



Shanghai Huace Navigation Technology LTD.

Version

A

Revision status

3 times

Execute date

2014/6/11

LT500 Main circuit boardV2.1 (outsorce) BOM

Moment Sign

E-BOM

LT500 Main circuit boardV2.1 (outsorce) BOM

P/N: 0202000111

| NO. | PN | ERP Name | Position number | Quantity | Encapsulation | Parameters details | First manufacturer | manufacturer type | Second manufacturer | manufacturer type | Third manufacturer | manufacturer type | Note |
|-----|------------|-------------------------------|--|----------|---------------|---|--------------------|-----------------------|---------------------|-------------------|--------------------|-------------------|--------------------|
| 1 | 0102020229 | LT500 main circuit board V2.1 | | 1 | | | | | | | | | |
| 2 | 0102130001 | 0Ω | R53. R74. R80. R84. R85. R86. R88. R90. R94. R96. R100. R105. R112. R114. R124. R126. R154. R161. R175. R176. R184. R185. R186. R207. R208. R209. R215. R216. R217. R218 | 30 | R0402 | SMD Resistor-0Ω-0402 encapsulation-1/16W-1% | YAGEO | 0402 (RC0402FR-070RL) | | | | | |
| 3 | 0102130003 | 0Ω | Q12 | 1 | R0805 | SMD Resistor-0Ω-0805 encapsulation-1/8W-1% | YAGEO | RC0805FR-070RL | | | | | CHC-SJBG-201404024 |
| 4 | 0102130238 | 33Ω | R44. R47. R48. R106 | 4 | R0402 | SMD Resistor-33Ω-0402 encapsulation-1/16W-1% | | | | | | | 0188000148 |
| 5 | 0102130266 | 470Ω | R38 | 1 | R0402 | SMD Resistor-470Ω-0402 encapsulation-1/16W-1% | | | | | | | 0188000423 |
| 6 | 0102130021 | 1KΩ | R57. R58. R59. R60. R78. R101. R178. R191. R196. R197. R202. R206. R210. R212. R213. R214. R219. R220 | 18 | R0402 | SMD Resistor-1KΩ-0402 encapsulation-1/16W-1% | YAGEO | 0402 (RC0402FR-071KL) | | | | | |
| 7 | 0102130074 | 2.2kΩ | R39. R40 | 2 | R0402 | SMD Resistor-2.2KΩ-0402 encapsulation-1/16W-1% | YAGEO | RC0402FK-072K2L | | | | | |
| 8 | 0102130229 | 4.7KΩ | R61. R131 | 2 | R0402 | SMD Resistor-4.7KΩ-0402 encapsulation-1/16W-1% | | | | | | | |
| 9 | 0102130136 | 5.1K | R50. R51 | 2 | R0402 | SMD Resistor-5.1KΩ-0402 encapsulation-1/16W-5% | | | | | | | |
| 10 | 0102130186 | 8.06KΩ | R91 | 1 | R0402 | SMD Resistor-8.06KΩ-0402 encapsulation-1/16W-1% | | | | | | | |



Shanghai Huace Navigation Technology LTD.

