



Project No.: TM-2311000389P
Report No.: TMXD2311004825DE



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Rev.: 00

FCC TEST REPORT

for

Open Frame Power Supply

MODEL: TXO 60-y-Jzzzzz (y=112, 115, 124, 136, 148, 156; z can be any alphanumeric or dash or blank); TXO 45-y-Jzzzzz (y=112, 115, 124, 136, 148, 156; z can be any alphanumeric or dash or blank)

Issued to:

TRACO ELECTRONIC AG

Sihlbruggstrasse 111, CH-6340 Baar, SWITZERLAND

Issued by:

Compliance Certification Services Inc.

Xindian Lab.

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Issued Date: March 21, 2024

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Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	March 21, 2024	Initial Issue	ALL	Andrea Chen



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1 TEST RESULT CERTIFICATION

Product: Open Frame Power Supply

Model: TXO 60-y-Jzzzzz (y=112, 115, 124, 136, 148, 156; z can be any alphanumeric or dash or blank); TXO 45-y-Jzzzzz (y=112, 115, 124, 136, 148, 156; z can be any alphanumeric or dash or blank)

Brand: 

Applicant: TRACO ELECTRONIC AG
Sihlbruggstrasse 111, CH-6340 Baar, SWITZERLAND

Manufacturer: TRACO ELECTRONIC AG
Sihlbruggstrasse 111, CH-6340 Baar, SWITZERLAND

Tested: December 6, 2023 ~ December 28, 2023

EMISSION			
Standard	Item	Result	Remarks
FCC 47 CFR Part 15 Subpart B, ICES-003 Issue 7-2020 ANSI C63.4-2014	Conducted (Power Port)	PASS	Meet Class B limit
	Radiated	PASS	Meet Class B limit

Statements of Conformity

Determination of compliance is based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

The above equipment has been tested by Compliance Certification Services Inc., and found compliance with the requirements set forth in the technical standards mentioned above. The results of testing in this report apply only to the product/system, which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

Approved by:



Jason Lee
Section Manager


Reviewed by:



Eva Fan
Supervisor of report document dept.



2 EUT DESCRIPTION

Product	Open Frame Power Supply
Brand Name	
Model	TXO 60-y-Jzzzzz (y=112, 115, 124, 136, 148, 156; z can be any alphanumeric or dash or blank); TXO 45-y-Jzzzzz (y=112, 115, 124, 136, 148, 156; z can be any alphanumeric or dash or blank)
Applicant	TRACO ELECTRONIC AG
Housing material	N/A
Received Date	November 23, 2023
EUT Power Rating	TXO 60-y-Jzzzzz: Input Rating: 100-240Vac 50/60Hz 1.5A max TXO 45-y-Jzzzzz: Input Rating: 100-240Vac 50/60Hz 1.2A max Output Rating: Please see the model differences
AC Power During Test	120VAC / 60Hz & 230VAC / 60Hz

**Model Differences**

Model	Difference			
	Input Rating	Output Rating		
		O/P (Vdc)	O/P (A)	O/P (W)
TXO 60-112-J	100-240Vac 50/60Hz 1.5A max	12	5	60
TXO 60-115-J		15	4	60
TXO 60-124-J		24	2.5	60
TXO 60-136-J		36	1.67	60.12
TXO 60-148-J		48	1.25	60
TXO 60-156-J		56	1.07	59.92
TXO 45-112-J	100-240Vac 50/60Hz 1.2A max	12	3.80	45
TXO 45-115-J		15	3.00	45
TXO 45-124-J		24	1.90	45
TXO 45-136-J		36	1.25	45
TXO 45-148-J		48	0.94	45
TXO 45-156-J		56	0.80	45
TXO 60-y-Jzzzzz; TXO 45-y-Jzzzzz	1. y=112, 115, 124, 136, 148, 156; z can be any alphanumeric or dash or blank 2. For marketing purpose only.			

I/O PORT

I/O PORT TYPES	Q'TY	TESTED WITH

Note: None.

3 TEST METHODOLOGY

3.1. DECISION OF FINAL TEST MODE

The EUT was tested together with the below additional components, and a configuration, which produced the worst emission levels, was selected and recorded in this report.

The test configuration modes are as the following:

Modes:

1	TXO 60-112-J	W/ Ground	Full Rated Load Mode	120VAC / 60Hz
2		W/O Ground		230VAC / 60Hz
3				120VAC / 60Hz
4				230VAC / 60Hz
5	TXO 60-115-J	W/ Ground	Full Rated Load Mode	120VAC / 60Hz
6		W/O Ground		230VAC / 60Hz
7				120VAC / 60Hz
8				230VAC / 60Hz
9	TXO 60-124-J	W/ Ground	Full Rated Load Mode	120VAC / 60Hz
10		W/O Ground		230VAC / 60Hz
11				120VAC / 60Hz
12				230VAC / 60Hz
13	TXO 60-136-J	W/ Ground	Full Rated Load Mode	120VAC / 60Hz
14		W/O Ground		230VAC / 60Hz
15				120VAC / 60Hz
16				230VAC / 60Hz
17	TXO 60-148-J	W/ Ground	Full Rated Load Mode	120VAC / 60Hz
18		W/O Ground		230VAC / 60Hz
19				120VAC / 60Hz
20				230VAC / 60Hz
21	TXO 60-156-J	W/ Ground	Full Rated Load Mode	120VAC / 60Hz
22		W/O Ground		230VAC / 60Hz
23				120VAC / 60Hz
24				230VAC / 60Hz
25	TXO 45-112-J	W/ Ground	Full Rated Load Mode	120VAC / 60Hz
26		W/O Ground		230VAC / 60Hz
27				120VAC / 60Hz
28				230VAC / 60Hz
29	TXO 45-115-J	W/ Ground	Full Rated Load Mode	120VAC / 60Hz
30		W/O Ground		230VAC / 60Hz
31				120VAC / 60Hz
32				230VAC / 60Hz



33	TXO 45-124-J	W/ Ground	Full Rated Load Mode	120VAC / 60Hz
34				230VAC / 60Hz
35		W/O Ground		120VAC / 60Hz
36				230VAC / 60Hz
37	TXO 45-136-J	W/ Ground	Full Rated Load Mode	120VAC / 60Hz
38				230VAC / 60Hz
39		W/O Ground		120VAC / 60Hz
40				230VAC / 60Hz
41	TXO 45-148-J	W/ Ground	Full Rated Load Mode	120VAC / 60Hz
42				230VAC / 60Hz
43		W/O Ground		120VAC / 60Hz
44				230VAC / 60Hz
45	TXO 45-156-J	W/ Ground	Full Rated Load Mode	120VAC / 60Hz
46				230VAC / 60Hz
47		W/O Ground		120VAC / 60Hz
48				230VAC / 60Hz

Worst:

Conduction: Mode 13

Radiation: Mode 13

3.2. EUT SYSTEM OPERATION

1. To adjust variable resistor to test full rated load mode.

Note: Test program is self-repeating throughout the test.

4 SETUP OF EQUIPMENT UNDER TEST

4.1. DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

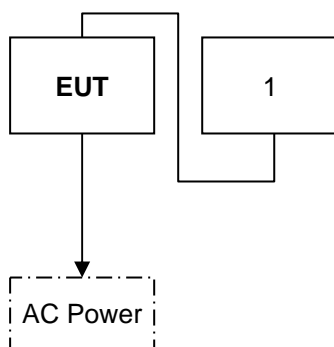
Peripherals Devices:

No.	Equipment	Model No.	Serial No.	FCC ID / BSMI ID	Brand Name	Data Cable	Power Cord
1	Variable Resistor	N/A	N/A	N/A	N/A	Unshielded, 0.27m	N/A

Note:

- 1) All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
- 2) Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

4.2. CONFIGURATION OF SYSTEM UNDER TEST



5 FACILITIES AND ACCREDITATIONS

5.1. FACILITIES

All measurement facilities used to collect the measurement data are located at CCS Taiwan Xindian Lab. at No.163-1, Jhongsheng Rd., Xindian Dist., New Taipei City, Taiwan.

The sites are constructed in conformance with the requirements of ANSI C63.4 and CISPR Publication 22. All receiving equipment conforms to CISPR 16-1-1, CISPR 16-1-2, CISPR 16-1-3, CISPR 16-1-4 and CISPR 16-1-5.

5.2. ACCREDITATIONS

Our laboratories are accredited and approved by the following accreditation body according to ISO/IEC 17025.

Taiwan	TAF
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The measuring facility of laboratories has been authorized or registered by the following approval agencies.

Canada	Industry Canada
Japan	VCCI
Taiwan	BSMI
USA	FCC

5.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Measurement	Frequency	Uncertainty
Conducted emissions	0.15MHz ~ 30MHz	± 2.8
Radiated emissions	30MHz ~ 1000MHz	± 5.1
	1000MHz ~ 18000MHz	N/A
	18000MHz ~ 40000MHz	N/A

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Consistent with industry standard (e.g. CISPR 22: 2005, clause 11, Measurement Uncertainty) determining compliance with the limits shall be base on the results of the compliance measurement. Consequently the measure emissions being less than the maximum allowed emission result in this be a compliant test or passing test.

The acceptable measurement uncertainty value without requiring revision of the compliance statement is base on conducted and radiated emissions being less than U_{CISPR} which is 3.8dB(AMN); 5.2dB(OATS) and 5.5dB(1-18GHz) respectively. CCS values (called U_{Lab} in CISPR 16-4-2) is less than U_{CISPR} as shown in the table above. Therefore, MU need not be considered for compliance.

6 CONDUCTED EMISSION MEASUREMENT

6.1. LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 - 0.5	79	66	66 - 56	56 - 46
0.50 - 5.0	73	60	56	46
5.0 - 30.0	73	60	60	50

NOTE:

- (1) The lower limit shall apply at the transition frequencies.
- (2) The limit decreases in line with the logarithm of the frequency in the range 0.15 to 0.50 MHz.
- (3) All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

6.2. TEST INSTRUMENTS

Conducted Emission room # B				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Attenuator	MCL	HAT-10	SD-C012	03/19/2024
BNC Cable	EMEC	CFD300-NL	SD-C020	12/27/2024
EMI Test Receiver	R&S	ESR3	102166	03/13/2024
LISN	Schwarzbeck	NSLK 8127	01082	03/21/2024
LISN(EUT)	Schwarzbeck	NSLK 8127	01084	03/21/2024
Thermo-Hygro Meter	Wisewind	N/A	SD-S017	08/15/2024
Test S/W	EZ-EMC Ver.CCS-03A1			

- NOTE:** 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. N.C.R = No Calibration Request.

6.3. TEST PROCEDURES

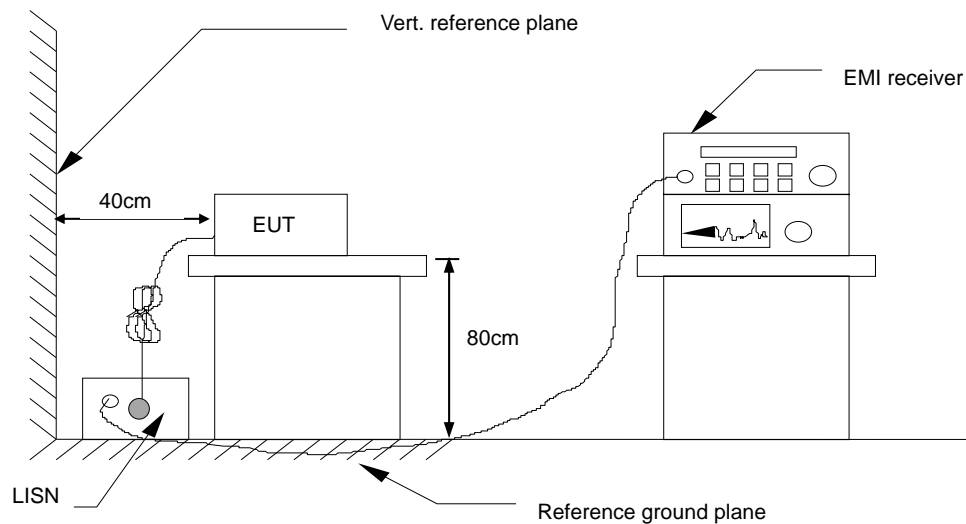
Procedure of Preliminary Test

- The EUT and support equipment, if needed, were set up as per the test configuration to simulate typical usage per the user's manual. When the EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.4 (see Test Facility for the dimensions of the ground plane used). When the EUT is a floor standing equipment, it is placed on the ground plane, which has a 12 mm non-conductive covering to insulate the EUT from the ground plane.
- All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4.
- The test equipment EUT installed by AC main power, through a Line Impedance Stabilization Network (LISN), which was supplied power source and was grounded to the ground plane.
- All support equipment power by from a second LISN.
- The test program of the EUT was started. Emissions were measured on each current carrying line of the EUT using an EMI Test Receiver connected to the LISN powering the EUT.
- The Receiver scanned from 150kHz to 30MHz for emissions in each of the test modes.
- During the above scans, the emissions were maximized by cable manipulation.
- The test mode(s) described in Item 3.1 were scanned during the preliminary test.
- After the preliminary scan, we found the test mode described in Item 3.1 producing the highest emission level.
- The worst configuration of EUT and cable of the above highest emission level were recorded for reference of the final test.

Procedure of Final Test

- EUT and support equipment were set up on the test bench as per the configuration with highest emission level in the preliminary test.
- A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit.
- The test data of the worst-case condition(s) was recorded.

6.4. TEST SETUP



- For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

6.5. DATA SAMPLE

Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector (P/Q/A)	Line (L1/L2)
x.xx	42.95	0.55	43.50	56	-12.50	Q	L1

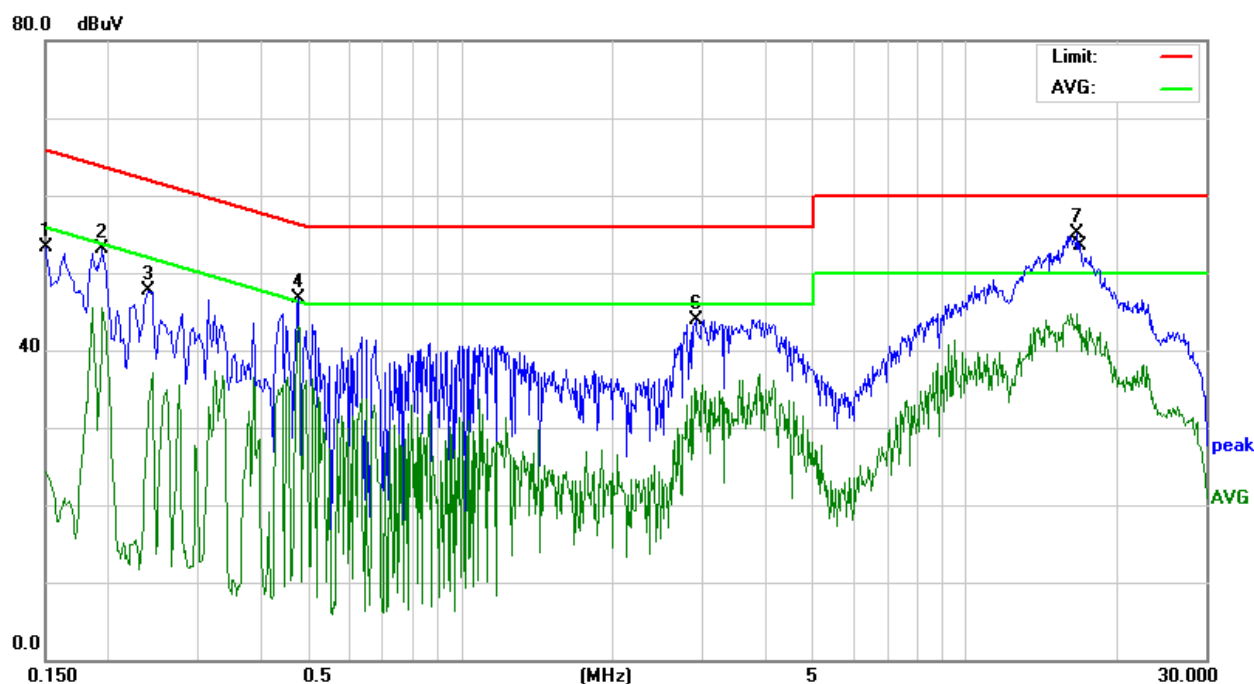
Freq. = Emission frequency in MHz
 Reading = Uncorrected Analyzer/Receiver reading
 Factor = Insertion loss of LISN + Cable Loss + Pulse Limit
 Result = Reading + Factor
 Limit = Limit stated in standard
 Margin = Reading in reference to limit
 P = Peak Reading
 Q = Quasi-peak Reading
 A = Average Reading
 L1 = Hot side
 L2 = Neutral side

