Repubblica di San Marino
Autorità per l'Omologazione
Republic of San Marino
Authority for Homologation

Via Consiglio dei Sessanta, 99
47891 Dogana - Repubblica di San Marino

Comunicazione
Communication

E57	Concernente [2/] *Concerning [2/]*	**Il rilascio dell'omologazione** ***Approval granted*** ~~L'estensione dell'omologazione~~ ~~*Approval extended*~~ ~~Il rifiuto dell'omologazione~~ ~~*Approval refused*~~ ~~La revoca dell'omologazione~~ ~~*Approval withdrawn*~~ ~~La cessazione definitiva della produzione~~ ~~*Production definitively discontinued*~~

of a type of ~~electrical~~/electronic sub-assembly [(2)] with regard to Regulation no. 10.

Omologazione N. ***Approval No.***	**E57*10R06/03*1296**	**Estensione N.** ***Extension No.***	**00**

Marchio di omologazione ***Approval mark***	E57 **10R-06 1296**

1. Make (trade name of manufacturer): RENOGY
2. Type and general commercial description(s): Type : RBT12500LFP-SHBT
General commercial description:
Underseat Lithium Iron Phosphate Battery
3. Means of identification of type, if marked on the ~~vehicle~~/component/~~separate technical unit~~ [(2)] Approval mark

3.1 Location of that marking: See Information document.

4.	Category of vehicle:	N/A
5.	Name and address of manufacturer:	Enerblok Co., Ltd 98 Huicheng Road, Changan Street,Huishan District,Wuxi City, Jiangsu Province, China
6.	In the case of components and separate technical units, location and method of affixing of the approval mark:	See Information document.
7.	Address(es) of assembly plant(s):	Enerblok Co., Ltd 98 Huicheng Road, Changan Street,Huishan District,Wuxi City, Jiangsu Province, China
8.	Additional information (where applicable):	See appendix below
9.	Technical Service responsible for carrying out the tests:	**AUTOMOTIVE TECHNICAL SERVICE S.r.l.** Via Consiglio dei Sessanta, 99 47891 – DOGANA Repubblica di San Marino
10.	Date of test report:	25/03/2025
11.	No. of test report:	ATS-SM-IR-10-20220
12.	Remarks (if any):	See appendix below
13.	Place:	Dogana – Repubblica di San Marino
14.	Date:	10/04/2025
15.	Signature:	

Ing. Marco Conti
Direttore Generale
General Director

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

17. Reasons for extension: Not Applicable

(2) Strike out what does not apply.

Appendix to type-approval communication form No. E57*10R06/03*1296*00 concerning the type-approval of an ~~electrical~~/electronic sub-assembly under Regulation No. 10

1. Additional information:

1.1. Electrical system rated voltage:	DC 12V, negative ground
1.2. This ESA can be used on any vehicle type with the following restrictions:	None
1.2.1. Installation conditions, if any:	None
1.3. This ESA can be used only on the following vehicle type:	Not Applicable
1.3.1. Installation conditions, if any:	Not Applicable
1.4. The specific test method(s) used and the frequency ranges covered to determine immunity were: (Please specify precise method used from Annex 9):	20-2000MHz
1.5. Laboratory accredited to ISO 17025 and recognised by the Approval Authority responsible for carrying out the tests:	Guangzhou Shuntai Quality Technical Service Co, Ltd.

2. Remarks: None

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Allegato *Enclosure*				
Al certificato di omologazione ECE N. *To ECE approval certificate No.*		**E57*10R06/03*1296*00**		
Indice del fascicolo di omologazione *Index to the information package*				
Data *Date of issue*	**10/04/2025**	**Data ultima modifica** *Last amendment date*	--	
1.	***Clausole di garanzia e istruzioni sul diritto di presentare ricorso*** *Collateral clauses and instruction on right to appeal*			
2.	**Rapporto(i) Finale di Ispezione No.** *Test report(s) No.*	**ATS-SM-IR-10-20220**	**Data** *Date*	**25/03/2025**
3.	**Scheda informativa N.** *Information document No.*	**RBT12500LFP-SHBT-00**	**Data** *Date*	**03/03/2025**
			Data ultima modifica *Last amendment date*	--

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Clausole di garanzia e istruzioni sul diritto di presentare ricorso

Clausole di garanzia

La produzione in serie deve essere esattamente conforme ai documenti di omologazione. Le variazioni di produzione in serie sono consentite solo con il consenso espresso del **Autorità per l'Omologazione**.

Le variazioni del nome della società, l'indirizzo e lo stabilimento di produzione, nonché una delle parti che hanno l'autorità alla consegna o eventuali rappresentanti nominati al momento del rilascio dell'omologazione, devono essere immediatamente comunicate al **Autorità per l'Omologazione**. La violazione di queste regole può portare al ritiro dell'omologazione ed inoltre può essere legalmente perseguita.

L'omologazione decade se viene restituita o ritirata o se il tipo omologato non è più conforme ai requisiti di legge. La revoca può essere fatta se non esistono più i requisiti richiesti per il rilascio e la continuazione dell'omologazione, se il titolare dell'omologazione viola gli obblighi dettati dall'omologazione, anche nel caso in cui gli obblighi derivino dalle condizioni assegnate all'interno dell'omologazione, o se è accertato che il tipo approvato non è conforme ai requisiti di sicurezza del traffico e di tutela dell'ambiente.

L'**Autorità per l'Omologazione** può verificare la corretta applicazione della delega conferita rilasciata nella presente omologazione, in qualsiasi momento. In particolare, questo include la verifica della produzione, che sia conforme, nonché le misure di controllo di conformità della produzione. Per questo, possono essere presi dei campioni dalla produzione. I dipendenti o rappresentanti dell'**Autorità per l'Omologazione** possono avere accesso senza ostacoli agli impianti di produzione e stoccaggio.

La delega conferita contenuta nella presente omologazione non è trasferibile. I diritti del marchio di terzi non sono interessati da questa omologazione.

Istruzione su diritto di ricorso

Questa omologazione è appellabile entro un mese dalla notifica. Il ricorso deve essere presentato per iscritto o come una domanda inviata all' **Autorità per l'Omologazione** - Via Consiglio dei Sessanta, 99 - 47891 Dogana - Repubblica di San Marino.

********** **********

Collateral clauses and instruction on right to appeal

Collateral clauses

*The individual production of serial fabrication must be in exact accordance with the approval documents. Changes in the individual production are only allowed with express consent of the **Authority for Homologation**.*

*Changes in the name of the company, the address and the manufacturing plant as well as one of the parties given the authority to delivery or authorized representative named when the approval was granted is to be immediately disclosed to the **Authority for Homologation**. Breach of this regulation can lead to recall of the approval and moreover can be legally prosecuted.*

The approval expires if it is returned or withdrawn or if the type approved no longer complies with the legal requirements. The revocation can be made if the demanded requirements for issuance and the continuance of the approval no longer exist, if the holder of the approval violates the duties involved in the approval, also to the extent that they result from the assigned conditions to this approval, or if it is determined that the approved type does not comply with the requirements of traffic safety or environmental protection.

*The **Authority for Homologation** may check the proper exercise of the conferred authority taken from this approval at any time. In particular this means the compliant production as well as the measures for conformity of production. For this purpose samples can be taken or have taken. The employees or the representatives of the **Authority for Homologation** may get unhindered access to the production and storage facilities.*

The conferred authority contained with issuance of this approval is not transferable. Trade mark rights of third parties are not affected with this approval.