Version

A

Revision status

3 times

Execute date

2014/6/11

LT500 Main circuit boardV2.1 (outsourced) BOM

Moment Sign

E-BOM

LT500 Main circuit boardV2.1 (outsourced) BOM

P/N:0202000111

| NO. | PN | ERP Name | Position number | Quantity | Encapsulation | Parameters details | First manufacturer | manufacturer type | Second manufacturer | manufacturer type | Third manufacturer | manufacturer type | Note |
|-----|------------|----------|---|----------|---------------|--|--------------------|-------------------------|---------------------|-------------------|--------------------|-------------------|------------|
| 11 | 0102130024 | 10KΩ | R13. R14. R15. R16. R17. R18. R20. R25. R27. R28. R29. R30. R31. R32. R33. R34. R35. R36. R37. R46. R52. R54. R55. R63. R65. R66. R67. R68. R75. R79. R81. R97. R99. R102. R104. R107. R108. R109. R110. R111. R115. R116. R117. R118. R119. R120. R121. R122. R123. R127. R128. R129. R130. R132. R133. R152. R159. R160. R164. R165. R166. R170. R171. R189. R190. R192. R193. R194. R195. R198. R199. R200. R201. R203. R221. R222 | 76 | R0402 | SMD Resistor-10KΩ -0402 encapsulation- 1/16W-1% | YAGEO | 0402 (RC0402FR-0710KL) | | | | | |
| 12 | 0102130261 | 13KΩ | R93 | 1 | R0402 | SMD Resistor-13KΩ -0402 encapsulation- 1/16W-1% | YAGEO | | | | | | 0188000767 |
| 13 | 0102130263 | 22KΩ | R177 | 1 | R0402 | SMD Resistor-22KΩ -0402 encapsulation- 1/16W-1% | | | | | | | |
| 14 | 0102130141 | 56KΩ | R41. R42 | 2 | R0402 | SMD Resistor-56KΩ -0402 encapsulation- 1/16W-5% | YAGEO | | | | | | |
| 15 | 0102130270 | 29.4KΩ | R173 | 1 | R0402 | SMD Resistor-29.4KΩ -0402 encapsulation- 1/16W-1% | | | | | | | |
| 16 | 0102130153 | 80.6KΩ | R174 | 1 | R0402 | SMD Resistor-80.6KΩ -0402 encapsulation- 1/16W-1% | | | | | | | |
| 17 | 0102130027 | 100KΩ | R49. R62. R64. R69. R70. R71. R72. R73. R172 | 9 | R0402 | SMD Resistor-100KΩ -0402 encapsulation- 1/16W-1% | YAGEO | 0402 (RC0402FK-07100KL) | | | | | |
| 18 | 0102130268 | 10MΩ | R43 | 1 | R0402 | SMD Resistor-10MΩ -0402 encapsulation- 1/16W-5% | | | | | | | 0188000098 |
| 19 | 0102120021 | 7pF | C169 | 1 | C0402 | | | | | | | | |



Shanghai Huace Navigation Technology LTD.

LT500 Main circuit boardV2.1 (outsource) BOM

Version

A

Revision status

3 times

Execute date

2014/6/11

Moment Sign

E-BOM

LT500 Main circuit boardV2.1 (outsource) BOM

P/N: 0202000111

| NO. | PN | ERP Name | Position number | Quantity | Encapsulation | Parameters details | First manufacturer | manufacturer type | Second manufacturer | manufacturer type | Third manufacturer | manufacturer type | Note |
|-----|------------|----------|--|----------|---------------|--|--------------------|---------------------------|---------------------|-------------------|--------------------|-------------------|------------|
| 20 | 0102120026 | 10pF | C48. C93. C110 | 3 | C0402 | MLCC-10pf-0402 encapsulation-50V-+0.25PF | SAMSUNG | CL05C100C5BNNNC | | | | | |
| 21 | 0102120068 | 22pF | C42. C43 | 2 | C0402 | MLCC-22pF-0402 encapsulation-50V-5% | TDK | C1005C0G1H22R0JT | | | | | |
| 22 | 0102120170 | 39pF | C87. C88. C89. C95. C98. C99 | 6 | C0402 | MLCC-39pF-0402 encapsulation-50V-5% | muRata | 0402 (GRM1555C1H270JA01D) | | | | | |
| 23 | 0102120168 | 8200pF | C191. C194 | 2 | C0402 | MLCC-8200pF-0402 encapsulation-25V-5% | | | | | | | 0188000351 |
| 24 | 0102120034 | 10nF | C40. C41. C82. C83. C91. C92. C186 | 7 | C0402 | MLCC-10nF-0402 encapsulation-50V-10% | muRata | 0402 (GRM155R71H103KA88D) | | | | | |
| 25 | 0102120035 | 0.1uF | C2. C3. C5. C6. C10. C12. C13. C14. C16. C18. C20. C22. C23. C24. C25. C26. C28. C29. C30. C31. C33. C34. C35. C36. C37. C38. C39. C44. C45. C57. C64. C74. C75. C76. C77. C78. C79. C80. C81. C90. C100. C102. C103. C104. C105. C106. C107. C108. C137. C139. C140. C141. C155. C156. C157. C159. C160. C161. C172. C174. C178. C181. C183. C187. C188. C189. C199. C219. C220. C221. C222. C223 | 72 | C0402 | MLCC-0.1uF-0402 encapsulation-16V-10% | muRata | GRM155R71C104KA88D | | | | | |
| 26 | 0102120075 | 220nF | C4. C121. C182 | 3 | C0402 | MLCC-220nF-0402 encapsulation-16V-10% | TDK | C1005CX7R1C224KT | | | | | |
| 27 | 0102120109 | 470nF | C7. C190. C200 | 3 | C0402 | MLCC-470nF-0402 encapsulation-16V-10% | TDK | C1005CX7R1C474KT | | | | | |
| 28 | 0102120042 | 1uF | C8. C9. C11. C15. C17. C19. C21. C27. C32. C47. C50. C51. C52. C53. C54. C55. C60. C61. C62. C63. C66. C67. C68. C69. C70. C71. C72. C85. C86. C94. C96. C101. C111. C122. C151. C152. C153. C163. C166. C167 | 40 | C0402 | MLCC-1.0uF-0402 encapsulation-16V-10% | TDK | 0402 (C1005X5R1C105KT) | | | | | |
| 29 | 0102120171 | 2.2uF | C97 | 1 | C0402 | MLCC-2.2uF-0402 encapsulation-16V-10% | muRata | | | | | | 0188000400 |



