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## TEST REPORT No EP180713N042

### Evaluation of ecodesign requirements for televisions

Report Reference No.....: EP180713N042

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**Applicant's name:**.....: Guangdong Changhong Electronics Co., Ltd.

Address.....: No.1 North Xingye Rd, Nantou Town, Zhongshan City, Guangdong Province, China

#### Test item description

Test object .....: LED(backlighting) TV

Trade Mark .....: **CHI Q**

Model/Type reference:.....: UGV40F6000(S1)-ESi

Manufacturer .....: Guangdong Changhong Electronics Co., Ltd.

Address.....: No.1 North Xingye Rd, Nantou Town, Zhongshan City, Guangdong Province, China

#### Test specification

Test procedures.....: ☒ Commission Regulation (EC) No 642/2009 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for Televisions  
☒ COMMISSION REGULATION (EU) No 801/2013 of 22 August 2013 amending (EC) No 642/2009 with regard to ecodesign requirements for televisions  
☒ COMMISSION REGULATION (EU) 2016/2282 of 30 November 2016 amending Regulations (EC) No 642/2009  
☐ Commission Regulation (EU) No 1062/2010  
☒ EN 62087:2012 - Methods of measurement for the power consumption of audio, video and related equipment  
☒ EN 50564:2011. Electrical and electronic household and office equipment — Measurement of low power consumption

**Test result:**

**PASS**

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**Index of contents**

1. Product description .....	Page 3-5
2. General conditions for measurement.....	Page 6
3. ECODESIGN REQUIREMENTS of (EC) No. 642/2009+ (EU) No. 801/2013:	Page 7-10
4. Labelling of Commission Regulation (EU) No 1062/2010:	Page 11
5. Equipment used for measurements..... :	Page 12

Possible test case verdicts:

- Test object does meet the requirement: .....	P (Pass)
- Test case does not apply to the test object:.....	N.A (Not applicable)
- Test object does not meet the requirement: .....	F (Fail)
- Test object does not demand	N.D (Not demanded)

General remarks:

"(See remark #)" refers to a remark appended to the report.  
Throughout this report a dot is used as the decimal separator.  
The test results presented in this report relate only to the object tested.



## 1. Product Description


Sample number received:..... : 1 pcs

Date of receipt of test items:..... : July 13, 2018

Date of tests:..... : July 13, 2018 to July 31, 2018

### Description of equipment under test

Test Object..... : LED(backlighting) TV

Trade Mark..... : 

Model Reference..... : UGV40F6000(S1)-ESi

Serial Number ..... : N/A

Rated Voltage (V) ..... : 100-240 Vac

Rated Frequency (Hz)..... : 50/60 Hz

Visible Screen Dimensions (dm) ..... : 8.82 dm x 4.96 dm

Visible Screen Area (A) ..... : 43.74(dm<sup>2</sup>)

Television screen diagonal size (cm) ..... : 101.19 cm

Resolution ..... : 3840\*2160      Pixels

☒ Full HD resolution

☐ Other resolution

Product type ..... : ☐ Television sets with one tuner/receiver and no hard disc  
☐ Television sets with hard disc(s)  
☒ Television sets with two or more tuners/receivers  
☐ Television sets with hard disc(s) and two or more tuners/receivers  
☐ Television monitors  
☒ Television can connect to a network and has one or more network ports



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**TEST REPORT N°: EP180713N042**

**Picture of Sample**



General view - 1



General view - 2



Terminal view - 1



Terminal view - 2



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**Pictures of rating label**





## 2. General Conditions for measurement

Ambient Temperature (°C): .....	23.6 °C
Test Voltage(s) (V): .....	230.0 Vac
Test Frequency (ies) (Hz): .....	50.0 Hz
THD of the electricity supply system: .....	0.7 % max.
Input signal: .....	Dynamic broadcast-content video signal representing typical broadcast TV content
Input terminal for the audio and video test signals: ..	Two USB signal input terminals, One AV signal input terminal, Three HDMI signal input terminals, One LAN input terminal, Two TV signal input terminals, One YPbPr signal input terminal, One SCART signal input terminal
Work mode for the television .....	The unit was operated on HDMI mode which is max. power consumption mode



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### 3. ECODESIGN REQUIREMENTS of (EC) No. 642/2009+ (EU) No. 801/2013

