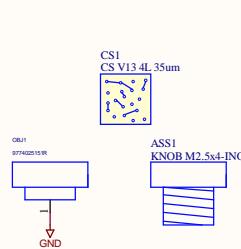


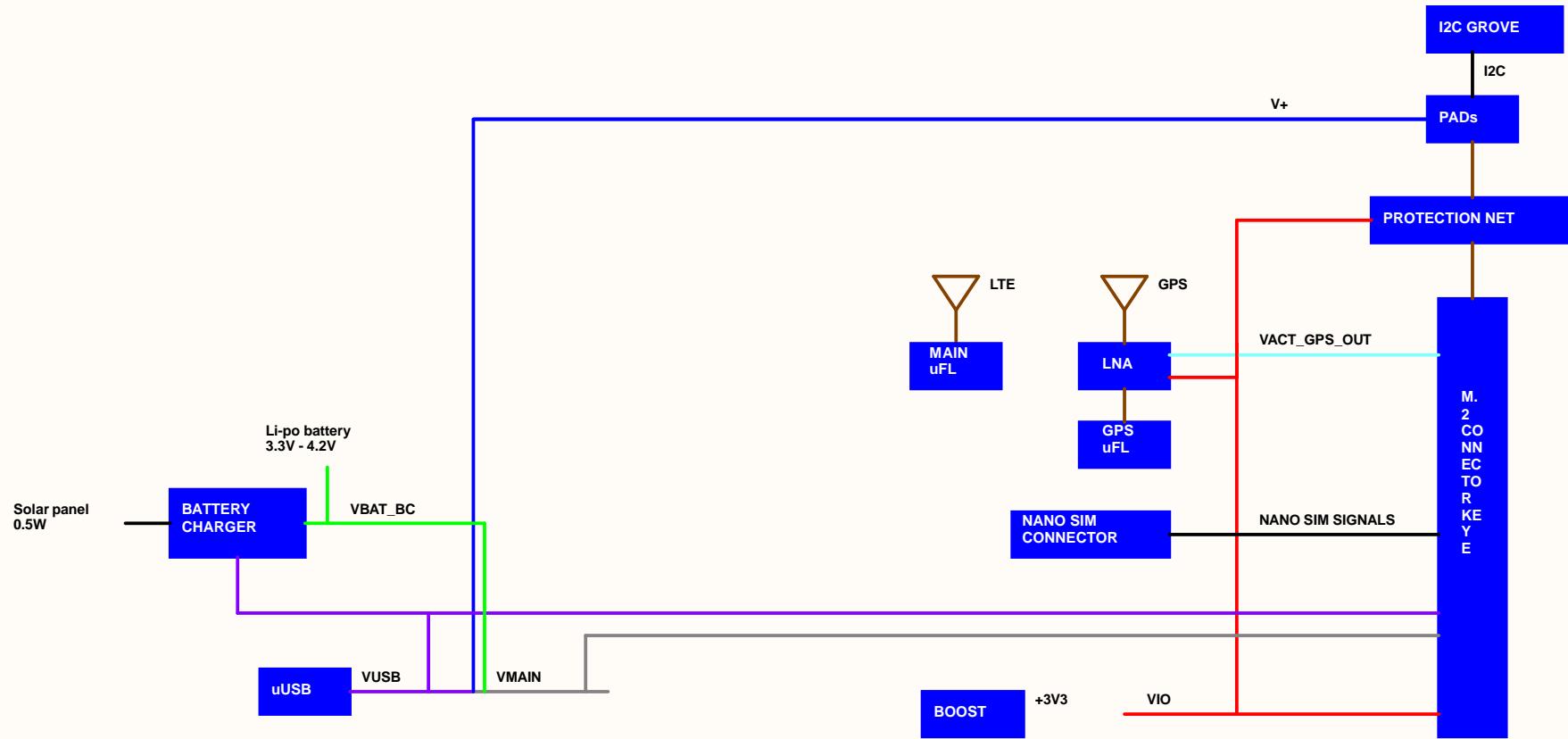
Revision	Date	Author	Description
1.7	2020-09-10	J.Chiu	Initial version, based on Notecarrier AL V13 from FAE
1.7-v5	2020-09-14	J.Chiu	3.3V switching supply changes: feather connector changes; new versioning scheme.
1.7-v6	2020-09-29	J.Chiu	Enable PowerSave on 3.3V switching supply. Change RS pullup to 470E. Part parameter cleanup to help with BOM generation. Additional BOM update: PCB manufacturability changes: Longer Feather module.
1.7-v7	2020-10-16	J.Chiu	Add missing 50 ohm rule for GND feed line. Stackup adjustments to support proto build with calculations that seem to better estimate 50 ohms. Add filter cap on GND feedline.



