SANDY HSU
MEAN WELL ENTERPRISES CO LTD
28 WUQUAN 3RD RD WUGU DIST
NEW TAIPEI
248 TAIWAN

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Subject: **Procedure And/Or Report Material**

The following material resulting from the investigation under the above numbers is enclosed.

Issue Date	Vol	Sec	Pages	Revised Date
	1		New Index Page(s) 3	2016/11/24
2016/11/24	1	27	Cert of Compliance	
2016/11/24	1	27	Add New Proc/Report Sect	

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Please file revised pages and illustrations in place of material of like identity. New material should be filed in its proper numerical order.

NOTE: Follow-Up Service Procedure revisions DO NOT include Cover Pages, Test Records and Conclusion Pages. Report revisions DO NOT include Authorization Pages, Indices, Section General Pages and Appendixes.

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TPI File

Procedure Section	Product Covered/Models	US	CN
27	Open type, Switching Mode Power Supply, Models TDR-480-24 and TDR-480-48.	X	

US – United States Standard.
CN – Canadian National Standard.

CERTIFICATE OF COMPLIANCE

Certificate Number	20161130-E215312
Report Reference	E215312-20161124
Issue Date	2016-NOVEMBER-30
Issued to:	MEAN WELL ENTERPRISES CO LTD 28 WUQUAN 3RD RD WUGU DIST NEW TAIPEI
This is to certify that representative samples of	POWER CIRCUIT AND MOTOR-MOUNTED APPARATUS USL – Open type, Switching Mode Power Supply, Models TDR-480-24 and TDR-480-48
	Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.
Standard(s) for Safety:	UL 508 - Standard for Industrial Control Equipment
Additional Information:	See the UL Online Certifications Directory at www.ul.com/database for additional information

Only those products bearing the UL Certification Mark should be considered as being covered by UL's Certification and Follow-Up Service.

Look for the UL Certification Mark on the product.

Bruce Mahrenholz, Director North American Certification Program

UL LLC

File E215312
Project 4787579141

November 24, 2016

REPORT

On

POWER CIRCUIT AND MOTOR-MOUNTED APPARATUS

MEAN WELL ENTERPRISES CO., LTD.
NEW TAIPEI, TAIWAN

DESCRIPTION

PRODUCT COVERED:

USL – Open type, Switching Mode Power Supply, Models TDR-480-24 and TDR-480-48.

GENERAL:

These devices are open type power supplies and intended to be used in isolated secondary circuits supplied by isolated power supplies for industrial control applications.

ELECTRICAL RATING:

Models	Rated Input	Rated Output
TDR-480-24	380-500 Vac, 3W+PE, Wye system (220-289 Vac / Phase voltage), 1.0 A, 50/60Hz	24Vdc, 20A (24-28 Vdc, max 480W)
TDR-480-48		48Vdc, 10A (48-55 Vdc, max 480W)

Maximum Surrounding Air Temperature: 50°C

ENGINEERING CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVE'S USE):

USL – Indicates investigation to United States Standard for Industrial Control Equipment, UL 508, Seventeenth Edition.

CONSTRUCTION DETAILS:

The product shall be constructed in accordance with the following description and accompanying photographs.

Tolerances - Unless specified otherwise, all indicated dimensions are nominal.

Corrosion Protection - All parts are of corrosion resistant material or are painted or plated as corrosion protection.

Spacing – The spacing meet the spacing criteria of the Standard for Industrial Control Equipment, UL 508, Seventeenth Edition, Clause 32 for Isolated Secondary Circuit, isolated power supply, also that the PWB Abnormal Operation test was performed on PWB areas where the spacing requirements were not met.

Permanence of Marking – Markings may be molded, die-stamped, paint-stenciled, stamped, laser engraved or etched in metal or indelibly stamped on aluminum, pressure-sensitive label secured by adhesive. Unless otherwise specified, pressure sensitive labels which contain any of the required markings, shall be R/C (PGDQ2) or R/C (PGJI2), Printing Material, it shall be rated for an operating ambient of 70°C(or better), material shall be suitable for use on each type of surface to which applied. If R/C (PGJI2), Printing Material was employed. The combination of the ink (ribbon) and the label material shall be used per the manufacturer's UL specifications. The printing of the label shall be done using compatible printing equipment.

Markings – The devices shall be plainly marked with:

1. The Listee´s name, tradename or trademark or File no.;
2. The electrical ratings.
3. The catalog number or equivalent.

* Markings - The following information shall be provided on the **product**, instruction manual **or small package** and shipped with the device.

1. Surrounding Air Temperature 50°C, or equivalent statement.;
2. Pollution Degree 2 or equivalent statement.
3. Wiring Terminal identification;

* **4. If the product is intended for use in Canada, "CAUTION: FOR USE IN A CONTROLLED ENVIRONMENT." should be provided in both English and French.**

Field Wiring Terminal Markings - "Use Copper Conductors Only. Use wires suitable for at least 60°C/75°C" or the equivalent. Field wiring terminals shall be marked to show a range of values or a normal value of tightening torque in pound-inches per the terminal block manufacturer. This marking is able to be located adjacent to the terminal or on a wiring diagram.

Model different - Model TDR-480-24 is similar to Model TDR-480-48 except for transformer (T1) secondary winding, output rating and rating of some components.

NOMENCLATURE:

TDR-480 – 24
I II

I. Model Designation
TDR-480

II. Denoting output voltage
24: +24Vdc (24-28 Vdc)
48: +48Vdc (48-55 Vdc)

MODEL TDR-480-24 FIGS. 1 THRU 3

General – Figs. 1 thru 3 show an external and internal view of Model TDR-480-24.

1. Chassis – Aluminum and stainless (SGCC), minimum 0.6 mm thick, two pieces secure together by screw, see ILL. 1 for dimension details.

2. Din-Rail Kit - Aluminum, minimum 1.6 mm thick, fixed to chassis by screw, see ILL. 2 for dimension details.

PRINTED WIRING BOARD (TDR-480A) OF MODEL TDR-480-24 - FIG. 4 AND FIG. 5

General – Fig. 4 and Fig. 5 show Printed Wiring Board (TDR-480A) of Model TDR-480-24.

3. Printed Wiring Boards (TDR-480A) – R/C (ZPMV2), rated min. V-1, min. 105°C, suitable for direct support according to UL 796. See ILL. 3 for components and trace layout.

4. Input Terminal Block (TB1) – R/C (XCFR2), the following types may be used:

Manufacturer	Type	Rating
*Switchlab Inc (E167040)	MB910-952(@44)	**300** V, min **30** A, 115°C, UG=D, FW=2
	MB912(@78)	300 V, min 5 A, 115°C, UG=D, FW=2
Dinkle Enterpirse Co Ltd (E102914)	EK950V(@159)	300 V, 30 A, 105°C. UG=C FW=2.

5. Chokes (L1, L2, L3) – Optional. Toroidal type, Overall measured 16.5 by 16.5 by 10 mm thick. See ILL. 4 for details. Constructed as follows:

A. Core: Ferrite.

B. Coil: R/C (OBMW2), rated minimum 105°C, enameled copper wire wound on core.

6. Fuses (FS1, FS2, FS3) – R/C (JDYX2), secured on PWB by soldering, overall sleeved with tubing, the following types may be used:

Manufacturer	Type	Rating
Conquer Electronics Co Ltd.(E82636)	UDE, UDE-A	4 A, 500 V
Littelfuse Inc (E10480)	477	4 A, 500 V

7. Y-Capacitor (C22) – Optional. R/C (FOWX2), rated min. 500 V, max. 220 pF, min. 85°C.

8. Y-Capacitor (C30) – Optional. R/C (FOWX2), rated min. 500 V, max. 2200 pF, min. 85°C.

9. Y-Capacitor (C3) – Optional. R/C (FOWX2), rated min. 500 V, max. 4700 pF, min. 85°C.

10. X-Capacitors (C1, C2, C7) – Optional. R/C (FOWX2), rated min. 300 V, max. 1.0 uF, min. 85°C.

11. Inductor (LF1) – Toroidal type, overall measured 23.5 mm by 24.5 by max. 15 mm thick. See ILL. 5 for details. Constructed as follows:

A. Core: Ferrite.

B. Coil: any R/C (OBJT2), rated min. 105°C, triple insulation wire wound on core.

12. Varistors (ZNR1, ZNR2, ZNR3) – any R/C (VZCA2), rated min. 625 Vac, min. 85°C.

13. Diodes (D5, D6, D7, D8, D9, D10) – Rated min. 1300 V, min. 3 A.

14. Inductor (LF2) – Toroidal type, overall measured 22 mm by 20.5 by 11.5 mm thick, see ILL. 6 for details. Constructed as follows:

    A. Core: Ferrite.

    B. Coil: one is R/C (OBMW2), rated min. 105°C, the other is R/C (OBJT2), rated min. 105°C.

15. Output Terminal Block (TB2) – R/C (XCFR2), see below for details.

Manufacturer	Type	Rating
Switchlab Inc.(E167040)	MB910-635M(@1), MB910-635M(@28)	300 V, 30 A, 115°C, UG=D, FW=2
Dinkle (E102914)	EK950V(@159)	300 V, 30 A, 105°C, UG=C, FW=2.
Anytek Technology Corp (E202113)	T7(@@1007), T7(@@108), T7(@108a), T7(@@108b), T7(@@108c)	300 V, 15 A, 105°C, UG=D, FW=2.

PRINTED WIRING BOARD (TDR-480B) OF MODEL TDR-480-24 - FIGS. 6 THRU 7

General – Fig. 6 and Fig. 7 show Printed Wiring Board (TDR-480B) of Model TDR-480-24. Unless otherwise indication. Model TDR-480-24 is considered representative of the entire series in this Report.

16. Printed Wiring Board (TDR-480B) – R/C (ZPMV2), rated min. V-1, min. 105°C, suitable for direct support according to UL 796. See ILL. 7 for components and trace layout.

17. Thermistor (RTH1) – any R/C (XGPU2), rated min. 4 A, max. 22 ohm at 25°C.

18. Choke (L8) – Toroidal type. Overall measured 27.5 by 29 by 13 mm thick, see ILL. 8 for details. Constructed as follows:

    A. Core: Ferrite.

    B. Coil: R/C (OBMW2), rated min. 105°C, enameled copper wire wound on core.

19. Capacitors (C905, C906) – Electrolytic type, rated min. 400V, min. 150uF, min. 105°C.

20. PFC Transformer (T902) – Open type, see ILL. 9 for details. Constructed as follows:

    A. Core: Ferrite. Overall measured 39.2 by 30.7 by 35.2 mm thick.

    B. Coil: R/C (OBMW2), rated minimum 105°C, enameled copper wire wound on bobbin.

    C. Bobbin: R/C (QMFZ2), minimum 0.75 mm thick, the following types may be used:

MANUFACTURER/FILE NUMBER	TYPE DESIGNATION	RATING
Sumitomo Bakelite Co., Ltd. (E41429)	PM-9820	V-0, HWI=0, HAI=2, CTI=3, RTI=150°C
	PM-9630	V-0, HWI=0, HAI=0, CTI=3, RTI=170°C
E I Dupont De Nemours & Co Inc (E41938)	FR530	V-0, HWI=3, HAI=1, CTI=2, RTI=155°C
Nan Ya Plastics Corp Plastics 4th Div (E130155)	1403G3	V-0, HWI=4, HAI=0, CTI=2, RTI=130°C
Chang Chun Plastics Co., Ltd. (E59481)	T355J	V-0, HWI=1, HAI=0, CTI=3, RTI=150°C
	T375HF	V-0, HWI=0, HAI=0, CTI=3, RTI=150°C
	4115(100%Virgin)	V-0, HWI=4, HAI=1, CTI=3, RTI=120°C
	4130(100%Virgin)	V-0, HWI=4, HAI=0, CTI=2, RTI=140°C

21. MOSFETs (Q901, Q902) – Rated min. 950 V, min. 12 A.

22. Y-Capacitors (C25, C26) – Optional. R/C (FOWX2), rated min. 500 V, max. 1000 pF, min. 85°C.

23. Diodes (D910, D911) – Rated min. 600 V, min. 12 A.

24. Heat Sink (HS901)- Copper alloy, solder on PWB. See ILL. 8 for overall dimension.

25. Internal wirings – R/C (AVLV2/8), rated min. 300 V, min. 105 °C, min. 18 AWG (0.82 mm2), interconnected between printed wiring boards (TDR-480B and TDR-480C).