Instruction on right to appeal

*This approval can be appealed within one month after notification. The appeal is to be filed in writing or as a transcript at the **Authority for Homologation** - Via Consiglio dei Sessanta, 99 - 47891 Dogana - Repubblica di San Marino.*

E57*10R06/03*1296*00

Inspection Report

No. ATS-SM-IR-10-20220

Inspection concerning ~~vehicles~~ / components with regard to:

Uniform provisions concerning Electromagnetic Compatibility (EMC) for M, N, O, L vehicle categories

performed according to

ECE Regulation No. 10

as last amended by

06 series of amendments (supplement 3)

of the Economic Commission for Europe

Approval status	
ECE	Number of approval
	E57*10R06/03*1296*00

0. General information

0.1.	Make (trade name of manufacturer):	RENOGY TRUSTED ENERGY SOLUTIONS
0.2.	Type:	RBT12500LFP-SHBT
0.2.1.	Variant(s):	N/A
0.3.	Name and address of manufacturer:	Enerblok Co., Ltd 98 Huicheng Road, Changan Street,Huishan District,Wuxi City, Jiangsu Province, China
0.3.1	Name and address of manufacturer's authorized representative:	N/A
0.3.2.	Production plant(s) address(es):	Enerblok Co., Ltd 98 Huicheng Road, Changan Street,Huishan District,Wuxi City, Jiangsu Province, China
0.4.	Information document:	
	No:	RBT12500LFP-SHBT-00
	Date of issue:	03/03/2025
	Date of last change:	--
0.5.	Position of the approval mark:	See Drawings of the ESA
0.6	Vehicle category(ies)	N/A
	(or, if not applicable, vehicle categories which the component(s) is (are) suitable for):	M
0.7	Reason(s) for extension of approval	N/A

1. Tested object(s)

1.1	Worst case configuration : (justification of the determination)	Single specification
1.2	Description: ~~Vehicle~~ / Object	
1.2.1	Make:	RENOGY
1.2.2.	Manufacturer:	Enerblok Co., Ltd
1.2.3.	Type / Variant	RBT12500LFP-SHBT
1.2.4.	~~Vehicle VIN number~~ / component identification:	RBT12500LFP-SHBT
1.2.4.1	Place of marking:	See information document
1.2.5.	Main characteristics	See information document

2. Test records

2.1 Conformity with the information document — SI / YES [X] NO [ ] NR / NA [ ]

2.2 Testing conditions

2.2.1 Broadband electromagnetic interference generated by ESAs

2.2.1.1 Method of measurement: Measured by the method described in Annex 7 of ECE Regulation No. 10.

2.2.1.2 Results: Conform / ~~Not Conform~~ (Test data see Appendix 2)

2.2.2. Narrowband electromagnetic interference generated by ESAs

2.2.2.1. Method of measurement: Measured by the method described in Annex 8 of ECE Regulation No. 10.

2.2.2.2. Results: Conform / ~~Not Conform~~ (Test data see Appendix 2)

2.2.3 Immunity of ESAs to electromagnetic radiation:

2.2.3.1. Method of measurement: Measured by the method described in Annex 9 of ECE Regulation No. 10.

2.3.3.2. Performance criteria: ECE Regulation No. 10.

2.2.3.3. Results: Conform / ~~Not Conform~~ (Test data see Appendix 2)

2.2.4. Immunity of ESAs to transient disturbances

2.2.4.1. Method of measurement: Measured by the method described in Annex 10 of ECE Regulation No. 10.

2.2.4.2. Results: Conform / ~~Not Conform~~ (Test data see Appendix 2)

2.2.5. Emission of transient conducted disturbances generated by ESAs

2.2.5.1. Method of measurement: Measured by the method described in Annex 10 of ECE Regulation No. 10.

2.2.5.2. Results: Conform / ~~Not Conform~~
(Test data see Annex 2)

2.3 Equipment for measuring and testing: See Appendix 4

3. Other information

Place of inspection:	GuangZhou ShunTai Quality Technical Service Co., Ltd. Room 206A, 2F,4# Plant, No.63 Punan Road, Huangpu District. Guangzhou. China. 510760
Date of inspection:	20/03/2025

	Senior Inspector	**Junior Inspector (if applicable)**
Technical service representative:	Lily Li	N/A
Manufacturer's representative:	N/A	
Remarks:	**None**	

3.1 Appendix

1.	List of modifications	See the Appendix 1
2.	Test Data	See the Appendix 2
3.	Sample Photo(s)	See the Appendix 3
4.	List of main test equipment	See the Appendix 4

3.2 Enclosures

Information Folder	RBT12500LFP-SHBT-00 03/03/2025

4. Statement of conformity

The information document as given in paragraph 0.4 and the type described there are in compliance with the test specification mentioned above.

With regard to the required level of performance to be achieved, the tested items were representative for the type to be approved and cover all variants / versions described in the information folder

The tests were carried out in accordance with the relevant requirements of EN ISO/IEC 17025 and EN ISO/IEC 17020 / R10-06 ECE/UN.

The tested object complies / ~~not complies~~ with the prescriptions of the R10-06 ECE/UN.

The inspection report comprises pages 1 to 21.

The test results relates only to the product tested.

I shall not be reproduced except in full, without written approval of the Technical Service.

Dogana, Repubblica di San Marino 25/03/2025

Number of project and protocol	***Originality Check*** (*) **ATS-SM-PR-20220**	**Automotive Technical Service S.r.l.** ***Inspector*** (Lily Li) **Automotive Technical Service S.r.l.** ***Deputy Technical Director*** (Eng. Bogdan Nicolae Domnescu)	AUTOMOTIVE TECHNICAL SERVICE S.r.l. · ATS Technical Service RSMAO-01 · Via Consiglio dei Sessanta, 99 · 47891 · RSM

(*) To check the originality of documents, scan the QR Code or connect to the site https://www.ats.sm/originality-control-atp-adr-tyapp/ and follow the instruction in it.

Appendix 1

List of modifications **~~Applicable~~ / Not Applicable** **Appendix 1**

More details for application of **Date :-**

Correction of : -

Modification of : -

Addition of : -

Deletion of : -

Appendix 2

Test data	**Applicable / ~~Not Applicable~~**	**Appendix 2**
1	**Test object(s)**	
1.1.	Commercial description:	Underseat Lithium Iron Phosphate Battery
1.2.	Type:	RBT12200LFP-SHBT
1.2.1.	Variants:	RBT12200LFP-SHBT
1.3.	Technical data of the tested ESA type	See information document
1.3.1.	Electrical system rated voltage:	DC 12V
1.3.2.	This ESA can be used on any vehicle type with the following restrictions:	N/A
1.3.3	Installation conditions:	N/A
1.3.4	This ESA can be used on the following vehicle types:	N/A
1.3.5	Installation conditions	N/A

