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Hipro VRM9.2 Process Management Plan

Model Name : DL_V092

Dell Model : 4H001

Product REV : H01

REV:1

實施日期 : 2001/07/01

DOC NO.:I-ENG-65-01

Process	Man	Machine	Material	Frequency	Method / Remarks
PCB Baking	Production	-Oven -Stacking tray	-Raw PCB -Finger Cot	100%	- Board Bake is required - Temp : 120 +/-5 C, 2 hrs - Wear finger cot when handling bare copper PCB - Cool PCB to ROOM temp before solder paste printing
	IPQC	-Temp Meter		2X /shift	- U-chart
Solder Paste Normalization	Production	-Mixer <div style="border: 1px solid blue; padding: 5px; width: fit-content; margin: 5px auto;">DOCUMENT CENTER 2001.8.14</div>	-Solder Paste	100%	- Solder paste storage temp 2 - 10 C - At room temperature => 4 hours(Min) - Stir solder paste by using mixer,3-5min. - Solder paste FIFO control -Scrap of solder paste after 24 hrs of usage
	IPQC	-Temp Meter		2x /shift 1x /lot	- U-chart - Log book
Solder Paste Printing	Production	-D-TEK265	-Solder Paste -Stencil -Ethanol -Lint free cloth	100%	- Stencil cleanliness & direction - Fiducial mark check - Disposal of excess solder paste after used - Snap & squeegee direction and pressure
	IPQC	-Cyberoptic LSM II		2X /shift (5bds/audit)	- 1st inspection for Solder paste thickness - Log sheet
Chip Component Placement	Production	-Fuji CP-642/CP742 -FujiQP341E	-C, R -Q10,Q13,Q14, Q16,L1,L2	100%	-1st pcs inspection&each real - Correct Program
Pre-IR Inspection	Production	-Visual inspection	-Sub ass'y -Finger Cot	100%	- Missing/Wrong component - Component alignment/orientation
IR Reflow	ENG	-Reflow Oven		100%	- Reflow Parameter Setup - Conveyor Speed - Pre-Heat temp Zone 4 - Cooling zone
	IPQC	-Temp Profile Plotter	-Profile Template	1X /shift	- Temp profile&check monitor
Post IR Inspection	-Production	-Auto-optical inspection	-Sub ass'y	100%	- Missing /Wrong component - Component height & alignment - Component placement & solderability - 1st article check before line start - Solder defects according to IPC standard - Log sheet

Model Name : DL_V092

Product REV : H01

Dell Model : 4H001

實施日期 : 2001/07/01

DOC NO.:I-ENG-65-01

REV:1

Process	Man	Machine	Material	Frequency	Method / Remarks
Post IR Touch-Up	Production IPQC	-Solder Iron -Flux applicator -Temp Meter -Multimeter	-Sub ass'y	As required -1x /shift	- Hipro SMD workmanship standard - PCB tracibility marking - Correct solder iron tip - Hot air temp - Solder tip temp - Solder wire type - Solder iron GND check
SMT buy-off	IPQC	-Inspection Template	-Sub ass'y -Golden sample	AQL 0.4	- SMT buy-off inspection report & QA rejection Form - QA Inspector ID (for accepted lots only) - Lot Tracibility Stamping
Connector insertion	Production		-Connector	100%	-BOM
PCBA Inspection	Production	-Template	-PCBA	100%	- Missing component
Wave soldering	ENG IPQC	-High Temp Glass plate -Wave temp meter -Temp Profile plotter -Solderability -1st pc check	-Profile Template	100% -1x /shift -1x /shift -2x /shift -2x /shift -1x /week -2x /shift -5pcs /2hrs -1x /shift	- Wave parameter setting instruction sheet by model - Flux height check with X-Bar R-Chart - Wave height check with X-Bar R-Chart - Pre-Heat 1&2 Temp with X-Bar R-Chart - Wave temp with U-chart - Correlation between temp profile and wave temp meter - Wave conveyer speed - Solderability check with DPPM report - 1st article check before line start
Depanelization	Production	-PCB dividing machine -Blade cleanliness		100% -1x /shift	- Machine Parameter setting
Visual Inspection & Touch-Up	Production IPQC	-Visual -Temp meter -MultiMeter		100% -1x /shift -1x /shift	- Solderability check per IPC sandard - Wrong/Missing component check - PCB tracibility marking - DPPM report - Solder tip temp (SMD & PTH) - Solder iron GND check - Solder wire type - Skip ICT check list
ICT	Production IPQC	-CTR-518F	-Program -Go/NG sample	100% -1x/shift	- ICT programe name with Rev. control - ICT fixture (upper and lower template) with ID and Rev. control - ICT coverage report - PCB tracibility marking - GO/NO-GO sample check - Yield rate report

Model Name : DL_V092**Product REV : H01**

REV:1

Dell Model : 4H001**實施日期 : 2001/07/01****DOC NO.:I-ENG-65-01**

Process	Man	Machine	Material	Frequency	Method / Remarks
Initial Test	Production	-VRM ATE	-Program	100%	- Program name with Rev. control
	IPQC		-Passed/Failed sample	1x /shift	- PCB tracibility marking. - Machine correlation check
Burn-In	Production	-B/I cart			- 70% load dummy load, 2 hrs @ 45 +/-5 C - On/Off Cycling : 5 minutes, On time 55 minutes - Burn-in report
	IPQC	-Temp meter			- B/I fixture, connector check report -PCB tracerability marking. - Temp check @ 40 +/-5C&B/I record
Functional Test	Production	-VRM ATE	-Program	100%	- Program name with Rev. control
	IPQC		-Golden sample	1x /shift	- PCB tracerability marking - Machine correlation check
Label	Production		-PPID to PCB	100%	- Dell PPID label to PCB - Dell PPID date code control procedure
Packaging	Production			100%	- ESD free packing material - Tracerability lot stamping - ESD free packing material seal
OBA -Functional test -Visual Inspection	FQA	-VRM ATE -Go/NG sample	-ATE program	AQL 0.4/1.0	- Tracerability QA stamping -ATE test according to Dell spec.
	FQA	-Visual inspection		1x /shift AQL 0.4/1.0	-Packing Spec
Shipping judgment	FQA	-Visual inspection	Check list		-Pallet

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PMP (PROCESS MANAGEMENT PLAN)

Hipro P/N : DL-P2037F3 Dell P/N :0W848		Supplier : HIPRO ELECTRONIC PUBLIC COMPANY LIMITED Facility : CHINA	Control Location - Receiving inspection - In-Process - Final Inspection				
Product Revision : H02		DOCUMENT CENTER 2002.12.02	Plan Effective Date: Sep-04-2002				DOC NO:1-ENG-65
Process	Control Points	Control parameter	Methods				Reactions if out of contro
			Tools	Responsibility	Record	Frequency	
Material preparation	BOM	FAI	Visual check	IPQC	FAI report	Once/1day and change model	stop operation,replace
	ESD--Wrist strap	Pass/Fail	ESD tester	IPQC	Esd test report	once /1 day	replace
	Screw torque	6-8kgf,5-7kgf	Torque meter	IPQC	Torque record	once /1day	Adjust torque,replace
Manual Insertion	BOM	FAI	Visual check	IPQC	FAI report	Once/day and Change model	Find Root cause problem
	ESD - Wrist strap	Pass/Fail	Esd Tester	IPQC	Esd test report		Replace
Wave Solder *Critical process	Solder temp.	240-250 Deg c	Thermometer	Engineering	X-bar -R-chart	Once/2Hrs	Adjust,stop operation
	pressure gauge	2.5-3.5kg/cm ²	Pressure meter	Engineering	Maittain rpt	Once/2Hrs	Adjust,stop operation
	Preheat temp.	250-500 Deg c	Thermometer	Engineering	Maittain rpt	Once/2Hrs	Adjust,stop operation
	Flux gravity	0.79-0.83	Hydrometer	Engineering	Control record	Once/2Hrs	Adjust,stop operation
	Chain speed	1.8M/min	speed monitor	Engineering	Maittain rpt	Once/2Hrs	Adjust,stop operation
Touch-up	Solder iron temp. Esd wrist strap	Temp:343-440 DEG C resister:0.8-0.9mohm	Thermometer ESD tester	IPQC	Iron temp record	Once/shift	Change solder iron
ICT Test	ICT Program	DL-P2037F3	Ict tester	IPQC	Ict test report	Once/shift and ch and	Stop operation
	Open/Short	Defect unit>3(Continus)	Ict tester	MFG	Ict test report	Change model	Corrective action
	Component polarity	Defect unit>3(Continus)	Ict tester	MFG	Ict test report	Once/2Hrs	Corrective action
	Missing component	Defect unit>3(Continus)	Ict tester	MFG	Ict test report	Once/2Hrs	Corrective action
	Value	Defect unit>3(Continus)	Ict tester	MFG	Ict test report	Once/2Hrs	Corrective action
ACT Test	Wire Test	Defect unit>3(Continus)	Ict tester	MFG	Ict test report	Once/2Hrs	Corrective action
	Tolerance	±7-20mV	Standard unit Check List	Engineering IPQC	Initial test report Initial test report	Once/day	Replace fixture
Case Ass'y	Screw driver torque	9-12kg.cm(s/c)(Screw PCB)	Torque meter	IPQC	Torque record	Once/day	Adjust torque
	Screw driver torque	6-8kg.cm(s/c)(Screw SSW)	Torque meter	IPQC	Torque record	Once/day	Adjust torque
	Screw driver torque	4-6kg.cm(s/c)(Screw CASE)	Torque meter	IPQC	Torque record	Once/day	Adjust torque
	Screw driver torque	7-9kg.cm(s/c)(Screw ground wires)	Torque meter	IPQC	Torque record	Once/day	Adjust torque
Pre B/I	Chroma 6000	File name same as mode name	Standard unit	IPQC	Ate test report	Once/day	Stop
Hipot Test 1 *Critical process	Set up parameter Fixture	2mA<10mA@3sec 1800vAC Pass/Fail	Check List Hi-pot test fixture	IPQC	Hipot test report	once/1day	Corrective action Stop operation
Burn-in Test *Critical process	All output Room temp.	Pass/Fail 35-45 DEG C/over 80% load	LED display Thermal/multi-meter	MFG	B/I room check report	Once/1Hr Once/2Hrs	Tag/rework Stop operation
Hipot Test 2	Set up parameter	2mA<10mA@3sec 1800vAC	Check List	IPQC	Hipot test report	Twice/shift	Corrective action
Grounding Test	Fixture	2 sec under 25A Pass/Fail	Hi-pot test fixture	IPQC	Grounding test report	Twice/shift	Stop operation
Final Test *Critical process	Tolerance File name	±20mV DL-P2037F3	Multi-meter Check List	Engineering IPQC	Final test report Final test report	Once/day Twice/shift and Change model	Stop operation Stop operation
Cable Test	Fixture verification	Pass/Fail	Standard unit	IPQC	cable test report	Once/day	Corrective action
Short circuit test	Wire polarity & Continuity	Pass/Fail	Standard unit	IPQC	cable test report	Once/day	Stop operation
Turn on test	Fixture	Pass/Fail	Standard unit	IPQC	Turn on test report	once /1day	Corrective action Stop operation
Packing	Label,Carton,Pallet	Pass/Fail	Check List	MFG	Turn on test report	Once/day	Stop operation
Process	Control Points	Control parameter	Methods				Reactions if out of contro
			Tools	Responsibility	Record	Frequency	
Out of box inspection *Critical process	Q-QRA-12-05	2mA<10mA @ 3sec1800VAC Resistance=0.1 ohm under 25A	Check List	OOBA	OOBA Report	Once/Lot	Corrective action
	I-QRA-2	Pass/Fail DL-P2507F3C	Check List	OOBA	OOBA Report	Once/Lot	Corrective action
	AQL-Major -Minor	A=0 R=1 A=1 R=2	Check List	OOBA	OOBA Report	Once/Lot Once/Lot Lot size=245	Corrective action
Shipping	Shipping information	Shipping judgement	Check list	OOBA	Shipping report	Lot	Stop shipping
ORT	ORT procedure approved by Dell	Pass/Fail	ORT procedure approved by Dell:-	QE	ORT report	5pcs per W/O	Corrective action Stop operation

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PMP (PROCESS MANAGEMENT PLAN)

DOCUMENT CENTER

2002.12.02

Hipro P/N : DL-P2037F3	HIPRO ELECTRONIC PUBLIC COMPANY LIMITED		2002.12.02
Dell P/N : 0W848	CHINA	- Receiving inspection	
Product Revision : H02		- In-Process - Final Inspection	
	Plan Effective Date: 2002/09/04		DOC NO:1-ENG-65

