



Bill of Materials for the NCP1342PD90WGEVB Evaluation Board

| Designator                     | Quantity | Description       | Value      | Tolerance | Footprint                     | Manufacturer | Manufacturer Part Number | Substitution Allowed | Lead Free |
|--------------------------------|----------|-------------------|------------|-----------|-------------------------------|--------------|--------------------------|----------------------|-----------|
| Q6                             | 1        | NMOSFET           | 0.2A,60V   |           | SOT23                         | ON           | 2N7002LT1G               | No                   | Yes       |
| C43 C45                        | 2        | Ceramic Capacitor | 0.1uF      |           | 603                           | Wueth        | /885012206095            | Yes                  | Yes       |
| C37                            | 1        | Ceramic Capacitor | 0.22uF     |           | 603                           | Wueth        | /885012106019            | Yes                  | Yes       |
| C1 C5                          | 2        | Film Capcitor     | 0.68u,450v |           | THT, 10mm,<br>13mmx6mmx12mm   | Panasonic    | ECWFD2W684Q              | Yes                  | Yes       |
| C33                            | 1        | Ceramic Capacitor | 100pF      |           | 603                           | Wueth        | /885012206077            | Yes                  | Yes       |
| C34                            | 1        | Ceramic Capacitor | 100pF      |           | 603                           | Wueth        | /885012206077            | Yes                  | Yes       |
| C26 C31                        | 2        | Ceramic Capacitor | 104,400V   |           | 1206                          | TDK          | C3216X7T2W104K           | Yes                  | Yes       |
| C18                            | 1        | Ceramic Capacitor | 10nF       |           | 603                           | Wueth        | /885012206089            | Yes                  | Yes       |
| C42                            | 1        | Ceramic Capacitor | 10pF       |           | 603                           | Wueth        | /885012006051            | Yes                  | Yes       |
| C9 C28 C30                     | 3        | Ceramic Capacitor | 1nF        |           | 603                           | Wueth        | /885012206083            | Yes                  | Yes       |
| C12                            | 1        | Ceramic Capacitor | 1nF,100v   |           | 603                           | TDK          | C1608C0G2A102J           | Yes                  | Yes       |
| C3                             | 1        | Ceramic Capcitor  | 1nF,630V   |           | 1206                          | TDK          | C3216C0G2J471J           | Yes                  | Yes       |
| C8                             | 1        | Ceramic Capacitor | 1uF,100V   |           | 805                           | TDK          | C2012X7S2A105K           | Yes                  | Yes       |
| C2 C7 C16-17 C27 C29 C38 C57   | 8        | Ceramic Capacitor | 1uF,25V    |           | 603                           | Wueth        | /885012206076            | Yes                  | Yes       |
| C39                            | 1        | Ceramic Capacitor | 1uF,25V    |           | 603                           | Wueth        | /885012206076            | Yes                  | Yes       |
| C35                            | 1        | Ceramic Capacitor | 2.2nF      |           | 603                           | Wueth        | /885012206085            | Yes                  | Yes       |
| C36                            | 1        | Ceramic Capacitor | 2.2uF      |           | 603                           | Wueth        | /885012106018            | Yes                  | Yes       |
| C25                            | 1        | X2 Capcitor       | 224,X2     |           | THT, 12.5mm,<br>15mmx7mmx12mm | Wueth        | /890324024002            | Yes                  | Yes       |
| C11 C23                        | 2        | Ceramic Capacitor | 330pF      |           | 603                           | Wueth        | /885012206080            | Yes                  | Yes       |
| C24                            | 1        | Ceramic Capacitor | 4.7uF,25V  |           | 805                           | TDK          | C2012X7R1E475K           | Yes                  | Yes       |
| C4                             | 1        | Ceramic Capacitor | 4.7uF,25v  |           | 805                           | TDK          | C2012X7R1E475K           | Yes                  | Yes       |
| C10                            | 1        | Ceramic Capcitor  | 470pF,Y1   |           | Lead type                     | TDK          | CS65-B2GA471KYNKA        | Yes                  | Yes       |
| C19 C22                        | 2        | Ceramic Capacitor | 68nF       |           | 603                           | Wueth        | /885012206094            | Yes                  | Yes       |