Test data **Appendix 2**

Test results

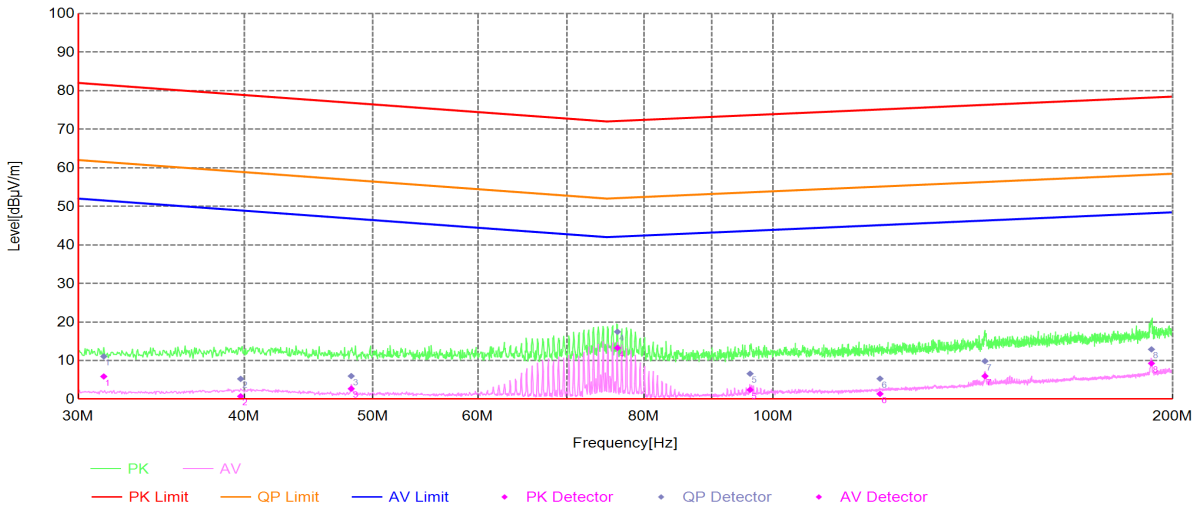
1. Broadband / narrowband electromagnetic interference generated by ESAs

Radiated broadband electromagnetic Emissions	:	as shown in table 1
Radiated narrow band electromagnetic Emissions	:	as shown in table 2
Antenna position	:	horizontal and vertical
Rated voltage	:	DC 12 V

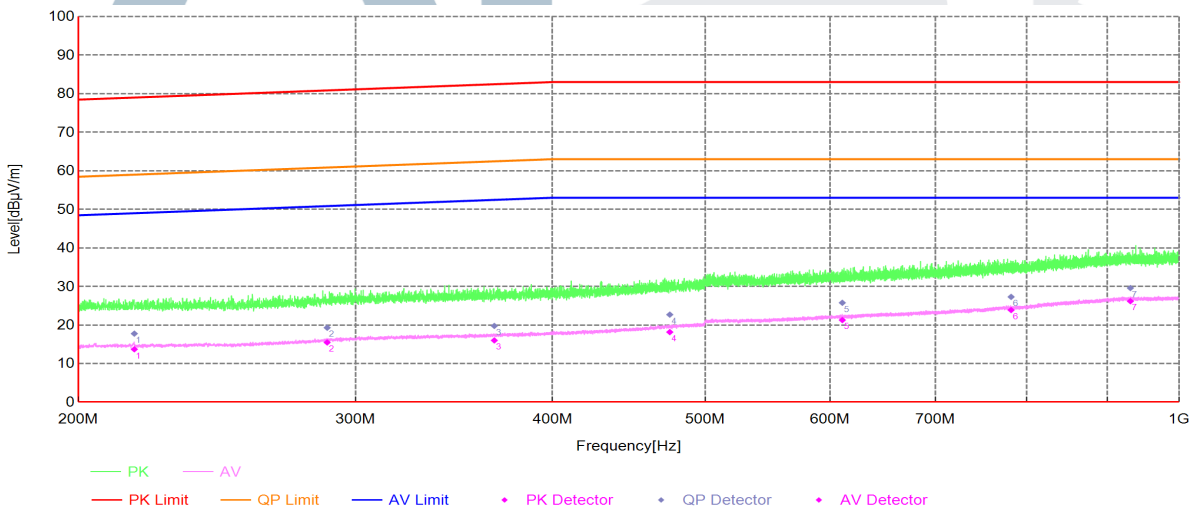
12V system (Charging)

Horizontal Polarity Test Result Diagram (Broadband and Narrow band)

30-200MHz



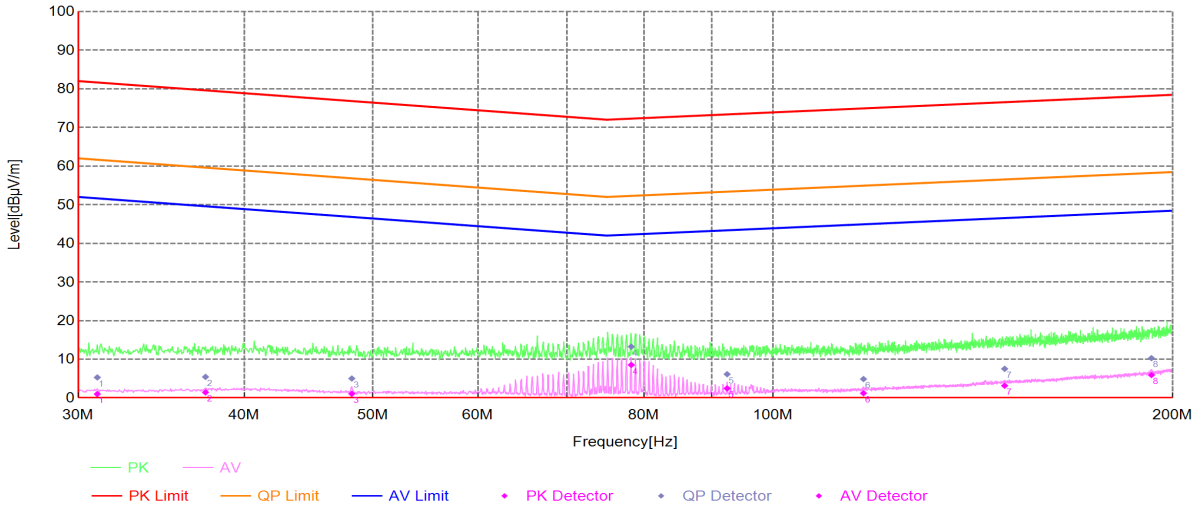
200-1000MHz



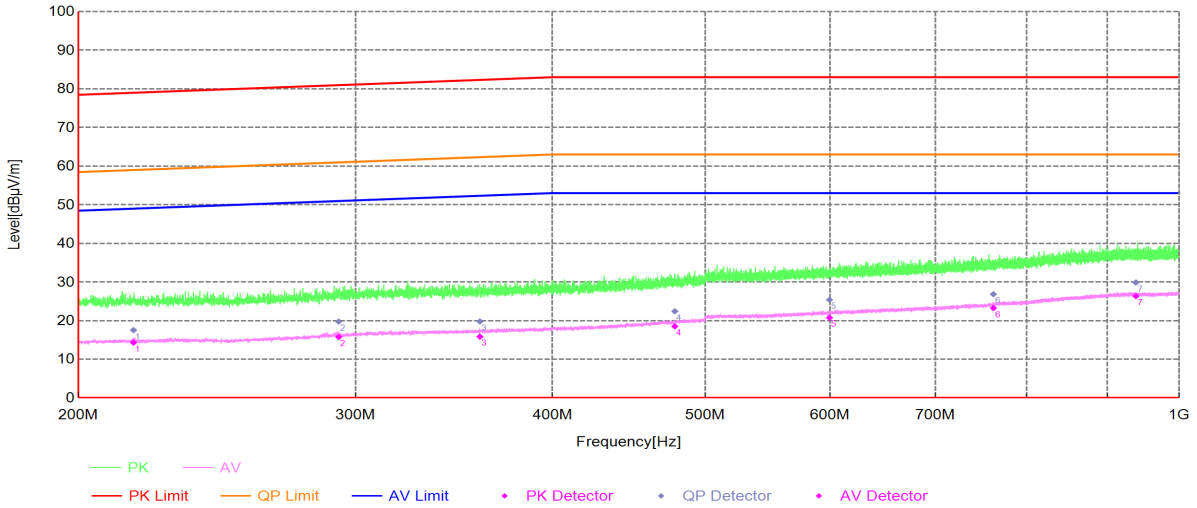
The ESA is deemed to conform to the requirements in respect of this frequency band according to 6.5.2.2 and 6.6.2.2. of Regulation 10.06/ECE.

