fflags

Address	0x0001
Size	32
Reset Value	0x00000000
Description	Accrued Exceptions

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
nx	0	1	true	read-write	0x0	Inexact
uf	1	1	true	read-write	0x0	Underflow
of	2	1	true	read-write	0x0	Overflow
dz	3	1	true	read-write	0x0	Divide by Zero
nv	4	1	true	read-write	0x0	Invalid Operation
rsvd325	5	27	-	WPRI	-	Reserved

frm

Address	0x0002
Size	32
Reset Value	0x00000000
Description	Rounding Mode

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
frm	0	3	true	read-write	0x0	Rounding Mode
rsvd323	3	29	-	WPRI	-	Reserved

fcsr

Address	0x0003
Size	32
Reset Value	0x00000000
Description	FP control and status register

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
nx	0	1	true	read-write	0x0	Inexact
uf	1	1	true	read-write	0x0	Underflow
of	2	1	true	read-write	0x0	Overflow
dz	3	1	true	read-write	0x0	Divide by Zero
nv	4	1	true	read-write	0x0	Invalid Operation
frm	5	3	true	read-write	0x0	Rounding Mode
reserved	8	24	true	read-write	0x0	Reserved Bits

vstart

Address	0x0008
Size	64
Reset Value	0x0000000000000000
Description	Vector start position

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
vstart	0	8	true	WARL	0x0	Vector Start Index
rsvd648	8	56	-	WPRI	-	Reserved

vxsat

Address	0x0009
Size	32
Reset Value	0x00000000
Description	Fixed-point saturate flag

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
vxsat	0	1	true	WARL	0x0	Vector Fixed-Point Saturation Flag
rsvd321	1	31	-	WPRI	-	Reserved

vxrm

Address	0x000A
Size	32
Reset Value	0x00000000
Description	Fixed-point rounding mode

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
vxrm	0	2	true	WARL	0x0	Vector Fixed-Point Rounding Mode Register
rsvd322	2	30	-	WPRI	-	Reserved

vcsr

Address	0x000F
Size	32
Reset Value	0x00000000
Description	Vector control and status register

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
vxsat	0	1	true	WARL	0x0	Vector Fixed-Point Saturation Flag
vxrm	1	2	true	WARL	0x0	Vector Fixed-Point Rounding Mode Register
rsvd323	3	29	-	WPRI	-	Reserved

seed

Address	0x0015
Size	32
Reset Value	0x40000000
Description	Seed CSR.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
entropy	0	16	true	WARL	0x0	

custom	16	8	true	WARL	0x0	
rsvd_29_24	24	6	true	WARL	0x0	
opst	30	2	true	WARL	0x1	

sstatus

Address	0x0100
Size	64
Reset Value	0x0000000200000000
Description	Supervisor status register.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
sstatus_wpri_0	0	1	false	WPRI	0x0	WPRI
sie	1	1	false	WARL	0x0	interrupts are globally enabled when in S-mode
sstatus_wpri_1	2	3	false	WPRI	0x0	WPRI
spie	5	1	false	WARL	0x0	interrupt-enable bit active prior to the trap in S-mode
ube	6	1	false	WARL	0x0	Endianness: non-instruction-fetch memory accesses made from U-mode
sstatus_wpri_2	7	1	false	WPRI	0x0	WPRI
spp	8	1	false	WARL	0x0	previous privilege mode before entering S-mode
vs	9	2	false	WARL	0x0	status of the vector extension state
sstatus_wpri_3	11	2	false	WPRI	0x0	WPRI
fs	13	2	false	WARL	0x0	status of the floating-point unit state (Must become F-ext is implemented)
xs	15	2	false	WARL	0x0	status of additional user-mode extensions and associated state
sstatus_wpri_4	17	1	false	WPRI	0x0	WPRI
sum	18	1	false	WARL	0x0	permit Supervisor User Memory access
mxr	19	1	false	WARL	0x0	Make eXecutable Readable
sstatus_wpri_5	20	12	false	WPRI	0x0	WPRI
uxl	32	2	false	WARL	0x2	XLEN for U-mode
sstatus_wpri_6	34	29	false	WPRI	0x0	WPRI
sd	63	1	false	WARL	0x0	Summary of FS/VS/XS

sie

Address	0x0104
Size	64
Reset Value	0x0000000000000000
Description	Supervisor interrupt-enable register.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description

rsvd00	0	1	-	WPRI	-	Reserved
ssie	1	1	true	WARL	0x0	Interrupt-enable bit for supervisor-level Software Interrupts
hard0_0	2	2	true	WARL	0x0	Hardwired 0
rsvd44	4	1	-	WPRI	-	Reserved
stie	5	1	true	WARL	0x0	Interrupt-enable bit for supervisor-level Timer Interrupts
hard0_1	6	2	true	WARL	0x0	Hardwired 0
rsvd88	8	1	-	WPRI	-	Reserved
seie	9	1	true	WARL	0x0	Interrupt-enable bit for supervisor-level External Interrupts
hard0_2	10	3	true	WARL	0x0	Hardwired 0
lcofie	13	1	true	WARL	0x0	Interrupt-enable bit for supervisor-level Local Count Overflow Interrupts
rsvd6414	14	50	-	WPRI	-	Reserved

stvec

Address	0x0105
Size	64
Reset Value	0x0000000000000000
Description	Supervisor trap handler base address.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
mode_0	0	1	false	WARL	0x0	Allows mode 0 (base only) or mode 1 (vectored)
mode_1	1	1	false	WARL	0x0	Modes >= 2 are not allowed
basesxlen12warl	2	62	false	WARL	0x0	Top SXLEN-2 bits of BASE

scounteren

Address	0x0106
Size	32
Reset Value	0x00000000
Description	Supervisor counter enable.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
cy	0	1	false	WARL	0x0	Cycle Counter Enable
tm	1	1	false	WARL	0x0	Time Counter Enable
ir	2	1	false	WARL	0x0	Instruction Retired Counter Enable
hpm3	3	1	false	WARL	0x0	Hardware Performance Monitoring Counter 3 Enable
hpm4	4	1	false	WARL	0x0	Hardware Performance Monitoring Counter 4 Enable

hpm5	5	1	false	WARL	0x0	Hardware Performance Monitoring Counter 5 Enable
hpm6	6	1	false	WARL	0x0	Hardware Performance Monitoring Counter 6 Enable
hpm7	7	1	false	WARL	0x0	Hardware Performance Monitoring Counter 7 Enable
hpm8	8	1	false	WARL	0x0	Hardware Performance Monitoring Counter 8 Enable
hpm9	9	1	false	WARL	0x0	Hardware Performance Monitoring Counter 9 Enable
hpm10	10	1	false	WARL	0x0	Hardware Performance Monitoring Counter 10 Enable
hpm11	11	1	false	WARL	0x0	Hardware Performance Monitoring Counter 11 Enable
hpm12	12	1	false	WARL	0x0	Hardware Performance Monitoring Counter 12 Enable
hpm13	13	1	false	WARL	0x0	Hardware Performance Monitoring Counter 13 Enable
hpm14	14	1	false	WARL	0x0	Hardware Performance Monitoring Counter 14 Enable
hpm15	15	1	false	WARL	0x0	Hardware Performance Monitoring Counter 15 Enable
hpm16	16	1	false	WARL	0x0	Hardware Performance Monitoring Counter 16 Enable
hpm17	17	1	false	WARL	0x0	Hardware Performance Monitoring Counter 17 Enable
hpm18	18	1	false	WARL	0x0	Hardware Performance Monitoring Counter 18 Enable
hpm19	19	1	false	WARL	0x0	Hardware Performance Monitoring Counter 19 Enable
hpm20	20	1	false	WARL	0x0	Hardware Performance Monitoring Counter 20 Enable
hpm21	21	1	false	WARL	0x0	Hardware Performance Monitoring Counter 21 Enable
hpm22	22	1	false	WARL	0x0	Hardware Performance Monitoring Counter 22 Enable
hpm23	23	1	false	WARL	0x0	Hardware Performance Monitoring Counter 23 Enable
hpm24	24	1	false	WARL	0x0	Hardware Performance Monitoring Counter 24 Enable
hpm25	25	1	false	WARL	0x0	Hardware Performance Monitoring Counter 25 Enable

hpm26	26	1	false	WARL	0x0	Hardware Performance Monitoring Counter 26 Enable
hpm27	27	1	false	WARL	0x0	Hardware Performance Monitoring Counter 27 Enable
hpm28	28	1	false	WARL	0x0	Hardware Performance Monitoring Counter 28 Enable
hpm29	29	1	false	WARL	0x0	Hardware Performance Monitoring Counter 29 Enable
hpm30	30	1	false	WARL	0x0	Hardware Performance Monitoring Counter 30 Enable
hpm31	31	1	false	WARL	0x0	Hardware Performance Monitoring Counter 31 Enable

senvcfg

Address	0x010A
Size	64
Reset Value	0x0000000000000000
Description	Supervisor environment configuration register.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
fiom	0	1	false	read-write	0x0	Fence of I/O implies Memory
wpri_0	1	3	false	WPRI	0x0	WPRI
cbie	4	2	false	read-write	0x0	Cache Block Invalidate instruction Enable -- Enables the execution of CBO.INVAL in a lower privilege mode
cbcfe	6	1	false	read-write	0x0	Cache Block Clean and Flush instruction enable -- Enables execution of CBO.CLEAN and CBO.FLUSH in a lower privilege mode
cbze	7	1	false	read-write	0x0	Cache Block Zero instruction Enable -- Enables execution of CBO.ZERO in a lower privilege mode
wpri_1	8	24	false	WPRI	0x0	WPRI
pmm	32	2	false	read-write	0x0	Enables pointer masking for the next lower privilege mode
wpri_2	34	30	false	WPRI	0x0	WPRI

sstateen0

Address	0x010C
Size	32
Reset Value	0x00000000
Description	Supervisor State Enable 0

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description

c	0	1	false	WARL	0x0	Controls access to any and all custom state
fcsr	1	1	false	WARL	0x0	Controls access to fcsr CSR
jvt	2	1	false	WARL	0x0	Controls access to JVT CSR
wpri	3	29	false	WPRI	0x0	WPRI

sstateen1

Address	0x010D
Size	32
Reset Value	0x00000000
Description	Supervisor State Enable 1

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
wpri	0	32	false	WPRI	0x0	WPRI

sstateen2

Address	0x010E
Size	32
Reset Value	0x00000000
Description	Supervisor State Enable 2

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
wpri	0	32	false	WPRI	0x0	WPRI

sstateen3

Address	0x010F
Size	32
Reset Value	0x00000000
Description	Supervisor State Enable 3

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
wpri	0	32	false	WPRI	0x0	WPRI

sscratch

Address	0x0140
Size	64
Reset Value	0x0000000000000000
Description	Scratch register for supervisor trap handlers.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
sscratch	0	64	false	read-write	0x0	Scratch register for supervisor trap handlers.

sepc

Address	0x0141

Size	64
Reset Value	0x0000000000000000
Description	Supervisor exception program counter.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
rsvd00	0	1	-	WPRI	-	Reserved
addr	1	63	false	WARL	0x0	Supervisor exception program counter.

scause

Address	0x0142
Size	64
Reset Value	0x0000000000000000
Description	Supervisor trap cause.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
exceptioncodewlrl	0	63	false	read-write	0x0	Code identifying the last exception or interrupt
interrupt	63	1	false	read-write	0x0	Indicates if the trap was caused by an interrupt

stval

Address	0x0143
Size	64
Reset Value	0x0000000000000000
Description	Supervisor Trap Value Register

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
stval	0	64	false	WARL	0x0	Supervisor bad address or instruction.

sip

Address	0x0144
Size	64
Reset Value	0x0000000000000000
Description	Supervisor interrupt pending.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
rsvd00	0	1	-	WPRI	-	Reserved
ssip	1	1	true	WARL	0x0	Supervisor Software Interrupt Pending
hard0_1	2	2	true	WARL	0x0	Hardwired 0
rsvd44	4	1	-	WPRI	-	Reserved
stip	5	1	true	WARL	0x0	Supervisor Timer Interrupt Pending
hard0_2	6	2	true	WARL	0x0	Hardwired 0

rsvd88	8	1	-	WPRI	-	Reserved
seip	9	1	true	WARL	0x0	Supervisor External Interupt Pending
hard0_3	10	3	true	WARL	0x0	Hardwired 0
lcofip	13	1	true	WARL	0x0	Supervisor Local Count Overflow Interrupt Pending
rsvd6414	14	50	-	WPRI	-	Reserved

stimecmp

Address	0x014D
Size	64
Reset Value	0x00000000FFFFFFFF
Description	Supervisor timer register

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
stimecmp	0	64	false	WARL	0xFFFFFFFF	Supervisor timer compare value

siselect

Address	0x0150
Size	64
Reset Value	0x0000000000000000
Description	Supervisor Indirect register select (valid range is 0 - 0xFF)

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
interrupts	0	9	false	WARL	0x0	0x30 - 0x3F : Major Intr priorities0x70-0xFF: External Intr. (0x71, 0x73-0x7F are rsvd)Rest: Reserved
rsvd_63_9	9	55	false	WARL	0x0	Reserved for future use

sireg

Address	0x0151
Size	64
Reset Value	0x0000000000000000
Description	Supervisor indirect register alias

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
sireg	0	64	false	WARL	0x0	Supervisor indirect register alias

stopei

Address	0x015C
Size	64
Reset Value	0x0000000000000000
Description	Supervisor top external interrupt (This is marked as read-write in AIA spec, but implemented as read-only for write to this CSR is ignored)

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
priority	0	11	true	WARL	0x0	Interrupt priority (same as identity)
rsvd_15_11	11	5	true	WARL	0x0	Reserved for future use
identity	16	11	true	WARL	0x0	Interrupt identity
rsvd_63_27	27	37	true	WARL	0x0	Reserved for future use

satp

Address	0x0180
Size	64
Reset Value	0x0000000000000000
Description	Supervisor address translation and protection.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
ppn	0	44	false	WARL	0x0	Physical Page Number
asid	44	16	false	WARL	0x0	Address Space Identifier
mode	60	4	false	WARL	0x0	Address Translation and Protection Mode

srmcfg

Address	0x0181
Size	64
Reset Value	0x0000000000000000
Description	Supervisor resource management qualification

