**附录2：微程序编码**

1.μIR各位代表意义：

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| μIR23 | μIR22 | μIR21 | μIR20 | μIR19 | μIR18 | μIR17 | μIR16 |
| 预留 | 预留 | MDR-ENB | MDR-ENA | MDR-BY | MDR-AY | ENMAR | LDPC |
| μIR15 | μIR14 | μIR13 | μIR12 | μIR11 | μIR10 | μIR9 | μIR8 |
| CP-Register  000:移R 001:CPR 010:CPPC  011:CPIR 100:CPMDR 101:CPMAR | | | CPPSW | 移位模式  0置数  1左移补0 | ALU进位  ci | 八位2选1  B-BY | 八位2选1  B-AY |
| μIR7 | μIR6 | μIR5 | μIR4 | μIR3 | μIR2 | μIR1 | μIR0 |
| 八位2选1  A-BY | 八位2选1  A-AY | HALT | RAM-RD | RAM-WR | 后继微地址形成  001:自加1 010:根据IR  011:00H 100:根据JX | | |

2.微程序编码：

00H：取指令

PC->tempR 00:01:01

tempR->MAR 00:A0:01

M(MAR)->MDR 0A:80:11

MDR->tempR 10:00:41

tempR->IR 00:60:01

PC+1 01:40:02

10H：LD

PC->tempR 00:01:01

tempR->MAR 00:A0:01

M(MAR)->MDR 0A:80:11

MDR->tempR 10:00:41

tempR->MAR 00:A0:01

M(MAR)->MDR 0A:80:11

MDR->tempR 10:00:41

tempR->Rj 00:20:01

PC+1 01:40:03

20H：ADD

Ri+Rj->tempR 00:12:81

tempR->Rj 00:20:03

30H：STA

PC->tempR 00:01:01

tempR->MAR 00:A0:01

M(MAR)>->MDR 0A:80:11

MDR->tempR 10:00:41

tempR->MAR 00:A0:01

Ri->tempR 00:00:81

tempR->MDR 04:80:01

MDR->M(MAR) 22:E0:09

PC+1 01:40:03

40H：HALT

HALT 00:E0:20

50H：JX

JX 不成立51H 成立52H 00:E0:04

PC+1 jp到取指令 01:40:03

PC->tempR 00:01:01

tempR->MAR 00:A0:01

M(MAR)->MDR 0A:80:11

MDR+PC->tempR 10:01:41

tempR->PC 00:40:03

60H：JMP

PC->tempR 00:01:01

tempR->MAR 00:A0:01

M(MAR)->MDR 0A:80:11

MDR+PC->tempR 10:01:41

tempR->PC 00:40:03