

iP7300+6808=1T528W



Electronic ballast with PFC for 1 x T5 28W tube using iT6808 and iP7300

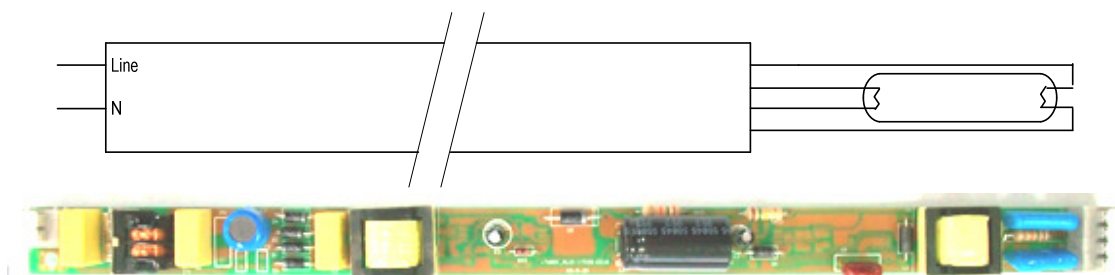
1. Brief Description

Input Voltage:	90 ~ 264Vac
Input frequency:	50~60Hz
Switching freq.:	43KHz +- 5%
Preheat:	~1.4 sec
Protect mode:	Over voltage latch(漏氣 eol)
	Lamp open
Dimension (LxWxH) :	289x 21 x 20mm ³

2. Performance

Input voltage	110Vac	220Vac
1- T5 lamp 28W	Load 1x T5/28W170V/0.16A = 28W	
Input current	0.29A	0.15A
Wattage	32W(A2/A3 class)	31W(A2/A3 class)
Power Factor	0.99	0.96
THD	<10%	<15%
Efficiency	> 88%	> 87%
Typical On/Off Times	> 20,000 times	> 20,000 times