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
rcid	0	12	false	WARL	0x0	resource controller ID
rsvd1512	12	4	-	WPRI	-	Reserved
mcid	16	12	false	WARL	0x0	Monitor resource usage ID
rsvd6428	28	36	-	WPRI	-	Reserved

vsstatus

Address	0x0200
Size	64
Reset Value	0x0000000200000000
Description	Virtual supervisor status register.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
vsstatus_wpri_0	0	1	true	WPRI	0x0	WPRI
sie	1	1	true	WARL	0x0	interrupts are globally enabled when in VS-mode
vsstatus_wpri_1	2	3	true	WPRI	0x0	WPRI
spie	5	1	true	WARL	0x0	interrupt-enable bit active prior to the trap in VS-mode

ube	6	1	true	WARL	0x0	Endianness: non-instruction-fetch memory accesses made from VU-mode
vsstatus_wpri_2	7	1	true	WPRI	0x0	WPRI
spp	8	1	true	WARL	0x0	previous privilege mode before entering VS-mode
vs	9	2	true	WARL	0x0	status of the vector extension state
vsstatus_wpri_3	11	2	true	WPRI	0x0	WPRI
fs	13	2	true	WARL	0x0	status of the floating-point unit state
xs	15	2	true	WARL	0x0	status of additional user-mode extensions and associated state
vsstatus_wpri_4	17	1	true	WPRI	0x0	WPRI
sum	18	1	true	WARL	0x0	permit Supervisor User Memory access
mxr	19	1	true	WARL	0x0	Make eXecutable Readable
vsstatus_wpri_5	20	12	true	WPRI	0x0	WPRI
uxl	32	2	true	WARL	0x2	XLEN for VU-mode
vsstatus_wpri_6	34	29	true	WPRI	0x0	WPRI
sd	63	1	true	WARL	0x0	Summary of FS/VS/XS

vsie

Address	0x0204
Size	32
Reset Value	0x00000000
Description	Virtual supervisor interrupt-enable register.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
rsvd00	0	1	-	WPRI	-	Reserved
vssie	1	1	false	read-write	0x0	Virtual Supervisor Software Interrupt Enable
hard0_0	2	2	false	read-write	0x0	Hardwired 0
rsvd44	4	1	-	WPRI	-	Reserved
vstie	5	1	false	read-write	0x0	Virtual Supervisor Timer Interrupt Enable
hard0_1	6	2	false	read-write	0x0	Hardwired 0
rsvd88	8	1	-	WPRI	-	Reserved
vseie	9	1	false	read-write	0x0	Virtual Supervisor External Interrupt Enable
hard0_2	10	3	false	read-write	0x0	Hardwired 0
lcofie	13	1	false	read-write	0x0	Virtual Supervisor Local Count Overflow Interrupt Enable
rsvd3214	14	18	-	WPRI	-	Reserved

vstvec

Address	0x0205
Size	64
Reset Value	0x0000000000000000
Description	Virtual supervisor trap handler base address.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
mode_0	0	1	false	WARL	0x0	Allows mode 0 (base only) or mode 1 (vectored)
mode_1	1	1	false	WARL	0x0	Modes >= 2 are not allowed
basesxlen12warl	2	62	false	WARL	0x0	Top SXLEN-2 bits of BASE

vsscratch

Address	0x0240
Size	64
Reset Value	0x0000000000000000
Description	Virtual supervisor scratch register.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
sscratch	0	64	false	WARL	0x0	Virtual supervisor scratch register.

vsepc

Address	0x0241
Size	64
Reset Value	0x0000000000000000
Description	Virtual supervisor exception program counter.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
rsvd00	0	1	-	WPRI	-	Reserved
addr	1	63	false	WARL	0x0	Virtual supervisor exception program counter.

vscause

Address	0x0242
Size	64
Reset Value	0x0000000000000000
Description	Virtual supervisor trap cause.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
exceptioncodewlrl	0	63	false	WARL	0x0	Code identifying the last exception or interrupt
interrupt	63	1	false	WARL	0x0	Indicates if the trap was caused by an interrupt

vstval

Address	0x0243

Size	64
Reset Value	0x0000000000000000
Description	Virtualized supervisor bad guest physical address.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
vstval	0	64	false	WARL	0x0	Virtualized supervisor bad guest physical address.

vsip

Address	0x0244
Size	32
Reset Value	0x00000000
Description	Virtual supervisor interrupt pending.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
rsvd00	0	1	-	WPRI	-	Reserved
vssip	1	1	false	read-write	0x0	Virtual Supervisor Software Interrupt Pending
hard0_1	2	2	false	read-write	0x0	Hardwired 0
rsvd44	4	1	-	WPRI	-	Reserved
vstip	5	1	false	read-only	0x0	Virtual Supervisor Timer Interrupt Pending
hard0_2	6	2	false	read-write	0x0	Hardwired 0
rsvd88	8	1	-	WPRI	-	Reserved
vseip	9	1	false	read-only	0x0	Virtual Supervisor External Interrupt Pending
hard0_3	10	3	false	read-write	0x0	Hardwired 0
lcofip	13	1	false	read-only	0x0	Virtual Supervisor Local Count Overflow Interrupt Pending
rsvd3214	14	18	-	WPRI	-	Reserved

vstimecmp

Address	0x024D
Size	64
Reset Value	0x00000000FFFFFFFF
Description	Virtual supervisor timer register

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
vstimecmp	0	64	false	WARL	0xFFFFFFFF	Virtual supervisor timer compare value

vsiselect

Address	0x0250
Size	64
Reset Value	0x0000000000000000

Description	Virtual supervisor Indirect register select (valid range is 0 - 0xFF)					
Field Name	**Bit Offset**	**Bit Width**	**Volatile**	**Access**	**Reset Value**	**Description**
interrupts	0	9	false	WARL	0x0	0x70-0xFF: External Intr. (0x71, 0x73-0x7F are rsvd)Rest: Inaccessible
rsvd_63_9	9	55	false	WARL	0x0	Reserved for future use

vsireg

Address	0x0251					
Size	64					
Reset Value	0x0000000000000000					
Description	Virtual supervisor indirect register alias					
Field Name	**Bit Offset**	**Bit Width**	**Volatile**	**Access**	**Reset Value**	**Description**
sireg	0	64	false	WARL	0x0	Virtual supervisor indirect register alias

vstopei

Address	0x025C					
Size	64					
Reset Value	0x0000000000000000					
Description	This is Virtual supervisor top external interrupt (This is marked as read-write in AIA spec, but implemented as read-only for write to this CSR is ignored)					
Field Name	**Bit Offset**	**Bit Width**	**Volatile**	**Access**	**Reset Value**	**Description**
priority	0	11	true	WARL	0x0	Interrupt priority (same as identity)
rsvd_15_11	11	5	true	WARL	0x0	Reserved for future use
identity	16	11	true	WARL	0x0	Interrupt identity
rsvd_63_27	27	37	true	WARL	0x0	Reserved for future use

vsatp

Address	0x0280					
Size	64					
Reset Value	0x0000000000000000					
Description	Virtual Supervisor address translation and protection.					
Field Name	**Bit Offset**	**Bit Width**	**Volatile**	**Access**	**Reset Value**	**Description**
ppn	0	44	false	WARL	0x0	Physical Page Number
asid	44	16	false	WARL	0x0	Address Space Identifier
mode	60	4	false	WARL	0x0	Address Translation and Protection Mode

mstatus

Address	0x0300

Size	64
Reset Value	0x0000000A00000000
Description	Machine status register.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
mstatus_wpri_0	0	1	true	WPRI	0x0	WPRI
sie	1	1	true	WARL	0x0	hardware write: TRUE interrupts are globally enabled when in S-mode
mstatus_wpri_1	2	1	true	WPRI	0x0	WPRI
mie	3	1	true	WARL	0x0	hardware write: TRUE interrupts are globally enabled when in M-mode
mstatus_wpri_2	4	1	true	WPRI	0x0	WPRI
spie	5	1	true	WARL	0x0	hardware write: TRUE interrupt-enable bit active prior to the trap in S-mode
ube	6	1	true	WARL	0x0	Endianness: non-instruction-fetch memory accesses made from U-mode (not writable)
mpie	7	1	true	WARL	0x0	hardware write: TRUE interrupt-enable bit active prior to the trap in M-mode
spp	8	1	true	WARL	0x0	hardware write: TRUE previous privilege mode before entering S-mode
vs	9	2	true	WARL	0x0	status of the vector extension state
mpp	11	2	true	WARL	0x0	previous privilege mode before entering M-mode
fs	13	2	true	WARL	0x0	status of the floating-point unit state (Must become F-ext is implemented)
xs	15	2	true	WARL	0x0	status of additional user-mode extensions and associated state
mprv	17	1	true	WARL	0x0	Modify PRiVilege: modifies the effective privilege mode
sum	18	1	true	WARL	0x0	permit Supervisor User Memory access
mxr	19	1	true	WARL	0x0	Make eXecutable Readable
tvm	20	1	true	WARL	0x0	Trap Virtual Memory (should be writable for hypervisor emulation)
tw	21	1	true	WARL	0x0	Timeout Wait (should be writable for hypervisor emulation)
tsr	22	1	true	WARL	0x0	Trap SRET (FE catch illegal if SRET && TSR==1)
mstatus_wpri_3	23	9	true	WPRI	0x0	WPRI
uxl	32	2	true	WARL	0x2	XLEN for U-mode

sxl	34	2	true	WARL	0x2	XLEN for S-mode
sbe	36	1	true	WARL	0x0	Endianness: non-instruction-fetch memory accesses made from S-mode
mbe	37	1	true	WARL	0x0	Endianness: non-instruction-fetch memory accesses made from M-mode
gva	38	1	true	WARL	0x0	Endianness: non-instruction-fetch memory accesses made from M-mode
mpv	39	1	true	WARL	0x0	Endianness: non-instruction-fetch memory accesses made from M-mode
mstatus_wpri_4	40	23	true	WPRI	0x0	WPRI
sd	63	1	true	WARL	0x0	Summary of FS/VS/XS

misa

Address	0x0301
Size	64
Reset Value	0x80000000003411AF
Description	ISA and extensions

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
a	0	1	false	WARL	0x1	Atomic extension (software can turn this off)
b	1	1	false	WARL	0x1	Bit-manip extension Read as 1 for Athena (software can not turn this off)
c	2	1	false	WARL	0x1	Compressed extension (software can turn this off)
d	3	1	false	WARL	0x1	Double-precision FP extension (software can turn this off)
e	4	1	false	WARL	0x0	RV32E base ISA (Not allowing this)
f	5	1	false	WARL	0x1	Single-precision FP extension (software can turn this off)
g	6	1	false	WARL	0x0	Reserved
h	7	1	false	WARL	0x1	Hypervisor extension
i	8	1	false	WARL	0x1	RV64I base ISA
j	9	1	false	WARL	0x0	Reserved
k	10	1	false	WARL	0x0	Reserved
l	11	1	false	WARL	0x0	Reserved
m	12	1	false	WARL	0x1	Integer Mul/Div extension (software can turn this off)

n	13	1	false	WARL	0x0	User-level interrupts extension (Do we need this?)
o	14	1	false	WARL	0x0	Reserved
p	15	1	false	WARL	0x0	Reserved
q	16	1	false	WARL	0x0	Quad precision FP extension (Not doing this)
r	17	1	false	WARL	0x0	Reserved
s	18	1	false	WARL	0x1	Supervisor mode implemented (software can turn this off)
t	19	1	false	WARL	0x0	Reserved
u	20	1	false	WARL	0x1	User mode implemented (software can turn this off)
v	21	1	false	WARL	0x1	Vector extension (software can turn this off)
w	22	1	false	WARL	0x0	Reserved
x	23	1	false	WARL	0x0	Non-standard extensions present (Saying No since, Not sure what this contains)
y	24	1	false	WARL	0x0	Reserved
z	25	1	false	WARL	0x0	Reserved
wlrl0	26	36	false	WARL	0x0	Hardwired 0
mxl	62	2	false	WARL	0x2	Native base integer ISA width

medeleg

Address	0x0302
Size	64
Reset Value	0x0000000000000000
Description	Machine exception delegation register.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
medeleg_0	0	10	false	WARL	0x0	Exception codes 0-9
medeleg_masked_0	10	1	false	WARL	0x0	Exception code 10
ecall_from_m	11	1	false	WARL	0x0	Exception code 11
medeleg_1	12	2	false	WARL	0x0	Exception codes 12-13
rsvd_0	14	1	false	WARL	0x0	Reserved exception code
medeleg_2	15	1	false	WARL	0x0	Exception code 15
rsvd_1	16	4	false	WARL	0x0	Reserved exception codes
medeleg_3	20	4	false	WARL	0x0	Exception codes 20-23
rsvd_2	24	40	false	WARL	0x0	Reserved exception codes

mideleg

Address	0x0303
Size	64

Reset Value	0x0000000000001444
Description	Machine interrupt delegation register.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
rsvd00	0	1	-	WPRI	-	Reserved
ssip	1	1	false	WARL	0x0	Delegate Supervisor Software Interrupt
vssip	2	1	false	WARL	0x1	Delegate Virtual Supervisor Software Interrupt
msip	3	1	false	WARL	0x0	Delegate Machine Software Interrupt
rsvd44	4	1	-	WPRI	-	Reserved
stip	5	1	false	WARL	0x0	Delegate Supervisor Timer Interrupt
vstip	6	1	false	WARL	0x1	Delegate Virtual Supervisor Timer Interrupt
mtip	7	1	false	WARL	0x0	Delegate Machine Timer Interrupt
rsvd88	8	1	-	WPRI	-	Reserved
seip	9	1	false	WARL	0x0	Delegate Supervisor External Interrupt
vseip	10	1	false	WARL	0x1	Delegate Virtual Supervisor External Interrupt
meip	11	1	false	WARL	0x0	Delegate Machine External Interrupt
sgeip	12	1	false	WARL	0x1	Delegate Supervisor Guest External Interrupt
lcofip	13	1	false	WARL	0x0	Delegate Local Count Overflow Interrupt
rsvd6414	14	50	-	WPRI	-	Reserved

