

TEST REPORT of L6599 WITH L6563'S EVALBOARD

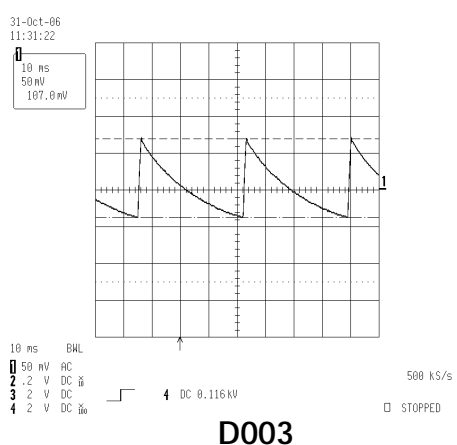
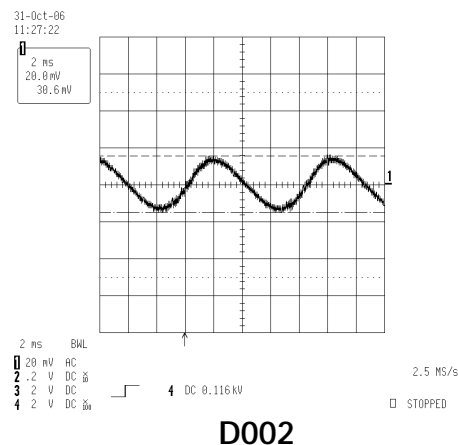
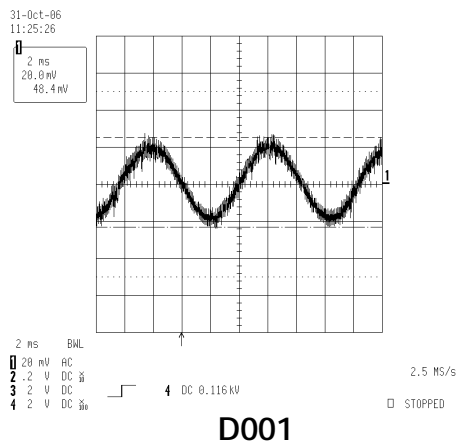
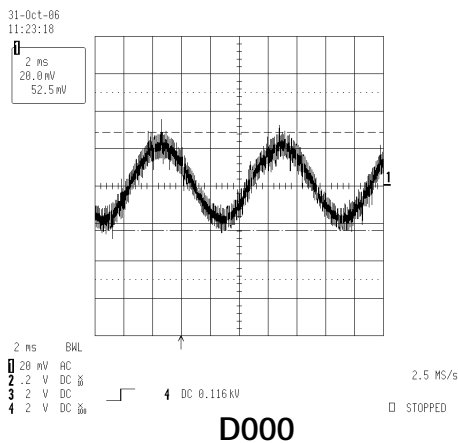
#1.EFFICENCY & RIPPLE TEST : at $V_{ac} = 60\text{Hz}$

V_{ac}	I_o	V_o	P_{in}	P_o	PFC	efficiency	Ripple(120Hz)	DWG
90V	10.5A	18.8V	225W	197.4W	0.999	87.7%	53mV	
90V	5.5A	18.95V	116.4W	104.2W	0.999	89.5%	50mV	
90V	1A	19.1V	22.5W	19.1W	0.974	84.8%	30mV	
90V	0A	19.1V	0.1~0.7W	/	/	/	107.8mV	
180V	10.5A	18.8V	217W	197.4W	0.997	90.9%	53mV	D000
180V	5.5A	18.95V	113W	104.2W	0.987	92.2%	49mV	D001
180V	1A	19.1V	22.5W	19.1W	0.767	84.8%	31mV	D002
180V	0A	19.1V	0.7~0.9W	/	/	/	107mV	D003
254V	10.5A	18.8V	215W	197.4W	0.985	91.8%	53mV	
254V	5.5A	18.95V	114W	104.2W	0.944	91.4%	50mV	
254V	1A	19.1V	22.5W	19.1W	0.497	84.8%	148mV	
254V	0A	19.1V	1.2W	/	/	/	115mV	

NOTE :

1. The primary current sense limit at 250W or so , out put current do not load over 13A.
2. When the power unit at the start-up phase , the switching Frequency over 250K for the soft start , for the completely empty load easily caused in sufficient V_{aux} as a output voltage could be lower then the regulation.

We can add more transformer's aux winding or from with loading to empty loading to keep output in to regulation.