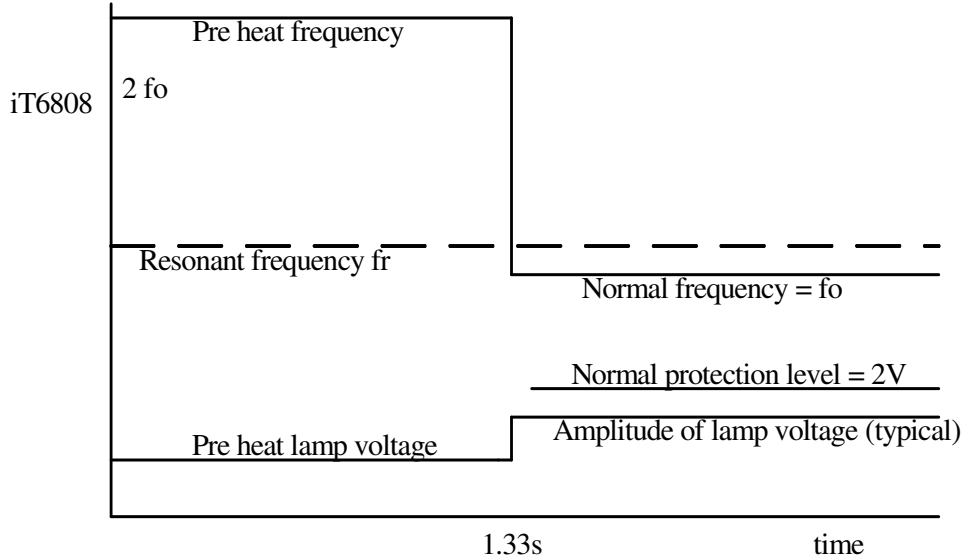
3. Electrical Connection



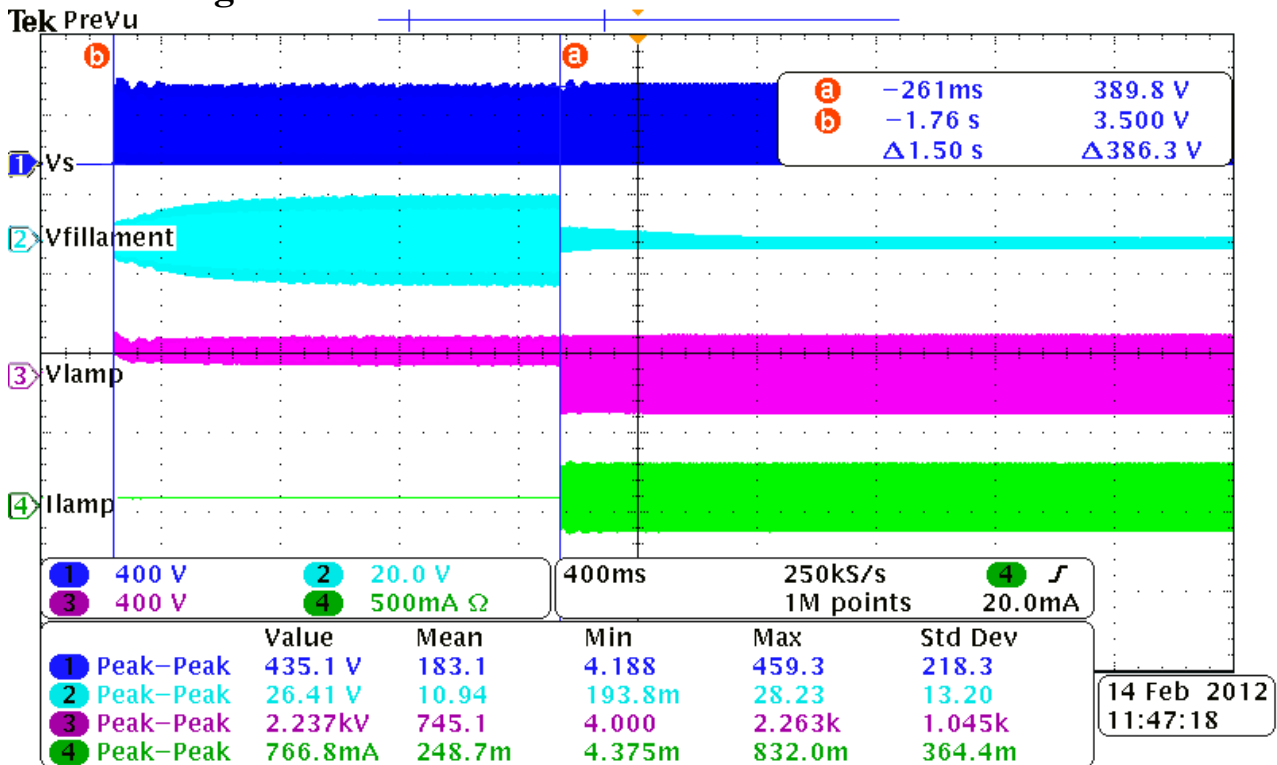
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4. Preheat scheme & Protection Thresholds



5. Preheat Voltage /Current Characteristics @48K

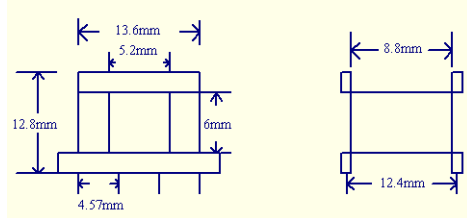


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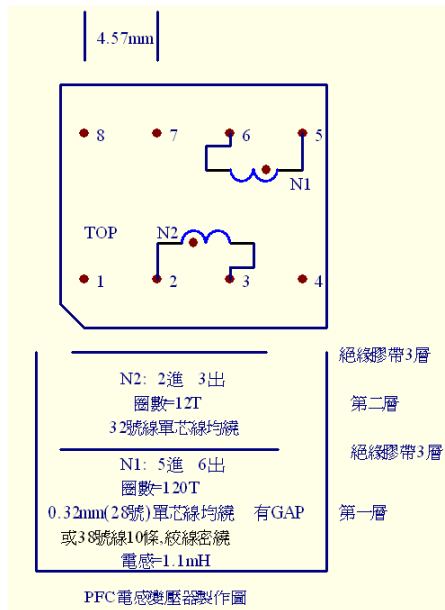


iT6808_ML03_1T528W-EE19 變壓器製作 EE-19(2) (卧式 EE19-可買到)

