ECE TYPE-APPROVAL CERTIFICATE

E24

Communication Concerning: Approval granted
~~Approval extended~~
~~Approval refused~~
~~Approval withdrawn~~
~~Production definitively discontinued~~

Of a type of electrical/electronic sub-assembly with regard to Regulation No.10.

Approval No: ***E24*10R06/00*3292*00***

Reason for extension: *-N/A*

1. Make (trade name of manufacturer): Peiying

2. Type and general commercial description: ***PY-CHR0001***
Mountable USB car charger

3. Means of identification of type, if marked on the component: ***Letters and digits***

3.1 Location of that marking: ***Label on the housing***

4. Category of vehicle: ***N/A***

5. Name and address of manufacturer: ***LECHPOL ELECTRONICS Sp. z o.o. Sp.k.***
Garwolińska 1 street, 08-400 Post code,
Miętne City,
Poland

6. In the case of components and separate technical units, location and method of affixing of the ECE approval mark: ***Label on the housing***

7. Address(es) of assembly plant(s):

NSAI, 1 Swift Square, Northwood, Santry, Dublin 9, Ireland. Telephone: (+353+1) 807 3800, Facsimile: 01-807 3844

Approval No: ***E24*10R06/00*3292*00***

8.	Additional information (where applicable):	***See appendix***
9.	Technical service responsible for carrying out the tests:	***TÜV SÜD Auto Service GmbH Westendstraße 199, D-80686 München Germany***
10.	Date of test report:	***11.08.2020***
11.	Number of test report:	***20-01346-CX-SHA-00***
12.	Remarks (if any):	***See Appendix***
13.	Place:	***Dublin***
14.	Date:	***20th August, 2020***
15.	Signature:	

NATIONAL STANDARDS AUTHORITY OF IRELAND
NSAI Certification
TRANSPORT DEPARTMENT

16. The index to the information package lodged with the approval authority, which may be obtained on request is attached.

NSAI, 1 Swift Square, Northwood, Santry, Dublin 9, Ireland. Telephone: (+353+1) 807 3800, Facsimile: 01-807 3844

Approval No: ***E24*10R06/00*3292*00***

Appendix

To type-approval communication concerning the type approval
of an electrical/electronic sub-assembly under Regulation No.10.

1.	Additional information	
1.1.	Electrical system rated voltage:	***12V/24V DC, negative ground***
1.2.	This ESA can be used on any vehicle type with the following restrictions:	***See manufacturer's specifications.***
1.2.1	Installation conditions, if any:	***See manufacturer's specifications.***
1.3.	This ESA can only be used on the following vehicle types:	***N/A***
1.3.1	Installation conditions, if any:	***N/A***
1.4.	The specific test method(s) used and the frequency ranges covered to determine immunity were:	***Bulk Current Injection Method:*** *Frequency: (20 - 400MHz)* ***Absorber Chamber Test:*** *Frequency: (400 – 2000MHz)*
1.5.	Laboratory accredited to ISO 17025 and recognized by the Approval Authority responsible for carrying out the tests:	***TÜV SÜD Auto Service GmbH,***
2.	Remarks:	***N/A***

Appendix to type-approval communication concerning the
type approval of a vehicle under Regulation No.10.

1.	Additional information	
2.	Special devices for the purpose of Annex 4 to this Regulation:	***N/A***
3.	Electrical system rated voltage:	***N/A***
4.	Type of bodywork:	***N/A***
5.	List of electronic systems installed in the tested vehicle(s) not limited to the items in the information document:	***N/A***
5.1	Vehicle equipped with 24 GHz short-range radar equipment (yes/no):	***N/A***
6.	Laboratory accredited to ISO 17025 and recognized by the Approval Authority responsible for carrying out the tests:	***N/A***
7.	Remarks:	***N/A***

NSAI, 1 Swift Square, Northwood, Santry, Dublin 9, Ireland. Telephone: (+353+1) 807 3800, Facsimile: 01-807 3844

Approval No: ***E24*10R06/00*3292*00***

Index to the Information Package

Date of issue:	***20th August, 2020***
Date of latest amendment:	***N/A***
Reason for extension/revision:	***N/A***

1. Additional conditions, and advisory notes on legal alternatives.

2. Test report(s)

- numbers(s):	***20-01346-CX-SHA-00***
- date of issue:	***11.08.2020***
- date of latest amendment:	***N/A***

3. Information document

- number(s):	***PY-CHR0001-00***
- date of issue:	***16.07.2020***
- date of latest amendment:	***N/A***
Documentation:	***24 pages***

NSAI, 1 Swift Square, Northwood, Santry, Dublin 9, Ireland. Telephone: (+353+1) 807 3800, Facsimile: 01-807 3844

Approval No: ***E24*10R06/00*3292*00***

Appendix: **Additional conditions, and advisory notes on legal alternatives**

A: Additional conditions:

1. The attached technical report, with any of its attachments, forms part of this Type Approval certificate.
2. Each device from series production shall be to the measurements specified in the attached drawings, and shall be manufactured only from the materials specified in the Approval documents.
3. Changes in the type are permitted only with the explicit permission of NSAI. Breaches of this requirement will lead to a withdrawal of the Type Approval, and in addition may be subject to criminal prosecution.
4. At regular intervals, any tests or associated checks prescribed by the applicable legislation to verify continued conformity with the approved type shall be carried out. The manufacturer shall demonstrate compliance with this by submitting to NSAI evidence of adequate arrangements and documented control plans for each type approved.
5. Any set of samples or test pieces showing evidence of non-conformity shall give rise to further sampling and testing and all steps shall be taken to restore conformity of production.
6. This Type Approval will expire when it is surrendered by the holder, or withdrawn by NSAI, or when the approved type no longer conforms to legal requirements. The recall of the Type Approval can be issued by NSAI when the conditions required for the issuing or continuation of the Type Approval are no longer current, or when the Approval holder is in breach of the duties attached to the Type Approval, or when it is established that the approved type no longer meets the requirements of traffic safety.
7. Changes in the company name, address or manufacturing site, as well as in any of the sales or other agents specified in the issuing of the approval must immediately be notified to NSAI.
8. The duties imposed by the issuing of this certificate are not transferable. The legal protection of third parties is not affected by this certificate.
9. When the manufacture or sale of the system, component or separate technical unit has not been started within one year of the date of issue of this certificate, then NSAI is to be informed. This requirement also applies when the manufacture or sale has been halted for more than one year, or when it ought to have been halted for more than one year. The initial commencement of manufacture or sale, or the resumption of manufacture or sale, shall then be notified to NSAI within one month of commencement or resumption.

B: Legal Options:

Any objection to the requirements set out in this certificate shall be made within one month of the date of issue. The objection shall be made, in writing, to NSAI in Dublin.

NSAI, 1 Swift Square, Northwood, Santry, Dublin 9, Ireland. Telephone: (+353+1) 807 3800, Facsimile: 01-807 3844

Test Report

No.: 20-01346-CX-SHA-00

Test of a type of component
with regard to **UN/ECE Regulation No. 10**

including 06 series of amendments

Approval subject:
Electromagnetic Compatibility

Approval status	
☑	Granting of a type approval
☐	Extension/correction to type approval no. : ---

E24*10R06/00*3292*00

I. General

Make (trade name of manufacturer)	:	Peiying
Type	:	PY-CHR0001
Variant(s)	:	N/A
Commercial description(s)	:	Mountable USB car charger
Name and address of manufacturer	:	LECHPOL ELECTRONICS Sp. z o.o. Sp.k. Garwolińska 1 street, 08-400 Post code, Miętne City, Poland.
Name and address of manufacturer's representative (if applicable)	:	N/A
Address(es) of assembly plant(s)	:	
Location and method of affixing of the approval mark	:	Label on the housing

II. Test results

Refer to the Annex II

III. Enclosures

Information folder No. PY-CHR0001-00 dated 16.07.2020 (dd.mm.yyyy)

IV. Statement of conformity

The mentioned information folder and the type described therein are in accordance with the test basis mentioned above. The worst-case was selected in accordance with document "Requirements for Test Reports (AS-PB-T-02)".

The test report may be reproduced and published in full and by the client only. It can be reproduced partially with the written permission of the test laboratory only.

TÜV SÜD Auto Service GmbH is designated as Technical Service by:

Approval authority	Country	Registration number
Kraftfahrt-Bundesamt (KBA)	Germany	KBA-P 00100-10
Vehicle Certification Agency (VCA)	United Kingdom	VCA-TS-006
Approval Authority of the Netherlands (RDW)	The Netherlands	RDWT-082-xx
National Standards Authority of Ireland (NSAI)	Ireland	Technical Service Number: 49
Société Nationale de Certification et d'Homologation (SNCH)	Luxembourg	13/B(g)

München, 11.08.2020 (dd.mm.yyyy)

Erin Zeng

Annex I Reason of Extension

Correction of : ---

Modification of : ---

Addition of : ---

Deletion of : ---

Annex II Test results

1. Description of the test object

1.1. Representative ESA : PY-CHR0001

1.2. Tested variant (if any) : N/A

2. Test conditions

2.1. Test equipment :

No.	Name Test Apparatus	Model	Serial No.	Expiry Date
1	3 meter modified semi-an-echoic chamber	07 ′×08′-4	SIPAI/T-J07001	2021.07.08
2	EMI receiver	ESU 40	SIPAI/T-J07101	2021.05.13
3	Bilog Antenna	CBL6112B	SIPAI/T-J07014	2021.04.24
4	Signal Generator	SMB100A	SIPAI/T-J07065	2020.10.17
5	power meter	NRP	SIPAI/T-J07066	2020.11.19
6	Signal Generator	SMC100A	SIPAI/T-J07122	2020.10.17
7	power meter	NRP2	SIPAI/T-J07124	2020.11.29
8	Log-periodic antenna	HL 046	SIPAI/T-J07129	2022.04.06
9	Pulse Generator	NSG 5500	SIPAI/T-J07053	2021.10.29
10	Pulse Generator	NSG 5600	SIPAI/T-J07054	2021.09.23
11	Battery Simulator	PA 5840-75	SIPAI/T-J07055	2021.09.23
12	Current injection	F-140A	SIPAI/T-J07056	2021.04.24
13	Artificial Network	NNBM8126D	SIPAI/T-J07094	2021.08.05
14	Artificial Network	NNBM8126D	SIPAI/T-J07095	2021.08.05
15	digital oscilloscope	RTM1052	SIPAI/T-J06017	2020.08.21
	Test software	EMC32-S	SIPAI/T-G07042	——

2.2. Ambient condition : In accordance to the standard above

2.3. Carrying out of the test :

2.3.1. Broadband electromagnetic interference generated by ESA

2.3.1.1. Method of measurement : Measured by the method described in Annex 7 of ECE-R10.

2.3.1.2. Results : The measured values, expressed in dBμV/m, are below the reference limits.
The test was passed.

2.3.2. Narrowband electromagnetic interference generated by ESA

2.3.2.1. Method of measurement : Measured by the method described in Annex 8 of ECE-R10.

2.3.2.2. Results : The measured values, expressed in dBµV/m, are below the reference limits. The test was passed.

2.3.3. Immunity of ESA to electromagnetic radiation

2.3.3.1. Method of measurement : Measured by bulk current injection (20 MHz - 400 MHz) and in the anechoic chamber (400 MHz – 2 GHz) as described in annex 9 of ECE-R10

2.3.3.2. Performance criteria : No degradation of function by testing with 60 mA (bulk current injection) and 30 V/m (anechoic chamber).