Process Material preparation	Control Points	Control parameter	Methods				Reactions if out of control
			Tools	Responsibility	Record	Frequency	
Inlet prepare	Material	P/N , Supplier Pass/FAI,daily reportl	Bom ESD tester	IPQC IPQC	FAI,daily report ESD REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
SSW prepare	Material ESD	P/N , Supplier Pass/FAI,daily reportl	Bom ESD tester	IPQC IPQC	FAI,daily report ESD REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
D301 preforming	Material ESD	P/N , Supplier Pass/FAI,daily reportl	Bom ESD tester	IPQC IPQC	FAI,daily report ESD REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
R5 prepare	Material	P/N , Supplier Pass/FAI,daily reportl	Bom ESD tester	IPQC IPQC	FAI,daily report ESD REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
R4 prepare	Material	P/N , Supplier Pass/FAI,daily report	Bom ESD tester	IPQC IPQC	FAI,daily report ESD REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
R208 preforming	Material Iron temperature	P/N , Supplier 343- 440c	Iron temp. tester	IPQC	FAI,daily report	ONCE/2HOURES	Corrective action Stop operation
R205 preforming	Fixture	ID NO.,	WI ,ESD TESTER	IPQC	FAI,daily report	ONCE/2HOURES	Corrective action Stop operation
ZNR 2,3 preforming	Material	P/N , Supplier	Bom ESD tester	IPQC IPQC	FAI,daily report Temp. REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Re-adjust
TH1 adding shrink tube	Material	P/N , Supplier	Bom ESD TESTER	IPQC	FAI,daily report	ONCE/2HOURES	Corrective action Stop operation
C10 adding shrink tube	Material	P/N , Supplier	Bom ESD tester	IPQC IPQC	FAI,daily report Temp. REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
C109,C201 adding shrink tube	Material	P/N , Supplier	Bom ESD TESTER	IPQC	FAI,daily report	ONCE/2HOURES	Corrective action Stop operation
Process Material preparation	Control Points	Control parameter	Methods				Reactions if out of control
			Tools	Responsibility	Record	Frequency	
SCR1 PREFORMING AND CUTTING	Material ESD tester	P/N , Supplier	Bom	IPQC	FAI,daily report	ONCE/2HOURES	Stop operation

TH601 prepare	Material Iron temp.	P/N , Supplier 343-440	Bom Temp. tester	IPQC IPQC	FAI,daily report Temp. REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
J18 preforming	Material	P/N , Supplier Pass/FAI,daily report	Bom ESD tester	IPQC IPQC	FAI,daily report ESD REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
U201 preforming	Fixture ESD tester	ID NO.,	WI	IPQC	FAI,daily report	ONCE/2HOURES	Corrective action Stop operation
HS1 assembly	Material Screw driver torque ESD tester	P/N , Supplier 6-8 kgf.cm	Bom driver meter	IPQC IPQC	FAI,daily report Temp. REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
C11 prepare	Material	P/N , Supplier	Bom	IPQC	FAI,daily report	ONCE/2HOURES	Corrective action Stop operation
HS4 assembly	Material Screw driver torque ESD tester	P/N , Supplier 6-8 kgf.cm	Bom driver meter	IPQC IPQC	FAI,daily report Temp. REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
LOCK TH601 CLIP TO HS2	Material Screw driver torque	P/N , Supplier 6-8 kgf.cm	Bom driver meter	IPQC IPQC	FAI,daily report Temp. REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
HS2 inspection	Material	P/N , Supplier	Bom	IPQC	FAI,daily report	ONCE/2HOURES	Corrective action Stop operation
LOCK U402 TO HS4	Material Screw driver torque ESD tester	P/N , Supplier 6-8 kgf.cm	Bom driver meter	IPQC IPQC	FAI,daily report Temp. REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
HS4 INSPECTION	Material	P/N , Supplier	Bom	IPQC	FAI,daily report	ONCE/2HOURES	Corrective action Stop operation
LOCK U201TO HS5	Material Screw driver torque ESD tester	P/N , Supplier 6-8 kgf.cm	Bom driver meter	IPQC IPQC	FAI,daily report Temp. REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
Process			Methods				Reactions if out of control
Material preparation	Control Points	Control parameter	Tools	Responsibility	Record	Fregency	
HS5 INSPECTION	Material	P/N , Supplier	Bom	IPQC	FAI,daily report	ONCE/2HOURES	Corrective action Stop operation
INPUT PCB,INSERT J18,C4,C6,	Material	P/N , Supplier	Bom	IPQC	FAI,daily report	ONCE/2HOURES	Corrective action Stop operation

INSERT LF1,E-F	Material	P/N , Supplier	Bom	IPQC	FAI,daily report	ONCE/2HOURES	Corrective action Stop operation
INSERT LF3,C11	Material	P/N , Supplier	Bom	IPQC	FAI,daily report	ONCE/2HOURES	Corrective action Stop operation
INSERT BD1,G-H	Material	P/N , Supplier	Bom	IPQC	FAI,daily report	ONCE/2HOURES	Corrective action Stop operation
GLUE,J18,G-H,E-F,C11,C4,C6,LF1,LF3,BD1bending	Material	P/N , Supplier	Bom	IPQC	FAI,daily report	ONCE/2HOURES	Corrective action Stop operation
LEAD CUTTING	Material	P/N , Supplier	Bom	IPQC	FAI,daily report	ONCE/2HOURES	Corrective action Stop operation
INSERT SSW WIRE AND BEND LEAD	Material	P/N , Supplier Maintenance	Bom Maintaining plan	IPQC IPQC	FAI,daily report Maintenance report	ONCE/2HOURES Once/day	Corrective action Stop operation
SOLDER THE WIRE	Material iron temp.	P/N , Supplier 343-440°C	Bom Temp. tester	IPQC IPQC	FAI,daily report,daily report Temp. REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
ADD HEAT SHRINK TUBE	Material Heater temp.	P/N , Supplier 4-6cm,3-5s 125-285°C	Bom Temp. tester	IPQC IPQC	FAI,daily report Temp. REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
ADD PVC TUBE	Material	P/N , Supplier	Bom	IPQC	FAI,daily report	ONCE/2HOURES	Stop operation
SOLDER SSW GROUNDING WIRE	Material Iron temp.	P/N , Supplier 343-440°C	Bom Temp. tester	IPQC IPQC IPQC	FAI,daily report ESD REPORT Torque report	ONCE/2HOURES ONCE/SHIFT ONCE/SHIFT	Stop operation Replace with a good one Replace with a good one
INSERT AND BEND AC WIRE	Material	P/N , Supplier	Bom	IPQC	FAI,daily report	ONCE/2HOURES	Stop operation
SOLDER INLET WIRE	Material IronTemp.	P/N , Supplier 343-440°C	Bom Temp. tester	IPQC IPQC	FAI,daily report Temp. REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
Process	Control Points	Control parameter	Methods				Reactions if out of control
Material preparation			Tools	Responsibility	Record	Freqency	
HEAT THE HEAT SHRINK TUBE	Material Heater temp.	P/N , Supplier 4-6cm,3-5s 125-285°C	Bom Temp. tester	IPQC IPQC	FAI,daily report Temp. REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
CUT Q401, LEAD	Material ESD	P/N , Supplier Pass/FAI,daily reportl	Bom ESD tester	IPQC IPQC	FAI,daily report ESD REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
Q401,D405,D401 LEAD PREFORMING AND CUTTING	Material ESD, fixture	P/N , Supplier Pass/Fail	Bom ESD tester WI	IPQC IPQC IPQC	FAI,daily report ESD REPORT Daily report	ONCE/2HOURES ONCE/SHIFT ONCE/SHIFT	Stop operation Replace with a good one Replace with a good one

C11 PREFORMING	Material, fixture	P/N , Supplier Pass/FAI,daily reportl	Bom WI	IPQC IPQC	FAI,daily report	ONCE/2HOURES	Stop operation
BD1 LEAD CUTTING	Material ESD	P/N , Supplier Pass/FAI,daily reportl	Bom ESD tester	IPQC IPQC	FAI,daily report ESD REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
COVER BD1 WITH TUBE	Material Heater temp.	P/N , Supplier 4- 6cm,3-5s 125- 285 ⁰ C	Bom Temp. tester	IPQC IPQC	FAI,daily report Temp. REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
SCR1 PREFORMING AND CUTTING	Material ESD, fixture	P/N , Supplier Pass/Fail	Bom ESD tester WI	IPQC IPQC IPQC	FAI,daily report ESD REPORT Daily report	ONCE/2HOURES ONCE/SHIFT ONCE/SHIFT	Stop operation Replace with a good one Replace with a good one
U201 WIND MAGNETIC CIRCLE	Material, fixture	P/N , Supplier Pass/FAI,daily reportl	Bom WI	IPQC IPQC	FAI,daily report	ONCE/2HOURES	Stop operation
U201 LEAD CUTTING	Material ESD	P/N , Supplier Pass/FAI,daily reportl	Bom ESD tester	IPQC IPQC	FAI,daily report ESD REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
Q1 WIND MAGNETIC CIRCLE	Material, fixture	P/N , Supplier Pass/FAI,daily reportl	Bom WI	IPQC IPQC	FAI,daily report	ONCE/2HOURES	Stop operation
ADD TUBE TO J8	Material Heater temp.	P/N , Supplier 4- 6cm,3-5s 125- 285 ⁰ C	Bom Temp. tester	IPQC IPQC	FAI,daily report Temp. REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
STICK LABEL TO C3	Material, fixture	P/N , Supplier Pass/FAI,daily reportl	Bom WI	IPQC IPQC	FAI,daily report	ONCE/2HOURES	Stop operation
STICK VER.LABEL TO C5	Material, fixture	P/N , Supplier Pass/FAI,daily reportl	Bom WI	IPQC IPQC	FAI,daily report	ONCE/2HOURES	Stop operation
Process	Control Points	Control parameter	Methods				Reactions if out of control
Material preparation			Tools	Responsibility	Record	Frequency	
ADD HEAT SHRINK TUBE to R5,R4	Material, fixture	P/N , Supplier Pass/FAI,daily reportl	Bom WI	IPQC IPQC	FAI,daily report	ONCE/2HOURES	Stop operation
R5 preforming	Material, fixture	P/N , Supplier Pass/FAI,daily reportl	Bom WI	IPQC IPQC	FAI,daily report	ONCE/2HOURES	Stop operation
R208 preforming	Material, fixture	P/N , Supplier Pass/FAI,daily reportl	Bom WI	IPQC IPQC	FAI,daily report	ONCE/2HOURES	Stop operation
D301 LEAD BENDING	Material, fixture	P/N , Supplier Pass/FAI,daily reportl	Bom WI	IPQC IPQC	FAI,daily report	ONCE/2HOURES	Stop operation
Addheat shrink tube to to R205 and heat.	Material, fixture	P/N , Supplier Pass/FAI,daily reportl	Bom WI	IPQC IPQC	FAI,daily report	ONCE/2HOURES	Stop operation
ZNR2,3 LEAD CUTTING	Material, fixture	P/N , Supplier Pass/FAI,daily reportl	Bom WI	IPQC IPQC	FAI,daily report	ONCE/2HOURES	Stop operation

TH601 LEAD CUTTING	Material, fixture	P/N , Supplier Pass/FAI,daily reportl	Bom WI	IPQC IPQC	FAI,daily report	ONCE/2HOURES	Stop operation
C10,C109 LEAD CUTTING	Material, fixture	P/N , Supplier Pass/FAI,daily reportl	Bom WI	IPQC IPQC	FAI,daily report	ONCE/2HOURES	Stop operation
ADD HS TUBE TO C109,C201	Material Heater temp.	P/N , Supplier 4- 6cm,3-5s 125- 285 ⁰ C	Bom Temp. tester	IPQC IPQC	FAI,daily report Temp. REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
ADD HS TUBE TO C10	Material Heater temp.	P/N , Supplier 4- 6cm,3-5s 125- 285 ⁰ C	Bom Temp. tester	IPQC IPQC	FAI,daily report Temp. REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
ADD HS TUBE TO TH1	Material Heater temp.	P/N , Supplier 4- 6cm,3-5s 125- 285 ⁰ C	Bom Temp. tester	IPQC IPQC	FAI,daily report Temp. REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
ADD HS TUBE TO ZNR2,3	Material Heater temp.	P/N , Supplier 4- 6cm,3-5s 125- 285 ⁰ C	Bom Temp. tester	IPQC IPQC	FAI,daily report Temp. REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
ZNR2,3 LEAD CUTTING	Material, fixture	P/N , Supplier Pass/FAI,daily reportl	Bom WI	IPQC IPQC	FAI,daily report	ONCE/2HOURES	Stop operation
R4 LEAD CUTTING	Material, fixture	P/N , Supplier Pass/FAI,daily reportl	Bom WI	IPQC IPQC	FAI,daily report	ONCE/2HOURES	Stop operation
R5 LEAD CUTTING	Material, fixture	P/N , Supplier Pass/FAI,daily reportl	Bom WI	IPQC IPQC	FAI,daily report	ONCE/2HOURES	Stop operation

HIPRO
PMP (PROCESS MANAGEMENT PLAN)

DOCUMENT CENTER

Hipro P/N : DL-P2037F3	Supplier :Hipro DG	Control Location	
Dell P/N : 0W848	Facility :	- Receiving inspection	2002.12.02
Product Revision : H02		- In-Process	
		- Final Inspection	
	Plan Effective Date: 09,04,2002		DOC NO 1-ENG-65

