



Test Report: CXLA100F-12

100W AC-DC Adapter

■ DESIGN VERIFY TEST

Output Function Test

Input Function Test

Protection Function Test

Component Stress Test

■ SAFETY & E.M.C. TEST

Safety Test

E.M.C. Test

■ RELIABILITY TEST

Environment Tes

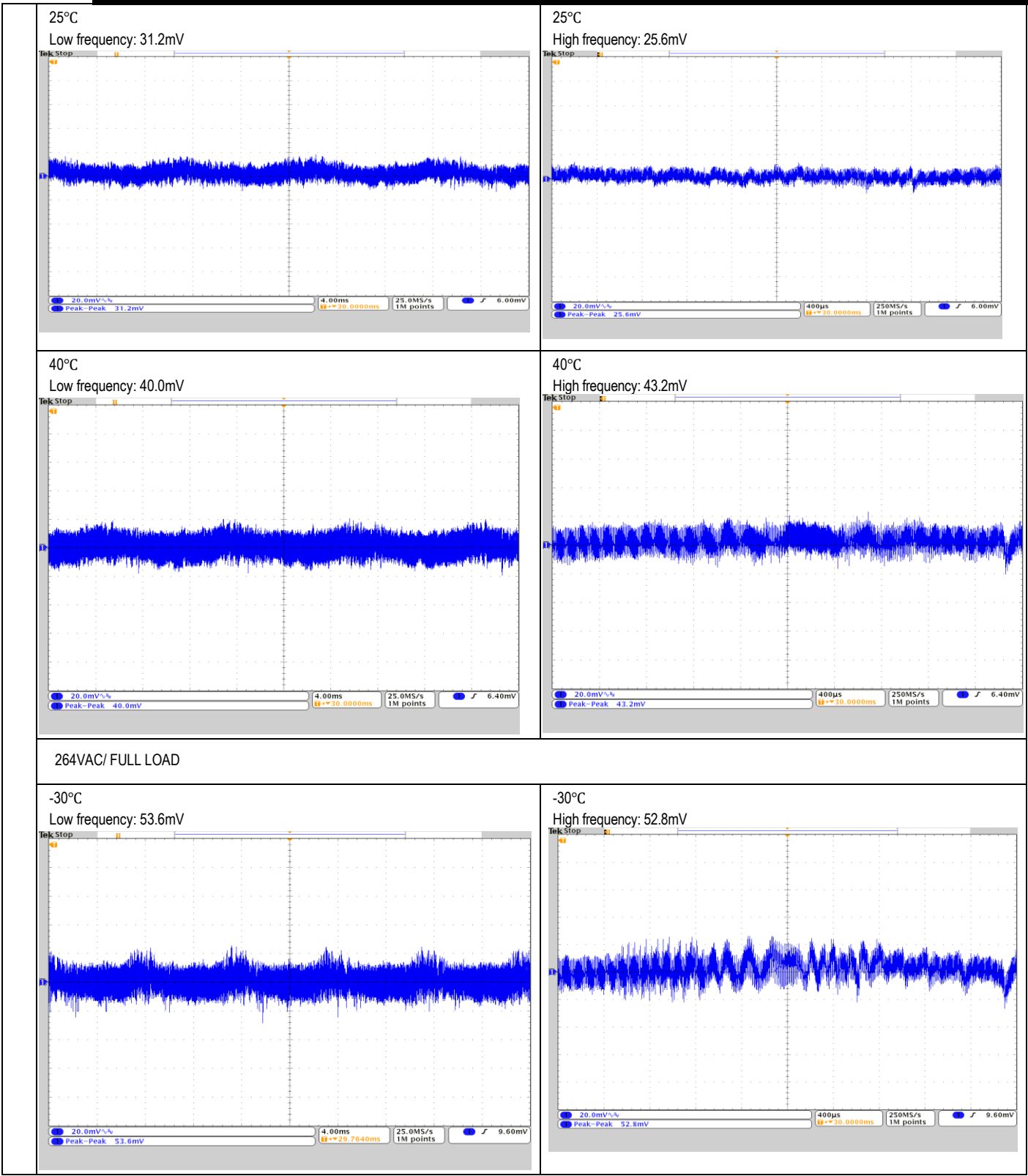
DESIGN VERIFY TEST

OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT		
1	OUTPUT VOLTAGE TOLERANCE.	No specification	I/P: 90VAC ~ 264VAC O/P: NO ~ FULL LOAD Ta: -30°C, 25°C, 40°C	11.84 ~ 12.34V		
2	LINE REGULATION	-1%~+1%	I/P: 90VAC ~ 264VAC O/P: NO ~ FULL LOAD Ta: -30°C, 25°C, 40°C	90 to 100VAC	0.017%	
				240 to 264VAC	0.068%	
3	LOAD REGULATION	-5%~+5%	I/P: 90VAC ~ 264VAC O/P: NO ~ FULL LOAD Ta: -30°C, 25°C, 40°C	-30°C	4.3%	
				25°C	4.2%	
				-40°C	4.3%	
4	RIPPLE & NOISE	120mVp-p	I/P: 90VAC I/P: 264VAC O/P: FULL LOAD Ta: -30°C, 25°C, 40°C	-30°C	90VAC	264VAC
					60.8mVp-p	53.6mVp-p
				25°C	31.2mVp-p	31.2mVp-p
				40°C	40.0mVp-p	39.2mVp-p
				90VAC/ FULL LOAD		
4				-30°C		
				Low frequency: 60.8mV		
4				-30°C		
				High frequency: 51.2mV		