2.3.3.3. Results : The ESA has not exhibited any malfunction. The claimed functional state was fulfilled during the test. The test was passed.

2.3.4. Immunity of ESA to conducted transient interferences

2.3.4.1. Method of measurement : Measured as described in Annex 10 of ECE-R10.

2.3.4.2. Results : The ESA has not exhibited any unacceptable malfunction. The claimed functional state was fulfilled during the test. The test was passed.

2.3.5. Conducted transient interferences generated by ESA

2.3.5.1. Method of measurement : Measured as described in Annex 10 of ECE-R10.

2.3.5.2. Results : The measured values are below the reference limits. The test was passed.

3. Test results

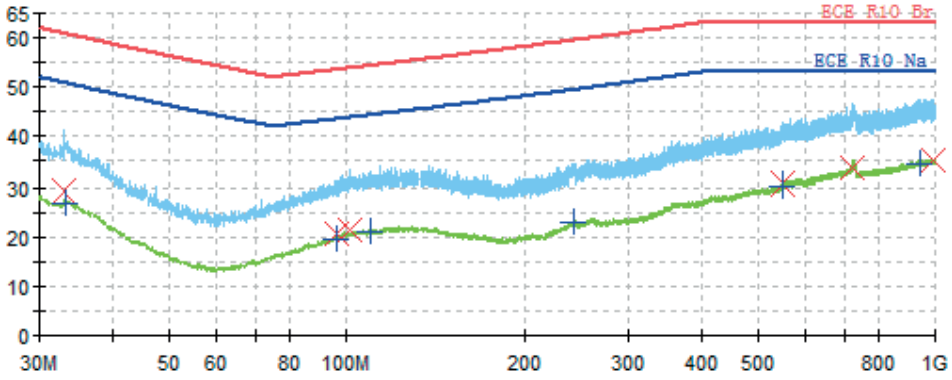
The results of the tests are attached in the diagrams of the enclosure.

4. Place and date of the test : Shanghai Inspection and Testing Institute of Instruments and Automation Systems Co., Ltd. 29.07.2020 to 30.07.2020 (dd.mm.yyyy)

Annex 2a Measurement diagrams of the radio interference 30 MHz - 1 GHz

DUT Model:	PY-CHR0001	Test Voltage:	13.5V
Test Mode:	On	Test Result:	Pass

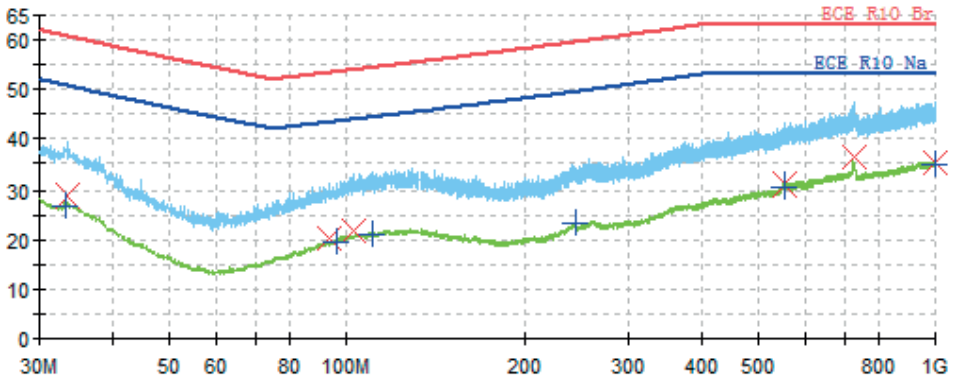
30 to 1000MHz - Horizontal:



Frequency (MHz)	QuasiPeak (dBµV /m)	Height (cm)	Polarization	Margin (dB)	Limit (dBµV /m)
33.000000	29.2	100.0	H	31.76	60.96
96.000000	20.7	100.0	H	32.92	53.62
101.520000	21.5	100.0	H	32.49	53.99
547.920000	30.5	100.0	H	32.50	63.00
724.680000	33.7	100.0	H	29.30	63.00
995.940000	35.2	100.0	H	27.80	63.00

Frequency (MHz)	Average (dBµV /m)	Height (cm)	Polarization	Margin (dB)	Limit (dBµV /m)
33.240000	26.9	100.0	H	23.98	50.88
96.060000	19.5	100.0	H	24.12	43.62
109.800000	20.9	100.0	H	23.60	44.50
243.120000	22.9	100.0	H	26.83	49.73
549.120000	30.3	100.0	H	22.70	53.00
945.060000	34.6	100.0	H	18.40	53.00

30 to 1000MHz - Vertical:

