

64FFT work sheet

| INDEX N | x | | | STAGE1 | TF | x1 | | | STAGE2 | TF | x1 | | | STAGE3 | TF | x1 | | | INDEX K | REORDER | INDEX K | | | | |
|---------|----|----|----|--------|--------|--------|--------|----|--------|--------|--------|--------|----|--------|--------|--------|--------|----|---------|---------|---------|----|----|----|----|
| | n2 | n1 | n0 | | | k0 | n1 | n0 | | | k0 | k1 | n0 | | | k0 | k1 | k2 | | | | | | | |
| 0 | 0 | 0 | 0 | PHASE0 | 0 | 0 | 0 | 0 | PHASE0 | 0 | 0 | 0 | 0 | PHASE0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| 1 | 0 | 0 | 1 | | 0 | 0 | 0 | 1 | | 0 | 0 | 0 | 1 | PHASE1 | 0 | 0 | 0 | 1 | 16 | | | 16 | | | |
| 2 | 0 | 0 | 2 | | 0 | 0 | 0 | 2 | | 0 | 0 | 0 | 2 | PHASE2 | 0 | 0 | 0 | 2 | 32 | | | 32 | | | |
| 3 | 0 | 0 | 3 | | 0 | 0 | 0 | 3 | | 0 | 0 | 0 | 3 | PHASE3 | 0 | 0 | 0 | 3 | 48 | | | 48 | | | |
| 4 | 0 | 1 | 0 | | PHASE1 | 0 | 0 | 1 | 0 | PHASE1 | 0 | 0 | 1 | 0 | PHASE0 | 0 | 0 | 1 | 0 | 4 | | 4 | | | |
| 5 | 0 | 1 | 1 | | | 0 | 0 | 1 | 1 | | 4 | 0 | 1 | 1 | PHASE1 | 0 | 0 | 1 | 1 | 20 | | | 20 | | |
| 6 | 0 | 1 | 2 | | | 0 | 0 | 1 | 2 | | 8 | 0 | 1 | 2 | PHASE2 | 0 | 0 | 1 | 2 | 36 | | | 36 | | |
| 7 | 0 | 1 | 3 | | | 0 | 0 | 1 | 3 | | 12 | 0 | 1 | 3 | PHASE3 | 0 | 0 | 1 | 3 | 52 | | | 52 | | |
| 8 | 0 | 2 | 0 | | | PHASE2 | 0 | 0 | 2 | 0 | PHASE2 | 0 | 0 | 2 | 0 | PHASE0 | 0 | 0 | 2 | 0 | 8 | | 8 | | |
| 9 | 0 | 2 | 1 | | | | 0 | 0 | 2 | 1 | | 8 | 0 | 2 | 1 | PHASE1 | 0 | 0 | 2 | 1 | 24 | | | 24 | |
| 10 | 0 | 2 | 2 | | | | 0 | 0 | 2 | 2 | | 16 | 0 | 2 | 2 | PHASE2 | 0 | 0 | 2 | 2 | 40 | | | 40 | |
| 11 | 0 | 2 | 3 | | | | 0 | 0 | 2 | 3 | | 24 | 0 | 2 | 3 | PHASE3 | 0 | 0 | 2 | 3 | 56 | | | 56 | |
| 12 | 0 | 3 | 0 | | | | PHASE3 | 0 | 0 | 3 | 0 | PHASE3 | 0 | 0 | 3 | 0 | PHASE0 | 0 | 0 | 3 | 0 | 12 | | 12 | |
| 13 | 0 | 3 | 1 | | | | | 0 | 0 | 3 | 1 | | 12 | 0 | 3 | 1 | PHASE1 | 0 | 0 | 3 | 1 | 28 | | | 28 |
| 14 | 0 | 3 | 2 | | | | | 0 | 0 | 3 | 2 | | 24 | 0 | 3 | 2 | PHASE2 | 0 | 0 | 3 | 2 | 44 | | | 44 |
| 15 | 0 | 3 | 3 | | | | | 0 | 0 | 3 | 3 | | 36 | 0 | 3 | 3 | PHASE3 | 0 | 0 | 3 | 3 | 60 | | | 60 |
| 16 | 1 | 0 | 0 | PHASE0 | | | | 0 | 1 | 0 | 0 | PHASE0 | 0 | 1 | 0 | 0 | PHASE0 | 0 | 1 | 0 | 0 | 1 | | 1 | |
| 17 | 1 | 0 | 1 | | | | | 1 | 1 | 0 | 1 | | 0 | 1 | 0 | 1 | PHASE1 | 0 | 1 | 0 | 1 | 17 | | | 17 |
| 18 | 1 | 0 | 2 | | | | | 2 | 1 | 0 | 2 | | 0 | 1 | 0 | 2 | PHASE2 | 0 | 1 | 0 | 2 | 33 | | | 33 |