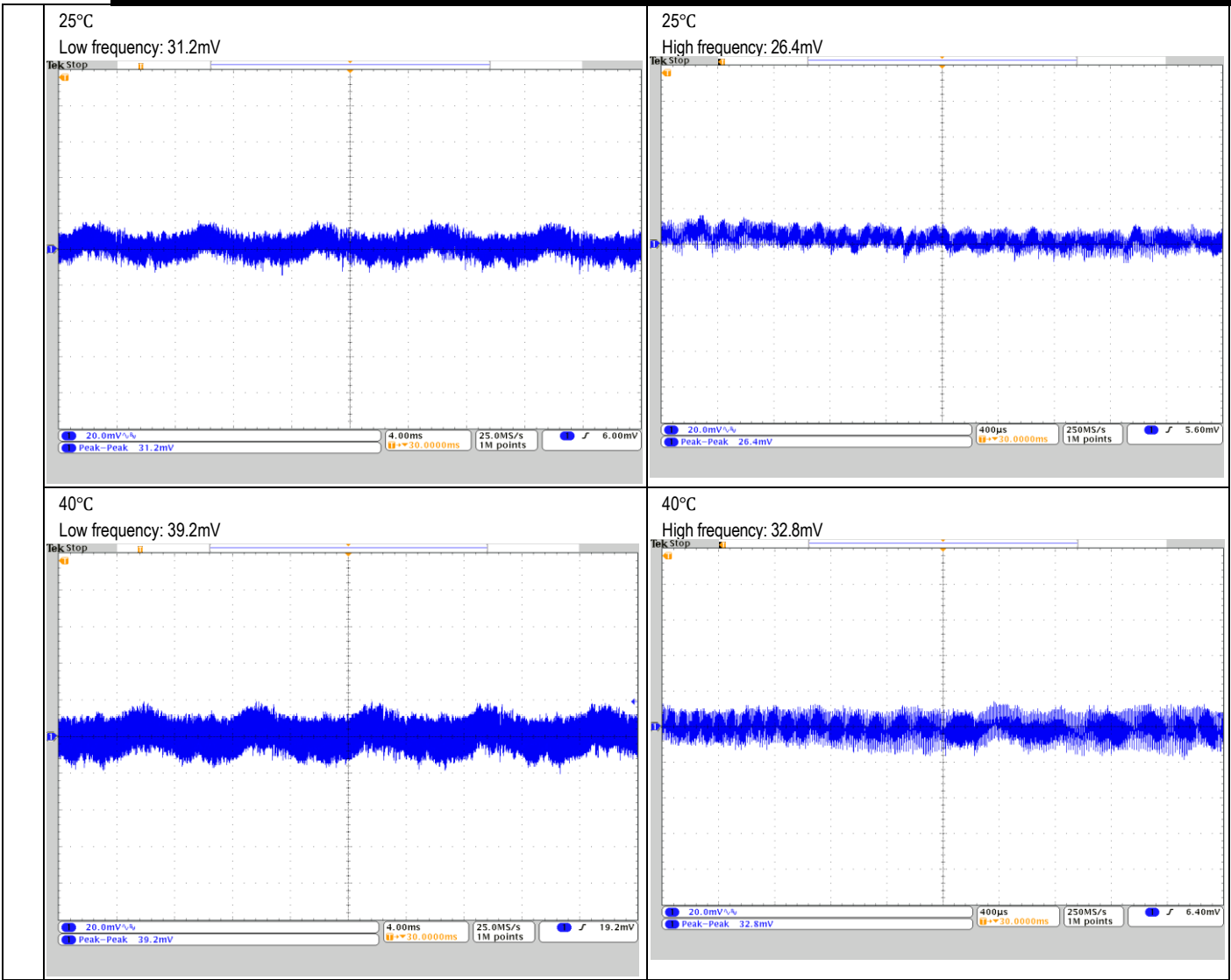
100W AC-DC Adapter

CXLA100F-12



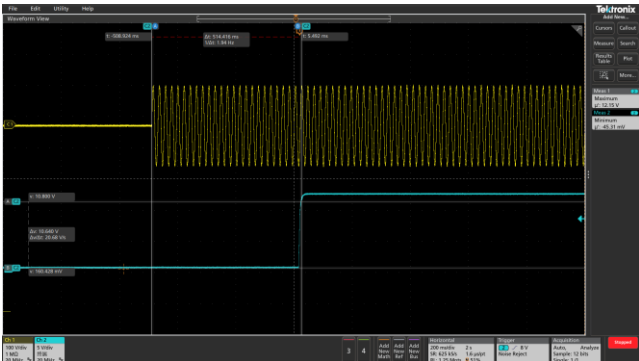
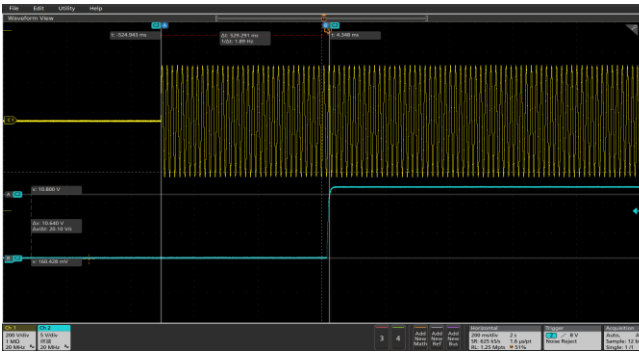