| C6                             | 1        | Ceramic Capacitor | 68pF       |           | 603                           | std          | /885012006056            | Yes                  | Yes       |
| C20                            | 1        | Ceramic Capacitor | NC         |           | 603                           | std          | NC                       | Yes                  | Yes       |
| C40                            | 1        | Ceramic Capcitor  | nc         |           | 805                           | WE           | /885342207016            | Yes                  | Yes       |
| D2                             | 1        | Bridge rectifier  | 4A,1000V   |           | Z4PAK                         | ZOWIE        | Z4GP40MH                 | Yes                  | Yes       |
| D9                             | 1        | Rectifier         | 3A,600V    |           | SMC                           | ON           | 1N5406G                  | No                   | Yes       |
| DNR                            | 1        | Varistor          | 10D471K    |           | TH                            | Wurth        | /820573011               | Yes                  | Yes       |
| D1 D7 D10-11 D14-15 D19 D24-25 | 9        | Switching diode   | 0.2A,250V  |           | SOD323                        | ON           | BAS21HT1G                | No                   | Yes       |
| D4 D16                         | 2        | Switching diode   | 0.2A,30V   |           | SOD323                        | ON           | BAT54HT1G                | No                   | Yes       |
| D6                             | 1        | Switching diode   | 0.2A,350V  |           | SOD323                        | ON           | NSD350HT1G               | No                   | Yes       |

|                                   |   |                                  |                 |              |              |                      |     |     |
|-----------------------------------|---|----------------------------------|-----------------|--------------|--------------|----------------------|-----|-----|
| D5                                | 1 | Ultrafast rectifier              | 0.8A,600V       | SOD123FL     | ON(FSC)      | US1JFA               | No  | Yes |
| D12-13                            | 2 | Standard rectifier               | 0.8A,600V       | SOD123FL     | ON(FSC)      | RS1JFA               | No  | Yes |
| D8 D17-18 D21 D23                 | 5 | Switching diode                  | 0.2A,250V       | SOD323       | ON           | BAS21HT1G            | No  | Yes |
| FB3                               | 1 | Ferrite bead                     |                 | 1206         | nc           | nc                   | Yes | Yes |
| FB2                               | 1 | Ferrite bead                     | 300ohm@100M, 3A | 1206         | Wueth        | /742792121           | Yes | Yes |
| FB1                               | 1 | Ferrite bead                     | 600ohm@100M, 2A | 1206         | Wueth        | /74279218            | Yes | Yes |
| L2                                | 1 | Common filter                    | 18mH            | TH type      | std          | std                  | Yes | Yes |
| L1                                | 1 | Common filter                    | 500uH           | TH           | std          | std                  | Yes | Yes |
| F1                                | 1 | Fuse                             | 1.6A, 250Vac    | Axial lead   | Hollyfuse    | 20T-016H             | Yes | Yes |
| Q4                                | 1 | NPN Transistor                   |                 | SOT23        | ON           | MMBTA06LT1G          | No  | Yes |
| Q7 Q12 Q14 Q17                    | 4 | NPN Transistor                   |                 | SOT23        | ON           | MMBT3904LT1G         | No  | Yes |
| Q10                               | 1 | NPN Transistor                   | 80v             | SOT23        | ON           | MMBTA06LT1G          | No  | Yes |
| Q5 Q9 Q15 Q18                     | 4 | PNP Transistor                   |                 | SOT23        | ON           | MMBT3906LT1G         | No  | Yes |
| Q13                               | 1 | PNP Transistor                   |                 | SOT23        | ON           | MMBTA56LT1G          | No  | Yes |
| D3                                | 1 | Ultrafast Rectifier              | 5A, 520V        | DPAK         | ON           | MURD550PFG           | No  | Yes |
| U6                                | 1 | Programmable precision reference |                 | SOT23        | ON           | TLV431ASNT1G         | No  | Yes |
| U5                                | 1 | PFC controller                   |                 | TSOP6        | ON           | NCP1622AEC           | No  | Yes |
| U3                                | 1 | Syn. rectified controller        |                 | SO8          | ON           | NCP4306AADZZADR2G    | No  | Yes |
| U1                                | 1 | PWM Controller                   |                 | SOP9         | ON           | NCP1342ANBDD1R2G     | No  | Yes |