| 19 | 1 | 0 | 3 | | | | | 3 | 1 | 0 | 3 | | 0 | 1 | 0 | 3 | PHASE3 | 0 | 1 | 0 | 3 | 49 | | | 49 |
| 20 | 1 | 1 | 0 | | PHASE1 | | | 4 | 1 | 1 | 0 | PHASE1 | 0 | 1 | 1 | 0 | PHASE0 | 0 | 1 | 1 | 0 | 5 | | 5 | |
| 21 | 1 | 1 | 1 | | | | | 5 | 1 | 1 | 1 | | 4 | 1 | 1 | 1 | PHASE1 | 0 | 1 | 1 | 1 | 21 | | | 21 |
| 22 | 1 | 1 | 2 | | | | | 6 | 1 | 1 | 2 | | 8 | 1 | 1 | 2 | PHASE2 | 0 | 1 | 1 | 2 | 37 | | | 37 |
| 23 | 1 | 1 | 3 | | | | | 7 | 1 | 1 | 3 | | 12 | 1 | 1 | 3 | PHASE3 | 0 | 1 | 1 | 3 | 53 | | | 53 |
| 24 | 1 | 2 | 0 | | | PHASE2 | | 8 | 1 | 2 | 0 | PHASE2 | 0 | 1 | 2 | 0 | PHASE0 | 0 | 1 | 2 | 0 | 9 | | 9 | |
| 25 | 1 | 2 | 1 | | | | | 9 | 1 | 2 | 1 | | 8 | 1 | 2 | 1 | PHASE1 | 0 | 1 | 2 | 1 | 25 | | | 25 |
| 26 | 1 | 2 | 2 | | | | | 10 | 1 | 2 | 2 | | 16 | 1 | 2 | 2 | PHASE2 | 0 | 1 | 2 | 2 | 41 | | | 41 |
| 27 | 1 | 2 | 3 | | | | | 11 | 1 | 2 | 3 | | 24 | 1 | 2 | 3 | PHASE3 | 0 | 1 | 2 | 3 | 57 | | | 57 |
| 28 | 1 | 3 | 0 | | | | PHASE3 | 12 | 1 | 3 | 0 | PHASE3 | 0 | 1 | 3 | 0 | PHASE0 | 0 | 1 | 3 | 0 | 13 | | 13 | |
| 29 | 1 | 3 | 1 | | | | | 13 | 1 | 3 | 1 | | 12 | 1 | 3 | 1 | PHASE1 | 0 | 1 | 3 | 1 | 29 | | | 29 |
| 30 | 1 | 3 | 2 | | | | | 14 | 1 | 3 | 2 | | 24 | 1 | 3 | 2 | PHASE2 | 0 | 1 | 3 | 2 | 45 | | | 45 |
| 31 | 1 | 3 | 3 | | | | | 15 | 1 | 3 | 3 | | 36 | 1 | 3 | 3 | PHASE3 | 0 | 1 | 3 | 3 | 61 | | | 61 |
| 32 | 2 | 0 | 0 | PHASE0 | | | | 0 | 2 | 0 | 0 | PHASE0 | 0 | 2 | 0 | 0 | PHASE0 | 0 | 2 | 0 | 0 | 2 | | 2 | |
| 33 | 2 | 0 | 1 | | | | | 2 | 2 | 0 | 1 | | 0 | 2 | 0 | 1 | PHASE1 | 0 | 2 | 0 | 1 | 18 | | | 18 |
| 34 | 2 | 0 | 2 | | | | | 4 | 2 | 0 | 2 | | 0 | 2 | 0 | 2 | PHASE2 | 0 | 2 | 0 | 2 | 34 | | | 34 |
| 35 | 2 | 0 | 3 | | | | | 6 | 2 | 0 | 3 | | 0 | 2 | 0 | 3 | PHASE3 | 0 | 2 | 0 | 3 | 50 | | | 50 |
| 36 | 2 | 1 | 0 | | PHASE1 | | | 8 | 2 | 1 | 0 | PHASE1 | 0 | 2 | 1 | 0 | PHASE0 | 0 | 2 | 1 | 0 | 6 | | 6 | |
| 37 | 2 | 1 | 1 | | | | | 10 | 2 | 1 | 1 | | 4 | 2 | 1 | 1 | PHASE1 | 0 | 2 | 1 | 1 | 22 | | | 22 |
| 38 | 2 | 1 | 2 | | | | | 12 | 2 | 1 | 2 | | 8 | 2 | 1 | 2 | PHASE2 | 0 | 2 | 1 | 2 | 38 | | | 38 |
| 39 | 2 | 1 | 3 | | | | | 14 | 2 | 1 | 3 | | 12 | 2 | 1 | 3 | PHASE3 | 0 | 2 | 1 | 3 | 54 | | | 54 |
| 40 | 2 | 2 | 0 | | | PHASE2 | | 16 | 2 | 2 | 0 | PHASE2 | 0 | 2 | 2 | 0 | PHASE0 | 0 | 2 | 2 | 0 | 10 | | 10 | |