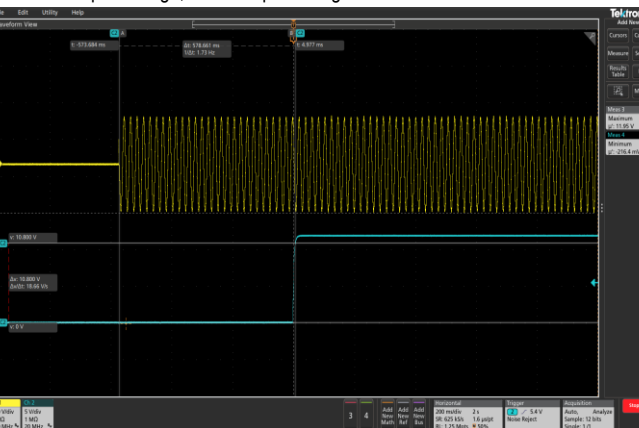
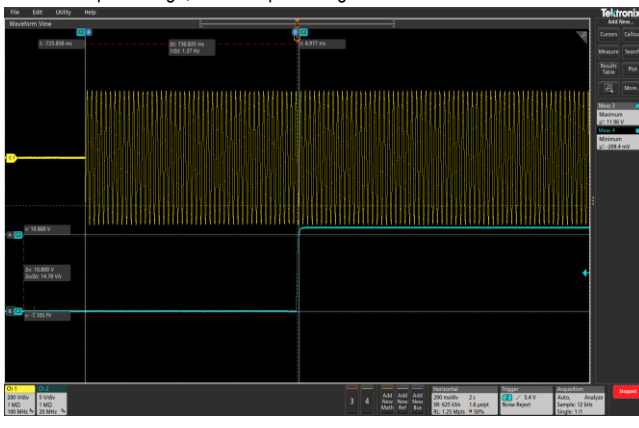
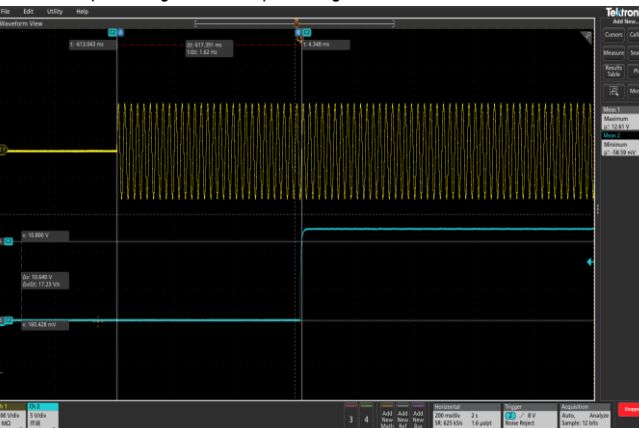
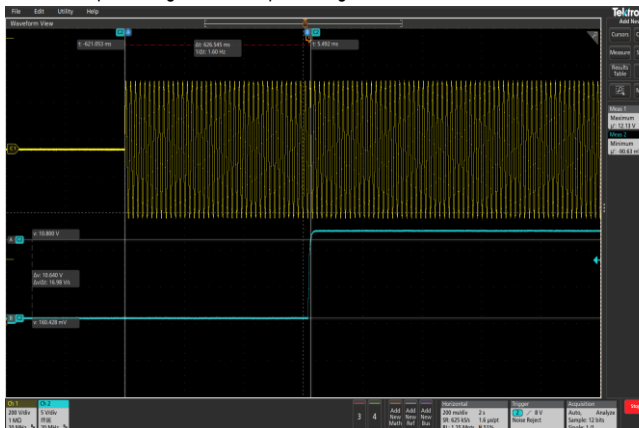
100W AC-DC Adapter