26. Mylar – R/C (QMFZ2), minimum 0.4 mm, interposed between Printed Wiring Board (TDR-480B) and chassis by physical fit. Refer to ILL. 10 for overall dimension. The following types may be used:

MANUFACTURER/FILE NUMBER	MODEL NAME	RATING
FORMEX, DIV OF ILLINOIS TOOL WORKS INC, FORMERLY(E121855)	FORMEX GK-(a)(b)(f1)	V-0, 115°C
SABIC INNOVATIVE PLASTICS US L L C (E121562)	FR700(GG)	V-0, 130°C
3M TAIWAN LTD(E305006)	IS-250-a	V-0, 130°C
SUN DELTA CORP(E301813)	VS(f)	V-0, 130°C
SICHUAN DONGFANG INSULATING MATERIAL CO LTD(E199019)	DFR117, DFR 117ECOB	V-0, 80°C
SICHUAN LONGHUA FILM CO LTD(E254551)	PP-(i)(j)	V-0, 105°C
SHENZHEN BORNSUN INDUSTRIAL CO LTD (E256822)	BN-FP	V-0, 130°C

PRINTED WIRING BOARD (TDR-480C) OF MODEL TDR-480-24 FIG. 8 AND FIG. 9

General – Fig. 8 and Fig. 9 show Printed Wiring Board (TDR-480C) of Model TDR-480-24.

27. Printed Wiring Board (TDR-480C) – R/C (ZPMV2), rated min. V-1, min. 105°C, suitable for direct support according to UL 796. See ILL. 11 for components and trace layout.

28. Capacitor (C5) – Rated min. 400V, max. 150uF, min. 105°C.

29. MOSFETs (Q1, Q2) – Rated min. 600 V, min. 20 A.

30. Heat Sink (HS1) - Copper alloy, solder on PWB, see ILL. 12 for overall dimension.

31. Optical Isolators (U3, U4) – R/C (FPQU2), rated isolation voltage minimum 5000 V ac, operating temperature min. 100°C, the following types may be used:

MANUFACTURER	TYPE DESIGNATION
Cosmo Electronics Corp. (E169586)	K1010
Lite-On Technology Corp (E113898)	LTV817,LTV-817M
Sharp Corp Electronic Components And Devices Div (E64380)	PC123
TOSHIBA CORP, SEMICONDUCTOR CO DISCRETE SEMICONDUCTOR DIV (E67349)	TLP781F
	TLP781
Vishay Semiconductor Gmbh (E76222)	CNY65
Everlight Electronics Co Ltd (E214129)	EL817

32. Bridge Capacitor (C31) – Optional. Any R/C (FOWX2), rated min. 500 V, maximum 1000 pF, min. 85°C.

33. Heat sink (HS100) - Copper alloy, soldering on PWB, See ILL. 13 for overall dimension.

34. Capacitors (C102, C103, C104, C105, C106) – Rated min. 35 V, min. 1500uF, min. 105°C.

35. MOSFETs (Q100, Q102) – Rated min. 80 V, min. 90 A.

36. Transformer (T1) – R/C (OBJY2), YU JING TECHNOLOGY CO LTD (E237684), Type SBI4.2, Class 130 (B) insulation system. Refer to ILL. 14 for details. Construction as following:

Alternate - R/C (OBJY2), MEAN WELL CO LTD (E339516), Type SBI4.2, Class 130 (B) insulation system.

A. Core – Ferrite, overall 40.5 mm by 32.1 mm by 47.5 mm.

B. Bobbin – R/C (QMFZ2), two flanges bobbin, minimum 0.75 mm thick, see below for details.

MANUFACTURER/FILE NUMBER	TYPE DESIGNATION	RATING
Sumitomo Bakelite Co., Ltd. (E41429)	PM-9820	V-0, HWI=0, HAI=2, CTI=3, RTI=150°C
	PM-9630	V-0, HWI=0, HAI=0, CTI=3, RTI=170°C
E I Dupont De Nemours & Co Inc (E41938)	FR530	V-0, HWI=3, HAI=1, CTI=2, RTI=155°C

C. Windings – Layer wound. Enameled copper magnet wire for primary winding. R/C (OBMW2), Types MW28 or MW75 or MW79 or MW80 or MW82 or MW83 or UEWN/U rated 130°C

D. Triple Insulation Windings – R/C (OBJT2), see below for details.

MANUFACTURER	TYPE DESIGNATION	RATED, °C
Furukawa Electric Co., Ltd. (E206440)	TEX-E	130
Totoku Electric Co., Ltd. (E166483)	TIW-2X	130
	TIW-3X	155

E. Insulation Tape – R/C (OANZ2), see below for details.

MANUFACTURER	TYPE DESIGNATION	RATED, °C
3M Company Electrical Markets Div (Emd) (E17385)	1351-1 (a), 1351T-1 (a), 1351T-2 (a), 1351T-3 (a), 1318-1 (a), 1350F-1 (b), 1350T-1 (b), 1350T-3 (b), 1351-2 (C)	130
Bondtec Pacific Co., Ltd. (E175868)	370S (b), 371F (a)	130
Symbio Inc. (E50292)	35660Y (e), MY9YAF (h), 35660 (a)	130
Jingjiang Yahua Pressure Sensitive Glue Co., Ltd. (E165111)	CT* (b)(g)	130

F. Tubing - R/C (YDPU2), see below for details.

MANUFACTURER	TYPE DESIGNATION	RATED, °C
Great Holding Industrial Co., Ltd. (E156256)	TFL, TFS, TFT	200
Zeus Industrial Products Inc. (E64007)	TFE-LW-150, TFE-TW-300, TFE-SW-600	200

G. Varnish – R/C (OBOR2), see below for details.

MANUFACTURER	TYPE DESIGNATION	RATED, °C
John C Dolph Co (E317427)	BC-346A, BC-359	155
Elantas Electrical Insulation Elantas Pdg Inc (E75225)	468-2 (d), 468-2FC (d), 468-2-7-xxF (d), 468-2-7FC-xxF (d), V1630FS	130
Kyocera Corporation (E83702)	TVB2180T*(a)	155
Hitachi Chemical Co., Ltd. (E72979)	WP-2952F-2G	130
Elantas Electrical Insulation Elantas Pdg Inc. (E75225)	V1630FS	155

MODEL TDR-480-48

General – Model TDR-480-48 is similar with Model TDR-480-24 described in Fig. 1 thru. 9 except as noted below:

34. Capacitors (C102, C103, C104, C105, C106) – Rated min. 63 V, min. 470uF, min. 105°C.

35. MOSFETs (Q100, Q102) – Rated minimum 150 V, minimum 30 A.

36. Transformer (T1) – R/C (OBJY2), YU JING TECHNOLOGY CO LTD (E237684), Type SBI4.2, Class 130 (B) insulation system. Refer to ILL. 15 for details. Construction as following:

Alternate - R/C (OBJY2), MEAN WELL CO LTD (E339516), Type SBI4.2, Class 130 (B) insulation system.

A. Core – Ferrite, overall 40.5 mm by 32.1 mm by 47.5 mm.

B. Bobbin – R/C (QMFZ2), two flange bobbin, minimum 0.71 mm thick, see below for details.

MANUFACTURER/FILE NUMBER	TYPE DESIGNATION	RATING
Sumitomo Bakelite Co., Ltd. (E41429)	PM-9820	V-0, HWI=0, HAI=2, CTI=3, RTI=150°C
	PM-9630	V-0, HWI=0, HAI=0, CTI=3, RTI=170°C
E I Dupont De Nemours & Co Inc (E41938)	FR530	V-0, HWI=3, HAI=1, CTI=2, RTI=155°C

C. Windings – Layer wound. Enameled copper magnet wire for primary winding. R/C (OBMW2), Types MW28 or MW75 or MW79 or MW80 or MW82 or MW83 or UEWN/U rated 130°C

D. Triple Insulation Windings – R/C (OBJT2), see below for details.

MANUFACTURER	TYPE DESIGNATION	RATED, °C
Furukawa Electric Co., Ltd. (E206440)	TEX-E	130
Totoku Electric Co., Ltd. (E166483)	TIW-2X	130
	TIW-3X	155

E. Insulation Tape – R/C (OANZ2), see below for details.

MANUFACTURER	TYPE DESIGNATION	RATED, °C
3M Company Electrical Markets Div (Emd) (E17385)	1351-1 (a), 1351T-1 (a), 1351T-2 (a), 1351T-3 (a), 1318-1 (a), 1350F-1 (b), 1350T-1 (b), 1350T-3 (b), 1351-2 (C)	130
Bondtec Pacific Co., Ltd. (E175868)	370S (b), 371F (a)	130
Symbio Inc. (E50292)	35660Y (e), MY9YAF (h), 35660 (a)	130
Jingjiang Yahua Pressure Sensitive Glue Co., Ltd. (E165111)	CT* (b)(g)	130

F. Tubing - R/C (YDPU2), see below for details.

MANUFACTURER	TYPE DESIGNATION	RATED, °C
Great Holding Industrial Co., Ltd. (E156256)	TFL, TFS, TFT	200
Zeus Industrial Products Inc. (E64007)	TFE-LW-150, TFE-TW-300, TFE-SW-600	200

G. Varnish – R/C (OBOR2), see below for details.

MANUFACTURER	TYPE DESIGNATION	RATED, °C
John C Dolph Co (E317427)	BC-346A, BC-359	155
Elantas Electrical Insulation Elantas Pdg Inc (E75225)	468-2 (d), 468-2FC (d), 468-2-7-xxF (d), 468-2-7FC-xxF (d), V1630FS	130
Kyocera Corporation (E83702)	TVB2180T*(a)	155
Hitachi Chemical Co., Ltd. (E72979)	WP-2952F-2G	130
Elantas Electrical Insulation Elantas Pdg Inc. (E75225)	V1630FS	155