FID1 FID2

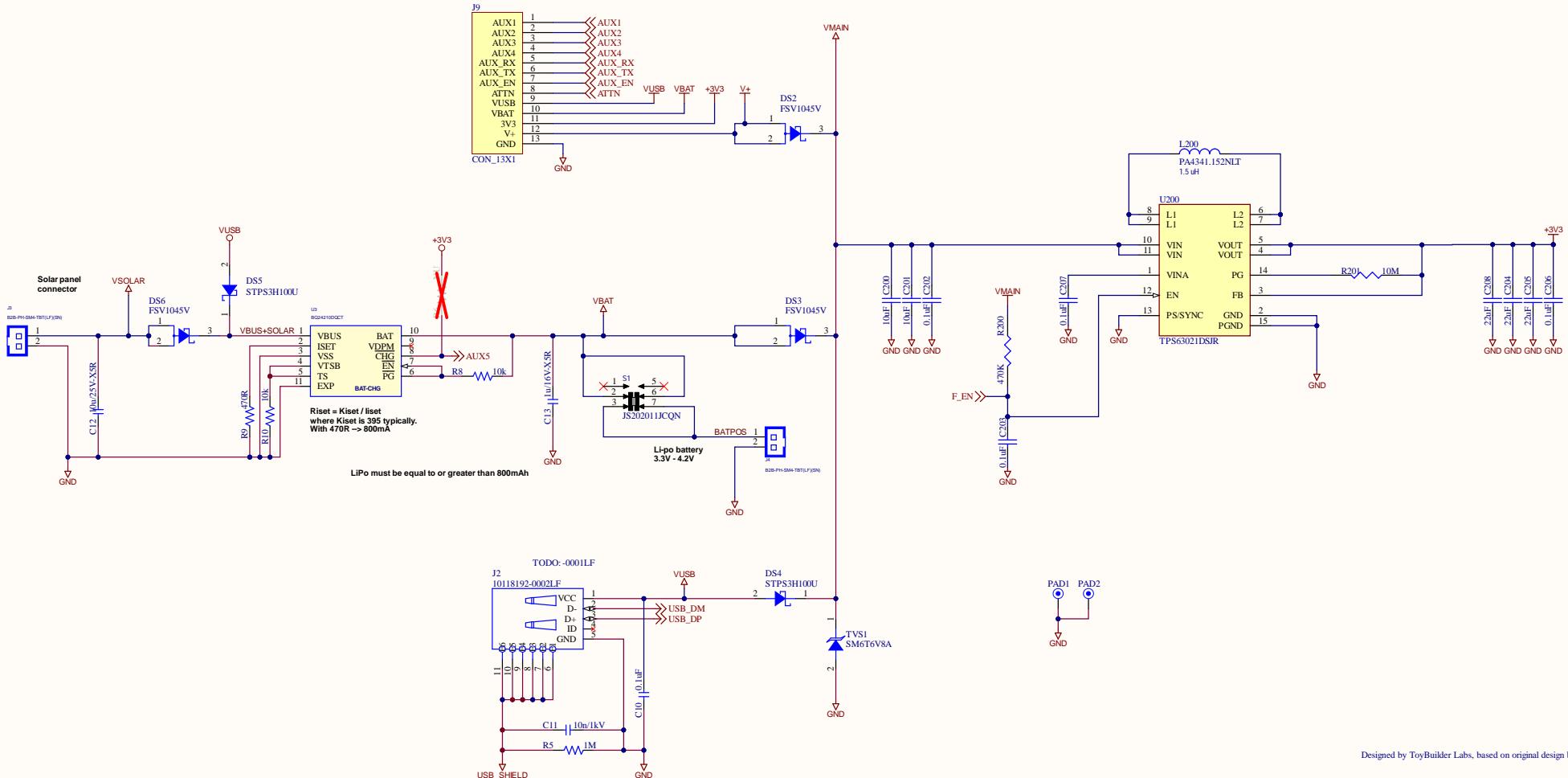
Designed by ToyBuilder Labs, based on original design by FAE

