphanumeric characters plus all special characters			
153.	The device must allow any particular PPP connection to be configurable for IPv4-only, IPv6-only, or both with Lw4o6.			
154.	The HG must not tear down a shared (IPv4 and IPv6) PPP session if error conditions prevent only one IP stack (either			
	IPv4 or IPv6) from working. The session must be torn down if error conditions apply to both stacks			
155.	In case of "Dial-on demand" mode If the PPP session contains IPv4 and IPv6, then the device must terminate only the			
	IPv4 session. This is done using IPCP commands.			
156.	MTU size must be configurable with range 1492-1500 bytes.			
157.	The CPE must implement RFC 4638 ("Accommodating a MTU / MRU greater than 1492 in the PPPoE session)			
158.	NAT			
159.	The device must support Network Address Port Translation (NAPT; also known as Port Address Translation) as defined in IETF RFCs 2663, 3022 and 3027.			



160.	The NAT device must assure, that no spoofed addresses are forwarded into WAN.	
161.	The device must provide NAT Loopback (sometimes also called 'hairpin NAT' or 'hairpinning')	
162.	The device must support to disabling NAT/NAPT for each connection separately.	
163.	NAT must support at least 3000 translations.	
164.	DNS	
165.	The device must relay DNS requests (A and AAAA record type) from LAN/WLAN to a remote DNS Server (configured v PPPoE, DHCPv4 or DHCPv6) if the requested information is not cached.	
166.	The device must cache positive hits to a maximum of the individual TTL time value of the Master DNS Server respons	
167.	The device must store NXDomain answers with 'negative' TTL from the Master DNS Server.	
168.	The device must flush its DNS cache after establishing a new PPPoE session or reboot but no any other case.	
169.	The device must can store at least 256 cached records gets from DNS Servers.	
170.	The device must reply to DNS requests from LAN/WLAN clients.	
171.	The user must be able to activate and deactivate the DNS function per connection.	
172.	The device must not reply to DNS requests from WAN.	
173.	The device must assure ≤2 ms for self-induced DNS delay	
174.	QoS	
175.	The device must provide Layer 2 IEEE802.1D-2004 Annex G prioritising and marking traffic for at least 4 traffic classes	
176.	The device must provide the ability to configure a minimum throughput value per traffic class.	
177.	The device must provide automatic fragmentation to adjust its maximum fragment size according to the required maximum serialization delay (e.g. max. 2 ms).	
178.	Packet Fragmentation (adaptive PMTU) Every packet-based network has a MTU size (maximum transmit unit) which that network can transmit. Depending on link speed and MTU size (default MTU value must be set to 1492 for PPPoE based services) there could be an impact delay-sensitive real-time traffic without fragmentation . The device must support automatic fragmentation by methods like e.g. LFI (Link Fragmentation & Interleaving) to adjust its maximum fragment size according to the required maximum serialization delay (e.g. max. 10ms). VoIP packets must never be fragmented.	
179.	The device must provide Path MTU Discovery.	
180.	The device must support Low Latency Queuing (LLQ) for high priority traffic (e.g. VoIP).	
181.	The traffic classification must be supported independent of the interface/port (WLAN/LAN).	
182.	At least traffic shaping for the High Speed Internet connection must be supported on the WAN port.	
183.	Requirements for Triple Play services	
184.	The device must support IGMP v2 and v3 protocol.	
185.	The device must provide full backward compatibility to IGMP v1.	
186.	The IGMP version must be configurable at least via FW upgrade.	
187.	The max latency for handling IGMP messages must below 3ms	
188.	The device must support IGMP Snooping (the multicast traffic is sent only to host device that have joined to the multicast group)	
189.	The device must support IGMP proxy in routed mode (IETF RFC 4605). This satisfies TR-101 R-191.	
190.	When the device receives an IGMP membership query on a given WAN-facing IP interface, the IGMP Proxy-Routing function must only send a corresponding membership report on this specific interface. This satisfies TR-101 R-196.	