Shanghai Huace Navigation Technology LTD.

Version

A

Revision status

3 times

Execute date

2014/6/11

LT500 Main circuit boardV2.1 (outsource) BOM

Moment Sign

E-BOM

LT500 Main circuit boardV2.1 (outsource) BOM

P/N:0202000111

| NO. | PN | ERP Name | Position number | Quantity | Encapsulation | Parameters details | First manufacturer | manufacturer type | Second manufacturer | manufacturer type | Third manufacturer | manufacturer type | Note |
|-----|------------|--|--|----------|---------------|--|--------------------|------------------------|---------------------|-------------------|--------------------|-------------------|------------|
| 30 | 0102120112 | 4. 7uF | C158. C162. C180. C226 | 4 | C0402 | MLCC-4. 7uF-0402 encapsulation-6. 3V-20% | TDK | 0402 (C1005X5R0J475MT) | | | | | |
| 31 | 0102120043 | 10uF | C46. C49. C56. C58. C59. C65. C73. C84. C109. C136. C179. C184. C214 | 13 | C0603 | MLCC-10uF-0603 encapsulation-6. 3V-20% | muRata | GRM188R60J106M47D | | | | | |
| 32 | 0102120172 | 10uF/25V | C173. C193. C197 | 3 | C0805 | MLCC-10uF-0805 encapsulation-25V-10% | | | | | | | 0188000267 |
| 33 | 0102120079 | 22uF | C176. C177. C196. C198 | 4 | C0805 | MLCC-22uF-0805 encapsulation-6. 3V-20% | muRata | GRM21BR60J226ME39L | | | | | |
| 34 | 0102120130 | 100uF/10V Tantalum Capacitors | C131 | 1 | C3528 | Chip Tantalum Capacitors-100uF-B encapsulation-10V-20% | AVX | TRJB107M010RNJ | | | | | |
| 35 | 0102120173 | 220uF/6. 3V Tantalum Capacitors | C175 | 1 | C3528 | Chip Tantalum Capacitors-220uF-B encapsulation-6. 3V-15% | AVX | TAJB227M006RNJ | | | | | 0188000880 |
| 36 | 0102120135 | 47uF/10V Tantalum Capacitors | C192 | 1 | C3528 | Chip Tantalum Capacitors-47uF-B encapsulation -10V-10% | AVX | TRJB476K010RNJ | | | | | |
| 37 | 0101070013 | LT500 button cell | BAT1 | 1 | ML920S | button cell_3V_11mAh_diameter9. 5mm | seiko | | | | | | 0188000686 |
| 38 | 0102140086 | BLM21PG300SN1 magnetic bead | B4. B5 | 2 | L0805 | | muRata | BLM21PG300SN1 | | | | | |
| 39 | 0102140108 | BLM15HD182SN1 magnetic bead | B6. B7. B8. B9. B10. B11. B12. B13. B14. B15. B16. B17. B18. B19. B20. B21. B22. B23. B24. B25. B26. B27. B28. B29. B30. B31. B32. B33 | 28 | R0402 | 100M. impedance 1. 8K. Current 200mA | muRata | BLM15HD182SN1 | | | | | |
| 40 | 0102140110 | 2. 2uHPower inductor | L1. L2. L3 | 3 | cdrh2d18 | CDRH2D18/HPNP-2R2NC | SUMIDA | CDRH2D18/HPNP-2R2NC | | | | | 0188000260 |
| 41 | 0102140111 | 3. 3uHPower inductor | L15. L16 | 2 | CDRH5D18BHPNP | CDRH5D18BHPNP-3R3MC | SUMIDA | CDRH5D18BHPNP-3R3MC | | | | | 0188000353 |
| 42 | 0102060010 | TZMB3V3 3. 3 V voltage-regulator diode | D4 | 1 | MYSMALLDIODE | / | | | | | | | |
| 43 | 0102060100 | BAT54WS SchottkyBarrierDiode | D7. D8 | 2 | BAT54WS | SchottkyBarrierDiode-30V-200mA-0. 24V-2pin-SOD-323 encapsulation | | BAT54WS | | | | | 0188000266 |



Shanghai Huace Navigation Technology LTD.