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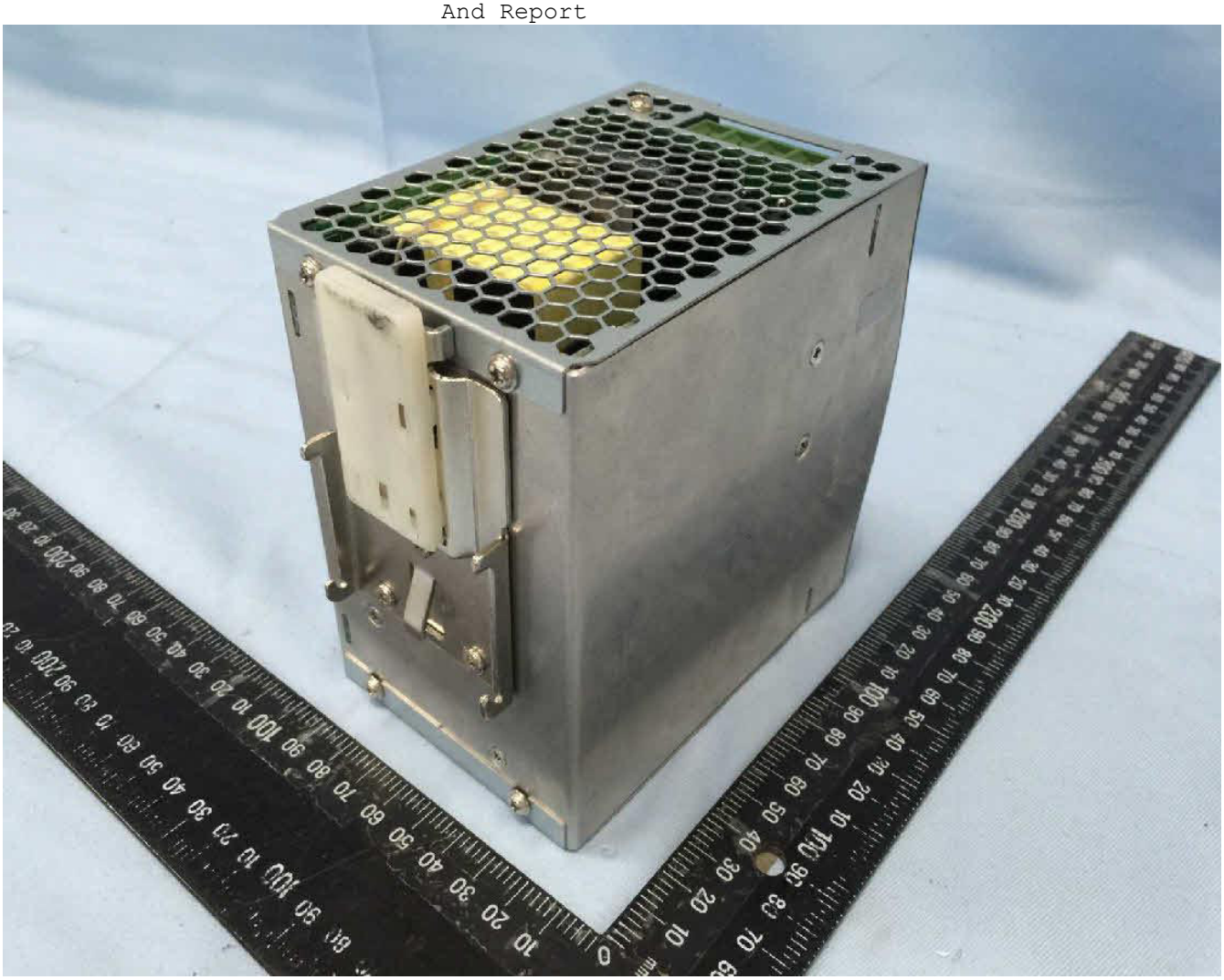

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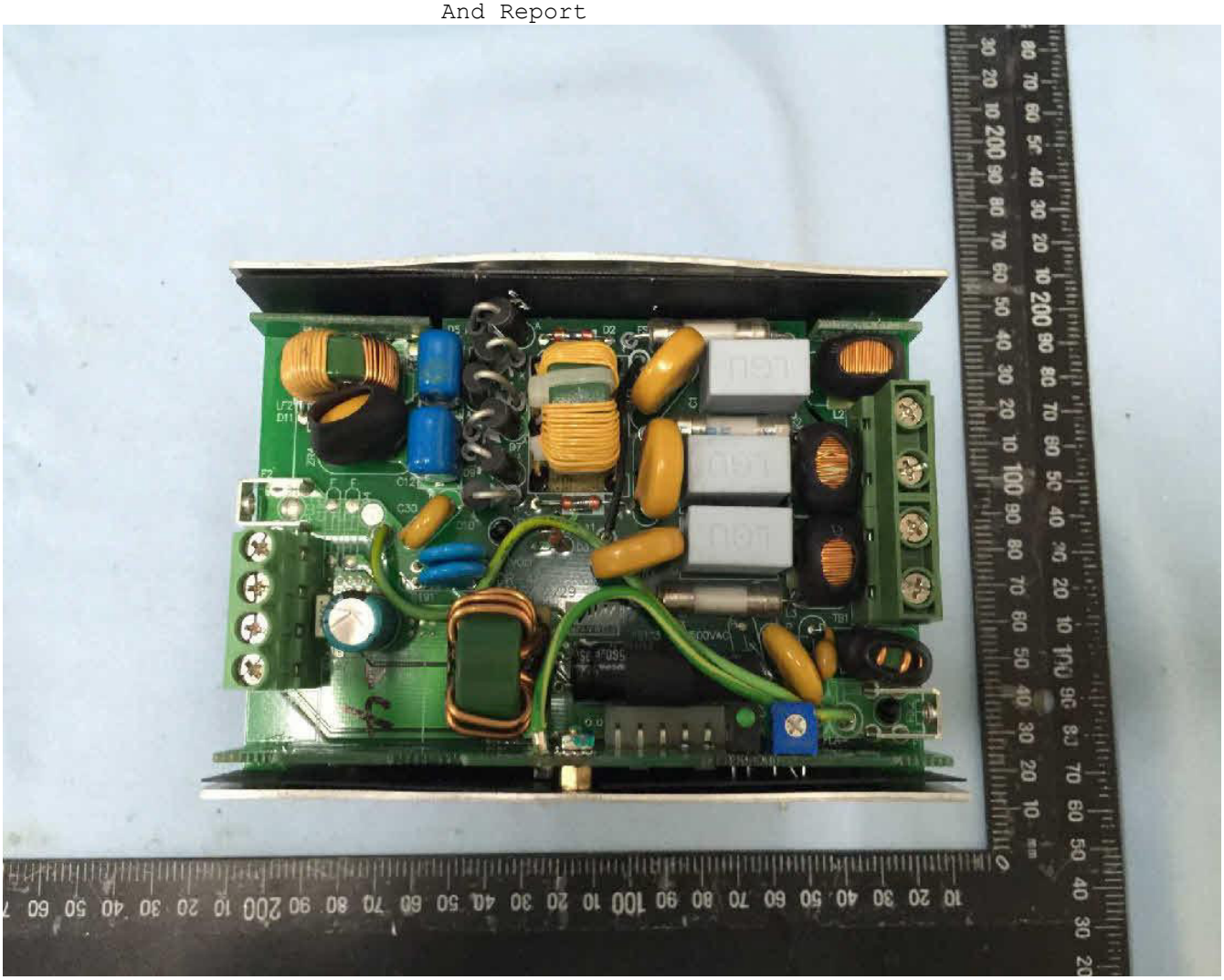

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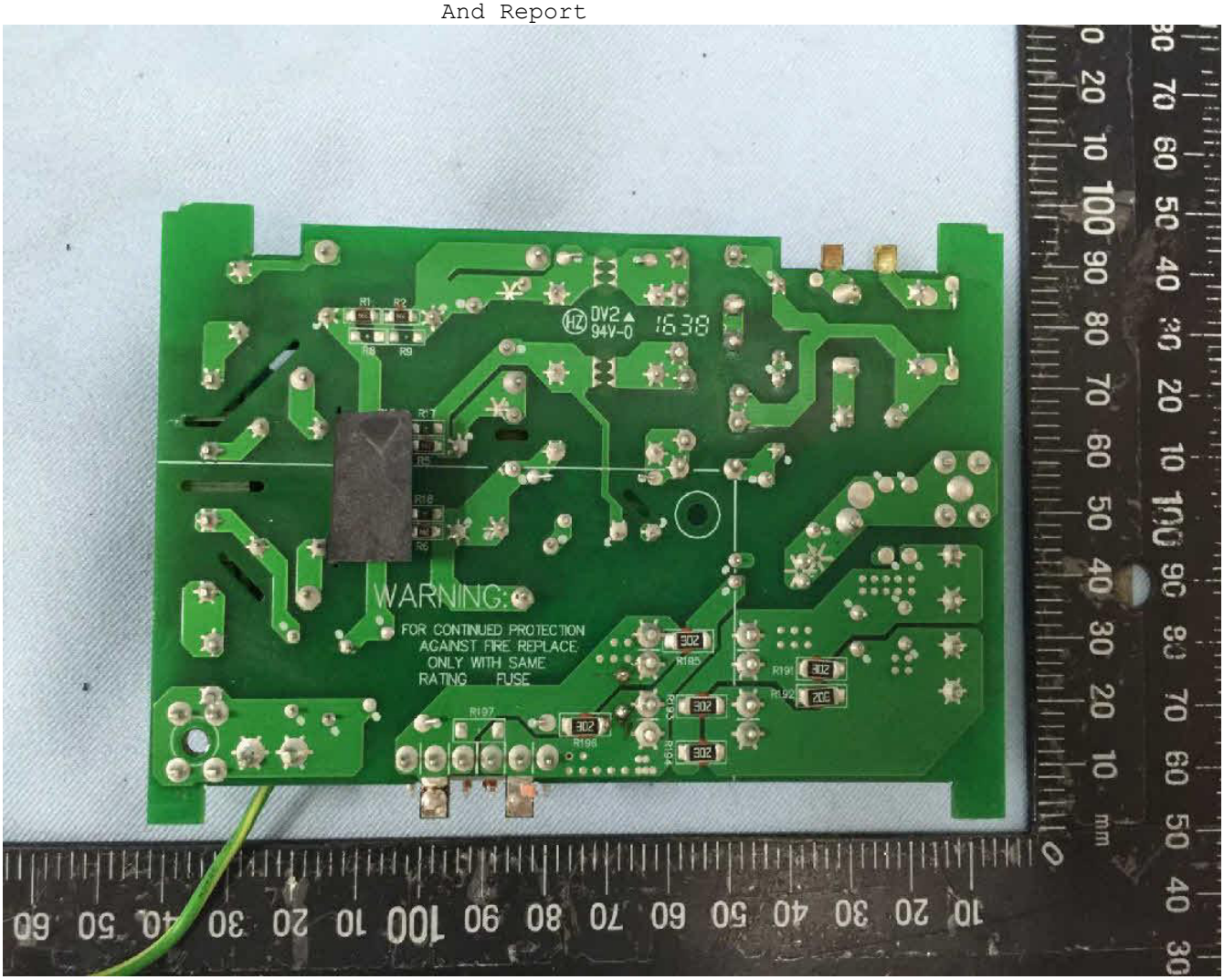
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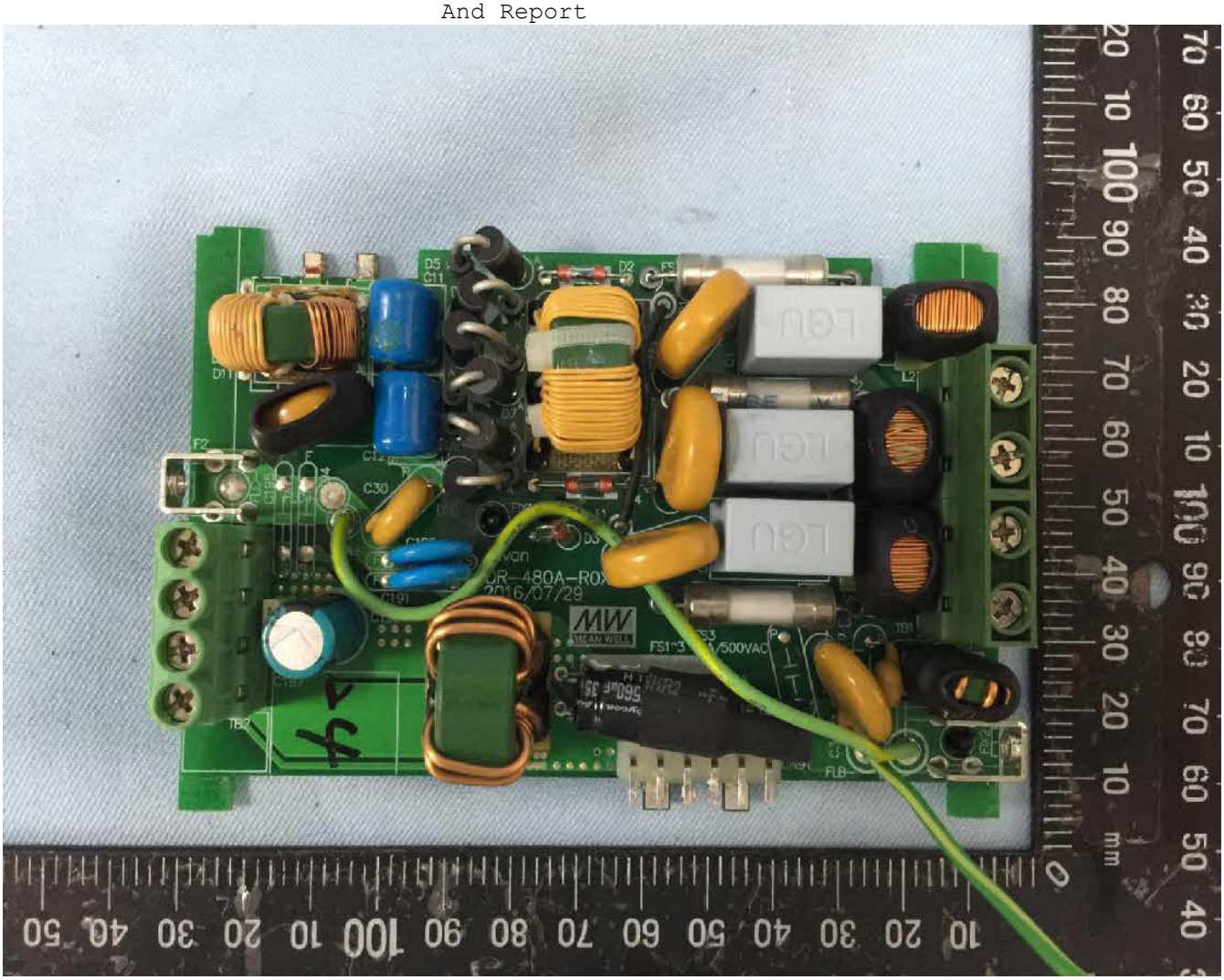