#2 WAVE form of SWITCHING FREQUENCY : at 110Vac / 60Hz

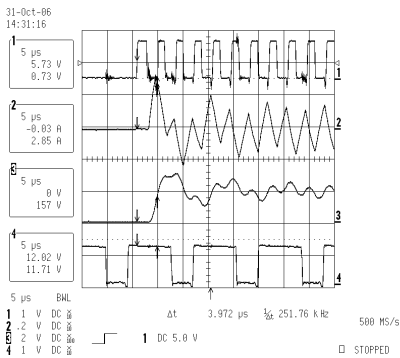
Define : CH1, Vgate of low side MOS

CH2 , resonant current

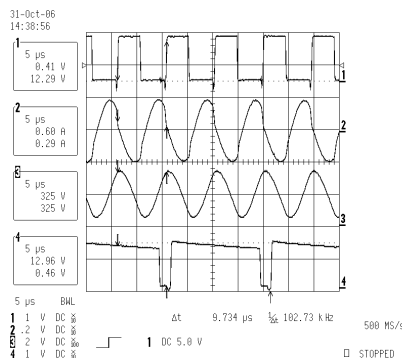
CH3 , resonant voltage

CH4 , Vgate of PFC MOS

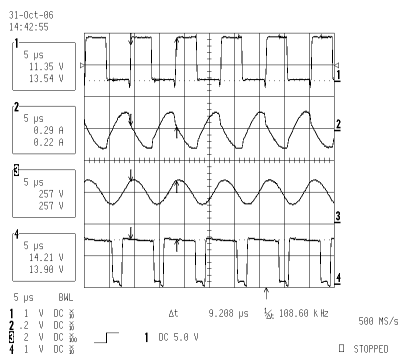
I_o	CH1(Q4)	CH2(T5)	CH3(C28)	CH4(Q1)	DWG
10.5A at start up	$f_{sw}=252\text{KHz}$	$I_{pp}=5.53\text{A}$ $f_{sw}=X$	$V_p=306\text{V}$	$f_{sw}=76.21\text{K}$	D004
10.5A nomal	$f_{sw}=103\text{KHz}$	$I_{pp}=3.78\text{A}$ $f_{sw}=103\text{KHz}$	$V_p=341\text{V}$	$f_{sw}=50.3\text{K}$	D005
5.5A nomal	$f_{sw}=108.6\text{KHz}$	$I_{pp}=2.34\text{A}$ $f_{sw}=108.6\text{K}$	$V_p=269\text{V}$	$f_{sw}=119.8\text{K}$	D006
1A nomal	$f_{sw}=142\text{KHz}$	$I_{pp}=1.09\text{A}$ $f_{sw}=142\text{K}$	$V_p=212\text{V}$	$f_{sw}=278.2\text{K}$	D007
0A nomal	$f_{sw}=146.5\text{KHz}$	$I_{pp}=0.94\text{A}$ $f_{sw}=146.5\text{K}$	$V_p=206\text{V}$	$f_{sw}=496\text{K}$	D008
0A envelop frequency	$f_{env}=26.85\text{Hz}$	$f_{env}=26.85\text{Hz}$	$f_{env}=26.85\text{H}$ Z	$f_{env}=26.85\text{H}$ Z	D009