Calculation Formula

Margin (dB) = Result (dBuV) – Limit (dBuV)

6.6. TEST RESULTS

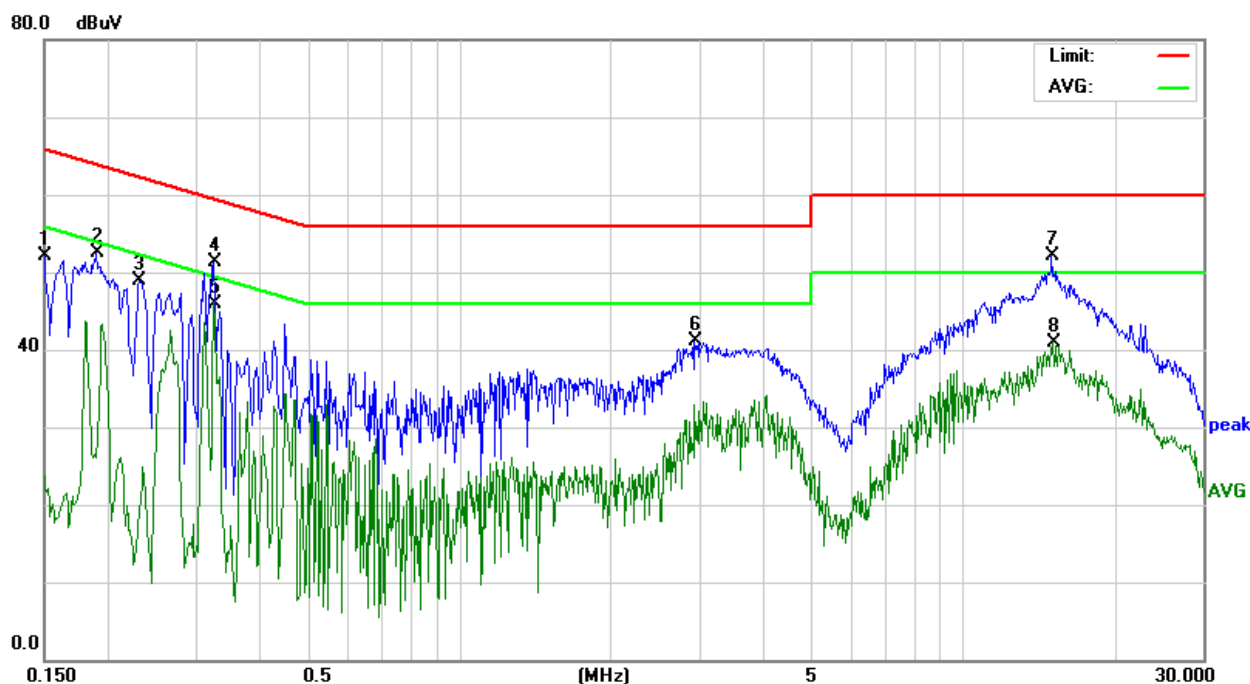
Model No.	TXO 60-136-J	6dB Bandwidth	9 kHz
Environmental Conditions	19.5°C, 53% RH	Test Mode	Mode 13
Tested by	Jacky Lin	Phase	L1
Standard	FCC CLASS B / ICES-003 CLASS B		



Conducted Emission Readings							
Frequency Range Investigated				150 kHz to 30 MHz			
Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector (P/Q/A)	Line (L1/L2)
0.1500	43.16	10.09	53.25	65.99	-12.74	P	L1
0.1949	42.96	10.08	53.04	63.82	-10.78	P	L1
0.2399	37.58	10.08	47.66	62.10	-14.44	P	L1
0.4783	36.55	10.11	46.66	56.37	-9.71	P	L1
0.4783	33.15	10.11	43.26	46.37	-3.11	A	L1
2.9264	33.71	10.25	43.96	56.00	-12.04	P	L1
16.6648	44.46	10.56	55.02	60.00	-4.98	P	L1
16.8583	32.77	10.56	43.33	50.00	-6.67	A	L1

Note: 1. L1 = Line One (Live Line) / L2 = Line Two (Neutral Line).

Model No.	TXO 60-136-J	6dB Bandwidth	9 kHz
Environmental Conditions	19.5°C, 53% RH	Test Mode	Mode 13
Tested by	Jacky Lin	Phase	L2
Standard	FCC CLASS B / ICES-003 CLASS B		



Conducted Emission Readings							
Frequency Range Investigated				150 kHz to 30 MHz			
Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector (P/Q/A)	Line (L1/L2)
0.1500	42.09	10.09	52.18	65.99	-13.81	P	L2
0.1905	42.36	10.08	52.44	64.01	-11.57	P	L2
0.2316	38.80	10.08	48.88	62.39	-13.51	P	L2
0.3255	41.13	10.08	51.21	59.56	-8.35	P	L2
0.3255	35.92	10.08	46.00	49.56	-3.56	A	L2
2.9310	30.78	10.26	41.04	56.00	-14.96	P	L2
15.0045	41.49	10.55	52.04	60.00	-7.96	P	L2
15.0763	30.45	10.55	41.00	50.00	-9.00	A	L2

Note: 1. L1 = Line One (Live Line) / L2 = Line Two (Neutral Line).

7 RADIATED EMISSION MEASUREMENT

7.1. LIMITS OF RADIATED EMISSION MEASUREMENT

FCC 47 CFR Part 15 Subpart B

Below 1GHz (for digital device / CISPR 22)

FREQUENCY (MHz)	dBuV/m (At 10m)	
	Class A	Class B
30 ~ 230	40	30
230 ~ 1000	47	37

Limit tables for non-digital device:

Class A Radiated Emission limit at 10m (for others)

Frequency (MHz)	Field Strength Limit (uV/m)Q.P.	Field Strength Limit (dBuV/m)Q.P.
30 - 88	90	39
88 - 216	150	43.5
216 - 960	210	46.4
Above 960	300	49.5

Class B Radiated Emission limit at 3m (for others)

Frequency (MHz)	Field Strength Limit (uV/m)Q.P.	Field Strength Limit (dBuV/m)Q.P.
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

Above 1GHz(for all device)

Frequency (MHz)	Class A (dBuV/m) (At 10m)		Class B (dBuV/m) (At 3m)	
	Average	Peak	Average	Peak
Above 1000	49.5	69.5	54	74

- NOTE:** (1) The lower limit shall apply at the transition frequencies.
(2) Emission level (dBuV/m) = 20 log Emission level (uV/m).
(3) The measurement above 1GHz is at close-in distances 3m, and determine the limit **L2** corresponding to the close-in distance **d2** by applying the following relation: **L2 = L1 (d1/d2)**, where **L1** is the specified limit in microvolts per metre (uV/m) at the distance **d1 (10m)**, **L2** is the new limit for distance **d2 (3m)**.
So the new Class A limit above 1GHz at 3m is as following table:

Frequency (MHz)	Class A (dBuV/m) (At 3m)	
	Average	Peak
Above 1000	60	80

According to FCC Part 15.33 (b), for an unintentional radiator, including a digital device, the spectrum shall be investigated from the lowest radio frequency signal generated or used in the device, without going below the lowest frequency for which a radiated emission limit is specified, up to the frequency shown in the following table:

Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	Upper frequency of measurement range (MHz)
Below 1.705	30
1.705-108	1000
108-500	2000
500-1000	5000
Above 1000	5 th harmonic of the highest frequency or 40GHz, whichever is lower

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Below 1GHz

Class A Radiated Emission limit

Frequency (MHZ)	(dBuV/m)Q.P. Distances (3m)	(dBuV/m)Q.P. Distances (10m)
30 - 88	50	40
88 - 216	54	43.5
216 - 230	56.9	46.4
230 - 960	57	47
960 - 1000	60	49.5

Class B Radiated Emission limit

Frequency (MHZ)	(dBuV/m)Q.P. Distances (3m)	(dBuV/m)Q.P. Distances (10m)
30 - 88	40	30
88 - 216	43.5	33.1
216 - 230	46	35.6
230 - 960	47	37
960 - 1000	54	43.5

Above 1GHz

Frequency (MHZ)	Class A (dBuV/m) (At 3m)		Class B (dBuV/m) (At 3m)	
	Average	Peak	Average	Peak
Above 1000	60	80	54	74

Required highest measurement frequency for radiated emissions

Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	Upper frequency of measurement range (MHz)
Fx-108	1000
108-500	2000
500-1000	5000
Above 1000	5 x FX up to a maximum of 40 GHz

NOTE: Fx is the highest fundamental frequency generated and/or used in the ITE or digital apparatus under test.

7.2. TEST INSTRUMENTS

Open Area Test Site # H				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Bilog Antenna	Teseq	CBL 6112D	35411	05/03/2024
Cable	EMEC	CFD400E-LW	SD-R074	08/09/2024
EMI Test Receiver	R&S	ESCI	101340	02/03/2024
Pre-Amplifier	HP	8447D	1937A01554	09/20/2024
Thermo-Hygro Meter	Wisewind	201A	No. 03	05/22/2024
Test S/W	EZ-EMC Ver.CCS-03A1			

NOTE: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. N.C.R = No Calibration Request.

7.3. TEST PROCEDURES

Procedure of Preliminary Test

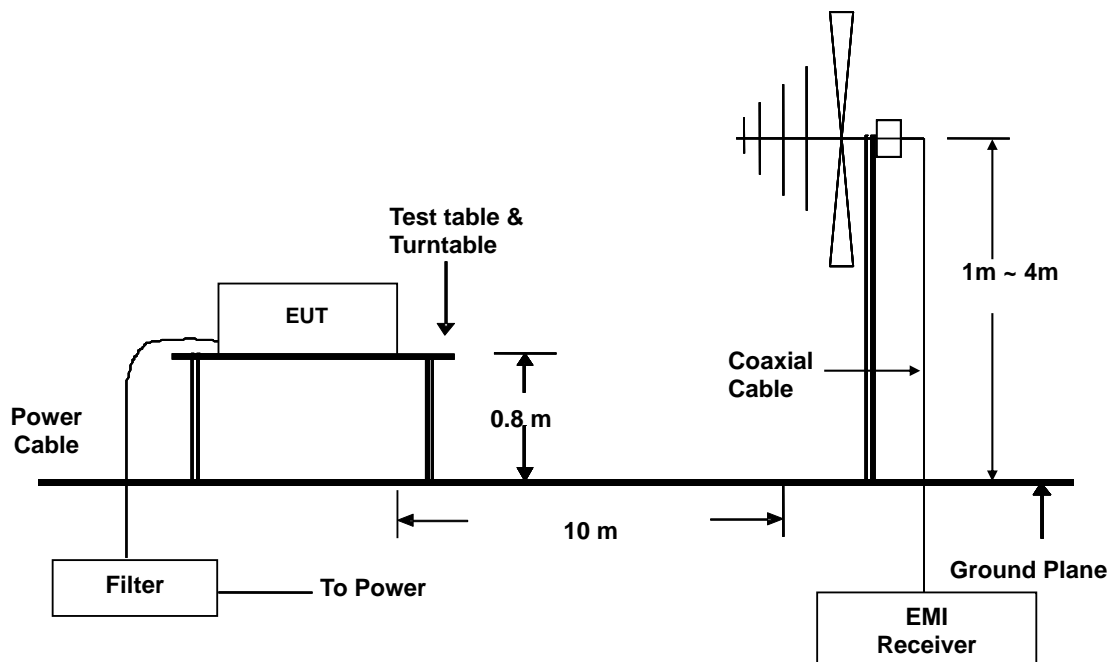
- The equipment was set up as per the test configuration to simulate typical usage per the user's manual. When the EUT is a tabletop system, a wooden turntable with a height of 0.8 meters is used which is placed on the ground plane. When the EUT is a floor standing equipment, it is placed on the ground plane which has a 12 mm non-conductive covering to insulate the EUT from the ground plane.
- Support equipment, if needed, was placed as per ANSI C63.4.
- All I/O cables were positioned to simulate typical usage as per ANSI C63.4.
- The EUT received AC power source from the outlet socket under the turntable. All support equipment power received from another socket under the turntable.
- The antenna was placed at 3 or 10 meter away from the EUT as stated in ANSI C63.4. The antenna connected to the Spectrum Analyzer via a cable and at times a pre-amplifier would be used.
- The Analyzer / Receiver quickly scanned from 30MHz to 40GHz. The EUT test program was started. Emissions were scanned and measured rotating the EUT to 360 degrees and positioning the antenna 1 to 4 meters above the ground plane, in both the vertical and the horizontal polarization, to maximize the emission reading level.
- The test mode(s) described in Item 3.1 were scanned during the preliminary test:
- After the preliminary scan, we found the test mode described in Item 3.1 producing the highest emission level.
- The worst configuration of EUT and cable of the above highest emission level were recorded for reference of the final test.

Procedure of Final Test

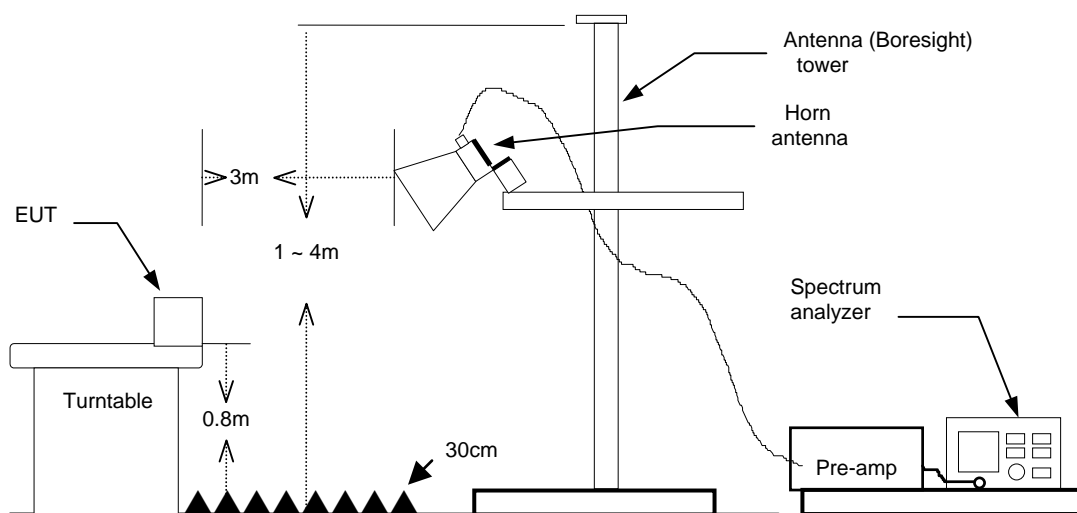
- EUT and support equipment were set up on the turntable as per the configuration with highest emission level in the preliminary test.
- The Analyzer / Receiver scanned from 30MHz to 40GHz. Emissions were scanned and measured rotating the EUT to 360 degrees, varying cable placement and positioning the antenna 1 or 1 to 4 meters above the ground plane, in both the vertical and the horizontal polarization, to maximize the emission reading level.
- Recording at least the six highest emissions. Emission frequency, amplitude, antenna position, polarization and turntable position were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. Below 1GHz the Q.P. reading and above 1GHz the Peak and Average reading are presented.
- The test data of the worst-case condition(s) was recorded.

7.4. TEST SETUP

Below 1GHz



Above 1GHz



- For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.



