Peer Review Checklist: Embedded C Code

Before Review:

0 ____ Code compiles clean with extensive warning checks (e.g. MISRA C rules)

Reviewer #1:

1 ____ Commenting: top of file, start of function, code that needs an explanation

2 ____ Style is consistent and follows style guidelines

3 ____ Proper modularity, module size, use of .h files and #includes

4 ____ No orphans (redundant, dead, commented out, unused code & variables)

5 ____ Conditional expressions evaluate to a boolean value; no assignments

6 ____ Parentheses used to avoid operator precedence confusion

7 ____ All switch statements have a default clause; preferably an error trap

Reviewer #2:

8 ____ Single point of exit from each function

9 ____ Loop entry and exit conditions correct; minimum continue/break complexity

10 ____ Conditionals should be minimally nested (generally only one or two deep)

11 ____ All functions can be unit tested; SCC or SF complexity less than 10 to 15

12 ____ Use const and inline instead of #define; minimize conditional compilation

13 ____ Avoid use of magic numbers (constant values embedded in code)

14 ____ Use strong typing (includes: sized types, structs for coupled data, const)

15 ____ Variables have well chosen names and are initialized at definition

Reviewer #3:

16 ____ Minimum scope for all functions and variables; essentially no globals

17 ____ Concurrency issues? (locking, volatile keyword, minimize blocking time)

18 ____ Input parameter checking is done (style, completeness)

19 ____ Error handling for function returns is appropriate

20 ____ Null pointers, division by zero, null strings, boundary conditions handled

21 ____ Floating point use is OK (equality, NaN, INF, roundoff); use of fixed point

22 ____ Buffer overflow safety (bound checking, avoid unsafe string operations)

All Reviewers

23 ____ Does the code match the detailed design (correct functionality)?

24 ____ Is the code as simple, obvious, and easy to review as possible?

For TWO Reviewers assign items: Reviewer#1: 1-11; 23-24 Reviewer#2: 12-24

Items that are covered with static analysis can be removed from checklist