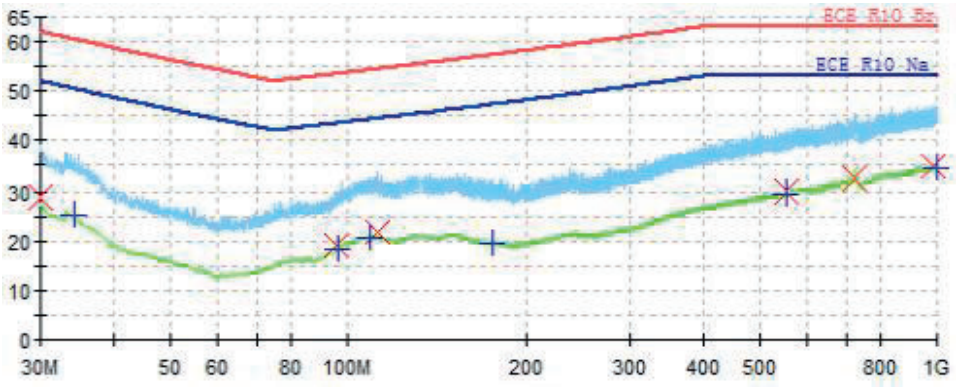


Frequency (MHz)	QuasiPeak (dBµV /m)	Height (cm)	Polarization	Margin (dB)	Limit (dBµV /m)
33.600000	28.7	100.0	V	32.06	60.76
93.360000	20.3	100.0	V	33.14	53.44
102.840000	21.7	100.0	V	32.37	54.07
556.020000	31.0	100.0	V	32.00	63.00
726.480000	36.5	100.0	V	26.50	63.00
997.260000	35.3	100.0	V	27.70	63.00

Frequency (MHz)	Average (dBµV /m)	Height (cm)	Polarization	Margin (dB)	Limit (dBµV /m)
33.300000	26.9	100.0	V	23.96	50.86
96.240000	19.7	100.0	V	23.94	43.64
111.000000	20.9	100.0	V	23.68	44.58
244.860000	23.1	100.0	V	26.67	49.77
555.840000	30.4	100.0	V	22.60	53.00
998.940000	34.9	100.0	V	18.10	53.00

DUT Model:	PY-CHR0001	Test Voltage:	27V
Test Mode:	On	Test Result:	Pass

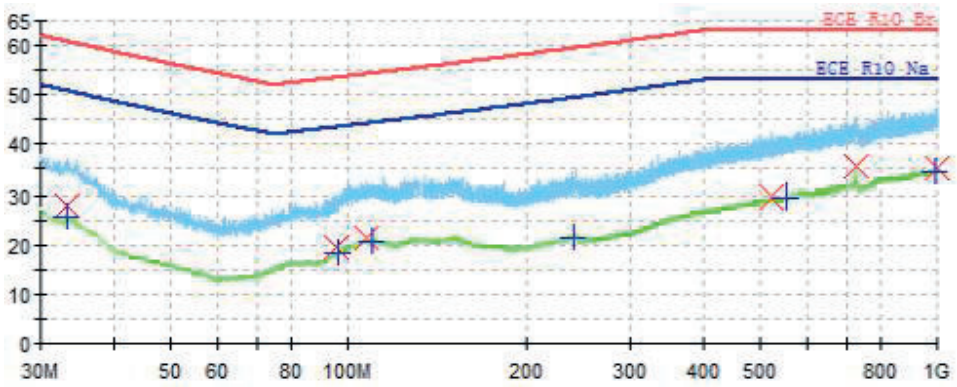
30 to 1000MHz - Horizontal:



Frequency (MHz)	QuasiPeak (dBµV /m)	Height (cm)	Polarization	Margin (dB)	Limit (dBµV /m)
30.060000	28.8	100.0	H	33.18	61.98
95.820000	19.2	100.0	H	34.41	53.61
112.800000	21.7	100.0	H	32.98	54.68
555.600000	30.0	100.0	H	33.00	63.00
723.420000	32.5	100.0	H	30.50	63.00
983.100000	34.8	100.0	H	28.20	63.00

Frequency (MHz)	Average (dBµV /m)	Height (cm)	Polarization	Margin (dB)	Limit (dBµV /m)
34.320000	25.1	100.0	H	25.43	50.53
96.360000	18.3	100.0	H	25.35	43.65
109.080000	20.6	100.0	H	23.86	44.46
175.320000	19.6	100.0	H	27.98	47.58
554.820000	29.5	100.0	H	23.50	53.00
998.580000	34.5	100.0	H	18.50	53.00

30 to 1000MHz - Vertical:



Frequency (MHz)	QuasiPeak (dBµV /m)	Height (cm)	Polarization	Margin (dB)	Limit (dBµV /m)
33.300000	28.1	100.0	V	32.76	60.86
95.880000	19.4	100.0	V	34.21	53.61
107.460000	21.6	100.0	V	32.76	54.36
522.240000	29.5	100.0	V	33.50	63.00
729.480000	35.4	100.0	V	27.60	63.00
997.800000	35.1	100.0	V	27.90	63.00

Frequency (MHz)	Average (dBµV /m)	Height (cm)	Polarization	Margin (dB)	Limit (dBµV /m)
33.360000	25.7	100.0	V	25.14	50.84
96.360000	18.3	100.0	V	25.35	43.65
109.920000	20.8	100.0	V	23.71	44.51
241.380000	21.6	100.0	V	28.08	49.68
555.540000	29.5	100.0	V	23.50	53.00
993.480000	34.4	100.0	V	18.60	53.00

Annex 2b Immunity of ESA to conducted transient interferences

DUT Model:	PY-CHR0001	Test Voltage:	13.5V
Test Mode:	On	Test Result:	Pass

Measurement result:

Test pulse	Test level	Number of pulse / test time	Burst cycle / pulse Repetition time	Required minimum function status*	Status of function true value
1	-75V	5000 pulses	0.5s	C	C
2a	+37V	5000 pulses	0.2s	B	A
2b	+10V	10 pulses	0.5s	C	C
3a	-112V	1h	90ms	A	A
3b	+75V	1h	90ms	A	A
4	-6V	1 pulses	2s	B	B

