

JPL Coverage for CodeSonar®

JPL Rules refer to the JPL Institutional Coding Standards for the C Programming Language. JPL coding rules address software risks related to the use of multi-threaded software, building on the “Power of Ten” coding rules and the MISRA-C coding guidelines for safety-critical applications.

JPL Violations Detected by CodeSonar:

The following table lists the CodeSonar warning classes that are associated with JPL rules.

JPL Rule	CodeSonar Mnemonic	CodeSonar Warning Class
2	BUILD.WALL	Not All Warnings Are Enabled
	BUILD.WERROR	Warnings Not Treated As Errors
3	LANG.STRUCT.ULOOP	Potential Unbounded Loop
4	LANG.FUNCS.RECURSION	Recursion
5	ALLOC.POSTINIT	Dynamic Allocation After Initialization
7	CONCURRENCY.BADFUNC.DELAY	Task Delay Function
9	CONCURRENCY.LOCK.ORDER	Conflicting Lock Order
	CONCURRENCY.LOCK.MISMATCH	Lock/Unlock Mismatch
	CONCURRENCY.LOCK.TWICE	Locked Twice
	CONCURRENCY.LOCK.NOLOCK	Missing Lock Acquisition
	CONCURRENCY.LOCK.NOUNLOCK	Missing Lock Release
	CONCURRENCY.LOCK.NESTED	Nested Locks
	CONCURRENCY.LOCK.UNKNOWN	Unknown Lock
11	LANG.STRUCT.GOTO	Goto Statement
	BADFUNC.LONGJMP	Use of longjmp
	BADFUNC.SETJMP	Use of setjmp
12	LANG.STRUCT.ENUMINIT	Inconsistent Enumerator Initialization
13	LANG.STRUCT.DECLTYPE	Global Variable Declared with Different Types
	LANG.STRUCT.DECLMULTI	Multiple Declarations of a Global
	LANG.STRUCT.SCOPE.FILE	Scope Could Be File Static
	LANG.STRUCT.SCOPE.LOCAL	Scope Could Be Local Static
14	LANG.FUNCS.IRV	Ignored Return Value
15	LANG.STRUCT.UPD	Unchecked Parameter Dereference
16	LANG.FUNCS.ASSERTS	Not Enough Assertions
17	LANG.TYPE.BASIC	Basic Numerical Type Used
19	LANG.STRUCT.SIDEEFFECT	Condition Contains Side Effects

20	LANG.PREPROC.COND	Conditional Compilation
	LANG.PREPROC.MACROEND	Macro Does Not End With } or)
	LANG.PREPROC.MACROSTART	Macro Does Not Start With { or (
	LANG.PREPROC.PASTE	Macro Uses ## Operator
	LANG.PREPROC.RECURSIVE	Recursive Operator
	LANG.PREPROC.UNBALANCED	Unbalanced Parenthesis
	LANG.PREPROC.VARIADIC	Variadic Macro
21	LANG.PREPROC.DEFINFN	Macro Defined in Function Body
	LANG.PREPROC.UNDEFINFN	Macro Undefined in Function Body
22	LANG.PREPROC.UNDEF	Use of #undef
23	LANG.PREPROC.NOIF	No Matching #if
	LANG.PREPROC.NOENDIF	No Matching #endif
24	LANG.STRUCT.MULTIDECL	Multiple Declarations On Line
	LANG.STRUCT.MULTISTMT	Multiple Statements On Line
25	LANG.FUNCS.TOOLONG	Function Too Long
	LANG.FUNCS.TMFP	Too Many Parameters
26	LANG.STRUCT.TMID	Too Much Indirection in Declaration
27	LANG.STRUCT.TMD	Too Many Dereferences
28	LANG.PREPROC.ARROW	Macro Uses -> Operator
	LANG.PREPROC.BRACES	Macro Uses [] Operator
	LANG.PREPROC.STAR	Macro Uses Unary * Operator
	LANG.STRUCT.PIT	Pointer Type Inside Typedef
30	LANG.STRUCT.FUN	Function Pointer Conversion
31	LANG.PREPROC.CBI	Code Before #include