Process Manual insertion	Control Points	Control parameter	Methods				Reactions if out of control
			Tools	Responsibility	Record	Frequency	
PCB Input , check the 5pcs components which ICT can not detect.	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	STOP OPERATOIN Replace with good ESD WRIST
Cable dressing	Material	P/N,Supplier,	BOM	IPQC	FAI REPORT	Once/2 hours	STOP OPERATOIN
insert green ,grey ,orange,purple wire	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	STOP OPERATOIN Replace with good ESD WRIST
insert black ,blue, yellow wire	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	STOP OPERATOIN Replace with good ESD WRIST
insert black,red wire	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	STOP OPERATOIN Replace with good ESD WRIST
insert C116,C111,C204,IC7,Q111	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	STOP OPERATOIN Replace with good ESD WRIST
insert C113,C114,C115,VR401,C112	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	STOP OPERATOIN Replace with good ESD WRIST
insert R604,C601,C424,U403,IC5	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	STOP OPERATOIN Replace with good ESD WRIST
insert R317,IC4,C304,C307,Q601	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	STOP OPERATOIN Replace with good ESD WRIST
insert C501,C412,U401,U301,R422	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	STOP OPERATOIN Replace with good ESD WRIST
insert IC5,C416, C410,SCR1,C404	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	STOP OPERATOIN Replace with good ESD WRIST
insert C414,C407,C108,C107,L5	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	STOP OPERATOIN Replace with good ESD WRIST
Process Manual insertion	Control Points	Control parameter	Methods				Reactions if out of control
			Tools	Responsibility	Record	Frequency	
insert TH601,C303,L4,C417,U202	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	STOP OPERATOIN Replace with good ESD WRIST

insert C224,R208,L1,C408	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	STOP OPERATOIN Replace with good ESD WRIST
insert C419,C418,C201,HS4,U402,L	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	STOP OPERATOIN Replace with good ESD WRIST
insert L2,R205,D301,C409,	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	STOP OPERATOIN Replace with good ESD WRIST
Insert C203,C3,C205,R2	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	STOP OPERATOIN Replace with good ESD WRIST
Insert C206,C302,Q101,Q201,R3	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	STOP OPERATOIN Replace with good ESD WRIST
Insert C202,T2,C120,C105,Q103	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	STOP OPERATOIN Replace with good ESD WRIST
Insert C602,IC3,R5,R207	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	STOP OPERATOIN Replace with good ESD WRIST
Insert C101,C81, HS5,U201,ZNR2,ZNR3	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	STOP OPERATOIN Replace with good ESD WRIST
Insert C603, IC8, R4, C110	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	STOP OPERATOIN Replace with good ESD WRIST
Insert HS2, D401, D405, D402, Q401	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	STOP OPERATOIN Replace with good ESD WRIST
Insert Fuse Clip, F1, AC1, C5, TH1	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	STOP OPERATOIN Replace with good ESD WRIST
Insert T1, HS1, Q1,C109	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	STOP OPERATOIN Replace with good ESD WRIST
Insert C8, C9, S.SW, SSW	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	STOP OPERATOIN Replace with good ESD WRIST
Final cable inspection	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	STOP OPERATOIN Replace with good ESD WRIST
Process Manual insertion	Control Points	Control parameter	Methods				Reactions if out of control
			Tools	Responsibility	Record	Frequency	
Final component inspection	Material ESD; Main point of checking add R2 and R3,And mark "J" on the edge of PCBA.	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	STOP OPERATOIN Replace with good ESD WRIST
convey PCB	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	STOP OPERATOIN Replace with good ESD WRIST

Hipro P/N : DL-P2037F3	Supplier : Hipro DG	Control Location	2002.12.02
Dell P/N : 0W848	Facility :	- Receiving inspection - In-Process - Final Inspection	
Product Revision : H02		Plan Effective Date: 09,04,2002	DOC No: 1-ENG-65

Process Assembly	Control Points	Control parameter	Methods				Reactions if out of control
			Tools	Responsibility	Record	Frequency	
Touch-Up 1	soldering short,crack,floati ng,non-soldering	pass/fail	WI	IPQC	daily report	Once/day	stop operation
Touch-Up 2	soldering short,crack,floati ng,non-soldering	pass/fail	WI	IPQC	daily report	Once/day	stop operation
Touch-Up 3	soldering short,crack,floati ng,non-soldering	pass/fail	WI	IPQC	daily report	Once/day	stop operation
Touch-Up 4	soldering short,crack,floati ng,non-soldering	pass/fail	WI	IPQC	daily report	Once/day	stop operation
ICT Test	TR-518F	Open/short/component	Standard unit	IPQC	Ict test report	Once/day	Corrective action Stop operation
Non-confirm component inspection	ZNR2,ZNR3, R2,R3 , D401,D402,D403,	pass/fail	WI	IPQC	daily report	Once/day	stop operation
take the chassis,stick flow-control label	Material	P/N,Supplier	BOM	IPQC	FAI,Daily report	Once/2hours	STOP OPERATION
lock inlet	Material Screw torque	P/N,Supplier 9-12KGF.CM	BOM Screw torque tester	IPQC IPQC	FAI,Daily report Screw torque report	Once/2hours Once/shift	Stop operation Re-adjust the torque
cover fan wire with tube	Material	P/N,Supplier	BOM,WI	IPQC	FAI, Daily report	Once/2 hours	STOP OPERATION
lock fan	Material Screw torque	P/N,Supplier 6-8KGF.CM	BOM Screw torque tester	IPQC IPQC	FAI Daily report Screw torque report	Once/2hours Once/shift	Stop operation re- adjust torque

INSERT TH601	Material	P/N,Supplier	workmanship standard	IPQC	FAI, Daily report	Once/2 hours	STOP OPERATION
Process Assembly	Control Points	Control parameter	Methods				Reactions if out of control
			Tools	Responsibility	Record	Frequency	
solder fan wire	Material Solder iron temp.	P/N,Supplier 343-440-DEG C	BOM Temperature tester	IPQC	FAI Daily report	Once/2hours	STOP OPERATION
check wire,input WIP,stick rubber.	Material,fixture	P/N,Supplier	workmanship standard	IPQC	FAI,Daily report	Once/2hours	Corrective action Stop operation
lock PCB	Screw driver torque	9-12kg.cm(s/c)(Screw PCB)	Torque meter	IPQC	Torque record	Once/day	Adjust torque
lock SSW	Screw driver torque	4~6kg.cm(s/c)	Torque meter	IPQC	Torque record	Once/day	Adjust torque
lock grounding wire,assemble inlet	Screw driver torque	P/N,Supplier 8-10KGF.CM	Torque meter	IPQC	Torque record	Once/day	Adjust torque
Cable dressing	Material	P/N,Supplier	WI	IPQC	FAI,Daily report	Once/2hours	STOP OPERATION
measure cable	Fixture	Pass/Fail	checklist	Ipqc	Daily report	Once/day	corrective action
dress cable	Material	P/N,Supplier	BOM	IPQC	FAI Daily report	Once/2hours	STOP OPERATION
glue	Material	P/N, Supplier	WI	IPQC	FAI,daily report	Once/2hours	stop operation
insert golden finger	Golden finger	short ,pin ,dirty	Maintaining plan	IPQC	Maintaining report	Once/day	Corrective action Stop operation
Initial TEST	fixture	Tolerance:'+/-20mV	Standard unit' Check List	Engineering IPQC	Initial test report	Once/day	Replace with good fixture
Internal inspection	component missing short,deflection; Especially Inspect R2/R3 , And mark "V" on the process control lable.	pass/fail	WI	IPQC	daily report	Once/day	stop operation
assemblycover	Material	P/N, Supplier	WI	IPQC	FAI,daily report	Once/2hours	stop operation

lock cover	Material Screw torque	P/N,Supplier 6-8KGF.CM	BOM Screw torque tester	IPQC IPQC	FAI Daily report Screw torque report	Once/2hours Once/shift	Stop operation adjust torque
stick serial NO. label	Material Location	P/N, Supplier Fixture	bom Checklist	IPQC IPQC	FAI Daily report Maintaining report	Once/2hours Once/shift	Corrective action stop operation
Process Assembly	Control Points	Control parameter	Methods				Reactions if out of control
			Tools	Responsibility	Record	Frequency	
PRE-TEST	Chroma 6000; Add 5W output power test item.	File name same as modle name	Standard unit	IPQC	Ate test report	Once/day	Corrective action Stop operation
Hipot/scan label	Set up parameter Fixture	2mA<I<10mA@3sec 1800vAC	Check List Standard unit	IPQC IPQC	Hipot test report	once/shift	Corrective action Stop operation
cosmetic inspection-1	Case scratch,deformat ion,oxide	pass/fail	checklist	IPQC	daily report	once/day	Corrective action Stop operation
cosmetic inspection-2	wire broken ,dirty	pass/fail	checklist	IPQC	daily report	once/day	Corrective action Stop operation
dress shield	Case scratch	pass/fail	checklist	IPQC	daily report	once/day	Corrective action Stop operation
Burn In	life control; B/I time must be reset when production line down.	pass/fail	checklist	IPQC	daily report	once/day	Corrective action Stop operation

HIPRO
PMP (PROCESS MANAGEMENT PLAN)

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2002.12.02

Hipro P/N : DL-P2037F3 Dell P/N : 0W848 Product Revision :H02		Supplier :Hipro DG Facility :		Control Location - Receiving inspection - In-Process - Final Inspection			2002.12.02		
					Plan Effective Date: 2002/09/04			DOI-1-ENG-65	
Process PACKING		Control Points	Control parameter	Methods				Reactions if out of control	
				Tools	Responsibility	Record	Frequency		
Cosmetic inspection		Case scratch,oxide ,cable broken; Inspect the process control lable whether "v"sign.	Pass/Fail	checklist	IPQC	Daily report	Once/2hours	Corrective action operation	Stop
Hipot Test 2		Set up parameter Fixture	2mA<I<10mA @3sec 1800vAC 2 sec under 25A Pass/Fail	Check List Standard unit	IPQC IPQC	Hipot test report Grounding test report	Once/day Twice/shift and Change model	Corrective action	Stop operation
OLP TEST(Bench testing)		Set up parameter Fixture	+12V:19A,+5V:47A, +3.3V:35A,+5VFP:5A PASS/FAIL	WI(Dell spec) Standard unit	Engineering IPQC	Final test report FAI REPORT	Once/day Twice/shift and Change model	Corrective action	Stop operation
OVP TEST(Bench testing)		Set up parameter Fixture	+12V:13.5-15V,+5V:5.6 -7.0V,+3.3V:3.76-4.3V ; '+5VFP : 5.6V-7.0V PASS/FAIL	WI(Dell spec) Standard unit	Engineering IPQC	Final test report FAI REPORT	Once/day Twice/shift and Change model	Corrective action	Stop operation
ATE Test		Tolerance File name	±20mV DL-P2037f3	Check List Standard unit	Engineering IPQC	Final test report FAI REPORT	Once/day Twice/shift and Change model	Corrective action Stop operation	
Pull out golden finger		workmanship	Pass/Fail	WI	IPQC	Daily report	Once/2 hours	Corrective action Stop operation	
Cable Test		Fixture	Pass/Fail	Standard unit	IPQC	daily report	Once/day	Corrective action	
cable cleaning		cosmetic	dirty	WI	MFG	Daily report	Once/2hours	corrective action	
Cosmetic inspection		Cosmetic; Inspect the process control lable whether "v"sign.	Case scratch ,oxide,dirty	checklist	IPQC	Daily report	Once/2hours	corrective action	
Stick model Label		Material Location	P/N ,Fixture	bom ,checklist	IPQC	Daily report	Once/2hours	corrective action	
stick bar code		Material Location	P/N ,Fixture	bom ,checklist	IPQC	Daily report	Once/2hours	corrective action	
Turn on test		Fixture	Pass/Fail	Standard unit	IPQC	Maintaining repo	once /day	Corrective action Stop operation	
P1 INSPECTION		fixture ,gas pressure	Pass/Fail	Maintaining plan	IPQC	Maintaining repo	once /day	Corrective action Stop operation	
Final label inspection		Cosmetic,location	Pass/Fail	checklist	IPQC	Daily report	Once/2hours	Corrective action Stop operation	
Process PACKING		Control Points	Control parameter	Methods				Reactions if out of control	
				Tools	Responsibility	Record	Frequency		
Packing		Label,Carton,Pallet	Pass/Fail	Check List	IPQC	Daily report	Once/2hours	Corrective action,Stop operation	
seal carton		Cosmetic location; Mark "V"sign on the carton	Pass/Fail	Check List	IPQC	Daily report	Once/2hours	Stop operation	

DL-P2037F3 Critical Process Control Sheet

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2002.12.02

Hipro P/N : DL-P2037F3

Dell P/N : 0W848

Product REV :H02

Dell P/N :0W848

實施日期 : 2002/09/04

Process	Equipment	Indirect Material	Frequency	Method / Remarks
Hand insertion	N/A	N/A	100%	
Wave soldering *Critical process	CL-360/SUNEAST	Solder: Tomas 63/37 -Flux: Kester 933-7	once/1 month once/2hours	-Temp profile name/revision---DL-P2037F3/H02
Touch up		Solder wire:Sigma 63/37 1.0mm	100%	
ICT Test	TRI/CTR518F	N/A	100%	-Program name/revision---DL-P2037F3/H02 -Coverage/Skipping components---- 203/217=94% / ZNR2,ZNR3,R2,R3,C402,C403,C404,C405,C301,D401,D402,D403,D404,D405
ACT Test	Chroma63010/63030	N/A	100%	-Program name/revision----DL-P2037F3/H02
Case assembly	N/A	N/A	100%	
Pre-B/I Test	Chroma 6000	N/A	100%	DL-P2037F3/H02
Safety Test 1 *Critical process	Extech 7440	N/A	100%	DL-P2037F3/H02
Burn-In *Critical process	N/A	N/A	100%	Input: 230V Total burn-in time: 24 hours for first 1k;Temperature: 40+/-5 oC Output/Load: (80~100% of max load): +3.3V---6.6A; +5V---15A; +12V---6A - 12V---0.24A;+5Vsb---1.5A 179w 89% Power Cycling (on/off times): (40 on/off times minimum, for example 5 minutes 10 times on/off, 25minutes on and total 2 cycle):5minutes ON/OFF(ON 10sec.OFF 10sec)---ON 55minutes---- Monitoring (schedule / manual or automatic)/frequency: once/2hours
Safety test 2 *Critical process	Extech 7440	N/A	100%	DL-P2037F3/H02
Grounding Test	Extech 7440	N/A	100%	
Final Test *Critical process	Chroma 6000	N/A	100%	DL-P2037F3 / H02
Cable Test	N/A	N/A	100%	
Turn on test	N/A	N/A	100%	
Packing	N/A	N/A	100%	
OBA *Critical process	Chroma 6000	N/A	AQL 0.4/1.0	DL-P2037F3 / H02
Shipping	N/A	N/A	100%	