Vertical Polarity Test Result Diagram (Broadband and Narrow band)

30-200MHz



200-1000MHz

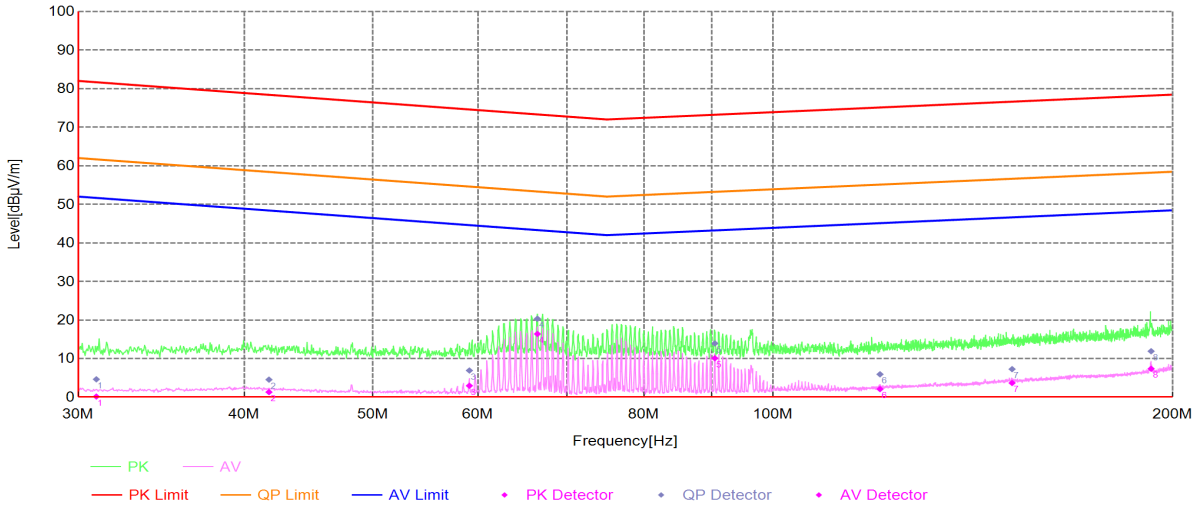


The ESA is deemed to conform to the requirements in respect of this frequency band according to 6.5.2.2 and 6.6.2.2. of Regulation 10.06/ECE.

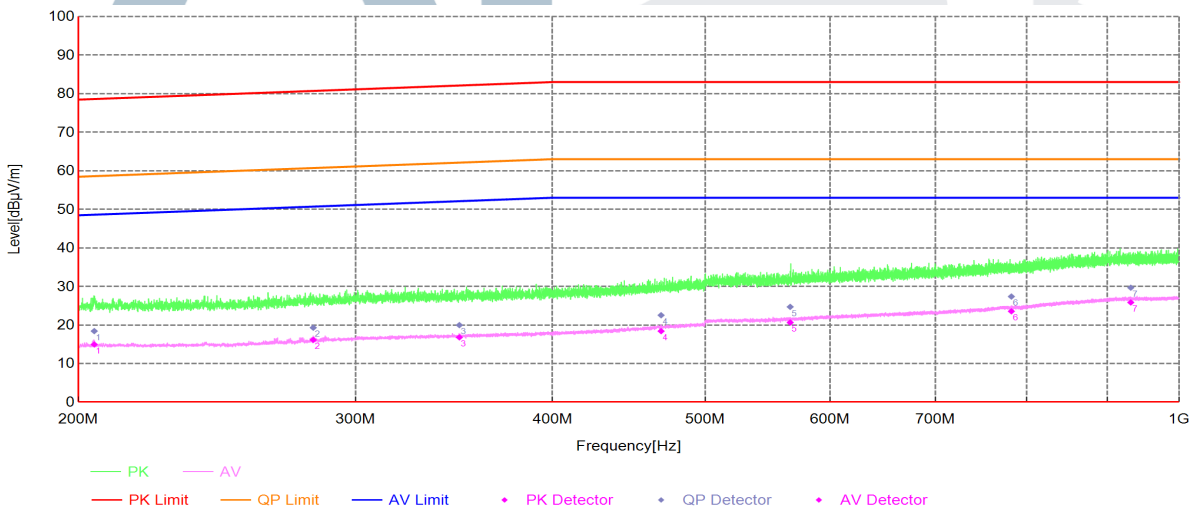
12V system (FULL LOAD)

Horizontal Polarity Test Result Diagram (Broadband and Narrow band)