LT500 Main circuit boardV2.1 (outsource) BOM

Version

A

Revision status

3 times

Execute date

2014/6/11

Moment Sign

E-BOM

LT500 Main circuit boardV2.1 (outsource) BOM

P/N:0202000111

| NO. | PN | ERP Name | Position number | Quantity | Encapsulation | Parameters details | First manufacturer | manufacturer type | Second manufacturer | manufacturer type | Third manufacturer | manufacturer type | Note |
|-----|------------|--------------------------------------|--|----------|-------------------------|---|--------------------|-----------------------------|---------------------|--------------------|--------------------|-------------------|--------------------|
| 44 | 0102060104 | Si2333DS P channel FET | Q8. Q9. Q11. Q13. Q14 | 5 | SOT23 | POWER MOSFET-Pchannel-12V-4. 1A-35mΩ-SOT23 encapsulation | VISHAY | Si2333DS | | | | | CHC-SJBG-201404024 |
| 45 | 0102060061 | 8050 NPN audion | Q1. Q2. Q3. Q4. Q5. Q6. Q7. Q15. Q18. Q20. Q21 | 11 | SOT23 | audion-NPN-40V-1500mA-SOT23 encapsulation | | SS8050 | | | | | |
| 46 | 0102080012 | 32.768KHZ Patch passive crystal | Y1 | 1 | XTAL_FC135_32P7680KA_A3 | Patch passive crystal-32.768KHz-2pin-FC135 encapsulation-3.2*1.5mm 26MSPX0- | EPSON | FC-135 32.768KHz | | | | | |
| 47 | 0102080017 | 26.000M SPX0 | Y2 | 1 | Y3225 | Temperature compensation-1.8V-frequency difference0.5nm 32.768KHzMSPX0- | KDS | DSB321SDA | PERICOM (Avnet) | WT3253F0026.000000 | | | 0188000632 |
| 48 | 0102080018 | 32.768KHZ SPX0 | Y3 | 1 | OSC3225 | 3.3V-3225 encapsulation-frequency difference30nm | PERICOM (Avnet) | KK3270022 | | | | | 0188000817 |
| 49 | 0102010153 | AM3715CUS100 CPU | U1 | 1 | bga423-cus | A8 CPU-maximum supported1GHZ-423PIN-encapsulation FCBGA | TI (Avnet) | AM3715CUS100 | | | | | 0188000254 |
| 50 | 0101060031 | WG7310-0A module | U2 | 1 | WG7310 | WIFI+BT+FM three in one module power management chip-integration | Zuo Zhen (San Gu) | | | | | | 0188000440 |
| 51 | 0102010154 | TPS65930 power management chip | U5 | 1 | BGA139 | AUDIO_USB_OTG-139PIN-0.65Ball pitch-encapsulation NERGA | TI (Avnet) | TPS65930 | | | | | 0188000345 |
| 52 | 0102010155 | TPA2010D1 Audio power amplifier chip | U6 | 1 | bga9_1 | Audio power amplifier chip-2.5 to 5.5V-encapsulation DSRGA | TI (Avnet) | TPA2010D1 | | | | | 0188000633 |
| 53 | 0102010166 | H9DA4GH4JJBMC R-4EM memory chip | U7 | 1 | | | HYNIX | 512MB NANDFLASH+512MB LPDDR | | | | | CHC-SJBG-201406053 |



Shanghai Huace Navigation Technology LTD.

