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Report of the Independent Inspector

to the VA on CSTBs - 2010 - 2011



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Summary

General

This is the first report of the Independent Inspector to the Voluntary Agreement on Complex Set Top Boxes (VA on CSTBs). The aim of the VA on CSTBs is to contribute to the objectives of the Ecodesign Directive (2009/125/EC) by reducing the potential environmental impact of CSTBs, in particular their energy consumption. The first published version of the VA ('V2') was concluded on 12 June 2009 while the current version ('V3.0') was concluded on 2 September 2011.

If the VA on CSTBs is formally recognised by the European Commission, it will be considered a valid alternative to an implementing ecodesign Regulation.

By January 2012 there were 25 Signatories to the VA, among them 10 equipment manufacturers and 10 service providers. Manufacturers and service providers need to report information on the energy consumption of the CSTBs that have been placed on the EU market or put into service in the monitoring period, including the number of devices per type placed on the market.

Results from the 1st monitoring period

Out of 25 Signatories to the VA, 20 Signatories are manufacturers or service providers and as such had to comply with the reporting obligations.

In total 16 Signatories provided reports to the Independent Inspector while 3 Signatories made use of the procedure foreseen in Chapter 5.1 of the VA not to provide a report this year as they had formally signed up to the VA after the start of the monitoring period. 1 Signatory has not provided the required information and so is considered 'Defaulting Signatory' (in accordance with Chapter 5.4 of the VA).

Of 16 Signatories who provided reports, 15 Signatories complied with the commitments stipulated in Chapter 4.3.1. of the VA, stating that each Signatory shall ensure that 90% of its CSTBs comply with the applicable energy consumption targets specified in Annex D to the VA. On average 98% of their boxes put on the market were compliant.

Of the 16th Signatory compliance could neither be confirmed nor denied, as they had sent in a list without sales data that included one non compliant CSTB-type. As this signatory signed up at the end of 2011, it has also used the procedure foreseen in Chapter 5.1.

One Signatory reported on the compliance with Tier 2 requirements. Of the boxes they had placed on the market in the monitoring period, 90% were compliant with Tier 2 requirements.

One on-site audit was done at the premises of Pace in the UK. Results of the measurements performed according to the test procedure specified in Annex E to the VA, confirmed the values reported to the Independent Inspector by the Signatory.

Compliance to Chapter 4.8 ("… Signatories shall provide consumers with detailed information about energy consumption levels. …") was checked for all service providers by asking for a "URL where environmental characteristics and performance of CSTB-types are reported". 3 out of 10 service providers that had sent in reports reported URLs on which information on energy consumption and / or power consumption could readily be found. 3 service providers sent URLs where such information could not be found. The other service providers either did not provide any information on this or gave various responses, but did not clearly indicate where this information can be found for consumers.
It should be noted that the VA does not require this information to be published online. However, the results of this query suggest that transparency on energy consumption of CSTBs toward consumers shows potential for improvement.

Comments on the monitoring process

13 out of the 20 Signatories with reporting duties had sent in reports by the deadline of Feb. 17th, 2012. After Feb 17th, 3 more reports were received and three Signatories informed the Independent Inspector that they would make use of the procedure foreseen in Chapter 5.1 not to report on the monitoring period during which they had signed up. One Signatory has not answered all questions posed. These failures to submit reports by the deadline delayed the analysis and further queries.

Conclusions and recommendations

Energy consumption data of Signatories who submitted a report with sales data confirmed compliance to Chapter 4.3.1. Further queries and an audit all resulted in satisfactory responses. It can therefore be concluded that non-compliance due to defaulting on the commitments in the VA was not found.
However, not all Signatories provided the Independent Inspector with the required information. It is therefore concluded that one Signatory is defaulting due to not delivering information to the Independent Inspector.
The monitoring and verification process is dependent on accurate and timely reporting. It is advised that this situation is resolved and to obtain clear commitments from all Signatories to provide the required report in time and to come to reasonable but firm deadlines for responding to questions. In this report, detailed suggestions on how to improve the monitoring process have been made.

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1 Introduction

This is the first Report of the Independent Inspector to the Voluntary Agreement on Complex Set Top Boxes (VA on CSTBs). It covers the period July 1st 2010 – July 1st 2011.
This report is commissioned by the Steering Committee of the VA and will be made available to the European Commission and other Ecodesign stakeholders (members of the Consultation Forum).

