Compal confidential

Schematics Document

Mobile Banias uFCBGA/uFCPGA with Intel
ODEM_MCH+ICH4-M core logic

2003–05–12

REV: 1.0
### Voltage Rails

<table>
<thead>
<tr>
<th>Power Plane</th>
<th>Description</th>
<th>S0-S1</th>
<th>S3</th>
<th>S5</th>
</tr>
</thead>
<tbody>
<tr>
<td>VIN</td>
<td>Adapter power supply (18V)</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>B+</td>
<td>AC or battery power rail for power circuit</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>+CPU_CORE</td>
<td>Core voltage for CPU</td>
<td>ON</td>
<td>OFF</td>
<td>OFF</td>
</tr>
<tr>
<td>+VDD</td>
<td>1.8V supply for processor VID</td>
<td>ON</td>
<td>OFF</td>
<td>OFF</td>
</tr>
<tr>
<td>+1.25VVS</td>
<td>1.25V switched power rail for DDR VTT</td>
<td>ON</td>
<td>OFF</td>
<td>OFF</td>
</tr>
<tr>
<td>+1.2V</td>
<td>1.2V switched power rail for MECH core power</td>
<td>ON</td>
<td>OFF</td>
<td>OFF</td>
</tr>
<tr>
<td>+1.5V</td>
<td>1.5V always on power rail</td>
<td>ON</td>
<td>ON</td>
<td>ON</td>
</tr>
<tr>
<td>+1.5V</td>
<td>1.5V switched power rail for AGP interface</td>
<td>ON</td>
<td>OFF</td>
<td>OFF</td>
</tr>
<tr>
<td>+1.8V</td>
<td>1.8V switched power rail for CPU PLL &amp; Hub-Link</td>
<td>ON</td>
<td>OFF</td>
<td>OFF</td>
</tr>
<tr>
<td>+2.5V</td>
<td>2.5V power rail for DOR</td>
<td>ON</td>
<td>OFF</td>
<td>OFF</td>
</tr>
<tr>
<td>+2.5V</td>
<td>2.5V switched power rail</td>
<td>ON</td>
<td>OFF</td>
<td>OFF</td>
</tr>
<tr>
<td>+3V5ALW</td>
<td>3.3V always on power rail</td>
<td>ON</td>
<td>ON</td>
<td>ON</td>
</tr>
<tr>
<td>+3V</td>
<td>3V power rail</td>
<td>ON</td>
<td>ON</td>
<td>ON</td>
</tr>
<tr>
<td>+3V</td>
<td>3V switched power rail</td>
<td>ON</td>
<td>OFF</td>
<td>OFF</td>
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<tr>
<td>+5V</td>
<td>5V always on power rail</td>
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<td>+5V</td>
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<td>+12VALW</td>
<td>12V always on power rail</td>
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<tr>
<td>+12V</td>
<td>12V power rail</td>
<td>ON</td>
<td>ON</td>
<td>OFF</td>
</tr>
<tr>
<td>+12V</td>
<td>12V switched power rail</td>
<td>ON</td>
<td>ON</td>
<td>ON</td>
</tr>
<tr>
<td>RTCVCC</td>
<td>RTC power</td>
<td>ON</td>
<td>ON</td>
<td>ON</td>
</tr>
</tbody>
</table>

Note: **ON** means that this power plane is ON only with AC power available, otherwise it is OFF.

### Symbol note:

- ↓: means digital ground.
- ↓↓: means analog ground.
- @: means reserved.

### Internal PCI Devices

<table>
<thead>
<tr>
<th>DEVICE</th>
<th>PCI Device ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>HUB</td>
<td>D30</td>
</tr>
<tr>
<td>USB</td>
<td>D29</td>
</tr>
<tr>
<td>AC97 H/D</td>
<td>D31</td>
</tr>
<tr>
<td>AC97</td>
<td>D31</td>
</tr>
<tr>
<td>ATR 100</td>
<td>D31</td>
</tr>
<tr>
<td>ETHERNET</td>
<td>D8 (AO24)</td>
</tr>
<tr>
<td>PPC V/F</td>
<td>D31</td>
</tr>
<tr>
<td>SMBUS</td>
<td>D31</td>
</tr>
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</table>