<p>Address: Mail: Phone:</p>	Project Notecarrier		Designed by FAE TECHNOLOGY Via C. Battisti, 136 24025 Gazzaniga (Bg), Italy Mail: info@fae.technology Phone: +39357398130
	Board		
	Project Code 2017-3047		
	Internal Code		
Data	Rev	Rev changes	
*	13	See Revision Page	
Copyright © 2020 Blues Inc			



Designed by ToyBuilder Labs, based on original design by FAE

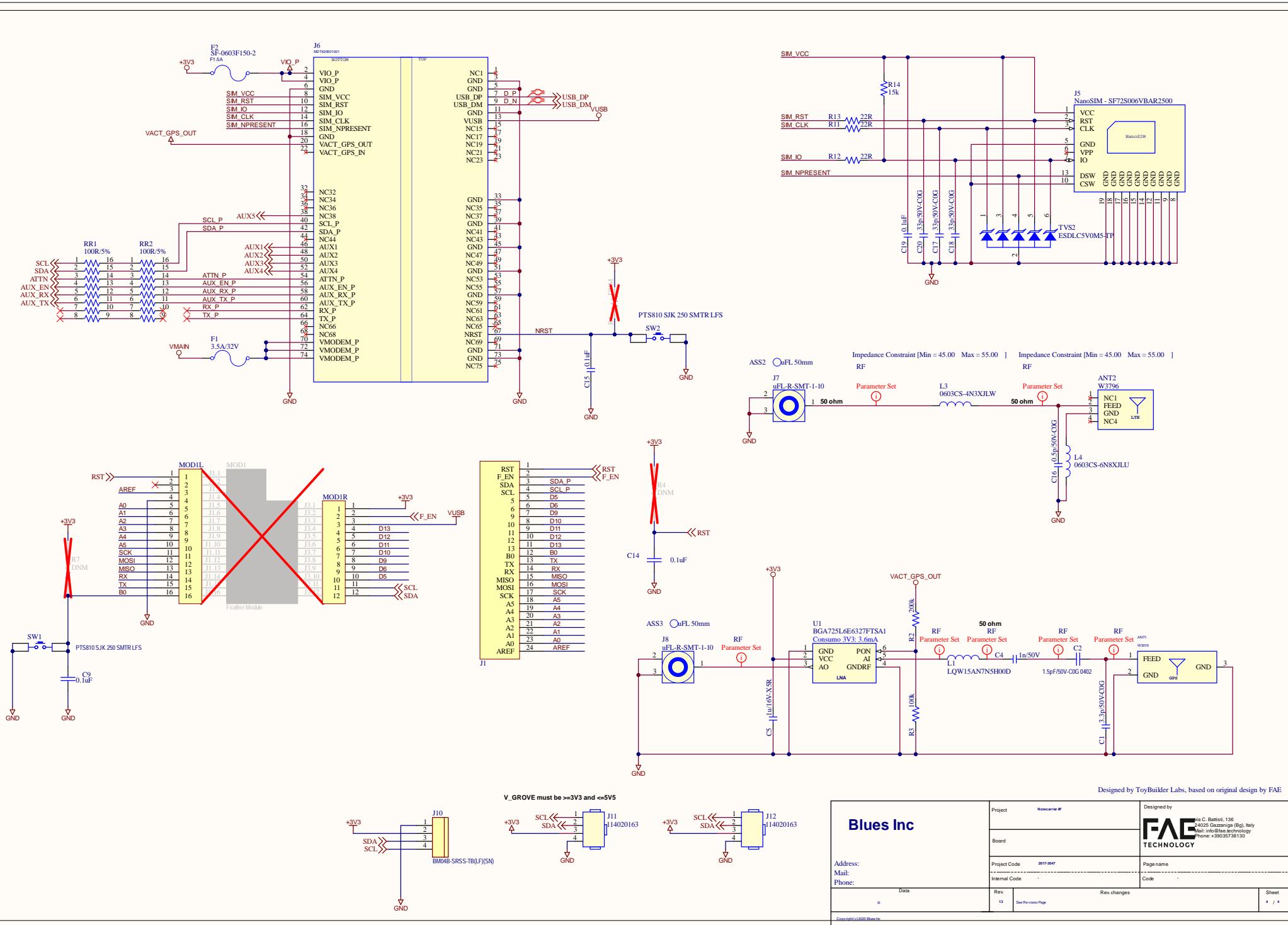
Blues Inc	Project	Noncarriar#	Designed by via C. Battisti, 136 24025 Gazzana (Bg), Italy Mail: info@blues.technology Phone: +39337398130
	Board		
	Project Code	2017-3047	
	Internal Code		Page name
	Data	Rev	Rev changes
*	13	See Revision Page	Code
			Sheet
			2 / 4