The findings of the Independent Inspector are based on

1. Confidential data received by the Signatories in the Reporting Template
2. Queries by the Independent Inspector to selected Signatories
3. An on-site inspection (audit) of one Signatory.

In Chapter 2 more background on the Voluntary Agreement and the process of monitoring and inspection is given.
In Chapter 3 the method of data collection and processing is explained.
In Chapter 4 the findings are presented.
In Chapter 5 conclusions are drawn and recommendations for the monitoring and verification process are made.

2 Background

2.1 General

The aim of the VA on CSTBs is to contribute to the objectives of the Ecodesign Directive by reducing the potential environmental impact, particularly energy consumption, of CSTBs.
The Voluntary Industry Agreement on Complex Set Top Boxes provides an alternative to an implementing measure in the context of the Ecodesign Directive, which provides that priority should be given to alternative courses of action such as self-regulation by the industry. To this VA, service providers, equipment manufacturers, software providers, conditional access providers and component manufacturers, platform operators/service providers[1] have signed up.

The first published version of the VA ('V2') was concluded on 12 June 2009 while the current version ('V3.0') was concluded on 2 September 2011.
If the VA on CSTBs is formally recognised by the European Commission, it will be considered a valid alternative to an implementing ecodesign Regulation.
For this period the Independent Inspector has checked for compliance to Tier 1 of 'V3.0'.

There are differences between version V2 and V3.0 that are relevant for monitoring. The following changes relevant for the monitoring and inspection have in any case taken place:

- Tier 2 allowances have been changed and Tier 2 functionalities (with accompanying allowances) have been added
- Commitment 4.8 on the information to consumers about the environmental characteristics and performance of CSTBs has been changed: in V2 the information was supposed to be "made available online and where relevant and possible". In V3.0 "Such information shall be made available at the point of sale or where relevant and possible, it may be published online".

For Tier 1 no changes have taken place. As Tier 2 is not yet in effect, the changes to Tier 2 requirements are not relevant for this report.
The change in Commitment 4.8 makes a difference for the current monitoring period.

2.2 Monitoring and inspection

The following requirements on monitoring and inspection of voluntary agreements are laid down in the Ecodesign Directive:

- "Self-regulatory initiatives must contain a well-designed monitoring system, with clearly identified responsibilities for industry and independent inspectors" (Annex VIII Art. 6).

[1] 'platform operators/service providers' to be called 'service providers' from now on.

- "The plan for monitoring and reporting must be detailed, transparent and objective. It must remain for the Commission services, assisted by the Committee referred to in Article 19(1), to consider whether the objectives of the voluntary agreement or other self-regulatory measures have been met".

For further guidance and explanation on Voluntary agreements under the Ecodesign Directive 2009/125/EC Draft Commission guidelines have been published[2]. In these guidelines a "List of elements for increasing the credibility, effectiveness and transparency of a monitoring and reporting system within a self-regulatory initiative" is included.

In the VA itself, relevant sections on the role of the Independent Inspector are Chapter 5.4 (compliance) and definition F. 14 in Annex F.

2.3 Non-compliance

At the kick-off meeting of the Independent Inspector with the Steering Committee it was discussed whether a more detailed procedure for non-compliance would need to be made. At that time it was decided not to do this. However, the following was agreed upon considering non-compliance[3]:
"There are basically two components to non-compliance:
1. A Signatory not delivering its report to the Independent Inspector in time
2. A Signatory defaulting on the commitments in the VA
In both cases, the Independent Inspector will report the non-compliance to the Steering Committee contact person. It is up to the Steering Committee to decide how to deal with non-compliance in general and what the particular repercussions / follow up will be in a particular case. In case of not delivering its report to the Independent Inspector in time, the Steering Committee may decide to still give the Signatory a chance to submit a report, but this report should be in no later than three weeks after the original deadline.
In case of defaulting on the commitments in the VA, a deadline will be set by the Steering Committee and the Independent Inspector by which a final decision on compliance or non-compliance should be clear. By the time of this deadline, the Steering Committee will determine whether the non-compliant company has successfully remediated or should be removed from the list of signatories. In case of remediation, the Steering Committee or Signatory should provide evidence to the Independent Inspector showing that remediation was successful, enabling the Independent Inspector to make a judgement on whether the Signatory is now compliant and to incorporate the results in the final, public report of the Independent Inspector."

[2] Draft Commission Guidelines 12 03 10.
[3] Taken from the confidential minutes of the meeting, Jan. 10th 2012.