7.5. DATA SAMPLE

Below 1GHz

Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector (P/Q)	Pol. (H/V)
x.xx	14.0	12.2	26.2	30	-3.8	Q	H

Above 1GHz

Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector (P/A)	Pol. (H/V)
x.xx	42.95	0.55	43.50	54	-10.50	A	H

Freq. = Emission frequency in MHz
Reading = Uncorrected Analyzer/Receiver reading
Factor = Antenna Factor + Cable Loss - Amplifier Gain
Result = Reading + Factor
Limit = Limit stated in standard
Margin = Reading in reference to limit
P = Peak Reading
Q = Quasi-peak Reading
A = Average Reading
H = Antenna Polarization: Horizontal
V = Antenna Polarization: Vertical

Calculation Formula

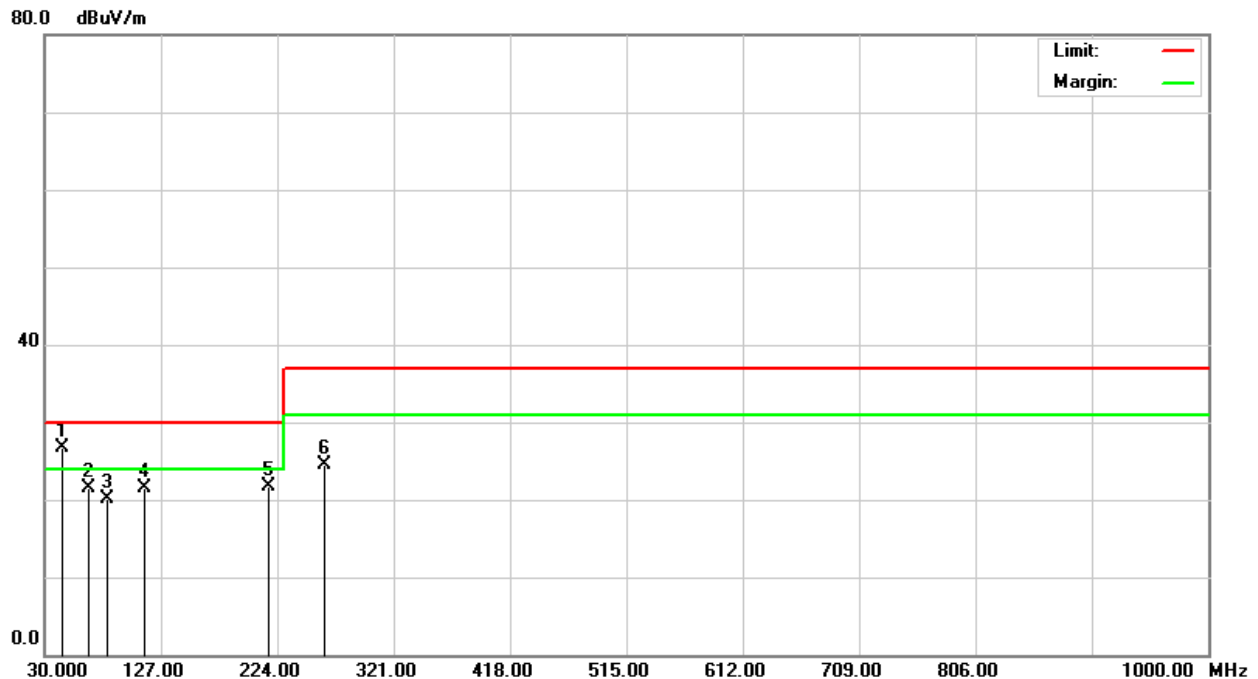
Margin (dB) = Result (dBuV/m) – Limit (dBuV/m)

7.6. TEST RESULTS

FCC 47 CFR Part 15 Subpart B

Below 1GHz

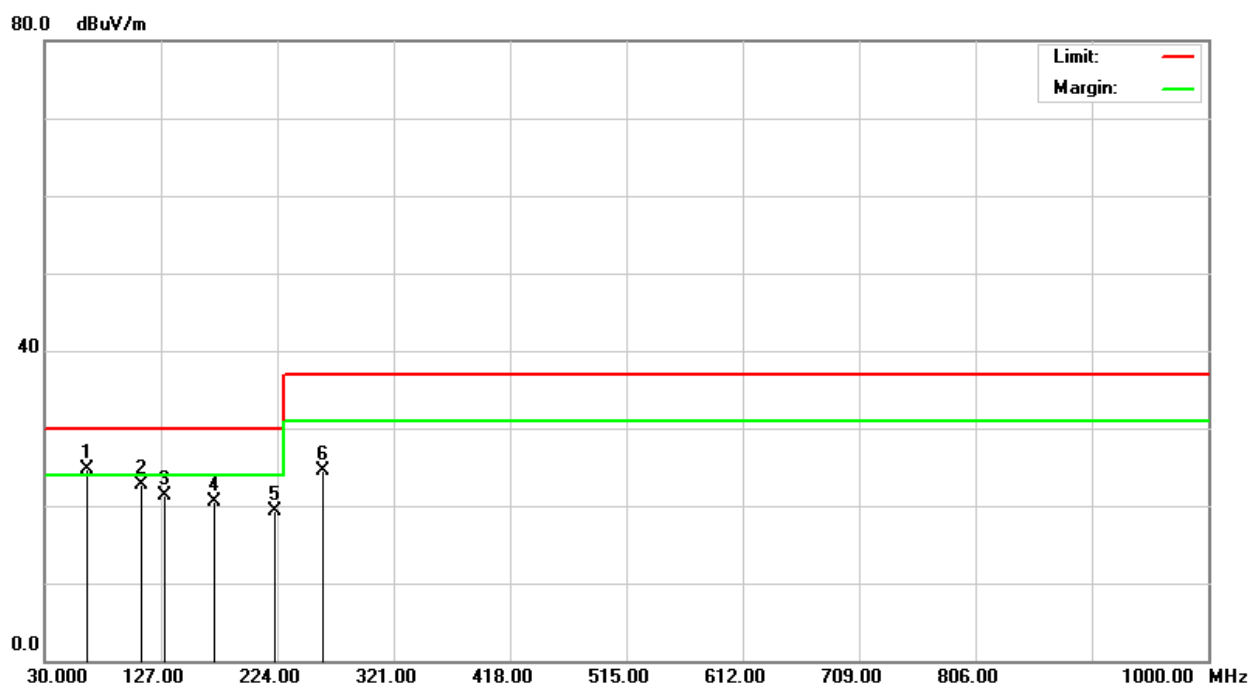
Model No.	TXO 60-136-J	Test Mode	Mode 13
Environmental Conditions	17.2°C, 78% RH	6dB Bandwidth	120 kHz
Antenna Pole	Vertical	Antenna Distance	10m
Detector Function	Quasi-peak.	Tested by	Jacky Lin
Standard	FCC CLASS B W/ CISPR 22 CLASS B LIMIT		



Radiated Emission Readings									
Frequency Range Investigated					30 MHz to 1000 MHz at 10m				
Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Detector (P/Q)	Pol. (H/V)
44.6100	36.60	-9.92	26.68	30.00	-3.32	100	52	Q	V
66.5300	35.80	-14.36	21.44	30.00	-8.56	100	306	Q	V
82.1700	33.00	-12.85	20.15	30.00	-9.85	100	215	Q	V
113.4800	29.60	-8.05	21.55	30.00	-8.45	100	36	Q	V
216.9200	32.10	-10.43	21.67	30.00	-8.33	100	288	Q	V
263.1900	29.90	-5.34	24.56	37.00	-12.44	100	135	Q	V

Note: 1. 30MHz to 1000MHz test is Applicable CISPR 22 standard.
2. P= Peak Reading; Q= Quasi-peak Reading.

Model No.	TXO 60-136-J	Test Mode	Mode 13
Environmental Conditions	17.2°C, 78% RH	6dB Bandwidth	120 kHz
Antenna Pole	Horizontal	Antenna Distance	10m
Detector Function	Quasi-peak.	Tested by	Jacky Lin
Standard	FCC CLASS B W/ CISPR 22 CLASS B LIMIT		



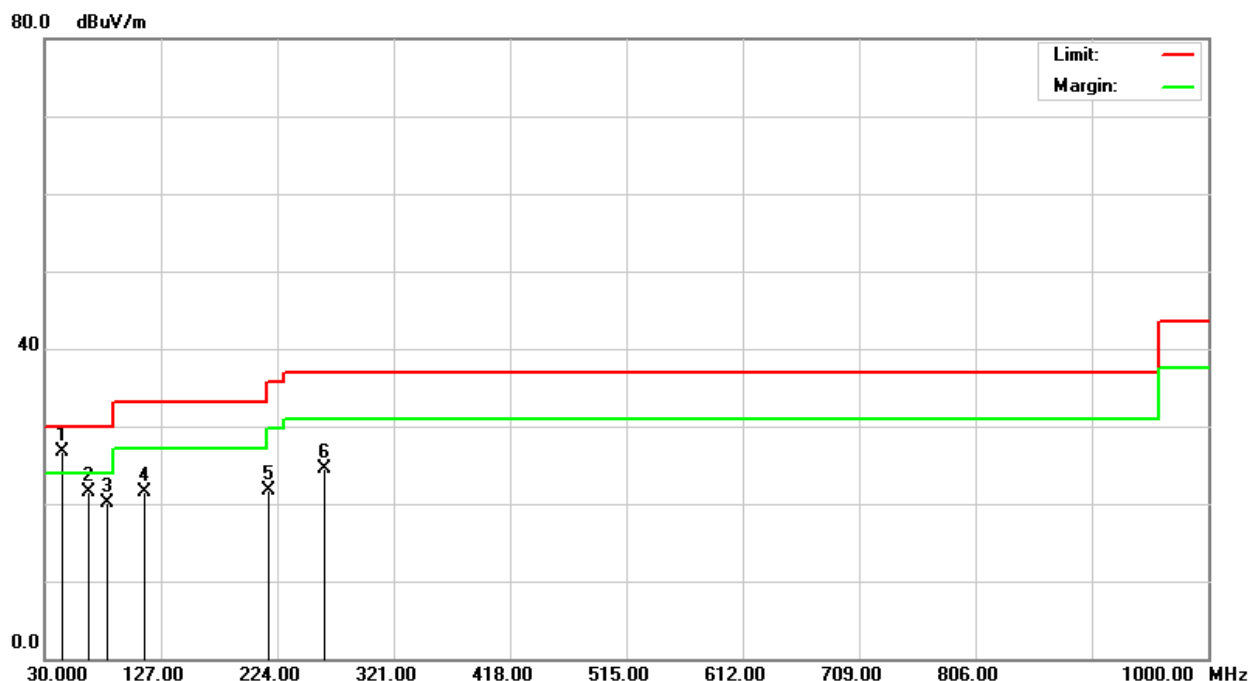
Radiated Emission Readings									
Frequency Range Investigated					30 MHz to 1000 MHz at 10m				
Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Detector (P/Q)	Pol. (H/V)
65.7900	39.10	-14.42	24.68	30.00	-5.32	400	354	Q	H
110.2700	30.80	-8.17	22.63	30.00	-7.37	400	222	Q	H
130.1799	29.20	-7.89	21.31	30.00	-8.69	400	61	Q	H
171.5300	30.60	-10.13	20.47	30.00	-9.53	400	306	Q	H
221.4900	29.30	-9.92	19.38	30.00	-10.62	400	259	Q	H
261.8299	29.70	-5.27	24.43	37.00	-12.57	400	111	Q	H

Note: 1. 30MHz to 1000MHz test is Applicable CISPR 22 standard.
2. P= Peak Reading; Q= Quasi-peak Reading.

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Below 1GHz

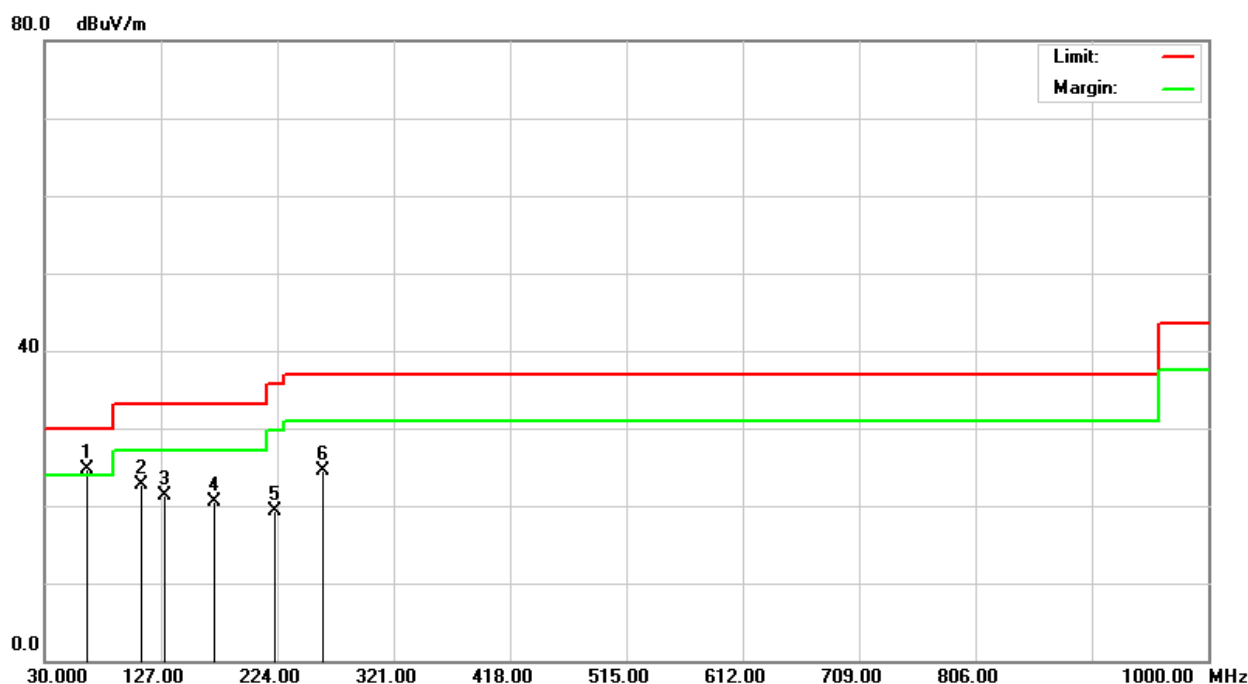
Model No.	TXO 60-136-J	Test Mode	Mode 13
Environmental Conditions	17.2°C, 78% RH	6dB Bandwidth	120 kHz
Antenna Pole	Vertical	Antenna Distance	10m
Detector Function	Quasi-peak.	Tested by	Jacky Lin
Standard	ICES-003 CLASS B		



Radiated Emission Readings									
Frequency Range Investigated				30 MHz to 1000 MHz at 10m					
Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Detector (P/Q)	Pol. (H/V)
44.6100	36.60	-9.92	26.68	30.00	-3.32	100	52	Q	V
66.5300	35.80	-14.36	21.44	30.00	-8.56	100	306	Q	V
82.1700	33.00	-12.85	20.15	30.00	-9.85	100	215	Q	V
113.4800	29.60	-8.05	21.55	33.10	-11.55	100	36	Q	V
216.9200	32.10	-10.43	21.67	35.60	-13.93	100	288	Q	V
263.1900	29.90	-5.34	24.56	37.00	-12.44	100	135	Q	V

Note: 1. P= Peak Reading; Q= Quasi-peak Reading.

Model No.	TXO 60-136-J	Test Mode	Mode 13
Environmental Conditions	17.2°C, 78% RH	6dB Bandwidth	120 kHz
Antenna Pole	Horizontal	Antenna Distance	10m
Detector Function	Quasi-peak.	Tested by	Jacky Lin
Standard	ICES-003 CLASS B		



Radiated Emission Readings									
Frequency Range Investigated					30 MHz to 1000 MHz at 10m				
Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Detector (P/Q)	Pol. (H/V)
65.7900	39.10	-14.42	24.68	30.00	-5.32	400	354	Q	H
110.2700	30.80	-8.17	22.63	33.10	-10.47	400	222	Q	H
130.1799	29.20	-7.89	21.31	33.10	-11.79	400	61	Q	H
171.5300	30.60	-10.13	20.47	33.10	-12.63	400	306	Q	H
221.4900	29.30	-9.92	19.38	35.60	-16.22	400	259	Q	H
261.8299	29.70	-5.27	24.43	37.00	-12.57	400	111	Q	H

Note: 1. P= Peak Reading; Q= Quasi-peak Reading.



