

Contents

1.	Overview	1
1.1	Scope	1
1.2	Compliance to this standard	1
1.3	Terminology	2
1.4	Conventions.....	2
1.5	Contents of this standard	2
1.6	Examples	3
2.	References.....	3
3.	Definitions.....	3
4.	Verification methodology	4
4.1	Combinational logic verification.....	5
4.2	Sequential logic verification.....	5
5.	Modeling hardware elements.....	6
5.1	Modeling combinational logic	6
5.2	Modeling edge-sensitive sequential logic	7
5.3	Modeling level-sensitive storage devices.....	10
5.4	Modeling three-state drivers.....	11
5.5	Support for values x and z.....	13
5.6	Modeling read-only memories (ROM)	13
5.7	Modeling random access memories (RAM)	15
6.	Pragmas.....	16
6.1	Synthesis attributes.....	16
6.2	Compiler directives and implicit-synthesis defined macros	27
6.3	Deprecated features	28
7.	Syntax	29
7.1	Lexical conventions.....	29
7.2	Data types	34
7.3	Expressions.....	39
7.4	Assignments	41
7.5	Gate and switch level modeling	42
7.6	User-defined primitives (UDPs).....	45
7.7	Behavioral modeling	46
7.8	Tasks and functions	52
7.9	Disabling of named blocks and tasks	55
7.10	Hierarchical structures.....	55
7.11	Configuring the contents of a design.....	61
7.12	Specify blocks	63
7.13	Timing checks	63
7.14	Backannotation using the standard delay format	63
7.15	System tasks and functions	63

7.16	Value change dump (VCD) files	63
7.17	Compiler directives	63
7.18	PLI	64
Annex A (informative) Syntax summary		65
A.1	Source text	65
A.2	Declarations	67
A.3	Primitive instances	72
A.4	Module and generated instantiation	74
A.5	UDP declaration and instantiation	75
A.6	Behavioral statements	76
A.7	Specify section	80
A.8	Expressions	85
A.9	General	89
Annex B (informative) Functional mismatches		93
B.1	Non-deterministic behavior	93
B.2	Pragmas	93
B.3	Using `ifdef	94
B.4	Incomplete sensitivity list	95
B.5	Assignment statements mis-ordered	96
B.6	Flip-flop with both asynchronous reset and asynchronous set	97
B.7	Functions	97
B.8	Casex	98
B.9	Casex	98
B.10	Making x assignments	99
B.11	Assignments in variable declarations	100
B.12	Timing delays	100