3 Method of data collection and processing

3.1 Standardised reporting template

Ecofys proposed changes to the reporting template, which had been developed earlier in the framework of the DG JRC Code of Conduct on Energy Efficiency of Digital TV Service Systems. Following a discussion some additions to the latest Signatory's reporting template (version 4.0) were agreed upon and implemented in version 04.3b. The final data to be reported is given in Annex A.

Two proposed changes to the reporting template that were discussed were not agreed upon. These are also listed in Annex A.

3.2 Data collection process

A significant effort was expended in order to get as complete as possible data set. It was the first time for all parties that this process had been conducted and therefore a learning experience for all.

In January 2012 all Signatories were informed by the Chair of the Steering Committee that the deadline for submission of the report to the Independent Inspector was February 17th, 2012.

For this monitoring period the emphasis was on collecting evidence from manufacturers and service providers. Other types of Signatories were not questioned.

3.3 Additional queries and audit

Following the data collection, queries were made to selected Signatories. The reasons for request for submitting (additional) information could be

- That information was found to be missing in the standardised reporting template
- That information submitted required clarification
- Random checks asking for more detailed information (e.g. in-house test reports)

By means of a random check an audit was done at the Pace premises in the UK. A complete measurement of one CSTB-type was made in our presence.

3.4 Report of the Independent Inspector

It was discussed what kind of data the Independent Inspector would be allowed to report without breaching the Non Disclosure Agreement.
It was agreed upon that

- Data should not be connected to individual Signatories.
- Use of aggregated data, anonymised data, for example in frequency distributions and the like are allowed.
- Average compliance margins per CSTB type are also allowed, but should be accompanied with enough information to explain. Interpretation of results is paramount. The purpose of presenting aggregated data is to report the energy consumption of the CSTB population as a whole, without clearly being able to identify individual Signatories from the data.
- Concerning sales data: (1) only a total number of CSTBs reported on should be reported, with boxes from manufacturers and service providers together. Such a process is likely to lead to double counting. However, monitoring the fraction of the market covered by the VA is not a task of the Independent Inspector. Instead, TSG has commissioned a market update report shortly where the portion of the CSTB-market covered by VA Signatories has been determined.
- Data concerning sales should not be detailed according to CSTB-type, and type of Signatory, as they can be led back to individual Signatories.
- Reporting of aggregated data on energy consumption is allowed, but data on power (even aggregated) is not allowed.

4 Results

4.1 General statistics

In table 4.I an overview is given of the final response per type of Signatory.

Table 4.I overview of final response per type of Signatory.

Number of Signatories as of Jan. 2012	Split into Signatory type	Final response per type of Signatory	Reports incl. sales data
25 Signatories	10 manufacturers	6 reports	5 reports
		3 made use of procedure Ch. 5.1	-
		1 no reaction at all	-
	10 service providers	10 reports	10 reports
	5 other signatories	1 report	-

Table 4.I shows that 16 out of 20 Signatories required to submit a report did so. 3 Signatories made use of the procedure in Chapter 5.1 to not submit a report as they had formally signed up to the VA after the start of the monitoring period.
One manufacturer neither sent a report nor an explanation as to why they did not report and is therefore defaulting on their commitments[4].

It should be noted that by the official deadline of data submission, February 17th 2012, only 13 out of 20 service providers and producers had responded. A substantial effort was necessary to come to the final response as shown in Table 4.I. The last report came in on March 30th.

Annex B lists all Signatories, when they joined the VA, whether they reported or not, their compliance status and reason for not reporting.

The 15 signatories that submitted reports with sales data, accounted for placing on the market at least 16.9 million CSTBs, comprised of 212 different models.

When checking for overlap between Signatories of box types, it turns out that only 5 types are found to be present in data of more than one Signatory. However, it could be that models that are the same or virtually the same are missed because the name given differs from one Signatory to another. Overlap could also be missed because in some cases brand and model are mentioned together, in other cases they are not. It would have been better to separate brand and model.

About 80% of the boxes put on the market by service providers came from manufacturers that had subscribed to the VA, or where service providers have their own brand.

[4] 'defaulting on commitments' is in this report also referred to as being 'non-compliant'

4.2 Compliance rates to Chapter 4.3.1

Chapter 4.3.1. requires that "Each Signatory shall ensure that 90% of its CSTBs comply with the applicable energy consumption targets of the Voluntary Agreement as set out in Annex D (Maximum Energy Consumption Targets and Time Schedule)."