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Above 1GHz

Model No.	TXO 60-136-J	Test Mode	N/A
Environmental Conditions	N/A	6dB Bandwidth	N/A
Antenna Pole	N/A	Antenna Distance	N/A
Highest frequency generated or used	70kHz	Upper frequency	See note
Detector Function	N/A	Tested by	N/A

Note: No applicable, when the highest frequency of the internal sources of the EUT is less than 108MHz, the measurement shall only be made up to 1 GHz.

8 PHOTOGRAPHS OF THE TEST CONFIGURATION CONDUCTED EMISSION TEST

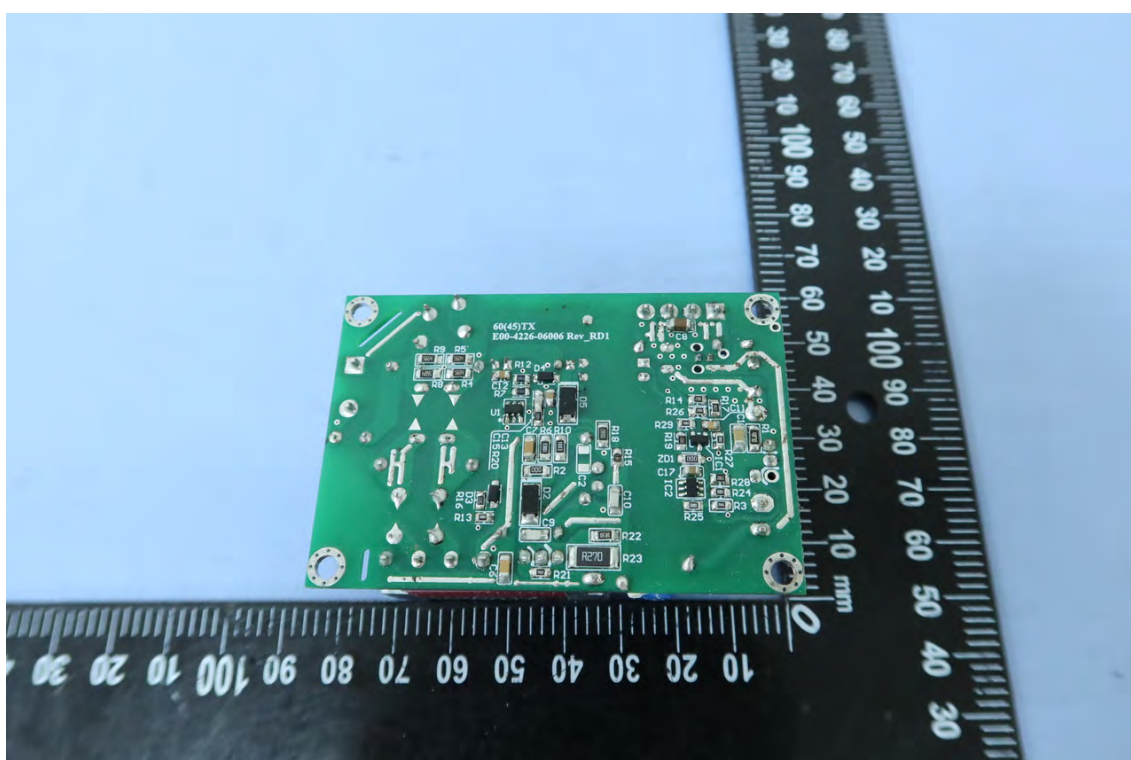
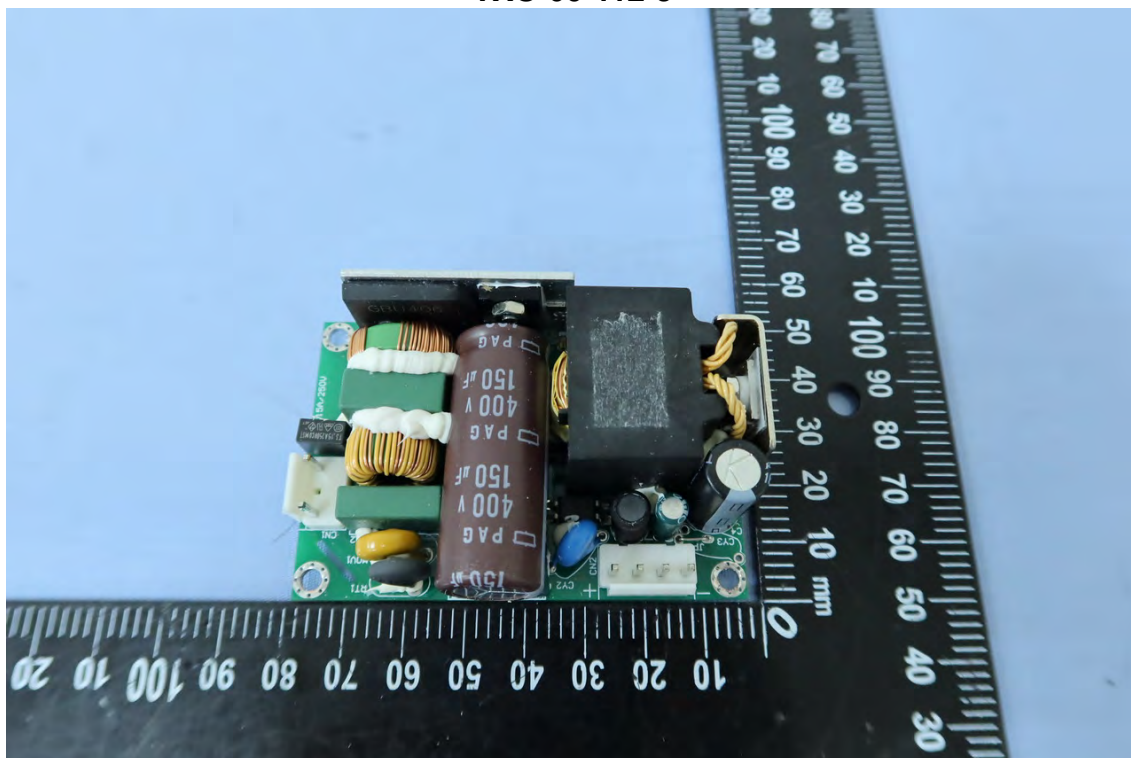


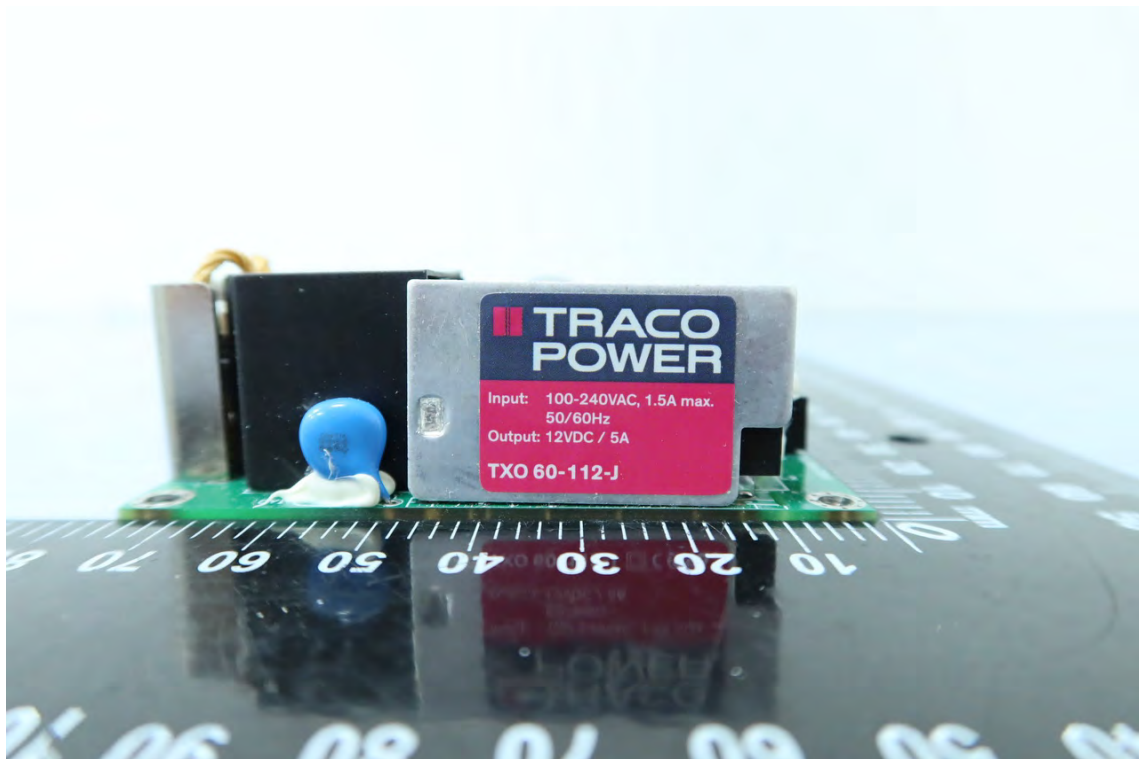
RADIATED EMISSION TEST (Below 1GHz)



