

**Hybrid assembly procedure
Revision # 102**

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definitions:

run card= documentation and records of assembly of lot

traveler= documentation and record for each specific unit!

Step	notes	supplied documents	notes to vendor
1	Audit of kits to supplied BoM	BoM, drawings, gerber files, shipping instructions, specifications + traveler	
2	Visual inspection of hybrid circuits		
3	Wire Bond Pull tests	Test wire bonding on unused part of circuit (test one or two circuit boards from lot)	run card/kit: Please record results in the run card for this lot
4	Relabel ID#	stamp ID with military ink	ID is written in pen, please stamp with same ID number
A	Surface mount (SMT)		
4	apply solder paste w/screen	Vendor will make screen for solder paste using Gerber files gerber file	
5	pick and place (automated)	Pick and Place machine uses Gerber file for part placement and denoting fiducially markers for the automated visual alignment. gerber file	
6	put through oven	Must discuss properties of circuit to determine appropriate temperature profile	run card/kit: Please record oven settings in run card for this lot
7	SMT visual inspection		
8	ringout test	test for shorts to ground for each line on cable: connect circuit to cable which is connected to a card that can be tested with an ohm meter set on diode mode. Look for shorts between the readout lines on the cable. We will supply test board	traveler/unit: Record any negative results in traveler for that unit
B	Die attach		
9	visual inspection of die	do not use die with scratches or chips etc...	
10	application of epoxy		conductive epoxy
11	hand placement of die	Die (chip) attachment is done by hand ?	traveler/unit: We need the technician to record the serial number of each placed die according to its "U" location on diagram. Traveler form will be provided.
12	bake out epoxy		
C	Wire Bonding		
13	clean pads?	must supply printed map of wire bonds- (Ar plasma) hopefully not necessary-- only if contaminated drawings	
14	wire bonding		
15	visual inspection		
16	encapsulization of bonds?	we do not request encapsulization at this time	
D	Nut Attachment	epoxy (3M 2216) PEEK nuts to hybrid Requested tolerance: .001" placement diagram supplied	
17	Packing	place in shipping containers supplied with kit (much care with open wire bonds!!)	we will supply special shipping containers
18	Shipping		