30-200MHz



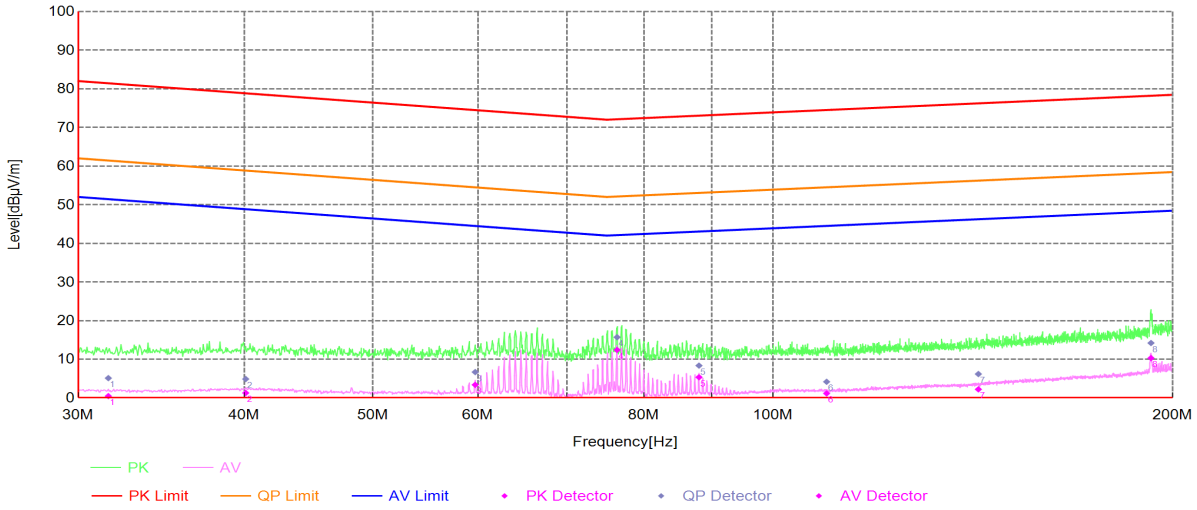
200-1000MHz



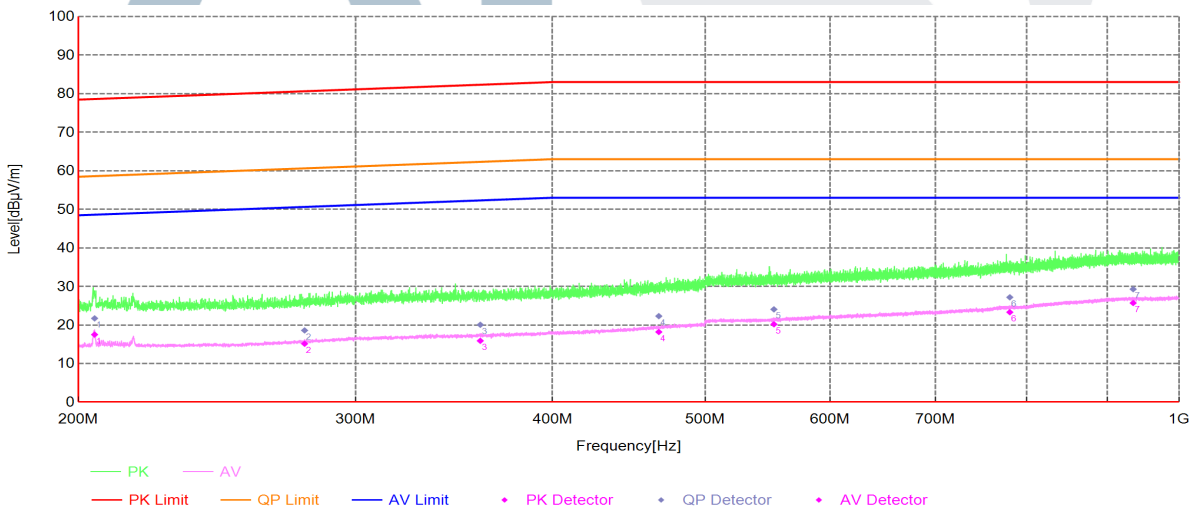
The ESA is deemed to conform to the requirements in respect of this frequency band according to 6.5.2.2 and 6.6.2.2. of Regulation 10.06/ECE.

Vertical Polarity Test Result Diagram (Broadband and Narrow band)

30-200MHz



200-1000MHz



The ESA is deemed to conform to the requirements in respect of this frequency band according to 6.5.2.2 and 6.6.2.2. of Regulation 10.06/ECE.

2. Immunity of ESAs to electromagnetic radiation

Test method : ISO 11452-2:2004; ISO 11452-4:2005

Measurement result:

12V systems

Frequency range (MHz)	Test level	Type of modulation	Test distance	Antenna position	Result
20-400	60mA	AM	150mm	/	Pass*
400-800	30V/m	AM	1000mm	Vertical	Pass*
800-2000	30V/m	PM	1000mm	Vertical	Pass*

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

3. Immunity of ESAs to transient disturbances

Test method : ISO 7637-2 : 2004

Measurement result:

12V systems

Test pulse	Test level	Required minimum function status*	Status of function true value (mode 1)	Result
1	III	C	C	Pass
2a	III	B	A	Pass
2b	III	C	C	Pass
3a	III	A	A	Pass
3b	III	A	A	Pass
4	III	B (for ESA which must be operational during engine start phases) C (for other ESA)	C	Pass

Remark:

** Class A: all functions of a device/system perform as designed during and after exposure to disturbance.*

Class B: all functions of a device/system 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.

Class C: one or more functions of a device/system do not perform as designed during exposure but return automatically to normal operation after exposure is removed.

Class 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.

Class E: one or more functions of a device/system do not perform as designed during and after exposure and cannot be returned to proper operation without repairing or replacing the device/system.

Test data **Appendix 2**

4. Emission of transient conducted disturbances generated by ESAs

Test method : ISO 7637-2: 2004

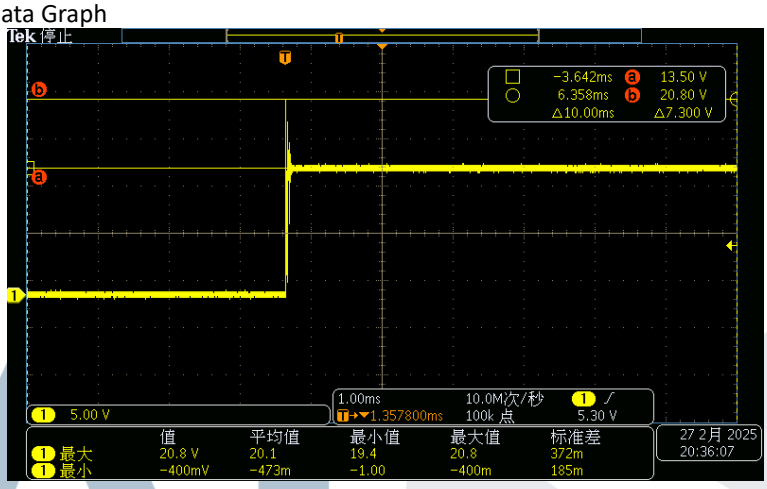
12V system

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	+4.3	+7.3V
Negative	-100V	+1.2V	-0.6V