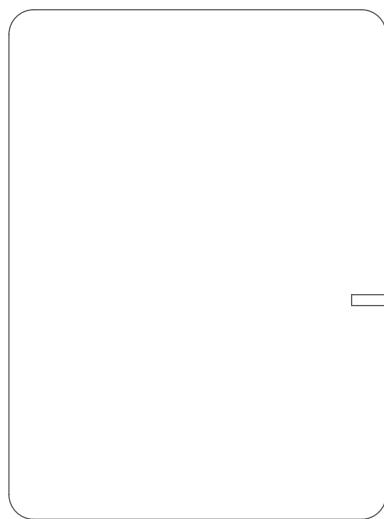


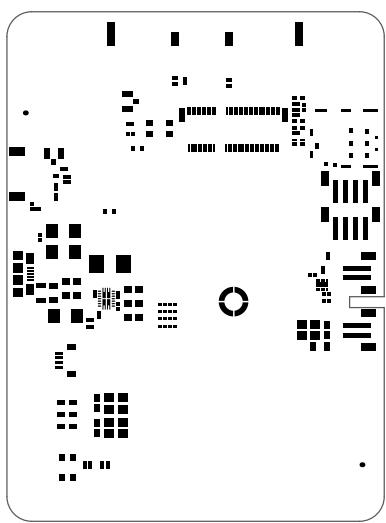
Designed by ToyBuilder Labs, based on original design by FAE

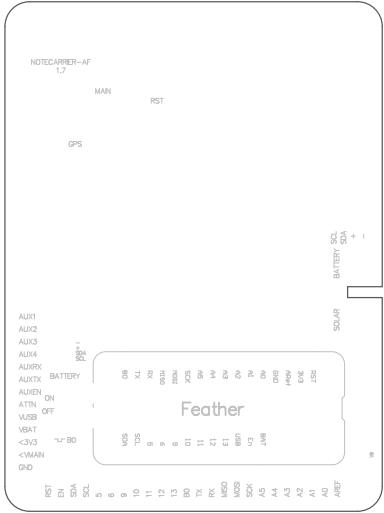
Blues Inc	Project	Noncarriar #	Designed by FAE TECHNOLOGY via C. Battisti, 136 24025 Gazzaniga (Bg), Italy Mail: info@fae.technology Phone: +39353738130
	Board		
	Project Code	2017-3047	
Address: Mail: Phone:	Data Internal Code	Rev changes	Page name
	*	13 See Revision Page	Code