HIPRO

PMP (PROCESS MANAGEMENT PLAN)

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Hipro P/N : DL-U1806F3 Dell P/N : 1N405 Product Revision : H01	Supplier : HIPRO ELECTRONIC PUBLIC COMPANY LIMITED Facility : CHINA	Control Location - Receiving inspection - In-Process - Final Inspection Plan Effective Date: Feb-04-2002						2002.12.02 DOC NC 1-ENG-65
Process	Control Points	Control parameter	Methods					Reactions if out of control
			Tools	Responsibility	Sample size	Record	Frequency	
Material preparation	BOM	FAI	Visual check	IPQC	5	FAI report	Once/1day and change model	stop operation,replace
	ESD--Wrist strap	Pass/Fail	ESD tester	IPQC	100%	Esd test report	once /1 day	replace
	Screw torque	6-8kgf,5-7kgf	Torque meter	IPQC	100%	Torque record	once /1day	Adjust torque,replace
Hand Insertion	BOM	FAI	Visual check	IPQC	5	FAI report	Once/day and Change model	Find Root cause problem
	ESD - Wrist strap	Pass/Fail	Esd Tester	IPQC	100%	Esd test report		Replace
Wave Solder	Solder temp.	240-250 Deg c	Thermometer	Engineering	100%	X-bar -R-chart	Once/2Hrs	Adjust,stop operation
*Critical process	pressure gauge	2.5-3.5kg/cm ²	Pressure meter	Engineering	100%	Maittain rpt	Once/2Hrs	Adjust,stop operation
	Preheat temp.	190-200 Deg c	Thermometer	Engineering	100%	Maittain rpt	Once/2Hrs	Adjust,stop operation
	Flux gravity	0.79-0.83	Hydrometer	Engineering	100%	Control record	Once/2Hrs	Adjust,stop operation
	Chain speed	1.8M/min	speed monitor	Engineering	100%	Maittain rpt	Once/2Hrs	Adjust,stop operation
Touch-up	Solder iron temp.	Temp:343-440 DEG C	Thermometer					
	Esd wrist strap	resister:0.8-0.9mohm	ESD tester	IPQC	100%	Iron temp record	Once/shift	Change solder iron
ICT Test	ICT Program	DL-U1806F3	Ict tester	IPQC	100%	Ict test report	Once/shi and Change model	Stop operation
	Open/Short	Defect unit>3(Continus)	Ict tester	MFG	100%	Ict test report	Once/2Hrs	Corrective action
	Component polarity	Defect unit>3(Continus)	Ict tester	MFG	100%	Ict test report	Once/2Hrs	Corrective action
	Missing component	Defect unit>3(Continus)	Ict tester	MFG	100%	Ict test report	Once/2Hrs	Corrective action
	Value	Defect unit>3(Continus)	Ict tester	MFG	100%	Ict test report	Once/2Hrs	Corrective action
	Wire Test	Defect unit>3(Continus)	Ict tester	MFG	100%	Ict test report	Once/2Hrs	Corrective action
ACT Test	Tolerance	+/-10mV	Standard unit	Engineering	100%	Iniial test report	Once/day	Replace fixture
			Check List	IPQC	100%	Iniial test report		
Case Ass'y	Screw driver torque	9-12kg.cm(s/c)(Screw PCB)	Torque meter	IPQC	100%	Torque record	Once/day	Adjust torque
	Screw driver torque	6-8kg.cm(s/c)(Screw SSW)	Torque meter	IPQC	100%	Torque record	Once/day	Adjust torque
	Screw driver torque	4-6kg.cm(s/c)(Screw CASE)	Torque meter	IPQC	100%	Torque record	Once/day	Adjust torque
	Screw driver torque	7-9kg.cm(s/c)(Screw ground wires)	Torque meter	IPQC	100%	Torque record	Once/day	Adjust torque
Pre B/I	Chroma 6000	File name same as modle name	Standard unit	IPQC	100%	Ate test report	Once/day	Stop
Hipot Test 1	Set up parameter	2mA<I<10mA@3sec 1800vAC	Check List					
*Critical process	Fixture	Pass/Fail	Standard unit	IPQC	100%	Hipot test report	once/1day	Corrective action Stop operation
Burn-in Test	All output	Pass/Fail	LED display	MFG	100%	B/I room check	Once/1Hr	Tag/rework
*Critical process	Room temp.	35-45 DEG C	Temp in spec	IPQC	100%	report	Once/2Hrs	Stop operation
Hipot Test 2	Set up parameter	2mA<I<10mA@3sec 1800vAC	Check List	IPQC	100%	Hipot test report	Once/day	Corrective action
Grounding Test	Fixture	2 sec under 25A				Grounding test report		
		Pass/Fail	Standard unit	IPQC	100%		Twice/shift	Stop operation
Final Test	Tolerance	+20mV	Verify Fixture	Engineering	100%	Final test report	Once/day	Stop operation
*Critical process	File name	DL-U1806F3	Check List	IPQC	100%	Final test report	Twice/shift and Change model	Stop operation
Harmonic test	Harmonic tester	Pass/Fail	Standard unit	IPQC	100%	Harmonic test report	Once/day	Corrective action Stop operation
*Critical process								
Process	Control Points	Control parameter	Methods					Reactions if out of control
			Tools	Responsibility	Sample size	Record	Frequency	
Cable Test	Fixture verification	Pass/Fail	Standard unit	IPQC	100%	cable test report	Once/day	Corrective action
Short circuit test	Wire polarity & Continuity	Pass/Fail	Standard unit	IPQC	100%	cable test report	Once/day	Stop operation
Turn on test	Fixture	Pass/Fail	Standard unit	IPQC	100%	Turn on test report	once /1day	Corrective action Stop operation
Packing	Label, Carton, Pallet	Pass/Fail	Check List	MFG	100%		Once/day	Stop operation
Out of box inspection	Q-QRA-12-05	2mA<I<10mA @ 3sec1800VAC Resistance=0.1 ohm under 25A	Check List	OOBA	AQL=0.4	OOBA Report	Once/Lot	Corrective action
*Critical process	I-QRA-2	Pass/Fail	Check List	OOBA	AQL=0.4	OOBA Report	Once/Lot	Corrective action
	Defect criteria-Major	DL-U1806F3 A=0 R=1	Check List	OOBA	AQL=0.4	OOBA Report	Once/Lot	Corrective action
	-Minor	A=1 R=2					Once/Lot Lot size=240	
Shipping	Shipping information	Shipping information	Check list	OOBA	100%	Shipping report	Lot	Stop shipping
	ORT procedure approved by Dell		ORT procedure approved by Dell:-	QE				
ORT		Pass/Fail			2pcs	ORT report	once/day	Corrective action Stop operation

HIPRO
PMP (PROCESS MANAGEMENT PLAN)

Hipro P/N : DL-U1806F3	HIPRO ELECTRONIC PUBLIC COMPANY LIMITED		DOCUMENT CENTER	
Dell P/N : 1N405	CHINA	- Receiving inspection		2002.12.02
Product Revision : H01		- In-Process		
		- Final Inspection		
	Plan Effective Date: 2002/02/04		DOC NO: 1-ENG-65	

Process	Control Points	Control parameter	Methods					Reactions if out of control
			Tools	Responsibility	Sample size	Record	Frequency	
Material preparation								
Insert J4,J14 into PCB	Material ESD	P/N , Supplier Pass/FAI,daily reportl	Bom tester ESD	IPQC IPQC	100% 100%	FAI,daily report ESD REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
Insert L40	Material ESD	P/N , Supplier Pass/FAI,daily reportl	Bom tester ESD	IPQC IPQC	100% 100%	FAI,daily report ESD REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
Insert C3,LF2	Material ESD	P/N , Supplier Pass/FAI,daily reportl	Bom tester ESD	IPQC IPQC	100% 100%	FAI,daily report ESD REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
Insert L2	Material ESD	P/N , Supplier Pass/FAI,daily reportl	Bom tester ESD	IPQC IPQC	100% 100%	FAI,daily report ESD REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
Insert N1,LF1	Material ESD	P/N , Supplier Pass/FAI,daily reportl	Bom tester ESD	IPQC IPQC	100% 100%	FAI,daily report ESD REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
Cut lead	Material	P/N , Supplier	Bom	IPQC	100%	FAI,daily report	ONCE/2HOURES	Corrective action Stop operation
INLET assembly-1(Cover EMI shield)	Material	P/N , Supplier	Bom	IPQC	100%	FAI,daily report	ONCE/2HOURES	Corrective action Stop operation
INLETassembly-2(solder grounding wire)	Material Iron temp.	P/N , Supplier 343-440°C	Bom Iron temp. tester	IPQC IPQC	100% 100%	FAI,daily report Iron REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Re-adjust
INLETassembly-3(Ycapacitor assembly)	Material	P/N , Supplier	Bom	IPQC	100%	FAI,daily report	ONCE/2HOURES	Corrective action Stop operation

Process	Control Points	Control parameter	Methods					Reactions if out of control
			Tools	Responsibility	Sample size	Record	Frequency	
Material preparation								
INLETassembly-4(add heat shrink tube AC wire assembly)	Material	P/N , Supplier	Bom	IPQC	100%	FAI,daily report	ONCE/2HOURES	Corrective action Stop operation
INLETassembly-5(AC wire assembly)	Material	P/N , Supplier	Bom	IPQC	100%	FAI,daily report	ONCE/2HOURES	Corrective action Stop operation
INLET assembly-6(solder AC wire)	Material Iron temp.	P/N , Supplier 343-440°C	Bom Iron temp. tester	IPQC IPQC	100% 100%	FAI,daily report Temp. REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Re-adjust
INLET assembly-7(lead cutting)	Material	P/N , Supplier	Bom	IPQC	100%	FAI,daily report	ONCE/2HOURES	Corrective action Stop operation
INLETassembly-8(Heat tube)	Material Heater temp.	P/N , Supplier 4-6cm,3-5s 125-285 ⁰ C	Bom Temp. tester	IPQC IPQC	100% 100%	FAI,daily report Temp. REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
TH601assembly-1(insert and bent wire)	Material	P/N , Supplier	Bom	IPQC	100%	FAI,daily report	ONCE/2HOURES	Corrective action Stop operation
TH601assembly-2(solder wire)	Material Iron temp.	P/N , Supplier 343-440°C	Bom Iron temp. tester	IPQC IPQC	100% 100%	FAI,daily report Iron REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Re-adjust
TH601assembly-2(Heat tube)	Material Heater temp.	P/N , Supplier 4-6cm,3-5s 125-285 ⁰ C	Bom Temp. tester	IPQC IPQC	100% 100%	FAI,daily report Temp. REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
Cut D405,BD1,D1,Q1,Q2,U402,D401,D402 lead	Material ESD	P/N , Supplier Pass/FAI,daily reportl	Bom ESD tester	IPQC IPQC	100% 100%	FAI,daily report ESD REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
Cut ZNR1 lead	Material	P/N , Supplier	Bom	IPQC	100%	FAI,daily report	ONCE/2HOURES	Corrective action Stop operation
cover ZNR1with Heat shrink tube	Material Heater temp.	P/N , Supplier 4-6cm,3-5s 125-285 ⁰ C	Bom Temp. tester	IPQC IPQC	100% 100%	FAI,daily report Temp. REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
cover J4,J14with Heat shrink tube	Material Heater temp.	P/N , Supplier 4-6cm,3-5s 125-285 ⁰ C	Bom Temp. tester	IPQC IPQC	100% 100%	FAI,daily report Temp. REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
Cut C224 lead	Material	P/N , Supplier	Bom	IPQC	100%	FAI,daily report	ONCE/2HOURES	Corrective action Stop operation
Cut D201 lead	Material	P/N , Supplier	Bom	IPQC	100%	FAI,daily report	ONCE/2HOURES	Corrective action Stop operation

Process Material preparation	Control Points	Control parameter	Methods					Reactions if out of control
			Tools	Responsibility	Sample size	Record	Frequency	
Cut D301 lead	Material	P/N , Supplier	Bom	IPQC	100%	FAI,daily report	ONCE/2HOURES	Corrective action Stop operation
cover D301with Heat shrink tube	Material Heater temp.	P/N , Supplier 4-6cm,3-5s 125-285 ⁰ C	Bom Temp. tester	IPQC IPQC	100% 100%	FAI,daily report Temp. REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
Cut ZNR1 lead	Material	P/N , Supplier	Bom	IPQC	100%	FAI,daily report	ONCE/2HOURES	Corrective action Stop operation
Stick tape on U2	Material	P/N , Supplier	Bom	IPQC	100%	FAI,daily report	ONCE/2HOURES	Corrective action Stop operation
Stick label on C2	Material	P/N , Supplier	Bom	IPQC	100%	FAI,daily report	ONCE/2HOURES	Corrective action Stop operation
Stick version label on C1	Material	P/N , Supplier	Bom	IPQC	100%	FAI,daily report	ONCE/2HOURES	Corrective action Stop operation
cover L40 shield with tape	Material	P/N , Supplier	Bom	IPQC	100%	FAI,daily report	ONCE/2HOURES	Corrective action Stop operation
L40 shield forming	Material	P/N , Supplier	Bom	IPQC	100%	FAI,daily report	ONCE/2HOURES	Corrective action Stop operation
Cut C202 lead	Material	P/N , Supplier	Bom	IPQC	100%	FAI,daily report	ONCE/2HOURES	Corrective action Stop operation
R5 lead forming	Material Forming machine	P/N , Supplier Maintenance	Bom Maintaining plan	IPQC IPQC	100% 100%	FAI,daily report Maintenance report	ONCE/2HOURES Once/day	Corrective action Stop operation
add HS tube to R5	Material Heater temp.	P/N , Supplier 4-6cm,3-5s 125-285 ⁰ C	Bom Temp. tester	IPQC IPQC	100% 100%	FAI,daily report,daily report Temp. REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
add HS tube to R6	Material Heater temp.	4-6cm,3-5s 125-285 ⁰ C	Bom Temp. tester	IPQC IPQC	100% 100%	FAI,daily report Temp. REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
Lock D1,Q1 on HS1	Material ESD, Screw driver torque	P/N , Supplier Pass/Fail 6-8kgf.cm	Bom ESD tester Torque tester	IPQC IPQC IPQC	100% 100% 100%	FAI,daily report ESD REPORT Torque report	ONCE/2HOURES ONCE/SHIFT ONCE/SHIFT	Stop operation Replace with a good one Replace with a good one
Lock BD1,Q2 on HS2	Material ESD, Screw driver torque	P/N , Supplier Pass/Fail 6-8kgf.cm	Bom ESD tester Torque tester	IPQC IPQC IPQC	100% 100% 100%	FAI,daily report ESD REPORT Torque report	ONCE/2HOURES ONCE/SHIFT ONCE/SHIFT	Stop operation Replace with a good one Replace with a good one

