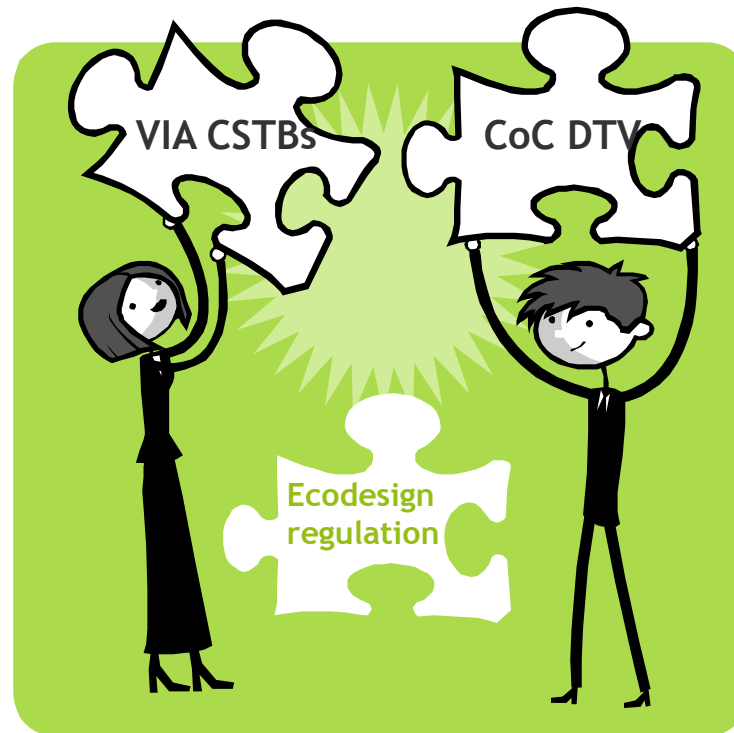


Evolution of EU Code Of Conduct for DTV DRAFT Proposal for Version V9

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Energy related Products constraints in Europe



CONTENT

PART1: Focus on the evolutions of VIA & EU CoC for DTV

- Key points
- Additional functionalities
- Introduction of Networked Standby in EU CoC V9
- Principle of APD (“User APD” as well as “System APD”)
- Synchronization with Voluntary Industry Agreement

PART2: Focus on Networked Standby measurement method

PART1

Focus on the evolutions of the EU CoC-DTV and VIA

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EU CoC DTV evolution : key points

OBJECTIVES: evolution, no revolution

- Preserving/improving **VIA<->EU CoC coexistence & synchronization**
 - Complementary rules of VIA (normative) and CoC (aspirational)
- Updating to:
 - Consider **all kind of equipment's** (headed/headless) & **new services**
 - Clarify and be more **accurate**
- Anticipating new **challenges** related to “**connected products**”
 - Evolution of TEC allowances to relate them to services more than to technologies

Proposed main PRINCIPLES (still draft)

- Introducing Networked Standby on a voluntary base
 - **Minimal evolution** of the Annual Energy Allowance related to introduction of NTWStdby
 - **New Product TEC calculation with different duty cycles depending on:**
 - without NTW Stdby / with NTWStdby
 - headed/headless
 - **Similar measurement method than Lot 26** (amended 1275/2008)

EU CoC DTV evolution: Additional functionalities(1)

Modification of the list with respect to EU CoC V8 and VIA

- Alignment of some “Additional Functionalities” on VIA3.0- Tier2
 - Renaming:
 - Additional Tuner-> “Access to additional RF channel”
 - DOCSIS -> “Return path Technical Interface” with 2 allowances for DOCSIS2/ADSL or DOCSIS3/VDSL
 - New functionalities to consider evolutions aligned on VIA3.0
 - Adding: **High Efficiency Video, Full High definition, Ultra High Definition, 3DTV, Advanced Graphics, Multi decode/transcode, Multi display**
- Suppression/modification of “Additional Functionalities” with respect to VIA3.0
 - Return path functionality-> supposed to be included in Basic Allowance
 - In Home network-> supposed to be replaced by “Basic In-Home Networking
- Including new “Additional Functionalities” with respect to VIA3.0
 - **Basic In-Home networking->split in 2 allowances:**
 - per NTW physical interface (for each physical i/f)
 - Once for Networked standby functionality (As soon as at least one NTW interface is a NTW port)
 - **In Home Networking Access Point- Router-> added**
 - **VOIP-> added**
 - **Smart Home services - Ultra high processing-> added**