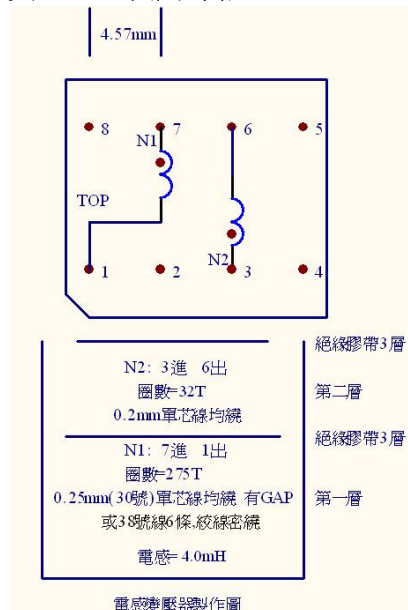
材質:PC40/同等級



1: T2:PFC 變壓器設計圖



2:T3: 電感變壓器設計圖→材質:PC40 或同等級

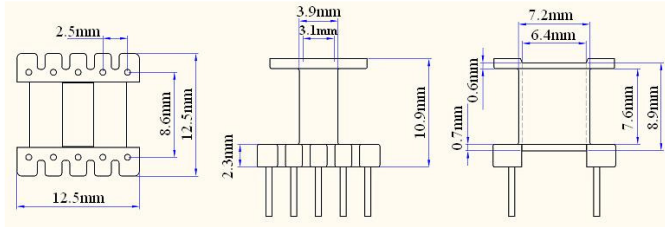


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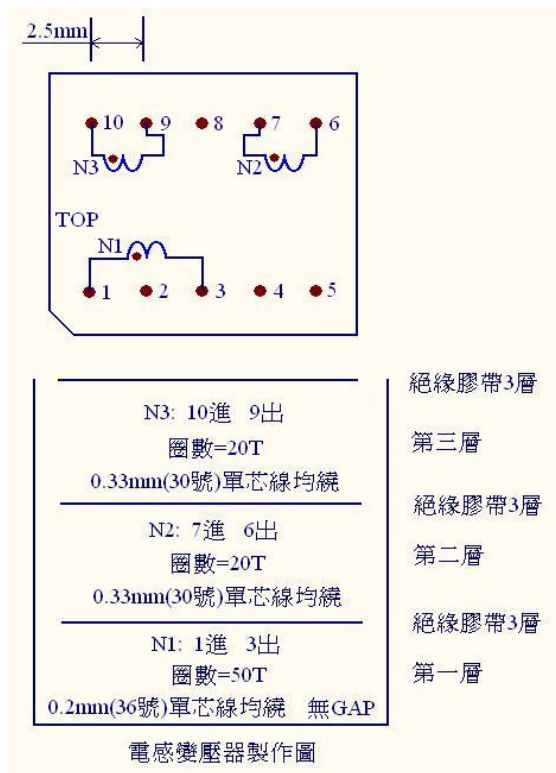