191.	The device must provide IGMP throttling to avoid floods of IGMP messages into the WAN.	
192.	The device must provide IGMP for both ASM and SSM mode.	
193.	The device should support MLDv2 as defined in IETF RFC 3810.	
194.	The device must support IGMP intermediate leave (fast leave) with explicit host tracking.	
195.	The device must not filtering any traffic between STBs on the same LAN segment.	
196.	Performance	
197.	The device must support at least 50Mbit/s multicast traffic.	
198.	The device must support at least 25 multicast groups.	
199. The device must support at least 8 concurrent VoIP streams. (1Mbit/s)		
200. NTP		
201. The device must support an NTP client according to RFC 5905 (published on June 2010, that obsoletes I (NTPv3)).		



3.4 KOFIGURACIJA CPE/HGW (3PLAY)

202. Connection parameters 203. WAN DS. 204. Auto detect DSI mode Yes 205. VDSL2 mode ADSL2 + Notes ID 206. ADSL2 - mode VDSL2 + Vectoring 207. Sync order VDSL2 / Annex B 208. Nate adaptive dynamic rate adaptation - 32 logs increments 209. Internet, ADSL Internet, ADSL 210. Connection Name Internet, ADSL 211. Enable Yes 212. Service Des Internet, ADSL 213. VM/NC 0.33 214. Encapsulation type LLC 215. Sinding Interface LANIZ-LANA 216. ATM GAS UBR 217. ATM GAS UBR 220. Mode Routing 221. Connection type/f routing/PPPolyc) PPPole 222. PP Desmane Later 223. PP Desmane Later 224. EPP Desword Later	ID		HT
203. WAN DS. Perspective 204. Aux detect DS. mode Yes 205. VDSL2 mode VDSL2 Vectoring 206. ADSL2 mode VDSL2 Vectoring 207. Sync order VDSL2/ADSL2 (Annex B) 208. Rate adaptive dynamic at eadquation + 32 kbps increments 209. Internet, VDSL internet, VDSL 210. Cannection Name Internet, ADSL 212. Service Des Internet, VDSL 213. VP/VCI Q/33 214. Encapsuldion type LLC 215. Binding Intrafece LAL* VaNA 216. ATM GAS USR 217. ATM ACS - 218. VLAN ID 1205 219. Connection type(if routing/PPF0E) PP/VeE 210. Connection type(if routing/PPF0E) PP/VeE 212. APP Password User 213. Mode Node 214. IPP Password User 215.	202.	Connection parameters	
204. Auto detect DS: mode Yes 205. VDSL mode VDS.2 Yestonig 206. ADSL2 mode ADSL2 Annex B 207. Sync order VDS.2/ADSL2 / Annex B 208. Internet_VDSL UDSL2 / Annex B 209. Internet_VDSL Internet_VDSL 201. Connection Name Heimert_VDSL 211. Enable Yes 212. Service Des Internet_VDSL 213. Kinterley UDSL 214. Encopsulation type UC 215. Bending Interley UDSL 216. Connection Name UDSL 217. Service Des Internet_UDSL 218. VMP/VC 0733 214. Encopsulation type UDSL 215. Service Des UDSL 216. ATM QoS UDR 217. ATM QoS UDR 218. VAN Jonicity 0 220. Mode Routing 221. Connection type/f routing/PPPolf PPPoef 222. PPP Userrame Gaser 223. IPP Brastheritation Auto 224. IPP submetritation Auto 225	203.		
205. VDS12 mode VDS12 + Vectoring 206. ADS12 + mode VDS12ANDS12 + Annex B 207. Sync order VDS12ANDS12 + Annex B 208. Rete adaptive dynamic rate adaptation - 32 Mps increments 209. Internet_ADS1. Internet_ADS1. 210. Connection Name Internet_ADS1. 211. fnable Yes 212. Service Ocs. Internet_ADS1. 213. VPV/CI QJ33 214. Encapation type LLC 215. Binding turkeface LANI*CMAA 216. ATM OCS - 217. ATM DCR - 218. VLAN ID 100 219. VLAN ID 1023 221. Connection type/(f routing/PPP0E) PPP0E 222. PVP Semme Lser 223. Mode Routing 224. PVP authentCation Auto 225. Connection type/(f routing/PPP0E) PP0e5 226. DisUndonem			Yes
206. ADSL2+ Names 8 207. Sync order VDSL2/ADSL2+ (Annes 8) 208. Rate adaptive dynamic rate adaptation - 32 kbps increments 209. Internet, ADSL Internet, ADSL 210. Connection Name Internet, ADSL 211. Enable Yes 212. Service Des Internet, ADSL 213. VP/VCI Q33 214. Enable Yes 215. Binding Intraface LANL'ADAH 216. ATM OrS UBR 217. ATM OrS UBR 218. VLAN ID 1203 219. VLAN ID 1203 210. ATM OrS UBR 211. Connection trigo Popol 2123. VLAN ID 1203 214. Connection trigo Routing 215. Connection trigo Routing 216. Connection trigo Auto 223. PP P Destore Yes 224. <t< td=""><td></td><td></td><td></td></t<>			
207. Sprc order VDS1/ADX2+ (Annex 8) 208. Rate adaptive Øynamic rate adaptation - 32 Xbps increments 209. Internet_ADS1 Internet_V			