DUT Model:	PY-CHR0001	Test Voltage:	27V
Test Mode:	On	Test Result:	Pass

Measurement result:

Test pulse	Test level	Number of pulse / test time	Burst cycle / pulse Repetition time	Required minimum function status*	Status of function true value
1	-450V	5000 pulses	0.5s	C	C
2a	+37V	5000 pulses	0.2s	B	A
2b	+20V	10 pulses	0.5s	C	C
3a	-150V	1h	90ms	A	A
3b	+150V	1h	90ms	A	A
4	-12V	1 pulses	2s	B	B

Remark:
"A": all functions of EUT perform as designed during and after exposure to disturbance.
"B": all functions of EUT perform as designed during exposure. However, one or more of them can go beyond specified tolerance. All functions return automatically to within normal limits after exposure is removed. Memory functions shall remain class A.
"C": EUT power off during exposure but return automatically to normal operation after exposure is removed.
"D": one or more functions of a device/system do not perform as designed during exposure and do not return to normal operation until exposure is removed and the device/system is reset by simple "operator/use" action

Annex 2c Conducted transients from ESAs to the vehicle power supply

DUT Model:	PY-CHR0001	Test Voltage:	13.5V
Test Mode:	On	Test Result:	Pass

Measurement result:

Polarity of pulse amplitude	Maximum allowed value for vehicles with 12V systems	Measured pulse amplitude true value (Fast)	Measured pulse amplitude true value (Slow)
Positive	+75V	+14.4V	+14.7V
Negative	-100V	-14.9V	-15.4V

DUT Model:	PY-CHR0001	Test Voltage:	27V
Test Mode:	On	Test Result:	Pass

Measurement result:

Polarity of pulse amplitude	Maximum allowed value for vehicles with 24V systems	Measured pulse amplitude true value (Fast)	Measured pulse amplitude true value (Slow)
Positive	+150V	+28.7V	+29.1V
Negative	-450V	-29.4V	-29.7V

Annex 2d Immunity of ESA to electromagnetic radiation

DUT Model:	PY-CHR0001	Test Voltage:	13.5V
Test Mode:	On	Test Result:	Pass

Measurement result:

Frequency range (MHz)	Test level	Type of modulation	Test distance	Antenna position	Result
20~400	60mA	AM,80%	150mm	/	Pass*
400~800	30V/m	AM,80%	1m	Vertical	Pass*
800~2000	30V/m	PM,577us	1m	Vertical	Pass*

DUT Model:	PY-CHR0001	Test Voltage:	27V
Test Mode:	On	Test Result:	Pass

Measurement result:

Frequency range (MHz)	Test level	Type of modulation	Test distance	Antenna position	Result
20~400	60mA	AM,80%	150mm	/	Pass*
400~800	30V/m	AM,80%	1m	Vertical	Pass*
800~2000	30V/m	PM,577us	1m	Vertical	Pass*

Remark:
* no degradation of performance of 'immunity-related functions.

APPLICATION FOR APPROVAL

PURSUANT TO THE ECE REGULATION No. 10.06

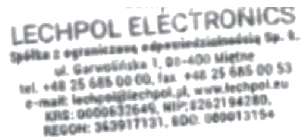
UNIFORM PROVISIONS CONCERNING THE APPROVAL

OF MOTOR VEHICLES WITH REGARD

TO ELECTROMAGNETIC COMPATIBILITY

For: LECHPOL ELECTRONICS Sp. z o.o. Sp.k.
Component: Electromagnetic Compatibility
Type: PY-CHR0001

Reason for extension: N/A
Total pages: 11
Signature of a responsible person: Artur Skorupka
Place: Miętne City
Date: 2020-07-16



List of documentation

Confirmation

We hereby declare that the product of LECHPOL ELECTRONICS Sp. z o.o. Sp.k., type PY-CHR0001 submitted for the type approval

1. is compatible with the enclosed documentation

and

2. has been manufactured under condition of mass production.

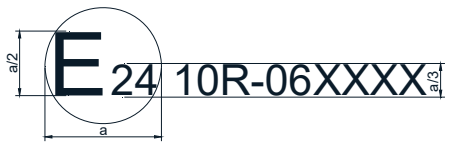
INFORMATION DOCUMENT FOR TYPE-APPROVAL OF AN ELECTRIC/ELECTRONIC SUB-ASSEMBLY WITH RESPECT TO ELECTROMAGNETIC COMPATIBILITY ACCORDING ANNEX 2B

1.	Make (trade name of the manufacturer)	: Peiying
2.	Type	: PY-CHR0001
2.1.	Variants (if applicable)	: N/A
2.2.	General commercial description(s)	: Mountable USB car charger
3.	Means of identification of type if marked on the ~~vehicle~~/component/~~STU~~	: Letters and digits
3.1.	Location of that marking	: Label on the housing
4.	Name and address of the manufacturer	: LECHPOL ELECTRONICS Sp. z o.o. Sp.k. Garwolińska 1 street, 08-400 Post code, Miętne City, Poland.
5.	In the case of components and separate technical units, location and method of affixing of the approval mark	: Label on the housing
6.	Address(es) of assembly plant(s)	:
7.	This ESA shall be approved as a	: Component
8.	Any restrictions of use and conditions for fitting	: No restrictions
9.	Electrical system rated voltage	: DC 12V/24V ~~pos.~~/neg. ground
10.	Charger: on board/external	: N/A
11.	Charging current: DC/AC (number of phases/frequency)	: N/A
12.	Maximal nominal current (in each mode if necessary)	: N/A
13.	Nominal charging voltage	: N/A
14.	Basic ESA interface functions: ex. L1/L2/L3/N/PE/control pilot	: N/A
15.	Minimum R_{sce} value (see paragraph 7.11. of this Regulation)	: N/A
16.	Statement for model difference (if applicable)	: ——