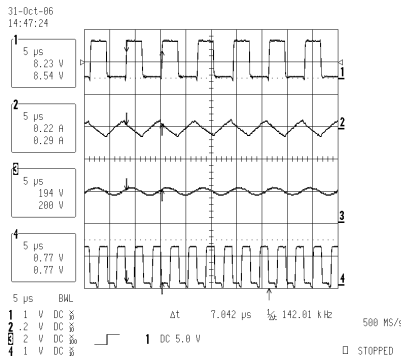
D004



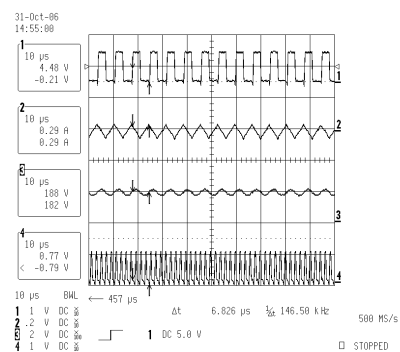
D005



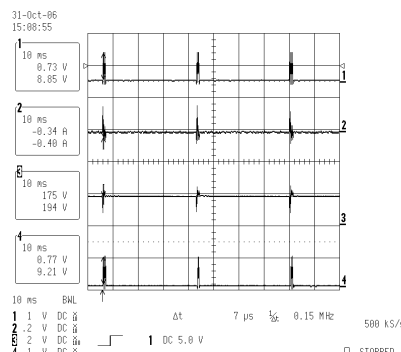
D006



D007



D008



D009

#3 WAVE form of V_{CC} TIMING AT STAR-UP PHASE: at $V_{ac}=110V/60Hz$

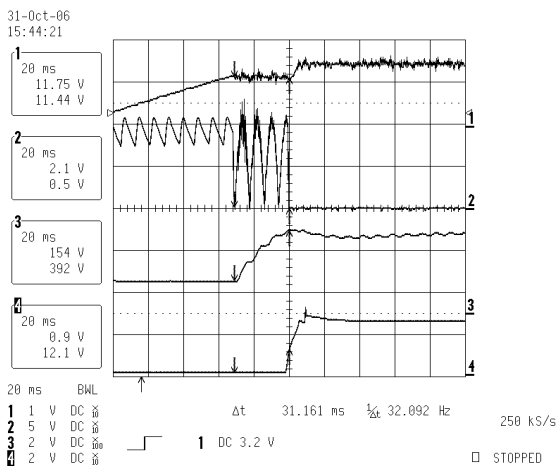
Define : CH1, V_{CC} voltage of I_c

CH2 , V_{gat} of bootstrap MOS

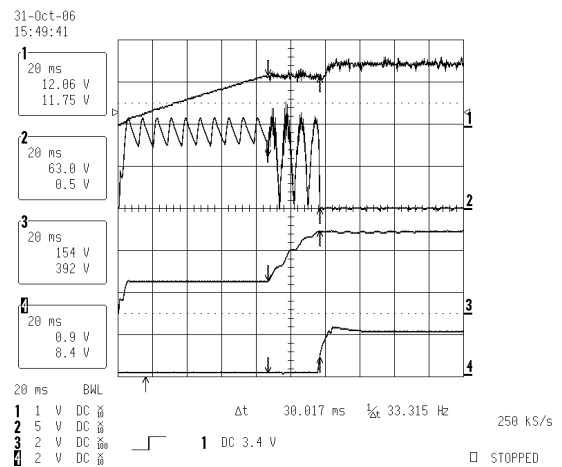
CH3 , PFC output voltage

CH4 , aux winding voltage

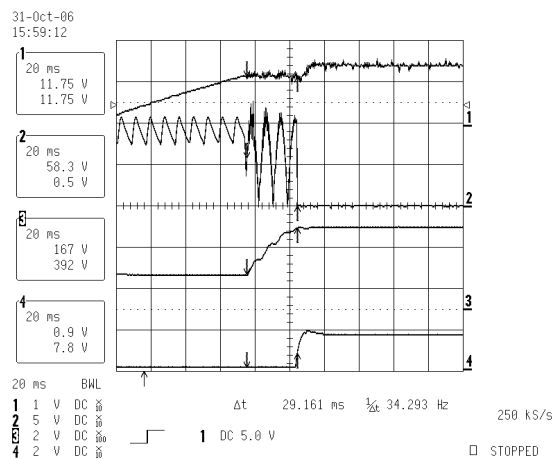
I_o	CH1(U1)	CH2(Q8)	CH3(C9)	CH4(C24)	DWG
10.5A	$V_{start}=11.7V$ $V_{hold}=14.8V$	$T_{con}=31ms$ $V_g=121V$	$T_{rise}=31ms$ $V_p=400V$	$T_{rise}=12.6ms$ $V_p=28.8V$	D010
5.5A	$V_{start}=11.9V$ $V_{hold}=14.8V$	$T_{con}=30ms$ $V_g=126V$	$T_{rise}=30ms$ $V_p=394V$	$T_{rise}=9.4ms$ $V_p=22.5V$	D011
1A	$V_{start}=12V$ $V_{hold}=14.7V$	$T_{con}=29ms$ $V_g=126V$	$T_{rise}=29ms$ $V_p=397V$	$T_{rise}=7ms$ $V_p=18.4V$	D012
0A	$V_{start}=12V$ $V_{hold}=14.7V$	$T_{con}=30ms$ $V_g=129V$	$T_{rise}=29ms$ $V_p=394V$	$T_{rise}=7ms$ $V_p=18.1V$	D013



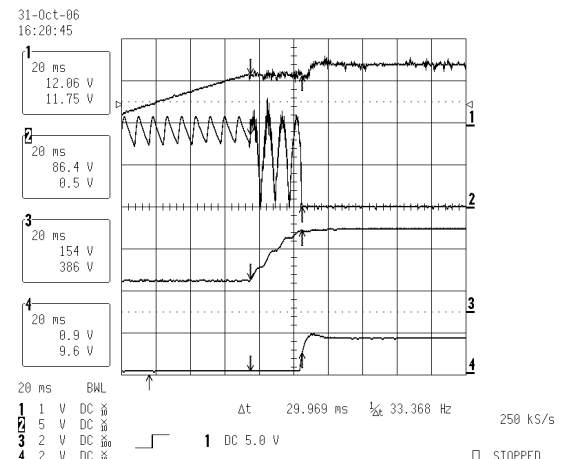
D010



D011



D012



D013