iT6808_ML03_1T528W-EE19 變壓器製作 EE-13

材質:PC40/同等級



3. T4: 電感變壓器設計圖

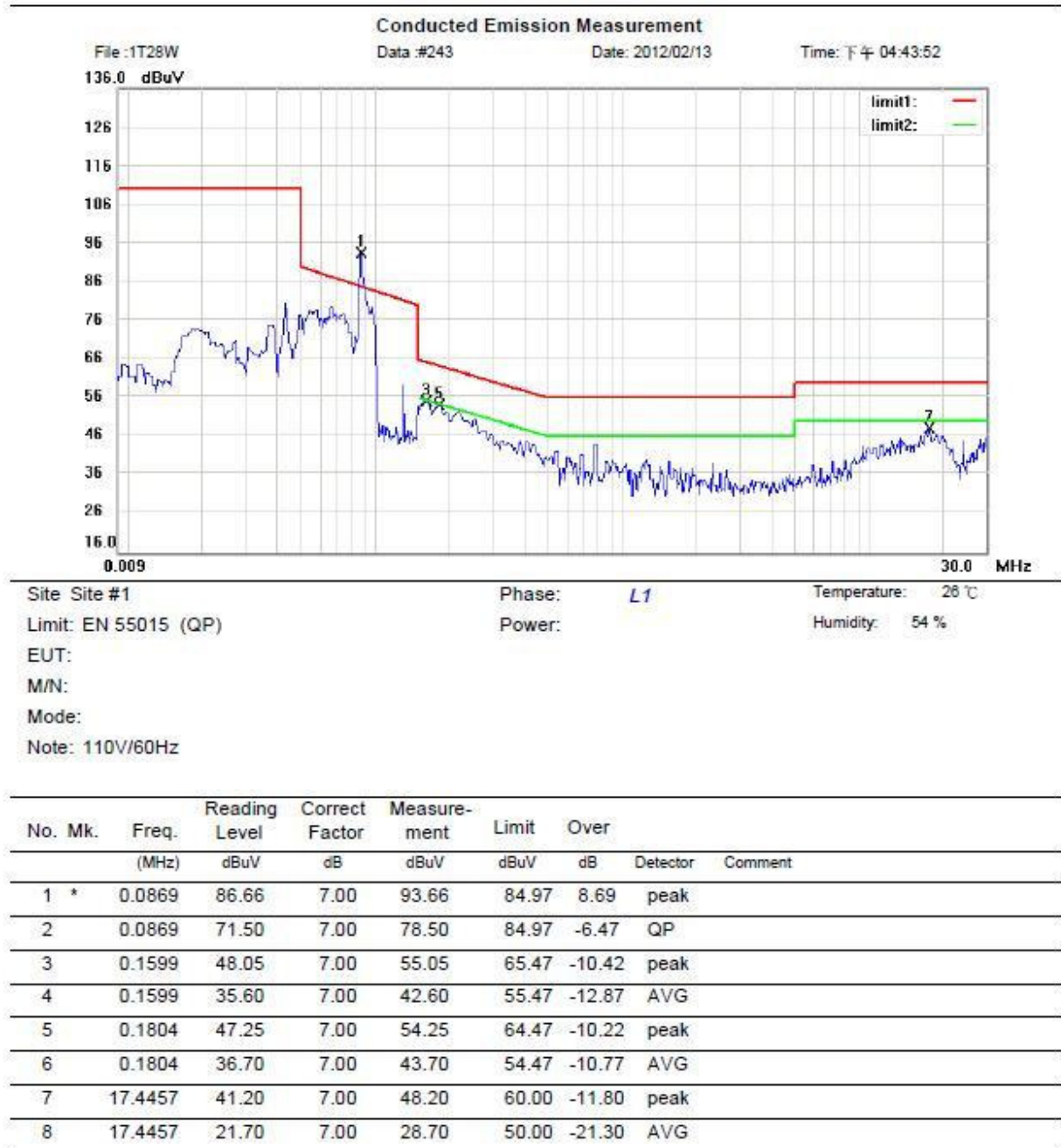


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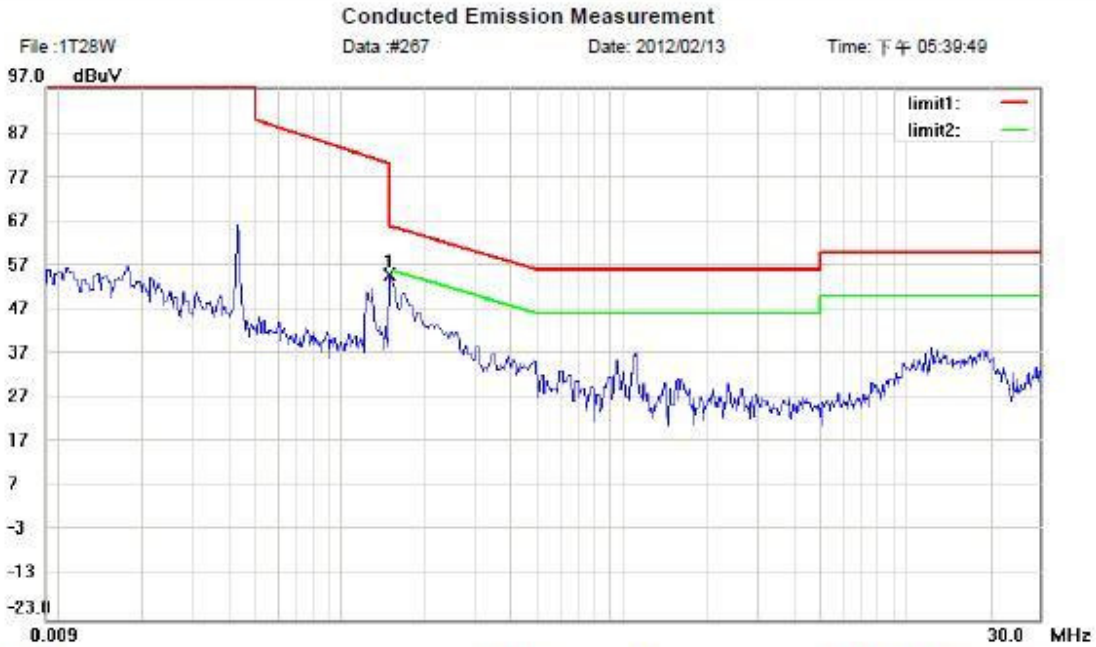


8. EMI (Conduction Mode)