208. Rate adaptive dynamic rate adaptation - 32 ktps increments 209. internet, ADSL internet, ADSL 210. Connection Name internet, ADSL 211. Enable Yes 212. Service Des Internet, ADSL 213. VP/VCI 0/33 214. Enable Ves 213. VP/VCI 0/33 214. Enapsiultion type LLC 215. Binding intraface LNX*VAMA 216. ATM GoS UBR 217. ATM GoS UBR 218. VLAN ID 1003 219. VLAN protry 0 220. Connection type(if routing/PPPoE) PPPoE 221. Connection type(if routing/PPPoE) PPPoE 222. PPP Deramme user 223. PPP Deramme user 224. PPP assword user 225. Connection type(if routing/PPOE) PPoIot 226. DialonDerand Idletine - 227. MU 1492 228. NoT Enable Yes 229. Ip ordocol version NA 230. Ip ordocol version NA <td< td=""><td></td><td></td><td></td></td<>			
209. Internet.ADSL Internet.ADSL 210. Connection Name Internet.ADSL Internet_USL 211. Enable Yes 212. Service Des Internet_USL 213. VPI/VCI 0/33 214. Encapulation type LLC 215. Binding Interface LNN1*LNA4 216. ATM 0GS UBR 217. ATM 0GS UBR 218. VLAH DI 1203 219. VLAM priority 0 220. Mode Routing 221. Connection type(I routing/PPot] PPPoE 222. PPP Username user 223. PPP Desword Lacro 224. PPP authentication Auto 225. Cannection trigger AwaycOn 226. DialonDemand Idletime - 227. MTU 1492 228. NAT Enable Yes 229. Ip ortocal version Ip Adde 231. WAN PPD			
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213. VP/VCI 0/33 214. Encapsulation type LLC 215. Binding intreface LAN"/LAN4 216. ATM QoS UBR 217. ATM PCR - 218. VLAN ID 1203 219. VLAN priority 0 220. Mode Routing 221. Connection type[/ frouting/PPP0E] PPP0E 222. PPP Jassword user 223. PPP saword user 224. PPP saword user 225. Connection rigger AlwaysOn 226. DialOnemand Idletime - 227. MTU 1492 228. NAT Enable Yes 229. IP protocol version IPv4 230. INo(fi routing/DHCP) NA 231. Wode NA 232. Connection type[/ frouting/DHCP) NA 233. Connection type[/ routing/DHCP) NA 234. ETH MTU	211.	Enable	Yes
214. Encapulation type LLC 215. Binding intreface LAN1*LAN4 216. ATM GoS UBR 217. ATM PCR - 218. VLAN ID 1203 219. VLAN priority 0 220. Mode Routing 221. Connection type(if routing/PPPoE) PPPoE 222. PPP Username User 223. PPP Password User 224. PPP authentication Auto 225. Connection trigger AlwaysOn 226. DialonDemand Idletime - 227. MTU 1492 228. INAT Enable Yes 229. IP protocol version IPv4 230. IPv6 - 231. WAN PPoE Passthrough Yes 232. Mode NA 233. Connection type(if routing/DHCP) NA 234. FTH MTU NA 235. NAT Enable	212.	Service Des	Internet
215. Binding Intreface LAN1*LAN4 216. ATM GoS UBR 217. ATM PCR - 218. VLAN ID 1203 219. VLAN priority 0 220. Mode Routing 221. Connection type(if routing/PPPoE) PPPoE 222. PPP Learname user 223. PPP Learname user 224. PPP Learname user 225. DialOnDemand Idletime - 226. DialOnDemand Idletime - 227. MTU 1492 228. IP protocol version IPv4 230. IPv6 Pasthrough 231. WAN PPPoE Pasthrough Yes 232. Mode NA 233. IP protocol version NA 234. ETH MTU NA 235. NAT Enable NA 236. IP protocol version NA 237. VoIP_ADSL VoIP_ADSL </td <td>213.</td> <td>VPI/VCI</td> <td>0/33</td>	213.	VPI/VCI	0/33
216. ATM PCR - 217. ATM PCR - 218. VLAN ID 103 219. VLAN ID 0 220. Mode Routing 221. Connection type(if routing/PPPGE) PPP0E 222. PPP Lemrane user 223. PPP pasword user 224. PPP authentication Auto 225. Connection tygegr AlwaysOn 226. DailonDemand Idetime - 227. MTU 1492 228. NAT Enable Yes 229. IP protocol version IPv4 230. IPv6 - 231. WAN PPP6 Passthrough Yes 233. Connection type(if routing/DHCP) NA 234. ETH MTU NA 235. NAT Enable NA 236. IP protocol version NA 237. YolP ADSL YolP ADSL 238. Connection Name YolP	214.	Encapsulation type	LLC
217. ATM PCR - 218. VLAN ID 1203 219. VLAN priority 0 220. Mode Routing 221. Connection type(if routing/PPPcE) PPP0E 222. PPP Username user 223. PPP Password user 224. PPP aubentication Auto 225. DialonDemand Idletime - 226. DialonDemand Idletime - 227. MTU 1492 228. NAT Enable Yes 229. IP protocol version IPv4 230. IPv6 Passthrough 231. WAN PPDE Passthrough Yes 232. Mode NA 233. Connection type(if routing/DHCP) NA 234. ETH MTU NA 235. IP protocol version NA 236. IP protocol version NA 237. VolP_ADSL VolP_VOSL 238. Connection Name	215.	Binding Intreface	LAN1~LAN4