mie

Address	0x0304
Size	64
Reset Value	0x0000000000000000
Description	Machine interrupt-enable register.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
rsvd00	0	1	-	WPRI	-	Reserved
ssie	1	1	true	WARL	0x0	Interrupt-enable bit for Supervisor Software Interrupts
vssie	2	1	true	WARL	0x0	Interrupt-enable bit for Virtual Supervisor Software Interrupts
msie	3	1	true	WARL	0x0	Interrupt-enable bit for Machine Software Interrupts
rsvd44	4	1	-	WPRI	-	Reserved
stie	5	1	true	WARL	0x0	Interrupt-enable bit for Supervisor Timer Interrupts

vstie	6	1	true	WARL	0x0	Interrupt-enable bit for Virtual Supervisor Timer Interrupts
mtie	7	1	true	WARL	0x0	Interrupt-enable bit for Machine Timer Interrupts
rsvd88	8	1	-	WPRI	-	Reserved
seie	9	1	true	WARL	0x0	Interrupt-enable bit for Supervisor External Interrupts
vseie	10	1	true	WARL	0x0	Interrupt-enable bit for Virtual Supervisor External Interrupts
meie	11	1	true	WARL	0x0	Interrupt-enable bit for Machine External Interrupts
sgeie	12	1	true	WARL	0x0	Interrupt-enable bit for Supervisor Guest External Interrupts
lcofie	13	1	true	WARL	0x0	Interrupt-enable bit for Local Count Overflow Interrupts
rsvd1514	14	2	-	WPRI	-	Reserved
nonstandardinterrupts	16	48	true	WARL	0x0	Definition of many of these interrupt numbers is either custom or non-ratified. So, these bits must be flexible

mtvec	
Address	0x0305
Size	64
Reset Value	0x0000000000000000
Description	Machine trap-handler base address.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
mode_0	0	1	false	WARL	0x0	Allows mode 0 (base only) or mode 1 (vectored)
mode_1	1	1	false	WARL	0x0	Modes >= 2 are not allowed
base	2	62	false	WARL	0x0	Top MXLEN-2 bits of BASE

mcounteren	
Address	0x0306
Size	32
Reset Value	0x00000000
Description	Machine counter enable.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
cy	0	1	false	WARL	0x0	Cycle Counter Enable
tm	1	1	false	WARL	0x0	Time Counter Enable
ir	2	1	false	WARL	0x0	Instruction Retired Counter Enable

hpm3	3	1	false	WARL	0x0	Hardware Performance Monitoring Counter 3 Enable
hpm4	4	1	false	WARL	0x0	Hardware Performance Monitoring Counter 4 Enable
hpm5	5	1	false	WARL	0x0	Hardware Performance Monitoring Counter 5 Enable
hpm6	6	1	false	WARL	0x0	Hardware Performance Monitoring Counter 6 Enable
hpm7	7	1	false	WARL	0x0	Hardware Performance Monitoring Counter 7 Enable
hpm8	8	1	false	WARL	0x0	Hardware Performance Monitoring Counter 8 Enable
hpm9	9	1	false	WARL	0x0	Hardware Performance Monitoring Counter 9 Enable
hpm10	10	1	false	WARL	0x0	Hardware Performance Monitoring Counter 10 Enable
hpm11	11	1	false	WARL	0x0	Hardware Performance Monitoring Counter 11 Enable
hpm12	12	1	false	WARL	0x0	Hardware Performance Monitoring Counter 12 Enable
hpm13	13	1	false	WARL	0x0	Hardware Performance Monitoring Counter 13 Enable
hpm14	14	1	false	WARL	0x0	Hardware Performance Monitoring Counter 14 Enable
hpm15	15	1	false	WARL	0x0	Hardware Performance Monitoring Counter 15 Enable
hpm16	16	1	false	WARL	0x0	Hardware Performance Monitoring Counter 16 Enable
hpm17	17	1	false	WARL	0x0	Hardware Performance Monitoring Counter 17 Enable
hpm18	18	1	false	WARL	0x0	Hardware Performance Monitoring Counter 18 Enable
hpm19	19	1	false	WARL	0x0	Hardware Performance Monitoring Counter 19 Enable
hpm20	20	1	false	WARL	0x0	Hardware Performance Monitoring Counter 20 Enable
hpm21	21	1	false	WARL	0x0	Hardware Performance Monitoring Counter 21 Enable
hpm22	22	1	false	WARL	0x0	Hardware Performance Monitoring Counter 22 Enable
hpm23	23	1	false	WARL	0x0	Hardware Performance Monitoring Counter 23 Enable

hpm24	24	1	false	WARL	0x0	Hardware Performance Monitoring Counter 24 Enable
hpm25	25	1	false	WARL	0x0	Hardware Performance Monitoring Counter 25 Enable
hpm26	26	1	false	WARL	0x0	Hardware Performance Monitoring Counter 26 Enable
hpm27	27	1	false	WARL	0x0	Hardware Performance Monitoring Counter 27 Enable
hpm28	28	1	false	WARL	0x0	Hardware Performance Monitoring Counter 28 Enable
hpm29	29	1	false	WARL	0x0	Hardware Performance Monitoring Counter 29 Enable
hpm30	30	1	false	WARL	0x0	Hardware Performance Monitoring Counter 30 Enable
hpm31	31	1	false	WARL	0x0	Hardware Performance Monitoring Counter 31 Enable

mvien

Address	0x0308
Size	64
Reset Value	0x0000000000000000
Description	Machine virtual interrupt enables

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
hard0_0	0	1	false	WARL	0x0	Hardwired 0
ssip	1	1	false	WARL	0x0	Enable virtual interrupts for supervisor software interrupts
hard0_1	2	7	false	WARL	0x0	Hardwired 0
seip	9	1	false	WARL	0x0	Enable virtual interrupts for supervisor external interrupts
hard0_2	10	3	false	WARL	0x0	Hardwired 0
lcofip	13	1	false	WARL	0x0	Enable virtual interrupts for local count overflow interrupts
rsvd6414	14	50	-	WPRI	-	Reserved

mvip

Address	0x0309
Size	64
Reset Value	0x0000000000000000
Description	Machine virtual interrupt pending bits

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
hard0_0	0	1	true	WARL	0x0	Hardwired 0

ssip	1	1	true	WARL	0x0	Machine virtual supervisor software interrupt pending
hard0_1	2	3	true	WARL	0x0	Hardwired 0
stip	5	1	true	WARL	0x0	Machine virtual supervisor timer interrupt pending
hard0_2	6	3	true	WARL	0x0	Hardwired 0
seip	9	1	true	WARL	0x0	Machine virtual supervisor external interrupt pending
hard0_3	10	3	true	WARL	0x0	Hardwired 0
lcofip	13	1	true	WARL	0x0	Machine virtual local count overflow interrupt pending
rsvd6414	14	50	-	WPRI	-	Reserved

menvcfg	
Address	0x030A
Size	64
Reset Value	0x0000000000000000
Description	Machine environment configuration register.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
fiom	0	1	false	WARL	0x0	Fence of I/O implies Memory
wpri_0	1	3	false	WPRI	0x0	WPRI
cbie	4	2	false	WARL	0x0	Cache Block Invalidate instruction Enable -- Enables the execution of CBO.INVAL in a lower privilege mode
cbcfe	6	1	false	WARL	0x0	Cache Block Clean and Flush instruction enable -- Enables execution of CBO.CLEAN and CBO.FLUSH in a lower privilege mode
cbze	7	1	false	WARL	0x0	Cache Block Zero instruction Enable -- Enables execution of CBO.ZERO in a lower privilege mode
wpri_1	8	24	false	WPRI	0x0	WPRI
pmm	32	2	false	WARL	0x0	Enables pointer masking for the next lower privilege mode
wpri_2	34	27	false	WPRI	0x0	
hade	61	1	false	WARL	0x0	Enables hardware updating of PTE A/D bits during S-mode address translation
pbmte	62	1	false	WARL	0x0	Enables Svpbmt extension for S-mode and G-stage address translation
stce	63	1	false	WARL	0x0	Enables STimecmp for S-mode

mstateen0	
Address	0x030C
Size	64
Reset Value	0x0000000000000000
Description	Machine State Enable 0

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
c	0	1	false	WARL	0x0	Controls access to any and all custom state
fcsr	1	1	false	WARL	0x0	Controls access to fcsr CSR
jvt	2	1	false	WARL	0x0	Controls access to JVT CSR
wpri_0	3	52	false	WPRI	0x0	WPRI
srmcfg	55	1	false	WARL	0x0	Controls access to Srmcfg CSR
p1p13	56	1	false	WARL	0x0	Controls access to hedelegh CSR
context	57	1	false	WARL	0x0	Controls access to scontext and hcontext CSRs
imsic	58	1	false	WARL	0x0	Controls access to IMSIC state
aia	59	1	false	WARL	0x0	Controls access to all state introduced by the Ssaia extension
csrind	60	1	false	WARL	0x0	Controls access to siselect, sireg*, vsiselect, vsireg* CSRs
wpri_1	61	1	false	WPRI	0x0	WPRI
envcfg	62	1	false	WARL	0x0	Controls access to the henvcfg, henvcfgh, and senvcfg CSRs
se0	63	1	false	WARL	0x0	Controls access to the hstateen0, hstateen0h, and sstateen0 CSRs

mstateen1	
Address	0x030D
Size	64
Reset Value	0x0000000000000000
Description	Machine State Enable 1

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
wpri	0	63	false	WPRI	0x0	WPRI
se1	63	1	false	WARL	0x0	Controls access to the hstateen1, hstateen1h, and sstateen1 CSRs

mstateen2	
Address	0x030E
Size	64
Reset Value	0x0000000000000000
Description	Machine State Enable 2

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description

wpri	0	63	false	WPRI	0x0	WPRI
se2	63	1	false	WARL	0x0	Controls access to the hstateen2, hstateen2h, and sstateen2 CSRs

mstateen3

Address	0x030F
Size	64
Reset Value	0x0000000000000000
Description	Machine State Enable 3

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
wpri	0	63	false	WPRI	0x0	WPRI
se3	63	1	false	WARL	0x0	Controls access to the hstateen1, hstateen1h, and sstateen1 CSRs

mcountinhibit

Address	0x0320
Size	32
Reset Value	0x00000000
Description	Machine counter-inhibit register.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
cy	0	1	false	WARL	0x0	Cycle Counter Inhibit
hard0	1	1	false	WARL	0x0	Read-only zero
ir	2	1	false	WARL	0x0	Instruction Retired Counter Inhibit
hpm3	3	1	false	WARL	0x0	Hardware Performance Monitoring Counter 3 Inhibit
hpm4	4	1	false	WARL	0x0	Hardware Performance Monitoring Counter 4 Inhibit
hpm5	5	1	false	WARL	0x0	Hardware Performance Monitoring Counter 5 Inhibit
hpm6	6	1	false	WARL	0x0	Hardware Performance Monitoring Counter 6 Inhibit
hpm7	7	1	false	WARL	0x0	Hardware Performance Monitoring Counter 7 Inhibit
hpm8	8	1	false	WARL	0x0	Hardware Performance Monitoring Counter 8 Inhibit
hpm9	9	1	false	WARL	0x0	Hardware Performance Monitoring Counter 9 Inhibit
hpm10	10	1	false	WARL	0x0	Hardware Performance Monitoring Counter 10 Inhibit
hpm11	11	1	false	WARL	0x0	Hardware Performance Monitoring Counter 11 Inhibit

hpm12	12	1	false	WARL	0x0	Hardware Performance Monitoring Counter 12 Inhibit
hpm13	13	1	false	WARL	0x0	Hardware Performance Monitoring Counter 13 Inhibit
hpm14	14	1	false	WARL	0x0	Hardware Performance Monitoring Counter 14 Inhibit
hpm15	15	1	false	WARL	0x0	Hardware Performance Monitoring Counter 15 Inhibit
hpm16	16	1	false	WARL	0x0	Hardware Performance Monitoring Counter 16 Inhibit
hpm17	17	1	false	WARL	0x0	Hardware Performance Monitoring Counter 17 Inhibit
hpm18	18	1	false	WARL	0x0	Hardware Performance Monitoring Counter 18 Inhibit
hpm19	19	1	false	WARL	0x0	Hardware Performance Monitoring Counter 19 Inhibit
hpm20	20	1	false	WARL	0x0	Hardware Performance Monitoring Counter 20 Inhibit
hpm21	21	1	false	WARL	0x0	Hardware Performance Monitoring Counter 21 Inhibit
hpm22	22	1	false	WARL	0x0	Hardware Performance Monitoring Counter 22 Inhibit
hpm23	23	1	false	WARL	0x0	Hardware Performance Monitoring Counter 23 Inhibit
hpm24	24	1	false	WARL	0x0	Hardware Performance Monitoring Counter 24 Inhibit
hpm25	25	1	false	WARL	0x0	Hardware Performance Monitoring Counter 25 Inhibit
hpm26	26	1	false	WARL	0x0	Hardware Performance Monitoring Counter 26 Inhibit
hpm27	27	1	false	WARL	0x0	Hardware Performance Monitoring Counter 27 Inhibit
hpm28	28	1	false	WARL	0x0	Hardware Performance Monitoring Counter 28 Inhibit
hpm29	29	1	false	WARL	0x0	Hardware Performance Monitoring Counter 29 Inhibit
hpm30	30	1	false	WARL	0x0	Hardware Performance Monitoring Counter 30 Inhibit
hpm31	31	1	false	WARL	0x0	Hardware Performance Monitoring Counter 31 Inhibit

mhpmevent3

Address	0x0323

Size	64
Reset Value	0x0000000000000000
Description	Machine performance-monitoring Event selector.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
mhpmevent3	0	56	false	WARL	0x0	Event selector
reserved	56	2	false	WARL	0x0	Reserved for future use
vuinh	58	1	false	WARL	0x0	VU-mode counter inhibit
vsinh	59	1	false	WARL	0x0	VS-mode counter inhibit
uinh	60	1	false	WARL	0x0	U-mode counter inhibit
sinh	61	1	false	WARL	0x0	S/HS-mode counter inhibit
minh	62	1	false	WARL	0x0	M-mode counter inhibit
of	63	1	false	WARL	0x0	Overflow status and interrupt disable bit