One signatory submitted energy consumption data for 12 CSTB models but did not report sales data. For this reason, a last column 'Reports incl. sales data' was added to table 4.I. One CSTB type was reported to be non-compliant (2.5% more energy consumption than allowed). Strictly speaking, compliance to Chapter 4.3.1 could neither be confirmed nor denied for this Signatory. Normally this would have been classified them as non-compliant. However, as this Signatory signed up at the end of 2011, they are in a position to make use of Chapter 5.1 as well.

The compliance rate averaged over 15 of the 16 signatories who submitted energy consumption data as well as sales data was found to be 97.9 - 98.4%. The range is caused by the following: some Signatories did not report energy consumption data on all types but did report sales on all types (this reportedly mainly concerns older types placed on the market in smaller numbers and therefore not measured in detail). Each of these 15 signatories had individual compliance rates over 90%, as required by the VA, as can be seen from table 4.II. The data in the table results in the upper range of the compliance rate (98.4%).
All compliant CSTB-types are listed[5] in Annex C.

Table 4.II Individual compliance rates of 15 out of 16 Signatories who submitted data

compliance range	number of Signatories in range
90-92%	0
92-94%	0
94-96%	2
96-98%	0
98 - 100%	2
100%	11

4.3 Functionality and energy consumption

Basic information on energy consumption of the CSTB population in this monitoring period is given in table 4.III. It should be noted that the CSTB with the least consumption provided less functionality than the CSTB with the largest consumption.

[5] This list provides e.g. Member States the opportunity to perform their own compliance testing.

Table 4.III Individual compliance rates of 15 out of 16 Signatories who submitted data

Energy consumption	kWh/yr
Average over all models	78
Average allowance per model	150
Minimum consumption	~ 20
Maximum consumption	~ 220

Some differences are found between the average consumption per box reported by manufacturers and by service providers, as reported in table 4.IV.

Table 4.IV Average yearly energy consumption for various selections of CSTBs, averaged according to sales

Selection of CSTBs	manufacturers kWh/yr (% of allowance)	service providers, kWh/yr (% of allowance)
all boxes	70 (46%)	117 (67%)
boxes with same specifications (allowance 180 – 185 kWh/yr)	85 (46%)	126 (68%)
same specs and standby > 1 W	127	133
same specs, standby > 1 W and no APD	129	136

In this table, the energy consumption per box per year averaged over all boxes sold is given. In the first row the consumption averaged over sales of all boxes is given. In the second row the consumption averaged over sales of a group of boxes with the same specification and with a significant market share is given. This group of boxes has an allowance of 180 – 185 kWh/yr, depending on whether it was a terrestrial / IP box or satellite/ cable box. In the first and second row the percentage of the allowance is also given, in brackets.
In the 3rd and 4th row the average energy consumption is given for the same groups of boxes, but filtered for standby power > 1 W and standby power > 1 W + presence of APD (Auto Power Down), respectively. It shows that a large part of the difference in average energy consumption between manufacturers and service providers can be explained by the increased presence of a low standby power in the boxes put out and measured by manufacturers.
The rationale for showing the difference between average consumption levels found with manufacturers and with service providers is that the boxes put out by service providers contain the software that is used by customers whereas for manufacturers that is not necessarily the case. Software is an important factor determining the energy consumption of a given model of CSTB. Inclusion of software brand, type and version into the reporting template, at least for service providers, should be considered in the future.

In figure 4.1 the distribution of sales[6] as a function of the energy consumption of the boxes is given, expressed in % of allowed energy consumption.