EU CoC DTV evolution: Additional functionalities(2)

Additional Functionalities	Applicability
Access to additional RF channel	For each additional “conventional” (not IP) tuner
Advanced video processing (AVC)	Once per equipment exclusive of HEVC
High efficiency Video Processing (HEVC)	Once per equipment exclusive of AVC
Full High Definition Processing-1080p/50 (Full HD)	Once per equipment exclusive of Ultra-HD
Ultra High definition Processing-4kx2K (Ultra HD)	Once per equipment exclusive of Full-HD
3DTV processing	Once per equipment excluding Frame compatible 3D-TV
Advanced Graphics Processing	Once per equipment if HW acceleration Open GLES2.0 min.
Multi-decoding/transcoding	For each additional encoder
Multi-display	Once per equipment, independent content to more than 1 display
Basic In Home Networking - NTW interfaces	For each NTW interface technology
Basic In Home Networking - NTW stdby functionality	It NTW functionality provided at least on one NTW port
In Home Networking Access Point-Router	Once per equipment
Return Path technical i/f -ADSL or DOCSIS2.0	Once per equipment
Return Path technical i/f -VDSL or DOCSIS3.0	Once per equipment, 4x4 DOCSIS 3.0 mini
DVR	Once per equipment, more than 30 minutes need bit rate spec.
VOIP	Once per equipment
Smart Home / ultra High DMIPs CPU	Once per equipment TBD, definition difficult! Possibly deleted

EU CoC DTV evolution: intro of NTWStdby (1)

No evolution of the TEC calculation formula related to NTWStdby

- $TEC = 0.365(T_{On/Active} \times P_{On/Active} + T_{Stdby} \times P_{Stdby} + T_{APD} \times P_{APD})$

But evolution of the duty cycle in case of NTWStdby functionality

Daily time duration in this mode		No NTWStdby		With NTWStdby	
		Headed CSTB	Headless CSTB	Headed CSTB	Headless CSTB
$T_{On/Active}$	Value (H)	4.5	24	4.5	4.5
T_{Stdby}	Comment	User-controlled Stdby by short key press (default config.)			
	Value (H)	15	0 (NA)	4.5	0 (NA)
T_{APD}	Comment	User APD		System APD	
	Value (H)	4.5	0	15	19.5

EU CoC DTV evolution : intro of NTWStdby (2)

Measuring & computing product TEC:

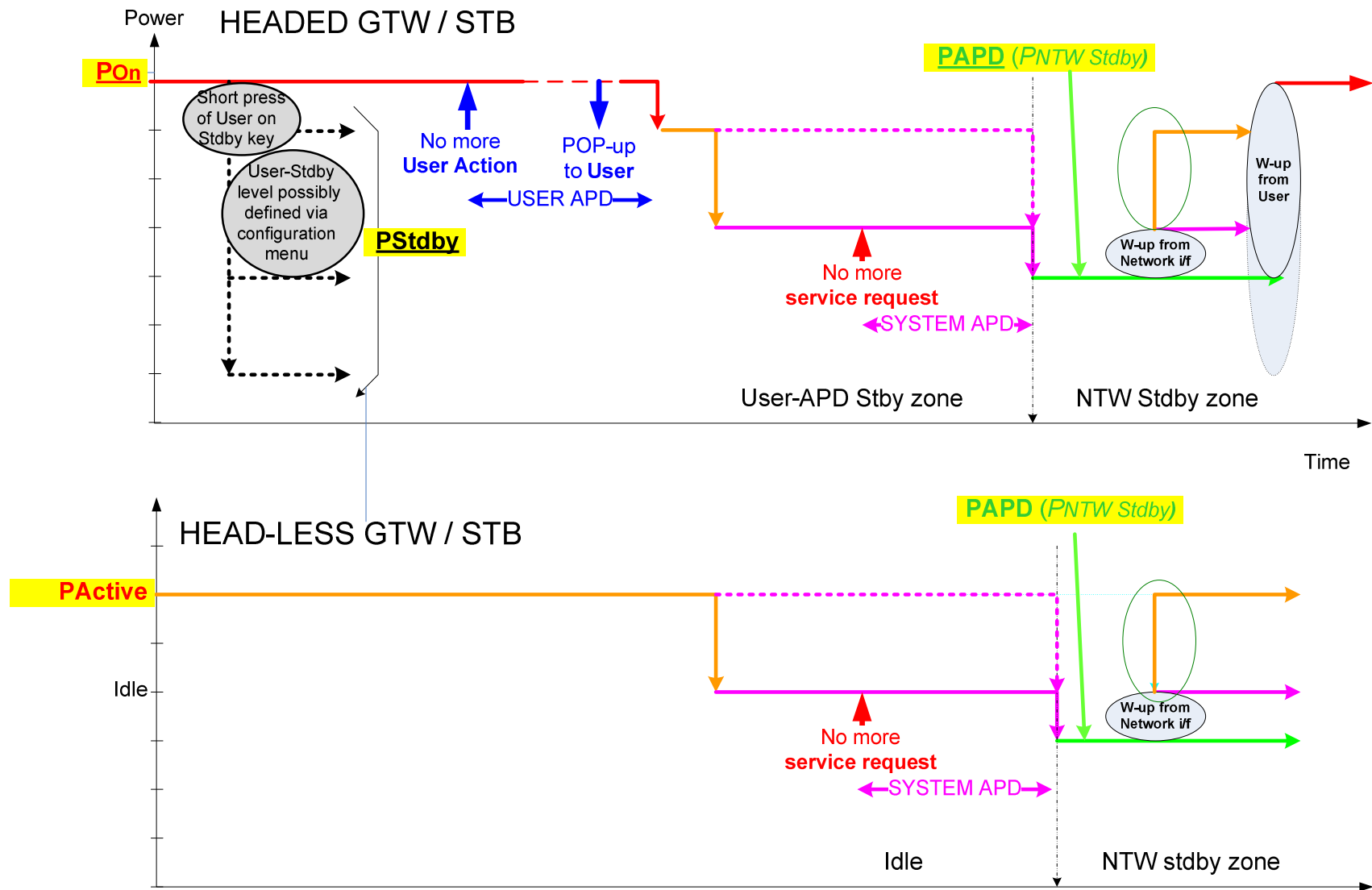
■ Product **not claiming NTWStdby** functionality:

- No change with respect of existing method except clarification for headless equipment
 - Headed:
 - Measurement of P_{On} , P_{APD} & P_{Stdby}
 - TEC computation take into account the 3 power values
 - Headless
 - **only P_{On} is measured**
 - TEC computation takes only care of P_{On}

■ Product **claiming NTWStdby** functionality:

- Manufacturer shall **declare number and type of Network Ports**
- Measurement checks that re-activation from declared NTW Ports is possible
- **Measurement is made for: P_{Stdby} , P_{APD} (user / system), P_{ON}**
- Measurement of $P_{NTWStdby}$ based on Lot 26 measurement method except that:
 - **Only LAN** ports considered now, extension to other networks (broadcast) considered later
 - $P_{NTWStdby}$ is **average value (TBC)** of measured power in NTWStdby of all Network Port types
 - Connect/disconnect of network ports can be “logical” (when sharing same PHY interface)

Principle of APDs: CSTB with NTWStdby functionality



Voluntary Industry Agreement synchro: key points

OBJECTIVES: evolution, no revolution like EU CoC

- Improving **VIA<->EU CoC coexistence & synchronization**
 - Complementary rules of VIA (normative) and CoC (aspirational)
- Updating to:
 - Consider **all kind of equipment's** (headed/headless) & **new services**
 - Clarify and be more **accurate**
 - Adjusting TEC limits using outcomes of the Independent Inspector report

Envisaged PRINCIPLES to be confirmed by VIA group

- Rely on the EU CoC DTV V9 “body” for inspiration
 - Keeping:
 - Explanations **on VIA<->CoC** coexistence and synchronization
 - Updates related to **clarifications** and support of **Headless** CSTB
 - Removing
 - The part related to **Networked stdb**
 - TEC values replacing with values coherent with the “normative” rule of the VIA