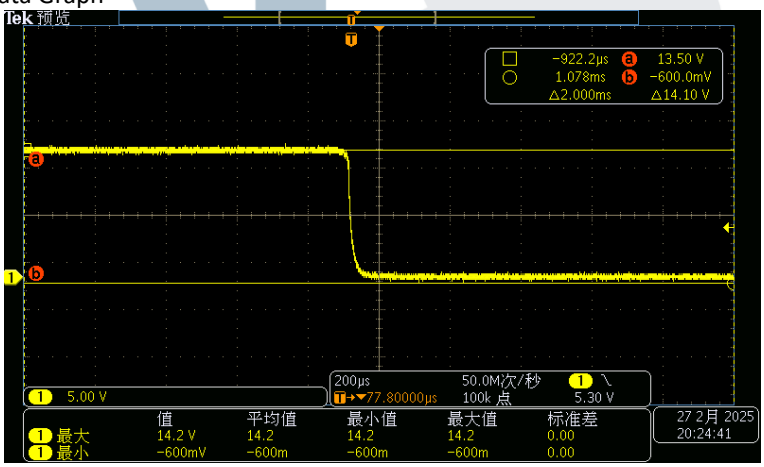
Test data **Appendix 2**

12V systems

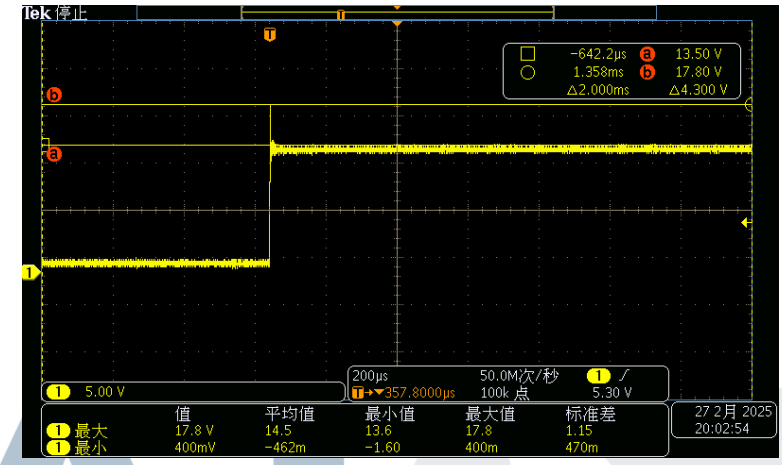
Slow Pulse: OFF-->ON Data Graph



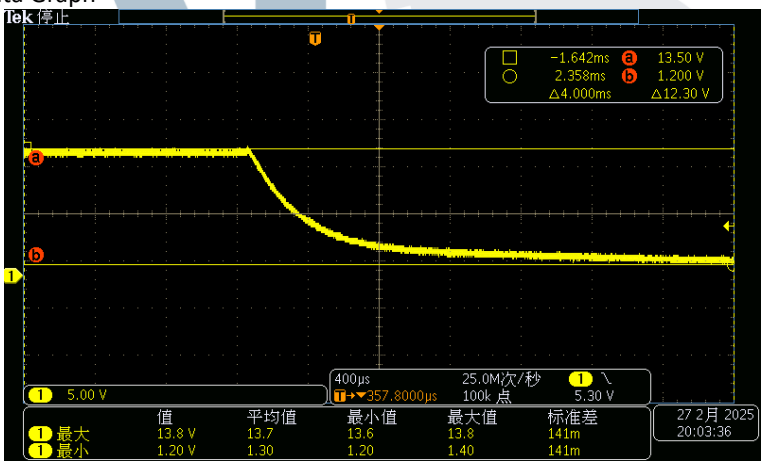
Slow Pulse: ON-->OFF Data Graph



Fast Pulse: OFF-->ON Data Graph



Fast Pulse: ON-->OFF Data Graph



Appendix 3

Sample photos **Applicable / ~~Not Applicable~~** **Appendix 3**

Appendix 4

List of main equipment **Applicable / ~~Not Applicable~~** **Appendix 4**

Equipment	Serial / Certificate No.	Calibration due*
ALSE ROOM	CN J202206020680B-0006	20/07/2025
Injection probe	CN J202406171781A-0015	21/06/2025
L.I.S.N.	CN J202406171781A-0012	21/06/2025
L.I.S.N.	CN J202406171781A-0014	21/06/2025
Biconical antenna	CN 1GA23062713337-0068	05/07/2025
Log-periodic antenna	CN 1GA240719117044-0022	08/08/2025
Supply Voltage Change Simulator	CN J202406171781A-0001	21/06/2025
Load dump wave simulator	CN J202406171781A-0002	21/06/2025
Transient pulse disturbance simulator	CN J202406171781A-0003	21/06/2025
Scanning receiver	CN J202406171781A-0021	21/06/2025
Digital phosphor oscilloscope	CN J202406171781A-0004	21/06/2025

All the instruments have been calibrated and are in the period of validity.

APPLICATION FOR TYPE APPROVAL PURSUANT TO UNECE Regulation 10.06, Supplement 3 RELATING TO ELECTROMAGNETIC COMPATIBILITY OF AN ESA

Component: Smart Lithium Iron Phosphate Battery

Type: RBT12500LFP-SHBT

Signature of a responsible person:
Place: Goch, Germany
Date: 03/03/2025

Confirmation

We declare hereby that the specimen ESA submitted for this approval test has been manufactured and assembled on conditions of ordinary mass production and that they are compatible with enclosed documentation.

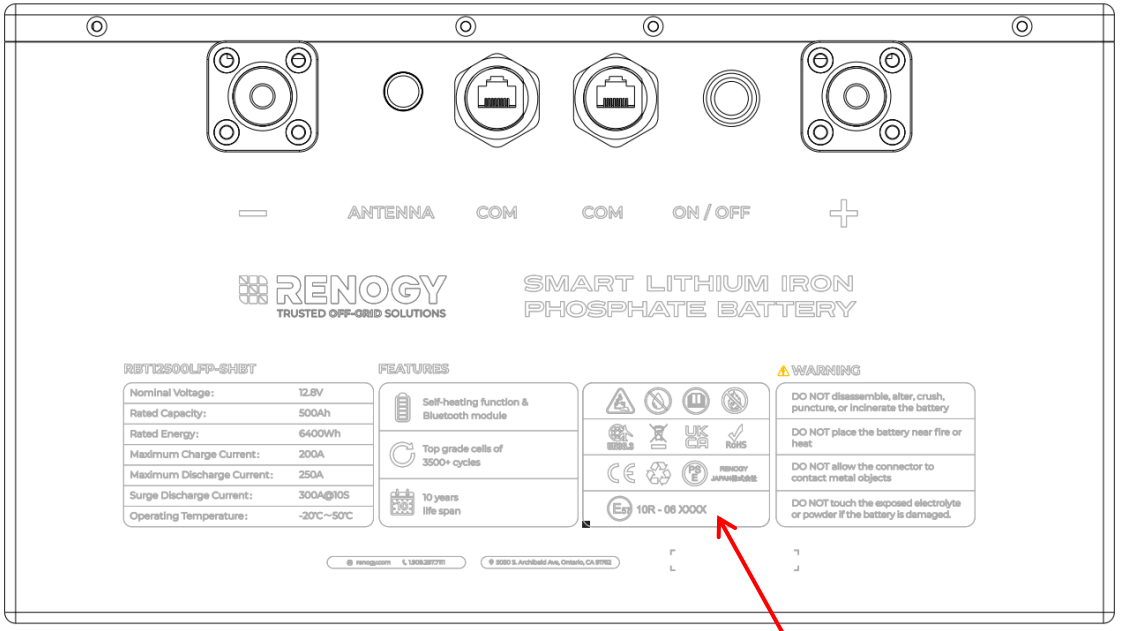
Signature of a responsible person:
Place: Goch, Germany
Date:03/03/2025

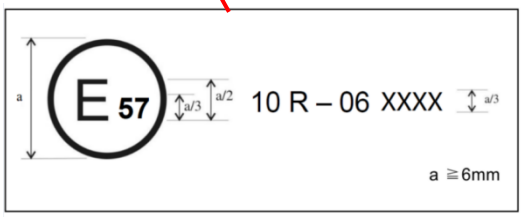
1.	Make (trade name of manufacturer):	RENOGY
2.	Type and general commercial description:	RBT12500LFP-SHBT General commercial description: Underseat Lithium Iron Phosphate Battery
2.1	Variants	N/A
3.	Means of identification of type, if marked on the component/separate technical unit:	With the numbers and the letters. Sticked on the product casing by labels.
3.1.	Location of that marking:	Sticked on the product casing by labels, see appendix 1
4.	Name and address of manufacturer:	Name: Enerblok Co., Ltd Address: 98 Huicheng Road, Changan Street, Huishan District, Wuxi City, Jiangsu Province, China
4.1.	Name and address of authorized representative, if any:	N/A
5.	In the case of components and separate technical units, location and method of affixing of the approval mark:	Sticked on the product casing by labels. The details please see the Appendix 1
6.	Name(s) and address (es) of assembly plant(s):	Name: Enerblok Co., Ltd Address: 98 Huicheng Road, Changan Street, Huishan District, Wuxi City, Jiangsu Province, China
7.	This ESA shall be approved as a component/~~STU~~:	Component
8.	Any restrictions of use and conditions for fitting:	N/A
9.	Electrical system rated voltage:	DC 12V, negative ground
	Appendix 1: Description of the ESA chosen to represent the type (electronic block diagram and list of main component constituting the ESA (e.g. make and type of microprocessor, crystal, etc.).	See electronic block diagram and list of main component constituting the ESA for details.
	Appendix 2: Relevant test report(s) supplied by the manufacturer from a test laboratory accredited to ISO 17025 and recognized by	N/A

	the Type Approval Authority for the purpose of drawing up the type approval certificate.	
	Only applicable for charging systems:	N/A
10.	Charger:	N/A
11.	Charging current:	200A
12.	Maximal nominal current (in each mode if necessary) :	200A
13.	Nominal charging voltage:	12.8V
14.	Basic ESA interface functions:	N/A
15.	Minimum Rsce value (see paragraph 7.11. of this Regulation):	N/A

