

Regulatory Update

22nd December 2015

Brazil – ANATEL – IPv6 Requirements

ANATEL IPv6 requirements will come in to force in January 2016 and the requirements apply to product using 3G and 4G technology. Products only using 2G technology are not subject to the IPv6 requirements;

The IPv6 requirements apply to Category I equipment with the following characteristics:

- Air interface intended for mobile services defined by ANATEL
- Terminal function for 3G and 4G technologies; and
- Allow communication by IP (Internet Protocol).

The requirements established in document 3GPP TS 36.523-1 come into force on 01 January 2016.

For products approved prior to the IPv6 requirements coming in to force, must be tested during the renewal (maintenance) process.

Please see attached IPv6 requirements attached in English and Portuguese.

For further information on this article, please contact

Sam Cowan
Product Compliance Specialists
sam@productcompliancespecialists.com

Legislative document	Applicable requirements (see note II)	Test procedures
Implementation of protocol IPv6 (Internet Protocol version 6).		
<p>Scope of requirements: The requirements described below apply to Category I equipment with the following characteristics:</p> <ul style="list-style-type: none"> • Air interface intended for mobile services defined by Anatel; • Terminal function for 3G and 4G technologies; and • Allow communication by IP (<i>Internet Protocol</i>). 		
<p>Application of requirements: The requirements described below must be applied taking the following observations into consideration:</p> <ul style="list-style-type: none"> • The following requirements apply to product using 3G and 4G technology. Products only using 2G technology are not subject to the following requirements; • The requirements described by the 3GPP, IETF and <i>IPv6 Forum</i> references apply to products using 3G and 4G technologies; • Products only using 3G technology must satisfy the requirements specified by IETF and by <i>IPv6 Forum</i>; • The requirements established in document 3GPP TS 36.523-1 come into force on 01 January 2016. The requirements established by RFCs 2460, 4861 and 4862 come into force on 01 August 2016. 		
<p>Rules on maintenance of the certificates of products subject to these requirements: For products certified before the entry into force of this document, the following principles apply, described in the regulations in force:</p> <ul style="list-style-type: none"> • The requirements described in this document must be observed for maintenance of product certification. • It shall be up to the party interested in approval and the OCD responsible for product certification to assess their compliance with the provisions of these requirements. • If the product cannot be assessed with regard to the requirements supporting protocol IPv6, the OCD must provide a technical description in the Technical Compliance Assessment Report. This description must clearly indicate the reasons for which it is not possible to apply these requirements. <p>For products certified after the date of entry into force of this document, maintenance of support for these requirements must be assessed at the time of maintenance as described in the regulations in force.</p>		
Terminal function with air interface intended for mobile services.		
3GPP TS 36.523-1 Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Packet Core (EPC); User Equipment (UE) conformance specification; Part 1: Protocol conformance specification.	<ul style="list-style-type: none"> - 6.2.3.4 – Inter-RAT cell reselection / From UTRA_CELL_PCH state to E-UTRA RRC_IDLE - 6.2.3.13 – Inter-RAT cell reselection / From UTRA_IDLE to E-UTRA RRC_IDLE according to RAT priority provided by dedicated signaling - 6.2.3.31 – Inter-RAT cell reselection / From UTRA_IDLE (low priority) to E-UTRA RRC_IDLE (high priority) according to RAT priority provided by dedicated signaling - 8.5.4.1 – UE capability transfer / Success - 9.2.2.1.10 – UE initiated detach / Mapped security context - 9.2.3.3.1 – First Iu mode to S1 mode inter-system change after attach - 9.2.3.3.5a – Periodic Location Update - 10.3.1 – EPS bearer context modification / Success - 10.5.1 – UE requested PDN connectivity accepted by the network – 	- 3GPP TS 36.523-1 Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Packet Core (EPC); User Equipment (UE) conformance specification; Part 1: Protocol conformance specification.