| U7                                | 1 | LDO                              |                 | SOT23-5      | ON           | NCP716BSN050T1G      | No  | Yes |
| Q2                                | 1 | NMOSFET                          | 6A, 650V        | TO-220FP     | ON           | FCPF380N65           | No  | Yes |
| Q11 Q16                           | 2 | NMOSFET                          | 0.35A, 500V     | TO-92        | ON           | FQN1N50C             | No  | Yes |
| NTC1                              | 1 | NTC                              | 100k            | 603          | Sunlord      | SDNT1608X104J4250HTF | Yes | Yes |
| U4                                | 1 | Optical coupler                  |                 | LSOP4        | ON(FSC)      | FODM1009             | No  | Yes |
| Q8                                | 1 | PMOS                             | -30V, 8.4mohm   | ATPAK        | ON           | ATP104               | No  | Yes |
| L3                                | 1 | Toroidal Line Choke              | 100uH           |              | Würth        | /7447021             | Yes | Yes |
| L5                                | 1 | SMD inductor                     | 4.7uH           | 603          | Sunlord      | MCL1608S4R7MT        | Yes | Yes |
| T1                                | 1 | Transformer                      |                 | TH type      | Jepuls       | BCK3301-191          | Yes | Yes |
| Q3                                | 1 | MOSFET                           |                 | THINKPAK-8X8 | ON           | FCMT299N60           | No  | Yes |
| R6                                | 1 | Resistor                         | 1               | 603          | Std          | Std                  | Yes | Yes |
| R15                               | 1 | Resistor                         | 1.2k            | 603          | Std          | Std                  | Yes | Yes |
| R9                                | 1 | Resistor                         | 1.6K            | 603          | Std          | Std                  | Yes | Yes |
| R67                               | 1 | Resistor                         | 1.8k            | 603          | Std          | Std                  | Yes | Yes |
| R13 R49 R61-62 R68                | 5 | Resistor                         | 100K            | 603          | Std          | Std                  | Yes | Yes |
| R18 R33 R35 R38-39 R55 R58 R71-72 | 9 | Resistor                         | 10K             | 603          | Std          | Std                  | Yes | Yes |
| R37                               | 1 | Resistor                         | 120k            | 603          | Std          | Std                  | Yes | Yes |
| R60                               | 1 | Resistor                         | 12k             | 603          | Std          | Std                  | Yes | Yes |
| R11                               | 1 | Resistor                         | 150             | 603          | Std          | Std                  | Yes | Yes |
| R8                                | 1 | Resistor                         | 15k             | 603          | Std          | Std                  | Yes | Yes |
| R69                               | 1 | Resistor                         | 17.6k           | 603          | Std          | Std                  | Yes | Yes |
| R17 R46                           | 2 | Resistor                         | 18K             | 603          | Std          | Std                  | Yes | Yes |
| R3                                | 1 | Resistor                         | 1K              | 603          | Std          | Std                  | Yes | Yes |
| R22                               | 1 | Resistor                         | 1K              | 603          | Std          | Std                  | Yes | Yes |
| R21 R63                           | 2 | Resistor                         | 1k              | 603          | Std          | Std                  | Yes | Yes |
| R57                               | 1 | Resistor                         | 20k             | 603          | Std          | Std                  | Yes | Yes |
| R19 R26-28 R36 R47                | 6 | Resistor                         | 22              | 603          | Std          | Std                  | Yes | Yes |
| R56                               | 1 | Resistor                         | 22K             | 603          | Std          | Std                  | Yes | Yes |
| R7 R44                            | 2 | Resistor                         | 300k            | 603          | Std          | Std                  | Yes | Yes |
| R16 R30                           | 2 | Resistor                         | 30k             | 603          | Std          | Std                  | Yes | Yes |
| R10 R48                           | 2 | Resistor                         | 4.7             | 603          | Std          | Std                  | Yes | Yes |
| R23 R59                           | 2 | Resistor                         | 4.7K            | 603          | Std          | Std                  | Yes | Yes |
| R54                               | 1 | Resistor                         | 47              | 603          | Std          | Std                  | Yes | Yes |