Process	Control Points	Control parameter	Methods					Reactions if out of control
			Tools	Responsibility	Sample size	Record	Frequency	
Material preparation								
HS1 inspection	Material ESD	P/N , Supplier Pass/FAI,daily	Bom tester	ESD IPQC	100% 100%	FAI,daily report ESD REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
LockU402,D401,D402 on HS2	Material ESD, Screw driver torque	P/N , Supplier Pass/Fail 6-8kgf.cm	Bom tester Torque tester	ESD IPQC IPQC	100% 100% 100%	FAI,daily report ESD REPORT Torque report	ONCE/2HOURES ONCE/SHIFT ONCE/SHIFT	Stop operation Replace with a good one Replace with a good one
Lock TH601 on HS2	Material ESD, Screw driver torque	P/N , Supplier Pass/Fail 5-7kgf.cm	Bom tester Torque tester	ESD IPQC IPQC	100% 100% 100%	FAI,daily report ESD REPORT Torque report	ONCE/2HOURES ONCE/SHIFT ONCE/SHIFT	Stop operation Replace with a good one Replace with a good one
HS2 inspection	Material ESD	P/N , Supplier Pass/FAI,daily	Bom tester	ESD IPQC	100% 100%	FAI,daily report ESD REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
Lock D405,Q401,SCR1 on HS3	Material ESD, Screw driver torque	P/N , Supplier Pass/Fail 6-8kgf.cm	Bom tester Torque tester	ESD IPQC IPQC	100% 100% 100%	FAI,daily report ESD REPORT Torque report	ONCE/2HOURES ONCE/SHIFT ONCE/SHIFT	Stop operation Replace with a good one Replace with a good one
HS3 inspection	Material ESD	P/N , Supplier Pass/FAI,daily	Bom tester	ESD IPQC	100% 100%	FAI,daily report ESD REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one

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Hipro P/N : DL-U1806F3	Supplier :Hipro DG	Control Location	
Dell P/N : 1N405	Facility :	- Receiving inspection	
Product Revision : H01		- In-Process	
		- Final Inspection	
Plan Effective Date: FEB 04,2002			DOC NO: 1-ENG-65

Process Manual insertion	Control Points	Control parameter	Methods					Reactions if out of control
			Tools	Responsibility	Sample size	Record	Frequency	
Put the PCB on line	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	100% 100%	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	STOP OPERATOIN Replace with good ESD WRIST
Fix the cable and connector	Material	P/N,Supplier,	BOM	IPQC	100%	FAI REPORT	Once/2 hours	STOP OPERATOIN
insert blue,grey,yellow wire	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	100% 100%	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	STOP OPERATOIN Replace with good ESD WRIST
insert violet,green,red wire	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	100% 100%	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	STOP OPERATOIN Replace with good ESD WRIST
Insert orange black	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	100% 100%	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	STOP OPERATOIN Replace with good ESD WRIST
InsertVR401,U403,U102,C116	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	100% 100%	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	STOP OPERATOIN Replace with good ESD WRIST
Insert C113 ,C114,IC7,U103	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	100% 100%	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	STOP OPERATOIN Replace with good ESD WRIST
InsertC601,Q101,R10,U1N)	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	100% 100%	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	STOP OPERATOIN Replace with good ESD WRIST
InsertQ111,C115,C418,,R425	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	100% 100%	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	STOP OPERATOIN Replace with good ESD WRIST
InsertQ601,C414,C501,C404	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	100% 100%	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	STOP OPERATOIN Replace with good ESD WRIST
InsertC417,C410,R422,L4	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	100% 100%	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	STOP OPERATOIN Replace with good ESD WRIST

InsertC408,L5,L3,U801	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC	IPQC	100% 100%	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	STOP OPERATOIN Replace with good ESD WRIST
Process Manual insertion	Control Points	Control parameter	Methods						Reactions if out of control
			Tools	Responsibility	Sample size	Record	Frequency		
InsertC407,U401,C303,C305	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC	IPQC	100% 100%	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	STOP OPERATOIN Replace with good ESD WRIST
InsertHS2(U402,D401,D402), C419,CY1	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC	IPQC	100% 100%	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	STOP OPERATOIN Replace with good ESD WRIST
InsertC409,HS3(SCR1,Q401, D405)	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC	IPQC	100% 100%	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	STOP OPERATOIN Replace with good ESD WRIST
InsertC202,C8,R6,AC1	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC	IPQC	100% 100%	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	STOP OPERATOIN Replace with good ESD WRIST
InsertC6,R5,TH601	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC	IPQC	100% 100%	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	STOP OPERATOIN Replace with good ESD WRIST
InsertZNR1,TH1,F1,F1 CLIP	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC	IPQC	100% 100%	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	STOP OPERATOIN Replace with good ESD WRIST
InsertC4,C2,C7,C1	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC	IPQC	100% 100%	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	STOP OPERATOIN Replace with good ESD WRIST
InsertHS1(BD1,D1,Q1,Q2)	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC	IPQC	100% 100%	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	STOP OPERATOIN Replace with good ESD WRIST
InsertT1,CB,Stick label on T1	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC	IPQC	100% 100%	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	STOP OPERATOIN Replace with good ESD WRIST
Final cable inspection	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC	IPQC	100% 100%	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	STOP OPERATOIN Replace with good ESD WRIST
Final component inspection	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC	IPQC	100% 100%	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	STOP OPERATOIN Replace with good ESD WRIST

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Hipro P/N : DL-U1806F3	Supplier : Hipro DG	Control Location	
Dell P/N : 1N405	Facility :	- Receiving inspection	
Product Revision : H01		- In-Process	
		- Final Inspection	
Plan Effective Date: FEB 04,2002			DOC N° 1-ENG-65

Process Assembly	Control Points	Control parameter	Methods					Reactions if out of control
			Tools	Responsibility	Sample size	Record	Frequency	
Stick rubber tape and Mylar on the fan	Material	P/N,Supplier	BOM	IPQC	100%	FAI,Daily report	Once/2hours	STOP OPERATION
Lock the fan	Material Screw torque	P/N,Supplier 6-8KGF.CM	BOM Screw torque tester	IPQC IPQC	100% 100%	FAI,Daily report Screw torque report	Once/2hours Once/shift	Stop operation Re-adjust the torque
FIX L40	Material	P/N,Supplier	BOM	IPQC	100%	FAI, Daily report	Once/2 hours	STOP OPERATION
solder the L40 cover	Material Solder iron temp.	P/N,Supplier 343-440-DEG C	BOM Temperature tester	IPQC IPQC	100% 100%	FAI,Daily report Iron temp record	Once/2hours Once/shift	stop operation Replace with good iron
SOLDER FAN LEAD	Solder iron temp.	Temp:343-440 DEGC resister:0.8-0.9mohm	Thermometer	IPQC	100%	Iron temp record	Once/shift	Replace with good one
INSPECT THE LEAD	solder joint	solder short,crack	workmanshi p standard	IPQC	100%	FAI,Daily report	Once/2hours	Corrective action Stop operation
INLET ASSEMBLy	Material	P/N,Supplier	BOM	IPQC	100%	FAI Daily report	Once/2hours	STOP OPERATION
Lock grounding wire	Material Screw torque	P/N,Supplier 8-10KGF.CM	BOM Screw torque tester	IPQC IPQC	100% 100%	FAI,Daily report Screw torque report	Once/2hours Once/shift	Stop operation re-adjust torque
PCB AND AC Inlet assembly	Material Screw torque	P/N,Supplier 9-12KGF.CM	BOM Screw torque	IPQC IPQC	100% 100%	FAI,Daily report Screw torque	Once/2hours Once/shift	Stop operation re-adjust torque
SCREW MB	Screw driver torque	9-12kg.cm(s/c)(Screw	Torque meter	IPQC	100%	Torque record	Once/day	Adjust torque
FIX WIRE	Material	P/N,Supplier	BOM	IPQC	100%	FAI Daily report	Once/2hours	STOP OPERATION
INSERT GOLDEN FINGER	Golden finger	short ,pin ,dirty	Maintaining plan	IPQC	100%	Maintaining repor	Once/day	Corrective action Stop operation
INI TEST	Tolerance	+/-20mV	unit' Check List	Engineering IPQC	100% 100%	Inial test report	Once/day	Replace with good fixture
GLUE	Material	P/N,Supplier	WI	IPQC	100%	FAI,Daily report	Once/2hours	STOP OPERATION

STICK MYLAR ON COVER	Material	P/N, Supplier	WI	IPQC	100%	FAI,daily report	Once/2hours	stop operation
Process Assembly	Control Points	Control parameter	Methods					Reactions if out of control
			Tools	Responsibility	Sample size	Record	Frequency	
INTERNAL INSPECTION	component missing short,deflection	pass/fail	WI	IPQC	100%	daily report	Once/day	stop operation
Cover assembly	Material	P/N,Supplier	BOM	IPQC	100%	FAI Daily report	Once/2hours	STOP OPERATION
Lock FAN screw	Material Screw torque	P/N,Supplier 6-8KGF.CM	BOM Screw torque tester	IPQC IPQC	100% 100%	FAI Daily report Screw torque report	Once/2hours Once/shift	Stop operation re- adjust torque
Lock COVER screw	Material Screw torque	P/N,Supplier 6-8KGF.CM	BOM Screw torque tester	IPQC IPQC	100% 100%	FAI Daily report Screw torque report	Once/2hours Once/shift	Stop operation adjust torque
FIX WIRE	Material	P/N,Supplier	BOM	IPQC	100%	FAI Daily report	Once/2hours	Corrective action stop operation
STICK FLOW CONTROL LABEL AND S/N	Material Location	P/N, Supplier Fixture	bom Checklist	IPQC IPQC	100% 100%	FAI Daily report Maintaining report	Once/2hours Once/shift	Corrective action stop operation
PRE-B/ITEST	Chroma 6000	File name same as modle name	Standard unit	IPQC	100%	Ate test report	Once/day	Corrective action Stop operation
Hi-Pot/SCAN LABEL	Set up parameter Fixture	2mA<I<10mA@3sec 1800vAC Pass/Fail	Check List Standard unit	IPQC IPQC	100% 100%	Hipot test report	once/shift	Corrective action Stop operation
COSMETIC INSPECTION-1	scratch,deforma tion,oxide	pass/fail	checklist	IPQC	100%	daily report	once/day	Corrective action Stop operation
COSMETIC INSPECTION-2	wire broken ,dirty	pass/fail	checklist	IPQC	100%	daily report	once/day	Corrective action Stop operation

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PMP (PROCESS MANAGEMENT PLAN)