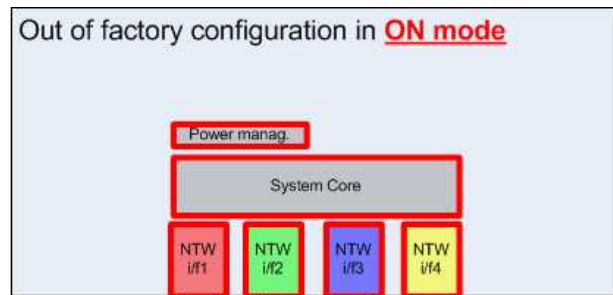
PART 2

FOCUS on Networked Stdby measurement method for EU CoC V9

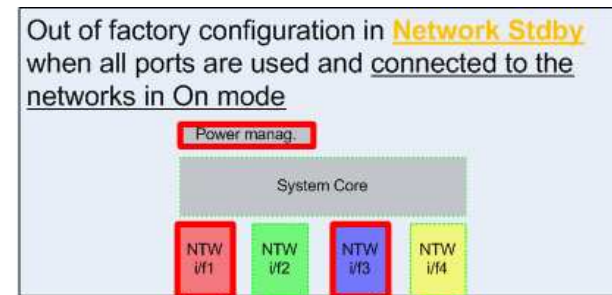
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FOCUS on NTW Stdby: measurement method

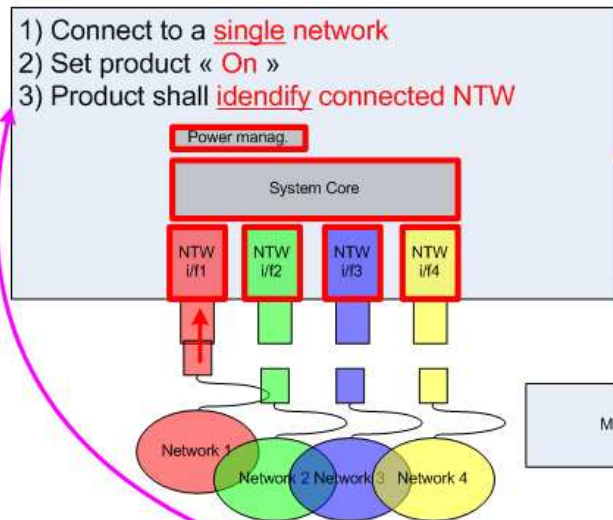


Activated sub-system

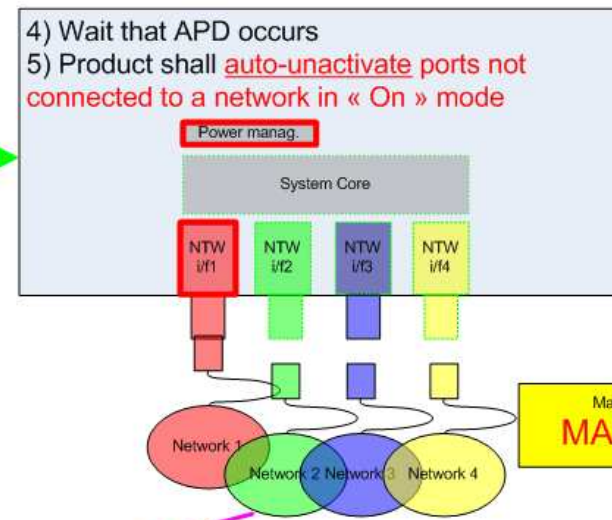


These ports are not Network Ports in the sense of lot 26 regulation because they are not activated in stdby & do not provide reactivation capability

Network ports



APD to Networked Stdby



Change network connection and perform test again

FOCUS on NTW Stdbby (4): measurement method issues

Method described in the draft amendment of 1275/2008 might suffer of several difficulties to be solved and clarified in the framework of
EU CoC DTV

- Based on physical connect of single wired ports assuming single port connected
 - This assumption is wrong for technologies sharing the same physical interface:
 - Cable broadcast , DOCSIS & MoCA are for example sharing the same coax. input
 - **Logical connect/disconnect** is the sole method to perform relevant measurement with such technos
- Other ? To be discussed depending on progress on measurement method definition and experimentation

Back-up

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Summary & schedule energy requirements in EU

