## 1 Instruction Sandy Bridge

Instruction	Op	Thr	Agner_Thr	Lat	Agner_Lat
ADD SUB	i/r,r	0.36	0.33	0.84	1
MOV	i/r,r	0.36	0.33	0.84	1
ADC SBB		0.90	1		2
CMP	i/r,r $i,r$	0.37	0.33		1
RCL	1,r	1.63	2		2
TEST	i,r	0.42	0.33		1
AND XOR OR	i,r	0.36	0.33		1
BLENDPS/PD	i,x,x	0.50	0.5	0.84	1
CMPPD/CMPPS	X,X		1	2.54	3
CMPSS/CMPSD	X,X		1	2.54 $2.52$	3
DDPD			$\frac{1}{2}$	7.59	9
DDPS	i,x,x		$\frac{2}{2}$	10.28	12
INSERTPS	i,x,x	0.00	1		1
	i,x,x	0.99		0.99	
MPSADBW	i,x,x	0.40	1	5.07	6
PALIGNR	i,x,x	0.49	0.5	0.84	1
PBLENDW	i,x,x	0.49	0.5	0.84	1
PSHUFD	i,x,x	0.48	0.5	0.84	1
PSHUFHW	i,x,x	0.48	0.5	0.84	1
PSHUFLW	i,x,x	0.48	0.5	0.85	1
ROUNDPD/PS	i,x,x	0.86	1	0.85	3
ROUNDSD/SS	i,x,x	0.85	1	2.52	3
SHUFPS/PD	i,x,x	0.99	1	0.99	1
VPSHUFD/S	i,x,x			0.48	
ADDPS/PD	m,x	0.85	1	2.52	
ADDSUBPS/PD	m,x	0.85	1	2.52	
ADDPS/PD	x,x	0.94	1	2.52	3
ADDPS/PD	m,x	0.85	1	2.52	
ADDSD/SS	x,x	0.94	1	2.52	3
AESDEC AESENC	x,x	2.54	4	6.72	8
AESDEC AESENC	m,x	1.68		6.72	
AESDECLAST AESENCLAST	m,x	1.79		6.72	
AESIMC	x,x	2.09	2	2.10	2
AESIMC	m,x	2.44			
ANDNPD/PS	x,x	0.99	1	0.99	1
ANDNPD/PS	m,x	1.02	1	1.02	
ANDPS/PD	x,x	0.99	1	0.99	1
ANDPS/PD	m,x	1.02	1	1.02	
BLENDVPD	m,x	1.68			
CVTDQ2PS	m,x	0.85	1		
CVT(T)PD2DQ	m,x	1.05	1		
CVTPD2PS	m,x	1.05	1		
CVT(T)PS2DQ	m,x	0.85	1		
DIVPS/PD	m,x	84.57	10-22		
COMISD	X,X	0.87	1	0.87	2
COMISS	X,X	1.50	1	1.51	2
DIVSD DIVPD	X,X	8.46	10-22	8.41	10-22
DIVSS DIVPS	X,X	8.47	10-22	8.41	10-22
HADDPS/D	X,X	2	2	4.20	5
HADDPS/D	m,x	2.O3	$\frac{2}{2}$	7.20	
HSUBPS/D	· ·	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	$\frac{2}{2}$	4.20	5
HSUBPS/D	x,x m y	$\frac{2}{2.04}$	$\frac{2}{2}$	4.20	9
1130 D1 3/ D	m,x	4.04			

Instruction	Op	Thr	Agner_Thr	Lat	Agner_Lat
MAXPD/S	x,x	0.94	1	2.52	3
MAXPD/S	m,x	0.85	1		
MAXSS/D	x,x	0.94	1	2.52	3
MAXSS/D	m,x	0.85	1		
MINPS/D	x,x	0.95	1	2.52	3
MINPS/D	m,x	0.85	1		
MINSS/D	x,x	0.95	1	2.52	3
MINSS/D	m,x	0.85	1		
MOVAPS/D	x,x	0.99	1	0.99	1
MOVAPS/D	m,x	0.46	0.5		3
MOVDQA	x,x	0.43	0.33	0.43	1
MOVNTDQA	m,x	0.5	0.5		
MOVDQU	m,x	0.46	0.5		
MOVSH/LDUP	m,x	0.5	0.5		3
MOVQ	x,x	0.35	0.33	0.84	1
MOVSS/D	x,x	0.99	1	0.99	1
MOVUPS/D	x,x	0.99		0.99	
MOVUPS/D	m,x	0.46	0.5		
MULPS/D	x,x	1.57	1	4.20	5
MULPS/D	m,x	1.05	1		
ORPS/D	x,x	0.99	1	0.99	1
ORPS/D	m,x	1.02	1		
PABSB/W/D	x,x	0.48	0.5	0.48	1
PABSB/W/D	m,x	0.54	0.5		
PADDB/W/D/Q	x,x	0.49	0.5	0.84	1
PADDB/W/D/Q	m,x	0.54	0.5		
PADDSB/W	x,x	0.49	0.5	0.84	1
PACKSSWB/DW	m,x	0.55	0.5		
PACKUSSWB/DW	m,x	0.55	0.5		
PANDN	x,x	0.37	0.33	0.84	1
PAND	x,x	0.37	0.33	0.84	1
PAVGB/W	x,x	0.49	0.5	0.84	1
PHADDD/W	x,x	1.83	1.5	1.83	2
PMAXSB/MINSB	x,x	0.49	0.5	0.84	1
PMAXSW/MINSW	x,x	0.49	0.5	0.84	1
PMAXSD/MINSD	x,x	0.49	0.5	0.84	1
PMAXUB/MINUB	x,x	0.49	0.5	0.84	1
PMAXUD/MINUD	x,x	0.49	0.5	0.84	1
PMAXUW/MINUW	x,x	0.49	0.5	0.84	1
PMULDQ	x,x	1.57	1	4.20	5
PMULHW	x,x	1.57	1	4.20	5
PMULLD	x,x	1.57	1	4.20	5
PMULLW	x,x	1.57	1	4.20	5
POR	x,x	0.37	0.33	0.84	1
PSADBW	x,x	1.58	1	4.22	5

Instruction	Op	Thr	Agner_Thr	Lat	Agner_Lat
PSHUFB	x,x	0.49	0.5	0.84	1
PSIGNB/W/D	x,x	0.49	0.5	0.84	1
PSLL/RL/RAW/D/Q	$_{\rm x,x}$	1.01	1		2
PSUBB/D/Q	$_{\rm x,x}$	0.49	0.5	0.84	1
PTEST	$_{\rm x,x}$	0.87		0.87	
PXOR	$_{\rm x,x}$	0.37	0.33	0.87	1
RCPSS/PS	x,x	0.87	1	4.22	5
SQRTSS/PS	x,x	8.60	10-14	8.62	10-14
SQRTSD/PD	x,x	8.60	10-21	8.47	10-21
SUBSS/SD	x,x	0.95	1	2.52	3
SUBPS/PD	$_{\rm x,x}$	0.95	1	2.52	3
VPABSB/W/D	$_{\rm x,x}$	0.48		0.48	
XORPS/PD	x,x	0.99	1	0.99	1