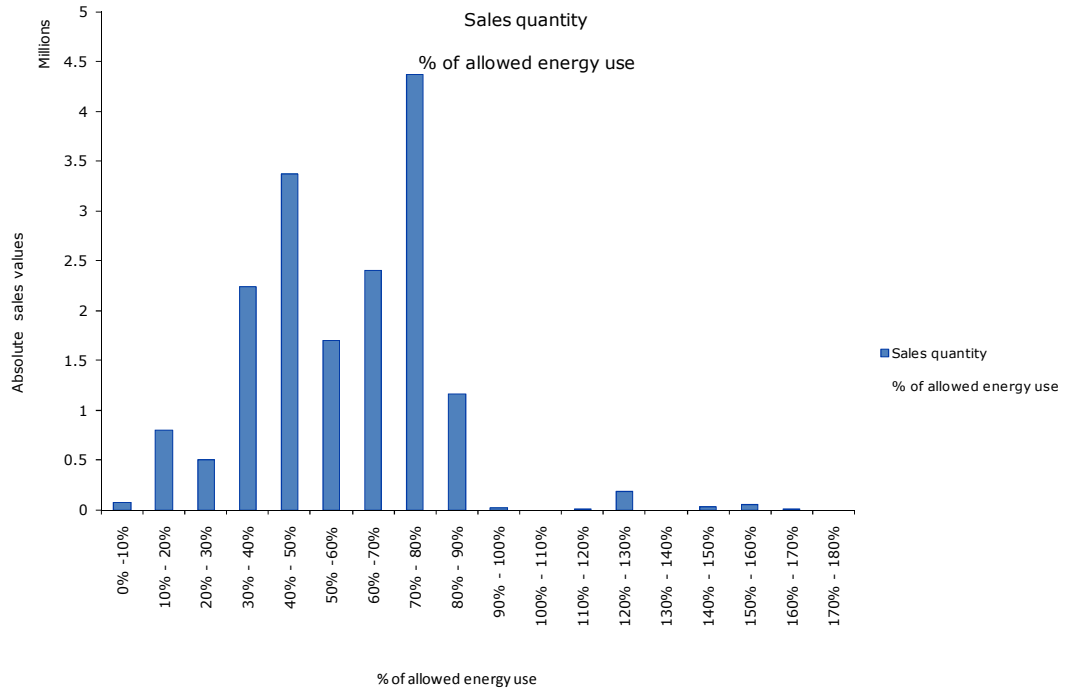


Figure 4.1 CSTBs put on the market distributed according to percentage of allowed energy consumption.

It should be realised that the data reported above comes from 80% of all Signatories with reporting duties. It is possible that data of all Signatories would have shown higher energy consumption levels closer to the allowance limit and that consumption levels of CSTB manufacturers and service providers who are currently not in but are considering joining the VA, have consumption levels that are even closer to the limit.

4.4 Comments on specific Chapters other than 4.3.1

4.4.1 Chapter 4.3.3 Compliance with subsequent energy targets from Annex D

Chapter 4.3.3.3 states "Should 25% or more of a Signatory's CSTBs comply with any subsequent energy consumption targets of the Voluntary Agreement as set out in Annex D (Maximum Energy Consumption Targets and Time Schedule) before the entry into force of those targets then that Signatory is entitled to make that achievement public". Two Signatories reported on compliance to Tier 2 requirements[7]: 1 manufacturer and 1 service provider. The manufacturer was 91% compliant

[6] For simplicity reasons, both 'placing on the market' (true sales) and 'putting into service' (by service providers) is called 'sales' here.
[7] In Tier 2 requirements, to enter into effect for the monitoring period July 2013 – July 2014, base functionality annual energy allowances decrease by 11-13%, allowances for existing additional functionality (annex D of the VA

with Tier 2 requirements. In the data of the service provider there was not a 100% correspondence of the type of boxes reported in Tier 1 and Tier 2, so it was not possible to check for compliance to Tier 2 for this monitoring period.

4.4.2 Chapter 4.8 Information to consumers

All 10 service providers were asked to provide a "URL where environmental characteristics and performance of CSTB-types are reported". Of the 10 service providers that sent in a report,

- 3 reported a URL that shows energy and / or power information on that web page or it could be reached by clicking on further pages. One reported power consumption on on-mode, standby and 'smart energy' mode. The other reported total yearly energy consumption and power consumption in on-mode and standby. The third reported power consumption in on-mode and standby.
- 3 reported a URL that referred to an overview page for manuals of CSTBs. In one case general information on the presence of standby modes was mentioned when clicking further specifications of a certain box type, but information on actual power or energy consumption could not be found.
- 2 reported they did not have this information available online
- 2 gave no information

It should be noted that the VA does not require this information to be published online. However, the results of this query suggest that transparency on energy consumption of CSTBs towards consumers shows potential for improvement. For future inspection rounds it is proposed to add a question asking all service providers to provide the Independent Inspector with the information that they have "made available at the point of sale", and to state what this point of sale is.

4.4.3 Chapter 4.9 Procurement specifications

No checks against this Chapter were done at this time.