218. VLAN ID 1203 219. VLAN priority 0 220. Mode Routing 221. Connection type(if routing/PPPoE) PPPoE 222. PPP Username user 223. PPP pasword user 224. PPP pasword user 225. Connection trigger AlwaysOn 226. DialoDemand Idletime - 227. MTU 1492 228. NAT Enable Yes 229. IP protocol version IPv4 230. IPv6 231. WAN PPoE Passthrough Yes 232. Mode NA 233. Connection type(if routing/DHCP) NA 234. ETH MTU NA 235. NAT Enable NA 236. IP protocol version NA 237. VoIP_ADSL VoIP_ADSL 238. Connection Name VoIP_ADSL 239. Enable <td< td=""><td>216.</td><td>ATM QoS</td><td>UBR</td></td<>	216.	ATM QoS	UBR
219.VLAN priority0220.ModeRouting221.Connection type(if routing/PPPoE)PPPoE222.PPP Usemameuser223.PPP assworduser224.PPP antenticationAuto225.Connection triggerAlwaysOn226.DialOnDemand Idletime-227.MTU1492228.NAT EnableYes229.IP protocol versionIPv4230.IPv6NA231.WAN PPDeE PasthroughYes232.ModeNA233.Connection type(if routing/DHCP)NA234.ETH MTUNA235.IP protocol versionNA236.IP protocol versionNA237.VolP_ADSLVolP_ADSLVolP_ADSLVolP_ADSLVolP_ADSL238.Connection NameVolP_ADSLVolP_ADSLVolP_ADSLVolP_ADSL239.EnableYes240.Service DesVOIP241.VPI/VCI0/50242.Ecapsulation typeLLC243.Binding IntrefaceLAN1-tAN4244.ATM QoSCBR245.VAIN D1405246.VLAN priority5248.ModeNA244.ATM CQSCBR245.PPP SusemameNA245.PP SusemaneNA245.PP SusemaneNA245.PPP SusemaneNA	217.	ATM PCR	-
220. Mode Routing 221. Connection type(if routing/PPPoE) PPPoE 222. PPP Desmane User 223. PPP Password User 224. PPP authentication Auto 225. DialOnDemand Idletime - 226. DialOnDemand Idletime - 227. MTU 1492 228. IP protocol version IPv4 229. IP protocol version IPv4 230. IPv6 - 231. WAN PPOE Pasthrough Yes 232. Mode NA 233. Connection type(if routing/DHCP) NA 234. ETH MTU NA 235. NAT Enable NA 236. IP protocol version NA 237. VolP_ADSL - 238. Connection type(if routing/DHCP) NA 239. ETH MTU NA 235. NAT Enable NA 236. IP protocol version NA 237. VolP_ADSL - 238. Connection Name VolP_ADSL 239. Enable Yes 240. Service Des VOIP	218.	VLAN ID	1203
221. Connection type(if routing/PPPoE) PPPoE 222. PPP Username User 223. PPP assword User 224. PPP authentication Auto 225. Connection trigger AlwaysOn 226. DialOnDemand Idletime - 227. MTU 1492 228. NAT Enable Yes 229. IP protocol version IPv4 230. IPv6 230. 231. WAN PPDc Passthrough Yes 232. Mode NA 233. Connection type(if routing/DHCP) NA 234. ETH MTU NA 235. NAT Enable NA 236. IP protocol version NA 237. VolP_ADSL VolP_ADSL VolP_VDSL VolP_ADSL VolP_VDSL 238. Connection Name VolP_VDSL 239. Enable Yes 240. Service Des VOIP 241.	219.	VLAN priority	0
222.PPP Usernameuser223.PPP Passworduser224.PPP authenticationAuto225.Connection triggerAlwaysOn226.DialOnDemand Idletime-227.MTU1492228.NAT EnableYes229.IP protocol versionIPv4230.IPv6-231.WAN PPPoE PassthroughYes232.ModeNA233.Connection type(if routing/DHCP)NA234.ETH MTUNA235.IP protocol versionNA236.IP protocol versionNA237.VolP_ADSLVolP_ADSLVolP_ADSLVolP_VDSLVolP_ADSL239.EnableYes240.Service DesVOIP241.VPI/VCI0/50242.Encapulation typeLLC243.Einding IntrefaceLAN1*LAN4244.ATM QoSCBR245.ATM PCR604 cps246.VLAN priority5247.VLAN priority5248.ModeNA249.Connection type(if routing/PPPE)NA245.ATM PCR604 cps246.VLAN priority5247.VLAN priority5248.ModeNA249.Connection type(if routing/PPPE)NA249.Connection type(if routing/PPPE)NA249.Connection type(if routing/PPPE)NA2	220.	Mode	Routing
223.PPP Passworduser224.PPP authenticationAuto225.ConnectintiggerAlwaysOn226.DialOnDemand Idletime-227.MTU1492228.NAT EnableYes229.IP protocol versionIPv4230.IPv6-231.WAN PPPE PassthroughYes232.ModeNA233.Connection type(if routing/DHCP)NA234.ETH MTUNA235.IP protocol versionNA236.IP protocol versionNA237.VolP_ADSLVolP_ADSLVolP_ADSLVolP_ADSLVolP_ADSLVolP_ADSL239.EnableYes240.Service DesVOIP241.VP/Vcl0/50242.Encapulation typeLLC243.Binding IntrefaceLAM**LAN4244.ATM QoSCBR245.ATM PCRGO4 cps246.VLAN priority5246.VLAN priority5247.VLAN priority5248.ModeNA249.Connection type(if routing/PPDE)NA241.PPD UsernameNA242.Encapulation typeLLC243.Binding IntrefaceLAM**LAN4244.ATM QoSCBR245.ATM PCRGO4 cps246.VLAN priority5247.VLAN priority5248.Mode </td <td>221.</td> <td>Connection type(if routing/PPPoE)</td> <td>PPPoE</td>	221.	Connection type(if routing/PPPoE)	PPPoE