| R25                               | 1 | Resistor                         | 47K             | 603          | Std          | Std                  | Yes | Yes |
| R52                               | 1 | Resistor                         | 6.8k            | 603          | Std          | Std                  | Yes | Yes |
| R32                               | 1 | Resistor                         | 68K             | 603          | Std          | Std                  | Yes | Yes |
| R20                               | 1 | Resistor                         | 750k            | 603          | Std          | Std                  | Yes | Yes |
| R24 R43                           | 2 | Resistor                         | 75K             | 603          | Std          | Std                  | Yes | Yes |
| R53                               | 1 | Resistor                         | 82k             | 603          | Std          | Std                  | Yes | Yes |
| R29                               | 1 | Resistor                         | nc              | 603          | Std          | Std                  | Yes | Yes |
| R50-51                            | 2 | Resistor                         | 0.3             | 1206         | Panasonic    | ERJ8BQFR030V         | Yes | Yes |
| R4-5                              | 2 | Resistor                         | 0.62            | 1206         | Panasonic    | ERJ8BQFR062V         | Yes | Yes |
| R2                                | 1 | Resistor                         | 10              | 1206         | Std          | Std                  | Yes | Yes |
| R65-66                            | 2 | Resistor                         | 160k            | 1206         | Std          | Std                  | Yes | Yes |
| R31                               | 1 | Resistor                         | 1k              | 805          | Std          | Std                  | Yes | Yes |
| R70                               | 1 | Resistor                         | 1k              | 1206         | Std          | Std                  | Yes | Yes |
| R64                               | 1 | Resistor                         | 20k             | 1206         | Std          | Std                  | Yes | Yes |
| R41-42                            | 2 | Resistor                         | 2M              | 1206         | Std          | Std                  | Yes | Yes |
| R12 R34                           | 2 | Resistor                         | 47              | 805          | Std          | Std                  | Yes | Yes |
| R14                               | 1 | Resistor                         | 5mohm           | 1206         | Panasonic    | ERJ8BWFR005V         | Yes | Yes |
| R40                               | 1 | Resistor                         | 680k            | 1206         | Std          | Std                  | Yes | Yes |
| R1 R45                            | 2 | Resistor                         | 75k             | 1206         | Std          | Std                  | Yes | Yes |
| L4                                | 1 | PFC Inductor                     | 300uH           | TH type      | Jepuls/Wueth | Jepuls/750343888     | Yes | Yes |
| C21                               | 1 | Electrolytic solid capacitor     | 10uF,100V       | 5mmx11mm     | CapXon       | PS681M025F080P       | Yes | Yes |
| C41                               | 1 | Electrolytic solid capacitor     | 10uF,25V        | 5mmx11mm     | std          | std                  | Yes | Yes |
| C13-15                            | 3 | Electrolytic solid capacitor     | 560uF,25V       | 8mmx12mm     | CapXon       | PS561M025F080P       | Yes | Yes |

|         |   |                                     |           |  |           |          |                     |     |     |
|---------|---|-------------------------------------|-----------|--|-----------|----------|---------------------|-----|-----|
| C32     | 1 | Electrolytic electrolytic capacitor | 68uF,420V |  | 16mmx30mm | CapXon   | KL680M420J300A00H   | Yes | Yes |
| Q1      | 1 | MOSFET                              |           |  | SO8FL     | ON       | NTMFS6B03NLT1G      | Yes | Yes |
| J1      | 1 | USB Type C connector                |           |  | SMD       | CSCONN   | CUS31738616001      | Yes | Yes |
| U2      | 1 | PD Controller                       |           |  | DFN16     | Weltrend | WT6615F-UG16CWT-S90 | Yes | Yes |
| ZD5     | 1 | Zener                               | 10V       |  | SOD323    | ON       | MM3Z10VT1G          | No  | Yes |
| ZD1 ZD4 | 2 | Zener                               | 15V       |  | SOD323    | ON       | MM3Z15VT1G          | No  | Yes |
| ZD2 ZD6 | 2 | Zener                               | 22V       |  | SOD323    | ON       | MM3Z22VT1G          | No  | Yes |
| ZD3     | 1 | Zener                               | 5.6V      |  | SOD323    | ON       | MM3Z5V6T1G          | No  | Yes |
| ESD1-4  | 4 | ESD                                 | 5V        |  | SOD323    | ON       | SD05T1G             | No  | Yes |