List of attachments

Assembly Drawing	Drawing No. 1
Explosive view	Drawing No. 2
Circuit Diagram	Drawing No. 3
PCB Layout	Drawing No. 4-5
Bill of materials	Consists of 1 page

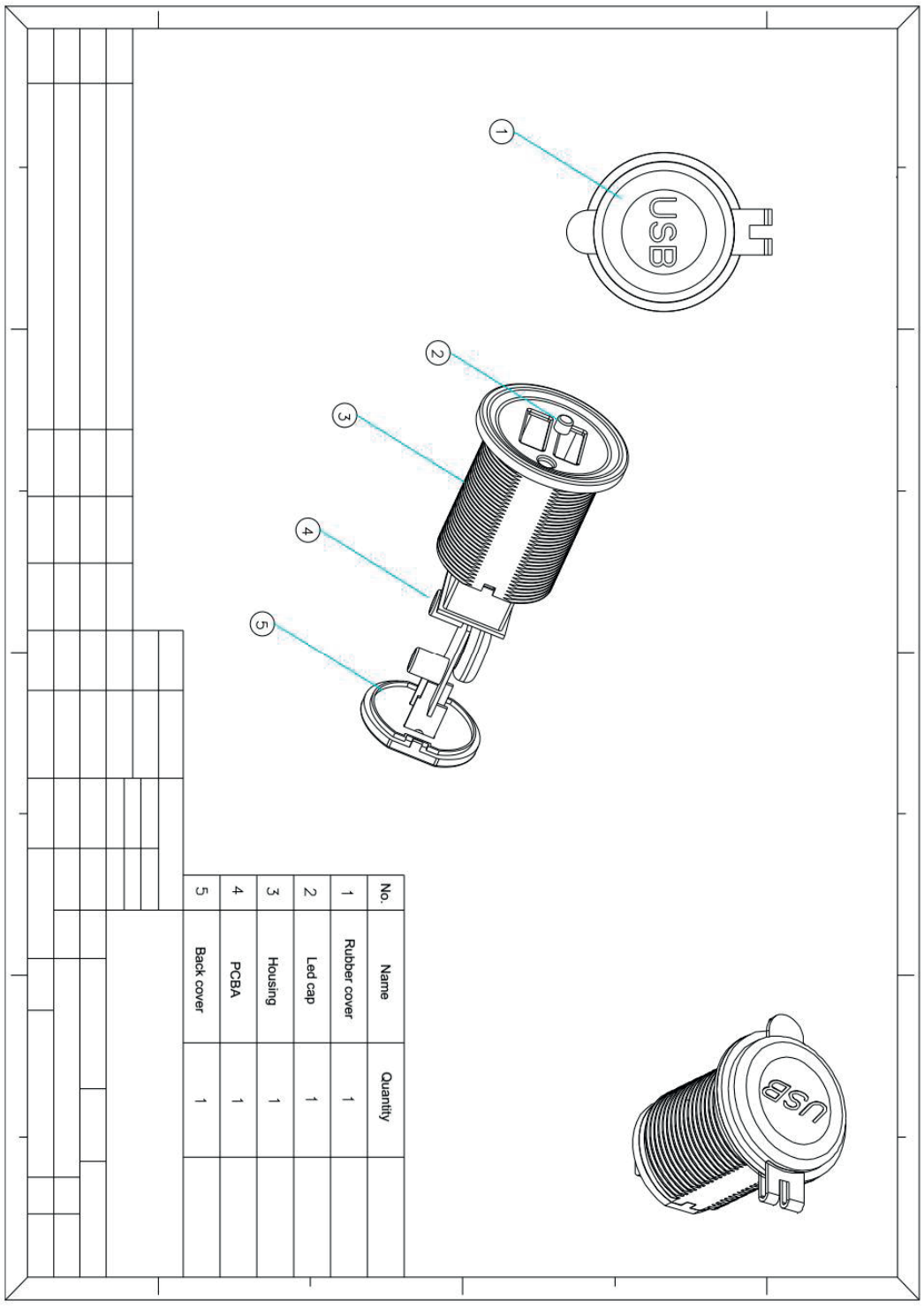
Approval mark



a=6mm min

