

A

B

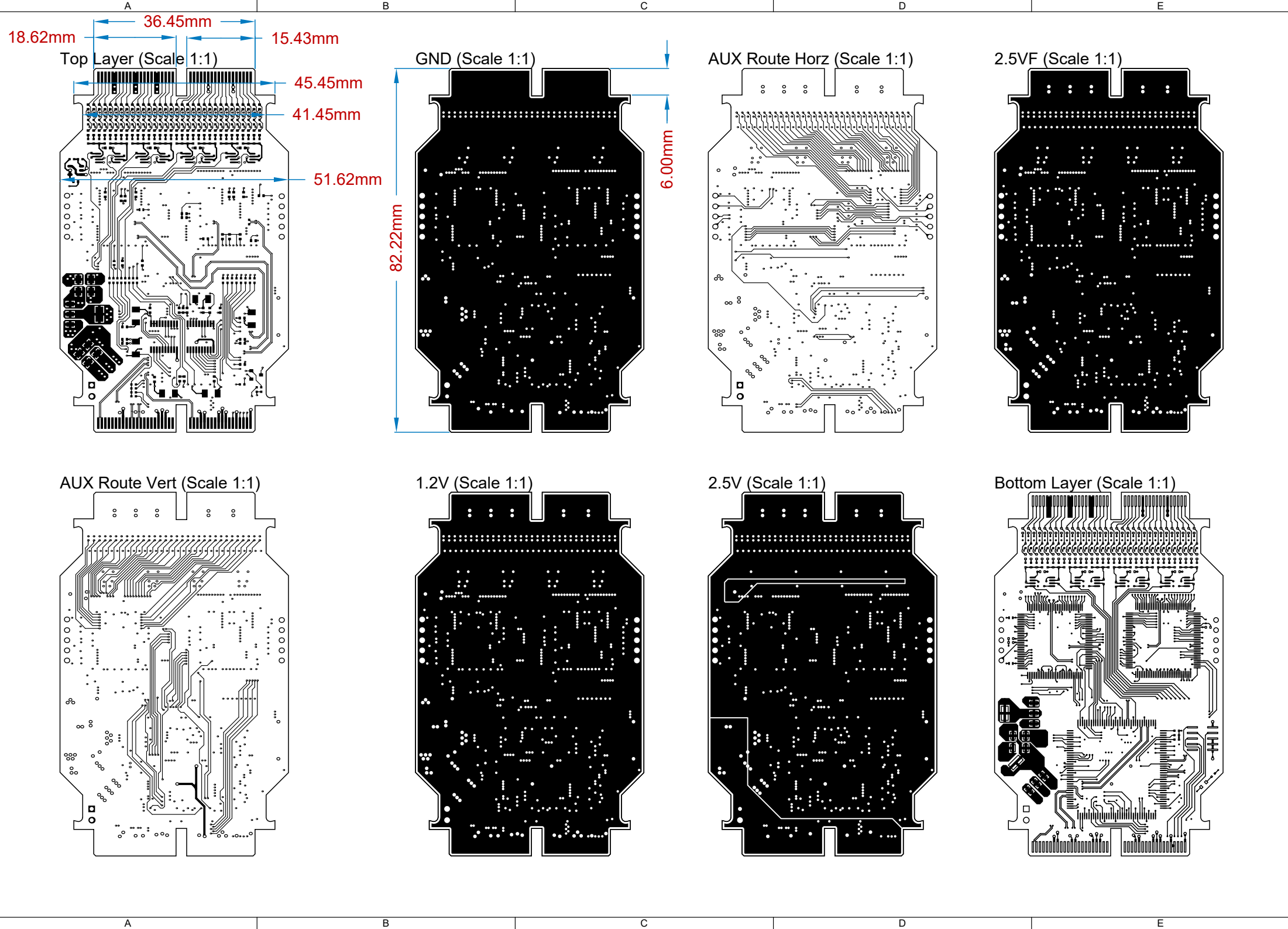
C

D

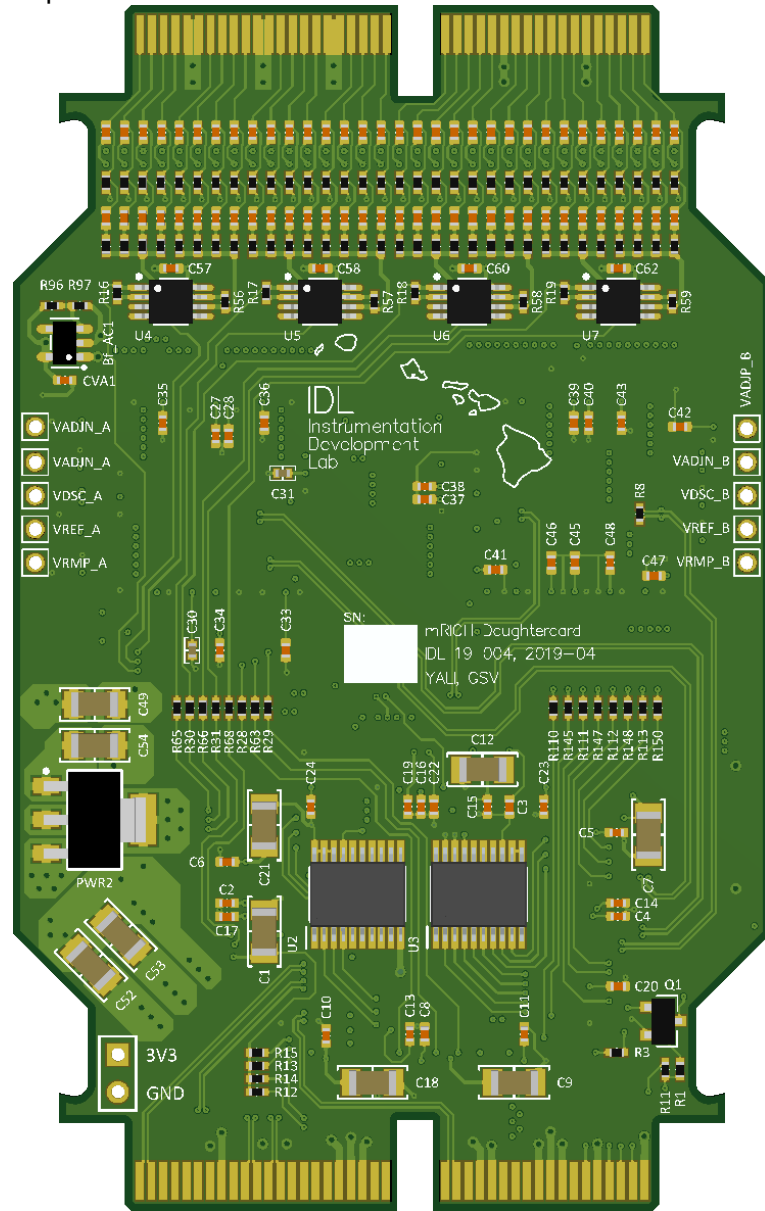
E

Layer Stack Legend

Material	Layer	Thickness	Dielectric Material	Type	Gerber
	Top Paste			Paste Mask	GTP
	Top Overlay			Legend	GTO
Surface Material	Top Solder	0.01mm	Solder Resist	Solder Mask	GTS
Copper	Top Layer	0.04mm		Signal	GTL
Core		0.25mm	FR-4	Dielectric	
Copper	GND	0.04mm		Internal Plane	GP1
Prepreg		0.13mm	FR-4	Dielectric	
Copper	AUX Route Horz	0.04mm		Signal	G1
Prepreg		0.13mm	FR-4	Dielectric	
Copper	2.5VF	0.04mm		Internal Plane	GP2
Core		0.25mm		Dielectric	
Copper	AUX Route Vert	0.04mm		Signal	G2