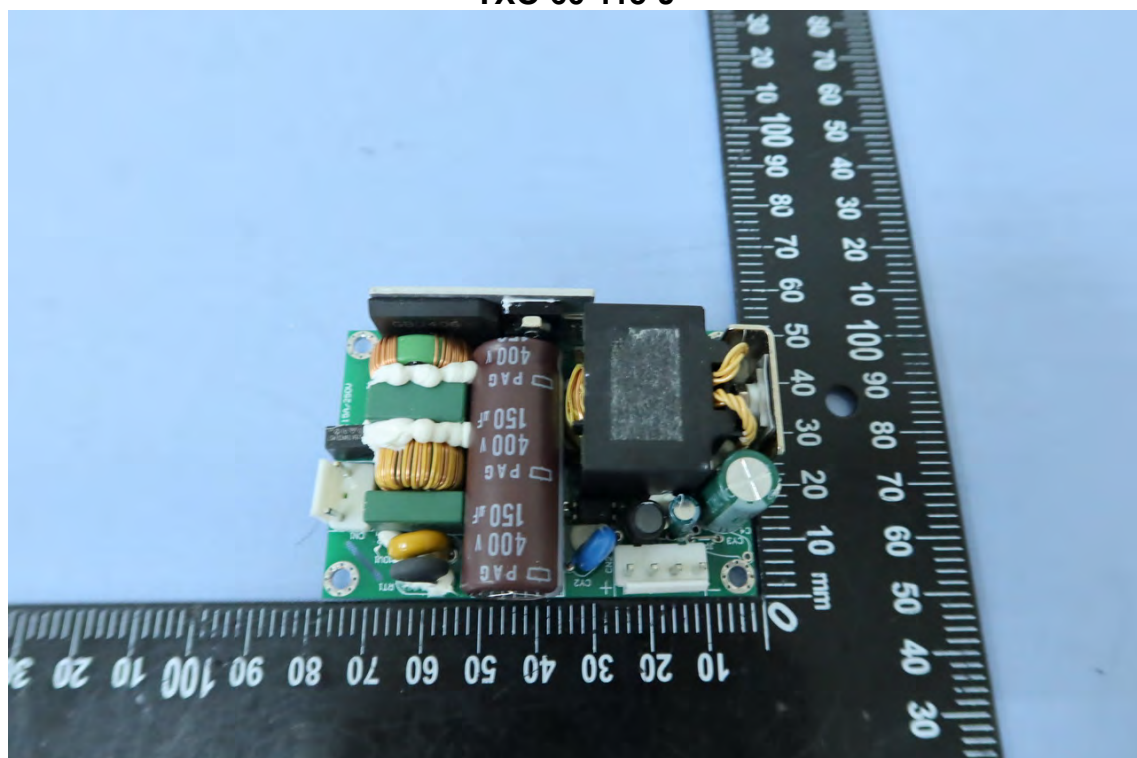
APPENDIX 1 - PHOTOGRAPHS OF EUT

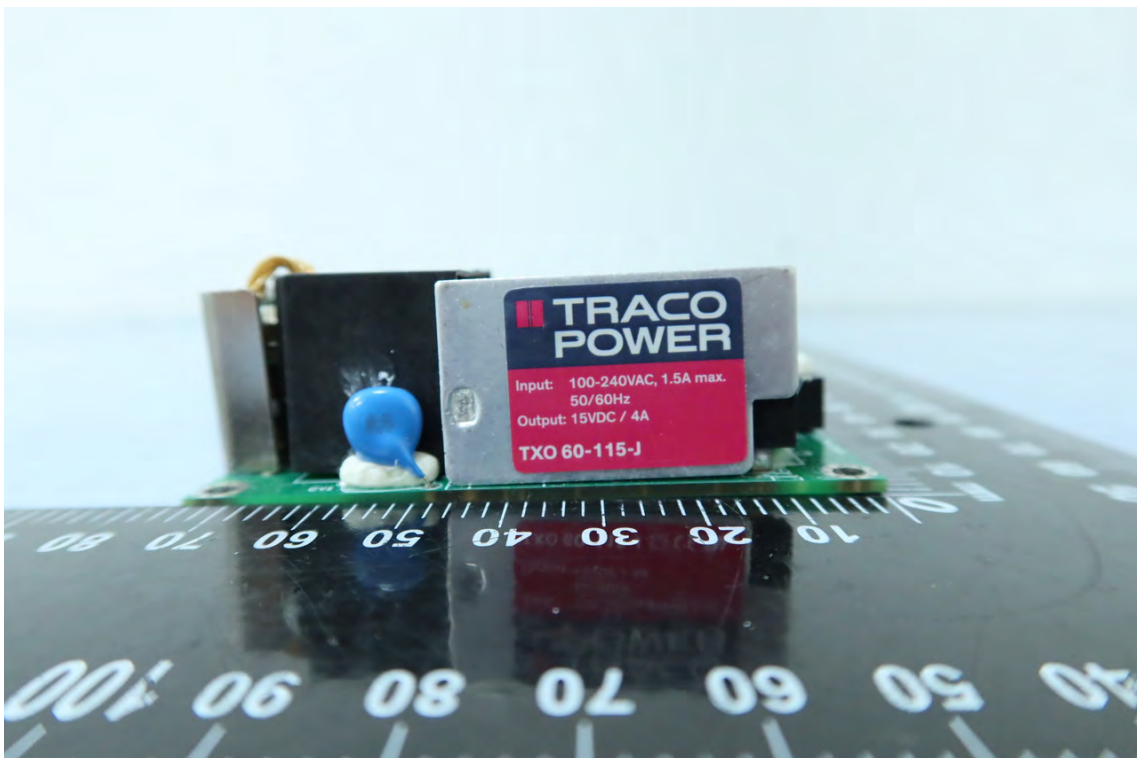
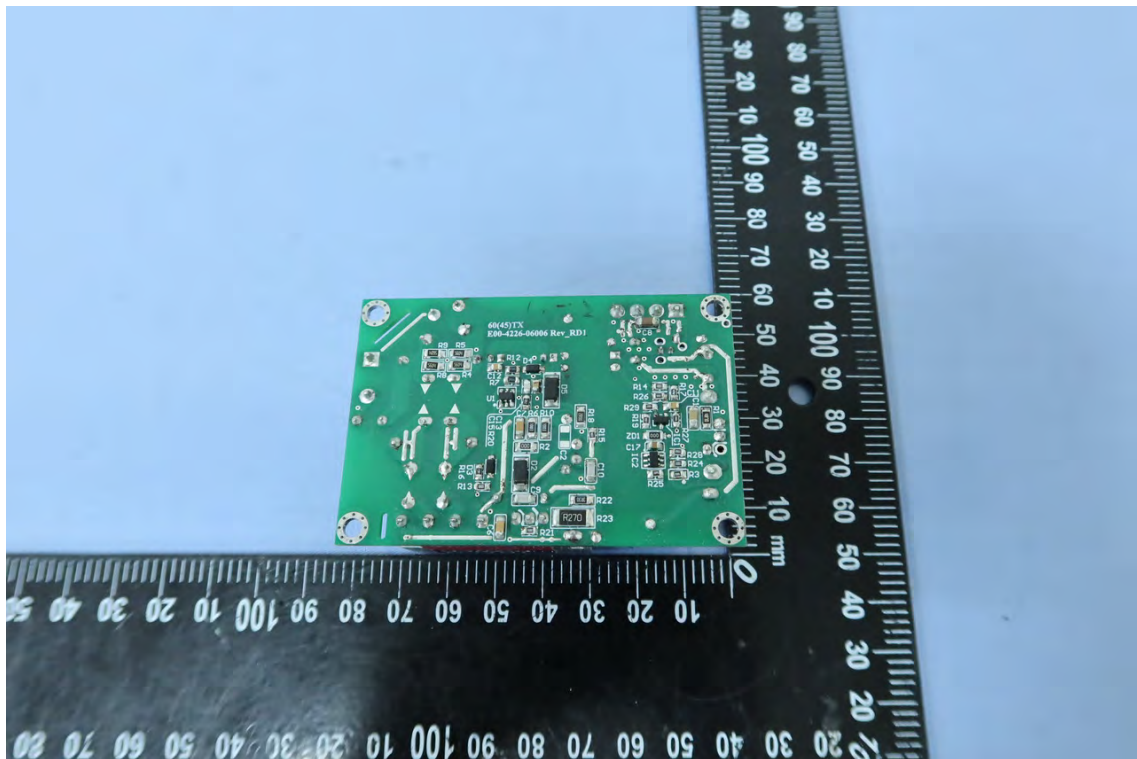
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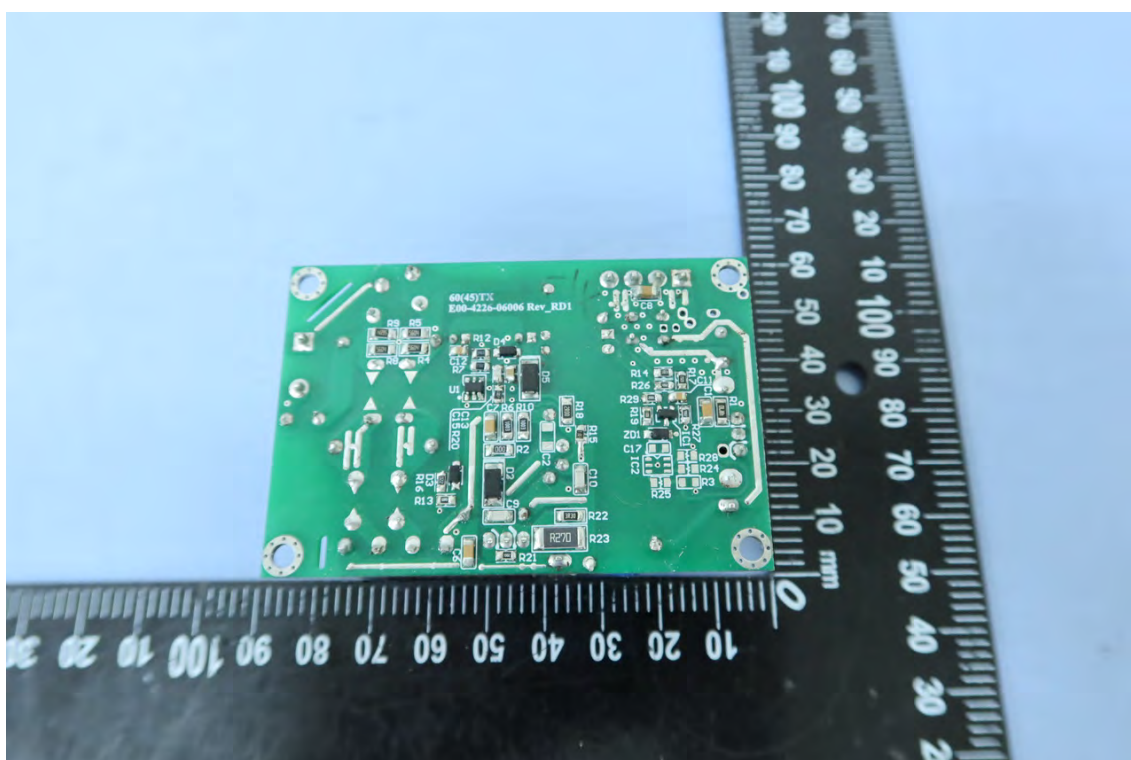


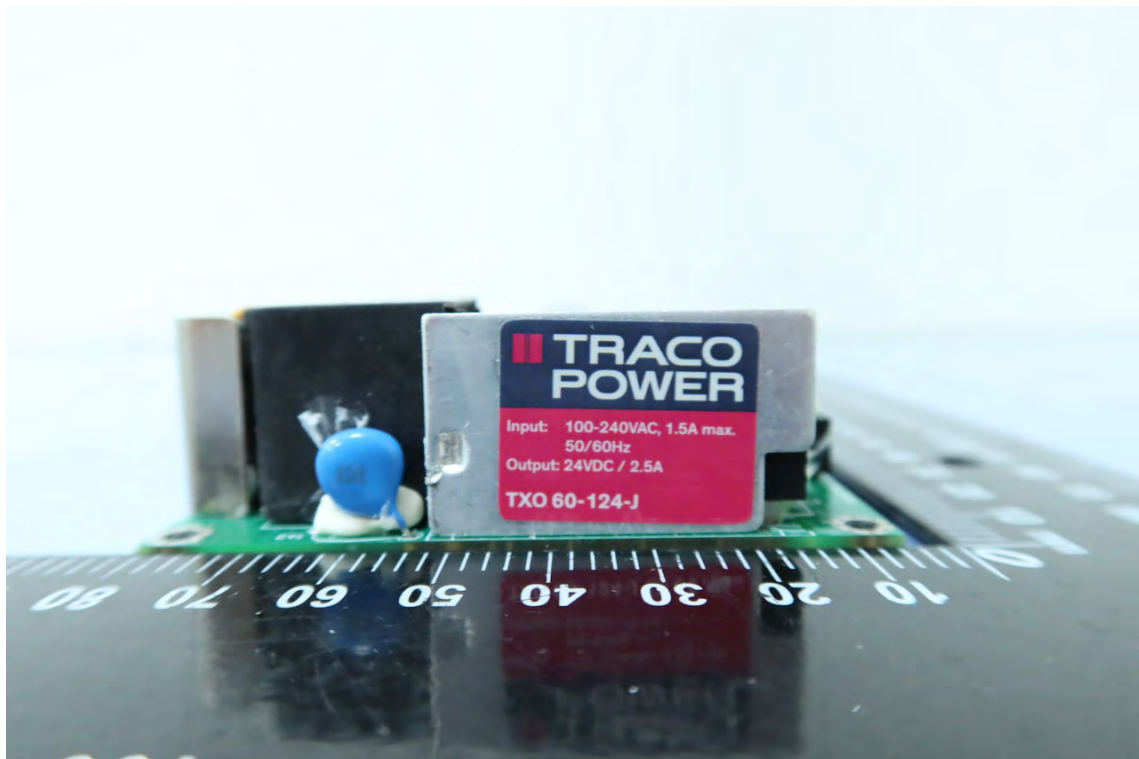
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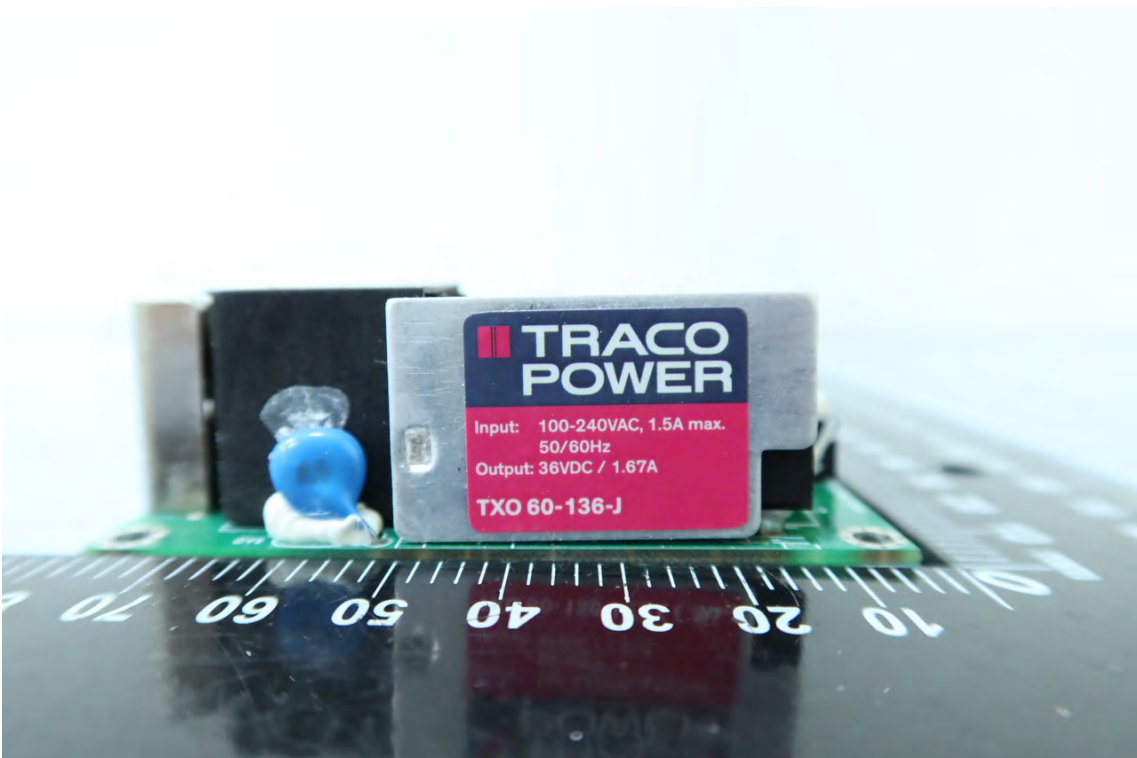
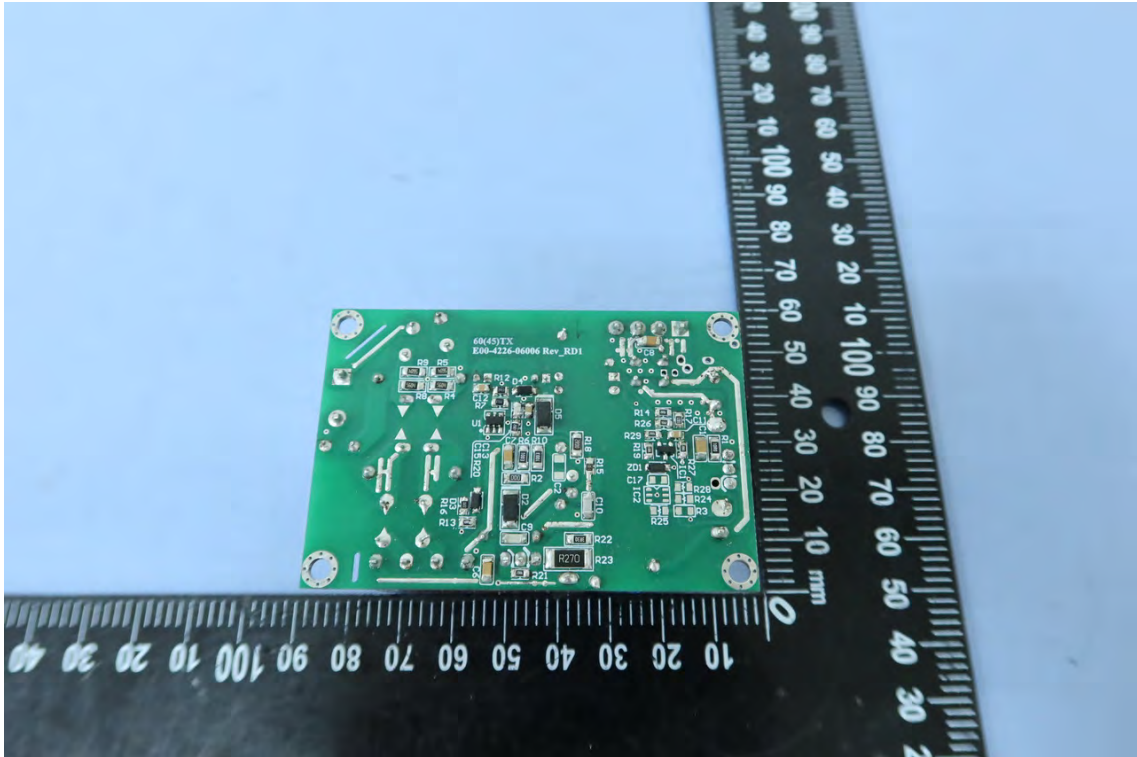
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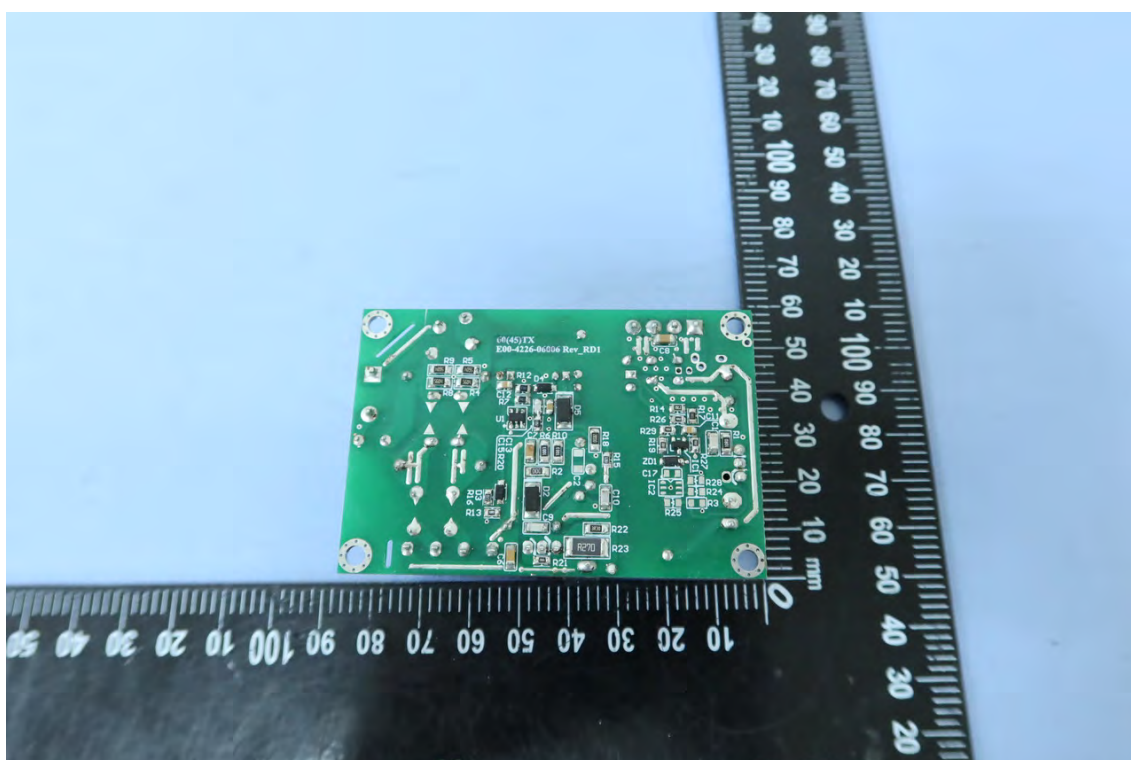
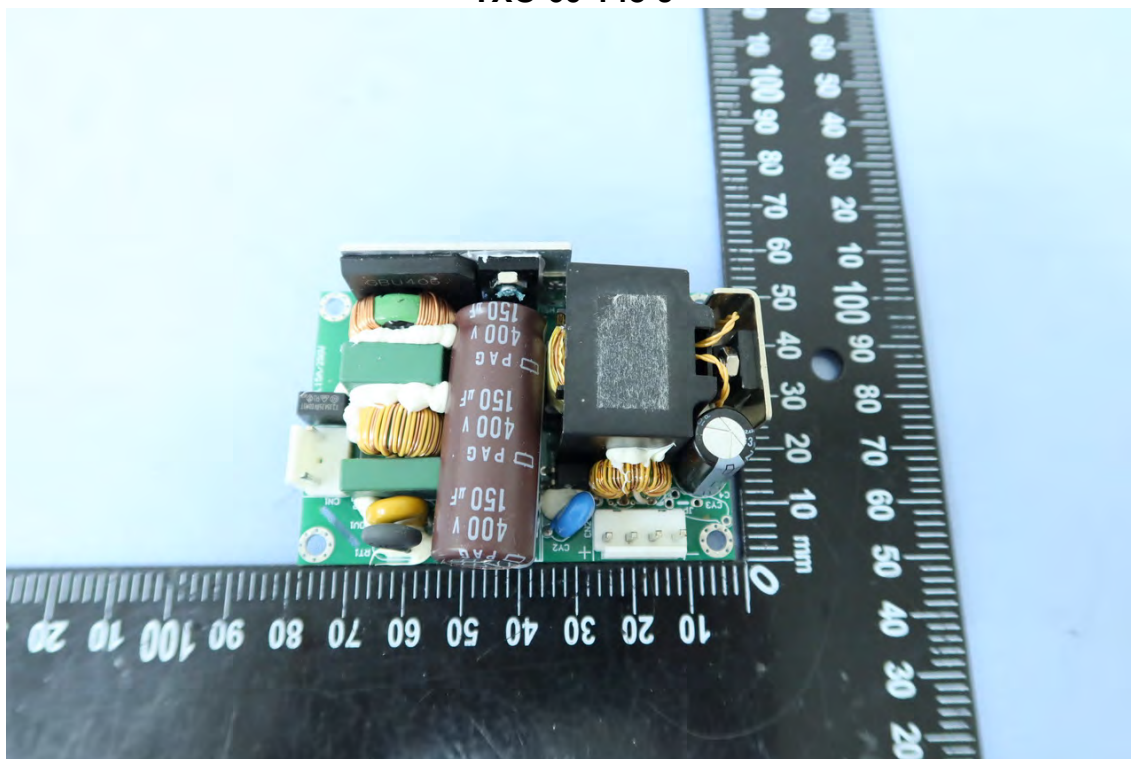


