

NOTES – UNLESS OTHERWISE SPECIFIED:

FABRICATE TO MEET OR EXCEED THE REQUIREMENTS OF  
IPC-6012 FOR CLASS 2 AS DEFINED IN IPC-6011.  
MINIMUM TRACE WIDTH .008, MINIMUM CLEARANCE .008 mil

MATERIAL: LAMINATE FLAME RETARDANT EPOXY-GLASS  
PER IPC-4101/126, 170 DEGREE C MINIMUM Tg,  
DECOMPOSITION TEMPERATURE 340 DEGREES C MINIMUM,  
T288 DELAMINATION TIME OF 35 MINUTES MINIMUM,  
MAXIMUM THICKNESS EXPANSION OF 3% FROM 50-260  
DEGREES C.  
PREPREG MATERIALS PER /126 SHALL MEET THE SAME  
REQUIREMENTS.  
INNER LAYER FOIL PER IPC-4562, TYPE E, GRADE 3,  
CLASS 2.

PLATING: ELECTRO-DEPOSITED COPPER, HOLE WALL  
PLATING AVERAGE MINIMUM .001, NO LESS THAN .00098

FINISH: ENIG (Electroless Nickel / Immersion Gold)  
125-200 micro inches nickel/2-5 micro inches gold.

REGISTRATION: MINIMUM ANNULAR RING .001, NO  
BREAKOUT ALLOWED, TEARDROPPING ALLOWED IF MIN  
CLEARANCE MAINTAINED.

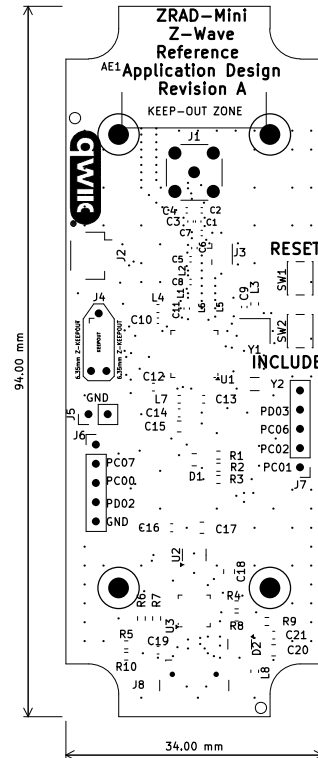
FABRICATION: NON-FUNCTIONAL INNER-LAYER PADS  
SHALL NOT BE REMOVED FROM LAYERS 1, 2, 3, N-2,  
N-1, AND N.  
THIEVING IS ALLOWED IF 0.1 MINIMUM CLEARANCE  
TO CONDUCTIVE FEATURES IS MAINTAINED

SOLDER MASK: LPI BOTH SIDES OVER BARE COPPER  
PER IPC-SM-840, CLASS T, .0005" THICK, COLOR:  
MATTE GREEN. ALL FIDUCIALS, LANDS AND HOLES,  
EXCEPT VIAS, SHALL BE FREE OF MASK MATERIAL.

SILKSCREEN: WHITE NON-CONDUCTIVE EPOXY. INK  
MUST WITHSTAND PEAK TEMPERATURE OF 260 DEGREES  
C 60 SECONDS, 3 CYCLES WITHOUT DISCOLORATION.

MARKING: VENDOR LOGO FOLLOWED BY 94V-0 AND  
FOUR-DIGIT DATE CODE.

ITAR not required. IPC-A-610 Class 2.  
This is a cost sensitive consumer product.



Do NOT Populate:  
SW1, SW2, AE1, J1-J7  
NE,NW,SE,SW, FUD1, FUD2  
C1, C2, Y2

PCB Thickness .062" nominal

LAYER STACKUP	File Name
Silkscreen TOP	*.GTO
Solder Mask TOP	*.GTS
1 Signal Layer TOP 1.0 OZ Cu	*.GTL
CORE - 0.059" +/- .004"	
2 Signal Layer BOT 1.0 OZ Cu	*.GBL
Solder Mask BOT	*.GBS
Silkscreen Bottom	*.GBO
Stencil TOP	*.GTP
Edge Cuts	*.GM1
Excellon Drill File	*.DRL
Component Position File	*.POS

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**Z-Wave Alliance**

Sheet:

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**Title: ZRADmini Z-Wave Reference Application Design**

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