Legislative document	Applicable requirements (see note II)	Test procedures
	terminal must configure the type of PDN for IPv4v6 or IPv6. Terminals with IPv4 type only will not be accepted. - 10.5.3 – UE requested PDN connectivity not accepted	
RFC 2460 – Internet Protocol, Version 6 (IPv6) Specification	- IPv6 READY, Phase-1/Phase-2 Test Specification, Core Protocols, Technical Document – Section 1, except for the following items: <ul style="list-style-type: none"> • TEST V6LC.1.1.3; • TEST V6LC.1.1.9; • TEST V6LC.1.1.10; e • TEST V6LC.1.2.7. 	- IPv6 READY, Phase-1/Phase-2 Test Specification, Core Protocols, Technical Document – Section 1
RFC 4861 – Neighbor Discovery for IP version 6	- IPv6 READY, Phase-1/Phase-2 Test Specification, Core Protocols, Technical Document – Section 2, with the following comments: <ul style="list-style-type: none"> • Requirements exclusive to routers should not be applied (TEST V6LC.2.1.14, TEST V6LC.2.2.4, TEST V6LC.2.2.5, TEST V6LC.2.2.6, TEST V6LC.2.2.7, TEST V6LC.2.2.8, TEST V6LC.2.2.9 and TEST V6LC.2.2.10). • TEST V6LC.2.1.5 and TEST V6LC.2.2.18: These are requirements that check <i>Address Resolution</i> and <i>Next-hop Determination</i>, and, in accordance with item 2.2 of RFC 7066 (<i>IPv6 for Third Generation Partnership Project (3GPP) Cellular Hosts</i>), do not apply to mobile terminals. • In Group 3, only apply the following requirements: Test v6LC.2.3.2, Test v6LC.2.3.3, Test v6LC.2.3.5, Test v6LC.2.3.6, Test v6LC.2.3.8 e Test v6LC.2.3.15. 	- IPv6 READY, Phase-1/Phase-2 Test Specification, Core Protocols, Technical Document – Section 2
RFC 4862 – IPv6 Stateless Address Autoconfiguration	- IPv6 READY, Phase-1/Phase-2 Test Specification, Core Protocols, Technical Document – Section 3, except for the requirement specified in item TEST V6LC.3.1.5.	- IPv6 READY, Phase-1/Phase-2 Test Specification, Core Protocols, Technical Document – Section 3

Documento normativo	Requisitos aplicáveis (vide nota II)	Procedimentos de ensaios
Implementação do protocolo IPv6 (Internet Protocol version 6).		
<p>Abrangência dos requisitos: Os requisitos descritos abaixo são aplicáveis aos equipamentos de Categoria I e que possuam as seguintes características:</p> <ul style="list-style-type: none"> • Interface aérea destinada aos serviços móveis definidos pela Anatel; • Função de terminal para as tecnologias 3G e 4G; e • Permitam a comunicação por meio do protocolo IP (<i>Internet Protocol</i>). 		
<p>Da aplicação dos requisitos: Os requisitos descritos abaixo deverão ser aplicados considerando-se as seguintes observações:</p> <ul style="list-style-type: none"> • Os requisitos abaixo são aplicáveis a produtos que utilizem a tecnologia 3G e 4G. Produtos que só implementem a tecnologia 2G não estão abrangidos pelos requisitos abaixo; • Os requisitos descritos pelas referências do 3GPP, do IETF e do <i>IPv6 Forum</i> são aplicáveis aos produtos com tecnologias 3G e 4G; • Os produtos que implementem somente a tecnologia 3G, deverão atender aos requisitos especificados pelo IETF e pelo <i>IPv6 Forum</i>; • Os requisitos estabelecidos no documento 3GPP TS 36.523-1 entram em vigor no dia 01 de janeiro de 2016. Já os requisitos estabelecidos pelas RFCs 2460, 4861 e 4862 entram em vigor no dia 01 de agosto de 2016. 		
<p>Das regras de manutenção dos certificados dos produtos abrangidos por esses requisitos: Para os produtos certificados antes da entrada em vigor deste documento, aplicam-se os seguintes princípios, descritos na regulamentação vigente:</p> <ul style="list-style-type: none"> • Os requisitos descritos neste documento devem ser observados por ocasião da manutenção da certificação do produto. • Caberá ao interessado na homologação e ao OCD responsável pela certificação dos produtos avaliar a sua conformidade com as disposições destes requisitos. • Caso o produto não possa ser avaliado quanto aos requisitos de suporte ao protocolo IPv6, o OCD deverá realizar uma descrição técnica no Relatório de Avaliação da Conformidade Técnica. Esta descrição deverá indicar claramente os motivos pelos quais não é possível a aplicação destes requisitos. <p>Para os produtos certificados após a data de entrada em vigor deste documento, na ocasião da manutenção deverá ser avaliada a manutenção do suporte a esses requisitos conforme descrito na regulamentação vigente.</p>		
Função de terminal com interface aérea destinada aos Serviços Móveis.		
<p>3GPP TS 36.523-1 Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Packet Core (EPC); User Equipment (UE) conformance specification; Part 1: Protocol conformance specification.</p>	<ul style="list-style-type: none"> - 6.2.3.4 – Inter-RAT cell reselection / From UTRA_CELL PCH state to E-UTRA RRC_IDLE - 6.2.3.13 – Inter-RAT cell reselection / From UTRA_IDLE to E-UTRA RRC_IDLE according to RAT priority provided by dedicated signaling - 6.2.3.31 – Inter-RAT cell reselection / From UTRA_IDLE (low priority) to E-UTRA RRC_IDLE (high priority) according to RAT priority provided by dedicated signaling - 8.5.4.1 – UE capability transfer / Success - 9.2.2.1.10 – UE initiated detach / Mapped security context - 9.2.3.3.1 – First Iu mode to S1 mode inter-system change after attach - 9.2.3.3.5a – Periodic Location Update - 10.3.1 – EPS bearer context modification / Success - 10.5.1 – UE requested PDN connectivity accepted by the network – o 	<ul style="list-style-type: none"> - 3GPP TS 36.523-1 Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Packet Core (EPC); User Equipment (UE) conformance specification; Part 1: Protocol conformance specification.

