The analog and digital ground planes should be as large and intact as possible. If the ground plane is large enough, the analog and digital grounds can be separated, which is the ideal configuration. However, if the total ground plane is not sufficiently large, partition of the ground plane is not a good idea. In this case, all the ground pins can be connected together to a larger single and intact ground plane. (remove FB3, and change 'GNDA' to 'GND'.) 1V8D FB3 C9 C10 C11 C12 C13 C15 C16 C17 C18 0.1uF 0.1uF 0.1uF 0.1uF 0.1u /RESET BIT16EN 28. DATA15
29. DATA15
30. DATA13
31. DATA23
32. DATA11
33. DATA1
34. DATA2
35. DATA3
36. DATA3
38. DATA3
38. DATA3
40. DATA4
41. DATA4
42. DATA4
43. DATA4
44. DATA4
45. DATA4 D[0..15] RSET_BG 12K(1%) 300(1%) FB2 RXIN FB1 1uH /FDX 80 X C4 3.3uF C6 W5300 /LINKLED 90 48 ADDR9
49 ADDR8
50 ADDR7
51 ADDR6
52 ADDR5
53 ADDR4
554 ADDR3
555 ADDR4
57 ADDR0 GNDA Place FB1, C1, C2, C3 as close to each power pin as possible. Place C4, C5, FB2 close to 1V8_OUT and place C6, C7 close to 1V8A pin. 60 61 62 /CS 65 /INT | BRDY0J 67 | BRDY1J 68 | BRDY2J 69 | BRDY3J 70 | BRDY3 | BRDY LQFP100(14X14) 4.7K 0.1u 1SS181(SC-59) R11 GNDA GNDA GNDA /FDXLED 1 /COLLED 1 13 Shield Shield RD1-125BAG1A GNDA CONNECT TO CHASSIS GND 330 **CLOCK SOURCE OPTION** (You should adopt only one option.) 16BIT_EN < Transformer Specification > <OPTION1: 2 CRYSTAL SOURCE> <OPTION2 : Oscillator SOURCE 1> <OPTION3 : Oscillator SOURCE 2> 16BIT EN TURN RADIO: TX&RX = 1CT:1CT 1-2:16 BIT DATA BUS INDUCTANCE: 350uH MIN. 2-3:8 BIT DATA BUS OSC1 25MHz 25MHz 25MHz SW1 000: Auto-negotiation enable with all capabilities When using oscillator, be sure to use In order to prevent the leakage current, 001 : Auto-negotiation with 100 BASE-TX FDX/HDX ability be sure to keep XTLP high and float 1.8v level oscillator and connect only to XTLP. and let be float XTLN. XTLN, and use 1.8v level oscillator. 010 : Auto-negotiation with 10 BASE-T FDX/HDX ability 011 : Reserved 100 : Manual selection of 100 BASE-TX FDX 101 : Manual selection of 100 BASE-TX HDX 110 : Manual selection of 10 BASE-T FDX 111 : Manual selection of 10 BASE-T HDX SW DIP-3 W5300 Internal PHY reference Schematic