### External PCI Devices

<table>
<thead>
<tr>
<th>DEVICE</th>
<th>PCI Device ID</th>
<th>IDSSEL #</th>
<th>REQ/GNT #</th>
<th>PRQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>1394</td>
<td>D0</td>
<td>A05</td>
<td>0</td>
<td>A</td>
</tr>
<tr>
<td>LAN</td>
<td>D1</td>
<td>A07</td>
<td>1</td>
<td>B</td>
</tr>
<tr>
<td>CARD BUS</td>
<td>D4</td>
<td>A02</td>
<td>2</td>
<td>C</td>
</tr>
<tr>
<td>Wireless LAN</td>
<td>D2</td>
<td>A08</td>
<td>3</td>
<td>D</td>
</tr>
<tr>
<td>MINI-PCI</td>
<td>D6</td>
<td>A02</td>
<td>4</td>
<td>D</td>
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<tr>
<td>AGP BUS</td>
<td>N/A</td>
<td>AGP_DEVSEL</td>
<td>N/A</td>
<td>A</td>
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### I2C / SMBUS ADDRESSING

<table>
<thead>
<tr>
<th>DEVICE</th>
<th>HEX</th>
<th>ADDRESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>DDR SO-DIMM 0</td>
<td>A0</td>
<td>1010000X</td>
</tr>
<tr>
<td>DDR SO-DIMM 1</td>
<td>A2</td>
<td>1010001X</td>
</tr>
<tr>
<td>CLOCK GENERATOR (EXT)</td>
<td>D2</td>
<td>1101001X</td>
</tr>
</tbody>
</table>
Resistor placed within 0.5" of CPU pin. Trace should be at least 25 miles away from any other toggling signal.

Resistor placed within 0.5" of CPU pin. Trace should be at least 25 miles away from any other toggling signal.
NOTE: 1. M_RCV# max 2 Via
2. 0.15 to Via max=40mils
3. 0.14 to Via max=40mils
4. Via to Via must = 100mils ±5mils
Layout note:
Distribute as close as possible to DDR-SODIMM.

Layout note:
Place one cap close to every 2 pull up resistors termination to +1.25V

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Clock Generator

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### Gain Settings

<table>
<thead>
<tr>
<th>Gain Mode</th>
<th>SE/BTL#</th>
<th>Av(inv)</th>
</tr>
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<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
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<tr>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>X</td>
<td>X</td>
<td>1</td>
</tr>
</tbody>
</table>

### Components

- **R413, R416**: 0_0402_5%
- **C201, C215, C174**: 0.022U_0603_25V7K
- **C488, C490, C489, C176, C216**: 0.47U_0603_10V7K
- **R391, R392, R393**: 100K_0402_5%
- **C193, C194, C195, C196**: 47P_0402_50V8J
- **R428, R429**: 0_0402_5%
- **R420, R162, R163**: 100K_0402_5%
- **C206, C207, C217**: 0.47U_0603_10V7K
- **C562**: 0.1U_0603_16V7K
- **C565**: 100U_6.3V_M
- **R159**: 100K_0402_5%
- **R432**: 100K_0402_5%
- **C175**: 0.1U_0603_25V7M
- **L11, L12, L15, L16, L17**: 0_1206_5%
- **Q51**: 2N7002 1N_SOT23
- **U21**: TC7SH32FU_SSOP5
- **U24**: TPA0312PWP_TSSOP24
- **JP18, JP19**: R-SPK CONN, L-SPK CONN

**Notes**

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- All parts and materials are subject to change without notice.
V IN detector
12.520 12.110 11.566

Detector

Precharge detector
12.432 11.717 11.061
10.188 9.702 9.051

BAT ONLY
Precharge detector
9.507 9.030 8.589
7.263 7.015 6.579
I_{adp}=0-3.0A

BATT+ : 18.0V \rightarrow BATT\_OVP  : 2.0V

OVP voltage : LI-MH 8 CELL(4S2P)