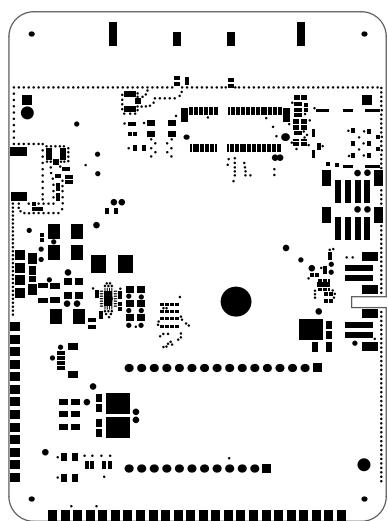
Copyright © 2020 Blues Inc.

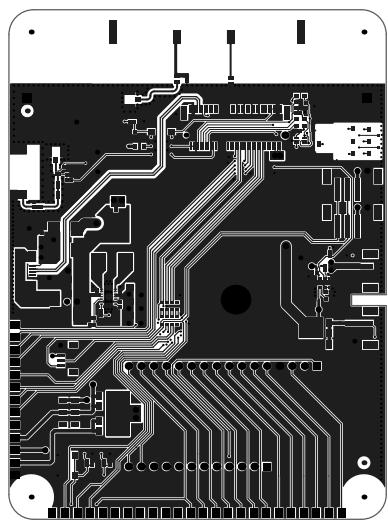




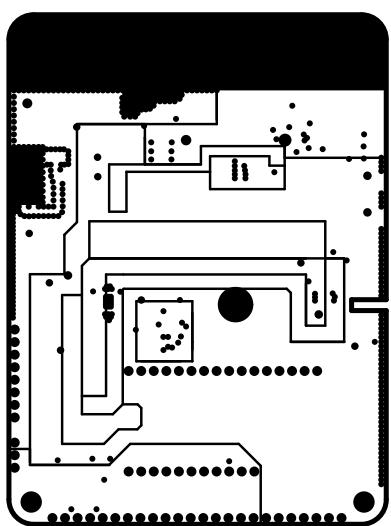


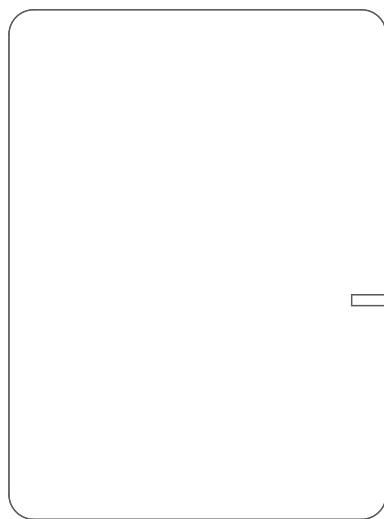


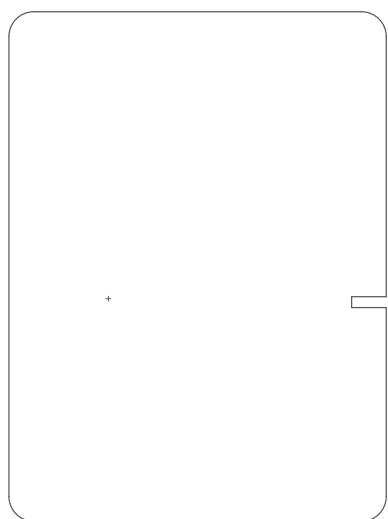


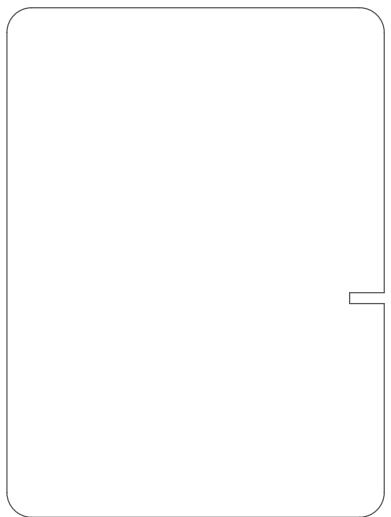




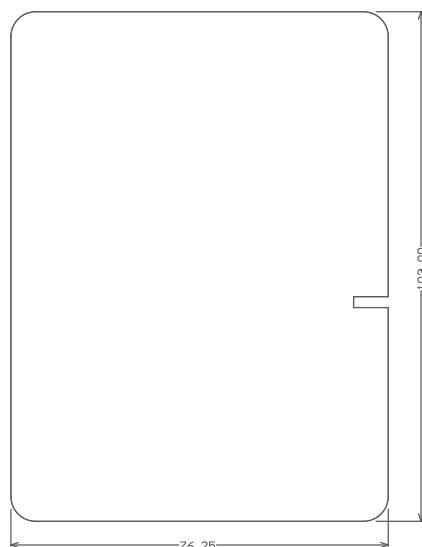








Printout Set for Class All Layers'
Printout Set for Class All Layers'