224.PPP authenticationAuto225.Connection triggerAlwaysOn226.DialOnDemand Idletime-227.MTU1492228.NAT EnableYes229.IP protocol versionIPv4230.IPv6-231.WAN PPP0E PassthroughYes232.ModeNA233.Connection type(if routing/DHCP)NA235.IP protocol versionNA236.IP protocol versionNA237.VolP_ADSLNA238.Connection type(if routing/DHCP)NA237.VolP_ADSL-VolP_VOSLVolP_ADSLVolP_VOSLVolP_ADSLVolP_VOSLVolP_ADSL239.EnableYes240.Service DesVolP241.VP/CIO/SO242.Encapsulation typeLLC243.Binding intrefaceLAN*LAN4244.ATM QoSCBR245.ATM PCR604 cps246.VLAN priority5248.ModeNA249.Connection type(if routing/PPPOE)NA249.Connection type(if routing/PPOE)NA249.Connection type(if routing/PPOE)NA249.Connection type(if routing/PPOE)NA249.Connection type(if routing/PPOE)NA241.PP JestmaneNA242.PP JustmaneNA243.PP JustmaneNA244	222.	PPP Username	user
225.Connection triggerAlwaysOn226.DialonDemand Idetime-227.MTU1492228.NAT EnableYes229.IP protocol versionIPv4230.IP Pof231.WAN PPPE PassthroughYes232.ModeNA233.Connection type(if routing/DHCP)NA234.CTH MTUNA235.NAT EnableNA236.IP protocol versionNA237.VolP_ADSI, VolP_VDSI.238.Connection NameVolP_ADSI, VolP_VDSI.239.EnableYes240.Service DesVOIP241.VP/VCI0/50242.Encasulation typeLLC243.Binding IntrefaceLAN1*LAN4244.ATM QoSCBR245.ATM PCR604 cps246.VLAN ID1405247.VLAN priority5248.ModeNA249.Connection type(if routing/PPPOE)NA245.ATM PCR604 cps245.ATM PCR5246.VLAN ID1405247.VLAN priority5248.ModeNA249.Connection type(if routing/PPPOE)NA245.PPP UsernameNA245.PPP UsernameNA245.PPP UsernameNA245.PPP UsernameNA245.PPP UsernameNA	223.	PPP Password	user
226.DialOnDemanol Idletime-227.MTU1492228.NAT EnableYes229.IP protocol versionIPv4230.IPv6-231.WAN PPPOE PassthroughYes232.ModeNA233.Connection type(if routing/DHCP)NA234.ETH MTUNA235.NAT EnableNA236.IP protocol versionNA237.VolP_ADSL VolP_VOSLVolP_OSL238.Connection NameVolP_VDSL239.EnableYes241.VPI/VCI0/50241.VPI/VCI0/50242.Encapsulation typeLLC243.Binding IntrefaceLAN1*LAN4244.ATM QoSCBR245.ATM PCR604 cps246.VLAN ID1405247.VLAN ID1405248.ModeNA249.Connection type(if routing/PPPOE)NA250.PPP UsernameNA251.PPP PusernameNA252.PPP authenticationNA	224.	PPP authentication	Auto
227.MTU1492228.NAT EnableYes229.IP protocol versionIPv4230.IPv6-231.WAN PPPOE PassthroughYes233.Connection type(if routing/DHCP)NA234.ETH MTUNA235.NAT EnableNA236.IP protocol versionNA237.VoIP_ADSLVoIP_ADSLVoIP_VDSLVoIP_VDSL238.Connection NameVoIP_ADSLvoIP_VDSLVoIP_VDSL240.Service DesVOIP241.VPI/VCI0/50242.Encasulation typeLLC243.Binding IntrefaceLAN1*LAN4244.ATM QoSCBR245.ATM PCR604 cps246.VLAN priority5248.ModeNA249.Connection type(if routing/PPPOE)241.PP UsernameNA242.FrasswordNA243.Birding IntrefaceLAN1*LAN4244.ATM PCR604 cps245.ATM PCR604 cps246.VLAN Ipriority5248.ModeNA250.PPP UsernameNA251.PPP PusernameNA252.PPP authenticationNA	225.	Connection trigger	AlwaysOn
228.NAT EnableYes229.IP protocol versionIPv4230.IPv6IPv4231.WAN PPP0E PassthroughYes232.ModeNA233.Connection type(if routing/DHCP)NA234.ETH MTUNA235.NAT EnableNA236.IP protocol versionNA237.VolP_ADSL VolP_VOSLVolP_ADSL VolP_VOSL238.Connection NameVolP_ADSL VolP_VOSL239.EnableYes240.Service DesVOIP241.VPI/VCI0/50242.Encapsulation typeLLC243.Binding IntrefaceLAN1~LAN4244.ATM QoSCBR245.ATM PCR604 cps246.VLAN priority5248.ModeNA249.Connection type(if routing/PPPOE)NA250.PPP UsernameNA251.PPP PastwordNA252.PPP authenticationNA	226.	DialOnDemand Idletime	-
229.IP protocol versionIPv4230.IPv6	227.	MTU	1492
230.IPv6231.WAN PPoE PassthroughYes232.ModeNA233.Connection type(if routing/DHCP)NA234.ETH MTUNA235.NAT EnableNA236.IP protocol versionNA237.VoIP_ADSL VOIP_VDSLVoIP_VDSL238.Connection NameVoIP_ADSL VoIP_VDSL239.EnableYes240.Service DesVOIP241.VPI/VCIO/50242.Encapsulation typeLLC243.Binding IntrefaceLAN1*LAN4244.ATM PCR604 cps245.ATM PCR604 cps246.VLAN ID1405247.VLAN priority5248.ModeNA249.Connection type(if routing/PPOE)NA245.PPP UsernameNA245.PPP UsernameNA245.PPP UsernameNA246.VLAN ID1405247.VLA priority5248.ModeNA250.PPP UsernameNA251.PPP PasswordNA252.PPP authenticationNA	228.	NAT Enable	Yes
231.WAN PPPoE PassthroughYes232.ModeNA233.Connection type(if routing/DHCP)NA234.ETH MTUNA235.NAT EnableNA236.IP protocol versionNA237.VoIP_ADSL VoIP_VDSLVoIP_VDSL238.Connection NameVoIP_VDSL239.EnableYes240.Service DesVOIP241.VPI/VCI0/50242.Encapsulation typeLLC243.Binding IntrefaceLAN1"LAN4244.ATM QoSCBR245.ATM PCR604 cps246.VLAN ID1405247.VLAN priority5248.ModeNA249.Connection type(if routing/PPOE)NA245.ATM PCR604 cps245.VLAN ID1405245.PPP UsernameNA246.VLAN IDADS247.VLAN priority5248.ModeNA250.PPP UsernameNA251.PPP PasswordNA252.PPP authenticationNA	229.	IP protocol version	IPv4