BATT+ : 18.0V \rightarrow BATT\_OVP  : 2.0V

(VIN) = 0.1109 * (BATT+)

I_{REF}=1.164 \times \text{I_{charge}}

CC=0.5A \rightarrow 2.7A

CV=16.8V (8 CELLS)

VIN

1.20V

5.0V

4.2V

OVP voltage: LI-MH 8 CELL (4S2P)
**PH1 under CPU bottom side:**

CPU thermal protection at 90 ±3 degree C
Recovery at 50 ±3 degree C

**PH2 near main Battery CONN:**

BAT. thermal protection at 84 ±3 degree C
Recovery at 45 ±3 degree C
REV: 0.1A
1. Update PCI resource table. (Page 3)
2. Change U41 power source form +12VS to +5VS for correcting error. (Page 4)
3. Remove DVI signals. (Page 13)
4. Add Video board ID and Mother board ID for HP requirement. (Page 16)
5. Change LAN controller from RTL8100BL to RTL8139CL+ for HP requirement. (Page 19)
7. Change USB power protector from Poly switch to RT9701-CBL for HP's specification. (Page 27)
8. Add CP9, CP10 (100P_1206_8P4C) for EMI requirement. (Page 28)
9. Add a power button LED (D34) for HP requirement. (Page 28)
10. Add a power button LED (D34) for HP requirement. (Page 28)

REV: 0.1B
1. U33,U34,U56 combine to U33 (74HCT08 TSSOP14). (Page 18)
2. Add Q81,C892,C891 for +3VAUX turn on/off. (Page 25)
3. Add R91,R1132,C893 for correcting error. (Page 26)
4. U12 pin9,10 contact to GND. (Page 30)
5. Change U47D,U47E,U47F to U60A,U60B,U60C. (Page 32)
6. Add L57,C894,C895,C896,C897 for HPQ request to add SPR GNDA.
7. Add U57 and relation components for AD1981B's AVDD power source. (Page 23)
8. Change U23 and relation components to reserve. (Page 23)
9. Add R1137, 0.1206.5% resistor for optional AMP power source of +5VS. (Page 24)
10. Add L58--L61 on AMP.(U53) output trace. (Page 24)
11. Delete TVS41~TVS44 and change C863~C866 to 47PF. (Page 24)
12. Modify JP8's pin define for using switched jacks on the headphone audio. (Page 28)
13. Change audio amplifier from TPA0202 to TPA0312. (Page 24)
14. Connecting the pin97 of JP28 and JP29 to GND for HP's requirement. (Page 9, 10)
15. Install a 0 ohm (R703) between ITP_DBRESET# and SYSRST# then de-populate U51,R704 and C833. (Page 16)
16. Modify USB routing method for HP's requirement. (Page 16)
   i. USB0 and USB 1 (U45.C20/D20, U45.A21/B21) to the two ganged system USB ports.
   ii. USB2 and USB3 (U45.C18/D18, U45.A19/B19) to the docking connector.
   iii. USB4 (U45.C16/D16) to single USB.
   iv. USB5 (U45.A17/B17) to MDC.
17. Delete net MBAY_DISABLE from JP1 pin A49 for HP's requirement. (Page 29,33)
18. Change power source of D10,D11 and D12 from CRTVDD to +3VS for HP's requirement. (Page 14)
19. Add an IO buffer (U56) for supporting EVO600's keyboard. (Page 30)

REV: 0.1C
1. Re-location all parts.
REV: 0.1D
1. Change U20 to AT24C16N and change power source to +3VALW. (Page 30)
2. Change U49 EC_SMC_1/EC_SMD_1 to EC_SMC_2/EC_SMD_2. (Page 4)
3. Change Battery EC_SMC_2/EC_SMD_2 to EC_SMC_1/EC_SMD_2. (Page 42)
4. Modify SD controller to M/B. (Page 31)