4.4.4 Annex A.8

Annex A.8 states that CSTBs "that provide for speculative recording[8] must have a user-accessible menu option allowing the user to disable this feature at will". This was translated into an additional question in the reporting template: "Does product allow to disable speculative recording?"
The answer to this question was in some cases ambiguous, as it assumes that this functionality is present, whereas this turned out not to be the case in several instances. Therefore, clear statistics on this were not obtained even after obtaining some clarifications on answers from some Signatories. The Independent Inspector will propose to make the wording less ambiguous in the next monitoring round.

V3.0) are lowered or even eliminated, and new allowances for new additional functionality were created to reflect technological developments.
[8] Typically push video-on-demand content

4.5 Results audit

Pace was audited on April 23rd 2012. The full test measurement procedure (Annex E of the VA) was carried out for one CSTB on the list reported by Pace. The measured values reported agreed well with reported values. It turned out not to be possible though to take a random sample for the measurement. The Pace premises in the UK do not carry a large stock as the factories are located outside of the UK. Within the time frame set for the audit it was not possible to arrange a batch from which to take a random sample. This will be a point of attention for future audits.
Additional queries were made concerning some details of the measurements, software used during the measurements, and the data that Pace submitted. They were all answered to satisfaction.

5 Conclusions

5.1 Conclusions on compliance to the commitments

The focus for this year's report was on the 20 out of 25 Signatories that had to send in data according to the specified reporting template. Of the 10 manufacturers and 10 service providers that were asked to send in a report, 16 sent in the report. 3 Signatories who signed up after the start of the monitoring period made use of Chapter 5.1 and did not send in a report. From one Signatory no information at all was received, they are therefore non-compliant to the VA.

Of the 16 Signatories who sent in reports, determination of compliance with Chapter 4.3.1 ("each Signatory shall ensure that 90% of its CSTBs comply with the applicable energy consumption targets of the VA…") was a key task.
One signatory submitted energy consumption data but did not report sales data and one CSTB type was reported to be non-compliant, compliance could therefore not be confirmed for this Signatory.

All other 15 Signatories complied with Chapter 4.3.1. Their average compliance rate was found to be 98%.

One on-site audit was done, at the premises in the UK of Pace. One complete measurement procedure was carried out for one CSTB-type. The measurements agreed well with the values reported.

Compliance to Chapter 4.8 was checked for all service providers ("… Signatories shall provide consumers with detailed information about energy consumption levels. …"). 3 out of 10 service providers that had sent in reports reported URL's on which information on energy consumption and/ or power consumption could readily be found. 3 service providers sent URL's where such information could not readily be found. The other service providers either did not provide any information on this or gave various responses, but did not clearly show where this information can be found for consumers.
It should be noted that the VA does not require this information to be published online. However, the results of this query suggest that transparency on energy consumption of CSTBs toward consumers shows potential for improvement.

5.2 Conclusions on the monitoring process

While many Signatories have obeyed the deadline for submission of reports and responded in a timely fashion to requests, others were less punctual. 6 Signatories sent in reports after the deadline or gave notifications that they were not going to send in a report after the deadline of Feb. 17th.

5.3 Recommendations on the monitoring and verification process

The Independent Inspector recommends that the Steering Committee

1. Resolves the situation with the Signatory that did not send any information at all.
2. Improves reporting discipline by establishing a procedure for non-compliance that includes firm deadlines for submission of information required and for responding to questions. Such a procedure should state that not reporting data and not answering to questions is a form of non-compliance and should includes sanctions for such cases.
3. Give clarity in advance of a reporting cycle as to which Signatories will not report because they formally subscribed to the VA after the start of the monitoring period. It should be noted that not reporting reduces transparency of the whole monitoring process.

The Independent Inspector suggests the following changes to the standardised reporting template:

4. For service providers it turned out not to be always clear what brand CSTB a certain type referred to. In other cases brand and model were combined. We therefore propose to add a column denoted the brand, instead of combining this information with 'model'.
5. To add information that makes clear what software was used during the TEC-measurement.
6. To add a question asking all service providers to provide the independent inspector with the information that they have "made available at the point of sale", and to state what this point of sale is.
7. Change the wording of the column that was added in the reporting template: "Does product allow to disable speculative recording?" to a clearer question (e.g. "if DVR is present and if speculative recording is done by default, is there a user accessible menu option allowing the user to disable this feature at will?")

Furthermore, the following comment is made for data submission:

8. If Tier 2 data is given, it should be reported for the same boxes reported on in Tier 1, with sales data included, referring to the same monitoring period as Tier 1.