Core		0.25mm	FR-4	Dielectric	
Copper	1.2V	0.04mm		Internal Plane	GP3
Prepreg		0.13mm		Dielectric	
Copper	2.5V	0.04mm		Internal Plane	GP4
Core		0.25mm	FR-4	Dielectric	
Copper	Bottom Layer	0.04mm		Signal	GBL
Surface Material	Bottom Solder	0.01mm	Solder Resist	Solder Mask	GBS
	Bottom Overlay			Legend	GBO
	Bottom Paste			Paste Mask	GBP
Total thickness: 1.70mm					



Top View

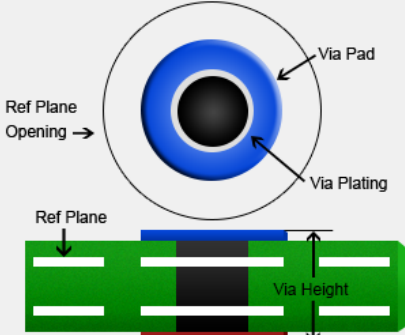


Drill Table

Symbol	Count	Hole Size	Plated	Hole Tolerance
◇	484	0.15mm	Plated	None
⊗	26	0.20mm	Plated	None
⊕	66	0.40mm	Plated	None
○	10	0.89mm	Plated	None
□	2	0.90mm	Plated	None
588 Total				