CXLA100F-12



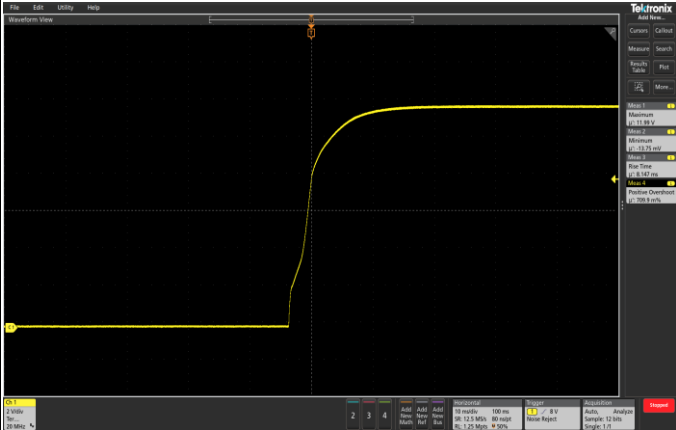
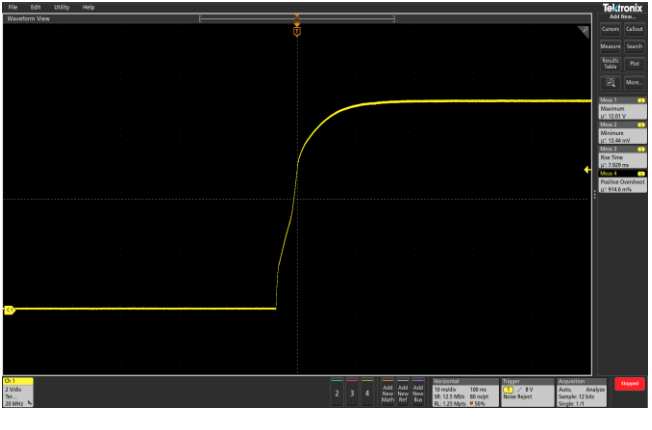
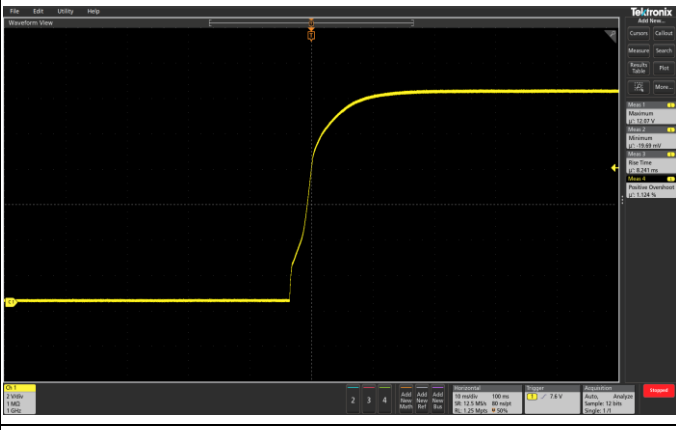
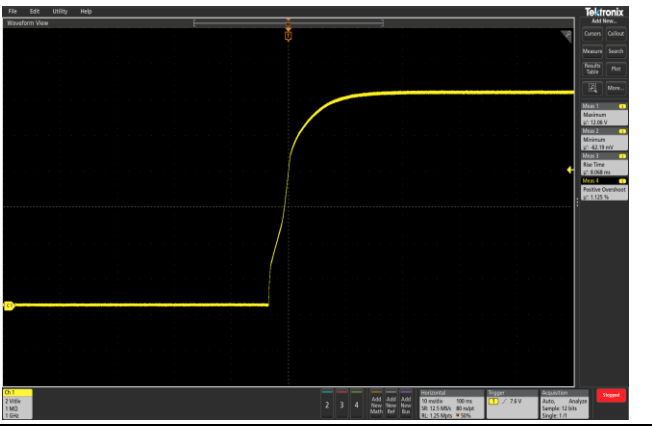
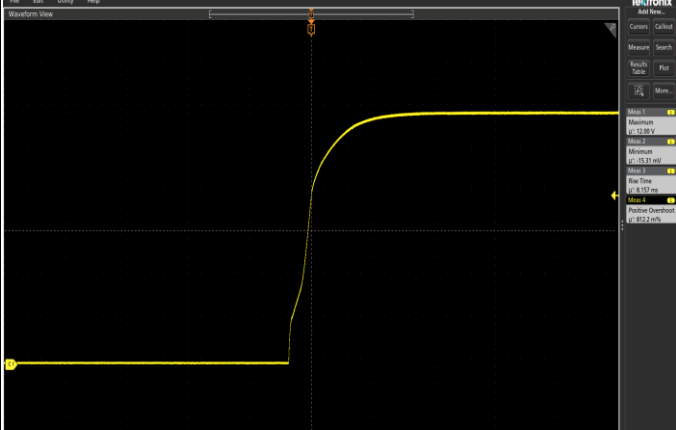
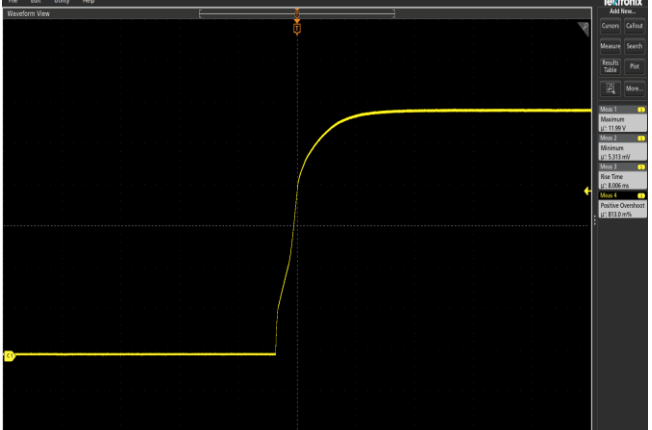
100W AC-DC Adapter

CXLA100F-12

5	START UP TIME		3000ms	I/P: 90VAC I/P: 264VAC O/P: FULL LOAD Ta: -30°C, 25°C, 40°C	90VAC 617.4ms	264VAC 730.8ms
	INPUT=90VAC/47HZ @ FULL LOAD			INPUT=264V/63HZ @ FULL LOAD		
	-30°C: 514.4ms CH1: AC Input Voltage, CH2: Output Voltage			-30°C: 529.29ms CH1: AC Input Voltage, CH2: Output Voltage		
						
	25°C: 578.66ms CH1: AC Input Voltage, CH2: Output Voltage			25°C: 730.84ms CH1: AC Input Voltage, CH2: Output Voltage		
						
40°C: 617.39ms CH1: AC Input Voltage, CH2: Output Voltage			40°C: 626.55ms CH1: AC Input Voltage, CH2: Output Voltage			
						