REV: 0.2A (For DB-1 SMT)
1. For solving FAN can't work properly issue. (Page 4)
   a. Change U14's power plan from +5VS to +12VS.
   b. Change U14 from LMV321M5X to LM321MF.
2. For solving system boot fail issue. (Page 12)
   a. Del Q29.
   b. Add PD41 RV751V.
3. For EMI requirement. (Page 14)
   Change L1,L2,L3,L18,L19 from FBM-11-160808-121 to FCM1608C-121T.
4. For solving main battery only, system can't boot on issue. (Page 15,16)
   a. Change ACIN signal connection from GPI11(U8.AA5) to GPIO27,(U8.W1)
   b. Pull high GPI1I1 to +3VALW.
5. Pull high U19.8 to +5VS for solving SUSP# signal don't well issue. (Page 23)
6. Del L10,C155,C204,C477,C474 for HP requirement. (Page 23)
7. Change R363,R365 to 1K_0402_5% for solving CODEC can't be detected issue. (Page 23)
8. Add voltage divider R413,R414,R416,R419 for HP requirement. (Page 24)
9. Change AMP. gain from 6dB to 10dB for HP requirement. (Page 24)
10. Add R420 100K_0402_5% for solving headphone plug fail issue. (Page 24)
11. Change JP20.27 and JP20.28's power plan from +5VS to +5V for supporting touch pad wake up from S3 function. (Page 28)
12. Change U15.161's power plan from +RTC13CC to RTCVREF from increasing RTC battery life. (Page 29)
13. Add U29 for supporting 8Mbits BIOS. (Page 30)
14. Change D6,D7 to HSMB-C172 for HP requirement. (Page 30)
15. For supporting SD active LED function. (Page 31)
   a. Connection JP17.23 to SDLED.
   b. Change JP17.15's power plan from +3VS to +5VS.
16. Add JP32 for supporting BT module. (Page 31)

REV: 0.2B (For DB-2 gerber)
Add R427 20K ohm resister for solving PC-beep is too loud issue. (Page 23)

REV: 0.2C (For DB-2 SMT)
1. Phase-in EMI solution.
   a. Add R35,R344,R38,R142,R301,R408 10_0402_5%.
   b. Add C42 22PF_0402_NPO.
   c. Add C447 15PF_0402_NPO.
   d. Add C73,C153,C319,C560 10PF_0402_NPO.
REV: 0.2D
1. To change the mute circuitry for SI build.
   a. Connect EAPD (pin U22.47) to JP24.2 and reserve a 0_0402_5% (R431) resistor for testing.
   b. Install R162 (0 0402 5%) and no install R163.
   c. Add R432 (100K_0402_5%) and Q51 (2N7002) to invert EAPD signal for amplifier and mute LED.

REV: 0.2E
1. For EMI requirement.
   Add C204 6.1U 0402 16V4Z
2. To exchange TP and PS2 signals for EC requirement.
3. For cost down plan.
   To exchange the capacitor of C83,C136 from 150U_D2_6.3VM to 100U_6.3V_M.

REV: 0.2F
1. For cost down plan.
   Move audio line-out BLOCK capacitor from TP to MB. To add C565,C566 100U_6.3V_M.
2. For solving audio noise when IR active. (A2C039)
   a. Del C206.
   b. To change C492 from 150U_D2_6.3VM to 10U_1206_6.3V7K.
3. For EMI requirement.
   Add R435-R440 0_0402_5%.

REV: 0.2G
1. For solving power LED signal wrong on PR/APR side.
   a. Add R441 1K_0402_5%.
   b. Q52 2N7002.
2. For solving power button must be pressed twice issue.
   1. Add D27 RB751V.
   2. Add R330 4.7K_0402_5%.
   3. Change R345 from 10K_0402_5% to 100K_0402_5%.
3. Per HPQ requirement to change audio component.
   To change C174 and C201 to 0.022U_0603_25V7K.

REV: 0.2H (For SI gerber)
1. Per HPQ requirement to change audio component.
   To change R427 from 20K_0402_5% to 39.2K_0402_1%.

REV: 0.3 (For SI SMT)
1. Per HPQ requirement to change LED color from BLUE to GREEN.
   a. Change R5,D6,D7,D26 from HSMB-C172_BLUE_0805 to HSMG-C170_GRN_0805.
   b. Change R9,R10,R11,R421 from 140_0402_1% to 330_0402_5%.
2. To improve RTC crystal accuracy.
   Change C190,C203 from 12P_0402_50V8J to 15P_0402_50V8J.