Documento normativo	Requisitos aplicáveis (vide nota II)	Procedimentos de ensaios
	<p>terminal deve configurar o tipo do PDN para IPv4v6 ou IPv6. Não serão aceitos terminais com o tipo IPv4 somente.</p> <ul style="list-style-type: none"> - 10.5.3 – UE requested PDN connectivity not accepted 	
RFC 2460 – Internet Protocol, Version 6 (IPv6) Specification	<ul style="list-style-type: none"> - IPv6 READY, Phase-1/Phase-2 Test Specification, Core Protocols, Technical Document – Section 1, com exceção dos seguintes itens: <ul style="list-style-type: none"> • TEST V6LC.1.1.3; • TEST V6LC.1.1.9; • TEST V6LC.1.1.10; e • TEST V6LC.1.2.7. 	<ul style="list-style-type: none"> - IPv6 READY, Phase-1/Phase-2 Test Specification, Core Protocols, Technical Document – Section 1
RFC 4861 – Neighbor Discovery for IP version 6	<ul style="list-style-type: none"> - IPv6 READY, Phase-1/Phase-2 Test Specification, Core Protocols, Technical Document – Section 2, com as seguintes observações: <ul style="list-style-type: none"> • Não devem ser aplicados aqueles requisitos exclusivos para roteadores (TEST V6LC.2.1.14, TEST V6LC.2.2.4, TEST V6LC.2.2.5, TEST V6LC.2.2.6, TEST V6LC.2.2.7, TEST V6LC.2.2.8, TEST V6LC.2.2.9 e TEST V6LC.2.2.10). • TEST V6LC.2.1.5 e TEST V6LC.2.2.18: São requisitos que verificam a Resolução de endereços (<i>Address Resolution</i>) e Determinação do próximo nó (<i>Next-hop Determination</i>), e conforme o item 2.2 da RFC 7066 (<i>IPv6 for Third Generation Partnership Project (3GPP) Cellular Hosts</i>), não são aplicáveis a terminais móveis. • No Grupo 3, aplicar somente os seguintes requisitos: Test v6LC.2.3.2, Test v6LC.2.3.3, Test v6LC.2.3.5, Test v6LC.2.3.6, Test v6LC.2.3.8 e Test v6LC.2.3.15. 	<ul style="list-style-type: none"> - IPv6 READY, Phase-1/Phase-2 Test Specification, Core Protocols, Technical Document – Section 2
RFC 4862 – IPv6 Stateless Address Autoconfiguration	<ul style="list-style-type: none"> - IPv6 READY, Phase-1/Phase-2 Test Specification, Core Protocols, Technical Document – Section 3, com exceção do requisito especificado no item TEST V6LC.3.1.5. 	<ul style="list-style-type: none"> - IPv6 READY, Phase-1/Phase-2 Test Specification, Core Protocols, Technical Document – Section 3