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Hipro P/N : DL-U1806F3		Supplier :Hipro DG		Control Location				2002.12.02	
Dell P/N : 1N405		Facility :		- Receiving inspection - In-Process - Final Inspection					
Product Revision :H01				Plan Effective Date: 2002/02/04				DOC NO 1-ENG-65	
Process PACKING	Control Points	Control parameter	Methods					Reactions if out of control	
			Tools	Responsibility	Sample size	Record	Frequency		
Cosmetic inspection	Case scratch,oxide ,cable broken	Pass/Fail	checklist	IPQC	100%	Daily report	Once/2hours	Corrective action Stop operation	
Hipot Test 2 Grounding Test	Set up parameter Fixture	2mA<l<10mA @3sec 1800vAC 2 sec under 25A Pass/Fail	Check List	IPQC	100%	Hipot test report Grounding test report	Once/day	Corrective action	
			Standard unit	IPQC	100%		Twice/shift and Change model	Stop operation	
OLP TEST(Bench testing)	Set up parameter Fixture	+12V:19A,+5V:47A, +3.3V:35A,+5VFP:5A PASS/FAIL	WI(Dell spec)	Engineering	100%	Final test report FAI REPORT	Once/day Twice/shift and Change model	Corrective action	
			Standard unit	IPQC	100%		Stop operation		
OLP TEST(Bench testing)	Set up parameter Fixture	+12V:13.5-15V,+5V:5.6 -7.0V,+3.3V:3.76-4.3V PASS/FAIL	WI(Dell spec)	Engineering	100%	Final test report FAI REPORT	Once/day Twice/shift and Change model	Corrective action	
			Standard unit	IPQC	100%		Stop operation		
ATETest *Critical process	Tolerance File name	+20mV DL-U1806F3	Check List	Engineering	100%	Final test report FAI REPORT	Once/day Twice/shift and Change model	Corrective action	
			Standard unit	IPQC	100%		Stop operation		
Harmonic Test	Tolerance File name	PASS/FAIL	Check List	Engineering	100%	Final test report FAI REPORT	Once/day Twice/shift and Change model	Corrective action	
			Standard unit	IPQC	100%		Stop operation		
Pull out golden finger	workmanship	Pass/Fail	WI	IPQC	100%	Daily report	Once/2 hours	Corrective action Stop operation	
Cable Test	Fixture	Pass/Fail	Standard unit	IPQC	100%	daily report	Once/day	Corrective action	
cable measurement	Fixture	Pass/Fail	checklist	Ipqc	100%	Daily report	Once/day	corrective action	
cable cleaning	cosmetic	dirty	WI	MFG	100%	Daily report	Once/2hours	corrective action	
Cosmetic inspection	Cosmetic	Case scratch ,oxide,dirty	checklist	IPQC	100%	Daily report	Once/2hours	corrective action	
Stick model Label	Material Location	P/N ,Fixture	bom ,checklist	IPQC	100%	Daily report	Once/2hours	corrective action	
stick bar code	Material Location	P/N ,Fixture	bom ,checklist	IPQC	100%	Daily report	Once/2hours	corrective action	
Turn on test	Fixture	Pass/Fail	Standard unit	IPQC	100%	Maintaining report	once /day	Corrective action Stop operation	
P1 INSPECTION	fixture ,gas pressure	Pass/Fail	Maintaining plan	IPQC	100%	Maintaining report	once /day	Corrective action Stop operation	
Final label inspection	Cosmetic,location	Pass/Fail	checklist	IPQC	100%	Daily report	Once/2hours	Corrective action Stop operation	
Process PACKING	Control Points	Control parameter	Methods					Reactions if out of control	
			Tools	Responsibility	Sample size	Record	Frequency		
Packing	Label,Carton,Pallet	Pass/Fail	Check List	IPQC	100%	Daily report	Once/2hours	Corrective action,Stop	
seal carton	Cosmetic location	Pass/Fail	Check List	IPQC	100%	Daily report	Once/2hours	Stop operation	

DL-U1806F3 Critical Process Control Sheet

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2002.12.02

Model Name : DL-U1806F3

Dell P/N : 1N405

Product REV : H01

實施日期 : 2002/02/04

Process	Equipment	Indirect Material	Frequency	Method / Remarks
Hand insertion	N/A	N/A	100%	
Wave soldering	CL-360/SUNEAST	Solder: Tomas 63/37	once/1 month	-Profile name/revision---DL-U1806F3/H01
*Critical process		-Flux: Kester 933-7	once/2hours	
Touch up		Solder wire:Sigma 63/37 1.0mm	100%	
ICT Test	TRI/CTR518F	N/A	100%	-Program name/revision---DL-U1806F3/H01 -Coverage/Skipping components---- 195/206=94.6% / ZNR1,D401,D402,D403,D404,D405,C301,C402,C403,C404,C405
ACT Test	Chroma63010/63030	N/A	100%	-Program name/revision----DL-U1806F3/H01
Case assembly	N/A	N/A	100%	
Pre-B/I Test	Chroma 6000	N/A	100%	DL-U1806F3/H01
Hipot Test 1				
*Critical process	Extech 7440	N/A	100%	DL-U1806F3/H01
Burn-In				
*Critical process	N/A	N/A	100%	Input: 230V Total burn-in time: 24 hours Temperature: 40+/-5 oC Output/Load: (80~100%of max load): +3.3V---6.6A; +5V---10A; +12V---6A- -12V---0.24A;+5Vsb---1.5A 155w 86% Power Cycling (on/off times): (40 on/off times minimum, for example 5 minutes 10 times on/off, 25minutes on and total 2 cycle) :5minutes ON/OFF(ON 10sec.OFF 10sec)---ON 55minutes---- Monitoring (schedule / manual or automatic)/frequency: once/2hours
Hipot /Grounding test				
*Critical process	Extech 7440	N/A	100%	DL-U1806F3/H01
Grounding Test	Extech 7440	N/A	100%	
Final Test				
*Critical process	Chroma 6000	N/A	100%	DL-U1806F3 / H01
Harmonic test				
*Critical process	Chroma 6630	N/A	100%	DL-U1806F3/H01
Cable Test	N/A	N/A	100%	
Turn on test	N/A	N/A	100%	
Packing	N/A	N/A	100%	
OBA	Chroma 6000	N/A	AQL 0.4/1.0	DL-U1806F3 / H01
*Critical process				
Shipping	N/A	N/A	100%	

HIPRO**PMP (PROCESS MANAGEMENT PLAN)**

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Hipro P/N : QT-U230EF3 Dell P/N : 0X760 Product Revision : H01	HIPRO ELECTRONIC PUBLIC COMPANY LIMITED		2002.12.02
	CHINA	- Receiving inspection - In-Process - Final Inspection	
	Plan Effective Date: 2002/11/15		DOC NO: I-ENG-65

ProcessMaterial preparation		Control Points	Control parameter	Methods				Reactions if out of control
Wrok-station Name	WI No.			Tools	Responsibility	Record	Frefuence	
Inlet preforming	M/P1,2,3,4,5,6,	Material	P/N , Supplier Pass/FAI,daily reportl	Bom ESD tester needle pliers fixture incline pliers	IPQC IPQC	FAI,daily report ESD REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
J2,J3,J4,J12,J14,J18,J24 preforming	M/P7	Material	P/N , Supplier Pass/FAI,daily reportl	Bom ESD tester needle pliers	IPQC IPQC	FAI,daily report ESD REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
R422,R425 preforming	M/P8,9	Material	P/N , Supplier Pass/FAI,daily reportl	Bom ESD tester needle pliers needle pliers	IPQC IPQC	FAI,daily report ESD REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
C1,C2 preforming	M/P10	Material	P/N , Supplier Pass/FAI,daily report	Bom ESD tester cut leads machine	IPQC IPQC	FAI,daily report ESD REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
R604,R110,D205 preforming	M/P11	Material	P/N , Supplier Pass/FAI,daily report	Bom ESD tester moulding machine	IPQC	FAI,daily report	ONCE/2HOURES ONCE/SHIFT	Corrective action Stop operation
R5,R6 preforming	M/P12	Material	P/N , Supplier Pass/FAI,daily report	Bom ESD tester heat blower	IPQC	FAI,daily report	ONCE/2HOURES ONCE/SHIFT	Corrective action Stop operation
CY1,C3,C4 preforming	M/P13	Material	P/N , Supplier Pass/FAI,daily report	Bom ESD tester fixture incline pliers	IPQC IPQC	FAI,daily report Temp. REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Re-adjust

ProcessMaterial preparation		Control Points	Control parameter	Methods				Reactions if out of control
Wrok-station Name	WI No.			Tools	Responsibility	Record	Frefuence	

C6 preforming	M/P14	Material	P/N , Supplier Pass/FAI,daily report	Bom ESD TESTER fixture incline pliers	IPQC	FAI,daily report	ONCE/2HOURES ONCE/SHIFT	Corrective action Stop operation
C109 coat shrink tube	M/P15	Material	P/N , Supplier	Bom ESD tester heat blower	IPQC IPQC	FAI,daily report Temp. REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
BD1 coat shrink tube	M/P16	Material	P/N , Supplier	Bom ESD TESTER	IPQC	FAI,daily report	ONCE/2HOURES	Corrective action Stop operation
BD1 LEADS CUTTING	M/P17	Material ESD tester	P/N , Supplier	Bom air cutter	IPQC	FAI,daily report	ONCE/2HOURES	Stop operation
D2 preforming	M/P18	Material ESD tester	P/N , Supplier	Bom Temp. tester	IPQC IPQC	FAI,daily report Temp. REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
D2 Leads cutting	M/P19	Material ESD tester	P/N , Supplier	Bom Temp. tester fixture air cutter	IPQC IPQC	FAI,daily report Temp. REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
D406 coat shrink tube	M/P20	Material	P/N , Supplier Pass/FAI,daily reportl	Bom ESD tester Blower fixture incline pliers	IPQC IPQC	FAI,daily report ESD REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
D406 preforming	M/P21	Material	P/N , Supplier Pass/FAI,daily reportl	Bom ESD tester incline pliers	IPQC IPQC	FAI,daily report ESD REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
TH1&TH2 coat shrink tube	M/P22	Fixture ESD tester	P/N , Supplier	WI heat blower	IPQC	FAI,daily report	ONCE/2HOURES ONCE/SHIFT	Corrective action Stop operation
TH1&TH2 Leads cutting	M/P23	Fixture ESD tester	P/N , Supplier	WI incline pliers	IPQC	FAI,daily report	ONCE/2HOURES ONCE/SHIFT	Corrective action Stop operation
ProcessMaterial preparation		Control Points	Control parameter	Methods				Reactions if out of control
				Tools	Responsibility	Record	Frequence	
Wrok-station Name	WI No.							
D301 LEAD BENDING	M/P26	Material	P/N , Supplier	Bom ESD tester air cutter	IPQC	FAI,daily report	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one

HS Copper sheet preforming	M/P27	Material	P/N , Supplier	Bom ESD tester air cutter	IPQC	FAI,daily report	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
Electrolysis Capacitance Leads cutting	M/P28	Material ESD tester	P/N , Supplier	Bom auto leads cutting machine fixture	IPQC IPQC	FAI,daily report Temp. REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
C7 Leads CUTTING	M/P29	Material ESD tester	P/N , Supplier	Bom cut leads machine	IPQC IPQC	FAI,daily report Temp. REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
Electrolysis Capacitance Leads cutting	M/P30, 31	Material ESD tester	P/N,Supplier	Bom inline pliers fixture	IPQC	FAI,Daily report	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
C302 LEADS CUTTING	M/P32	Material ESD tester	P/N , Supplier	Bom incline pliers	IPQC IPQC	FAI,daily report Temp. REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
C202 LEADS CUTTING	M/P33	Material ESD tester	P/N , Supplier	Bom incline pliers	IPQC IPQC	FAI,daily report Temp. REPORT	ONCE/子 HOURES ONCE/SHIFT	Stop operation Replace with a good one
C202 PREFORMING	M/P34	Material ESD tester	P/N , Supplier	Bom fixture	IPQC	FAI,daily report	ONCE/2HOURES	Corrective action Stop operation
HS1 Mounted components LEADS CUTTING	M/P35	Material ESD tester	P/N , Supplier	Bom fixture leads cutting machine	IPQC	FAI,daily report	ONCE/2HOURES	Corrective action Stop operation
HS2 mounted components LEADS CUTTING	M/P36	Material ESD tester	P/N , Supplier	Bom fixture leads cutting machine	IPQC	FAI,daily report	ONCE/2HOURES	Corrective action Stop operation
HS3 mounted components LEADS CUTTING	M/P37	Material ESD tester	P/N , Supplier	Bom fixture leads cutting machine	IPQC	FAI,daily report	ONCE/2HOURES	Corrective action Stop operation
ProcessMaterial preparation		Control Points	Control parameter	Methods				Reactions if out of control
Wrok-station Name	WI No.			Tools	Responsibility	Record	Frequence	
LOCK components TO HS3	M/P40	Material Screw driver torque ESD tester	P/N , Supplie 6-8 kgf.cm	Bom driver meterfixture	IPQC IPQC	FAI,daily report Temp. REPORT	ONCE/2HOURES ONCE/SHIFT	Stop operation Replace with a good one
LOCK TH601TO HS2	M/P41	Material Screw driver torque ESD tester	P/N , Supplier 6-8 kgf.cm	Bom driver meter	IPQC	FAI,daily report	ONCE/2HOURES	Corrective action Stop operation

TH601 LEADS CUTTING	M/P42	Material ESD tester	P/N , Supplier	Bom leads cutting machine	IPQC	FAI,daily report	ONCE/2HOURES	Corrective action Stop operation
TH601 coat shrink tube	M/P43	Material ESD Tester	P/N , Supplier	Bom heat blower	IPQC	FAI,daily report	ONCE/2HOURES	Corrective action Stop operation
R6 coat SHRINK TUBE	M/P44	Material	P/N , Supplier	Bom heat blower	IPQC	FAI,daily report	ONCE/2HOURES	Corrective action Stop operation
D8 preforming	M/P45	Material	P/N , Supplier	Bom moulding machine	IPQC	FAI,daily report	ONCE/2HOURES	Corrective action Stop operation
ZNR1 C8 COAT SHRINK TUBE	M/P46	Material	P/N , Supplier	Bom moulding machine	IPQC	FAI,daily report	ONCE/2HOURES	Corrective action Stop operation
ZNR1 C8 LEADS CUTTING	M/P47	Material	P/N , Supplier	Bom moulding machine	IPQC	FAI,daily report	ONCE/2HOURES	Corrective action Stop operation
F1 preforming	M/P48	Material	P/N , Supplier	Bom moulding machine	IPQC	FAI,daily report	ONCE/2HOURES	Corrective action Stop operation
F1 COAT SHRINK TUBE	M/P49	Material	P/N , Supplier	Bom moulding machine	IPQC	FAI,daily report	ONCE/2HOURES	Corrective action Stop operation
R5 R6 coat SHRINK TUBE	M/P50	Material	P/N , Supplier	Bom heat blower	IPQC	FAI,daily report	ONCE/2HOURES	Corrective action Stop operation

HIPRO

PMP (PROCESS MANAGEMENT PLAN)

DOCUMENT CENTER

Hipro P/N : QT-U230EF3 Dell P/N : 0X760 Product Revision : H01	Supplier : Hipro DG	Control Location		2002.12.02
	Facility : China	- Receiving inspection		
			- In-Process	
			- Final Inspection	
	Plan Effective Date: 2002/11/1			DOC NO:I-ENG-65

