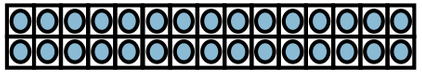

1channel x 2row x 16col **Input** Data

1 in channel x 2 out channel
1row x 1col **Weight**

2channel x 2row x 16col
Output Data

(a) A simple example. Two output channels are calculated by instruction 3 and 7.

DDR

0x0000	Input
...	
0x1000	Weight
...	
0x2000	Output
...	

On-Chip Cache

0x4000	Input
...	
0x5000	Weight
...	
0x6000	Output
...	

(b) Address map of DDR and Cache

	Type	Address1	Address2	Address3	Workload	Virtual	SaveID
1	LOAD_D	0x0000	0x4000	-	0x20	2'b00	1
2	LOAD_W	0x1000	0x5000	-	0x1	2'b00	1
3	CALC_F	0x4000	0x6000	0x5000	0x20	2'b00	1
4	SAVE	0x2000	0x6000	-	0x20	2'b01	1
5	LOAD_D	0x0000	0x4000	-	0x20	2'b10	1
6	LOAD_W	0x1001	0x5000	-	0x1	2'b00	1
7	CALC_F	0x4000	0x6020	0x5000	0x20	2'b00	1
8	SAVE	0x2000	0x6000	-	0x40	2'b00	1

(c) Input instruction sequence

CalcBlob: Output 1

CalcBlob: Output 2

	Type	Address1	Address2	Address3	Workload
1	LOAD_D	0x0000	0x4000	-	0x20
2	LOAD_W	0x1000	0x5000	-	0x1
3	CALC_F	0x4000	0x6000	0x5000	0x20
4	LOAD_W	0x1001	0x5000	-	0x1
5	CALC_F	0x4000	0x6020	0x5000	0x20
6	SAVE	0x2000	0x6000	-	0x40

(d) Executed sequence when no interrupt. Virtual Instructions are deleted.

CalcBlob: Output 1

CalcBlob: Output 2

	Type	Address1	Address2	Address3	Workload
1	LOAD_W	0x1000	0x5000	-	0x1
2	LOAD_D	0x0000	0x4000	-	0x20
3	CALC_F	0x4000	0x6000	0x5000	0x20
4	SAVE	0x2000	0x6000	-	0x20
	HIGH-PRIORITY CNN				
5	LOAD_D	0x0000	0x4000	-	0x20
6	LOAD_W	0x1001	0x5000	-	0x1
7	CALC_F	0x4000	0x6020	0x5000	0x20
8	SAVE	0x2020	0x6020	-	0x20

(e) Executed sequence when interrupt occurs. Virtual Instructions (**Blue**) are executed. Normal SAVE (**Red**) is modified.