ANNEX I

List of electrical and electronic household and office equipment

1. Household appliances:
   - Appliances for cooking and other processing of food, preparing beverages, opening or sealing containers or packages, cleaning, and maintenance of clothes,
   - Appliances for hair cutting, hair drying, hair treatment, tooth brushing, shaving, massage and other body care appliances,
   - Electric knives,
   - Scales,
   - Clocks, watches and equipment for the purpose of measuring, indicating or registering time.

2. Information technology equipment, including copying and printing equipment, and set-top boxes, intended primarily for use in the domestic environment.

3. Consumer equipment:
   - Radio sets,
   - Video cameras,
   - Video recorders,
   - Hi-fi recorders,
   - Audio amplifiers,
   - Home theatre systems,
   - Televisions,
   - Musical instruments,
   - Other equipment for the purpose of recording or reproducing sound or images, including signals or other technologies for the distribution of sound and image other than by telecommunications.

4. Electrical and electronic toys, leisure and sports equipment:
   - Electric trains or car racing sets,
   - Game consoles, including hand-held game consoles,
   - Sports equipment with electric or electronic components;
   - Other toys, leisure and sports equipment.

ANNEX II

Ecodesign requirements for external power supplies

1. Energy efficiency requirements:

(a) from 1 April 2020, the no-load condition power consumption shall not exceed the following values:

	AC-AC external power supplies,	**AC-DC external power supplies,**	**Low voltage external power supplies**	**Multiple voltage output external**

	except low voltage and multiple voltage output external power supplies	**except low voltage and multiple voltage output external power supplies**		**power supplies**
$P_O \leq 49{,}0$ W	0,21 W	0,10 W	0,10 W	0,30 W
$P_O > 49{,}0$ W	0,21 W	0,21 W	0,21 W	0,30 W

(b) from 1 April 2020, the average active efficiency shall be not less than the following values:

	AC-AC external power supplies, except low voltage and multiple voltage output external power supplies	**AC-DC external power supplies, except low voltage and multiple voltage output external power supplies**	**Low voltage external power supplies**	**Multiple voltage output external power supplies**
$P_O \leq 1{,}0$ W	$0{,}5 \times P_O/1W + 0{,}160$	$0{,}5 \times P_O/1W + 0{,}160$	$0{,}517 \times P_O/1W + 0{,}087$	$0{,}497 \times P_O/1W + 0{,}067$
1 W < $P_O \leq$ 49,0 W	$0{,}071 \times \ln(P_O/1W) - 0{,}0014 \times P_O/1W + 0{,}67$	$0{,}071 \times \ln(P_O/1W) - 0{,}0014 \times P_O/1W + 0{,}67$	$0{,}0834 \times \ln(P_O/1W) - 0{,}0014 \times Po/1W + 0{,}609$	$0{,}075 \times \ln(P_O/1W) + 0{,}561$
$P_O > 49{,}0$ W	0,880	0,880	0,870	0,860

2. Information requirements:

(a) from 1 April 2020, the nameplate shall include the following information:

Nameplate information	**Value and precision**	**Unit**	**Notes**
Output power	X,X	W	In cases where more than one physical output or more than one output voltage at load condition 1 are measured, the sets of available Output voltage — Output current –

			Output power shall be given.
Output voltage	X,X	V	In cases where more than one physical output or more than one output voltage at load condition 1 are measured, the sets of available Output voltage — Output current – Output power shall be given.
Output current	X,X	A	In cases where more than one physical output or more than one output voltage at load condition 1 are measured, the sets of available Output voltage — Output current – Output power shall be given.

(b) from 1 April 2020, instruction manuals for end-users (where applicable), and free access websites of manufacturers, importers or authorised representatives shall include the following information, in the order as set out below:

Information published	**Value and precision**	**Unit**	**Notes**
Manufacturer's name or trade mark, commercial registration number and address			
Model identifier			
Input voltage	X	V	Specified by the manufacturer. Shall be a value or a range.
Input AC frequency	X	Hz	Specified by the manufacturer. Shall be a value or a range.
Output voltage	X,X	V	Nameplate output voltage. Shall

			indicate whether is AC or DC. In cases where more than one physical output or more than one output voltage at load condition 1 are measured, the sets of available Output voltage — Output current – Output power shall be published.
Output current	X,X	A	Nameplate output current. In cases where more than one physical output or more than one output voltage at load condition 1 are measured, the sets of available Output voltage — Output current – Output power shall be published.
Output power	X,X	W	Nameplate output power. In cases where more than one physical output or more than one output voltage at load condition 1 are measured, the sets of available Output voltage — Output current – Output power shall be published.
Average active efficiency	X,X	%	Declared by the manufacturer based on the value calculated as arithmetical mean of efficiency at load conditions 1-4.

			In cases where multiple average active efficiencies are declared for multiple output voltages available at load condition 1, the value published shall be the average active efficiency declared for the lowest output voltage.
Efficiency at low load (10 %)	X,X	%	Declared by the manufacturer based on the value calculated at load condition 5. External power supplies with a nameplate output power of 10 W or less shall be exempted from this requirement. In cases where multiple average active efficiencies are declared for multiple output voltages available at load condition 1, the value published shall be the value declared for the lowest output voltage.
No-load power consumption	X,XX	W	Declared by the manufacturer based on the value measured for load condition 6.