mhpmevent4

Address	0x0324
Size	64
Reset Value	0x0000000000000000
Description	Machine performance-monitoring Event selector.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
mhpmevent4	0	56	false	WARL	0x0	Event selector
reserved	56	2	false	WARL	0x0	Reserved for future use
vuinh	58	1	false	WARL	0x0	VU-mode counter inhibit
vsinh	59	1	false	WARL	0x0	VS-mode counter inhibit
uinh	60	1	false	WARL	0x0	U-mode counter inhibit
sinh	61	1	false	WARL	0x0	S/HS-mode counter inhibit
minh	62	1	false	WARL	0x0	M-mode counter inhibit
of	63	1	false	WARL	0x0	Overflow status and interrupt disable bit

mhpmevent5

Address	0x0325
Size	64
Reset Value	0x0000000000000000
Description	Machine performance-monitoring Event selector.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
mhpmevent5	0	56	false	WARL	0x0	Event selector
reserved	56	2	false	WARL	0x0	Reserved for future use
vuinh	58	1	false	WARL	0x0	VU-mode counter inhibit
vsinh	59	1	false	WARL	0x0	VS-mode counter inhibit
uinh	60	1	false	WARL	0x0	U-mode counter inhibit
sinh	61	1	false	WARL	0x0	S/HS-mode counter inhibit

minh	62	1	false	WARL	0x0	M-mode counter inhibit
of	63	1	false	WARL	0x0	Overflow status and interrupt disable bit

mhpmevent6

Address	0x0326
Size	64
Reset Value	0x0000000000000000
Description	Machine performance-monitoring Event selector.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
mhpmevent6	0	56	false	WARL	0x0	Event selector
reserved	56	2	false	WARL	0x0	Reserved for future use
vuinh	58	1	false	WARL	0x0	VU-mode counter inhibit
vsinh	59	1	false	WARL	0x0	VS-mode counter inhibit
uinh	60	1	false	WARL	0x0	U-mode counter inhibit
sinh	61	1	false	WARL	0x0	S/HS-mode counter inhibit
minh	62	1	false	WARL	0x0	M-mode counter inhibit
of	63	1	false	WARL	0x0	Overflow status and interrupt disable bit

mhpmevent7

Address	0x0327
Size	64
Reset Value	0x0000000000000000
Description	Machine performance-monitoring Event selector.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
mhpmevent7	0	56	false	WARL	0x0	Event selector
reserved	56	2	false	WARL	0x0	Reserved for future use
vuinh	58	1	false	WARL	0x0	VU-mode counter inhibit
vsinh	59	1	false	WARL	0x0	VS-mode counter inhibit
uinh	60	1	false	WARL	0x0	U-mode counter inhibit
sinh	61	1	false	WARL	0x0	S/HS-mode counter inhibit
minh	62	1	false	WARL	0x0	M-mode counter inhibit
of	63	1	false	WARL	0x0	Overflow status and interrupt disable bit

mhpmevent8

Address	0x0328
Size	64
Reset Value	0x0000000000000000
Description	Machine performance-monitoring Event selector.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description

mhpmevent8	0	56	false	WARL	0x0	Event selector
reserved	56	2	false	WARL	0x0	Reserved for future use
vuinh	58	1	false	WARL	0x0	VU-mode counter inhibit
vsinh	59	1	false	WARL	0x0	VS-mode counter inhibit
uinh	60	1	false	WARL	0x0	U-mode counter inhibit
sinh	61	1	false	WARL	0x0	S/HS-mode counter inhibit
minh	62	1	false	WARL	0x0	M-mode counter inhibit
of	63	1	false	WARL	0x0	Overflow status and interrupt disable bit

mhpmevent9

Address	0x0329
Size	64
Reset Value	0x0000000000000000
Description	Machine performance-monitoring Event selector.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
mhpmevent9	0	56	false	WARL	0x0	Event selector
reserved	56	2	false	WARL	0x0	Reserved for future use
vuinh	58	1	false	WARL	0x0	VU-mode counter inhibit
vsinh	59	1	false	WARL	0x0	VS-mode counter inhibit
uinh	60	1	false	WARL	0x0	U-mode counter inhibit
sinh	61	1	false	WARL	0x0	S/HS-mode counter inhibit
minh	62	1	false	WARL	0x0	M-mode counter inhibit
of	63	1	false	WARL	0x0	Overflow status and interrupt disable bit

mhpmevent10

Address	0x032A
Size	64
Reset Value	0x0000000000000000
Description	Machine performance-monitoring Event selector.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
mhpmevent10	0	56	false	WARL	0x0	Event selector
reserved	56	2	false	WARL	0x0	Reserved for future use
vuinh	58	1	false	WARL	0x0	VU-mode counter inhibit
vsinh	59	1	false	WARL	0x0	VS-mode counter inhibit
uinh	60	1	false	WARL	0x0	U-mode counter inhibit
sinh	61	1	false	WARL	0x0	S/HS-mode counter inhibit
minh	62	1	false	WARL	0x0	M-mode counter inhibit
of	63	1	false	WARL	0x0	Overflow status and interrupt disable bit

mhpmevent11						
Address	0x032B					
Size	64					
Reset Value	0x0000000000000000					
Description	Machine performance-monitoring Event selector.					
Field Name	**Bit Offset**	**Bit Width**	**Volatile**	**Access**	**Reset Value**	**Description**
mhpmevent11	0	64	false	WARL	0x0	Event selector

mhpmevent12						
Address	0x032C					
Size	64					
Reset Value	0x0000000000000000					
Description	Machine performance-monitoring Event selector.					
Field Name	**Bit Offset**	**Bit Width**	**Volatile**	**Access**	**Reset Value**	**Description**
mhpmevent12	0	64	false	WARL	0x0	Event selector

mhpmevent13						
Address	0x032D					
Size	64					
Reset Value	0x0000000000000000					
Description	Machine performance-monitoring Event selector.					
Field Name	**Bit Offset**	**Bit Width**	**Volatile**	**Access**	**Reset Value**	**Description**
mhpmevent13	0	64	false	WARL	0x0	Event selector

mhpmevent14						
Address	0x032E					
Size	64					
Reset Value	0x0000000000000000					
Description	Machine performance-monitoring Event selector.					
Field Name	**Bit Offset**	**Bit Width**	**Volatile**	**Access**	**Reset Value**	**Description**
mhpmevent14	0	64	false	WARL	0x0	Event selector

mhpmevent15						
Address	0x032F					
Size	64					
Reset Value	0x0000000000000000					
Description	Machine performance-monitoring Event selector.					
Field Name	**Bit Offset**	**Bit Width**	**Volatile**	**Access**	**Reset Value**	**Description**
mhpmevent15	0	64	false	WARL	0x0	Event selector

mhpmevent16						
Address	0x0330					
Size	64					
Reset Value	0x0000000000000000					
Description	Machine performance-monitoring Event selector.					
Field Name	**Bit Offset**	**Bit Width**	**Volatile**	**Access**	**Reset Value**	**Description**
mhpmevent16	0	64	false	WARL	0x0	Event selector

mhpmevent17						
Address	0x0331					
Size	64					
Reset Value	0x0000000000000000					
Description	Machine performance-monitoring Event selector.					
Field Name	**Bit Offset**	**Bit Width**	**Volatile**	**Access**	**Reset Value**	**Description**
mhpmevent17	0	64	false	WARL	0x0	Event selector

mhpmevent18						
Address	0x0332					
Size	64					
Reset Value	0x0000000000000000					
Description	Machine performance-monitoring Event selector.					
Field Name	**Bit Offset**	**Bit Width**	**Volatile**	**Access**	**Reset Value**	**Description**
mhpmevent18	0	64	false	WARL	0x0	Event selector

mhpmevent19						
Address	0x0333					
Size	64					
Reset Value	0x0000000000000000					
Description	Machine performance-monitoring Event selector.					
Field Name	**Bit Offset**	**Bit Width**	**Volatile**	**Access**	**Reset Value**	**Description**
mhpmevent19	0	64	false	WARL	0x0	Event selector

mhpmevent20						
Address	0x0334					
Size	64					
Reset Value	0x0000000000000000					
Description	Machine performance-monitoring Event selector.					
Field Name	**Bit Offset**	**Bit Width**	**Volatile**	**Access**	**Reset Value**	**Description**
mhpmevent20	0	64	false	WARL	0x0	Event selector

mhpmevent21

Address	0x0335
Size	64
Reset Value	0x0000000000000000
Description	Machine performance-monitoring Event selector.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
mhpmevent21	0	64	false	WARL	0x0	Event selector

mhpmevent22

Address	0x0336
Size	64
Reset Value	0x0000000000000000
Description	Machine performance-monitoring Event selector.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
mhpmevent22	0	64	false	WARL	0x0	Event selector

mhpmevent23

Address	0x0337
Size	64
Reset Value	0x0000000000000000
Description	Machine performance-monitoring Event selector.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
mhpmevent23	0	64	false	WARL	0x0	Event selector

mhpmevent24

Address	0x0338
Size	64
Reset Value	0x0000000000000000
Description	Machine performance-monitoring Event selector.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
mhpmevent24	0	64	false	WARL	0x0	Event selector

mhpmevent25

Address	0x0339
Size	64
Reset Value	0x0000000000000000
Description	Machine performance-monitoring Event selector.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
mhpmevent25	0	64	false	WARL	0x0	Event selector

mhpmevent26

Address	0x033A
Size	64
Reset Value	0x0000000000000000
Description	Machine performance-monitoring Event selector.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
mhpmevent26	0	64	false	WARL	0x0	Event selector

mhpmevent27

Address	0x033B
Size	64
Reset Value	0x0000000000000000
Description	Machine performance-monitoring Event selector.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
mhpmevent27	0	64	false	WARL	0x0	Event selector

mhpmevent28

Address	0x033C
Size	64
Reset Value	0x0000000000000000
Description	Machine performance-monitoring Event selector.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
mhpmevent28	0	64	false	WARL	0x0	Event selector

mhpmevent29

Address	0x033D
Size	64
Reset Value	0x0000000000000000
Description	Machine performance-monitoring Event selector.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
mhpmevent29	0	64	false	WARL	0x0	Event selector

mhpmevent30

Address	0x033E
Size	64
Reset Value	0x0000000000000000
Description	Machine performance-monitoring Event selector.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
mhpmevent30	0	64	false	WARL	0x0	Event selector

mhpmevent31

Address	0x033F
Size	64
Reset Value	0x0000000000000000
Description	Machine performance-monitoring Event selector.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
mhpmevent31	0	64	false	WARL	0x0	Event selector

mscratch

Address	0x0340
Size	64
Reset Value	0x0000000000000000
Description	Scratch register for machine trap handlers.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
mscratch	0	64	false	WARL	0x0	Machine Scratch Register

mepc

Address	0x0341
Size	64
Reset Value	0x0000000000000000
Description	Machine exception program counter.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
rsvd00	0	1	-	WPRI	-	Reserved
addr	1	63	false	WARL	0x0	Machine exception program counter.

mcause

Address	0x0342
Size	64
Reset Value	0x0000000000000000
Description	Machine trap cause.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
exceptioncodewlrl	0	63	false	WARL	0x0	Code identifying the last exception or interrupt
interrupt	63	1	false	WARL	0x0	Indicates if the trap was caused by an interrupt

mtval

Address	0x0343
Size	64
Reset Value	0x0000000000000000
Description	Machine bad address or instruction or machine trap value register.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
mtval	0	64	false	WARL	0x0	Machine Trap Value Register

mip

Address	0x0344
Size	64
Reset Value	0x0000000000000000
Description	Machine interrupt pending.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
rsvd00	0	1	-	WPRI	-	Reserved
ssip	1	1	true	WARL	0x0	Supervisor Software Interrupt Pending
vssip	2	1	true	WARL	0x0	Virtual Supervisor Software Interrupt Pending
msip	3	1	true	WARL	0x0	Machine Software Interrupt Pending
rsvd44	4	1	-	WPRI	-	Reserved
stip	5	1	true	WARL	0x0	Supervisor Timer Interrupt Pending
vstip	6	1	true	WARL	0x0	Virtual Supervisor Timer Interrupt Pending
mtip	7	1	true	WARL	0x0	Machine Timer Interrupt Pending
rsvd88	8	1	-	WPRI	-	Reserved
seip	9	1	true	WARL	0x0	Supervisor External Interupt Pending
vseip	10	1	true	WARL	0x0	Virtual Supervisor External Interupt Pending
meip	11	1	true	WARL	0x0	Machine External Interupt Pending
sgeip	12	1	true	WARL	0x0	Supervisor Guest External Interupt Pending
lcofip	13	1	true	WARL	0x0	Local Count Overflow Interrupt Pending
rsvd1514	14	2	-	WPRI	-	Reserved
nonstandardinterrupts	16	48	true	WARL	0x0	Definition of many of these interrupt numbers is either custom or non-ratified. So, these bits must be flexible

mtinst

Address	0x034A
Size	64
Reset Value	0x0000000000000000
Description	Machine mode trap instruction (transformed).