Process/Manual insertion		Control Points	Control parameter	Methods				Reactions if out of control
Station Name	WI No.			Tools	Responsibility	Record	Frequency	
Small PCBA Input	M/I 1	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	Corrective action Stop operation
Insert C604 & Q602	M/I 2	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours	Corrective action Stop operation
insert U601 C605	M/I 3	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	Corrective action Stop operation
insert Q603 Q601	M/I 4	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	Corrective action Stop operation
insert U602,C601	M/I 5	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	Corrective action Stop operation
insert U1	M/I 6	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	Corrective action Stop operation
Process/Manual insertion		Control Points	Control parameter	Methods				Reactions if out of control
Station Name	WI No.			Tools	Responsibility	Record	Frequency	

insert U801,JK3	M/I 7	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC	IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	Corrective action Stop operation
insert A5,A7	M/I 8	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC	IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	Corrective action Stop operation
insert Q101,R604	M/I 9	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC	IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	Corrective action Stop operation
insert D205,C201	M/I 10	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC	IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	Corrective action Stop operation
insert C302,D201	M/I 11	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC	IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	Corrective action Stop operation
insert U301,C224	M/I 12	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC	IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	Corrective action Stop operation
insert D301,A4	M/I 13	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC	IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	Corrective action Stop operation
insert U2	M/I 14	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC	IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	Corrective action Stop operation
Process/Manual insertion		Control Points	Control parameter	Methods				Reactions if out of control	
Station Name	WI No.			Tools	Responsibility	Record	Frequency		

insert IC6, A2	M/I 15	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC	IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	Corrective action Stop operation
insert L1,JK2	M/I 16	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC	IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	Corrective action Stop operation
Insert T2	M/I 17	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC	IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	Corrective action Stop operation
Final component inspection & Q601 reposition	M/I 18	Material ESD	P/N,Supplier, pass/fail	WI ESD tester	IPQC	IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	Corrective action Stop operation
Small PCBA Wave soldering	Critical Process	Solder temp. pressure gauge Preheat temp. Flux gravity Chain speed	240-250 Deg c 2.5-3.5kg/cm2 Zone1:190-230; Zone2:190-250 Deg c 0.79-0.83 1.3-1.9M/min	Thermomete r Presure meter Thermomete r Hydrometer speed	Engineering		X-Bar -R Chart Maintain report maintain report control record maintain report	Once/2 hours	machine parameter adjust Stop operation
PCBA SOLDER SURFACE INSPECT	solder surface inspection1,2 ,3,4,5	Material ESD	soldering short,crack,floating, non-soldering,dirty	WI ESD tester	IPQC	IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	Corrective action Stop operation
IPOC SOLDER SURFACE AUDIT	Critical Process	Material ESD	soldering short,crack,floating, non-soldering,dirty	WI ESD tester	IPQC	IPQC	P-chart magnifier	Once/2 hours Once/shift	Stop operation
convey PCBA	transit1	Material ESD	P/N,Supplier, pass/fail	WI ESD tester	IPQC	IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	Corrective action Stop operation

HIPRO

PMP (PROCESS MANAGEMENT PLAN)

Hipro P/N : QT-U230EF3	Supplier :Hipro DG	Control Location	DOCUMENT CENTER
Dell P/N : 0X760	Facility : China	- Receiving inspection - In-Process - Final Inspection	2002.12.02
Product Revision : H01	Plan Effective Date: 2002/11/15		DOC NO: I-ENG-65

Process Manual insertion		Control Points	Control parameter	Methods				Reactions if out of control
Station name	WI No.			Tools	Responsibility	Record	Frequency	
IQC inspection	Critical Process	Material ESD	P/N,Supplier, pass/fail	AVL,AQL, SPEC	IQC inspector	Daily REPORT, critical dimension CPK	N/A	IQC INSPECTION FLOWCHART
AI COMPONENT INSPECT AND J14,J24 LEADS BEND	MIP01 (M/S materials preforming	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	Corrective action Stop operation
J12,LF1,J18 LEADS BEND	MIP02	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours	Corrective action Stop operation
J4,L2 LEADS BEND	MIP03	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	Corrective action Stop operation
L601,J2,J3, N1 LEADS BEND	MIP04	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	Corrective action Stop operation
LF2,L40, LEADS BEND	MIP05	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	Corrective action Stop operation
R1,C803,J2,J3,J4,J12, J14,J18,J24,N1,L601, L2,LF1,LF2,L40 insert inspect	MIP06	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	Corrective action Stop operation

Process Manual insertion		Control Points	Control parameter	Methods				Reactions if out of control
Station name	WI No.			Tools	Responsibility	Record	Frequency	
PCBA INPUT & Insert copper sheet	MI01	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	Corrective action Stop operation
DC wires binding coat shrink tube	MI02	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	Corrective action Stop operation
DC wires insert	MI03;04;05	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	Corrective action Stop operation
insert VR401,C116,IC7,Q701	MI06	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	Corrective action Stop operation
insert C113,C806,IC8,C115,C114	MI07	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	Corrective action Stop operation
insert U403,U802,U103,U401	MI08	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	Corrective action Stop operation
insert U102,Q111,Q702,C701	MI09	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	Corrective action Stop operation
insert C418,R415,U103,C806,R102	MI10	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	Corrective action Stop operation
insert HS2(U402,TH601,D401;D402)	MI11	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	Corrective action Stop operation

Process Manual insertion		Control Points	Control parameter	Methods				Reactions if out of control
Station name	WI No.			Tools	Responsibility	Record	Frequency	
Insert C410,C409,CY1,L4,C2 02	MI14	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	Corrective action Stop operation
Insert HS3(Q401,D405,SCR 1)	MI15	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	Corrective action Stop operation
Insert R5,D8,C6,R110	MI16	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	Corrective action Stop operation
Insert C109,C8,C3,C4,C2	MI17	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	Corrective action Stop operation
Insert HS1(Q2,Q1,D1)	MI18	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	Corrective action Stop operation
Insert Copper sheet,A8,A6,BD1,C80 6)	MI19	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	Corrective action Stop operation
Insert D2,C7,AC1,C1	MI20	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	Corrective action Stop operation
Insert T1,C305,C303,R6	MI21	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	Corrective action Stop operation
Insert A1,A3,ZNR1,TH1,TH2	MI22	Material ESD	P/N,Supplier, pass/fail	BOM ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	Corrective action Stop operation

Process Manual insertion		Control Points	Control parameter	Methods				Reactions if out of control
Station name	WI No.			Tools	Responsibility	Record	Frequency	
PCBA Relay	MI25	Material ESD	pass/fail	WI ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	Corrective action Stop operation
TOUCH UP	Touch up 1,2,3	Material ESD	soldering short,crack,floating,n on-soldering	WI ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	Corrective action Stop operation
IPOC SOLDER SURFACE AUDIT	Critical Process	Material ESD	soldering short,crack,floating,n on-soldering,dirty	WI ESD tester	IPQC IPQC	P-chart FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	Corrective action Stop operation
ICT Test	Critical Process	ICT Program/ Version Open/Short Component polarity Missing component Value Wire test	QT-U230EF3 Ver: 01 Defect unit>3(Continus)	Ict tester standard PCB	IPQC MFG	Ict test report	Once/shift Once/2 hours	Corrective action Stop operation
Electrolysis Cap. Audit	CAP. AUDIT	Material ESD	P/N,Supplier, pass/fail	WI ESD tester	IPQC IPQC	FAI,Daily REPORT ESD TEST REPORT	Once/2 hours Once/shift	Corrective action Stop operation

HIPRO
PMP (PROCESS MANAGEMENT PLAN)

DOCUMENT CENTER

2002.12.02

Hipro P/N : QT-U230EF3	Supplier : Hipro DG	Control Location	
Dell P/N : 0X760	Facility : China	- Receiving inspection	
Product Revision : H01		- In-Process	
		- Final Inspection	
	Plan Effective Date: 2002/11/15		DOC NO:I-ENG-65

Process		Control Points	Control parameter	Methods				Reactions if out of control
Station Name	WI No.			Tools	Responsibility	Record	Frequency	
take the chassis	AS01	Material	P/N,Supplier	BOM	IPQC	FAI,Daily report	Once/2hours	STOP OPERATION
left and right fans wire coat shrink tube	AS02	Material	P/N,Supplier	BOM,WI	IPQC	FAI, Daily report	Once/2 hours	STOP OPERATION
heating left and right fans wire coat shrink tube	AS03	Material	P/N,Supplier	blower	IPQC	FAI, Daily report	Once/2 hours	STOP OPERATION
FAN B PREFORMING	AS04	Material	P/N,Supplier	WI	IPQC	FAI, Daily report	Once/2 hours	STOP OPERATION
FAN A PREFORMING	AS05	Material	P/N,Supplier	WI	IPQC	FAI, Daily report	Once/2 hours	STOP OPERATION
FanS wires processing	AS6,7,8,9,10	Material	P/N,Supplier	WI	IPQC	FAI, Daily report	Once/2 hours	STOP OPERATION
Lock Fan-A	AS11	Material screw touque	P/N,Supplier 6-8KGF.CM	BOM Screw torque tester	IPQC IPQC	FAI Daily report Screw torque report	Once/2hours Once/shift	Stop operation re- adjust torque
set up inlet	AS12	Material	P/N,Supplier	BOM Screw torque tester	IPQC IPQC	FAI Daily report Screw torque report	Once/2hours Once/shift	Stop operation re- adjust torque
Lock inlet GND wire	AS13	Material Screw torque	P/N,Supplier 10-12KGF.CM	BOM Screw torque tester	IPQC IPQC	FAI Daily report Screw torque report	Once/2hours Once/shift	Stop operation re- adjust torque
Lock Fan-B	AS14	Material Screw torque	P/N,Supplier 6-8KGF.CM	BOM Screw torque tester	IPQC IPQC	FAI Daily report Screw torque report	Once/2hours Once/shift	Stop operation re- adjust torque

Process Assembly		Control Points	Control parameter	Methods				Reactions if out of control
Station Name	WI No.			Tools	Responsibility	Record	Frequency	
INSERT MYLAR	AS17	Material	P/N,Supplier	workmanship standard	IPQC	FAI, Daily report	Once/2 hours	STOP OPERATION
PVC TUBE COVER to FAN WIRE	AS18	Material	P/N,Supplier	WI	IPQC	Torque record	Once/day	Stop Operation
Fan-A wire terminals solder with PCB	AS19	Material	P/N,Supplier	WI	IPQC	FAI,Daily report	Once/2hours	STOP OPERATION
Fan-B wire terminals soldering with PCB	AS20	Material	P/N,Supplier	WI	IPQC	FAI,Daily report	Once/2hours	STOP OPERATION
Fan solder points check	AS21	Solder	soldering short,crack,floatin g,non-soldering	WI	IPQC	FAI Daily report	Once/2hours	STOP OPERATION
Fix PCBA with chassis	AS22	Material	P/N,Supplier	workmanship standard	IPQC	FAI,Daily report	Once/2hours	Stop operation
LOCK PCBA	AS23	Screw driver torque	9-11kg.cm(s/c)(Screw PCB)	Torque meter	IPQC	Torque record	Once/day	Adjust torque Stop operation
Insert AC terminal	AS24	Material	P/N, Supplier	WI	IPQC	FAI,daily report	Once/2hours	stop operation
ARRANGING WIRES	AS25	Material	P/N, Supplier	WI	IPQC	FAI,daily report	Once/1hours	stop operation
Cabel Measure	AS26	Fixture	P1 Length= 82~85 mm	IPQC Checklist WI	IPQC	Inial test report (35PCS) CP/CPK for dimension	Once/day	stop operation
Assembly PSU terminals into test board	AS27	Material	P/N, Supplier	WI	IPQC	FAI,daily report	Once/1hours	stop operation
Drop glue	AS28	Material	P/N, Supplier	WI	IPQC	FAI,daily report	Once/2hours	stop operation

Process Assembly		Control Points	Control parameter	Methods				Reactions if out of control
Station Name	WI No.			Tools	Responsibility	Record	Frequency	
Internal inspection	AS29	component missing short,deflection;	pass/fail	WI	IPQC	daily report	Once/day	stop operation
lock cover	AS32	Material Screw torque	P/N,Supplier 7-9KGF.CM	BOM Screw torque tester	IPQC IPQC	FAI Daily report Screw torque report	Once/2hours Once/shift	Stop operation adjust torque
stick serial NO. label	AS33	Material Location	P/N, Supplier Fixture	bom Checklist	IPQC IPQC	FAI Daily report Maintaining report	Once/2hours Once/shift	Corrective action stop operation
INI Test	function test	Tolerance CHROMA6300	12V Adjust range:11.62V~11.64V	Standard unit	Engineering IPQC	IPQC IPQC Checklist	Once/2hrs	Replace fixture
PRE B/I TEST	function test	Chroma 6000	Test program name:QT-U230EF3-L VER:01	Standard unit	IPQC	Ate test report	Once/day	Corrective action Stop operation
HipoT	Critical process	Set up parameter Fixture	I <= 600uA@2121 VDC 50HZ 3Sec. Pass/Fail	Hi-pot test fixture	IPQC	Hipot test report	once/shift	Corrective action Stop operation
cosmetic inspection-1	Critical process	Case scratch,deformation,oxide	pass/fail	WI	MFG IPQC	daily report CP/CPK for critical dimension	once/day(35pcs) 100%	Corrective action Stop operation
cosmetic inspection-2	Critical process	wire broken ,dirty	pass/fail	WI	MFG IPQC	daily report CP/CPK for critical dimension	once/day(35pcs) 100%	Corrective action Stop operation
dress shield	AS34	Case scratch	pass/fail	WI	IPQC	daily report	once/day	Corrective action Stop operation
Burn In	Critical process	All output Room temp.	pass/fail 40- 50 DEG C over 90%~100% load	LED display Thermal/multi-meter	MFG IPQC	B/I room check report daily report	once/1hours once/2hours	Tag/rework Stop operation