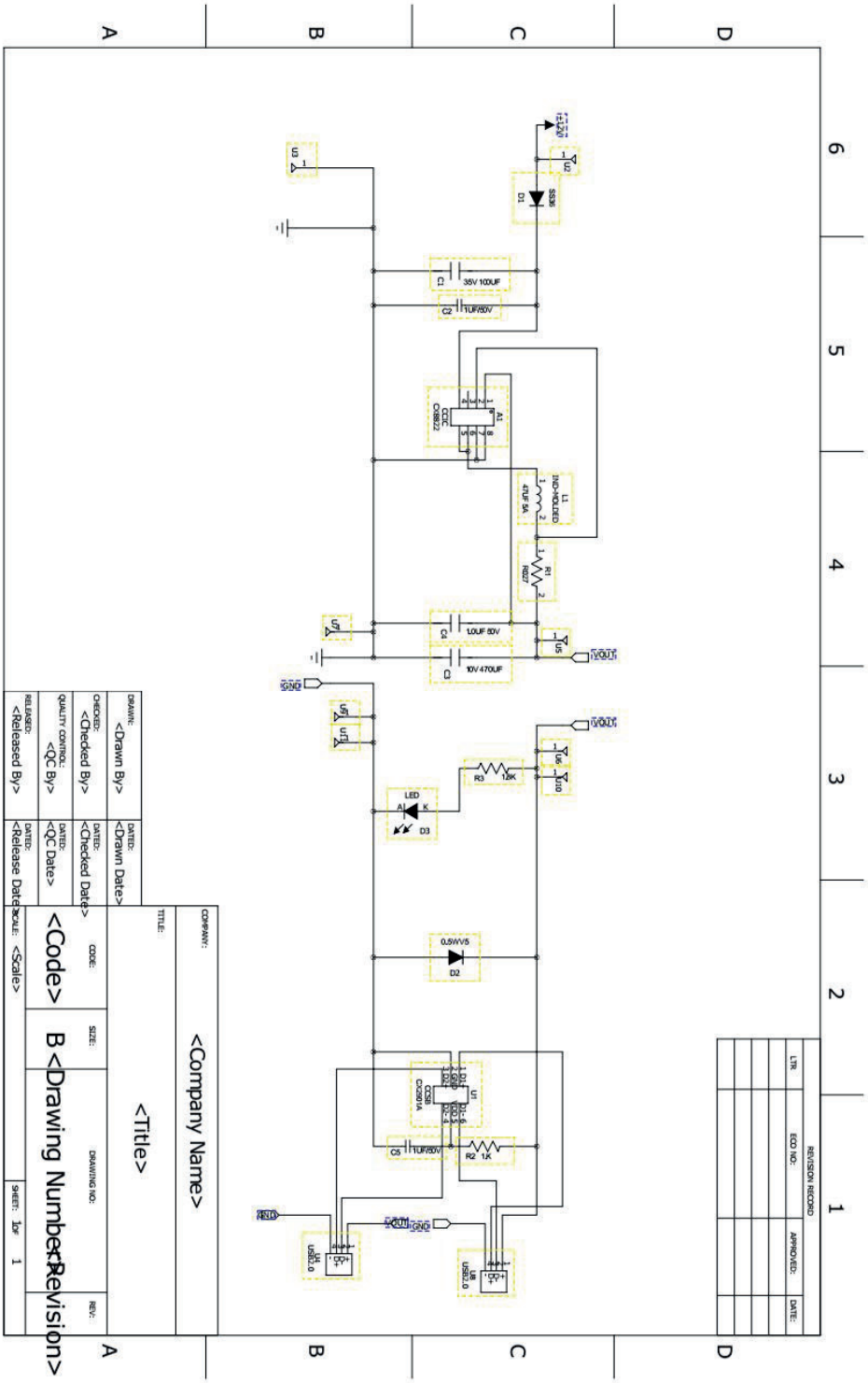
XXXX means an approval number, please refer to the certificate.

Drawing No. 1 **Assembly Drawing**

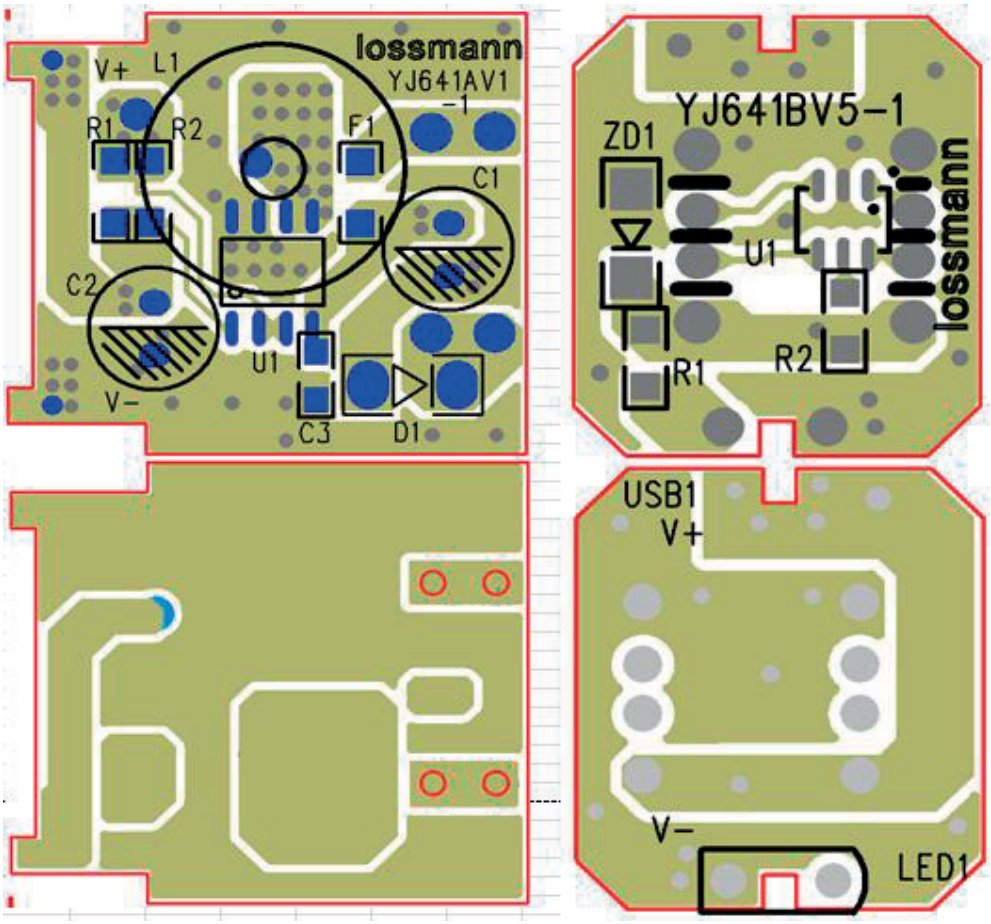


No.	Name	Quantity
5	Back cover	1
4	PCBA	1
3	Housing	1
2	Led cap	1
1	Rubber cover	1