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
mtinst	0	64	false	WARL	0x0	Machine Trap Instruction Register

mtval2

Address	0x034B
Size	64
Reset Value	0x0000000000000000
Description	Machine mode bad guest physical address.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
mtval2	0	64	false	WARL	0x0	Machine Second Trap Value Register

miselect

Address	0x0350
Size	64
Reset Value	0x0000000000000000
Description	Machine Indirect register select (valid range is 0 - 0xFF)

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
interrupts	0	8	false	WARL	0x0	0x30 - 0x3F : Major Intr priorities0x70-0xFF: External Intr. (0x71, 0x73-0x7F are rsvd)Rest: Reserved
rsvd_63_8	8	56	false	WARL	0x0	Reserved for future use

mireg

Address	0x0351
Size	64
Reset Value	0x0000000000000000
Description	Machine indirect register alias

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
mireg	0	64	false	WARL	0x0	Machine indirect register alias

mtopei

Address	0x035C
Size	64
Reset Value	0x0000000000000000
Description	Machine top external interrupt (This is marked as read-write in AIA spec, but implemented as read-only for write to this CSR is ignored)

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
priority	0	11	true	WARL	0x0	Interrupt priority (same as identity)
rsvd_15_11	11	5	true	WARL	0x0	Reserved for future use
identity	16	11	true	WARL	0x0	Interrupt identity
rsvd_63_27	27	37	true	WARL	0x0	Reserved for future use

pmpcfg0

Address	0x03A0
Size	64
Reset Value	0x0000000000000000
Description	Physical memory protection configuration.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
pmp0cfg_rwx	0	3	false	WARL	0x0	PMP Config Register RWX (Read/Write/Execute) bits for PMP0
pmp0cfg_mode	3	2	false	WARL	0x0	PMP Config Register A (Address Matching Mode) bits for PMP0
pmp0cfg_rsvd	5	2	false	WARL	0x0	PMP Config Register Rsvd bits for PMP0
pmp0cfg_locked	7	1	false	WARL	0x0	PMP Config Register L (Locked) bit for PMP0
pmp1cfg_rwx	8	3	false	WARL	0x0	PMP Config Register RWX (Read/Write/Execute) bits for PMP1
pmp1cfg_mode	11	2	false	WARL	0x0	PMP Config Register A (Address Matching Mode) bits for PMP1
pmp1cfg_rsvd	13	2	false	WARL	0x0	PMP Config Register Rsvd bits for PMP1
pmp1cfg_locked	15	1	false	WARL	0x0	PMP Config Register L (Locked) bit for PMP1
pmp2cfg_rwx	16	3	false	WARL	0x0	PMP Config Register RWX (Read/Write/Execute) bits for PMP2
pmp2cfg_mode	19	2	false	WARL	0x0	PMP Config Register A (Address Matching Mode) bits for PMP2
pmp2cfg_rsvd	21	2	false	WARL	0x0	PMP Config Register Rsvd bits for PMP2
pmp2cfg_locked	23	1	false	WARL	0x0	PMP Config Register L (Locked) bit for PMP2
pmp3cfg_rwx	24	3	false	WARL	0x0	PMP Config Register RWX (Read/Write/Execute) bits for PMP3
pmp3cfg_mode	27	2	false	WARL	0x0	PMP Config Register A (Address Matching Mode) bits for PMP3
pmp3cfg_rsvd	29	2	false	WARL	0x0	PMP Config Register Rsvd bits for PMP3
pmp3cfg_locked	31	1	false	WARL	0x0	PMP Config Register L (Locked) bit for PMP3
pmp4cfg_rwx	32	3	false	WARL	0x0	PMP Config Register RWX (Read/Write/Execute) bits for PMP4
pmp4cfg_mode	35	2	false	WARL	0x0	PMP Config Register A (Address Matching Mode) bits for PMP4
pmp4cfg_rsvd	37	2	false	WARL	0x0	PMP Config Register Rsvd bits for PMP4

pmp4cfg_locked	39	1	false	WARL	0x0	PMP Config Register L (Locked) bit for PMP4
pmp5cfg_rwx	40	3	false	WARL	0x0	PMP Config Register RWX (Read/Write/Execute) bits for PMP5
pmp5cfg_mode	43	2	false	WARL	0x0	PMP Config Register A (Address Matching Mode) bits for PMP5
pmp5cfg_rsvd	45	2	false	WARL	0x0	PMP Config Register Rsvd bits for PMP5
pmp5cfg_locked	47	1	false	WARL	0x0	PMP Config Register L (Locked) bit for PMP5
pmp6cfg_rwx	48	3	false	WARL	0x0	PMP Config Register RWX (Read/Write/Execute) bits for PMP6
pmp6cfg_mode	51	2	false	WARL	0x0	PMP Config Register A (Address Matching Mode) bits for PMP6
pmp6cfg_rsvd	53	2	false	WARL	0x0	PMP Config Register Rsvd bits for PMP6
pmp6cfg_locked	55	1	false	WARL	0x0	PMP Config Register L (Locked) bit for PMP6
pmp7cfg_rwx	56	3	false	WARL	0x0	PMP Config Register RWX (Read/Write/Execute) bits for PMP7
pmp7cfg_mode	59	2	false	WARL	0x0	PMP Config Register A (Address Matching Mode) bits for PMP7
pmp7cfg_rsvd	61	2	false	WARL	0x0	PMP Config Register Rsvd bits for PMP7
pmp7cfg_locked	63	1	false	WARL	0x0	PMP Config Register L (Locked) bit for PMP7

pmpcfg2

Address	0x03A2
Size	64
Reset Value	0x0000000000000000
Description	Physical memory protection configuration.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
pmp8cfg_rwx	0	3	false	WARL	0x0	PMP Config Register RWX (Read/Write/Execute) bits for PMP8
pmp8cfg_mode	3	2	false	WARL	0x0	PMP Config Register A (Address Matching Mode) bits for PMP8
pmp8cfg_rsvd	5	2	false	WARL	0x0	PMP Config Register Rsvd bits for PMP8
pmp8cfg_locked	7	1	false	WARL	0x0	PMP Config Register L (Locked) bit for PMP8
pmp9cfg_rwx	8	3	false	WARL	0x0	PMP Config Register RWX (Read/Write/Execute) bits for PMP9

pmp9cfg_mode	11	2	false	WARL	0x0	PMP Config Register A (Address Matching Mode) bits for PMP9
pmp9cfg_rsvd	13	2	false	WARL	0x0	PMP Config Register Rsvd bits for PMP9
pmp9cfg_locked	15	1	false	WARL	0x0	PMP Config Register L (Locked) bit for PMP9
pmp10cfg_rwx	16	3	false	WARL	0x0	PMP Config Register RWX (Read/Write/Execute) bits for PMP10
pmp10cfg_mode	19	2	false	WARL	0x0	PMP Config Register A (Address Matching Mode) bits for PMP10
pmp10cfg_rsvd	21	2	false	WARL	0x0	PMP Config Register Rsvd bits for PMP10
pmp10cfg_locked	23	1	false	WARL	0x0	PMP Config Register L (Locked) bit for PMP10
pmp11cfg_rwx	24	3	false	WARL	0x0	PMP Config Register RWX (Read/Write/Execute) bits for PMP11
pmp11cfg_mode	27	2	false	WARL	0x0	PMP Config Register A (Address Matching Mode) bits for PMP11
pmp11cfg_rsvd	29	2	false	WARL	0x0	PMP Config Register Rsvd bits for PMP11
pmp11cfg_locked	31	1	false	WARL	0x0	PMP Config Register L (Locked) bit for PMP11
pmp12cfg_rwx	32	3	false	WARL	0x0	PMP Config Register RWX (Read/Write/Execute) bits for PMP12
pmp12cfg_mode	35	2	false	WARL	0x0	PMP Config Register A (Address Matching Mode) bits for PMP12
pmp12cfg_rsvd	37	2	false	WARL	0x0	PMP Config Register Rsvd bits for PMP12
pmp12cfg_locked	39	1	false	WARL	0x0	PMP Config Register L (Locked) bit for PMP12
pmp13cfg_rwx	40	3	false	WARL	0x0	PMP Config Register RWX (Read/Write/Execute) bits for PMP13
pmp13cfg_mode	43	2	false	WARL	0x0	PMP Config Register A (Address Matching Mode) bits for PMP13
pmp13cfg_rsvd	45	2	false	WARL	0x0	PMP Config Register Rsvd bits for PMP13
pmp13cfg_locked	47	1	false	WARL	0x0	PMP Config Register L (Locked) bit for PMP13
pmp14cfg_rwx	48	3	false	WARL	0x0	PMP Config Register RWX (Read/Write/Execute) bits for PMP14
pmp14cfg_mode	51	2	false	WARL	0x0	PMP Config Register A (Address Matching Mode) bits for PMP14

pmp14cfg_rsvd	53	2	false	WARL	0x0	PMP Config Register Rsvd bits for PMP14
pmp14cfg_locked	55	1	false	WARL	0x0	PMP Config Register L (Locked) bit for PMP14
pmp15cfg_rwx	56	3	false	WARL	0x0	PMP Config Register RWX (Read/Write/Execute) bits for PMP15
pmp15cfg_mode	59	2	false	WARL	0x0	PMP Config Register A (Address Matching Mode) bits for PMP15
pmp15cfg_rsvd	61	2	false	WARL	0x0	PMP Config Register Rsvd bits for PMP15
pmp15cfg_locked	63	1	false	WARL	0x0	PMP Config Register L (Locked) bit for PMP15

pmpaddr0

Address	0x03B0
Size	64
Reset Value	0x00000000000001FF
Description	Physical memory protection configuration.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
address_lo	0	9	false	WARL	0x1FF	PMP0 address bits 10:2
address_hi	9	45	false	WARL	0x0	PMP0 address bits 55:11
rsvd6454	54	10	-	WPRI	-	Reserved

pmpaddr1

Address	0x03B1
Size	64
Reset Value	0x00000000000001FF
Description	Physical memory protection configuration.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
address_lo	0	9	false	WARL	0x1FF	PMP1 address bits 10:2
address_hi	9	45	false	WARL	0x0	PMP1 address bits 55:11
rsvd6454	54	10	-	WPRI	-	Reserved

pmpaddr2

Address	0x03B2
Size	64
Reset Value	0x00000000000001FF
Description	Physical memory protection configuration.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
address_lo	0	9	false	WARL	0x1FF	PMP2 address bits 10:2
address_hi	9	45	false	WARL	0x0	PMP2 address bits 55:11

rsvd6454	54	10	-	WPRI	-	Reserved

pmpaddr3

Address	0x03B3
Size	64
Reset Value	0x00000000000001FF
Description	Physical memory protection configuration.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
address_lo	0	9	false	WARL	0x1FF	PMP3 address bits 10:2
address_hi	9	45	false	WARL	0x0	PMP3 address bits 55:11
rsvd6454	54	10	-	WPRI	-	Reserved

pmpaddr4

Address	0x03B4
Size	64
Reset Value	0x00000000000001FF
Description	Physical memory protection configuration.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
address_lo	0	9	false	WARL	0x1FF	PMP4 address bits 10:2
address_hi	9	45	false	WARL	0x0	PMP4 address bits 55:11
rsvd6454	54	10	-	WPRI	-	Reserved

pmpaddr5

Address	0x03B5
Size	64
Reset Value	0x00000000000001FF
Description	Physical memory protection configuration.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
address_lo	0	9	false	WARL	0x1FF	PMP5 address bits 10:2
address_hi	9	45	false	WARL	0x0	PMP5 address bits 55:11
rsvd6454	54	10	-	WPRI	-	Reserved

pmpaddr6

Address	0x03B6
Size	64
Reset Value	0x00000000000001FF
Description	Physical memory protection configuration.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
address_lo	0	9	false	WARL	0x1FF	PMP6 address bits 10:2
address_hi	9	45	false	WARL	0x0	PMP6 address bits 55:11
rsvd6454	54	10	-	WPRI	-	Reserved

pmpaddr7

Address	0x03B7
Size	64
Reset Value	0x00000000000001FF
Description	Physical memory protection configuration.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
address_lo	0	9	false	WARL	0x1FF	PMP7 address bits 10:2
address_hi	9	45	false	WARL	0x0	PMP7 address bits 55:11
rsvd6454	54	10	-	WPRI	-	Reserved

pmpaddr8

Address	0x03B8
Size	64
Reset Value	0x00000000000001FF
Description	Physical memory protection configuration.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
address_lo	0	9	false	WARL	0x1FF	PMP8 address bits 10:2
address_hi	9	45	false	WARL	0x0	PMP8 address bits 55:11
rsvd6454	54	10	-	WPRI	-	Reserved

pmpaddr9

Address	0x03B9
Size	64
Reset Value	0x00000000000001FF
Description	Physical memory protection configuration.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
address_lo	0	9	false	WARL	0x1FF	PMP9 address bits 10:2
address_hi	9	45	false	WARL	0x0	PMP9 address bits 55:11
rsvd6454	54	10	-	WPRI	-	Reserved

pmpaddr10

Address	0x03BA
Size	64
Reset Value	0x00000000000001FF
Description	Physical memory protection configuration.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
address_lo	0	9	false	WARL	0x1FF	PMP10 address bits 10:2
address_hi	9	45	false	WARL	0x0	PMP10 address bits 55:11
rsvd6454	54	10	-	WPRI	-	Reserved

pmpaddr11

Address	0x03BB
Size	64
Reset Value	0x00000000000001FF
Description	Physical memory protection configuration.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
address_lo	0	9	false	WARL	0x1FF	PMP11 address bits 10:2
address_hi	9	45	false	WARL	0x0	PMP11 address bits 55:11
rsvd6454	54	10	-	WPRI	-	Reserved

pmpaddr12

Address	0x03BC
Size	64
Reset Value	0x00000000000001FF
Description	Physical memory protection configuration.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
address_lo	0	9	false	WARL	0x1FF	PMP12 address bits 10:2
address_hi	9	45	false	WARL	0x0	PMP12 address bits 55:11
rsvd6454	54	10	-	WPRI	-	Reserved

pmpaddr13

Address	0x03BD
Size	64
Reset Value	0x00000000000001FF
Description	Physical memory protection configuration.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
address_lo	0	9	false	WARL	0x1FF	PMP13 address bits 10:2
address_hi	9	45	false	WARL	0x0	PMP13 address bits 55:11
rsvd6454	54	10	-	WPRI	-	Reserved

pmpaddr14

Address	0x03BE
Size	64
Reset Value	0x00000000000001FF
Description	Physical memory protection configuration.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
address_lo	0	9	false	WARL	0x1FF	PMP14 address bits 10:2
address_hi	9	45	false	WARL	0x0	PMP14 address bits 55:11
rsvd6454	54	10	-	WPRI	-	Reserved

pmpaddr15

Address	0x03BF

Size	64
Reset Value	0x00000000000001FF
Description	Physical memory protection configuration.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
address_lo	0	9	false	WARL	0x1FF	PMP15 address bits 10:2
address_hi	9	45	false	WARL	0x0	PMP15 address bits 55:11
rsvd6454	54	10	-	WPRI	-	Reserved