Annex A Reporting Template for Signatories

Columns standard reporting template
Model Type
Base Functionality
NEW innovative functionality disabled? *
Access to additional RF channels
Advanced Video Processing
DVR
(Euro) DOCSIS 3.0 or VDSL
HD
Return path
Multi decode & multi display
Total Annual Energy Allowance (kWh/year)
On Power (W)
Standby Power (W)
Does product support APD?
APD Power (W)
Does product allow to disable speculative recording? *
Product Annual Energy Consumption (kWh/year)
Compliance margin (%)
Complies with VIA 3.0 Tier1?
Annual Sales Quantity placed on the internal market during the reporting period?

*: This field was added following the kick-off meeting.

In addition, service providers are requested to provide a "URL where environmental characteristics and performance of CSTB-types are reported".

The following changes were not agreed upon:

- In addition to the qualitative reporting of what functionality might be disabled during the TEC measurement, reporting the TEC with all new functionality present. This would imply double measurements for the Signatories in case this functionality is present. The possibility of it will be discussed in the next Steering Committee meeting, to be incorporated in the next reporting round (July 1st 2011 – June 30th 2012).
- Report the software type and version used during the TEC measurement and the software type and version distributed to consumers. Reasons not to report: (1) producers sometimes use engineering software, not software available on the market. (2) if multiple types of software are used by the provider, the VA describes it is allowed to report only one version (VA Appendix C.1 General), (3) normally there are multiple software updates per year.

Annex B List of Signatories

As of January 2012

	Company	signed up on	Repor-ted (Y/N)	Compliance status	reason for not reporting / other comments
1	Advanced Digital Broadcast S.A.	nov. 2011	N	N/A*	Chapter 5.1. not signed up during this period
2	Amino Communications Ltd	nov-11	Y	compliant	
3	BskyB	nov-11	Y	compliant	
4	Deutsche Telekom AG	jan-12	Y	unclear	Compliant to Chapter 4.3.1, but failed to answer to questions
5	Echostar	oct. 2011	N	N/A	Clause 5.1: chosen not to back-date reporting commitment
6	Humax Digital	nov-11	Y	compliant	
7	Intel	nov-11	N	N/A	not a manuf. / service provider
8	Irdeto	oct 2011	N	N/A	not a manuf. / service provider
9	Kaon	sep-11	N	non compliant	no information
10	Liberty Global	sep-11	Y	compliant	
11	Microsoft	jul-11	Y	N/A	
12	NDS Group	jul-11	Y	N/A	not a manuf. / service provider
13	Pace	oct 2011	Y	compliant	
14	Prisa	nov-11	Y	compliant	
15	Sagemcom Broadband SAS	aug. 2011	N	N/A	Some older products not measured thus decided to report as from signature date
16	Samsung	jul-11	Y	compliant	
17	Sky Deutschland Fernsehen GmbH & Co.	aug-11	Y	compliant	
18	Sky Italia Srl	may 2011	Y	compliant	
19	Tatung Technology Inc	oct 2011	Y	compliant	
20	Technicolor	sep-11	Y	compliant	
21	Telenet	jul-11	Y	compliant	
22	Telenor	nov-11	Y	compliant	
23	Texas Instruments	oct 2011	N	N/A	not a manuf. / service provider
24	Viasat Satellite Services AB	aug-11	Y	compliant	
25	Virgin Media	oct 2011	Y	compliant	

*: N/A is put when a check for compliance has not been done

Annex C List of compliant CSTB's

The list below shows all 178 compliant models.

Compliant models Manufacturers	
Model	**Manufacturer**
A110	Amino
A125	Amino
A129	Amino
A130	Amino
A130H	Amino
A130M	Amino
A132	Amino
A140	Amino
A532	Amino
A540	Amino
Cubovision	Amino
H140	Amino
BXR-HD/SE	Humax
BXR-HD+/SE	Humax
HDPVR-5000T	Humax
HDR-4000C/DE	Humax
iHD-FOX C/DE	Humax
iHD-PVR C/DE	Humax
S HD3/ZV/DE	Humax
S HD4/ZV/DE	Humax
iCord Cable/500G/DE	Humax
iCord Pro/DE	Humax
CXHD-5100C/DE	Humax
HD-FOX IR	Humax
PDR iCord HD/SKY/DE	Humax
HD-FOX+/DE	Humax
PR-HD2000C/DE	Humax
HDCI-5000/EU	Humax
iCord HD+/B/500G/DE	Humax
HD-FOX/HD+/DE	Humax
HD-FOX/HD+/S/DE	Humax
F4-FOX HD/HD+/DE	Humax
iCord HD+/B/1T/DE	Humax
HD-FOX/HD+/SVS/DE	Humax
NA-HD2000C/DE	Humax
IRHD-5100S/CZ	Humax
NA-FOX HD/CH	Humax
EUROFOX HD+/DE	Humax
HD NANO/DE	Humax