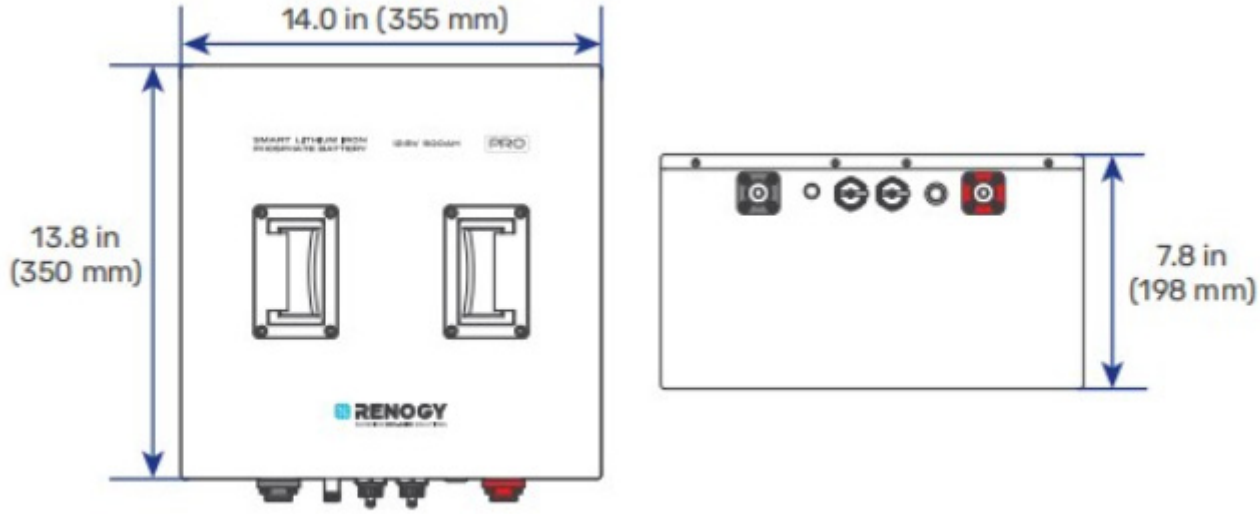
	APPENDIX	Pages
01	Drawings of the ESA	6-7
02	PCB Layout	8-9
03	Electronic block diagram	10
04	List of Main Components	11