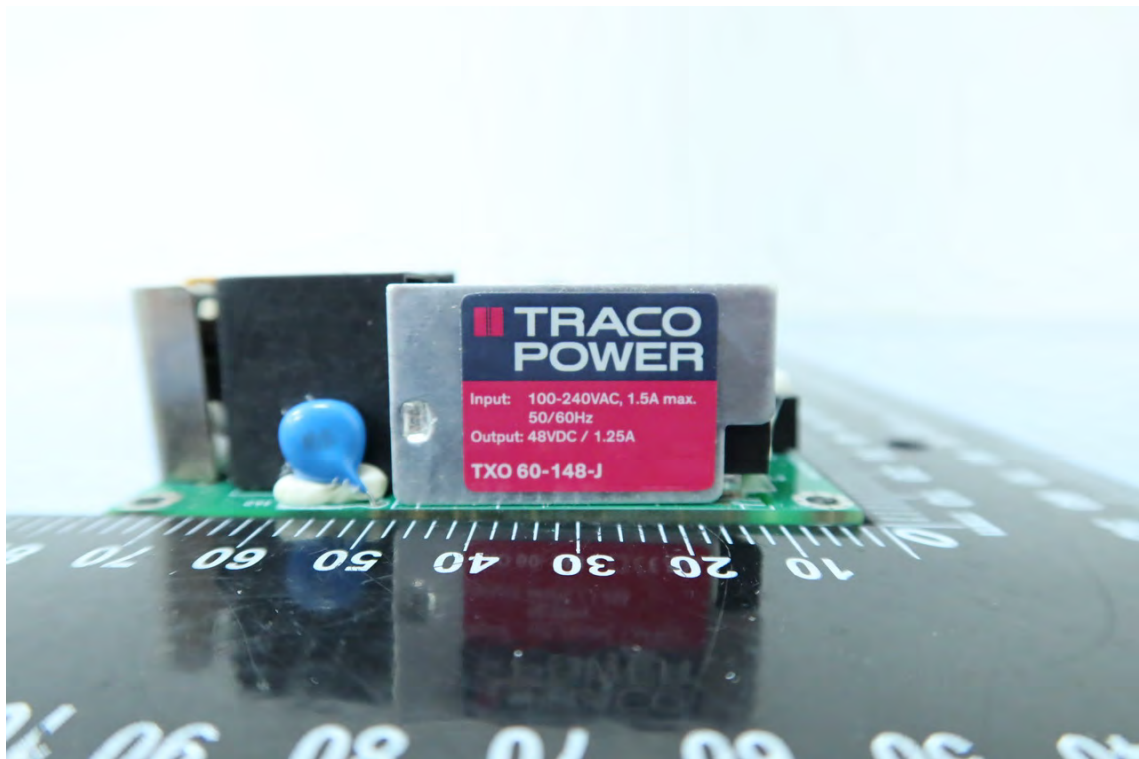
TXO 60-136-J





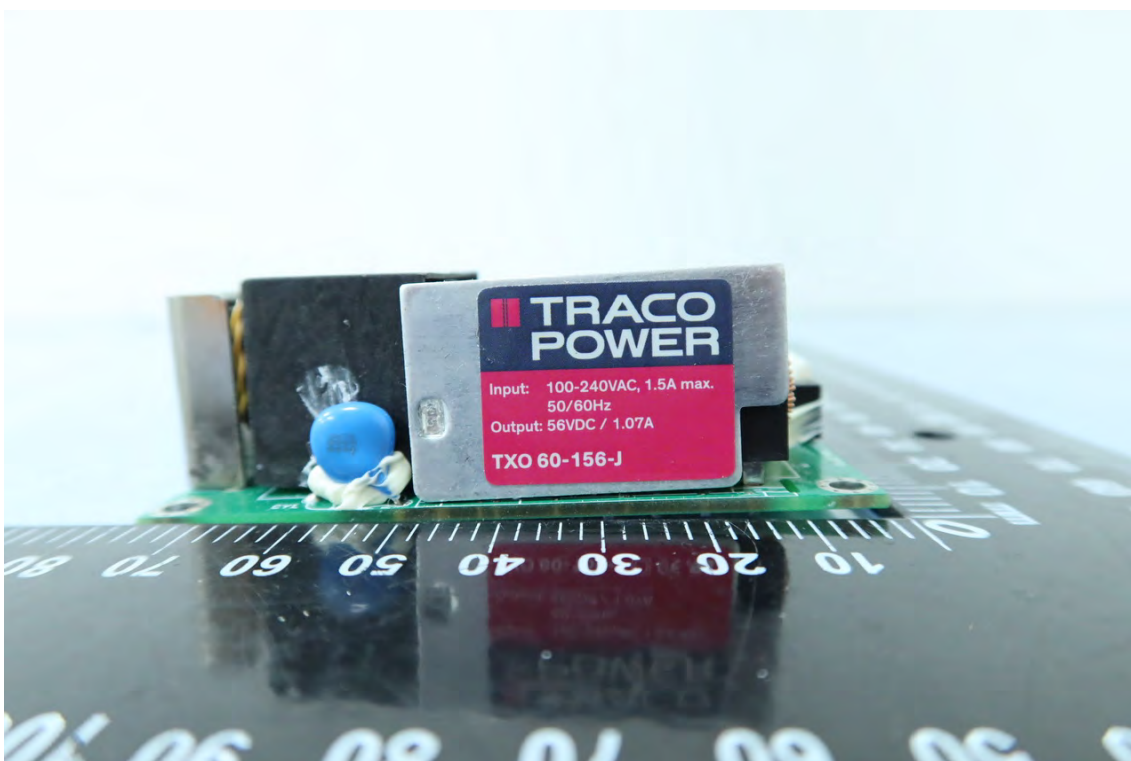
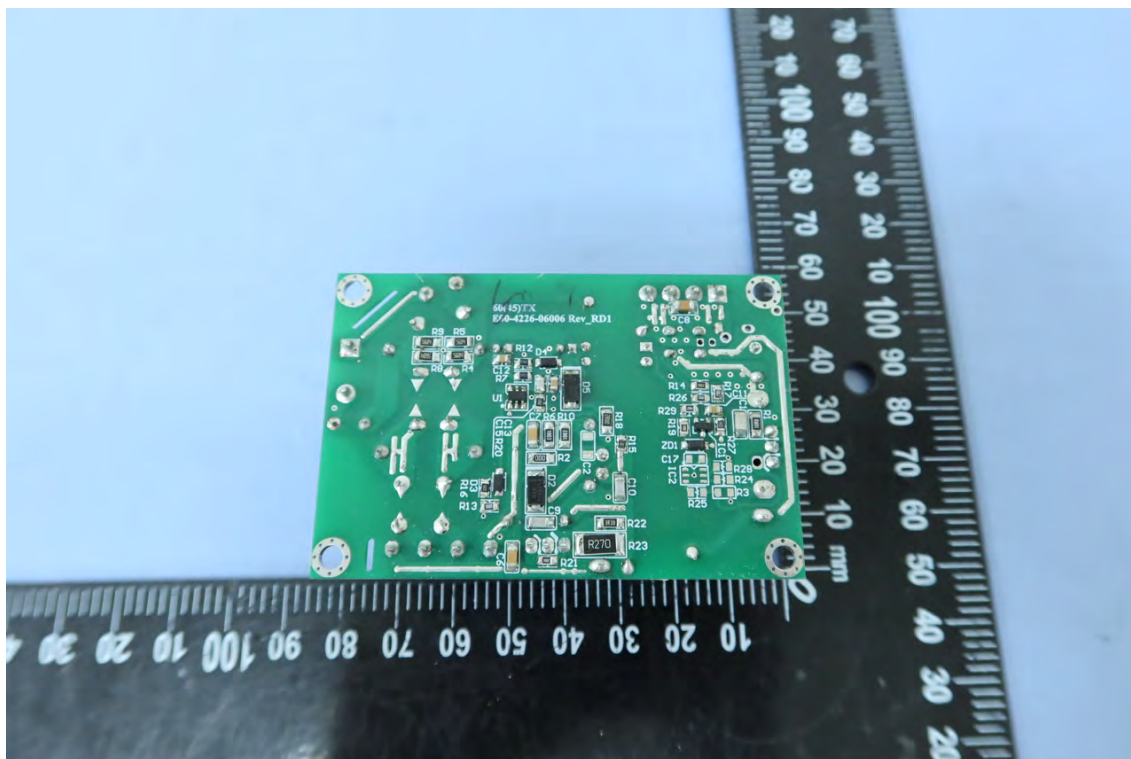
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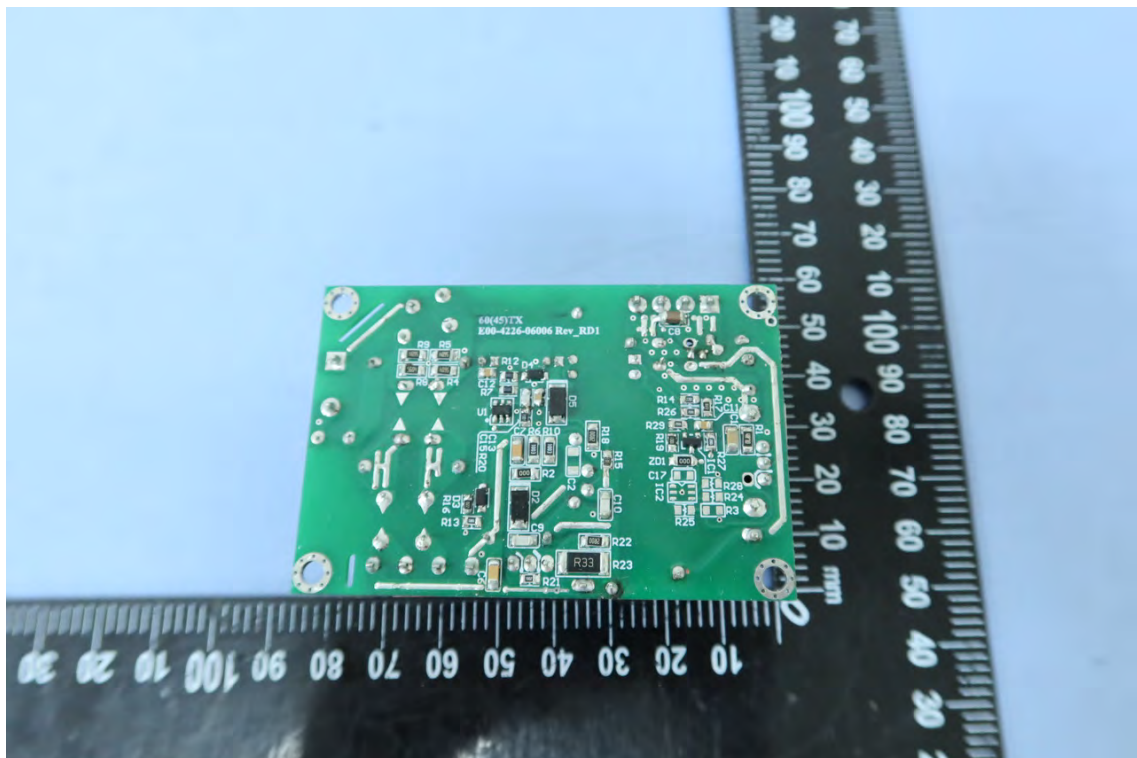
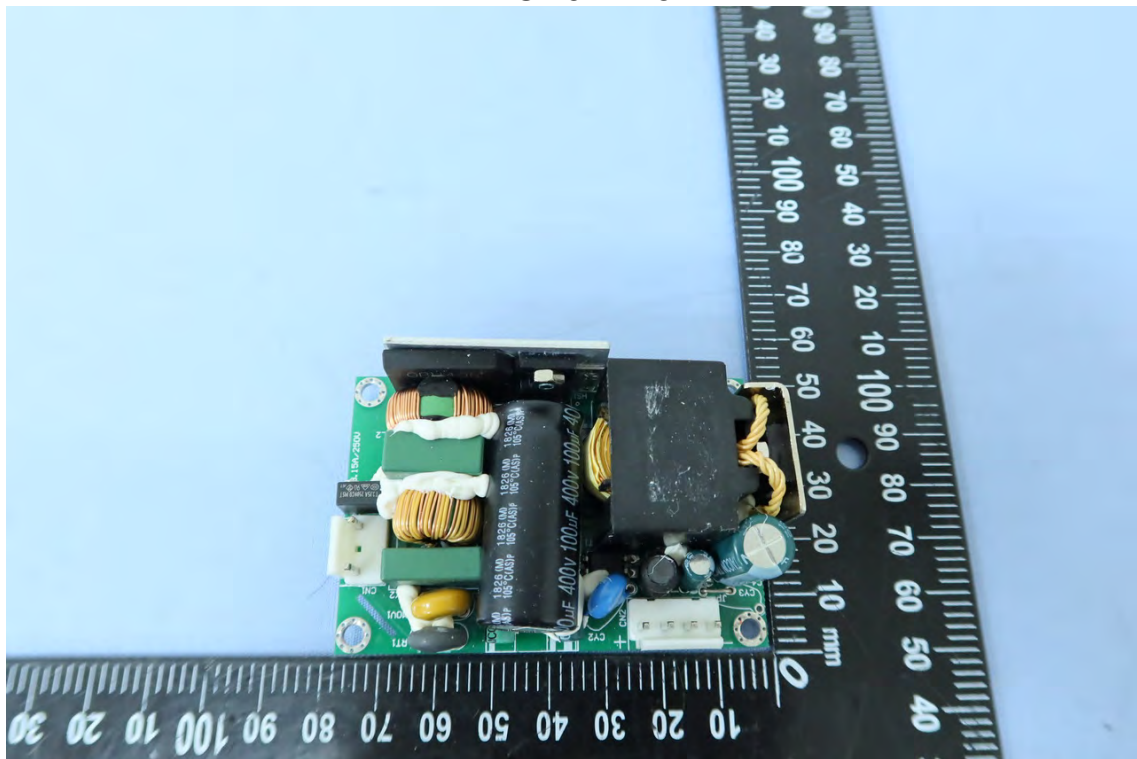


