



Scope

Mains operated television receivers (TV) with a visible screen diagonal of more than 20 centimeters. TVs for reception of analogue broadcasting as well as TVs for reception of digital broadcasting with integrated digital receiver and decoder (IRD) are included in the GEEA criteria.

Mains operated television receivers (TV) with IRD including:

- equipment for the reception of digital broadcast signals (IRD) by terrestrial, cable, and satellite with the main aim to convert these signals to analogue broadcast signals

Criteria

Television sets complies with GEEA criteria if the following criteria are met:

Category	Criteria	Basis for criteria
Television sets (digital and analogue)	The power consumption in the standby passive mode is 1 W or less.	
Television sets with integrated digital receiver and decoder (IRD)	The power in standby active/low mode is:	
IRD-Terrestrial	7 W (+ max 9 W*) or less	EU CoC
IRD-Cable	8 W (+ max 8 W*) or less	EU CoC
IRD-Satellite	9 W (+ max 7 W*) or less	EU CoC

* Additional power allowance to the basic configuration (total maximum 16 W).

Definitions and Test Method

The power consumption shall be measured and declared according to IEC 62087 (first edition; 2003-03) 'Methods of measurement for the power consumption of audio, video and related equipment'. However, the LNB current (for single LNB) should be set at 80 mA during the test.

See: Annex B of the Code of Conduct on Energy Efficiency of Digital TV Service Systems

Basis for criteria

EU CoC: Code of Conduct on Energy Efficiency of Digital TV Service Systems - Version 4, 5 October 2006.

Exceptions

Criteria	Code of Conduct	GEEA
Analogue television sets is part of the criteria.	No	Yes



Definition of the basic configuration of digital TVs with IRD

The calculation of the stand-by power consumption referred is based on a basic configuration with the following components/features:

IRD-CABLE	IRD-TERRESTRIAL	IRD-SATELLITE
Single cable tuner /demodulator	Single UHF tuner /demodulator	Single satellite tuner /demodulator Single LNB feed
+		
Single MPEG Decoder		
RF Modulator / Loop-through		
IR Remote Control		
Support for Off-air Software Upgrade		
Smart Card Interface		
Common Interface / Data port		
RS232 Serial Port		
Support for remote IR Receiver / IR Blaster		
n/a	PSTN Modem	PSTN Modem

Table I. Additional allowances on standby active mode targets for components added to the basic configuration

For additional components that may be added on to the equipment in the basic configuration the following additional power allowance can be added to the maximum standby active power consumption targets above.

In any case the total **maximum** power consumption targets in **standby active mode** should not exceed:

- **16 W** for TVs with integrated digital receiver and decoder.

Feature	Indicative additional maximum power consumption (at the AC mains) for additional features
Internal hard disk drive	2.2 W
IEEE1394 interface	0.8 W
Ethernet interface 100Mbit	0.4 W
Each home network interface	2.5 W
Each serial USB interface	0.3 W
Home automation interface	0.4 W
ADSL modem	2 W
Docsis modem	4.5 W
Additional LNB feed	1.3 W (with an additional 80 mA for the LNB current)
Additional tuner/demodulator	2 W
Powered remote IR receiver (loaded at 15mA)	0.25 W