ECODESIGN REQUIREMENTS			
Clause	Requirement + Test	Result- Remark	Verdict
1.	ON-MODE POWER CONSUMPTION		<b>P</b>
1.1	From 1 April 2012: The on-mode power consumption of a television with visible screen area A expressed in dm <sup>2</sup> shall not exceed the following limits:	See below	<b>P</b>
	Television sets 16 Watts + A · 3,4579 Watts/dm <sup>2</sup>	Requirement : <167.25 W; Measurement: 62.0 W	<b>P</b>
	Television monitors 12 Watts + A · 3,4579 Watts/dm <sup>2</sup>	No such equipment	<b>N.A</b>
2.	STANDBY/OFF MODE POWER CONSUMPTION		<b>P</b>
2.1	From 20 August 2011:		<b>P</b>
2.1. (a)	Power consumption in 'off-mode': Power consumption of televisions in any off-mode condition shall not exceed 0,30 Watts, unless the condition in the next paragraph is fulfilled.	No off mode	<b>N.A</b>
	For televisions with an easily visible switch, which puts the television in a condition with power consumption not exceeding 0,01 Watts when operated to the off position, the power consumption of any other off-mode condition of the television shall not exceed 0,50 Watts.	No off mode	<b>N.A</b>
2.1. (b)	Power consumption in 'standby-mode(s)': The power consumption of televisions in any condition providing only a reactivation function, or providing only a reactivation function and a mere indication of enabled reactivation function, shall not exceed 0,50 Watts.	Measurement: 0.45 W	<b>P</b>
	The power consumption of televisions in any condition providing only information or status display, or providing only a combination of reactivation function and information or status display, shall not exceed 1,00 Watt.		<b>N.A</b>
2.1. (c)	Availability of off-mode and/or standby-mode: Televisions shall have an off-mode and/or standby-mode, and/or another condition which does not exceed the applicable power consumption requirements for off-mode and/or standby-mode when the television is connected to the mains power source.	Availability of standby mode	<b>P</b>
2.1. (d)	Automatic power-down: Televisions shall provide a function with the following characteristics:	Complied	<b>P</b>

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<b>ECODESIGN REQUIREMENTS</b>			
Clause	Requirement + Test	Result- Remark	Verdict
2.1. (d) (i)	after no more than 4 hours in on mode following the last user interaction and/or a channel change, the television shall be automatically switched from on mode to: — standby-mode, or, — off-mode, or, — another condition which does not exceed the applicable power consumption requirements for off-mode and/or standby-mode;	Complied	P
2.1.(d) (ii)	televisions shall display an alert message before the automatic switch from on mode to the applicable condition/modes.	Complied	P
	This function shall be set as default.	Complied	P
2.1. (e)	For television sets which consist of a display, and one or more tuner(s)/receiver(s) and optional additional functions for data storage and/or display such as digital versatile disc (DVD), hard disk drive (HDD) or videocassette recorder (VCR) in a separate unit, points (a) to (d) apply for the display and the separate unit individually.	Not such apparatus.	N.A
3	<b>NETWORKED STANDBY POWER CONSUMPTION</b>		P
	For networked televisions, the following requirements shall apply:	Complied	P
3.1	As of 1 January 2015	See below	P
3.1. (a)	Possibility to deactivate wireless network connection(s)	Possibility to deactivate	P
3.1. (b)	Power management for networked televisions Networked televisions shall provide a function with the following characteristics:		P
	After no more than 4 hours in on mode following the last user interaction and/or a channel change, the television shall be automatically switched from on mode to a condition of networked standby or any other condition which does not exceed the applicable power consumption requirements for conditions providing networked standby.	Directly enter to standby mode in 3 hours 56 minutes under wired network or wireless network mode.	N.A
	Televisions shall display an alert message before the automatic switch from on mode to the applicable condition/modes. This function shall be set as default.	Complied	P





<b>ECODESIGN REQUIREMENTS</b>			
Clause	Requirement + Test	Result- Remark	Verdict
	In a condition providing networked standby, the power management function may switch the television automatically into standby mode, or off mode or another condition which does not exceed the applicable power consumption requirements for off mode and/or standby mode.	Directly enter to standby mode in 3 hours 56 minutes under wired network or wireless network mode.	N.A
	The power management function, or a similar function, shall be available for all network ports of the networked television.	Complied	P
	The power management function, or a similar function, shall be activated, unless all wireless network ports are deactivated. In that case the power management function, or a similar function, shall be activated if any one of the network ports is activated.	Complied	P
3.1. (c)	A networked television that has one or more standby modes shall comply with the requirements for these standby mode(s) when all wireless network ports are deactivated.	Complied	P
3.1. (d)	Power consumption in a condition providing networked standby:	No networked standby provided	N.A
	The power consumption of television with HiNA functionality, in a condition providing networked standby into which the television is switched by the power management function, or a similar function, shall not exceed 12,00 W.	Not such apparatus.	N.A
	The power consumption of televisions without HiNA functionality in a condition providing networked standby into which the television is switched by the power management function, or a similar function, shall not exceed 6,00 W.	Directly enter to standby mode in 3 hours 56 minutes, measured power consumption is 0.45 W.	N.A
3.2	As of 1 January 2017:	See below	P
3.2.(a)	A networked television that has one or more standby modes shall comply with the requirements for these standby mode(s) when all wired network ports are disconnected and when all wireless network ports are deactivated.	Complied	P
3.2. (b)	A networked television shall comply with the provisions under 2.2(d) when all wired network ports are disconnected and when all network ports are deactivated.	Complied	P