iCord Mini/DE	Humax
UD-HDR/HU	Humax
iHDR-5200C/NL	Humax
IRHD-5100C/NL	Humax
IR-FOX Z/NL	Humax
DIGI+C/RO	Humax
DIGI+C HD/RO	Humax
HD-5700T/IT	Humax
HD-5500T/IT	Humax
HD-5600S/IT	Humax
HD-5400S/IT	Humax
DTT-3600/IT/EP	Humax
DTT-3600/PRM2/IT/EP	Humax
DTV 4700/PRM/IT/EP	Humax
DTR-T1000/GB	Humax
DS250NV	Pace
TDS865NS	Pace
TDS865NV	Pace
DS830NV	Pace
DSR7231/19	Pace
DSR7211/16	Pace
DCR7111/03	Pace
DSR5020/19	Pace
DiT7431/05	Pace
DSR6231/19	Pace
HDS7241/91	Pace
DSR8211/19	Pace
DSR7141/24	Pace
DSR7141/22	Pace
DSR8141/24	Pace
TDS855NV	Pace
DSR2020/19	Pace
DSR2231/91	Pace
TDS865NSDX	Pace
DCR7111/05	Pace
DCR7111/06	Pace
DCR715/24	Pace
TDS865IMH	Pace
DS831IMH	Pace
DSR7151/24	Pace
DSR8151/24	Pace
DCR8151/24	Pace
TDS866NSD	Pace
DSR8211/59	Pace
DS831NS	Pace

TDS866NSDX	Pace
DSR7151/53	Pace
TDC866NSDX	Pace
DiT7100/14	Pace
SMT-S5140	Samsung
SMT-S5240	Samsung
MR303B	Samsung
SMT-C5270A	Samsung
SMT-C7140B	Samsung
SMT-C7160	Samsung
DSB-P990V	Samsung
SMT-G7400	Samsung
SMT-C7100A	Samsung
SMT-S5210	Samsung
SMT-S7140	Samsung
SMT-C5120A	Samsung
SMT-S7800	Samsung
SMT-C7200A	Samsung
DBI805BYT	Technicolor
DBI8500E-BYT	Technicolor
DBI8500E-TLN2	Technicolor
DCI6221UPC	Technicolor
DCI804ZON	Technicolor
DST805SOG	Technicolor
DBI2210E-TLN	Technicolor
DH313SKIT (DSI706SKIT)	Technicolor
DSI2110TNS	Technicolor
DSI702PAR	Technicolor

Compliant models Service providers
Model
DRX595
DRX890
DRX895
MR 303 A
MR 303 B
MR 102
MR 500 Sat
MR 300 A
MR 301 A
MR 300 B
MR 301 B
MR 100
TDS866NSD
PR-HD3000 (S HD4)

TDS865NSDX
TDS866NSDX
PR-HD3000C (S HD3)
DSB-B550N (LA)
DSB-B553N (HS)
DSB-B570N (LB)
DSB-B573N (HT)
DS255NS
DS820NS
DS830NS
DSI-DH310 (H5)
DS831NS
DSI-DH313 (HZ)
TDS480NS
DSB-B880N (P2)
TDS850NS
DS865
DSB-P990N (V4)
DSB-P990V (V5/V7)
DRX-890i (V6)
SMT-S7140
SMT-S5140
DSB-H670
DS830NV
TDS865NV
DS250NV
4585DVB
SMT-H3110
CT8685
CT8620
DC-AD2100
DC-AD2000
DB-AD210
DB-AD200
P10
Iplus T11
Iplus T20
DCR 7111
8685
8485
DCI 6221
UD-HDR
K-ES1280C0
K-B3000HDCO
CV-7000

ISD86
ITSD81-250HD
5720SX
CDC9000
CDC7000
CDC5050
CDC5000
BTC-1540
MHW
MHW DSI 175D/13R
MHW

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