The current for the vias calculated as follows

Via Characteristics



Via Hole Diameter: **0,2 mm**

Internal Pad Diameter: **0,4 mm**

Ref Plane Opening Diam: **1,016 mm**

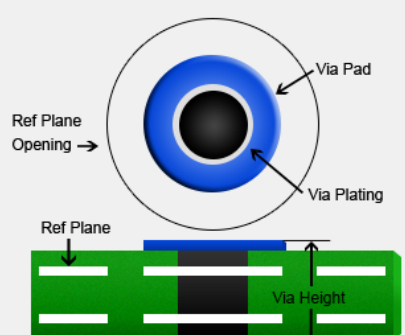
Via Height: **1,575 mm**

Via Plating Thickness: **0,0254 mm**

IPC-2152 with modifiers mode

Via Capacitance: 0.2612 pF	Via DC Resistance: 0.00163 Ohms	Power Dissipation: 0.00537 Watts
Via Inductance: 1.4017 nH	Resonant Frequency: 8318.294 MHz	Conductor Cross Section: 0.0180 Sq.mm
Via Impedance: 73.263 Ohms	Step Response: 21.0465 ps	Via Current: 1.8175 Amps

Via Characteristics



Via Hole Diameter: **0,4 mm**

Internal Pad Diameter: **0,75 mm**

Ref Plane Opening Diam: **1,016 mm**

Via Height: **1,575 mm**

Via Plating Thickness: **0,0254 mm**

IPC-2152 with modifiers mode

Via Capacitance: 1.1340 pF	Via DC Resistance: 0.00086 Ohms	Power Dissipation: 0.00531 Watts
Via Inductance: 1.1834 nH	Resonant Frequency: 4344.623 MHz	Conductor Cross Section: 0.0339 Sq.mm
Via Impedance: 32.305 Ohms	Step Response: 40.2959 ps	Via Current: 2.4816 Amps

Options:

- Base: 9u, 18u, 35u, 53u, 70u, 88u, 10u, 14u, 17u
- Plating: Bar, 18u, 35u, 53u, 70u, 88u, 10u
- Plane: 35u, 70u
- Layer: 2 L, Mu, Mic
- Inform Power: 7.2489

The diff pair impedance was calculated as follows

Differential Pairs

Conductor Width (W) **0,152 mm** Target Zdiff **100 Ohms** Formula Restrictions:
 $0.1 < W/H < 3.0$
 $0.1 < S/H < 3.0$

Conductor Spacing (S) **0,152 mm**

Conductor Height (H) **0,2 mm**
 $W/H = 0.760$
 $S/H = 0.760$

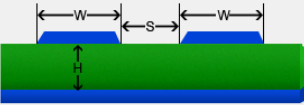
Zdifferential **99.902 Ohms**

Zo **64.990 Ohms**

+/- Tolerance = 10%

109.892 Ohms

89.912 Ohms



Constraints

These Values are Applied to All Layers

Min Width 0.152mm Min Gap 0.152mm Preferred Width 0.152mm Preferred Gap 0.152mm Max Width 0.2mm Max Gap 0.2mm

Max Uncoupled Length 12.7mm

☐ Use Impedance Profile

☒ Layers in layerstack only

Min Width	Min Gap	Preferred Width	Preferred Gap	Max Width	Max Gap	Name
0.152mm	0.152mm	0.152mm	0.152mm	0.2mm	0.2mm	1 - Top Layer
0.152mm	0.152mm	0.152mm	0.152mm	0.2mm	0.2mm	2 - AUX Route Vert
0.152mm	0.152mm	0.152mm	0.152mm	0.2mm	0.2mm	3 - AUX Route Horz
0.152mm	0.152mm	0.152mm	0.152mm	0.2mm	0.2mm	4 - Bottom Layer

The current for the minimum trace width was calculated as follows

Conductor Characteristics

Solve For
☒ Amperage
☐ Conductor Width

Plane Present?
☒ No
☐ Yes

Parallel Conductors?
☒ No
☐ Yes

Conductor Width **0,152 mm**

Conductor Length **100 mm**

PCB Thickness **1,5748 mm**

Frequency ☐ DC **1000 MHz**

IPC-2152 with modifiers mode Etch Factor: 1:1

Skin Depth **2.08730 um**

Power Dissipation **0.27894 Watts**

Conductor DC Resistance **0.32361 Ohms**

Skin Depth Percentage **5.96 %**

Power Dissipation in dBm **24.4552 dBm**

Conductor Cross Section **0.006 Sq.mm**

Voltage Drop **0.3004 Volts**

Conductor Current **0.9284 Amps**