<b>ECODESIGN REQUIREMENTS</b>			
Clause	Requirement + Test	Result- Remark	Verdict
3.2.(c)	Power consumption in a condition providing networked standby: The power consumption of television with HiNA functionality, in a condition providing networked standby into which the television is switched by the power management function, or a similar function, shall not exceed 8,00 W.	Not such apparatus.	N.A
	The power consumption of televisions without HiNA functionality in a condition of networked standby into which the television is switched by the power management function, or a similar function, shall not exceed 3,00 W.	Directly enter to standby mode in 3 hours 56 minutes, measured power consumption is 0.45 W.	N.A
3.3	As of 1 January 2019	See below	P
	The power consumption of televisions without HiNA functionality in a condition of networked standby into which the television is switched by the power management function, or a similar function, shall not exceed 2,00 W.';	Directly enter to standby mode in 3 hours 56 minutes, measured power consumption is 0.45 W	N.A
4	'HOME-MODE' FOR TELEVISIONS WHICH ARE DELIVERED WITH A FORCED MENU		N.A
	From 20 August 2010: Televisions with forced menu on initial activation of the television shall provide a 'home-mode' in the forced menu, which shall be the default choice on initial activation of the television. If the user selects a mode other than 'home-mode' on initial activation of the television, a second selection process shall be prompted to confirm this choice.	No force menu available.	N.A
5	PEAK LUMINANCE RATIO		P
	From 20 August 2010:	See below	P
	- Televisions without forced menu: the peak luminance of the on-mode condition of the television as delivered by the manufacturer shall not be less than 65 % of the peak luminance of the brightest on-mode condition provided by the television.	Standard mode is the home mode, measured peak luminance: 127.8cd/m <sup>2</sup> , User mode is the brightest on-mode, measured peak luminance: 169.1cd/m <sup>2</sup> , Peak luminance ratio: 75.58 %	P
	- Televisions with forced menu: the peak luminance of the home-mode condition shall not be less than 65 % of the peak luminance of the brightest on-mode condition provided by the television.	No forced menu provided	N.A



**4. Labelling of Commission Regulation (EU) No 1062/2010**

Energy efficiency class	Energy Efficiency Index	Value	Verdict
A+++ (most efficient)	$EEI < 0.10$	--	--
A++	$0.10 \leq EEI < 0.16$	--	--
A+	$0.16 \leq EEI < 0.23$	--	--
A	$0.23 \leq EEI < 0.30$	0.291	--
B	$0.30 \leq EEI < 0.42$	--	--
C	$0.42 \leq EEI < 0.60$	--	--
D	$0.60 \leq EEI < 0.80$	--	--
E	$0.80 \leq EEI < 0.90$	--	--
F	$0.90 \leq EEI < 1.00$	--	--
G (least efficient)	$1.00 \leq EEI$	--	--

Note: The Energy Efficiency Index (EEI) is calculated as  $EEI = P/P_{ref}(A)$ , where:

- $P_{ref}(A) = P_{basic} + A \times 4.3224 \text{ Watts/dm}^2$ ,
- $P_{basic} = 20 \text{ Watts}$  for television sets with one tuner/receiver and no hard disc,
- $P_{basic} = 24 \text{ Watts}$  for television sets with hard disc(s),
- $P_{basic} = 24 \text{ Watts}$  for television sets with two or more tuners/receivers,
- $P_{basic} = 28 \text{ Watts}$  for television sets with hard disc(s) and two or more tuners/receivers,
- $P_{basic} = 15 \text{ Watts}$  for television monitors,
- A is the visible screen area expressed in  $\text{dm}^2$ ,
- P is the on-mode power consumption of the television in Watts measured in accordance with Annex VII, rounded to one decimal place.

**Annual energy consumption**

	Formula	Annual energy consumption	Verdict
<b>On mode</b>	$E = 1.46 \times P$	kWh	--

Note:

1. The annual on-mode energy consumption E in kWh
2. P is the on-mode power consumption of the television in Watts measured in accordance with Annex VII, rounded to one decimal place.
3. The annual energy consumption calculated in accordance with Annex II in kWh per year, rounded to the first integer; it shall be described as: 'Energy consumption XYZ kWh per year, based on the power consumption of the television operating 4 hours per day for 365 days. The actual energy consumption will depend on how the television is used.'



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**5. Equipments used for measurements**

<b>Equipment</b>	<b>Model</b>	<b>Calibration date</b>
Power Meter	WT210	Jan.01, 2019
Temp. & Humi. Recorder	S580-TH	Jan. 14, 2019
Luminance Meter	LS-100	Jun. 18, 2019
Measuring tape	20G-5019	Jan.12, 2019
Stop watch	PC397	Apr.11, 2019
Illuminance meter	T-10	Jun. 18, 2019

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