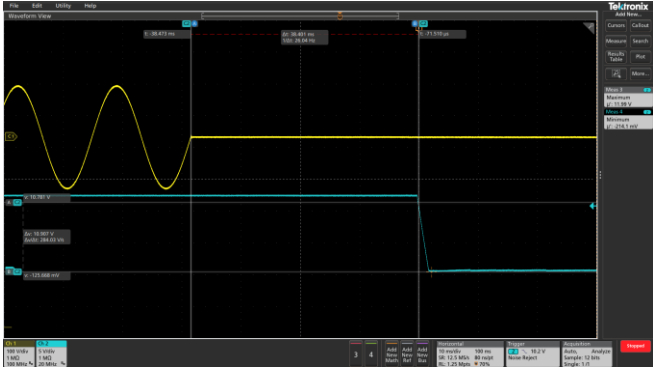
100W AC-DC Adapter

CXLA100F-12

RISE TIME	50ms	I/P: 90VAC I/P: 264VAC O/P: FULL LOAD Ta: -30°C, 25°C, 40°C	90VAC	264VAC
			8.241ms	8.086ms
INPUT=90VAC/47HZ @ FULL LOAD		INPUT=264V/63HZ @ FULL LOAD		
-30°C: 8.147ms		-30°C: 7.929ms		
				
25°C: 8.241ms		25°C: 8.086ms		
				
40°C: 8.157ms		40°C: 8.006ms		
				

100W AC-DC Adapter

CXLA100F-12

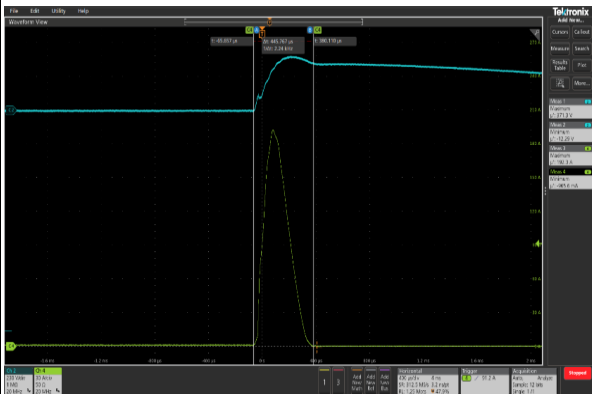
	HOLD UP TIME	> 20ms / 115VAC	I/P: 115VAC O/P: FULL LOAD Ta: 25°C	38.401ms
7	INPUT=115VAC/60HZ @ FULL LOAD CH1: AC Input Voltage, CH2: Output Voltage 			

100W AC-DC Adapter

CXLA100F-12

DYNAMIC LOAD		No specification	I/P: 90VAC O/P : (1) FULL LOAD 50%DUTY / 100HZ (2) FULL LOAD 50%DUTY / 1KHZ Ta: -30°C, 25°C, 40°C	-
INPUT=90VAC/47HZ @ FULL LOAD 50%DUTY / 100HZ			INPUT=90VAC/47HZ @ FULL LOAD 50%DUTY / 1KHZ	
8	-30°C CH1: Output Voltage, CH3: Output Current		-30°C CH1: Output Voltage, CH3: Output Current	
	25°C CH1: Output Voltage, CH3: Output Current		25°C CH1: Output Voltage, CH3: Output Current	
	40°C CH1: Output Voltage, CH3: Output Current		40°C CH1: Output Voltage, CH3: Output Current	

INPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	INPUT CURRENT	<1.4A/100VAC <0.6A/240VAC	I/P: 100VAC I/P: 240VAC O/P: FULL LOAD Ta: 25°C	1.15A @100VAC 0.48A @240VAC
2	TOUCH CURRENT	< 0.1mA / 264VAC	I/P: 264VAC O/P: FULL LOAD Ta: 25°C	L-FG: 0.0263mA N-FG: 0.0285mA
3	LEAKAGE CURRENT	< 0.115mA / 264VAC	I/P: 264VAC O/P: FULL LOAD Ta: 25°C	L-FG: 0.0702mA N-FG: 0.0746mA
4	STANDBY POWER	≤ 0.15W	I/P: 115VAC I/P: 230VAC O/P: NO LOAD Ta: 25°C	115VAC/0.004W 230VAC/0.011W
5	INRUSH CURRENT	< Fuse/Bridge diode I _{2t}	I/P: 230VAC O/P: FULL LOAD Ta: 25°C	193.2A/ 5.512 I ₂ *t
	INPUT=230VAC/50HZ @ FULL LOAD CH2: AC Input Voltage, CH4: Input Current 			
6	EFFICIENCY (Typ.)	Typ. 90.0% / FULL LOAD at 230VAC	I/P: 115VAC I/P: 230VAC O/P: FULL LOAD Ta: 25°C	115VAC/89.25% 230VAC/90.86%
7	POWER FACTOR	> 0.9	I/P: 115VAC I/P: 230VAC O/P: FULL LOAD Ta: 25°C	115VAC/0.967 230VAC/0.914

PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	OVER CURRENT PROTECTION	105%~150% rated current 8.757A<OCP<12.51A	I/P: 90VAC I/P: 264VAC O/P: TESTING Ta : 25°C	90VAC/10.4A 264VAC/10.44A
2	OVER VOLTAGE PROTECTION	140% of Rated Voltage	I/P: 90VAC I/P: 264VAC O/P: NO LOAD Ta: 25°C	90VAC/15.69V 264VAC/15.65V
3	SHORT CIRCUIT PROTECTION	NO DAMAGE (LATCH MODE)	I/P: 90VAC ~ 264VAC O/P: NO LOAD, FULL LOAD Ta: 25°C	PASS
4	OVER TEMPERATURE PROTECTION	NO DAMAGE	I/P: 90VAC ~ 264VAC O/P: FULL LOAD Ta: 40°C	O.T.P. Active Shut down o/p voltage recovers automatically after temperature goes down

100W AC-DC Adapter

CXLA100F-12

COMPONENT STRESS TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	PWM Power Transistor	Q050 Rated 6.5A/600V	I/P: 264VAC O/P: (1) Start-up (2) Output Short (3) FULL LOAD continues Ta: 25°C	(1) 407V (2) 402V (3) 405V
2	PWM Power Transistor	Q051 Rated 6.5A/600V	I/P: 264VAC O/P: (1) Start-up (2) Output Short (3) FULL LOAD continues Ta: 25°C	(1) 411V (2) 402V (3) 407V
3	PFC Power Transistor	Q010 Rated 10A/600V	I/P: 264VAC O/P: (1) Start-up (2) Output Short (3) FULL LOAD continues Ta: 25°C	(1) 419V (2) 406V (3) 419V
4	PFC Power Transistor	Q010-1 Rated 10A/600V	I/P: 264VAC O/P: (1) Start-up (2) Output Short (3) FULL LOAD continues Ta: 25°C	(1) 419V (2) 415V (3) 418V
5	Input Capacitor	C051 Rated 120uF/450V	I/P: 264VAC O/P: (1) Start-up (2) Output Short (3) FULL LOAD continues Ta: 25°C	(1) 414V (2) 411V (3) 413V

100W AC-DC Adapter

CXLA100F-12

SAFETY TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	WITHSTAND VOLTAGE	I/P-O/P: 4.0KVAC/min I/P-FG: 1.5KVAC/min O/P-FG: 1.5KVAC/min	I/P-O/P: 4.0KVAC/min I/P-FG: 1.5KVAC/min O/P-FG: 1.5KVAC/min Ta: 25°C	PASS
2	ISOLATION RESISTANCE	I/P-O/P: 500VDC: >100M Ω I/P-FG: 500VDC: >100M Ω O/P-FG: 500VDC: >100M Ω	I/P-O/P: 500VDC I/P-FG: 500VDC O/P-FG: 500VDC Ta: 25°C/70%RH	PASS

E.M.C TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	HARMONIC	EN61000-3-2 CLASS A	I/P: 100VAC I/P: 230VAC O/P: FULL LOAD Ta: 25°C	PASS
2	RADIATION	EN55032 CLASS B	I/P: 100VAC I/P: 230VAC O/P: FULL LOAD Ta: 25°C	PASS
3	CONDUCTION	EN55032 CLASS B	I/P: 100VAC I/P: 230VAC O/P: FULL LOAD Ta: 25°C	PASS
4	E. S. D	EN61000-4-2 CRITERIA A AIR: ± 15 KV Contact: ± 8 KV	I/P: 230VAC O/P: FULL LOAD Ta: 25°C	PASS
5	E. F. T	EN61000-4-4 CRITERIA A INPUT: ± 2 KV	I/P: 220VAC O/P: FULL LOAD Ta: 25°C	PASS
6	SURGE	EN61000-4-5 CRITERIA A L-N: ± 2 KV L, N-PE: ± 4 KV	I/P: 230VAC O/P: FULL LOAD Ta: 25°C	PASS
7	VOLTAGE DIPS	IEC61000-4-11 (1) CRITERIA A 100% dip; 0.5 cycle(10ms) 0,45,90,135,180,225,270,115,360 degrees. (2) CRITERIA A 100% dip; 1 cycle(20ms) 0 degree. (3) CRITERIA A 30% dip; 25 cycles(500ms) 0 degree. (4) CRITERIA B 100% dip; 250 cycles(5000ms) 0 degree.	I/P: 100VAC I/P: 240VAC O/P: FULL LOAD Ta: 25°C	PASS