hstatus

Address	0x0600
Size	64
Reset Value	0x0000000200000000
Description	Hypervisor status register.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
wpri_0	0	5	true	WPRI	0x0	WPRI
vsbe	5	1	true	WARL	0x0	Controls Endianness of explicit memory accesses made from VS-mode
gva	6	1	true	WARL	0x0	Indicates a Guest Virtual Address is written into stval
spv	7	1	true	WARL	0x0	Supervisor Previous Virtualization Mode
spvp	8	1	true	WARL	0x0	Supervisor Previous Virtual Privilege
hu	9	1	true	WARL	0x0	Controls whether HLV, HLVX, and HSV can be used in U-mode
wpri_1	10	2	true	WPRI	0x0	WPRI
vgein	12	6	true	WARL	0x0	Selects a guest external interrupt source for VS-level external interrupts
wpri_2	18	2	true	WPRI	0x0	WPRI
vtvm	20	1	true	WARL	0x0	Makes SFENCE.VMA, SINVAL.VMA, and accesses to satp raise virtual instruction exceptions
vtw	21	1	true	WARL	0x0	Makes WFI in VS-mode raises virtual instruction exception if not completed within a time limit
vtsr	22	1	true	WARL	0x0	Makes SRET give virtual instruction exception in VS-mode
wpri_3	23	9	true	WPRI	0x0	WPRI
vsxl	32	2	true	WARL	0x2	Controls the effective XLEN for VS-mode
wpri_4	34	14	true	WPRI	0x0	WPRI

hupmm	48	2	true	WARL	0x0	Configures pointer masking according to ssnpm extension
wpri_5	50	14	true	WPRI	0x0	WPRI

hedeleg

Address	0x0602
Size	64
Reset Value	0x0000000000000000
Description	Hypervisor exception delegation register.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
hedeleg_0	0	9	false	WARL	0x0	Exception Codes 0-9
hard0_0	9	3	false	WARL	0x0	Hardwired 0
hedeleg_1	12	2	false	WARL	0x0	Exception Codes 12-13
hard0_1	14	1	false	WARL	0x0	Hardwired 0
hedeleg_2	15	1	false	WARL	0x0	Exception Code 15
hedeleg_3	16	4	false	WARL	0x0	Exception Codes 16-19
hard0_2	20	4	false	WARL	0x0	Hardwired 0
hard0_3	24	40	false	WARL	0x0	Hardwired 0

hideleg

Address	0x0603
Size	64
Reset Value	0x0000000000000000
Description	Hypervisor interrupt delegation register.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
rsvd00	0	1	-	WPRI	-	Reserved
hard0_0	1	1	false	WARL	0x0	Hardwired 0
vssip	2	1	false	WARL	0x0	Delegate Virtual Supervisor Software Interrupt
hard0_1	3	1	false	WARL	0x0	Hardwired 0
rsvd44	4	1	-	WPRI	-	Reserved
hard0_2	5	1	false	WARL	0x0	Hardwired 0
vstip	6	1	false	WARL	0x0	Delegate Virtual Supervisor Timer Interrupt
hard0_3	7	1	false	WARL	0x0	Hardwired 0
rsvd88	8	1	-	WPRI	-	Reserved
hard0_4	9	1	false	WARL	0x0	Hardwired 0
vseip	10	1	false	WARL	0x0	Delegate Virtual Supervisor External Interrupt
hard0_5	11	2	false	WARL	0x0	Hardwired 0
lcofip	13	1	false	WARL	0x0	Hardwired 0 -- Delegate Local Count Overflow Interrupt

rsvd6414	14	50	-	WPRI	-	Reserved

hie						
Address	0x0604					
Size	64					
Reset Value	0x0000000000000000					
Description	Hypervisor interrupt-enable register.					
Field Name	**Bit Offset**	**Bit Width**	**Volatile**	**Access**	**Reset Value**	**Description**
rsvd00	0	1	-	WPRI	-	Reserved
hard0_0	1	1	false	WARL	0x0	Hardwired 0
vssie	2	1	false	WARL	0x0	Virtual Supervisor Software Interrupt Enable
hard0_1	3	1	false	WARL	0x0	Hardwired 0
rsvd44	4	1	-	WPRI	-	Reserved
hard0_2	5	1	false	WARL	0x0	Hardwired 0
vstie	6	1	false	WARL	0x0	Virtual Supervisor Timer Interrupt Enable
hard0_3	7	1	false	WARL	0x0	Hardwired 0
rsvd88	8	1	-	WPRI	-	Reserved
hard0_4	9	1	false	WARL	0x0	Hardwired 0
vseie	10	1	false	WARL	0x0	Virtual Supervisor External Interrupt Enable
hard0_5	11	1	false	WARL	0x0	Hardwired 0
sgeie	12	1	false	WARL	0x0	Supervisor Guest External Interrupt Enable
rsvd6413	13	51	-	WPRI	-	Reserved

htimedelta						
Address	0x0605					
Size	64					
Reset Value	0x0000000000000000					
Description	Delta for VS/VU-mode timer.					
Field Name	**Bit Offset**	**Bit Width**	**Volatile**	**Access**	**Reset Value**	**Description**
htimedelta	0	64	false	WARL	0x0	Delta value between time and VS/VU mode timer

hcounteren						
Address	0x0606					
Size	32					
Reset Value	0x00000000					
Description	Hypervisor counter enable.					
Field Name	**Bit Offset**	**Bit Width**	**Volatile**	**Access**	**Reset Value**	**Description**

cy	0	1	false	WARL	0x0	Cycle Counter Enable
tm	1	1	false	WARL	0x0	Time Counter Enable
ir	2	1	false	WARL	0x0	Instruction Retired Counter Enable
hpm3	3	1	false	WARL	0x0	Hardware Performance Monitoring Counter 3 Enable
hpm4	4	1	false	WARL	0x0	Hardware Performance Monitoring Counter 4 Enable
hpm5	5	1	false	WARL	0x0	Hardware Performance Monitoring Counter 5 Enable
hpm6	6	1	false	WARL	0x0	Hardware Performance Monitoring Counter 6 Enable
hpm7	7	1	false	WARL	0x0	Hardware Performance Monitoring Counter 7 Enable
hpm8	8	1	false	WARL	0x0	Hardware Performance Monitoring Counter 8 Enable
hpm9	9	1	false	WARL	0x0	Hardware Performance Monitoring Counter 9 Enable
hpm10	10	1	false	WARL	0x0	Hardware Performance Monitoring Counter 10 Enable
hpm11	11	1	false	WARL	0x0	Hardware Performance Monitoring Counter 11 Enable
hpm12	12	1	false	WARL	0x0	Hardware Performance Monitoring Counter 12 Enable
hpm13	13	1	false	WARL	0x0	Hardware Performance Monitoring Counter 13 Enable
hpm14	14	1	false	WARL	0x0	Hardware Performance Monitoring Counter 14 Enable
hpm15	15	1	false	WARL	0x0	Hardware Performance Monitoring Counter 15 Enable
hpm16	16	1	false	WARL	0x0	Hardware Performance Monitoring Counter 16 Enable
hpm17	17	1	false	WARL	0x0	Hardware Performance Monitoring Counter 17 Enable
hpm18	18	1	false	WARL	0x0	Hardware Performance Monitoring Counter 18 Enable
hpm19	19	1	false	WARL	0x0	Hardware Performance Monitoring Counter 19 Enable
hpm20	20	1	false	WARL	0x0	Hardware Performance Monitoring Counter 20 Enable
hpm21	21	1	false	WARL	0x0	Hardware Performance Monitoring Counter 21 Enable
hpm22	22	1	false	WARL	0x0	Hardware Performance Monitoring Counter 22 Enable

hpm23	23	1	false	WARL	0x0	Hardware Performance Monitoring Counter 23 Enable
hpm24	24	1	false	WARL	0x0	Hardware Performance Monitoring Counter 24 Enable
hpm25	25	1	false	WARL	0x0	Hardware Performance Monitoring Counter 25 Enable
hpm26	26	1	false	WARL	0x0	Hardware Performance Monitoring Counter 26 Enable
hpm27	27	1	false	WARL	0x0	Hardware Performance Monitoring Counter 27 Enable
hpm28	28	1	false	WARL	0x0	Hardware Performance Monitoring Counter 28 Enable
hpm29	29	1	false	WARL	0x0	Hardware Performance Monitoring Counter 29 Enable
hpm30	30	1	false	WARL	0x0	Hardware Performance Monitoring Counter 30 Enable
hpm31	31	1	false	WARL	0x0	Hardware Performance Monitoring Counter 31 Enable

hgeie

Address	0x0607
Size	64
Reset Value	0x0000000000000000
Description	Hypervisor guest external interrupt-enable register.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
hard0_0	0	1	false	WARL	0x0	Read-only zeros
guestexternalinterruptswarl	1	5	false	WARL	0x0	Ascalon supports up to 5 guest supervisor-level interrupt files
hard0_1	6	58	false	WARL	0x0	Read-only zeros

hvien

Address	0x0608
Size	64
Reset Value	0x0000000000000000
Description	Hypervisor virtual interrupt enables

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
hard0_0	0	13	false	WARL	0x0	Hardwired 0
lcofip	13	1	false	WARL	0x0	Local Count Overflow Interrupt
rsvd6414	14	50	-	WPRI	-	Reserved

hvictl

Address	0x0609

Size	64
Reset Value	0x0000000000000000
Description	Hypervisor virtual interrupt control

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
iprio	0	8	false	WARL	0x0	Interrupt Priority
ipriom	8	1	false	WARL	0x0	IPRIO Mode
dpr	9	1	false	WARL	0x0	Default Priority Rank
rsvd1510	10	6	-	WPRI	-	Reserved
iid	16	6	false	WARL	0x0	Interrupt Identity
rsvd2922	22	8	-	WPRI	-	Reserved
vti	30	1	false	WARL	0x0	Virtual Trap Interrupt control
rsvd6431	31	33	-	WPRI	-	Reserved

henvcfg

Address	0x060A
Size	64
Reset Value	0x0000000000000000
Description	Hypervisor environment configuration register.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
fiom	0	1	false	WARL	0x0	Fence of I/O implies Memory
wpri_0	1	3	false	WPRI	0x0	WPRI
cbie	4	2	false	WARL	0x0	Cache Block Invalidate instruction Enable -- Enables the execution of CBO.INVAL in a lower privilege mode
cbcfe	6	1	false	WARL	0x0	Cache Block Clean and Flush instruction enable -- Enables execution of CBO.CLEAN and CBO.FLUSH in a lower privilege mode
cbze	7	1	false	WARL	0x0	Cache Block Zero instruction Enable -- Enables execution of CBO.ZERO in a lower privilege mode
wpri_1	8	24	false	WPRI	0x0	WPRI
pmm	32	2	false	WARL	0x0	Enables pointer masking for VS-mode
wpri_2	34	27	false	WPRI	0x0	WPRI
hade	61	1	false	WARL	0x0	Enables hardware updating of PTE A/D bits during VS-stage address translation
pbmte	62	1	false	WARL	0x0	Enables Svpbmt extension for VS-stage address translation
vstce	63	1	false	WARL	0x0	Enables VSTimecmp for VS-mode

hstateen0

Address	0x060C
Size	64
Reset Value	0x0000000000000000
Description	Hypervisor State Enable 0

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
c	0	1	false	WARL	0x0	Controls access to any and all custom state
fcsr	1	1	false	WARL	0x0	Controls access to fcsr CSR
jvt	2	1	false	WARL	0x0	Controls access to JVT CSR
wpri_0	3	54	false	WPRI	0x0	WPRI
context	57	1	false	WARL	0x0	Controls access to the scontext CSR
imsic	58	1	false	WARL	0x0	Controls access to IMSIC state
aia	59	1	false	WARL	0x0	Controls access to all state introduced by the Ssaia extension
csrind	60	1	false	WARL	0x0	Controls access to siselect, sireg*, vsiselect, vsireg* CSRs
wpri_1	61	1	false	WPRI	0x0	WPRI
envcfg	62	1	false	WARL	0x0	Controls access to the senvcfg CSR
se0	63	1	false	WARL	0x0	Controls access to the sstateen0 CSR

hstateen1

Address	0x060D
Size	64
Reset Value	0x0000000000000000
Description	Hypervisor State Enable 1

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
wpri	0	63	false	WPRI	0x0	WPRI
se1	63	1	false	WARL	0x0	Controls access to the sstateen1 CSR

hstateen2

Address	0x060E
Size	64
Reset Value	0x0000000000000000
Description	Hypervisor State Enable 2

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
wpri	0	63	false	WPRI	0x0	WPRI
se2	63	1	false	WARL	0x0	Controls access to the sstateen2 CSR

hstateen3

Address	0x060F
Size	64
Reset Value	0x0000000000000000

Description	Hypervisor State Enable 3

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
wpri	0	63	false	WPRI	0x0	WPRI
se3	63	1	false	WARL	0x0	Controls access to the sstateen3 CSR

htval

Address	0x0643
Size	64
Reset Value	0x0000000000000000
Description	Hypervisor Trap Value Register

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
htval	0	64	false	WARL	0x0	Hypervisor Trap Value Register

hip

Address	0x0644
Size	64
Reset Value	0x0000000000000000
Description	Hypervisor interrupt pending.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
rsvd00	0	1	-	WPRI	-	Reserved
hard0_0	1	1	false	WARL	0x0	Hardwired 0
vssip	2	1	false	WARL	0x0	Virtual Supervisor Software Interrupt Pending
hard0_1	3	1	false	WARL	0x0	Hardwired 0
rsvd44	4	1	-	WPRI	-	Reserved
hard0_2	5	1	false	WARL	0x0	Hardwired 0
vstip	6	1	false	WARL	0x0	Virtual Supervisor Timer Interrupt Pending
hard0_3	7	1	false	WARL	0x0	Hardwired 0
rsvd88	8	1	-	WPRI	-	Reserved
hard0_4	9	1	false	WARL	0x0	Hardwired 0
vseip	10	1	false	WARL	0x0	Virtual Supervisor External Interrupt Pending
hard0_5	11	1	false	WARL	0x0	Hardwired 0
sgeip	12	1	false	WARL	0x0	Supervisor Guest External Interrupt Pending
rsvd6413	13	51	-	WPRI	-	Reserved

hvip

Address	0x0645
Size	64
Reset Value	0x0000000000000000

Description	Hypervisor virtual interrupt pending.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
rsvd00	0	1	-	WPRI	-	Reserved
hard0_0	1	1	true	WARL	0x0	Hardwired 0
vssip	2	1	true	WARL	0x0	Virtual Supervisor Software Interrupt Pending
hard0_1	3	1	true	WARL	0x0	Hardwired 0
rsvd44	4	1	-	WPRI	-	Reserved
hard0_2	5	1	true	WARL	0x0	Hardwired 0
vstip_virt	6	1	true	WARL	0x0	Virtual Supervisor Timer Interrupt Pending
hard0_3	7	1	true	WARL	0x0	Hardwired 0
rsvd88	8	1	-	WPRI	-	Reserved
hard0_4	9	1	true	WARL	0x0	Hardwired 0
vseip_virt	10	1	true	WARL	0x0	Virtual Supervisor External Interrupt Pending
hard0_5	11	2	true	WARL	0x0	Hardwired 0
lcofip_virt	13	1	true	WARL	0x0	Local Count Overflow Interrupt Pending
rsvd6414	14	50	-	WPRI	-	Reserved

hviprio1

Address	0x0646
Size	64
Reset Value	0x0000000000000000
Description	Hypervisor VS-level interrupt priorities 1 -- Assumed to be 0 for Athena. Lives in MC for this limited implementation

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
hviprio1	0	64	false	WARL	0x0	Hypervisor VS-level interrupt priorities 1

hviprio2

Address	0x0647
Size	64
Reset Value	0x0000000000000000
Description	Hypervisor VS-level interrupt priorities 2 -- Assumed to be 0 for Athena. Lives in MC for this limited implementation

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
hviprio2	0	64	false	WARL	0x0	Hypervisor VS-level interrupt priorities 2

htinst

Address	0x064A
Size	64

Reset Value	0x0000000000000000
Description	Hypervisor trap instruction (transformed).