Version

A

Revision status

3 times

Execute date

2014/6/11

LT500 Main circuit boardV2.1 (outsource) BOM

Moment Sign

E-BOM

LT500 Main circuit boardV2.1 (outsource) BOM

P/N:020200111

| NO. | PN | ERP Name | Position number | Quantity | Encapsulation | Parameters details | First manufacturer | manufacturer type | Second manufacturer | manufacturer type | Third manufacturer | manufacturer type | Note |
|-----|------------|---|--------------------|----------|--------------------|---|-----------------------------------|-------------------|---------------------|-------------------|--------------------|-------------------|------------|
| 54 | 0102010046 | MAX3232ESE RS232 Level conversion chip | U11 | 1 | S016 | RS232transceiver. 3V~5.5V. 1Mbps. S016 encapsulation | MAXIM | MAX3232ESE+ | | | | | 0102010046 |
| 55 | 0102010165 | TUSB1210 USB transceiver | U20 | 1 | qfn32_5x5 | transceiver_2.7-4.8V_QFN encapsulation | TI | TUSB1210BRHBR | | | | | 0188000816 |
| 56 | 0102010158 | SD1N7DU2-16G chip | U23 | 1 | bga169_0p5_12x16 | SD1N7DU2-16G | SANDISK | SD1N7DU2-16G | | | | | 0188000660 |
| 57 | 0102010015 | TLV70015DDC power supply chip | U30 | 1 | S0T23-5 | LDO power supply chip-Output1.5V-200mA-TS0T235 encapsulation | TI (Avnet) | TLV70015DDCR | | | | | |
| 58 | 0102010159 | TLV70228DBV power supply chip | U31 | 1 | S0T23-5 | LDO power supply chip-Output2.8V-300mA-TS0T235 encapsulation | TI (Avnet) | TLV70228DBV | | | | | 0188000637 |
| 59 | 0102010160 | LSM303D electronic compass chip | U34 | 1 | LBA16_0P5 | acceleration of gravity+electronic compass-2.16V to 3.6V-encapsulation LGA-16 | ST (WT Microelectronics Co., Ltd) | | | | | | 0188000286 |
| 60 | 0102010161 | L3GD20 Gyroscope chip | U38 | 1 | LGA_16L4X4X1D1 | Gyroscope chip-IIC-2.4 to 3.6V-encapsulation LGA-16 | ST (WT Microelectronics Co., Ltd) | | | | | | 0188000287 |
| 61 | 0102010162 | TPS54339EDDA power supply chip | U39. U46 | 2 | SOP2X8_127A | power supply chip_4.5V-23V_encapsulation SOP | TI | TPS54339EDDA | | | | | 0188000425 |
| 62 | 0101060032 | PHS8-P 3G moudle | U49 | 1 | BGA_33X29X2_PHS8-P | PHS8-P | Siemens | | | | | | 0188000524 |
| 63 | 0101060003 | GLBT0203AR BT moudle | U59 | 1 | GLBT0203AR | BT module.V2.0+EDR. St amp hole package . 10.5mm*10.5mm*2.2mm(h) | | | | | | | |
| 64 | 0102010163 | PI4ULS5V202 Dual direction -two line level switch | U54. U55. U56. U60 | 4 | MSOP-8 | Dual bidirectional level conversion chip-1.2 to 5.5V-encapsulation MSOP-8 | PERICOM | | | | | | 0188000635 |



Shanghai Huace Navigation Technology LTD.

Version

A

Revision status

3 times

Execute date

2014/6/11

LT500 Main circuit boardV2.1 (outsource) BOM

Moment Sign

E-BOM

LT500 Main circuit boardV2.1 (outsource) BOM

P/N:0202000111

| NO. | PN | ERP Name | Position number | Quantity | Encapsulation | Parameters details | First manufacturer | manufacturer type | Second manufacturer | manufacturer type | Third manufacturer | manufacturer type | Note |
|-----|------------|---|-----------------|----------|------------------|---|---------------------------------------|------------------------|---------------------|-------------------|--------------------|-------------------|------------|
| 65 | 0102010012 | PESD5V0L5UY Power Supply ICs | U58 | 1 | SOT363_OP65 | ESD protection chip. 5 one-way road or 4路双向. 6. 8V-12V-25W-2. 5A. SOT363encapsulation | NXP | PESD5V0L5UY | | | | | |
| 66 | 0102010043 | LTC29501TS8-1 power switch controller | U61 | 1 | S8 | The power switch controller working voltage 2. 7V~26V | Linear Technology Corporation | LTC29501TS8-1 | | | | | |
| 67 | 0102010164 | DG2618 analogue switch | U62. U63 | 2 | dg2618 | analogue switch- 1. 5V to 3. 6V- encapsulation DFN-10 | Vishay | | | | | | 0188000634 |
| 68 | 0101020041 | SLDA52-2R540G-S1TF BT antenna | ANT3 | 1 | | | Shenzhen Sunlord Electronics Co., Ltd | | | | | | 0188000912 |
| 69 | 0102100165 | 10. 2mm thimble | ANT2 | 1 | pogopin-3 | thimble-suitable high 6. 9mm to 8. 4mm | XINYANGZE electronic connector LTD | | | | | | 0188000641 |
| 70 | 0101020030 | MAF95029Blue Antenna chip | ANT1 | 1 | WIFI_ANT | BLUE ANTENNA-2. 4~2. 5Ghz-4. 9~6. 0Ghz-8*6*2. 5 mm | Laird | MAF95029 | | | | | |
| 71 | 0102100166 | 1*20P-0. 5 Fool proof socket | J7 | 1 | CONS_20P_OP5 | 20P-0. 5Fool proof socket-Factory model LVC-D20SFYG3-14mm*4. 6mm | YaFeng ShangHai | LVC-D20SFYG3 | GengDE Kunshan | | | | 0188000638 |
| 72 | 0102100167 | 51P-0. 3 Double row on patch socket interface | J41 | 1 | CONS_51P_OP3 | 51P-0. 3 Double row on patch socket interface_Factory model FH35C-51S-0. 3SHW (99) | HIROSE | FH35C-51S-0. 3SHW (99) | | | | | 0188000693 |
| 73 | 0102100168 | 80PIN-0. 8 fool proof socket | J42 | 1 | CONS_80P_OP8_S0C | Panasonic connector- fool proof socket- 80PIN-PIN interval 0. 8-combined high 6mm-Type AXN380130S | Panasonic | AXN380130S | | | | | 0188000489 |
| 74 | 0102100169 | LT500SIM slot | J44 | 1 | sim_card_1p27 | SIM slot-Factory model 1050341001-2. 6MM high | MOLEX | 1050341001 | | | | | 0188000494 |