L1/L2 results are comparable. Peak at 1.5MHz could be adjusted by boost inductor value and operating frequency of Ballast inveter.



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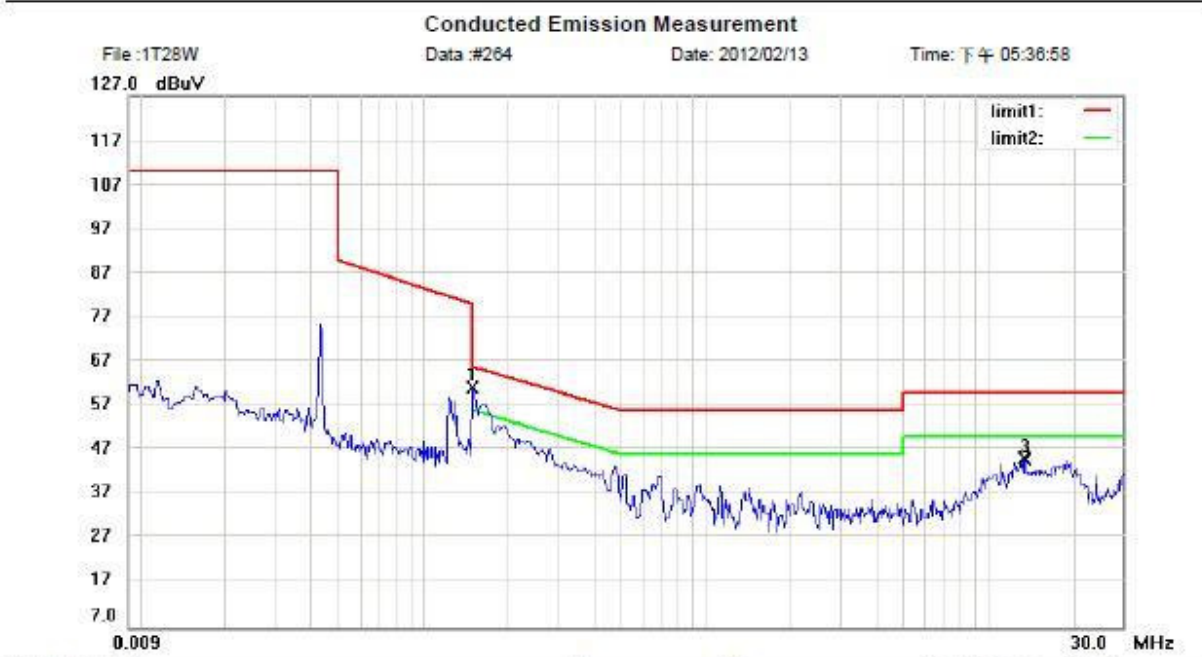