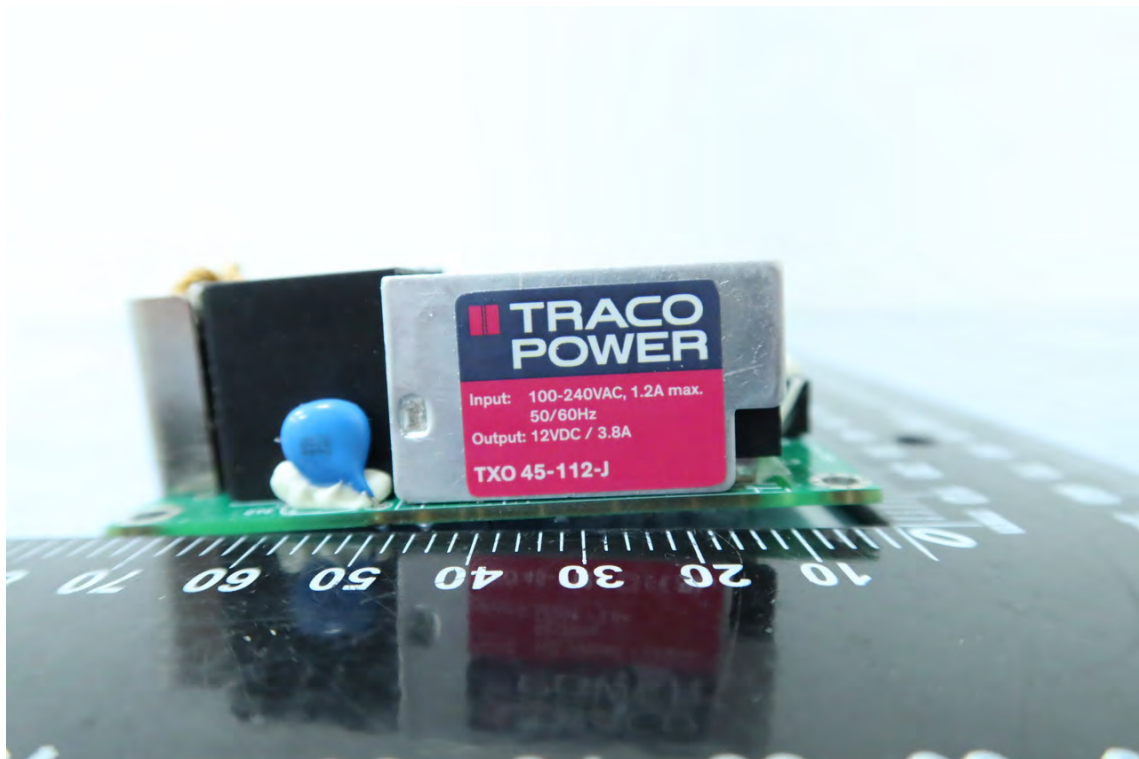
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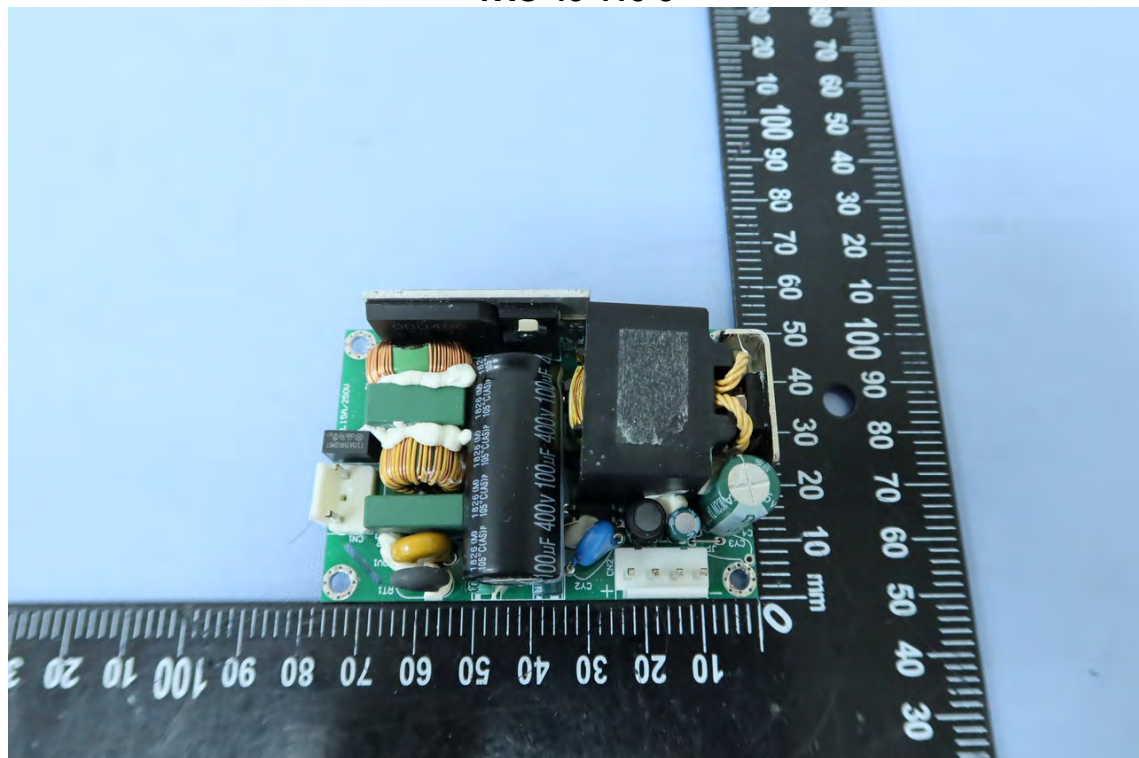


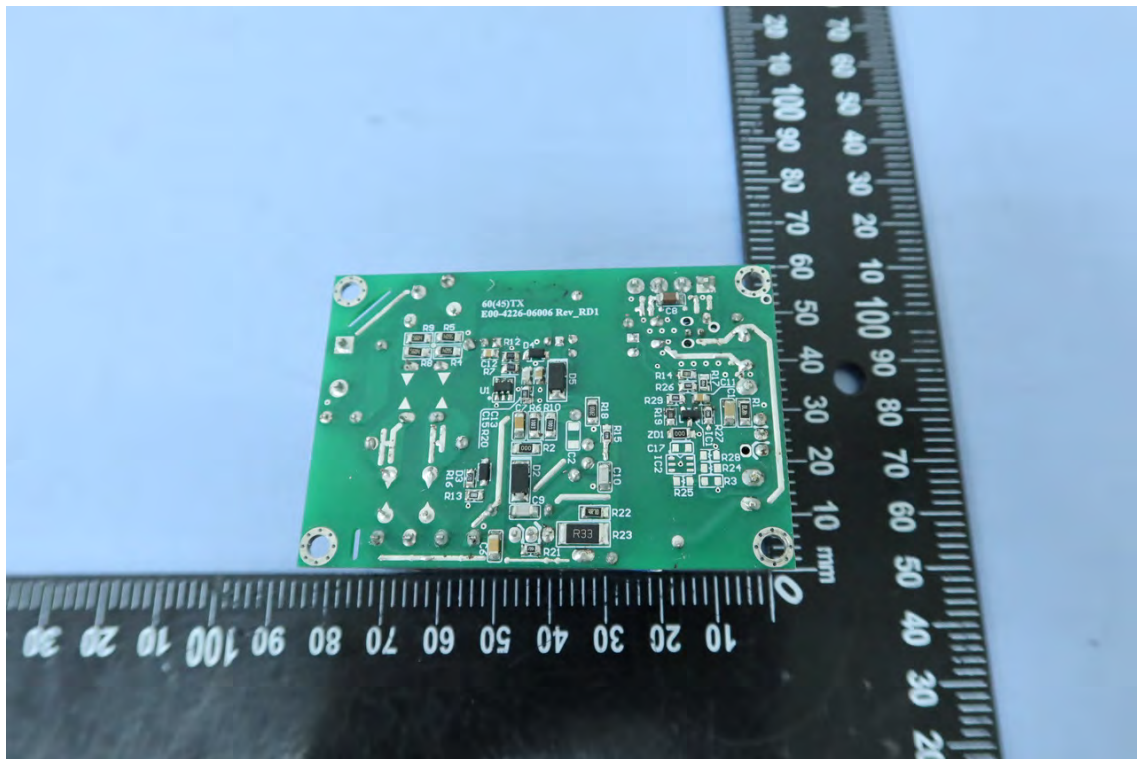
TXO 45-112-J



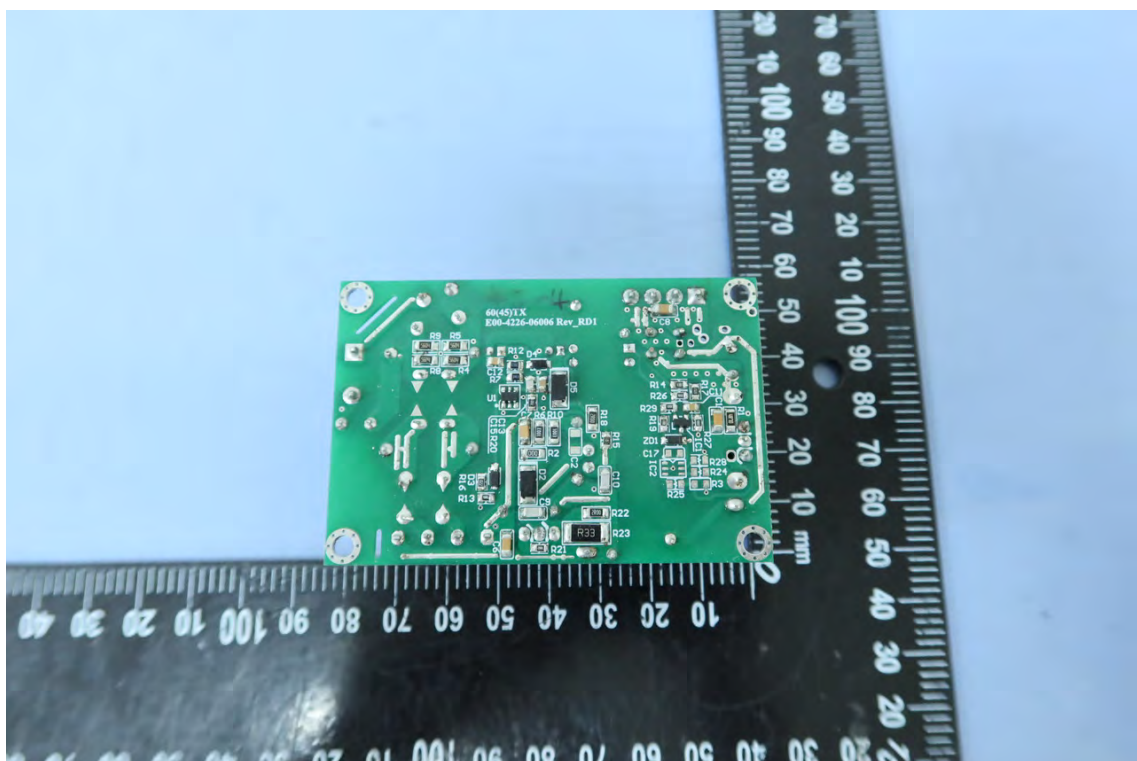
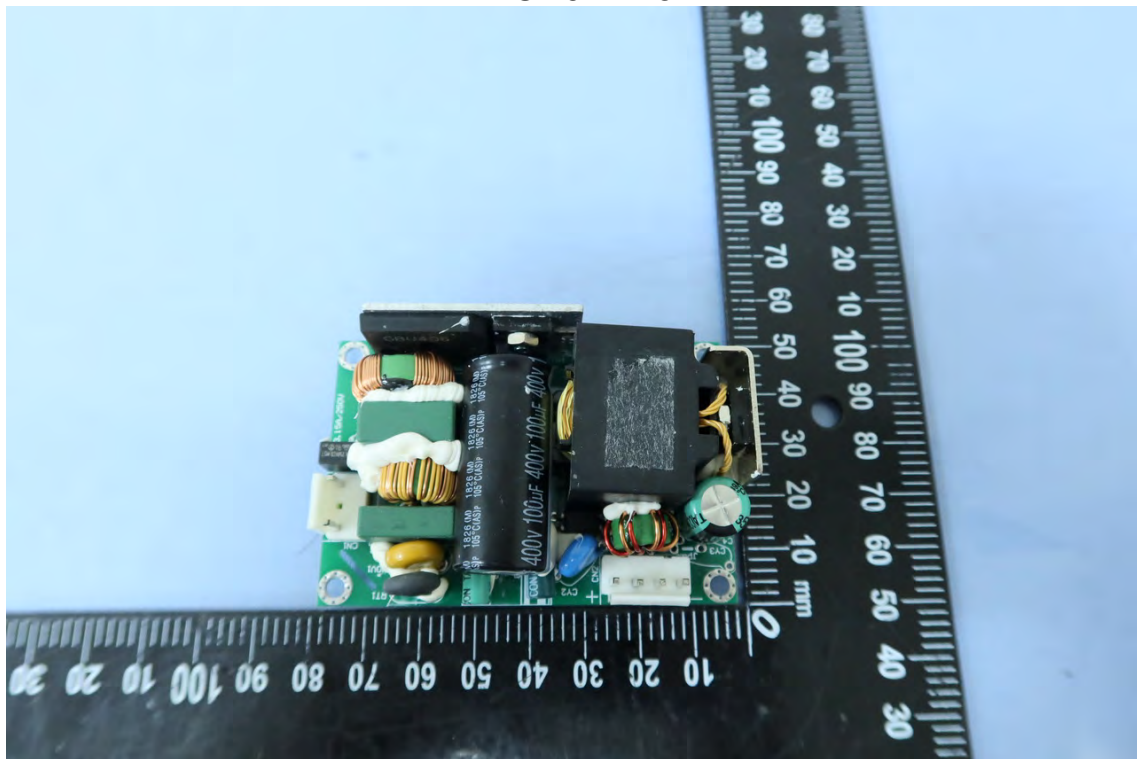