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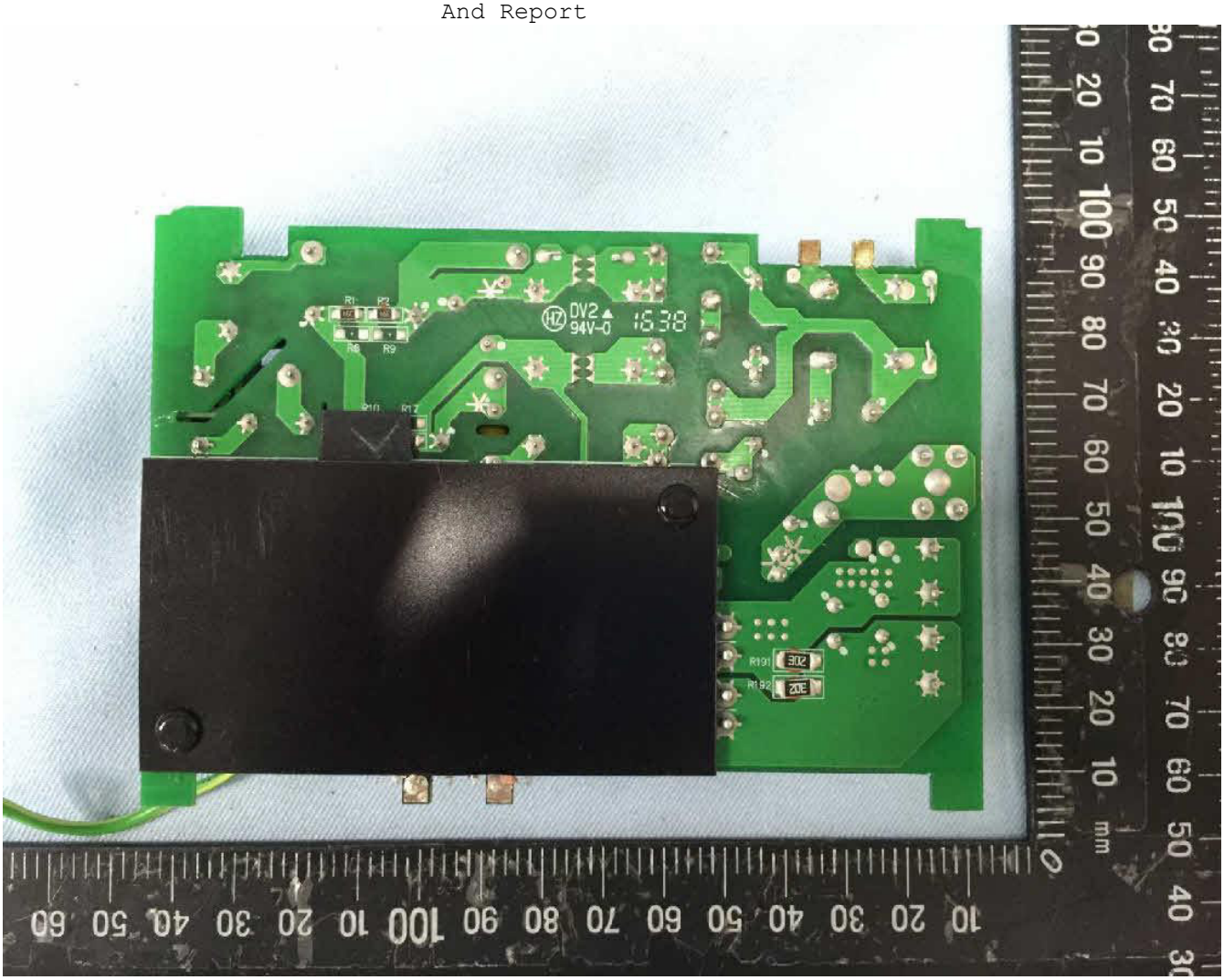

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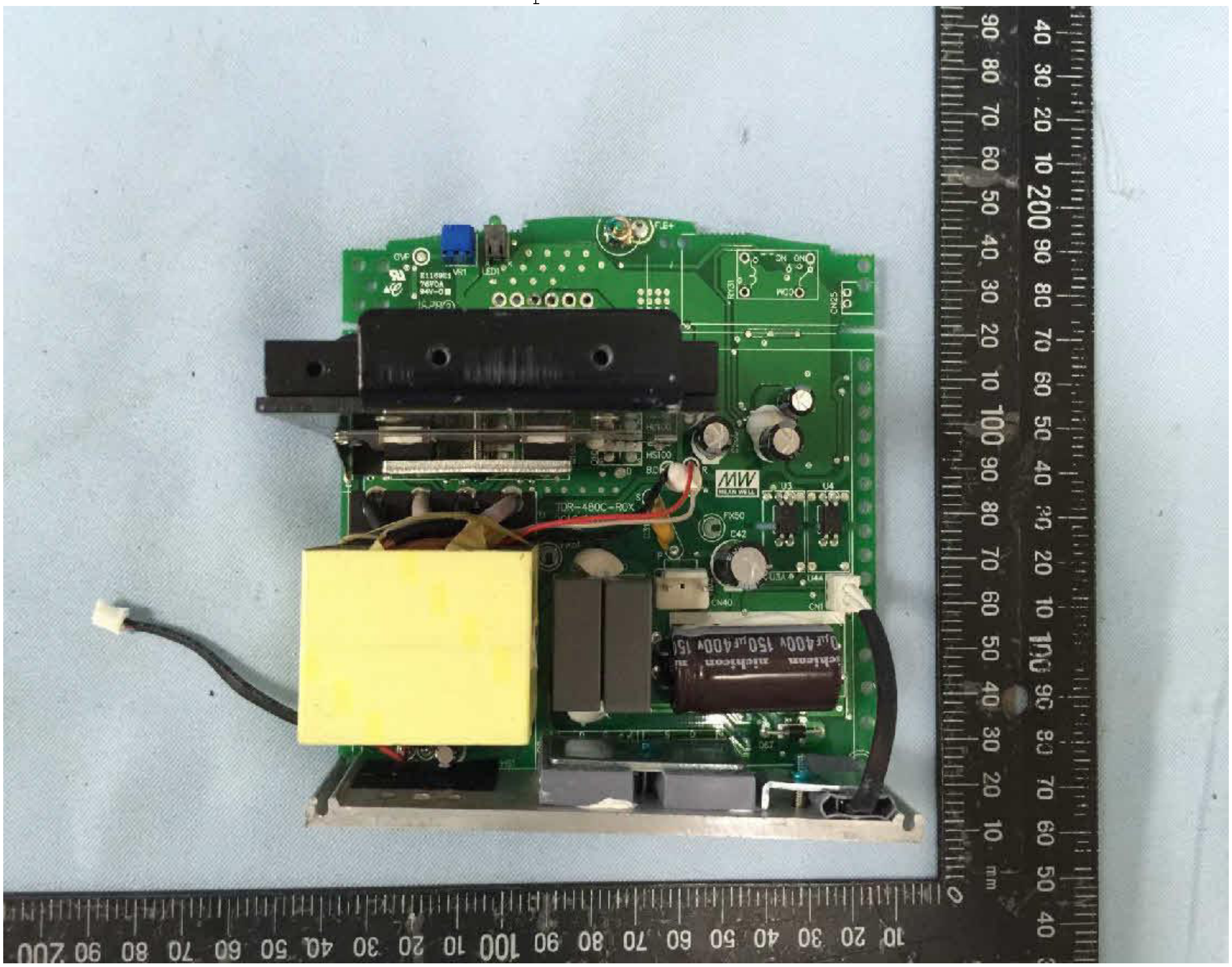

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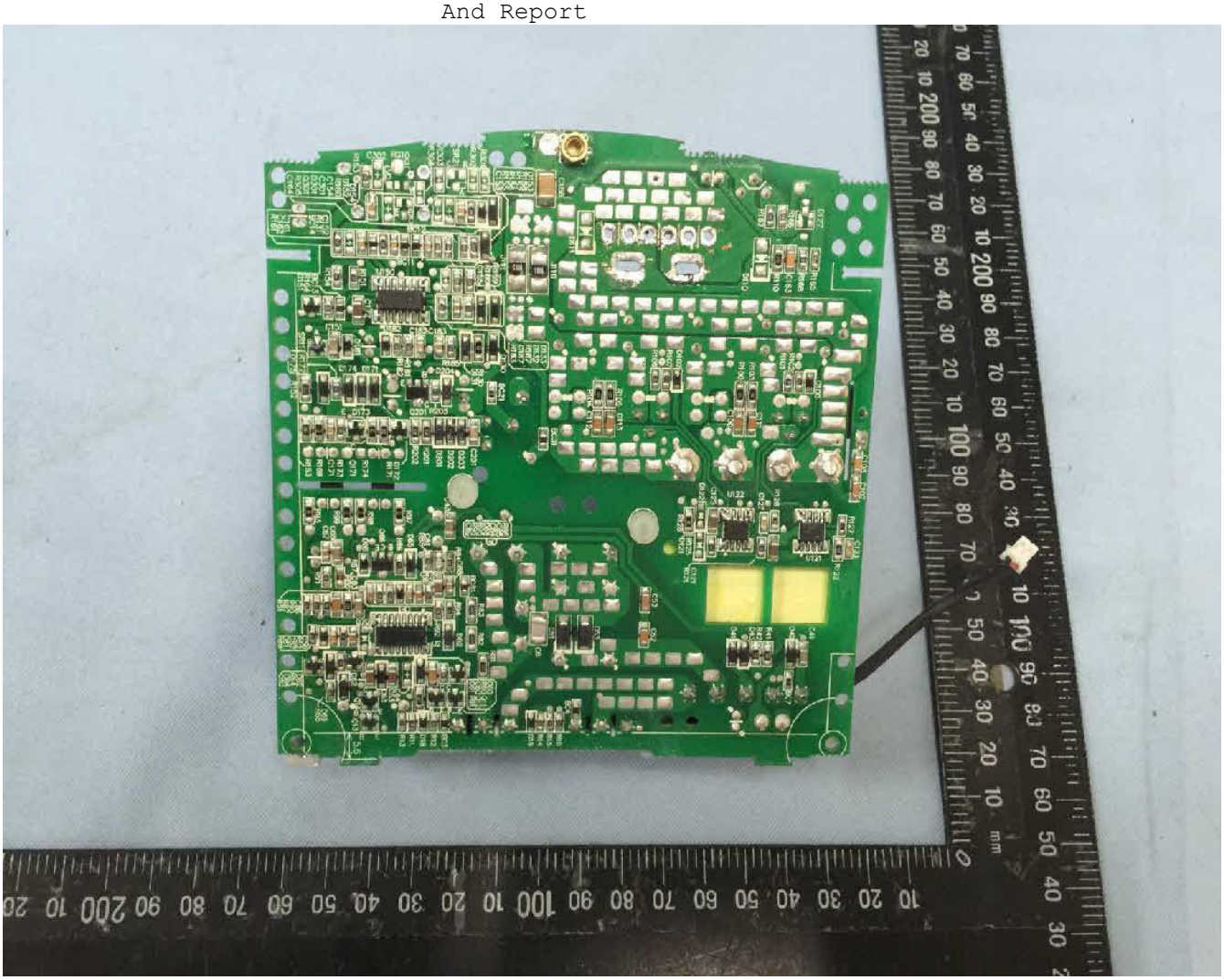