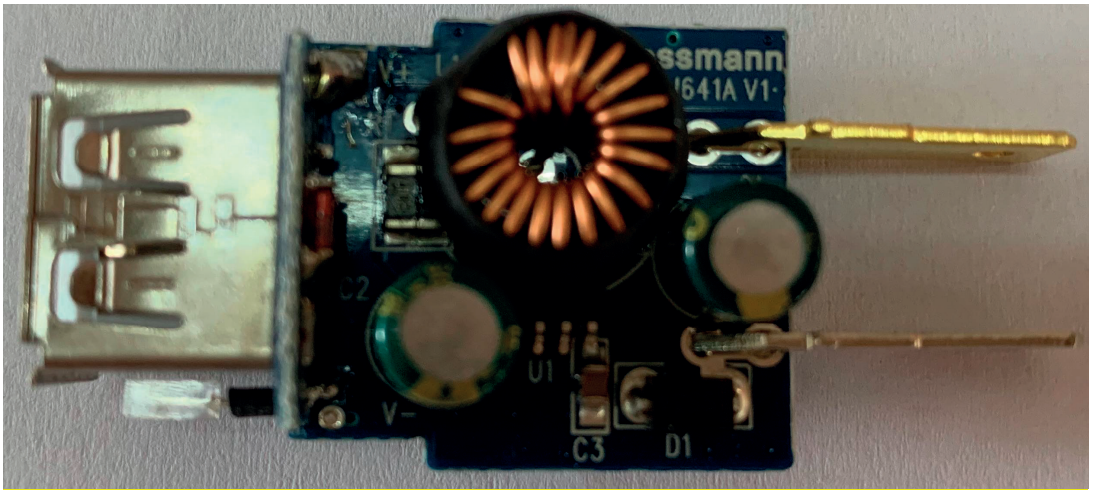
Drawing No. 2 **Explosive view**

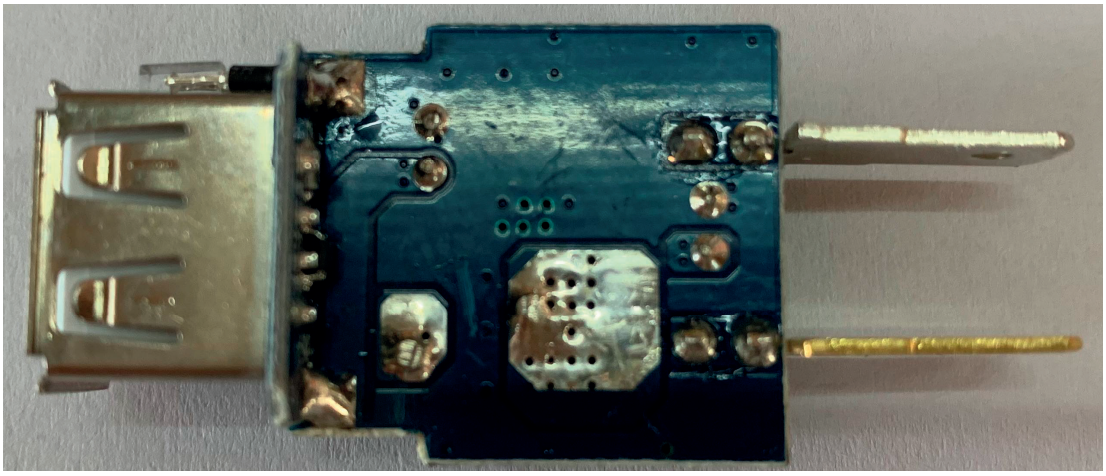


Drawing No. 3 **Circuit Diagram**



Drawing No. 4 **PCB Layout**





Drawing No. 5 **PCB Layout**

Bill of Material

Item No.	Comment	Specification/Description	QTY (PC)	Position
1	Capacitance	100uF/63V ¢8*12mm	1	C1
2	Capacitance	470uF/10V ¢6*8mm	1	C4
3	Capacitance	1uF/50V 0603	3	C2, C3, C5
4	Inductance	47uH 5A wire through 0.6mm ¢14mm inductance iron silicon aluminum horizontal heating shrink sleeve	1	L1
5	Resistance	0.027R 1% 1206	1	R1
6	Resistance	1.8K 1% 0603	1	R3
7	Resistance	1K 1% 0603	1	R2
8	Diode	DO-214AC SS36	1	D1
9	Zener diode	0.5W DO-214AC	1	D2
10	Diode	LED square lamp cap 3mm pin blue light	1	D3
11	IC chip	CX8822 SOP-8	1	U1
12	IC chip	CX2901A SOT23-6	1	U2
13	USB	USB female, dual-port 14.5*15.3*10.5mm The middle end of the tail with curling	1	USB
14	PCB	41.4*22.1*1.0mm double-sided FR4 10Z green oil white	1	PCB
15	Metal feet	19.8*9.5*0.8 Brass surface yellow + pole	1	——
16	Metal feet	19.8*9.5*0.8 Brass silver surface-pole	1	——
17	Shell	¢36.6*39.4mm ABS fireproof black silk screen 5V1A/5V2.1A	1	——
18	Back cover	¢22.1*5.7mm ABS fireproof black CE RHOS mark	1	——
19	Blue light cap	¢3.8*2.2mm PC blue	1	——