Site Site #1 Phase: **L2** Temperature: 26 °C
 Limit: EN 55015 (QP) Power: Humidity: 54 %
 EUT:
 M/N:
 Mode:
 Note: 110V/60Hz

No.	Mk.	Freq. (MHz)	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	*	0.1500	54.94	0.00	54.94	66.00	-11.06	peak	
2		0.1500	36.80	0.00	36.80	56.00	-19.20	AVG	

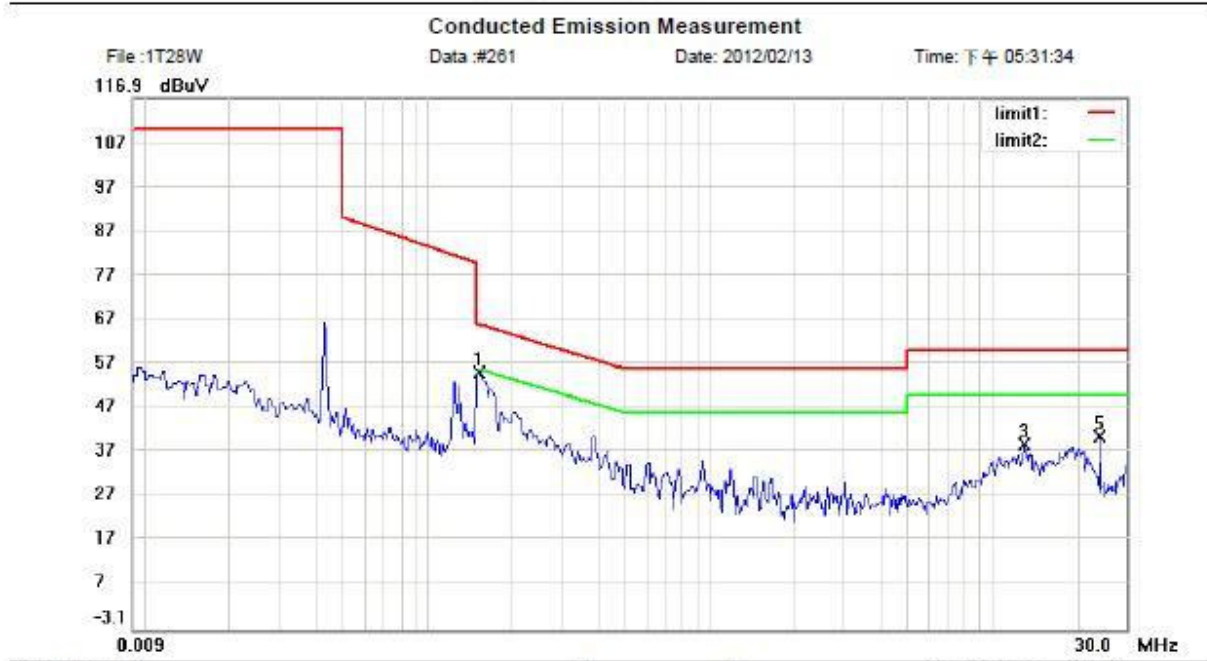
110Vac

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Site Site #1 Phase: *L1* Temperature: 26 °C
 Limit: EN 55015 (QP) Power: Humidity: 54 %
 EUT:
 M/N:
 Mode:
 Note: 220V/60Hz

No.	Mk.	Freq. (MHz)	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	*	0.1500	54.03	7.00	61.03	66.00	-4.97	peak	
2		0.1500	36.50	7.00	43.50	56.00	-12.50	AVG	
3		13.5326	37.96	7.00	44.96	60.00	-15.04	peak	
4		13.5326	19.60	7.00	26.60	50.00	-23.40	AVG	



Site Site #1 Phase: *L2* Temperature: 26 °C
 Limit: EN 55015 (QP) Power: Humidity: 54 %
 EUT:
 M/N:
 Mode:
 Note: 220V/60Hz