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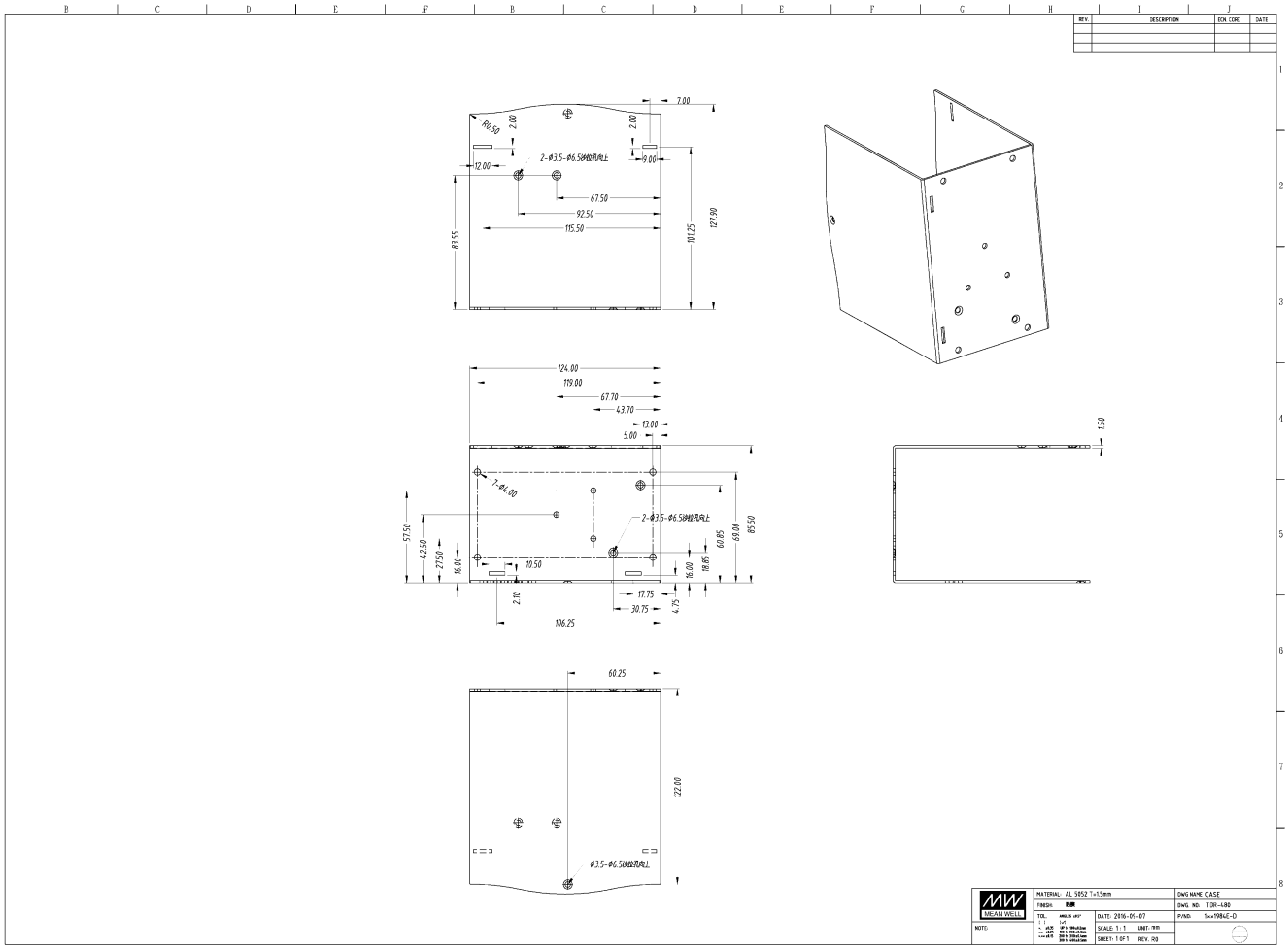
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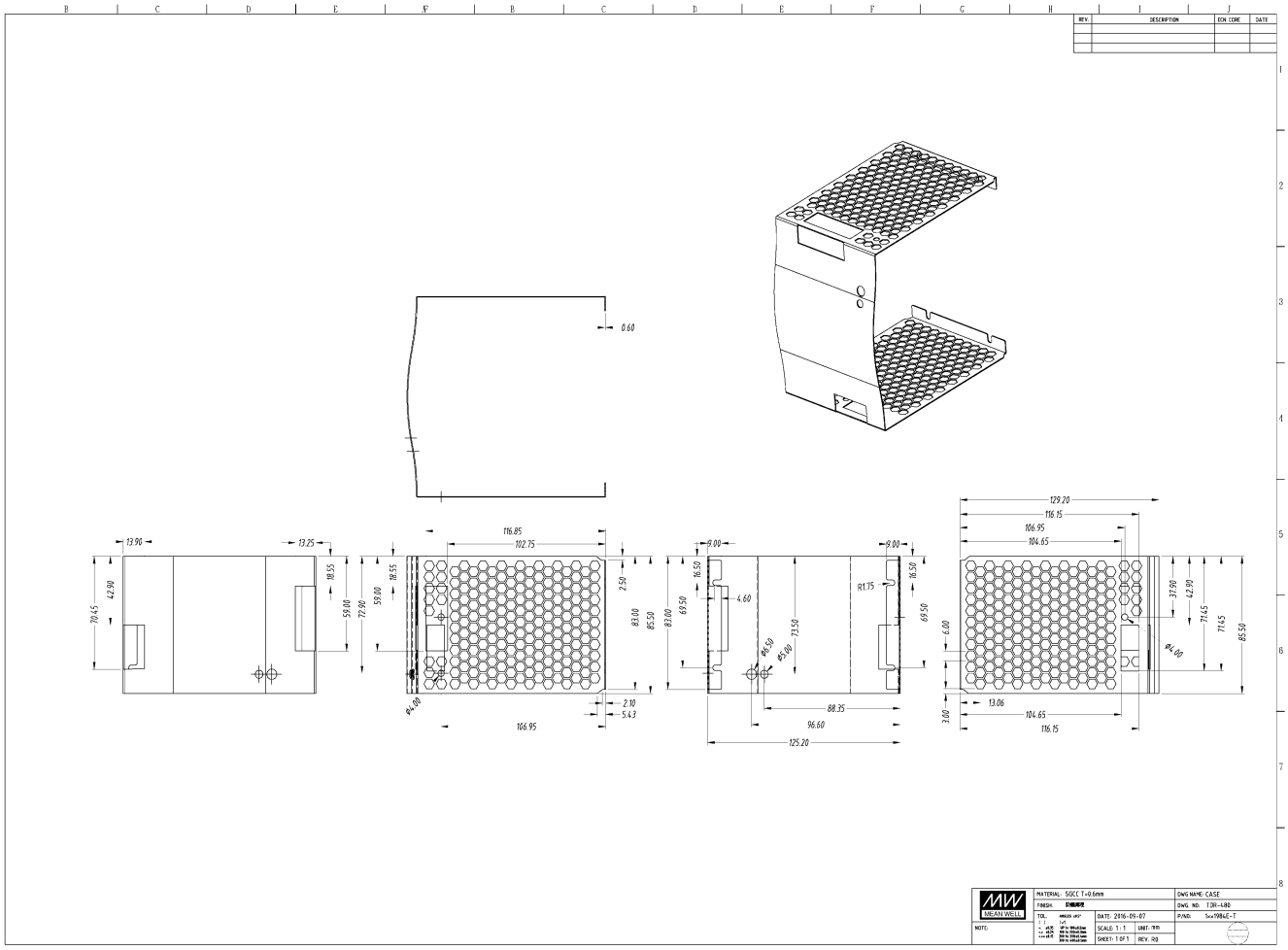
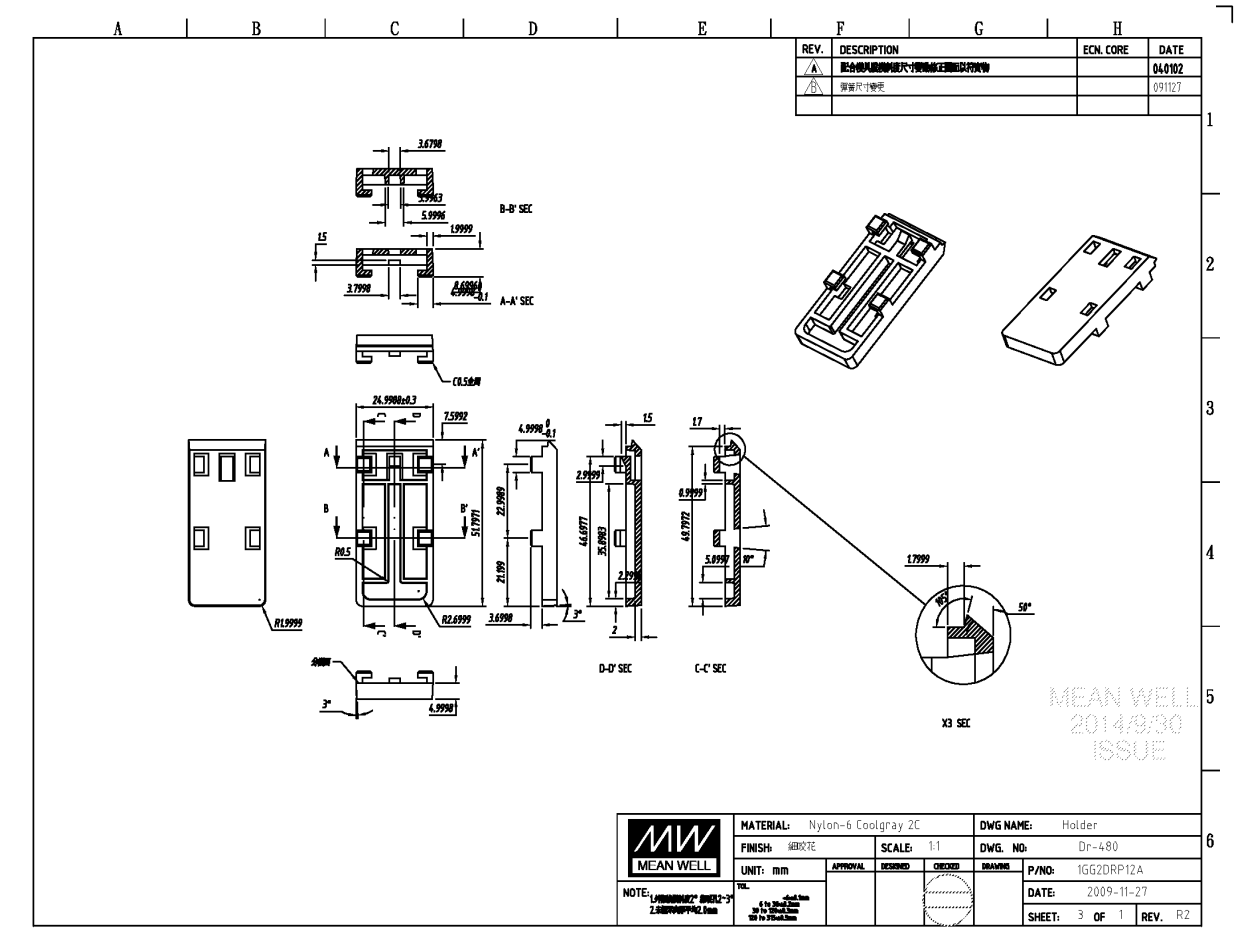
2-Ø3.5~Ø6.5沉頭孔
57.50
42.50
27.50
16.00
10.50
2.10
17.75
30.75
4.75
16.00
18.85
60.85
69.00
85.50
106.25
60.25
122.00
Ø3.5~Ø6.5沉頭孔
MEAN WELL
MATERIAL: AL 5052 T=1.5mm
FINISH:
DWG NAME: CASE
DWG NO: TDR-480
TOL:
DATE: 2016-09-07
P/NO: 344988AE-0
NOTE:
SCALE: 1 : 1
UNIT: mm
SHEET: 1 OF 1
REV: 00