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
htinst	0	64	false	WARL	0x0	Hypervisor trap Instruction Register

hgatp

Address	0x0680
Size	64
Reset Value	0x0000000000000000
Description	Hypervisor guest address translation and protection.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
ppn	0	44	false	WARL	0x0	Physical Page Number
vmid	44	14	false	WARL	0x0	Virtual Machine Identifier
warl0	58	2	false	WARL	0x0	Hardwired 0
mode	60	4	false	WARL	0x0	Address Translation and Protection Mode

mnscratch

Address	0x0740
Size	64
Reset Value	0x0000000000000000
Description	Resumable NMI scratch register

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
mnscratch	0	64	false	WARL	0x0	Resumable NMI scratch register

mnepc

Address	0x0741
Size	64
Reset Value	0x0000000000000000
Description	Resumable NMI program counter

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
rsvd00	0	1	-	WPRI	-	Reserved
addr	1	63	false	WARL	0x0	Resumable NMI program counter

mncause

Address	0x0742
Size	64
Reset Value	0x0000000000000000
Description	Resumable NMI cause

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
exceptioncode	0	63	false	WARL	0x0	Code identifying the last interrupt

interrupt	63	1	false	WARL	0x0	Indicates if the trap was caused by an interrupt

mnstatus	
Address	0x0744
Size	64
Reset Value	0x0000000000000000
Description	Resumable NMI status

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
rsvd20	0	3	-	WPRI	-	Reserved
nmie	3	1	false	WARL	0x0	Non Maskable Interrupt Enable
rsvd64	4	3	-	WPRI	-	Reserved
mnpv	7	1	false	WARL	0x0	Previous Virtualization Mode
rsvd108	8	3	-	WPRI	-	Reserved
mnpp	11	2	false	WARL	0x0	Previous Privilege Mode
rsvd6413	13	51	-	WPRI	-	Reserved

mseccfg	
Address	0x0747
Size	64
Reset Value	0x0000000000000000
Description	Machine security configuration register.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
mml	0	1	false	WARL	0x0	Machine Mode Lockdown
mmwp	1	1	false	WARL	0x0	Machine Mode Whitelist Policy
rlb	2	1	false	WARL	0x0	Rule Locking Bypass
wpri_0	3	5	false	WPRI	0x0	WPRI
useed	8	1	false	WARL	0x0	Controls access to seed CSR in U mode
sseed	9	1	false	WARL	0x0	Controls access to seed CSR in S or HS mode
wpri_1	10	22	false	WPRI	0x0	WPRI
pmm	32	2	false	WARL	0x0	Enables pointer masking for M-mode
wpri_2	34	30	false	WPRI	0x0	WPRI

tselect	
Address	0x07A0
Size	64
Reset Value	0x0000000000000000
Description	Trigger Select

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description

index	0	64	false	WARL	0x0	These are Trigger Registers from Debug Spec, not complete

dcsr	
Address	0x07B0
Size	64
Reset Value	0x0000000000000003
Description	Debug Control and Status

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
prv	0	2	false	WARL	0x3	Previous Privilege Mode
step	2	1	false	WARL	0x0	When set and not in Debug Mode, the hart will only execute a single instruction and then enter Debug Mode
nmip	3	1	true	WARL	0x0	When set, there is a Non-Maskable-Interrupt (NMI) pending for the hart
mprven	4	1	false	WARL	0x0	Enable mprv in mstatus taking effect
v	5	1	false	WARL	0x0	Previous Virtualization Mode
cause	6	3	false	WARL	0x0	Explains why Debug Mode was entered
stoptime	9	1	false	WARL	0x0	time CSR is frozen at the time that Debug Mode was entered
stopcount	10	1	false	WARL	0x0	Don't increment any hart-local counters while in Debug Mode or on ebreak instructions causing entry into Debug Mode
stepie	11	1	false	WARL	0x0	Enable Interrupts during single stepping with step set
ebreaku	12	1	false	WARL	0x0	ebreak instructions in U-mode enter Debug Mode
ebreaks	13	1	false	WARL	0x0	ebreak instructions in S-mode enter Debug Mode
hard0_1	14	1	false	WARL	0x0	Hardwired 0
ebreakm	15	1	false	WARL	0x0	ebreak instructions in M-mode enter Debug Mode
hard0_2	16	12	false	WARL	0x0	Hardwired 0
xdebugver	28	4	false	WARL	0x0	Version of Debug Specification implemented
rsvd6432	32	32	-	WPRI	-	Reserved

dpc	
Address	0x07B1

Size	64
Reset Value	0x0000000000000000
Description	Debug PC

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
dpc	0	64	false	WARL	0x0	Debug PC

dscratch0

Address	0x07B2
Size	64
Reset Value	0x0000000000000000
Description	Debug Scratch Register 0

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
dscratch0	0	64	false	WARL	0x0	Debug Scratch Register 0

dscratch1

Address	0x07B3
Size	64
Reset Value	0x0000000000000000
Description	Debug Scratch Register 1

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
dscratch1	0	64	false	WARL	0x0	Debug Scratch Register 1

c_matp

Address	0x07C7
Size	32
Reset Value	0x00000000
Description	Machine address translation and protection.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
swid	0	1	false	WARL	0x0	Secure World Identifier
rsvd321	1	31	-	WPRI	-	Reserved

mcycle

Address	0x0B00
Size	64
Reset Value	0x0000000000000000
Description	Machine cycle counter.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
cycle	0	64	true	WARL	0x0	Counter value

minstret

Address	0x0B02

Size	64
Reset Value	0x0000000000000000
Description	Machine instructions-retired counter.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
instret	0	64	true	WARL	0x0	Counter value

mhpmcounter3

Address	0x0B03
Size	64
Reset Value	0x0000000000000000
Description	Machine performance-monitoring counter.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
hpmcounter3	0	64	true	WARL	0x0	Counter value

mhpmcounter4

Address	0x0B04
Size	64
Reset Value	0x0000000000000000
Description	Machine performance-monitoring counter.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
hpmcounter4	0	64	true	WARL	0x0	Counter value

mhpmcounter5

Address	0x0B05
Size	64
Reset Value	0x0000000000000000
Description	Machine performance-monitoring counter.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
hpmcounter5	0	64	true	WARL	0x0	Counter value

mhpmcounter6

Address	0x0B06
Size	64
Reset Value	0x0000000000000000
Description	Machine performance-monitoring counter.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
hpmcounter6	0	64	true	WARL	0x0	Counter value

mhpmcounter7

Address	0x0B07
Size	64

Reset Value	0x0000000000000000
Description	Machine performance-monitoring counter.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
hpmcounter7	0	64	true	WARL	0x0	Counter value

mhpmcounter8

Address	0x0B08
Size	64
Reset Value	0x0000000000000000
Description	Machine performance-monitoring counter.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
hpmcounter8	0	64	true	WARL	0x0	Counter value

mhpmcounter9

Address	0x0B09
Size	64
Reset Value	0x0000000000000000
Description	Machine performance-monitoring counter.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
hpmcounter9	0	64	true	WARL	0x0	Counter value

mhpmcounter10

Address	0x0B0A
Size	64
Reset Value	0x0000000000000000
Description	Machine performance-monitoring counter.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
hpmcounter10	0	64	true	WARL	0x0	Counter value

mhpmcounter11

Address	0x0B0B
Size	64
Reset Value	0x0000000000000000
Description	Machine performance-monitoring counter.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
hpmcounter11	0	64	false	WARL	0x0	Counter value

mhpmcounter12

Address	0x0B0C
Size	64
Reset Value	0x0000000000000000

Description	Machine performance-monitoring counter.					
Field Name	**Bit Offset**	**Bit Width**	**Volatile**	**Access**	**Reset Value**	**Description**
hpmcounter12	0	64	false	WARL	0x0	Counter value

mhpmcounter13

Address	0x0B0D					
Size	64					
Reset Value	0x0000000000000000					
Description	Machine performance-monitoring counter.					
Field Name	**Bit Offset**	**Bit Width**	**Volatile**	**Access**	**Reset Value**	**Description**
hpmcounter13	0	64	false	WARL	0x0	Counter value

mhpmcounter14

Address	0x0B0E					
Size	64					
Reset Value	0x0000000000000000					
Description	Machine performance-monitoring counter.					
Field Name	**Bit Offset**	**Bit Width**	**Volatile**	**Access**	**Reset Value**	**Description**
hpmcounter14	0	64	false	WARL	0x0	Counter value

mhpmcounter15

Address	0x0B0F					
Size	64					
Reset Value	0x0000000000000000					
Description	Machine performance-monitoring counter.					
Field Name	**Bit Offset**	**Bit Width**	**Volatile**	**Access**	**Reset Value**	**Description**
hpmcounter15	0	64	false	WARL	0x0	Counter value

mhpmcounter16

Address	0x0B10					
Size	64					
Reset Value	0x0000000000000000					
Description	Machine performance-monitoring counter.					
Field Name	**Bit Offset**	**Bit Width**	**Volatile**	**Access**	**Reset Value**	**Description**
hpmcounter16	0	64	false	WARL	0x0	Counter value

mhpmcounter17

Address	0x0B11					
Size	64					
Reset Value	0x0000000000000000					
Description	Machine performance-monitoring counter.					

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
hpmcounter17	0	64	false	WARL	0x0	Counter value

mhpmcounter18

Address	0x0B12
Size	64
Reset Value	0x0000000000000000
Description	Machine performance-monitoring counter.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
hpmcounter18	0	64	false	WARL	0x0	Counter value

mhpmcounter19

Address	0x0B13
Size	64
Reset Value	0x0000000000000000
Description	Machine performance-monitoring counter.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
hpmcounter19	0	64	false	WARL	0x0	Counter value

mhpmcounter20

Address	0x0B14
Size	64
Reset Value	0x0000000000000000
Description	Machine performance-monitoring counter.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
hpmcounter20	0	64	false	WARL	0x0	Counter value

mhpmcounter21

Address	0x0B15
Size	64
Reset Value	0x0000000000000000
Description	Machine performance-monitoring counter.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
hpmcounter21	0	64	false	WARL	0x0	Counter value

mhpmcounter22

Address	0x0B16
Size	64
Reset Value	0x0000000000000000
Description	Machine performance-monitoring counter.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description

hpmcounter22	0	64	false	WARL	0x0	Counter value

mhpmcounter23	
Address	0x0B17
Size	64
Reset Value	0x0000000000000000
Description	Machine performance-monitoring counter.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
hpmcounter23	0	64	false	WARL	0x0	Counter value

mhpmcounter24	
Address	0x0B18
Size	64
Reset Value	0x0000000000000000
Description	Machine performance-monitoring counter.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
hpmcounter24	0	64	false	WARL	0x0	Counter value

mhpmcounter25	
Address	0x0B19
Size	64
Reset Value	0x0000000000000000
Description	Machine performance-monitoring counter.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
hpmcounter25	0	64	false	WARL	0x0	Counter value

mhpmcounter26	
Address	0x0B1A
Size	64
Reset Value	0x0000000000000000
Description	Machine performance-monitoring counter.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
hpmcounter26	0	64	false	WARL	0x0	Counter value

mhpmcounter27	
Address	0x0B1B
Size	64
Reset Value	0x0000000000000000
Description	Machine performance-monitoring counter.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description

hpmcounter27	0	64	false	WARL	0x0	Counter value

mhpmcounter28						
Address	0x0B1C					
Size	64					
Reset Value	0x0000000000000000					
Description	Machine performance-monitoring counter.					
Field Name	**Bit Offset**	**Bit Width**	**Volatile**	**Access**	**Reset Value**	**Description**
hpmcounter28	0	64	false	WARL	0x0	Counter value

mhpmcounter29						
Address	0x0B1D					
Size	64					
Reset Value	0x0000000000000000					
Description	Machine performance-monitoring counter.					
Field Name	**Bit Offset**	**Bit Width**	**Volatile**	**Access**	**Reset Value**	**Description**
hpmcounter29	0	64	false	WARL	0x0	Counter value

mhpmcounter30						
Address	0x0B1E					
Size	64					
Reset Value	0x0000000000000000					
Description	Machine performance-monitoring counter.					
Field Name	**Bit Offset**	**Bit Width**	**Volatile**	**Access**	**Reset Value**	**Description**
hpmcounter30	0	64	false	WARL	0x0	Counter value