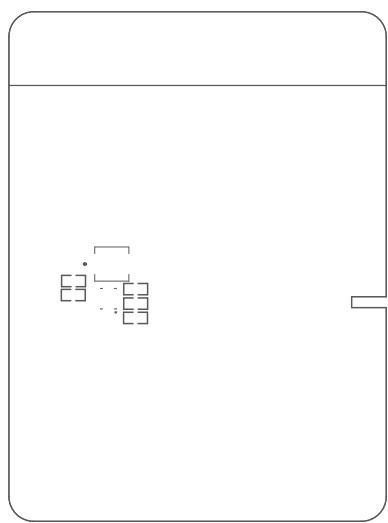


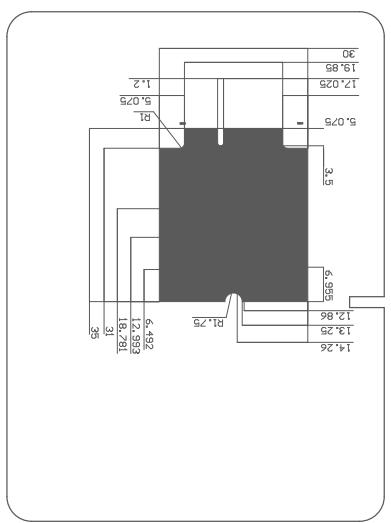
TOP and BOTTOM thickness layer shown in the image above contains +20um (from IPC-A-600 Class 2) of plating

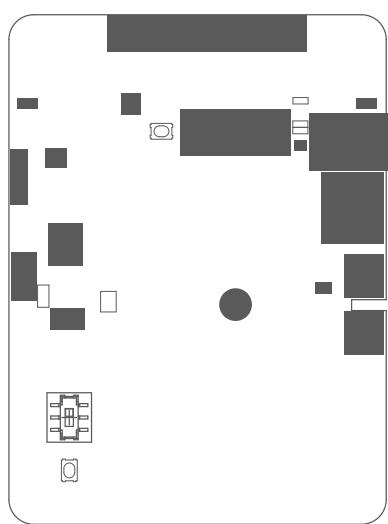
IMPEDANCE CONTROL TABLE					
LAYER	TRACE (MM)	SPACING (MM)	IMPEDANCE SINGLE-ENDED	IMPEDANCE DIFFERENTIAL	TOLERANCE
TOP	0.40	0.40	50 ohm	NA	+/- 10%
TOP	0.26	0.2	NA	90 ohm	+/- 10%