N161571951

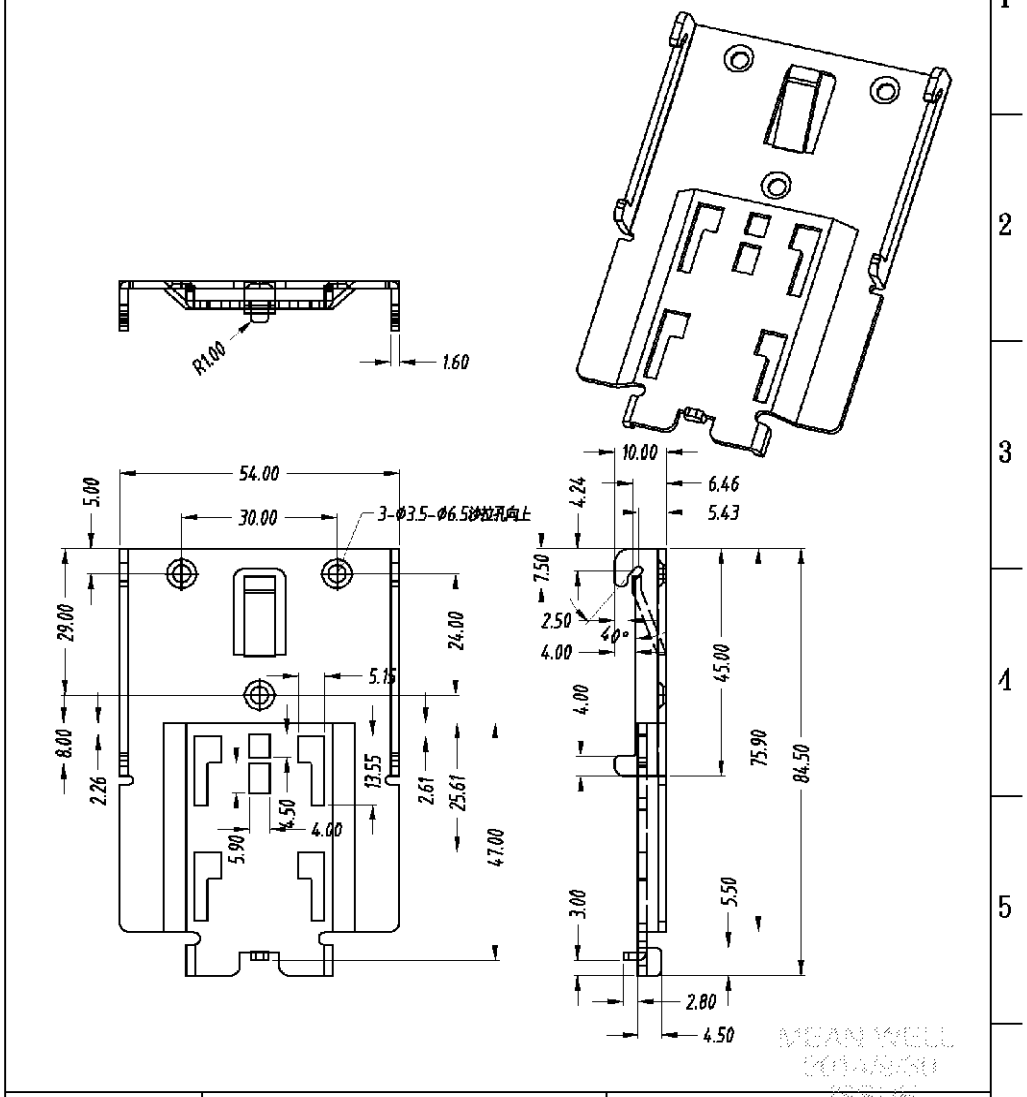

REV.
DESCRIPTION
ECN CODE
DATE
0.60
13.90
13.25
116.85
102.75
9.00
9.00
129.20
116.15
106.95
104.65
42.90
70.45
18.55
59.00
72.90
18.55
59.00
2.50
83.10
85.50
16.50
69.50
83.00
4.60
R1.75
16.50
69.50
6.00
37.90
42.90
71.45
85.50
84.40
94.60
106.95
2.10
5.43
88.25
96.60
125.20
3.00
13.06
104.65
116.15
MEAN WELL
MATERIAL: SGCC T=0.6mm
FINISH:
DWG NAME: CASE
DWG NO: T3R-A80
TOL:
DATE: 2016-09-07
P/NO: 344988AE-T
NOTE:
SCALE: 1 : 1
UNIT: mm
SHEET: 1 OF 1
REV: 00

N161571951


REV. DESCRIPTION ECN. CORE DATE
A 04.0102
B 091127
B-B' SEC
A-A' SEC
C-C' SEC
D-D' SEC
X3 SEC
MEAN WELL
2014/9/30
ISSUE
MEAN WELL
MATERIAL: Nylon-6 Coolgray 2C
DWG NAME: Holder
FINISH:
SCALE: 1:1
DWG. NO: Dr-480
UNIT: mm
APPROVAL
DESIGNED
CHECKED
DRAWING
P/NO: 1GG2DRP12A
DATE: 2009-11-27
SHEET: 3 OF 1
REV. R2

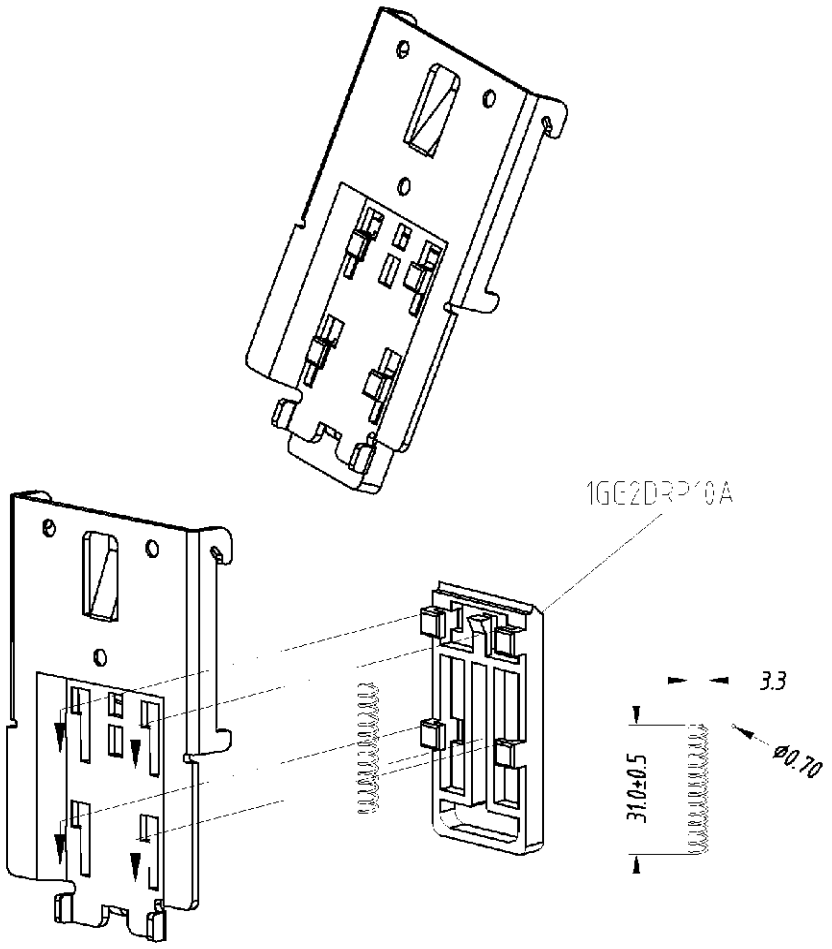
N161571963

REV.	DESCRIPTION	ECN. CORE	DATE
B	產品尺寸變更		091127



MEAN WELL	MATERIAL: SPCC t=1.6mm			DWG NAME: 本座		
	FINISH: 防鏽電鈑	SCALE: 1:1		DWG. NO: SDR-240		
	UNIT: mm	APPROVAL	DESIGNED	CHECKED	DRAWING	P/N: TGG2DRP12A
NOTE: 參考TGG2DRP09	Tol. Angle±1° 6 to 30±0.2mm 30 to 120±0.3mm 120 to 315±0.5mm					DATE: 2009-11-27
						SHEET: 3 OF 3 REV. B2

REV.	DESCRIPTION	ECN. CORE	DATE
A	增加尺寸變化		091127



MEAN WELL	MATERIAL:			DWG NAME:	掛座組立件	
	FINISH:		SCALE: 1/	DWG. NO:	SDR2/0	
	UNIT: mm	APPROVAL	DESIGNED	CHECKED	DRAWING	P/N: 1GE2DRP10A
NOTE:	Tol. Angles±1° ≤6±0.1mm 6 to 30±0.2mm 30 to 120±0.3mm 120 to 315±0.5mm					DATE: 2009-1-27
						SHEET: 3 OF 3 REV. A2

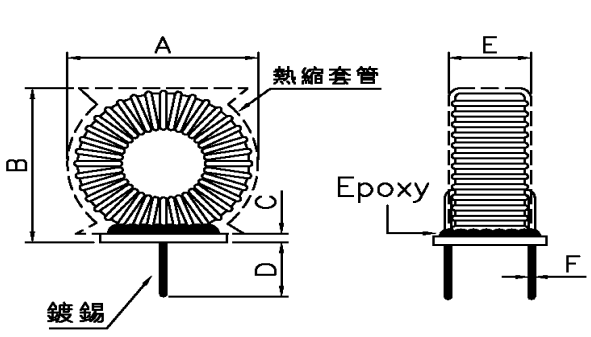
N161571963

環型線圈圖面

MEAN WELL DRAW No:TR-853B

■OFFICIAL □SAMPLE
DATE: 2016-09-07

DIMENSIONS



A=16.5(max.)
B=16.5(max.)
C=0.5(min.)~1.6(max.)
D=3.4±0.4
E=10(max.)
F=0.5ø
G=11±0.5
H=9±0.5
I=8.5±0.5
J=1.25±0.5
K=4.5±0.5
Unit:mm

No.	WIRE (ø)	Color	Turns	Indcutance (uH)	DCR(max.) mΩ	Remark
N1	0.5× 1	Gold	85	314u±10%	190	Test Frequency:10KHz/0.25V
						■ Based on turns of coil at inner side
						□ Based on spec Inductance
						□ Varnish
						□ Triple insulated wire No. _____
						■ Copper wire No. _____
						□ 130°C ■ 155°C