mhpmcounter31						
Address	0x0B1F					
Size	64					
Reset Value	0x0000000000000000					
Description	Machine performance-monitoring counter.					
Field Name	**Bit Offset**	**Bit Width**	**Volatile**	**Access**	**Reset Value**	**Description**
hpmcounter31	0	64	false	WARL	0x0	Counter value

c_async_int_status						
Address	0x0BF2					
Size	64					
Reset Value	0x0000000000000000					
Description	Machine Local Interrupt Status Register					
Field Name	**Bit Offset**	**Bit Width**	**Volatile**	**Access**	**Reset Value**	**Description**

pa	0	56	true	WARL	0x0	PA associated with the local interrupt
rsvd_0	56	7	true	WARL	0x0	Reserved
valid	63	1	true	WARL	0x0	Valid bit

cycle	
Address	0x0C00
Size	64
Reset Value	0x0000000000000000
Description	Cycle counter for RDCYCLE instruction.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
cycle	0	64	false	Read-Only	0x0	Counter value

time	
Address	0x0C01
Size	64
Reset Value	0x0000000000000000
Description	Timer for RDTIME instruction. Read-only shadow of mtime MMR.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
time	0	64	true	Read-Only	0x0	Counter value

instret	
Address	0x0C02
Size	64
Reset Value	0x0000000000000000
Description	Instructions-retired counter for RDINSTRET instruction.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
instret	0	64	false	Read-Only	0x0	Counter value

hpmcounter3	
Address	0x0C03
Size	64
Reset Value	0x0000000000000000
Description	Performance-monitoring counter.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
hpmcounter3	0	64	false	Read-Only	0x0	Counter value

hpmcounter4	
Address	0x0C04
Size	64
Reset Value	0x0000000000000000
Description	Performance-monitoring counter.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
hpmcounter4	0	64	false	Read-Only	0x0	Counter value

hpmcounter5

Address	0x0C05
Size	64
Reset Value	0x0000000000000000
Description	Performance-monitoring counter.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
hpmcounter5	0	64	false	Read-Only	0x0	Counter value

hpmcounter6

Address	0x0C06
Size	64
Reset Value	0x0000000000000000
Description	Performance-monitoring counter.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
hpmcounter6	0	64	false	Read-Only	0x0	Counter value

hpmcounter7

Address	0x0C07
Size	64
Reset Value	0x0000000000000000
Description	Performance-monitoring counter.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
hpmcounter7	0	64	false	Read-Only	0x0	Counter value

hpmcounter8

Address	0x0C08
Size	64
Reset Value	0x0000000000000000
Description	Performance-monitoring counter.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
hpmcounter8	0	64	false	Read-Only	0x0	Counter value

hpmcounter9

Address	0x0C09
Size	64
Reset Value	0x0000000000000000
Description	Performance-monitoring counter.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description

hpmcounter9	0	64	false	Read-Only	0x0	Counter value

hpmcounter10						
Address	0x0C0A					
Size	64					
Reset Value	0x0000000000000000					
Description	Performance-monitoring counter.					
Field Name	**Bit Offset**	**Bit Width**	**Volatile**	**Access**	**Reset Value**	**Description**
hpmcounter10	0	64	false	Read-Only	0x0	Counter value

hpmcounter11						
Address	0x0C0B					
Size	64					
Reset Value	0x0000000000000000					
Description	Performance-monitoring counter.					
Field Name	**Bit Offset**	**Bit Width**	**Volatile**	**Access**	**Reset Value**	**Description**
hpmcounter11	0	64	false	Read-Only	0x0	Counter value

hpmcounter12						
Address	0x0C0C					
Size	64					
Reset Value	0x0000000000000000					
Description	Performance-monitoring counter.					
Field Name	**Bit Offset**	**Bit Width**	**Volatile**	**Access**	**Reset Value**	**Description**
hpmcounter12	0	64	false	Read-Only	0x0	Counter value

hpmcounter13						
Address	0x0C0D					
Size	64					
Reset Value	0x0000000000000000					
Description	Performance-monitoring counter.					
Field Name	**Bit Offset**	**Bit Width**	**Volatile**	**Access**	**Reset Value**	**Description**
hpmcounter13	0	64	false	Read-Only	0x0	Counter value

hpmcounter14						
Address	0x0C0E					
Size	64					
Reset Value	0x0000000000000000					
Description	Performance-monitoring counter.					
Field Name	**Bit Offset**	**Bit Width**	**Volatile**	**Access**	**Reset Value**	**Description**

hpmcounter14	0	64	false	Read-Only	0x0	Counter value

hpmcounter15						
Address	0x0C0F					
Size	64					
Reset Value	0x0000000000000000					
Description	Performance-monitoring counter.					
Field Name	**Bit Offset**	**Bit Width**	**Volatile**	**Access**	**Reset Value**	**Description**
hpmcounter15	0	64	false	Read-Only	0x0	Counter value

hpmcounter16						
Address	0x0C10					
Size	64					
Reset Value	0x0000000000000000					
Description	Performance-monitoring counter.					
Field Name	**Bit Offset**	**Bit Width**	**Volatile**	**Access**	**Reset Value**	**Description**
hpmcounter16	0	64	false	Read-Only	0x0	Counter value

hpmcounter17						
Address	0x0C11					
Size	64					
Reset Value	0x0000000000000000					
Description	Performance-monitoring counter.					
Field Name	**Bit Offset**	**Bit Width**	**Volatile**	**Access**	**Reset Value**	**Description**
hpmcounter17	0	64	false	Read-Only	0x0	Counter value

hpmcounter18						
Address	0x0C12					
Size	64					
Reset Value	0x0000000000000000					
Description	Performance-monitoring counter.					
Field Name	**Bit Offset**	**Bit Width**	**Volatile**	**Access**	**Reset Value**	**Description**
hpmcounter18	0	64	false	Read-Only	0x0	Counter value

hpmcounter19						
Address	0x0C13					
Size	64					
Reset Value	0x0000000000000000					
Description	Performance-monitoring counter.					
Field Name	**Bit Offset**	**Bit Width**	**Volatile**	**Access**	**Reset Value**	**Description**

hpmcounter19	0	64	false	Read-Only	0x0	Counter value

hpmcounter20	
Address	0x0C14
Size	64
Reset Value	0x0000000000000000
Description	Performance-monitoring counter.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
hpmcounter20	0	64	false	Read-Only	0x0	Counter value

hpmcounter21	
Address	0x0C15
Size	64
Reset Value	0x0000000000000000
Description	Performance-monitoring counter.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
hpmcounter21	0	64	false	Read-Only	0x0	Counter value

hpmcounter22	
Address	0x0C16
Size	64
Reset Value	0x0000000000000000
Description	Performance-monitoring counter.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
hpmcounter22	0	64	false	Read-Only	0x0	Counter value

hpmcounter23	
Address	0x0C17
Size	64
Reset Value	0x0000000000000000
Description	Performance-monitoring counter.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
hpmcounter23	0	64	false	Read-Only	0x0	Counter value

hpmcounter24	
Address	0x0C18
Size	64
Reset Value	0x0000000000000000
Description	Performance-monitoring counter.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description

hpmcounter24	0	64	false	Read-Only	0x0	Counter value

hpmcounter25						
Address	0x0C19					
Size	64					
Reset Value	0x0000000000000000					
Description	Performance-monitoring counter.					
Field Name	**Bit Offset**	**Bit Width**	**Volatile**	**Access**	**Reset Value**	**Description**
hpmcounter25	0	64	false	Read-Only	0x0	Counter value

hpmcounter26						
Address	0x0C1A					
Size	64					
Reset Value	0x0000000000000000					
Description	Performance-monitoring counter.					
Field Name	**Bit Offset**	**Bit Width**	**Volatile**	**Access**	**Reset Value**	**Description**
hpmcounter26	0	64	false	Read-Only	0x0	Counter value

hpmcounter27						
Address	0x0C1B					
Size	64					
Reset Value	0x0000000000000000					
Description	Performance-monitoring counter.					
Field Name	**Bit Offset**	**Bit Width**	**Volatile**	**Access**	**Reset Value**	**Description**
hpmcounter27	0	64	false	Read-Only	0x0	Counter value

hpmcounter28						
Address	0x0C1C					
Size	64					
Reset Value	0x0000000000000000					
Description	Performance-monitoring counter.					
Field Name	**Bit Offset**	**Bit Width**	**Volatile**	**Access**	**Reset Value**	**Description**
hpmcounter28	0	64	false	Read-Only	0x0	Counter value

hpmcounter29						
Address	0x0C1D					
Size	64					
Reset Value	0x0000000000000000					
Description	Performance-monitoring counter.					
Field Name	**Bit Offset**	**Bit Width**	**Volatile**	**Access**	**Reset Value**	**Description**

hpmcounter29	0	64	false	Read-Only	0x0	Counter value

hpmcounter30	
Address	0x0C1E
Size	64
Reset Value	0x0000000000000000
Description	Performance-monitoring counter.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
hpmcounter30	0	64	false	Read-Only	0x0	Counter value

hpmcounter31	
Address	0x0C1F
Size	64
Reset Value	0x0000000000000000
Description	Performance-monitoring counter.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
hpmcounter31	0	64	false	Read-Only	0x0	Counter value

vl	
Address	0x0C20
Size	64
Reset Value	0x0000000000000000
Description	Vector length

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
vl	0	64	false	Read-Only	0x0	Vector length

vtype	
Address	0x0C21
Size	64
Reset Value	0x8000000000000000
Description	Vector data type register

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
vlmul	0	3	true	WARL	0x0	Vector register group multiplier (LMUL) setting
vsew	3	3	true	WARL	0x0	Selected element width (SEW) setting
vta	6	1	true	WARL	0x0	Vector tail agnostic
vma	7	1	true	WARL	0x0	Vector mask agnostic
reserved	8	55	true	WARL	0x0	Reserved if non-zero
vill	63	1	true	WARL	0x1	Illegal value if set

vlenb

Address	0x0C22
Size	64
Reset Value	0x0000000000000020
Description	VLEN/8 (vector register length in bytes)

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
vlenb	0	64	false	Read-Only	0x20	VLEN/8 (vector register length in bytes)

scountovf

Address	0x0DA0
Size	64
Reset Value	0x0000000000000000
Description	HPM Counter Overflow bits

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
scountovf	0	32	true	Read-Only	0x0	HPM Counter Overflow bits
rsvd6432	32	32	-	WPRI	-	Reserved

stopi

Address	0x0DB0
Size	64
Reset Value	0x0000000000000000
Description	Supervisor top interrupt

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
iprio	0	8	true	Read-Only	0x0	Interrupt Priority
rsvd_15_8	8	8	true	Read-Only	0x0	Reserved
iid	16	12	true	Read-Only	0x0	Interrupt Identity
rsvd_63_28	28	36	true	Read-Only	0x0	Reserved

hgeip

Address	0x0E12
Size	64
Reset Value	0x0000000000000000
Description	Hypervisor guest external interrupt pending.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
hard0	0	1	true	Read-Only	0x0	Read-only zero
guestexternalinterrupts	1	63	true	Read-Only	0x0	Hypervisor guest external interrupts pending bits

vstopi

Address	0x0EB0

Size	64
Reset Value	0x0000000000000000
Description	Virtual supervisor top interrupt

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
iprio	0	8	true	Read-Only	0x0	Interrupt Priority
rsvd_15_8	8	8	true	Read-Only	0x0	Reserved
iid	16	12	true	Read-Only	0x0	Interrupt Identity
rsvd_63_28	28	36	true	Read-Only	0x0	Reserved

mvendorid

Address	0x0F11
Size	32
Reset Value	0x00000000
Description	Vendor ID.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
jedecparity	0	7	false	Read-Only	FIXME	Parity_ID: 0xA1 = 1010 0001 (MSB is an odd parity bit)
jedecbankm1	7	4	false	Read-Only	FIXME	JEDEC Bank = 16. This represents Jedec Bank -1 . ([15][0x21 - 1] = Tenstorrent Inc,)
rsvd3211	11	21	-	WPRI	-	Reserved

marchid

Address	0x0F12
Size	32
Reset Value	0x00000000
Description	Architecture ID.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
sharedcacheversion	0	8	false	Read-Only	FIXME	Shared Cache Version
microarchversion	8	8	false	Read-Only	FIXME	Micro-Architecture Version
archversion	16	8	false	Read-Only	FIXME	Architecture Version
ipname	24	8	false	Read-Only	FIXME	IP Name

mimpid

Address	0x0F13
Size	64
Reset Value	0x0000000000000000
Description	Implementation ID.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
rsvd_31_0	0	20	false	Read-Only	0x0	Reserved

releasecandidate	20	6	false	Read-Only	FIXME	Release Candidate
dropversion	26	2	false	Read-Only	FIXME	Drop Version
manid	28	4	false	Read-Only	FIXME	Man ID
stepmetalid	32	4	false	Read-Only	FIXME	Step Metal ID
stepbaseid	36	4	false	Read-Only	FIXME	Step Base ID
sharedcacheconfig	40	8	false	Read-Only	FIXME	Shared Cache Config
coreconfig	48	8	false	Read-Only	FIXME	Core Config
clusterconfig	56	8	false	Read-Only	FIXME	Cluster Config

mhartid

Address	0x0F14
Size	64
Reset Value	0x0000000000000000
Description	Hardware thread ID. (Starts from 0 and increment for each core)

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
hartidincluster	0	3	false	Read-Only	0x0	Hart ID for the core in a cluster
clusterid	3	4	false	Read-Only	0x0	Cluster ID (defined by external pins)
rsvd_63_7	7	57	false	Read-Only	0x0	Reserved for future use

mconfigptr

Address	0x0F15
Size	64
Reset Value	0x0000000000000000
Description	Pointer to configuration data structure.

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
mconfigptr	0	64	false	Read-Only	0x0	configuration pointer, may be hardwired

mtopi

Address	0x0FB0
Size	64
Reset Value	0x0000000000000000
Description	Machine top interrupt

Field Name	Bit Offset	Bit Width	Volatile	Access	Reset Value	Description
iprio	0	8	true	Read-Only	0x0	Interrupt Priority
rsvd_15_8	8	8	true	Read-Only	0x0	Reserved
iid	16	12	true	Read-Only	0x0	Interrupt Identity
rsvd_63_28	28	36	true	Read-Only	0x0	Reserved