232.ModeNA233.Connection type(if routing/DHCP)NA234.ETH MTUNA235.NAT EnableNA236.IP protocol versionNA237.VoIP_ADSL VoIP_VDSLVoIP_ADSL VoIP_VDSL238.Connection NameVoIP_ADSL VoIP_VDSL239.EnableYes240.Service DesVOIP241.VPI/VCI0/50242.Encapsulation typeLLC243.Binding IntrefaceLAN1*LAN4244.ATM PCR604 cps245.ATM PCR604 cps246.VLAN ID1405247.VLAN priorityS248.ModeNA249.Connection type(if routing/PPPOE)NA250.PPP UsernameNA251.PPP PasswordNA252.PPP authenticationNA	230.	IPv6	
233.Connection type(if routing/DHCP)NA234.ETH MTUNA235.NAT EnableNA236.IP protocol versionNA237.VoIP_ADSL VoIP_VDSLNoIP_ADSL VoIP_VDSL238.Connection NameVoIP_ADSL VoIP_VDSL239.EnableYes240.Service DesVOIP241.VPI/VCI0/50242.Encapsulation typeLLC243.Binding IntrefaceLAN1~LAN4244.ATM QoSCBR245.ATM PCR604 cps246.VLAN ID1405247.VLAN priority5248.ModeNA249.Connection type(if routing/PPPOE)NA245.PPP JasmareNA245.PPP PasswordNA250.PPP PasswordNA252.PPP authenticationNA	231.	WAN PPPoE Passthrough	Yes
234.ETH MTUNA235.NAT EnableNA236.IP protocol versionNA237.VoIP_ADSL VoIP_VDSLNA238.Connection NameVoIP_ADSL VoIP_VDSL239.EnableYes240.Service DesVOIP241.VPI/VCI0/50242.Encapsulation typeLLC243.Binding IntrefaceLAN1~LAN4244.ATM QoSCBR245.ATM PCR604 cps246.VLAN ID1405247.VLAN priority5248.ModeNA249.Connection type/ff routing/PPPOE)NA249.Connection type/ff routing/PPPOE)NA249.Connection type/ff routing/PPPOE)NA250.PPP UsernameNA251.PPP PasswordNA252.PPP authenticationNA	232.	Mode	NA
235.NAT EnableNA236.IP protocol versionNA237.VoIP_ADSL VoIP_VDSLNA238.Connection NameVoIP_ADSL VoIP_VDSL239.EnableYes240.Service DesVOIP241.VPI/VCI0/50242.Encapsulation typeLLC243.Binding IntrefaceLAN1~LAN4244.ATM QoSCBR245.ATM PCR604 cps246.VLAN ID1405247.VLAN priority5248.ModeNA249.Connection type(if routing/PPPoE)NA250.PPP UsernameNA251.PPP PasswordNA252.PPP authenticationNA	233.	Connection type(if routing/DHCP)	NA
236.IP protocol versionNA237.VoIP_ADSL VoIP_VDSL238.Connection NameVoIP_ADSL VoIP_VDSL239.EnableYes240.Service DesVOIP241.VPI/VCI0/50242.Encapsulation typeLLC243.Binding IntrefaceLAN1~LAN4244.ATM QoSCBR245.ATM PCR604 cps246.VLAN ID1405247.VLAN priority5248.ModeNA249.Connection type(if routing/PPPOE)NA250.PPP UsernameNA251.PPP PasswordNA252.PPP authenticationNA	234.	ETH MTU	NA
237.VoIP_ADSL VoIP_VDSLVoIP_ADSL VoIP_VDSL238.Connection NameVoIP_ADSL VoIP_VDSL239.EnableYes240.Service DesVOIP241.VPI/VCI0/50242.Encapsulation typeLLC243.Binding IntrefaceLAN1~LAN4244.ATM QoSCBR245.ATM PCR604 cps246.VLAN ID1405247.VLAN priority5248.ModeNA249.Connection type(if routing/PPPoE)NA250.PPP UsernameNA251.PPP PasswordNA252.PPP authenticationNA	235.	NAT Enable	NA
VoIP_VDSLVoIP_ADSL238.Connection NameVoIP_ADSL VoIP_VDSL239.EnableYes240.Service DesVOIP241.VPI/VCI0/50242.Encapsulation typeLLC243.Binding IntrefaceLAN1~LAN4244.ATM QoSCBR245.ATM PCR604 cps246.VLAN ID1405247.VLAN priority5248.ModeNA249.Connection type(if routing/PPPoE)NA250.PPP UsernameNA251.PPP PasswordNA252.PPP authenticationNA	236.	IP protocol version	NA
VolP_VDSL239.EnableYes240.Service DesVOIP241.VPI/VCI0/50242.Encapsulation typeLLC243.Binding IntrefaceLAN1~LAN4244.ATM QoSCBR245.ATM PCR604 cps246.VLAN ID1405247.VLAN priority5248.ModeNA249.Connection type(if routing/PPPoE)NA250.PPP UsernameNA251.PPP PasswordNA252.PPP authenticationNA		VoIP_VDSL	
240.Service DesVOIP241.VPI/VCI0/50242.Encapsulation typeLLC243.Binding IntrefaceLAN1~LAN4244.ATM QoSCBR245.ATM PCR604 cps246.VLAN ID1405247.VLAN priority5248.ModeNA249.Connection type(if routing/PPPoE)NA250.PPP UsernameNA251.PPP PasswordNA252.PPP authenticationNA	238.	Connection Name	
241.VPI/VCI0/50242.Encapsulation typeLLC243.Binding IntrefaceLAN1~LAN4244.ATM QoSCBR245.ATM PCR604 cps246.VLAN ID1405247.VLAN priority5248.ModeNA249.Connection type(if routing/PPPoE)NA250.PPP UsernameNA251.PPP PasswordNA252.PPP authenticationNA	239.	Enable	
242.Encapsulation typeLLC243.Binding IntrefaceLAN1~LAN4244.ATM QoSCBR245.ATM PCR604 cps246.VLAN ID1405247.VLAN priority5248.ModeNA249.Connection type(if routing/PPPoE)NA250.PPP UsernameNA251.PPP PasswordNA252.PPP authenticationNA	240.		
