Index by	Sh
Encoding	<u>Pseu</u>

 $\begin{array}{cccc} \underline{Base} & \underline{SIMD\&FP} & \underline{SVE} & \underline{SME} \\ \underline{Instructions} & \underline{Instructions} & \underline{Instructions} & \underline{Instructions} \end{array}$

STSMAXB, STSMAXLB

Atomic signed maximum on byte in memory, without return, atomically loads an 8-bit byte from memory, compares it against the value held in a register, and stores the larger value back to memory, treating the values as signed numbers.

- STSMAXB does not have release semantics.
- STSMAXLB stores to memory with release semantics, as described in *Load-Acquire*, *Store-Release*.

For information about memory accesses, see *Load/Store addressing modes*.

This is an alias of <u>LDSMAXB</u>, <u>LDSMAXAB</u>, <u>LDSMAXALB</u>, <u>LDSMAXLB</u>. This means:

- The encodings in this description are named to match the encodings of <u>LDSMAXB</u>, <u>LDSMAXAB</u>, <u>LDSMAXAB</u>, <u>LDSMAXAB</u>.
- The description of <u>LDSMAXB</u>, <u>LDSMAXAB</u>, <u>LDSMAXALB</u>, <u>LDSMAXLB</u> gives the operational pseudocode, any constrained unpredictable behavior, and any operational information for this instruction.

Integer (FEAT_LSE)

```
31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0

0 0 1 1 1 0 0 0 0 R 1 Rs 0 1 0 0 0 0 Rn 1 1 1 1 1

size A opc Rt
```

No memory ordering (R == 0)

```
STSMAXB <Ws>, [<Xn | SP>]

is equivalent to

LDSMAXB <Ws>, WZR, [<Xn | SP>]
```

and is always the preferred disassembly.

Release (R == 1)

```
STSMAXLB <Ws>, [<Xn|SP>]
is equivalent to
LDSMAXLB <Ws>, WZR, [<Xn|SP>]
and is always the preferred disassembly.
```

Assembler Symbols

<Ws> Is the 32-bit name of the general-purpose register holding

the data value to be operated on with the contents of the

memory location, encoded in the "Rs" field.

<Xn|SP> Is the 64-bit name of the general-purpose base register or

stack pointer, encoded in the "Rn" field.

Operation

The description of <u>LDSMAXB</u>, <u>LDSMAXAB</u>, <u>LDSMAXALB</u>, <u>LDSMAXLB</u> gives the operational pseudocode for this instruction.

Operational information

If PSTATE.DIT is 1, the timing of this instruction is insensitive to the value of the data being loaded or stored.

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