Brand	Material	Part Number	AL (nH/N²)
MICROMETALS	IRON POWDER	T50-52B	43.5

Note:
1.標準工藝請參照"磁性零件分包說明書"鐵芯限用MICROMETALS T50-52B廠牌
2.功能:Common Choke

Revsion:

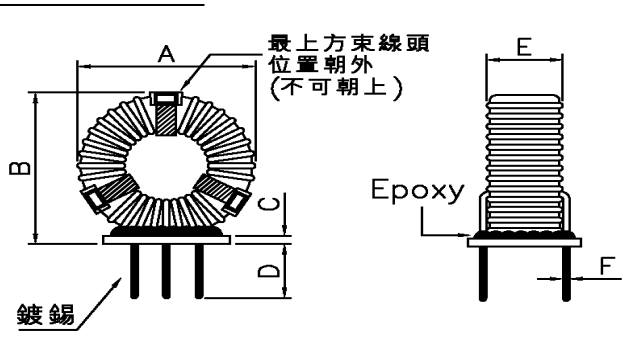
N161571965

環型線圈圖面

MEAN WELL DRAW No:TR-5080

■OFFICIAL □SAMPLE
DATE: 2016-09-09

DIMENSIONS



A=23.5(max.)
B=24.5(max.)
C=0.8(min.)~1.6(max.)
D=3.4±0.4
E=15(max.)
F=0.55ø
G=17.5±0.5
H=25±0.5
I=14.5±0.5
J=11±0.5
K=1.5±0.5
L=1.5±0.5
Unit:mm

No.	WIRE (ø)	Color	Turns	Indcutance (mH)	DCR(max.) mΩ	Remark
N1	0.55× 1	Yellow	20	5.58m±30%	55	Test Frequency:10KHz/0.05V
N2	0.55× 1	Yellow	20	5.58m±30%	55	■ Based on turns of coil at inner side
N3	0.55× 1	Yellow	20	5.58m±30%	55	□ Based on spec Inductance
						□ Varnish
						■ Triple insulated wire No. _____
						■ Copper wire No. _____
						■ 130°C □ 155°C

Brand	Material	Part Number	AL (uH/N²)
ACME	Frrire Core	T20x11x10(A121)	13950

Note:
1.標準工藝請參照"磁性零件分包說明書"鐵芯限用ACME廠牌
2.功能:Common Choke
3.鐵芯需COATING
4.N1、N2、N3三組線需同相位方向需一致
5.N1、N2、N3三組線圈分開繞,不可並繞
6.N2出線與入線需加黑色的TFL套管來標示相位

Revsion:

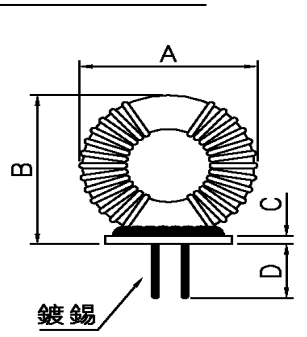
N161571966

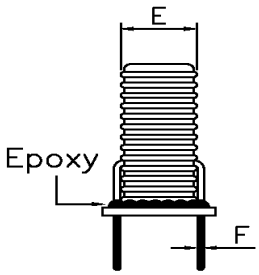
環型線圈圖面

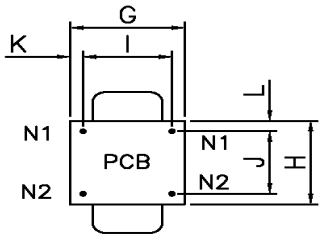
MEAN WELL DRAW No:TR-5081

■OFFICIAL □SAMPLE
DATE: 2016-09-07

DIMENSIONS







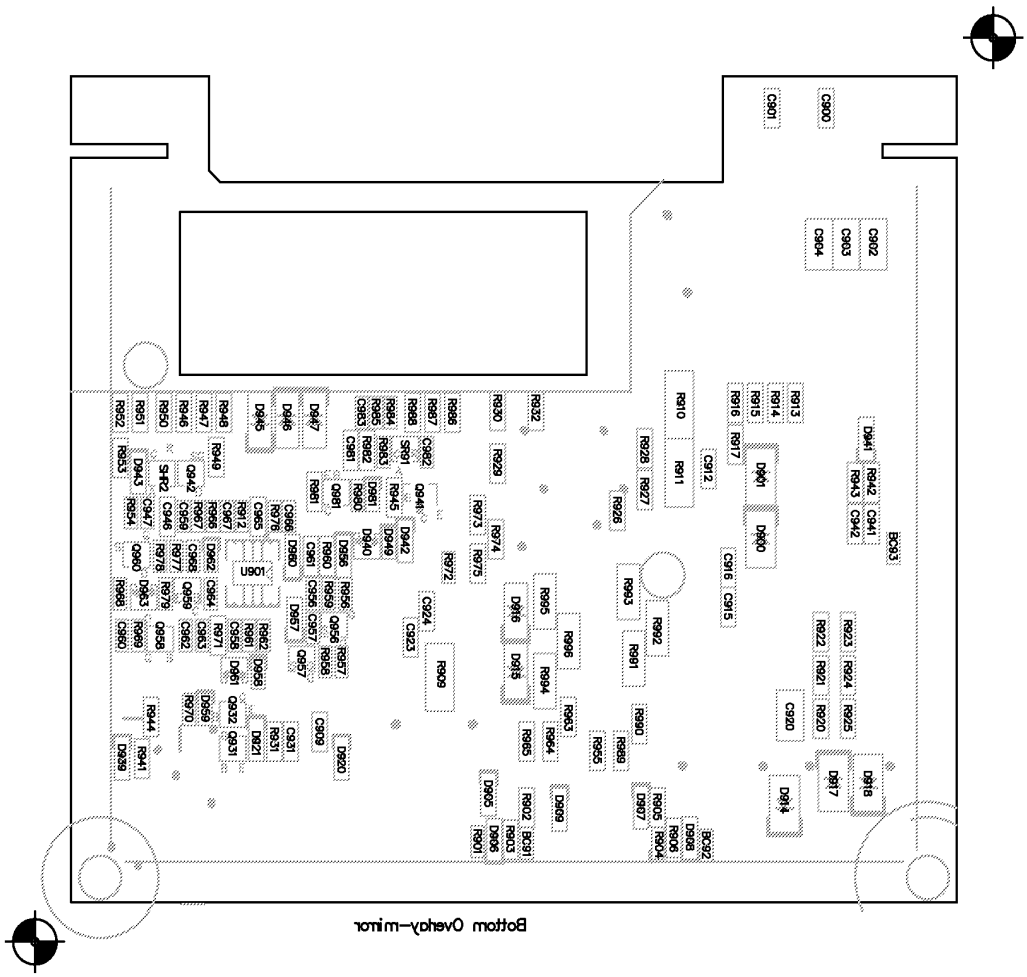
A=22(max.)
B=20.5(max.)
C=0.5(min.)~1.2(max.)
D=3.4±0.4
E=11.5(max.)
F=0.6ø
G=14±0.5
H=12.5±0.5
I=10.5±0.5
J=10±0.5
K=1.75±0.5
L=1.25±0.5
Unit:mm

No.	WIRE (ø)	Color	Turns	Indcutance (mH)	DCR(max.) mΩ	Remark
N1	0.6× 1	Gold	27	5.9m±30%	55	Test Frequency:10KHz/0.25V
N2	0.6× 1	Yellow	27	5.9m±30%	55	■ Based on turns of coil at inner side
						□ Based on spec Inductance
						□ Varnish
						■ Triple insulated wire No. N2
						■ Copper wire No. N1
						□ 130°C ■ 155°C

Brand	Material	Part Number	AL (nH/N²)
ACME	Mn-Zn	T18× 10× 7(A102)	8230

Note:
1.標準工藝請參照"磁性零件分包說明書"鐵芯限用ACME廠牌
2.功能:Common Choke
3.分兩邊各自繞製
4.鐵芯上/下各不繞線≧5mm
5.N2出線與入線處加套管,N1與N2 Hi-pot test:2KVAC 1mA/sec

Revsion:



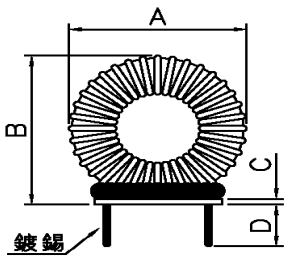
N161571968

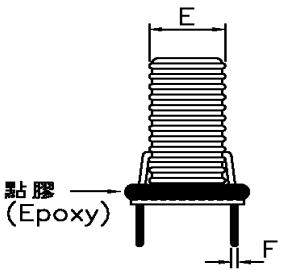
環型線圈圖面

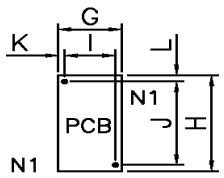
MEAN WELL DRAW No:TR-5079

■OFFICIAL □SAMPLE
DATE: 2016-09-07

DIMENSIONS







A=27.5(max.)
B=29(max.)
C=0.5(min.)~1.6(max.)
D=3.4±0.4
E=13(max.)
F=0.7ø
G=14±0.5
H=21±0.5
I=12±0.5
J=16.5±0.5
K=1±0.5
L=2.25±0.5
Unit:mm

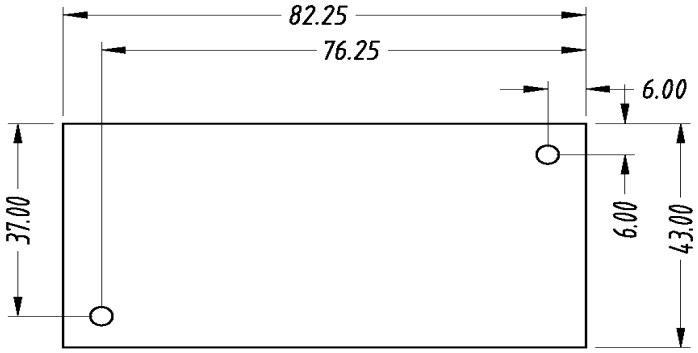
No.	WIRE (ø)	Color	Turns	Indcutance (uH)	DCR(max.) mΩ	Remark
N1	0.7× 1	Gold	90	851u±8%	157	Test Frequency:10KHz/0.25V
						■ Based on turns of coil at inner side
						□ Based on spec Inductance
						□ Varnish
						□ Triple insulated wire No. _____
						■ Copper wire No. _____
						□ 130°C ■ 155°C