Shanghai Huace Navigation Technology LTD.

Version

A

Revision status

3 times

Execute date

2014/6/11

LT500 Main circuit boardV2.1 (outsource) BOM

Moment Sign

E-BOM

LT500 Main circuit boardV2.1 (outsource) BOM

P/N:0202000111

| NO. | PN | ERP Name | Position number | Quantity | Encapsulation | Parameters details | First manufacturer | manufacturer type | Second manufacturer | manufacturer type | Third manufacturer | manufacturer type | Note |
|-----|------------|-----------------------------------|-----------------|----------|---------------|---|---------------------|-------------------|---------------------|-------------------|--------------------|-------------------|------------|
| 75 | 0102100038 | 2P-1.25 Vertical strips socket | J49 | 1 | CONS_2P_1P25 | | | | | | | | |
| 76 | 0102100051 | 2P-2.54 fool proof socket | J36 | 1 | | | | | | | | | |
| 77 | 0102100170 | 6PIN male battery pole | J50 | 1 | TH6PIN | The male battery pole -factory model 250133MS006G106ZU-20mm*4mm | SUYIN DongGuan | 250133MS006G106ZU | | | | | 0188000636 |
| 78 | 0103010188 | LT500 The mainboard shielding box | | 2 | | LT500-210031_V0.1 | ShangHai LangLe .co | LT500-210031_V0.1 | | | | | 0188000682 |

neaten:

Engineer Review:

Manufacturing specialist review:

Project manager review:

Director of R&D review:

modification:

| NO. | PN | ERP Name | Position number | Quantity | Encapsulation | Parameters details | First manufacturer | manufacturer type | Second manufacturer | manufacturer type | former version | Current Version | Note |
|-----|------------|---------------------------------|---------------------|----------|---------------|--|--------------------|---------------------|---------------------|-------------------|----------------|-----------------|-----------------------|
| 1 | 0102130267 | 13KΩ | R93 | 1 | R0402 | SMD Resister-13KΩ-0402encapsulation-1/16W-1% | YAGEO | | | | A0 | A1 | Material substitution |
| 2 | 0102130265 | 33Ω | R44. R47. R48. R106 | 4 | R0402 | SMD Resister-33Ω-0402 encapsulation-1/16W-1% | | | | | A0 | A1 | Material substitution |
| 3 | 0102060104 | Si2333DS P channel FET | Q12 | 1 | SOT23 | POWER MOSFET-P channel-12V-4. 1A-35mΩ-SOT23 | VISHAY | Si2333DS | | | A0 | A1 | Material substitution |
| 4 | 0102100051 | 2P-2.54 Fool proof socket | J36 | 1 | | | | | | | A1 | A2 | The new material |
| 5 | 0102010156 | MT29C4G96MAZAPCJA-5 memory chip | U7 | 1 | bga137 | | Micron | MT29C4G96MAZAPCJA-5 | | | A2 | A3 | Material substitution |
| 6 | | | | | | | | | | | | | |