100W AC-DC Adapter

CXLA100F-12

8	Conducted Immunity	IEC61000-4-6 CRITERIA A 10Vrms	I/P: 120VAC I/P: 230VAC O/P: FULL LOAD Ta: 25°C	PASS
9	Radiated Immunity	IEC61000-4-3 CRITERIA A 10V/m	I/P: 230VAC O/P: FULL LOAD Ta: 25°C	PASS
10	Power Frequency Magnetic Field	IEC61000-4-8 CRITERIA A 30A/m	I/P: 120VAC I/P: 230VAC O/P: FULL LOAD Ta: 25°C	PASS

■ **RELIABILITY TEST**

ENVIRONMENT TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	TEMPERATURE	No components damaged	I/P: 90VAC @ 47Hz O/P: FULL LOAD Ta: 40°C	PASS*Table 1
2	CAPACITOR LIFE CYCLE	The electrolytical capacitor life is greater than 26280 hours	I/P: 100VAC/ 60Hz I/P: 240VAC/50Hz O/P: FULL LOAD Ta: 40°C	(1)I/P: 100VAC O/P: FULLLOAD Ta= 40°C LIFETIME=79,403 hours (2)I/P: 240VAC O/P: FULLLOAD Ta= 40°C LIFETIME=110,727 hours
3	MTBF	The power supply reliability, when calculated by SR332 exceeds 2,400,000 hours with all output at 100% of maximum load and at ambient temperature of 25°C		4,851,042 hours @ 90VAC 4,655,693 hours @ 264VAC
4	HUMIDITY	Storage: 25°C / 5 ~ 95% RH / Dwell: 4 hours Working: 25°C/ 10 ~ 95% RH / Dwell: 4 hours I/P: 100~240VAC (Working) O/P: 100% load (Working)		PASS
5	VIBRATION TEST	Ware form: Random Acceleration: 2Grms Axis/Time: X, Y, Z / 10min per axis Frequency: 10~500Hz No functional, mechanical and safety fail.		PASS
6	ALTITUDE	Operational and Non-operational Altitude: 5000 meters Temperature: -5°C Dwell time: 24Hrs I/P: 100~240VAC (Operational) O/P: 100% load (Operational)		PASS
7	OVERLOAD BURN-IN TEST	I/P: 90VAC/ 60Hz O/P: Just before OCP kicks in Ta: 25°C Duration: 1hours		PASS

*1 All component temperatures should not exceed maximum operation temperature.

100W AC-DC Adapter

CXLA100F-12

Table 1. Components temperature @ 40°C 100% Load. (Unit °C)

No.	Location	90VAC	Result
1	C206	72.162	Pass
2	C204	73.857	Pass
3	C054	66.885	Pass
4	C051	69.939	Pass
5	T050-core	73.871	Pass
6	T050-coil	69.94	Pass
7	IC200	75.886	Pass
8	Q200	80.402	Pass
9	Q200_1	86.405	Pass
10	PC300	86.546	Pass
11	IC100	66.115	Pass
12	Q051	73.845	Pass
13	D004	75.994	Pass
14	Q050	78.224	Pass
15	D003	76.323	Pass
16	Q010	80.207	Pass
17	L002	92.177	Pass
18	D050	90.045	Pass
19	L010	85.421	Pass
20	RT101	66.29	Pass
21	UP	60.519	Pass
22	DOWN	66.193	Pass
23	INPUT	49.218	Pass
24	OUTPUT	49.35	Pass
25	BACK	55.236	Pass
26	FORTH	56.174	Pass
27	AMB1	40.635	

TEST RESULT	TESTER	REVIEW	APPROVAL
PASS	Gen Chen	Luke Zhou	Ke Cao