REV: 0.3A (For PV Build)
1. Per HPQ requirement to add FET to shut off power to the Bluethumb module.
   a. Add Q53 SI2301DS.
   b. Add C568 1U 0603 10V6K.
   c. Add C570 0.01U_0402_16V7K.
   d. Add C571 0.1U_0402_16V7K.
   e. Add C569 4.7U_0805_6.3V6K.
   f. Add Q54 2N7002.
   g. Add R442 100K_0402_5%.
   h. Del R424.
   i. Change Q16.2 signal source from Wireless_OFF# to Wireless_OFF.
2. For supporting WLAN and BT devices exist in the same system.
   a. Connect Mini-PCI JP28-36 to Bluethumb JP33-7 using a series resistor of 1K_0402_5% (R72).
1. Exchange signals NUMLED# and CAPSLED# of Q31 and Q33 for solving BC022.

REV: 0.4 (For PV gerber)
1. Connection LPC_DRQ#0 to U42.2 through R147 0_0402_5% for support SD controller DMA function.
2. For EMI requirement.
   a. Add L10 0_1206_5% and exchange layout position with C204.
   b. Add L36 FBM-L10-160808-301-T_0603 on EAPD signal and closed to audio CODEC.
   c. Add L37 FBM-L10-160808-301-T_0603 on +3VS power line of audio CODEC.
   d. Change R406 from 10_0402_5% to 33_0402_5%.
3. Per ME team Tony Liu request, change LED type and current limit resistor for increasing luminous intensity.
   a. Change B5, D6, D7 and D26 from HSMG-C170 to 17-21SYGC/S530-E1/TR8.
   b. Change R9, R421 from 330_0402_5% to 150_0402_1%.
   5. Reserve IU_0603 10V6K (C572) pad and connection to U15.21 for supporting PC97591LV in the further.
6. Do not install R72 and R298 (1K_0402_5%) for HP requirement.
7. For solving OTS#94542 which are HSYNC and VSYNC out of specification.
   a. Add C573 0.1UF 0402 5%.
   b. Add U43 SN74ABCT126PWR.
   c. Del Q3, Q4, R263, R268, R255, R254.
   d. Change C3, C5 from 68P_0402_50V8K to 10P_0402_50V8K.
8. Base on HPQ Robert's command to do some audio's design change.
   a. Install R433, R434 0_0603_5%
   b. No install C565, C566 100UF 6.3V_M.
   c. Correct the left channel input voltage divider, connect R419.1 to LINE_OUTL and R416.1 to analog GND.
   d. Change C562 from 0.1U_0402_16V4Z to 0.1U_0402_16V7K.
   e. Change R387 from 4.7K_0402_5% to 10K_0402_5%.
   f. Change D24 from 1N4148 to R444 4.7K_0402_5%.
   g. Del R416 0_0402_5%.
   h. Add R419 0_0402_5%.
9. Change some component's value as HPQ Darrell's request.
   a. Change C330, C334 from 0.01UF to 0.1UF.
   b. Change R354 from 100Kohm to 330Kohm.

REV: 0.4A (For PV SMT)
1. Add C482 0.1UF_0402_16V4Z for solving OTS#96542.
2. For solving OTS#95994.
   a. Change R428, R429 from 4.7K_0402_5% to 0_0402_5%.
   b. Add R413, R416 4.7K_0402_5%.

REV: 0.4B
1. Add R445 511_0603_1% to limit RTC battery discharge current for meeting OSM 4.3.8 specification.

REV: 0.4C
1. Per HPQ David request to do some audio components change.
   a. Change R428, R429 from 4.7K_0402_5% to 0_0402_5%.
   b. No install R413, R416, R434, R433.
   c. Install C565 and C566 100UF CV-AX.
2. Delete reserved layout pad for solving DFX issue.
   Del C83, C136, R433 and R434.
3. No install R59 10K_0402_5% for solving double pull high issue.
4. Change R406 from 33.0402_5% to FBM-11-100505-600T to solve EMI issue.
5. Del R9 and D5 for ME team request.