243.Binding IntrefaceLAN1~LAN4244.ATM QoSCBR245.ATM PCR604 cps246.VLAN ID1405247.VLAN priority5248.ModeNA249.Connection type(if routing/PPPoE)NA250.PPP UsernameNA251.PPP PasswordNA252.PPP authenticationNA			
244.ATM QoSCBR245.ATM PCR604 cps246.VLAN ID1405247.VLAN priority5248.ModeNA249.Connection type(if routing/PPPoE)NA250.PPP UsernameNA251.PPP PasswordNA252.PPP authenticationNA			
245.ATM PCR604 cps246.VLAN ID1405247.VLAN priority5248.ModeNA249.Connection type(if routing/PPPoE)NA250.PPP UsernameNA251.PPP PasswordNA252.PPP authenticationNA			
246.VLAN ID1405247.VLAN priority5248.ModeNA249.Connection type(if routing/PPPoE)NA250.PPP UsernameNA251.PPP PasswordNA252.PPP authenticationNA			
247.VLAN priority5248.ModeNA249.Connection type(if routing/PPPoE)NA250.PPP UsernameNA251.PPP PasswordNA252.PPP authenticationNA			
248.ModeNA249.Connection type(if routing/PPPoE)NA250.PPP UsernameNA251.PPP PasswordNA252.PPP authenticationNA			
249.Connection type(if routing/PPPoE)NA250.PPP UsernameNA251.PPP PasswordNA252.PPP authenticationNA			
250. PPP Username NA 251. PPP Password NA 252. PPP authentication NA			
251. PPP Password NA 252. PPP authentication NA			
252. PPP authentication NA			
253. Connection trigger NA	253.	Connection trigger	NA



254.	DialOnDemand Idletime	NA
255.	MTU	NA
256.	NAT Enable	NA
257.	IP protocol version	NA
258.	WAN PPPoE Passthrough	NA
259.	Mode	
260.	Connection type(if routing/DHCP)	Routing DHCP
261.		1500
262.	NAT Enable	No
263.	IP protocol version	IPv4
264.	IPTV_ADSL IPTV_VDSL	
265.	Connection Name	IPTV_ADSL IPTV_VDSL
266.	Enable	Yes
267.	Service Des	IPTV
268.	VPI/VCI	0/40
269.	Encapsulation type	LLC
270.	Binding Intreface	empty(any service any port)
271.	ATM QoS	VBR-nrt
272.	ATM PCR	PCR:1200 cps SCR:1100 cps MBS:3000 cells
273.	VLAN ID	1500
273.	VLAN ID VLAN priority	2
274.	Mode	NA
276.	Connection type(if routing/PPPoE)	NA
277.	PPP Username	NA
278.	PPP Password	NA
279.	PPP authentication	NA
280.	Connection trigger	NA
281.	DialOnDemand Idletime	NA
282.	MTU	NA
283.	NAT Enable	NA
284.	IP protocol version	NA
285.	WAN PPPoE Passthrough	NA
286.	Mode	IP_bridge
287.	Connection type(if routing/DHCP)	-
288.	ETH MTU	1500
289.	NAT Enable	-
290.	IP protocol version	-
291.	WAN GPON	
292.	Internet WAN>ONT	
		100
293.	PTM VLAN	100
294.	PTM Priority	0
295.	Service type	PPPoE
296.	Connection trigger	Always On
297.	MTU	1492
298.	NAT	enabled
299.	Firewall	enabled
300.	IPv4	enabled
301.	IPv6	enabled
302.	Prefix delegation for IPv6	enabled
303.	Default route	
304.	VoIP WAN>ONT	
305.	PTM VLAN	101
	PTM Priority	5
306.		1 -
306. 307.	Service type	DHCP



309.	MTU	1500
310.	NAT	disabled
311.	Firewall	disabled
312.	IPv4	enabled
313.	IPv6	disabled
314.	Prefix delegation for IPv6	disabled
315.	IPTV WAN>ONT	
315.	PTM VLAN	1500
		2
317.	PTM Priority	
318.	Service type	Bridged
319.	Connection trigger	-
320.	MTU	-
321.	NAT	-
322.	Firewall	-
323.	IPv4	-
324.	IPv6	-
325.	Prefix delegation for IPv6	-
326.	Remarking	
327.	DSCP Setting rule 1	VOICE
328.	Protocol:	SIP/RTP
329.	Egress Interface	VOICE
330.	DSCP remark	40
331.	802.1p remark	5
332.	DSCP Setting rule 2	IPTV
333.	Protocol:	ALL
334.	Egress Interface	IPTV
335.	DSCP remark	16
335.	802.1p remark	2
		2
337.	Voice	
338.	Provider name	ims.t-com.hr
339.	sip server	
340.	SIP proxy server address/port	ims.t-com.hr/5060
341.	SIP registrar server address/port	ims.t-com.hr/5060
342.	useragent domain	ims.t-com.hr
343.	codec	
344.	Codec 1	G.711a
345.	ptime_1	20
346.	Codec 2	G729 AnnexB=No
347.	ptime_2	20
348.	Codec 3	G.711u
349.	ptime_3	20
350.	Codec 4	empty
351.	ptime_4	empty
352.	Codec 5	empty
353.	ptime_5	empty
354.	Codec 6	empty
355.	ptime_6	empty
356.	fax	
350.	Codec_1	G711A
358.	Codec_2	G711U
359.	Codec_3	T38
360.	Emergency Number	'100, 108, 112, 166, 197, 199, 1056, 116000, 1014, 13818
361.	Dynamic payload type	101
362.	Line	
363.	Username 1	+385xxxxxx@ims.t-com.hr
364.	Authorization username1	something1@ims.t-com.hr
365.	Password 1	empty
	Local port for SIP-UA1	5060



367.	Username 2	+385xxxxxxx@ims.t-com.hr
368.	Authorization username2	something2@ims.t-com.hr
369.	Password 2	empty
370.	Local port for SIP-UA2	5060
371.	Session Timer "Min-SE"	90
372.	Session Times "Session Expires"	3600
373.	Register expire	3600
374.	RegisterBetweenServersInterval(T1)	60
375.	RegisterDetectInterval(T2)	60
376.	Register retrying interval(T3)	60
377.	SIP Options	Disabled
378.	DTMF mode	InBand
379.	Outbound proxy	NA
380.	other capabilities	
381.	The supplementary services	ativation: *XX#
501.	activation/deactivation/query code	deativation: #XX#
		query: *#XX#
382.	interdigit delay (second)	55
383.	3 party call	enable
565.		