Hipro P/N : QT-U230EF3 Dell P/N : 0X760		Supplier :Hipro DG Facility : China		Control Location				2002.12.02
Product Revision :H01				- Receiving inspection - In-Process - Final Inspection				
		Plan Effective Date: 2002/11/15						DOC NO:I-ENG-65
Process PACKING		Control Points	Control parameter	Methods				Reactions if out of control
Station name	WI No.			Tools	Responsibility	Record	Frequency	
Cosmetic Inspection/Cabel cleaning/Cosmetic Inspection	PK01/02/03	Case scratch,oxide ,cable broken;Inspect the process control lable whether "v"sign	Pass/Fail	IPQC checklist	IPQC	Daily report	Once/2hours	Corrective action Stop operation
Hipot Test 2	Critical Process	Set up parameter	I<=600uA@2121VDC R<=100mOHM@25A Pass/Fail	IPQC Checklist Standard unit	IPQC	Hipot test report Grounding test report	Once/day Twice/shift	Corrective action Stop operation
Cable TEST (Short circuit test)	Funtional test	Set up parameter	Pass/Fail	Standard unit	IPQC	Cable test report	Once/day	Corrective action
		Fixture	PASS/FAIL	Standard unit	IPQC	Cable test report	Once/day	Stop operation
OVP TEST(Bench testing)	Funtional test	Set up parameter	A. +5V OVP MAX:6.49 B: +3.3V OVP MAX:4.49V C: +12V OVP MAX:15.9V PASS/FAIL	WI(Dell spec)	Engineering	Final test report	Once/day	Corrective action
		Fixture	PASS/FAIL	Standard unit	IPQC	FAI REPORT	Twice/shift and Change model	Stop operation
ATETest	Critical Process	TEST File name CHROMAR 6000	QT-U230EF3-L VER:01	IPQC Checklist Standard unit	Engineering IPQC	Final test report FAI REPORT	Once/day Twice/shift	Corrective action Stop operation
			Pass/Fail		TE	CP/CPK for Function Dimension	once/week	
HARMONIC TEST	Funtional test	CHROMA 6630 AC-SOUSE	Verification test program name: QT-U230EF3-L VER:01	IPQC Checklist	IPQC	HARMONIC TEST REPORT	ONCE/DAY	Corrective action Stop operation
FAN TEST	Critical Process	AC SOUSE	LOAD SETTING: +5V/2A;+12V/2A;+3.3V/0 A;-12V/0A (Fan1and Fan2)all drive test sign fan drive test one fan stop ,PSU shut	AC SOUSE	TE FMG	Maintain record Fan test report	once/day once/shift	Corrective action Stop operation
Process PACKING		Control Points	Control parameter	Methods				Reactions if out of control
Station name	WI No.			Tools	Responsibility	Record	Frequency	
Turn on test	Funtional test	Fixture	Pass/Fail	Standard unit	IPQC	Maintaining report	once /day	Corrective action Stop operation
Cosmetic inspection	PK04	Cosmetic;Inspect the process control lable whether "v"sign.	Case scratch ,oxide,dirt	checklist	IPQC	Daily report	Once/2hours	corrective action
Stick model Label	PK05	Material Location	P/N ,Fixture	bom ,checklist	IPQC	Daily report	Once/2hours	corrective action
stick bar code	PK06	Material Location	P/N ,Fixture	bom ,checklist	IPQC	Daily report	Once/2hours	corrective action
Final label inspection	PK07	Cosmetic,location	Pass/Fail	checklist	IPQC	Daily report	Once/2hours	Corrective action Stop operation
Packing	PK08	Label,Carton,Pallet	Pass/Fail	IPQC Checklist	IPQC	Daily report	Once/2hours	Corrective action,Stop operation
seal carton	PK09	Cosmetic location;Mark "v"sign on the carton	Pass/Fail	IPQC Checklist	IPQC	Daily report	Once/2hours	Stop operation

QT-U230EF3 Critical Process Control Sheet

Hipro P/N : QT-U230EF3

Dell P/N : 0X760

Product REV :X05

Dell P/N : 0X760

Implement date: 2002/11/15

Process	Equipment	Indirect Material	Control parameter	Method	Frequency	Reactions if out of control
IQC inspection * Critical process	N/A	N/A	MIL-STD105E A: 04./1.0 B: 0.65/2.5	Daily report, critical dimension CPK	N/A	IQC INSPECTION FLOWCHART
Wave soldering (Daughter board and Main board) *Critical process	CL-360/SUNEAST	Solder: Tomas 63/37 -Flux: Kester 933-7	Temp profile name & rev: QT-U230EF3/X05 Solder temp:240-250 Deg c Pressure gauge: 2.5-3.5kg/cm2 Preheat temp.: Zone1:190-230; Zone2:190-250 Deg c Flux gravity: 0.79-0.83	Engineering : X-Bar -R Chart Engineering: Maintain report	Once/2 hours Once/shift	machine parameter adjust Stop operation
IPQC Solder surface Audit *Critical process	N/A	magnifier	soldering short,crack,floating,non-soldering,dirty	P-chart FAI;Daily REPORT ESD TEST Record	Once/2 hours Once/shift	Corrective action Stop operation
ICT *Critical process	TR-518F	N/A	ICT Program / Ver : QT-U230EF3 VER:01 Open/Short Component polarity Missing component Value Wire Test	MFG:ICT test report	Once/shift	Corrective action Stop operation
Safety Test 1 *Critical process	Extech 7440	N/A	I<=600uA@2121VDC 50HZ 3Sec. Pass/Fail	MFG: Hipot test report	once/shift	Stop operation
Cosmetic inspection *Critical process	N/A	N/A	Case scratch,deformation,oxide; wire broken ,dirty	MFG:Cosmetic daily report IPQC:CP/CPK for critical dimension	once/day(35pcs) All ponits	Corrective action Stop operation
Safety test 2 *Critical process	Extech 7440	N/A	I<=600uA@2121VDC R<=100mOHM@25A Pass/Fail	IPQC: Hipot test report IPQC:Grounding test Report	Once/day Twice/shift	Stop operation
Final(ATE) Test *Critical process	Chroma 6000	N/A	QT-U230EF3 / X01 PASS / FAIL	Final test report FAI REPORT CP/CPK for Function Dimension	Once/day Twice/shift once/week	Corrective action Stop operation

Process	Equipment	Indirect Material	Control parameter	Method	Frequence	Reactions if out of control
Burn-In *Critical process	N/A		Input: 230V Total burn-in time: 24 hours for first 1k; Temperature: 45+/-5 oC Output/Load: (80~100%of max load): +3.3V---6.6A; +5V---15A; +12V---6A- -12V---0.24A; +5Vsb---1.5A 179w 89% Power Cycling (on/off times): (40 on/off times minimum, for example	FMG: B/I room check report IPQC: daily report	once/1hours once/2hours	Tag/rework/FA/CA Stop operation
Fan test *Critical process	AC SOURCE	soft stick	(Fan1and Fan2)all drive test sign fan drive test one fan stop ,PSU shut down LOAD SETTING: +5V/2A; +12V/2A; +3.3V/0 A; -12V/0A	MFG:Maintain record MFG:FAN TEST REPORT	once/day Twice/shift	Corrective action Stop operation
OBA *Critical process	Chroma 6000	N/A	MIL-STD105E 04./1.0	Product Checklist	N/A	Stop inspect

*Details for SPC skills usage in process, please refer to ISO documeent G-QRA-14

HIPRO
PMP (PROCESS MANAGEMENT PLAN)
DOCUMENT CENTER

Model :DL-P2507F3P	Supplier : HIPRO ELECTRONIC PUBLIC COMPANY LIMITED	Control Location					REV:1	2001.8.14
	Facility : CHINA	- Receiving inspection						
		- In-Process						
		- Final Inspection						
Product Revision : H01	Plan Effective Date: AUG 5,2001					DOC NO 1-ENG-65-02		
Process	Control Points	Control parameter	Methods					Reactions if out of control
			Tools	Responsibility	Sample size	Record	Frequency	
Hand Insertion	BOM	Pilot run	Visual check	IPQC	5	Pilot run report	Once/day and Change model	Find Root cause problem
	ESD - Wrist strap	Pass/Fail	Esd Tester	IPQC	100%	Esd test report		Replace
Wave Solder	Solder temp.	240-250 Deg c	Thermometer	Engineering	100%	X-bar -R-chart	Once/2Hrs	Adjust,stop operation
*Critical process	pressure gauge	2.5-3.5kg/cm²	Presure meter	Engineering	100%	Maittain rpt	Once/2Hrs	Adjust,stop operation
	Preheat temp.	190-200 Deg c	Thermometer	Engineering	100%	Maittain rpt	Once/2Hrs	Adjust,stop operation
	Flux gravity	0.79-0.83	Hydrometer	Engineering	100%	Control record	Once/2Hrs	Adjust,stop operation
	Chain speed	1.8M/min	speed monitor	Engineering	100%	Maittain rpt	Once/2Hrs	Adjust,stop operation
Touch-up	Solder iron temp.	Temp:343-440 DEG C	Thermometer					
	Esd wrist strap	resister:0.8-0.9mohm	ESD tester	IPQC	100%	Iron temp recor	Once/shift	Change solder iron
ICT Test	ICT Program	DL-P2507F3P	Ict tester	IPQC	100%	Ict test report	Once/shi and	Stop operation
	Open/Short	Defect unit>3(Continus)	Ict tester	MFG	100%	Ict test report	Change model	Corrective action
	Component polarity	Defect unit>3(Continus)	Ict tester	MFG	100%	Ict test report	Once/2Hrs	Corrective action
	Missing component	Defect unit>3(Continus)	Ict tester	MFG	100%	Ict test report	Once/2Hrs	Corrective action
	Value	Defect unit>3(Continus)	Ict tester	MFG	100%	Ict test report	Once/2Hrs	Corrective action
	Wire Test	Defect unit>3(Continus)	Ict tester	MFG	100%	Ict test report	Once/2Hrs	Corrective action
ACT Test (Input 115V)	Tolerance	+/-10mV	Standard unit	Engineering	100%	Iniial test report	Once/day	Replace fixture
			Check List	IPQC	100%	Iniial test report		
Case Ass'y	Screw driver torque	9-12kg.cm(s/c)(Screw PCB)	Torque within spe	IPQC	100%	Torque record	Once/day	Adjust torque
	Screw driver torque	6-8kg.cm(s/c)(Screw SSW)	Torque within spe	IPQC	100%	Torque record	Once/day	Adjust torque
	Screw driver torque	4-6kg.cm(s/c)(Screw CASE)	Torque within spe	IPQC	100%	Torque record	Once/day	Adjust torque
	Screw driver torque	7-9kg.cm(s/c)(Screw ground wire)	Torque within spe	IPQC	100%	Torque record	Once/day	Adjust torque
Pre B/I	Ate teser	File name same as modle name	Standard unit	IPQC	100%	Ate test report	Once/day	Stop
Harmonic test	Harmonic tester	Pass/Fail	Standard unit	IPQC	100%	Harmonic test report	Once/day	Corrective action Stop operation
*Critical process								
Burn-in Test	All output	Pass/Fail	LED display	MFG	100%	B/I room check	Once/1Hr	Tag/rework
*Critical process	Room temp.	35-45 DEG C	Temp in spec	IPQC	100%	report	Once/2Hrs	Stop operation
Hipot Test	Set up parameter	2mA<I<10mA@3sec 1800vAC	Check List	IPQC	100%	Hipot test repor	Once/day	Corrective action
	Fixture	Pass/Fail	Standard unit	IPQC	100%	Hipot test report	Once/day	Stop operation
				IPQC	100%	Hipot test repor	Once/day	Stop operation
Grounding Test	2 sec under 25A	Pass/Fail	Standard unit	IPQC	100%	Grounding test report	Twice/shift	Corrective action
	Grounding Fail	Pass/Fail	Standard unit	IPQC	100%		Twice/shift	Stop operation
Cable Test	Fixture verification	Pass/Fail	Standard unit	IPQC	100%	cable test repo	Once/day	Corrective action
Short circuit test (Inpu 115v)	Wire polarity & Continuity	Pass/Fail	Standard unit	IPQC	100%	cable test repo	Once/day	Stop operation
Final Test	Tolerance	+20mV	Verify Fixture	Engineering	100%	Final test repor	Once/day	Stop operation
*Critical process	File name	DL-P2507F3P	Check List	IPQC	100%	Final test repor	Twice/shift and Change model	Stop operation
Packing	Label,Carton,Pallet	Pass/Fail	Check List	MFG	100%		Once/day	Stop operation
Out of box inspection	Q-QRA-12-05	2mA<I<10mA @ 3sec1800VAC	Check List	OOBA	AQL=0.4	OOBA Report	Once/Lot	Corrective action
*Critical process	I-QRA-2	Resistance=0.1 ohm under 25A	Check List	OOBA	AQL=0.4	OOBA Report	Once/Lot	Corrective action
	Defect criteria-Major	Pass/Fail	Check List	OOBA	AQL=0.4	OOBA Report	Once/Lot	Corrective action
	-Minor	DL-P2507F3P A=0 R=1 A=1 R=2					Once/Lot Lot size=240	
Shipping	Shipping information	Shipping information	Check list	OOBA	100%	Shipping report	Lot	Stop shipping
ORT	ORT procedure approved by Dell	Pass/Fail	ORT procedure approved by Dell:-	QE	2pcs	ORT report	once/day	Corrective action Stop operation