01 Drawings of the ESA

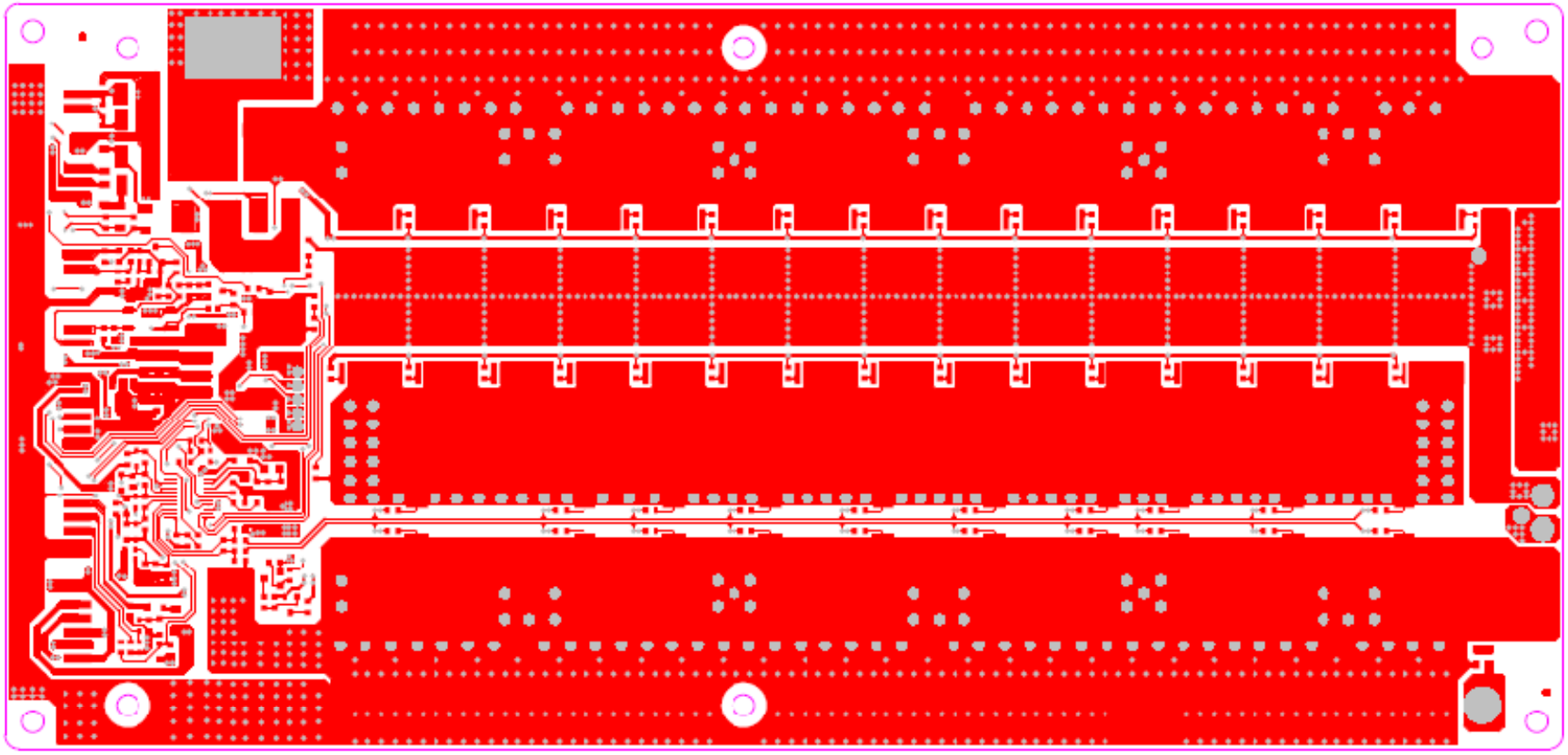


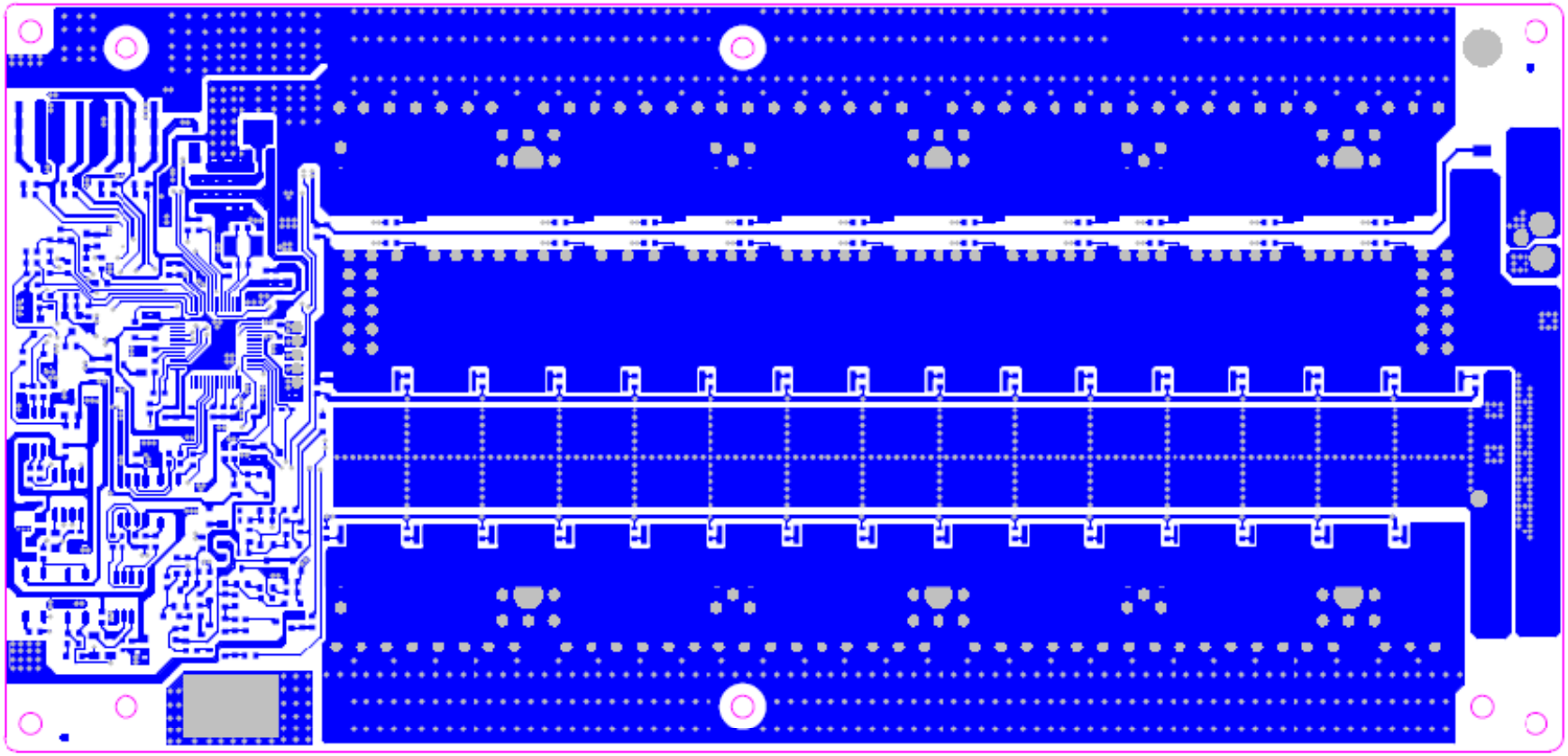


E57*10R06/03*1296*00

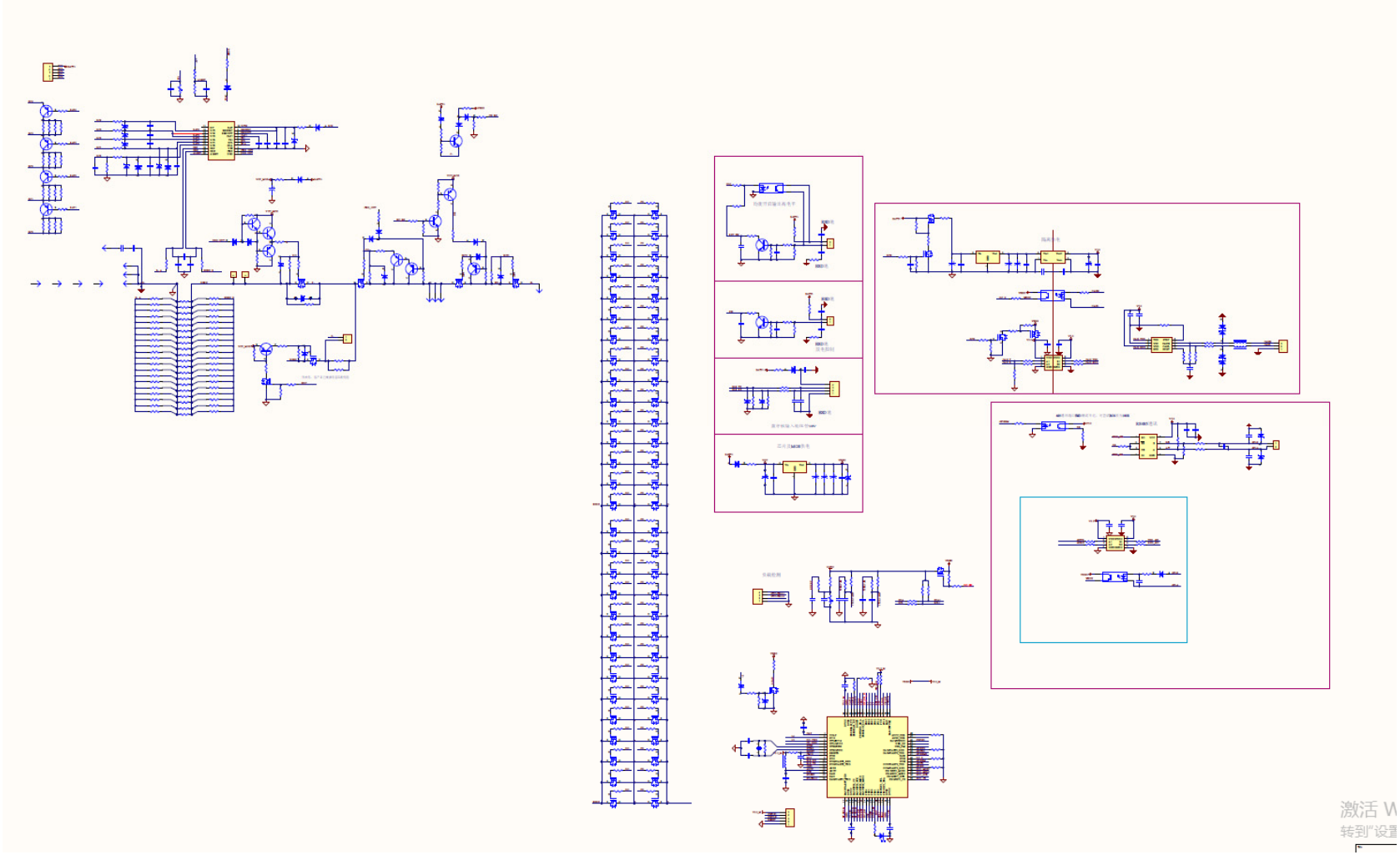

14.0 in (355 mm)
13.8 in
(350 mm)
RENOGY
7.8 in
(198 mm)

02 PCB Layout





03 Electronic block diagram



04 List of Main Component

Name	**Specification**	**Qty.**
Cell	3.2V 100Ah	1
TVS diode	SMC\5000W	1
NTC	10K\3950\250mm\±1%	1
MOS	100V/370A RDS(ON)=1.35mΩ	1
PCB	230*110*1.6mm\tinning	1
IC	LQFP64\10*10mm	1
IC	TSSOP-20	1
RechargeableLi-ion Cell	3.2Vd.c., 165Ah	1
Positive and negative connection wires	6AWG 600V 200℃	1
Negative connector	200A 1000VDC 2000VDC 5000MMC -40℃~+125℃ IP65	1
Positive connector	200A 1000VDC 2000VDC 5000MMC -40℃~+125℃ IP65	1
Self-locking switch	Ui:250V; Uimp:2.5kV;Ith:5A;AC-15;Ue/Ie:220V/2A	1
Bluetooth antenna	2.4HZ 50mΩ 4dbi	1