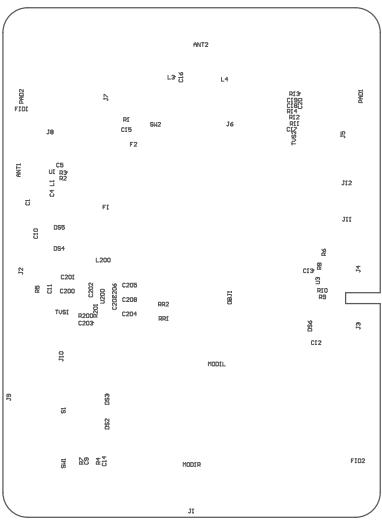
MANUFACTURING SPECIFICATIONS			
BOARD SIZE (XxYxZ)	76.25x103.00x1.6mm	IPC-6012 - IPC-A-600	CLASS 2
BOARD TOLERANCE (XMTZ)	+/-0.2 I +/-0.2 I +/-0.10%	E-TESTING	YES
NO OF LAYERS	4	UL-MARKING	NO
BASE COPPER OUTSIDE	17um	MICROVIA (hole < 100um)	NO
BASE COPPER INSIDE	35um	BURD VIA	NO
FINISH	ENIG	BURD VIA	NO
SOLDER COLOR	GREEN	VIA FILL/VIA IN PAD	NO
SILKSCREEN COLOR	WHITE	MIN. VIA SIZE	0.2mm
DEIECTRIC MATERIAL	FR4-TG150	MIN TRACE SPACING	0.15mm
IMPEDANCE CONTROL	YES	OUTER LAYER MIN TRACE WIDTH	0.2mm
CTI	175V	INNER LAYER MIN TRACE WIDTH	0.2mm

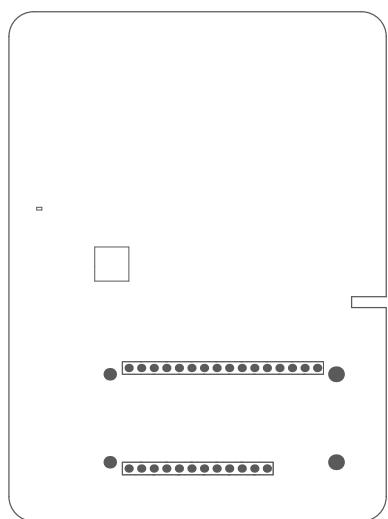
Project name	Board name
Note carrier	1.7-v8
Designed by FAE Technology SpA - Gazzaniga (BG) - Italy - Modified by ToyBuilder Labs	
Project Code	
Internal Code	-
Rev.	Size Page
A3	Scale
	1:1
	Data