The relevant load conditions are as follows:

Percentage of nameplate output current	
Load condition 1	100 % ± 2 %
Load condition 2	75 % ± 2 %
Load condition 3	50 % ± 2 %

Load condition 4	25 % ± 2 %
Load condition 5	10 % ± 1 %
Load condition 6	0 % (no-load condition)

(c) from 1 April 2020, the technical documentation for the purposes of conformity assessment pursuant to Article 4 shall contain the following elements:

(1) for external power supplies with a nameplate output power greater than 10 watts:

Reported Quantity	**Description**
Root mean square output current (mA)	Measured at load conditions 1-5
Root mean square output voltage (V)	
Active output power (W)	
Root mean square input voltage (V)	Measured at load conditions 1-6
Root mean square input power (W)	
Total harmonic distortion of the input current	
True power factor	
Power consumed (W)	Calculated at load conditions 1-5, measured at load condition 6
Active mode efficiency	Calculated at load conditions 1-5
Average active efficiency	Arithmetical mean of efficiency at load conditions 1-4

In cases where more than one physical output or more than one output voltage at load condition 1 are measured, the relevant reported quantities shall be specified for each measurement.

The relevant load conditions are set out in point 2(b);

(2) for external power supplies with a nameplate output power of 10 watts or less:

Reported Quantity	**Description**
Root mean square output current (mA)	Measured at load conditions 1-4
Root mean square output voltage (V)	
Active output power (W)	
Root mean square input voltage (V)	Measured at load conditions 1-4 and 6
Root mean square input power (W)	

Total harmonic distortion of the input current	
True power factor	
Power consumed (W)	Calculated at load conditions 1-4, measured at load condition 6
Active mode efficiency	Calculated at load conditions 1-4
Average active efficiency	Arithmetical mean of efficiency at load conditions 1-4

In cases where more than one physical output or more than one output voltage at load condition 1 are measured, the relevant reported quantities shall be specified for each measurement.

The relevant load conditions are set out in point 2(b).

3. Measurements and calculations

For the purposes of compliance and verification of compliance with the requirements of this Regulation, measurements and calculations shall be made using harmonised standards the reference numbers of which have been published for this purpose in the *Official Journal of the European Union*, or other reliable, accurate and reproducible methods, which take into account the generally recognised state of the art.

ANNEX III

Verification procedure for market surveillance purposes

The verification tolerances defined in this Annex relate only to the verification of the measured parameters by Member State authorities and shall not be used by the manufacturer, importer or authorised representative as an allowed tolerance to establish the values in the technical documentation or in interpreting these values with a view to achieving compliance or to communicate better performance by any means.

When verifying the compliance of a product model with the requirements laid down in this Regulation pursuant to Article 3, point 2 of Directive 2009/125/EC, for the requirements referred to in this Annex, the authorities of the Member States shall apply the following procedure:

1. The Member State authorities shall verify one single unit of the model.

2. The model shall be considered to comply with the applicable requirements if:

(a) the values given in the technical documentation pursuant to point 2 of Annex IV to Directive 2009/125/EC (declared values), and, where applicable, the values used to calculate these values, are not more favourable for the manufacturer, importer or authorised representative than the results of the corresponding measurements carried out pursuant to paragraph (g) thereof; and

(b) the declared values meet any requirements laid down in this Regulation, and any required product information published by the manufacturer, importer or authorised representative does not contain values that are more favourable

for the manufacturer, importer or authorised representative than the declared values; and

(c) when the Member State authorities test the unit of the model, the determined values (the values of the relevant parameters as measured in testing and the values calculated from these measurements) comply with the respective verification tolerances as given in Table 1; and

(d) when the Member State authorities check the unit of the model, it complies with the information requirements in point 2 of Annex II.

3. If the results referred to in point 2(a), (b) or (d) are not achieved, the model and all equivalent models shall be considered not to comply with this Regulation.

4. If the result referred to in point 2(c) is not achieved, the Member State authorities shall select three additional units of the same model for testing. As an alternative, the three additional units selected may be of one or more equivalent models.

5. The model shall be considered to comply with the applicable requirements if, for these three units, the arithmetical mean of the determined values complies with the respective verification tolerances given in Table 1.

6. If the result referred to in point 5 is not achieved, the model and all equivalent models shall be considered not to comply with this Regulation.

7. The Member State authorities shall provide all relevant information to the authorities of the other Member States and to the Commission without delay after a decision is taken on non-compliance of the model according to points 3 or 6.

The Member State authorities shall use the measurement and calculation methods set out in Annex II.

The Member State authorities shall only apply the verification tolerances that are set out in Table 1 and shall use only the procedure described in points 1 to 7 for the requirements referred to in this Annex. For the parameters in Table 1, no other tolerances, such as those set out in harmonised standards or in any other measurement method, shall be applied.

TABLE 1

Verification tolerances

Parameters	***Verification tolerances***
No-load condition	The determined value[a] shall not exceed the declared value by more than 0,01 W.
Active mode efficiency at each of the applicable load conditions	The determined value[a] shall not be lower than the declared value by more than 5 %.
Average active efficiency	The determined value[a] shall not be lower than the declared value by more than 5 %.

a In the case of three additional units tested as prescribed in point 4, the determined value means the arithmetical mean of the values determined for these three additional units.

ANNEX IV

Benchmarks

At the time of entry into force of this Regulation, the best available technology on the market for external power supplies in terms of their no-load power consumption and average active efficiency was identified as follows:

(a) No-load condition:

The lowest available no-load condition power consumption of external power supplies can be approximated as:

— 0,002 watt, for $P_O \leq 49{,}0$ watts,

— 0,010 watt, for $P_O > 49{,}0$ watts.

(b) Average active efficiency:

The best available active average efficiency of external power supplies can be approximated as:

— 0,767, for $P_O \leq 1{,}0$ watt,

— 0,905, for $1{,}0 \text{ watt} < P_O \leq 49{,}0$ watts,

— 0,962, for $P_O > 49{,}0$ watts.