| 41 | 2 | 2 | 1 | | | | | 18 | 2 | 2 | 1 | | 8 | 2 | 2 | 1 | PHASE1 | 0 | 2 | 2 | 1 | 26 | | | 26 |
| 42 | 2 | 2 | 2 | | | | | 20 | 2 | 2 | 2 | | 16 | 2 | 2 | 2 | PHASE2 | 0 | 2 | 2 | 2 | 42 | | | 42 |
| 43 | 2 | 2 | 3 | | | | | 22 | 2 | 2 | 3 | | 24 | 2 | 2 | 3 | PHASE3 | 0 | 2 | 2 | 3 | 58 | | | 58 |
| 44 | 2 | 3 | 0 | | | | PHASE3 | 24 | 2 | 3 | 0 | PHASE3 | 0 | 2 | 3 | 0 | PHASE0 | 0 | 2 | 3 | 0 | 14 | | 14 | |
| 45 | 2 | 3 | 1 | | | | | 26 | 2 | 3 | 1 | | 12 | 2 | 3 | 1 | PHASE1 | 0 | 2 | 3 | 1 | 30 | | | 30 |
| 46 | 2 | 3 | 2 | | | | | 28 | 2 | 3 | 2 | | 24 | 2 | 3 | 2 | PHASE2 | 0 | 2 | 3 | 2 | 46 | | | 46 |
| 47 | 2 | 3 | 3 | | | | | 30 | 2 | 3 | 3 | | 36 | 2 | 3 | 3 | PHASE3 | 0 | 2 | 3 | 3 | 62 | | | 62 |
| 48 | 3 | 0 | 0 | PHASE0 | | | | 0 | 3 | 0 | 0 | PHASE0 | 0 | 3 | 0 | 0 | PHASE0 | 0 | 3 | 0 | 0 | 3 | | 3 | |
| 49 | 3 | 0 | 1 | | | | | 3 | 3 | 0 | 1 | | 0 | 3 | 0 | 1 | PHASE1 | 0 | 3 | 0 | 1 | 19 | | | 19 |
| 50 | 3 | 0 | 2 | | | | | 6 | 3 | 0 | 2 | | 0 | 3 | 0 | 2 | PHASE2 | 0 | 3 | 0 | 2 | 35 | | | 35 |
| 51 | 3 | 0 | 3 | | | | | 9 | 3 | 0 | 3 | | 0 | 3 | 0 | 3 | PHASE3 | 0 | 3 | 0 | 3 | 51 | | | 51 |
| 52 | 3 | 1 | 0 | | PHASE1 | | | 12 | 3 | 1 | 0 | PHASE1 | 0 | 3 | 1 | 0 | PHASE0 | 0 | 3 | 1 | 0 | 7 | | 7 | |
| 53 | 3 | 1 | 1 | | | | | 15 | 3 | 1 | 1 | | 4 | 3 | 1 | 1 | PHASE1 | 0 | 3 | 1 | 1 | 23 | | | 23 |
| 54 | 3 | 1 | 2 | | | | | 18 | 3 | 1 | 2 | | 8 | 3 | 1 | 2 | PHASE2 | 0 | 3 | 1 | 2 | 39 | | | 39 |
| 55 | 3 | 1 | 3 | | | | | 21 | 3 | 1 | 3 | | 12 | 3 | 1 | 3 | PHASE3 | 0 | 3 | 1 | 3 | 55 | | | 55 |
| 56 | 3 | 2 | 0 | | | PHASE2 | | 24 | 3 | 2 | 0 | PHASE2 | 0 | 3 | 2 | 0 | PHASE0 | 0 | 3 | 2 | 0 | 11 | | 11 | |
| 57 | 3 | 2 | 1 | | | | | 27 | 3 | 2 | 1 | | 8 | 3 | 2 | 1 | PHASE1 | 0 | 3 | 2 | 1 | 27 | | | 27 |
| 58 | 3 | 2 | 2 | | | | | 30 | 3 | 2 | 2 | | 16 | 3 | 2 | 2 | PHASE2 | 0 | 3 | 2 | 2 | 43 | | | 43 |
| 59 | 3 | 2 | 3 | | | | | 33 | 3 | 2 | 3 | | 24 | 3 | 2 | 3 | PHASE3 | 0 | 3 | 2 | 3 | 59 | | | 59 |
| 60 | 3 | 3 | 0 | | | | PHASE3 | 36 | 3 | 3 | 0 | PHASE3 | 0 | 3 | 3 | 0 | PHASE0 | 0 | 3 | 3 | 0 | 15 | | 15 | |
| 61 | 3 | 3 | 1 | | | | | 39 | 3 | 3 | 1 | | 12 | 3 | 3 | 1 | PHASE1 | 0 | 3 | 3 | 1 | 31 | | | 31 |
| 62 | 3 | 3 | 2 | | | | | 42 | 3 | 3 | 2 | | 24 | 3 | 3 | 2 | PHASE2 | 0 | 3 | 3 | 2 | 47 | | | 47 |
| 63 | 3 | 3 | 3 | | | | | 45 | 3 | 3 | 3 | | 36 | 3 | 3 | 3 | PHASE3 | 0 | 3 | 3 | 3 | 63 | | | 63 |