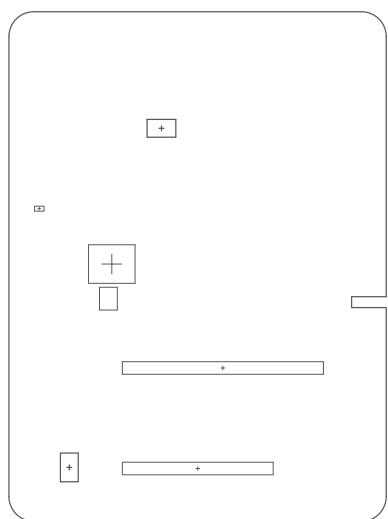




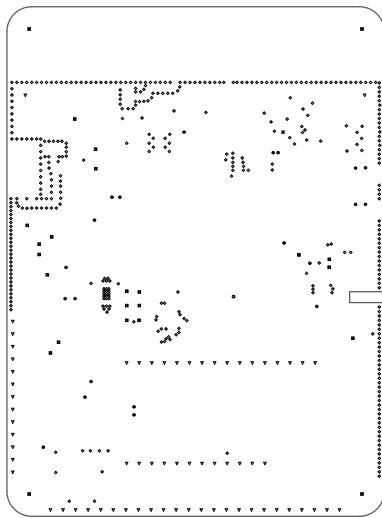


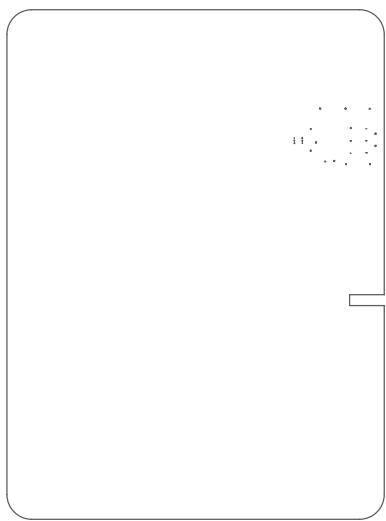


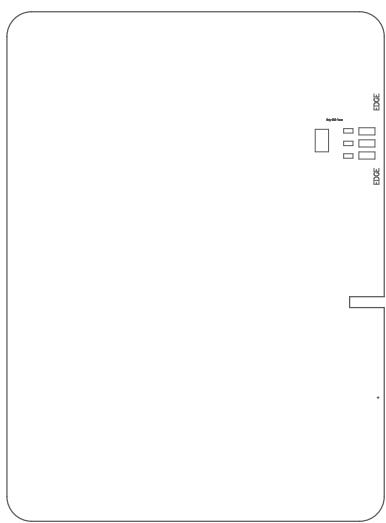


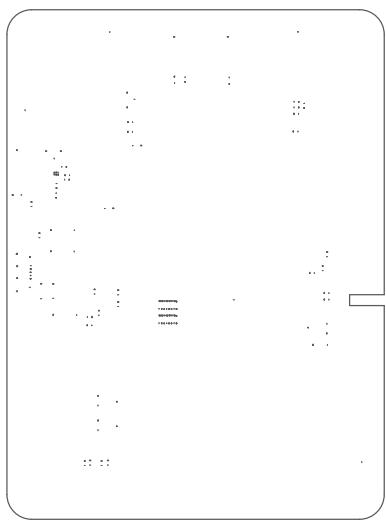


Symbol	Count	Hole Size	Plated	Hole Type	Drill Layer Pair	Via/Pad	Pad Shape	Template	Description	Hole Tolerance (+)	Hole Tolerance (-)	Hole Length	Routed Path Length
✖	1	43.31mil <1.100mm>	NPTH	Round	Top Layer - Bottom Layer	Pad	Rounded	c100hn10				-	-
✖	1	62.99mil <1.600mm>	NPTH	Round	Top Layer - Bottom Layer	Pad	Rounded	c152hn160				-	-
✖	1	145.67mil <3.700mm>	PTH	Round	Top Layer - Bottom Layer	Pad	Rounded	c600h370z152				-	-
✖	4	129.92mil <3.300mm>	NPTH	Round	Top Layer - Bottom Layer	Pad	Rounded	c100hn330(Tol0-D)		0.00mil <0.000mm>	0.00mil <0.000mm>	-	-
■	20	19.69mil <0.500mm>	PTH	Round	Top Layer - Bottom Layer	Via	Rounded	v100h50				-	-
●	20	28.00mil <0.711mm>	PTH	Round	Top Layer - Bottom Layer	Via	Rounded	v127h71				-	-
▽	67	39.37mil <1.000mm>	PTH	Round	Top Layer - Bottom Layer	Pad	(Mixed)	(Mixed)				-	-
◇	396	7.87mil <0.200mm>	PTH	Round	Top Layer - Bottom Layer	Via	Rounded	(Mixed)				-	-
510 Total													









For PCBWay Prototype:

Layer	Name	Material	Thickness	Constant	Gerber
	Top Overlay				GTO
	Top Solder	Solder Resist	0.010mm	3.5	GTS
1	Top Layer	Copper	0.035mm		GTL
	Dielectric_1	FR-4	0.198mm	4.9	
2	Ground Plane	Copper	0.035mm		GPI
	Dielectric_3	FR-4	0.894mm	3.96	
3	Power Plane	Copper	0.035mm		GP2
	Dielectric_4	FR-4	0.198mm	4.9	
4	Bottom Layer	Copper	0.035mm		GBL
	Bottom Solder	Solder Resist	0.010mm	3.5	GBS
	Bottom Overlay				GBO

Note: other 4-layer stackup for prototype is acceptable if L1-L2 and L3-L4 thickness is between 0.175mm and 0.225mm

FAE Stackup (For production):