Brand	Material	Part Number	AL (uH/N²)
KKDM	Sendust	GS092-125	105

Note：
1.標準工藝請參照"磁性零件分包說明書"
2.功能:DM Choke

Revsion：

REV.	DESCRIPTION	ECN. CORE	DATE



FR 700 94V-0 T=0.43

MYLAR
TDR-480
1HH2TDR-480B

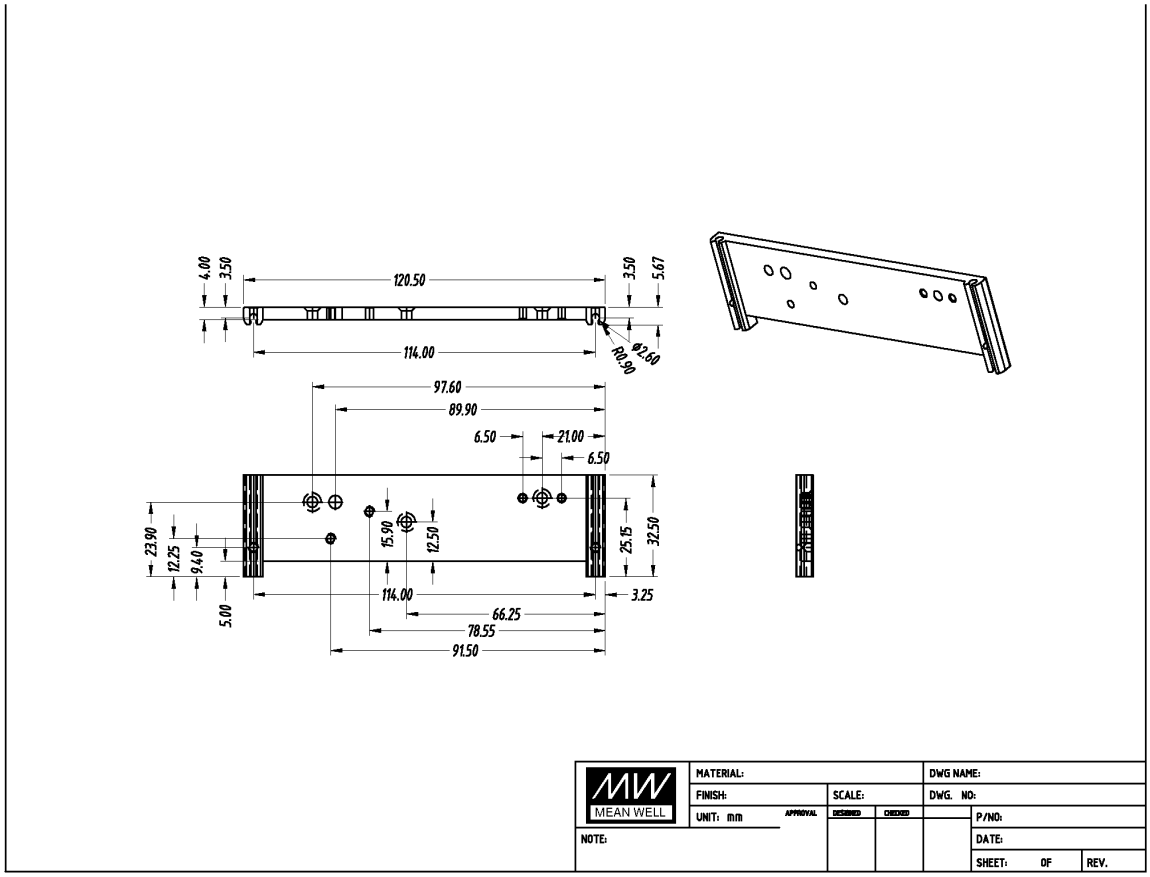
2016-09-07

NOTE:

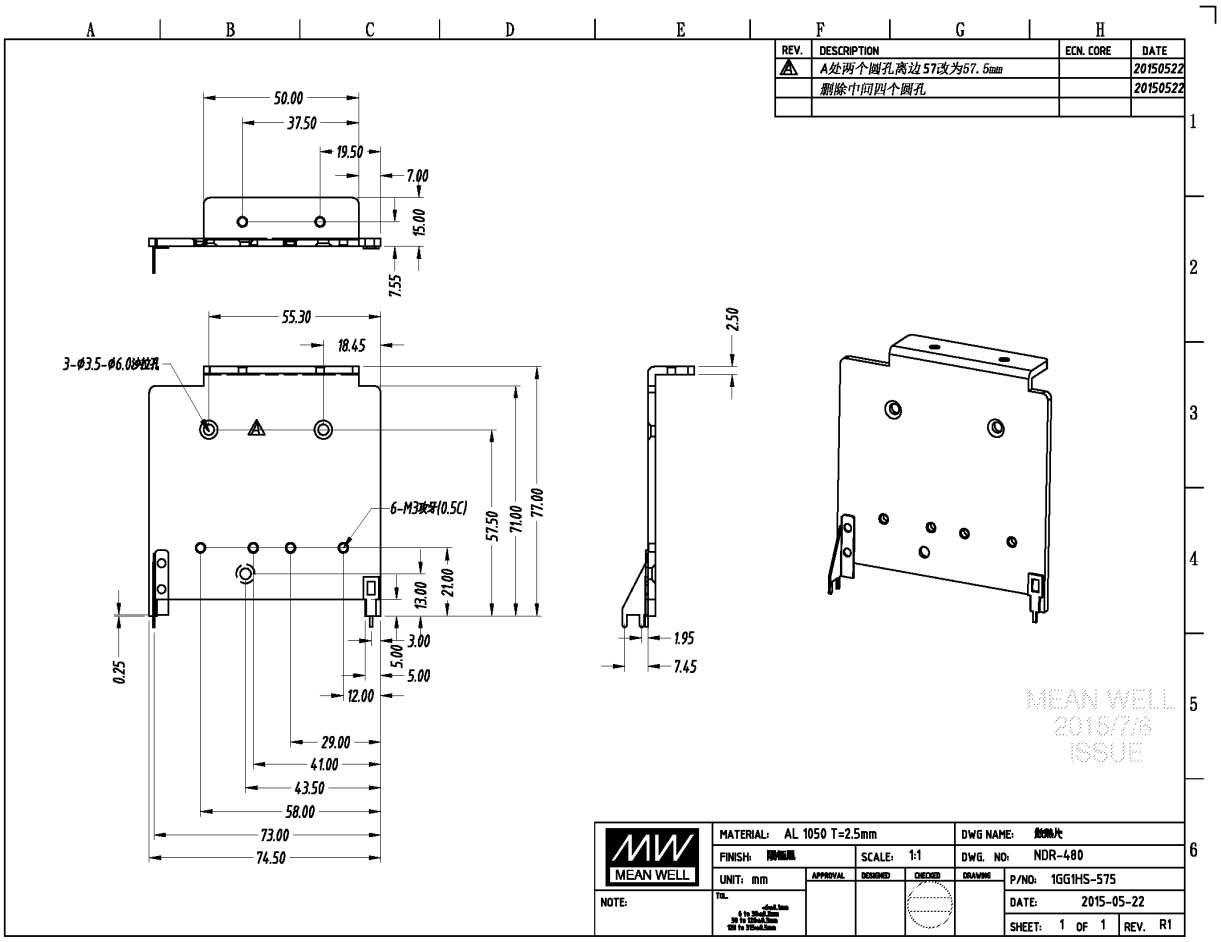
1 : 1

1 1 R0

N161571952

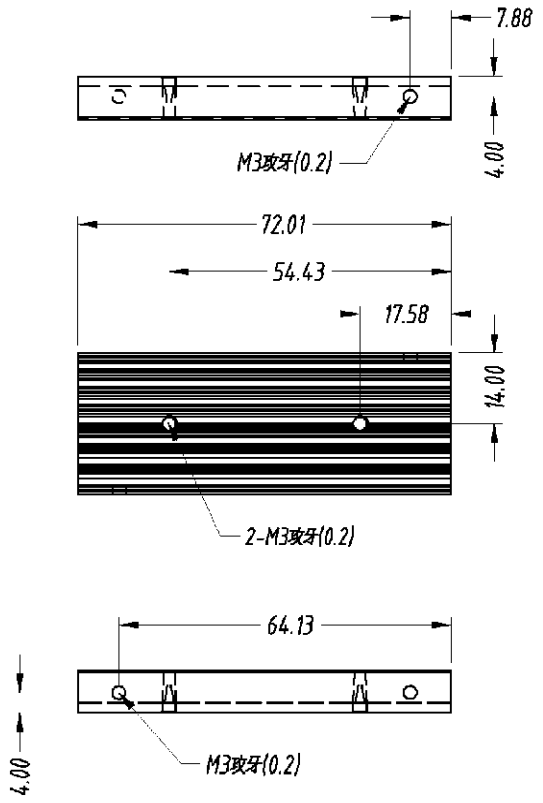

4.00
3.50
120.50
3.50
5.67
114.00
R0.90
Ø3.60
97.60
89.90
6.50
21.00
6.50
23.90
12.25
9.40
5.00
15.90
12.50
25.15
32.50
114.00
3.25
66.25
78.55
91.50
MEAN WELL
MATERIAL:
FINISH:
UNIT: mm
APPROVAL
SCALE:
DESIGNED
CHECKED
NOTE:
DWG NAME:
DWG. NO:
P/NO:
DATE:
SHEET: OF
REV.

N161571956


REV. DESCRIPTION ECN. CORE DATE
A 处两个圆孔离边57改为57.5mm 20150522
删除中间四个圆孔 20150522
50.00
37.50
19.50
7.00
15.00
7.55
55.30
18.45
3-Ø3.5-Ø6.0沉头孔
6-M3攻牙(0.5C)
57.50
71.00
77.00
13.00
21.00
3.00
5.00
5.00
0.25
12.00
29.00
41.00
43.50
58.00
73.00
74.50
2.50
1.95
7.45
MEAN WELL
2015/7/6
ISSUE
MEAN WELL
MATERIAL: AL 1050 T=2.5mm
FINISH:
SCALE: 1:1
UNIT: mm
APPROVAL
DESIGNED
CHECKED
DRAWING
NOTE:
DWG NAME:
DWG. NO: NDR-480
P/NO: 1GG1HS-575
DATE: 2015-05-22
SHEET: 1 OF 1
REV. R1

N161571957

REV.	DESCRIPTION	ECN. CORE	DATE



MEAN WELL	MATERIAL: AL 6063			DWG NAME: 散熱片			
	FINISH: 陽極黑		SCALE: 1:1	DWG. NO: NDR-480			
	UNIT: mm	APPROVAL	DESIGNED	CHECKED	DRAWING	P/N: 1GG1YS044W-072	
NOTE:	Tol. Angles 0° ±0.5mm; 6 to 30 ±0.2mm; 30 to 120 ±0.3mm; 120 to 315 ±0.5mm					DATE: 2015-06-01	
						SHEET: 1 OF 1	REV. R0

TEST RECORD NO. 1

Representative production sample of Switching Power Supplies, Models TDR-480-24 and TDR-480-48, were submitted by the manufacturer for examination and test.

The samples of Models TDR-480-24 and TDR-480-48 were used for investigation purposes and considered representative of entire models.

Test results relate only to the items tested.

The following tests were conducted:			
TEST	STANDARD	CODE (See Below)	CLAUSE
Input Test	UL 508	OS	173B.1
Temperature Test	UL 508	OS	43
Dielectric Voltage-Withstand Test	UL 508	OS	49.1
Breakdown of Component Test	UL 508	OS	57
Printed Wiring Board Abnormal Operation Test	UL 508	OS	60
Isolated Secondary Circuit Tests – General Conditions	UL 508	OS	61.2
Limited Voltage Secondary Test	UL 508	OS	61.5
Abnormal Test	-	-	-
Output Short-Circuit Test	-	-	-
Dielectric Strength	-	-	-
Capacitor Discharge Test	-	-	-
OS = Testing requirements come from one standard only.			

TEST RECORD SUMMARY:

The results of this investigation, including construction review and testing, indicate that the products evaluated comply with the applicable requirements in the Standard for Industrial Control Equipment, UL 508 Seventeenth Edition, Revision Date October 16, 2013, and therefore, such products are judged eligible to bear UL's Mark as described on the Conclusion Page of this Report. Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. UL shall not otherwise be responsible to anyone for the use of or reliance upon the contents of this Report.

CONCLUSION

Samples of the products covered by this Report have been found to comply with the requirements covering the category and the products are found to comply with UL's applicable requirements. The description and test result in this Report are only applicable to the samples investigated by UL and does not signify UL certification or that the products described are covered under UL's Follow-Up Service Program. When covered under UL's Follow-Up Service Program, the manufacturer is authorized to use the UL Listing Mark on such products which comply with UL's Follow-Up Service Procedure and any other application requirements of UL LLC. The Listing Mark of UL LLC on the product, or the UL symbol on the product and the Listing Mark on the smallest unit container in which the product is packaged, is the only method to identify products investigated by UL to published requirements and manufactured under UL's Listing and Follow-Up Service.

REPORT BY:
ARES CHEN
PROJECT ENGINEER

REVIEW BY:
CLOUD CHEN
PROJECT ENGINEER