REV: 0.4D
1. For solving HSYNC and VSYNC waveform undershoot over specification issue.
   Change L18,L19 from FCM1608C-121T to FBM-L10-160808-300LM-T.
2. Per ME (Tony Liu) request, change D6,D7,D26 from 17-21SYGC/S530-E1/TR8 to 17-21/GVC-AMPB/3T for solving lightness not enough issue.
3. Reserve R447,R448,R449 layout pad for support CB1410 B0 version chip in the further.
4. Add D29 SM05 for solving ESD test fail issue.
5. For solving "BoBo" audio noise from HLDS and TEAC ODD.
   a. Change R214,R216 from 4.7K_0402_5% to 1.3K_0402_5%.
   b. Change R210 from 2.7K_0402_5% to 1.1K_0402_5%.
<table>
<thead>
<tr>
<th>Item</th>
<th>Reason for change</th>
<th>PG#</th>
<th>Modify List</th>
<th>Date</th>
<th>B.Ver#</th>
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<tr>
<td>1</td>
<td>RTC battery doesn't need to charge</td>
<td>35</td>
<td>PR190 and PR191 change to 8200</td>
<td>2002.10.15</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>change reference voltage, because VL build up fast then RTCVR_RF</td>
<td>35</td>
<td>PR188 change to 34K, add PR259 (66.5K)</td>
<td>2002.10.15</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>adapter change from 75W to 65W. So, the power limiter must to reduce with adapter</td>
<td>36</td>
<td>PR83 change to 31.4K, PR84 change to 10K</td>
<td>2002.10.15</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>the current rating of the new BEAD is 9A, the old one is 8A.</td>
<td>37</td>
<td>PL5 change to FWM-L18-453215-900-LMA90T</td>
<td>2002.10.15</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>modify circuit for aircraft power</td>
<td>36</td>
<td>add PD38, PD39, PD40, PQ46, PQ47, PQ48, PQ49, PQ50, PQ51, PQ52, PD21, PD26, PD26, PD26, PR70, PR71, PR72, PR73, PR74, PR75, PR75, PR76, PR76, PR77, PR77, PR79, PR280, PR281, PC210, PC211, PC212, PC213, PC214, PD8</td>
<td>2002.10.23</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>modify circuit for DDR, change CM8500 to CM3718</td>
<td>40</td>
<td>delete PD35, PD36, PQ44, PR250, PR251, PR252, PR253, PC134, PC135, PC136, PC137, PC138, PC139, PC200, PC201, PD19</td>
<td>2002.10.23</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>change VIN detector voltage and Precharge detector voltage</td>
<td>35</td>
<td>PR167 change to 60.4K, PR166 change to 604K, PR184 change to 604K, PR185 change to 301K, PR187 change to 402K</td>
<td>2002.10.23</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>modify circuit for aircraft power, when use aircraft power, battery can discharge</td>
<td>36</td>
<td>delete PD21, PQ47, PQ48, PQ51, PD40, PD26, PC14, PR267-PR281, PC210-PC214, PC223, PD39, PD40, PD41, PQ50, PD265, PR266</td>
<td>2002.12.04</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>for EMI solution</td>
<td>36</td>
<td>PC62 and PC63 change to 1001210_25V</td>
<td>2002.12.04</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>to solve noise issue</td>
<td>37</td>
<td>add PD51 (2W7002) and PR287 (2.7K1206_5%) change PC33 to 2.2W1210_25V</td>
<td>2002.12.04</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>to prevent leakage current</td>
<td>40</td>
<td>change PR45 from DTC1130DA to 2W7002</td>
<td>2002.12.04</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>change PR129 to 604K_0402_5%, PR134 to 3.32K_0402_1%, PR126 to 120K_0402_5%, PR141 to 0.001_2512_5%, PC107 to 0.010_0603_25V</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>to prevent leakage current</td>
<td>41</td>
<td>change PR128 to PD41 (RB751V)</td>
<td>2002.12.04</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>change CPU thermal protect to 90 degree C</td>
<td>42</td>
<td>change PR205 form 3.32K_0603_1% to 2.74K_0603_1%</td>