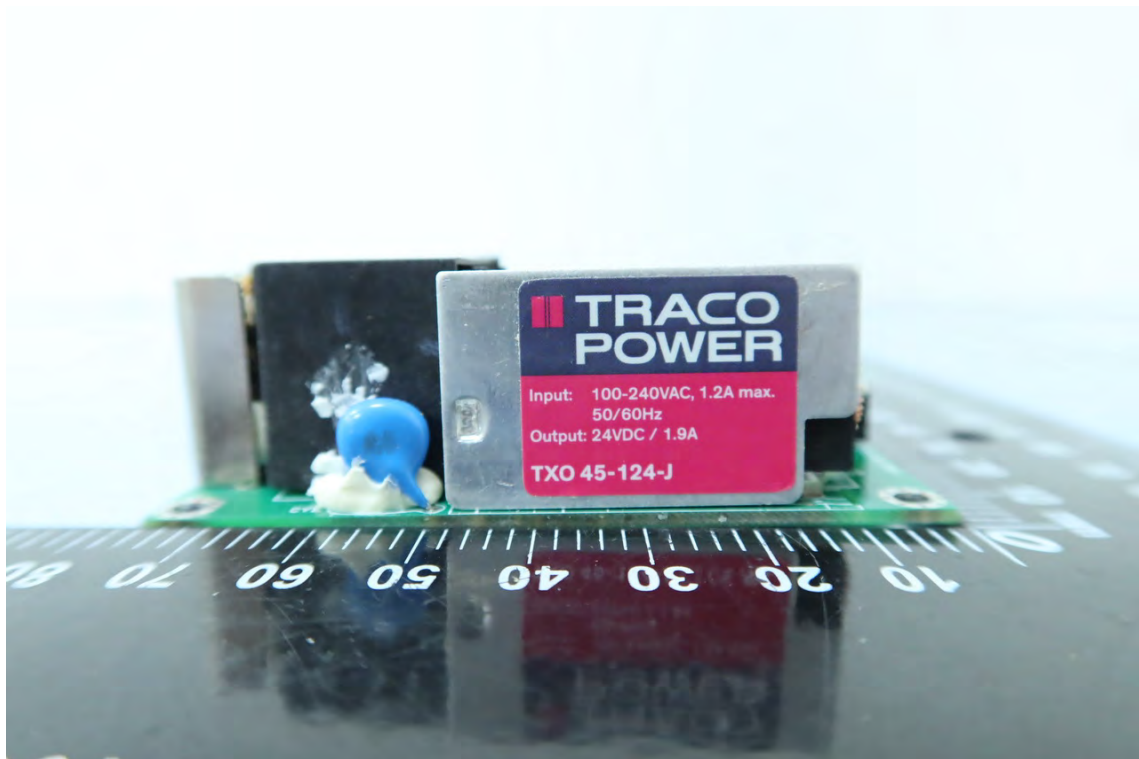
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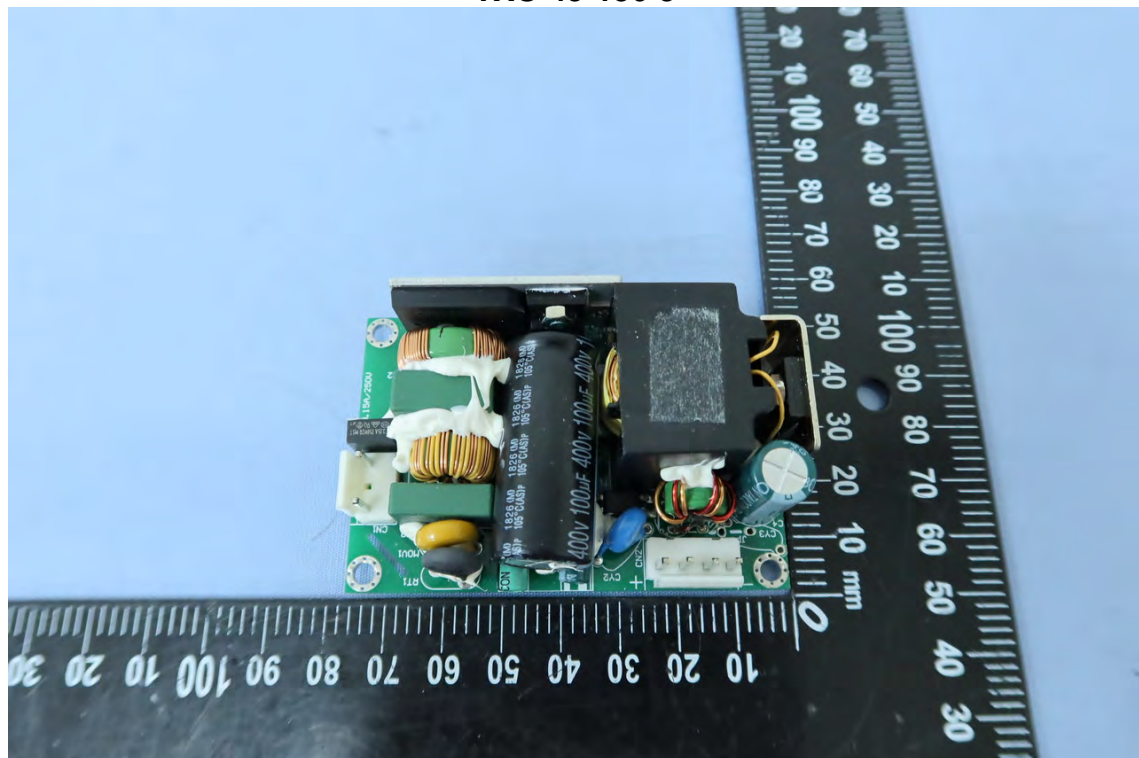


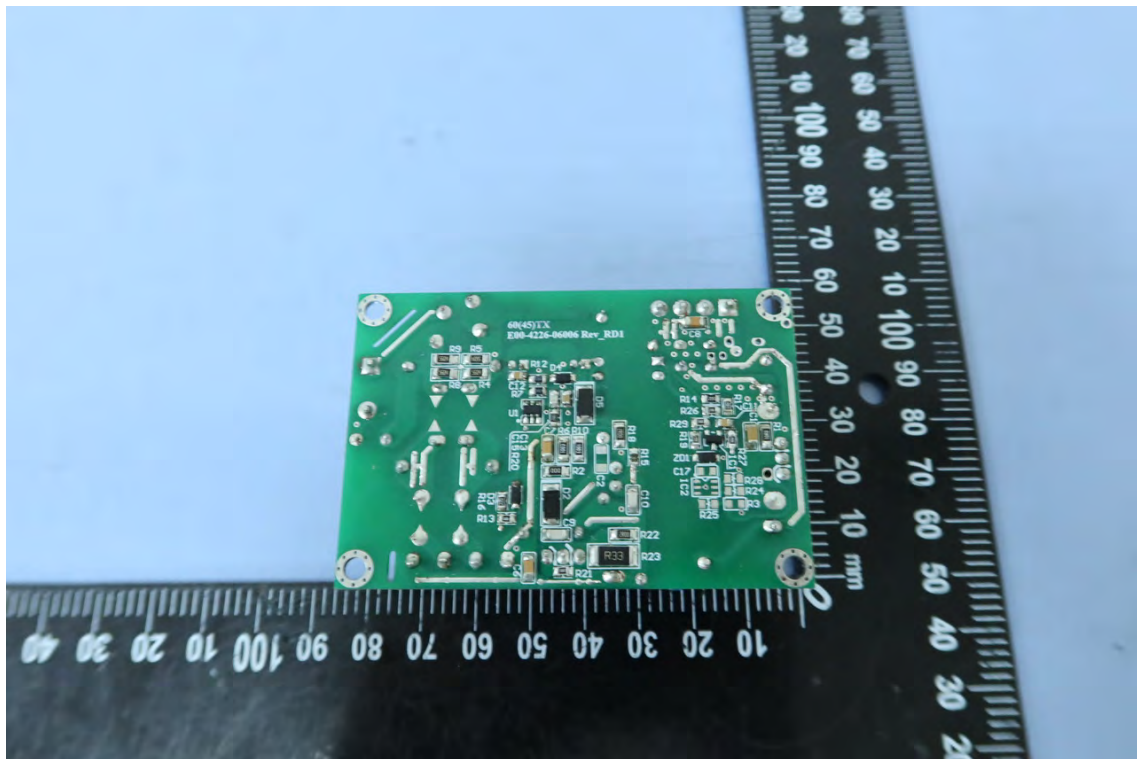
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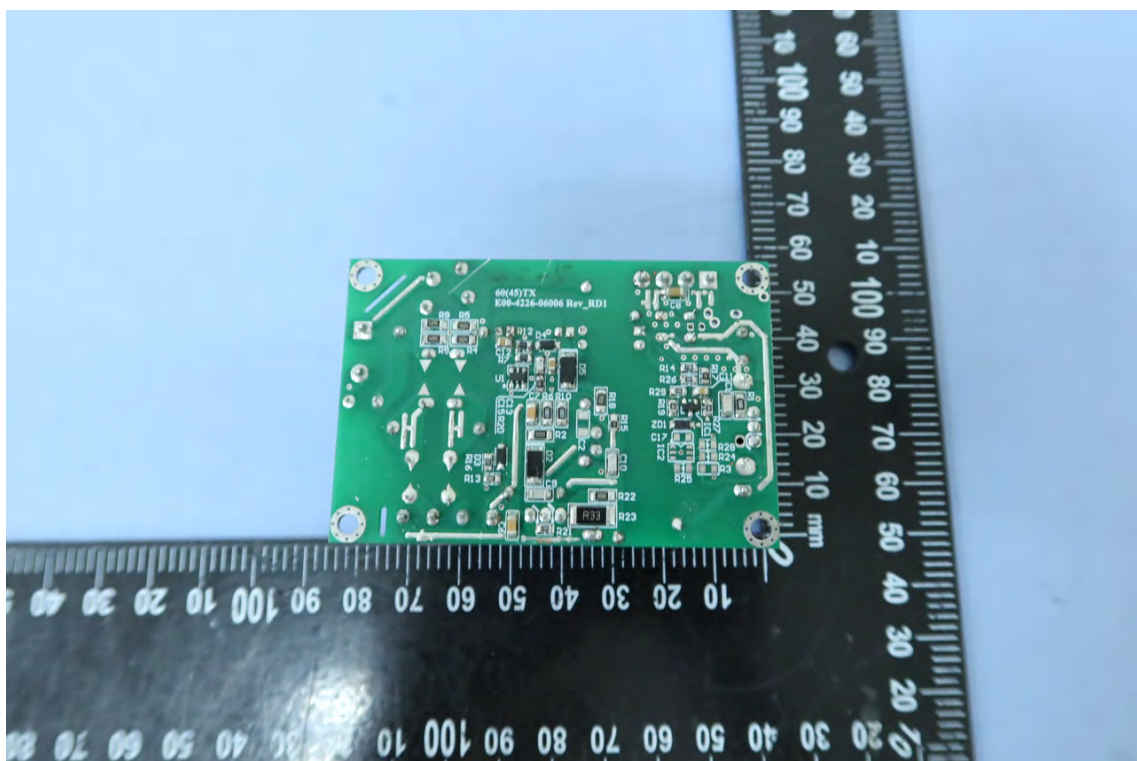
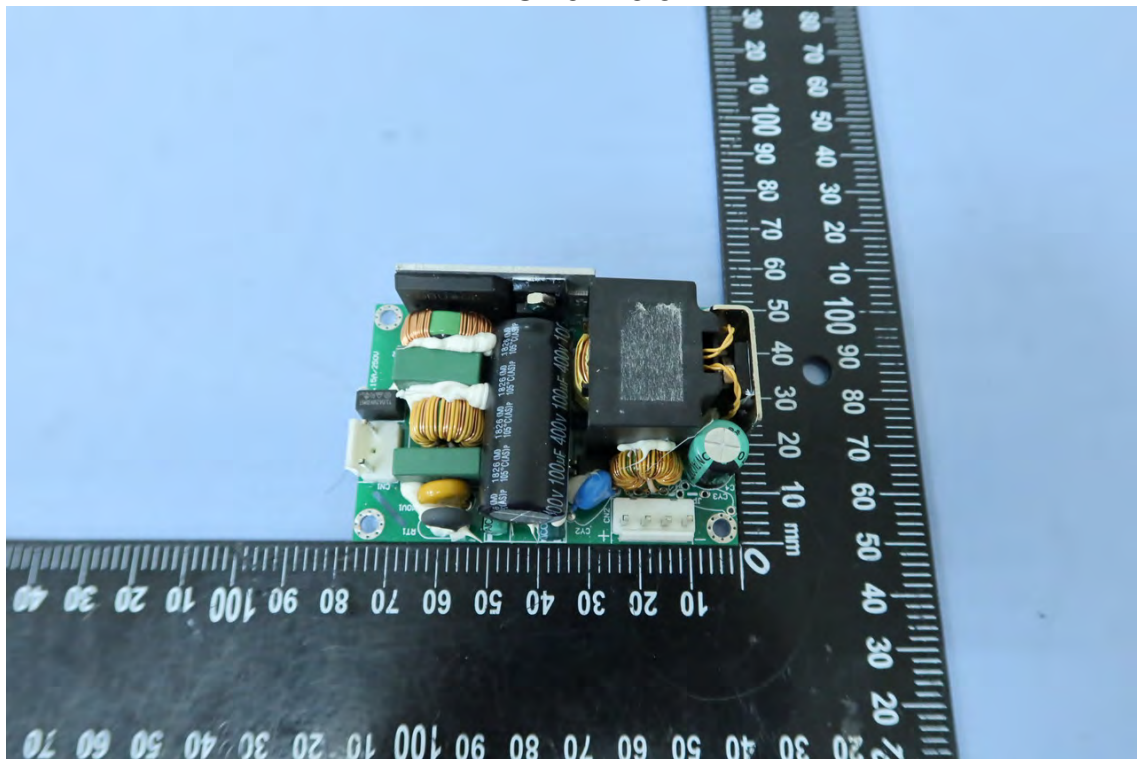


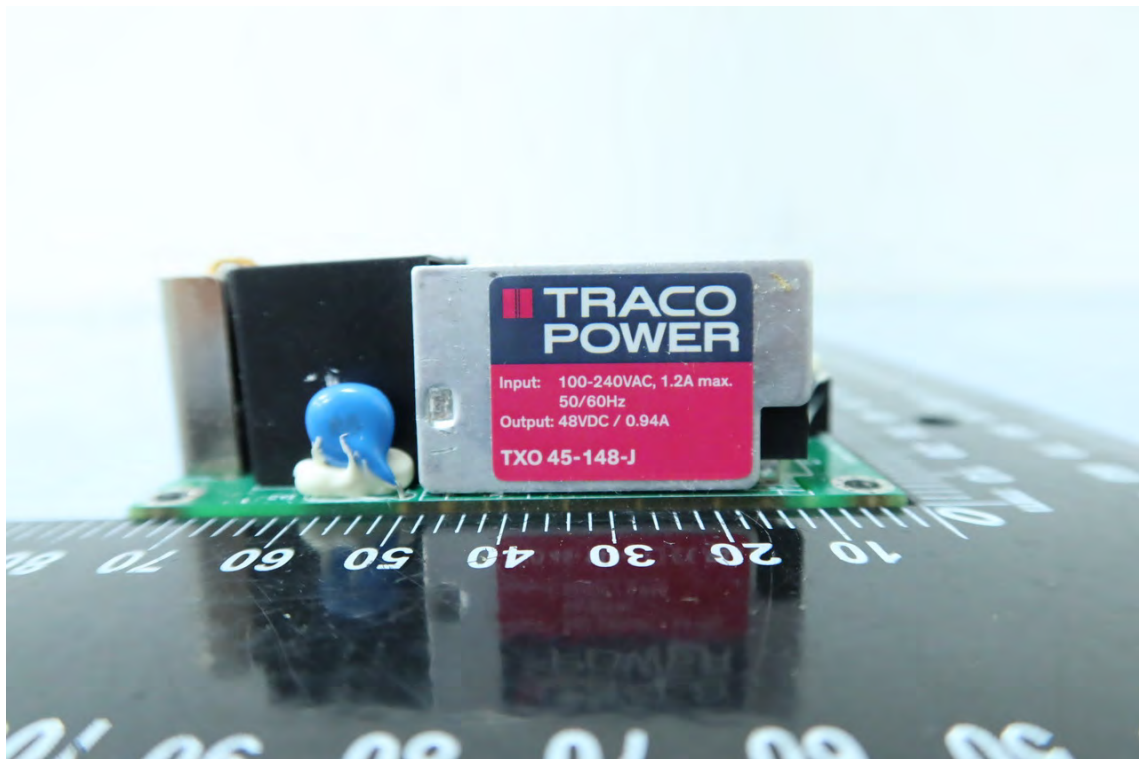
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TXO 45-148-J





TXO 45-156-J