No.	Mk.	Freq. (MHz)	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	*	0.1508	54.87	0.00	54.87	65.96	-11.09	peak	
2		0.1508	36.70	0.00	36.70	55.96	-19.26	AVG	
3		12.9348	38.72	0.00	38.72	60.00	-21.28	peak	
4		12.9348	18.70	0.00	18.70	50.00	-31.30	AVG	
5		23.9674	40.65	0.00	40.65	60.00	-19.35	peak	
6		23.9674	15.50	0.00	15.50	50.00	-34.50	AVG	

220Vac

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9. BOM

Item	Part Type	Designator	Footprint
1	0	SR12	S0805
2	0	JS2	S0805
3	0	SR3	S1206
4	0	JS1	S1206
5	0.1u/275V	C2	C400-240
6	1.1uH	T2	EE19-8-4-2
7	1.5/0.5W	SR10	2010
8	1K	SR31	S0805
9	1N4007	D4	DIODE0.4-1
10	1N4007	D1	DIODE0.4-1
11	1N4007	D2	DIODE0.4-1
12	1N4007	D3	DIODE0.4-1
13	1N4148	SD4	DIODE0.4-1
14	1N4148	SD10	SD1
15	1N4148	SD5	SD1
16	1N4148	SD3	SD1
17	1N4148	SD8	SD1
18	1N4148	SD2	SD1
19	1N4148	SD1	SD1
20	1uF/25V	SC4	S0805
21	1Ω	SR36	R-500
22	4.0mH	T3	EE19-8-4-1
23	4.7uF	E2	S1206
24	6.8V	SZ4	SZ1
25	9.38K	SR30	S0805
26	10	SR28	R-300
27	10	SR33	R-400
28	10	SR18	S0805
29	10	SR17	S0805
30	10	SR8	S1206
31	10uF/25V	E3	CR.1/.26
32	10uF/450V	E1	CR.2/.4.R
33	13K	SR45	S0805
34	15V	SZ3	SZ1
35	15V	SZ2	SZ1
36	30k	SR2	S0805

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37 30mH	T1	EE13-EMI1
38 33K	SR46	S0805
39 39K/0.25W	SR14	S1206
40 39K/0.25W	SR11	S1206
41 39K/0.25W	SR15	S1206
42 43K	SR40	S0805
43 47K	SR21	S0805
44 47K	SR34	S1206
45 47K	SR9	S1206
46 51K	SR16	S0805
47 100	SR39	S0805
48 100	SR7	S0805
49 100	SR6	S0805
50 100K	SR23	R-500
51 100K	SR25	S0805
52 100K	SR24	S0805
53 100K	SR22	S1206
54 100k	SR5	S0805
55 102	SC7	S0805
56 102	SC6	S0805
57 102/1KV	C6	C300
58 104	SC2	S0805
59 104	SC3	S0805
60 104/250V	C8	C300
61 104/250V	C7	C300
62 104/250V	C9	C300
63 104/275V	C1	C400-240
64 104/400V	C3	C400-240
65 104/400V	C4	C600-200
66 105	SC1	S0805
67 150K	SR44	S0805
68 150K	SR43	S1206
69 220	SR19	S0805
70 220	SR20	S0805
71 250V/1A	F1	F1-10
72 272	C5	C600-200
73 471K	ZR1	ZR1-300
74 560uH	L1	L200-340

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75 680	SR35	S0805
76 680K	SR13	S0805
77 750k	SR4	S0805
78 750k	SR1	S0805
79 820K	SR29	S1206
80 2200p/275V	CY2	C100
81 2200p/275V	CY1	C100
82 CON2	J1	CON2X2-150
83 CON4	J3	CON4X4-150
84 FR107	D6	DIODE0.4-1
85 FR107	SD6	SD2
86 GND	FGND	CON1
87 IH0245S	Q2	SO-8
88 IH0245S	Q3	SO-8
89 IH830D	Q1	TO-252
90 IP7300	U2	SO-8
91 NC	SC5	S0805
92 NC	SR27	S0805
93 NC	SR37	S1206
94 SF028	D5	DIODE0.5
95 TRANS6-10	T4	EE13
96 iH0245I	Q4	TO-251
97 iT6808	U1	SO-8