<td>2002.12.18</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>to reduce tolerance on CPU CORE voltage feedback</td>
<td>41</td>
<td>change PR126 form 120K_0402_5% to 120K_0402_1%</td>
<td>2002.12.18</td>
<td></td>
</tr>
<tr>
<td>Item</td>
<td>Reason for change</td>
<td>PG#</td>
<td>Modify List</td>
<td>Page 2 of 2</td>
<td></td>
</tr>
<tr>
<td>------</td>
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<td></td>
</tr>
<tr>
<td>16</td>
<td>the component is too high (2.5mm), so change to 1206 size (1.6mm)</td>
<td>41</td>
<td>chang PC101,PC102,PC103 to 10U_25V_X5R_1206 (SE142108M00)</td>
<td>2002,12,30</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>to adjust CPU CORE load line</td>
<td>41</td>
<td>chang FB123 to 47_0402_1% (SD034470G00) FC96 to 22R_0402_25V (SD071220D00) FB126 to 240R_0402_5% (SD028240300) FB129 to 1M_0402_1% (SD034100400) delete PC97</td>
<td>2002,12,30</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>the component is too high (3.2mm), so change to 1210 size (2.0mm)</td>
<td>36</td>
<td>chang PC74 to 4.7U_25V_X5R_1210 (SD065475K00)</td>
<td>2002,12,30</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>to reduce inrush current for 1.25V</td>
<td>40</td>
<td>chang PR82,PR83 to 100R_0603_0.5% (SD0191003T1) add FC93,PC94 27022 (S27700200T5)</td>
<td>2002,12,30</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>to reduce power consumption and inrush current</td>
<td>35</td>
<td>chang PR223,PR176,PR178,PR181 to 1.2K_1205_5% (SD1115001W6)</td>
<td>2002,12,30</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td></td>
<td>35</td>
<td>delete PR165 and PZD1</td>
<td>2002,12,30</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>to speed up response time</td>
<td>39</td>
<td>chang PC165 to 560_0603_50V_X7R (SE025561K00)</td>
<td>2002,12,30</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>to solve noise issue</td>
<td>36</td>
<td>add PC224,PC225 470U_25V_RC (SF04704M000)</td>
<td>2003,01,05</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td></td>
<td>40</td>
<td>chang PC218 to 4.7U_1210_25V (SD065475K00) from 1000U_6.3V (SD017100310)</td>
<td>2003,01,05</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>to solve noise issue (A2C021)</td>
<td>41</td>
<td>add FC24,FC29,P07,P08,P09,PRCS-PC90,PC33,PC97 PL10,PR104,PR105,PR110,PR111,PR114,PC230,PC231 delete PC223 change PR129 to 604K_0603_5% PR134 to 3.32K_0402_1% PR126 to 330R_0402_5% PR123 to 035_0402_1% PC98 to 10P_0402_50V</td>
<td>2003,01,23</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>to reduce negative voltage at High-side GATE for ADP3415 (A2C014,A2C098)</td>
<td>41</td>
<td>add R042,R043 change PR105 and PR140 to 2.2_0603_5%</td>
<td>2003,01,23</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>to limit RTC battery discharge current for meeting OSM 4.3.8 specification.</td>
<td>35</td>
<td>chang PR290 from 200_0805_5% to 511_0603_1%</td>
<td>2003,05,02</td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>adjust ripple voltage and ripple current when charger battery</td>
<td>36</td>
<td>delete PC79 and PC80 change PR91 from 330R_0603_5% to 47K_0603_5%</td>
<td>2003,05,02</td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>to solve noise issue (OTS:97258)</td>
<td>37</td>
<td>chang PC33 from 2.2U_1206 to 4.7U_1210</td>
<td>2003,05,02</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>Modify battery connector layout footprint for support has lock pin type battery connector.</td>
<td>42</td>
<td></td>
<td>2003,05,02</td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>Modify DC-IN jack library for solving AC jack plug-in loose issue.</td>
<td>35</td>
<td></td>
<td>2003,05,02</td>
<td></td>
</tr>
</tbody>
</table>