384.	Call Hold	enable
385.	Call Waiting	enable
386.	Hot Line	enable
387.	SUBSCRIBE	disable
388.	DigitMap	empty
389.	subscriber line signaling	
390.	Flash time	25ms-150ms
391.	onhook time	>=250ms
392.	dial pulses	NA
393.	Cadence of ringing signal	 '- signal duration: 1000 ms ± 10% - pause duration: 4000 ms ± 10%
394.	Tones	
395.	Dial Tone	'- frequency: 425 Hz ± 15 Hz
		- nominal level: -12 dBm8 dBm
		- cadence (signal-pause): 200-300-700-800 ms ± 10 %
396.	Ringing Tone	- frequency: 425 Hz ± 15 Hz
		- nominal level: -12 dBm8 dBm
		- cadence (signal-pause): 1000-4000 ms ± 10 %
397.	Busy Tone	- frequency: 425 Hz ± 15 Hz
		- nominal level: -12 dBm8 dBm
		 - cadence (signal-pause): 500-500 ms ± 10 %
398.	Congestion Tone	- frequency: 425 Hz ± 15 Hz
		- nominal level: -12 dBm8 dBm
		 - cadence (signal-pause): 240-240 ms ± 10 %
399.	"Network unavailable" Tone indicates, that the IP	NA
	network is unavailable.	
400.	Call Waiting Tone	- frequency: 425 Hz ± 15 Hz
		- nominal level: -20 dBm16 dBm
		- cadence (signal-pause): 200-600-200-8000 ms ± 10 %
401.	Special Dial Tone	- frequency: 425 Hz ± 15 Hz
		- nominal level: -12 8 dBm
		- cadence (signal-pause): 400-40 ms ± 10 %
402.	Stutter Tone (MWI):	NA
403.	Holding Tone:	NA
404.	Continuous Tone	NA
405.	Confirmation Tone	NA
406.	IGMP	
407. 408.	IGMP Snooping Enable	Yes
	IGMP Proxy Enable	No



409.	IGMP Proxy interface(VPI/VCI)	Auto
410.	IGMP Version	V3
411.	IGMP additional functions	-

3. Konfiguracija tehničke opreme_ postavke

Uz tehničke karakteristike tehničke opreme navedene su i postavke kojima bi trebalo konfigurirati predmetnu tehničku opremu pojedinačno, što ovisi o prijenosnim tehnologijama na kojima se realizira širokopojasni pristup, ali i o samim uslugama.

						Resident	ial Default	CPE Co	onfigura	ation (SHORT)							
							ADSI	WAN Conr	ection										
Service	Connection name	Connection Type	VPI	VCI	CoS	PCR	UserName	PassWo rd	DHCP server(L AN)	NAT	LAN Ports	MTU	Authenti cation Type	Connecti on Trigger	PPPoE pass- through	IP version	IPv6 info get mode	Prefix Delegation	prefix delegation for allocation address
INTERNET	Internet ADSL	PPPoE	0	33	UBR	1	blank	blank	Enabled	Enabled	ASAP	1492	Auto	Always On	Disabled	IPv4	,	/	,
VOIP	VOIP ADSL	DHCP	0	50	CBR	604 cos	1	1	1	Enabled	FXS	1500	1	1	1	IPv4	1	1	1
IPTV	IPTV_ADSL	Bridge	0	40	nRT_VBR	PCR:1200 cps SCR:1100 cps MBS:3000 cells	/	,	/	,	ASAP	/	1	1	1	1	/	1	1
							VDSL WAN Cor	nection											
Service	Connection	VLAN ID	IEEE 8	102.1P	Connection Type	DHCP server(LAN)	NAT	LAN Ports	Userna me	Passwo rd	MTU	Authenti cation Type	Connecti on Trigger	PPPoE pass- through	IP version	IPv6 info get mode	Prefix Delegati on	prefix delegation for allocation address	
INTERNET	Internet_VDSL	1203	0		PPPOE	Enabled	Enabled	ASAP	blank	blank	1492	Auto	Always On	Disabled	IPv4	1	1	/	
VOIP	VOIP_VDSL	1405	5		DHCP	1	Enabled	FXS	1	1	1500	1	1	1	IPv4	1	1	/	
IPTV	IPTV_VDSL	1500	2	2	Bridge	1	/	ASAP	1	1	1	1	1	1	1	1	1	/	
							ETH WAN Conr	oction											
Service	Connection name	VLAN ID	IEEE 802.1P		Connection Type	DHCP server(LAN)	NAT	LAN Ports	Userna me	Passwo rd	мти	Authenti cation Type	Connecti on Trigger	PPPoE pass- through	IP version	IPv6 info get mode	Prefix Delegati on	prefix delegation for allocation address	
INTERNET	Internet_ETH	100	0		PPPOE	Enabled	Enabled	ASAP	blank	blank	1492	Auto	Always On	Disabled	IPv4	1	1	/	
VOIP	VOIP_ETH	101	5		DHCP	1	Enabled	FXS	1	1	1500	1	1	1	IPv4	1	1	/	
IPTV	IPTV_ETH	1500	2		Bridge	1	1	ASAP	1	1	1	1	1	1	1	1	1	/	
			Qo																
		dot1p	IPPrec	DSCP															
	Internet	0	0	0															
	VolP	5	5	40															
	IPTV	2	2	16															
		•	•	10				-											