

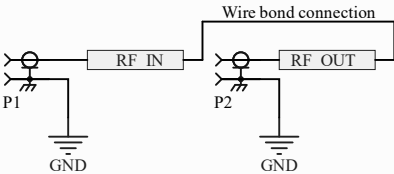
Microwave test board - wire:

This board is designed to mount a wire across an optical chip for ODMR measurements. It has two RF connectors (MMCX). A wire will be soldered or wire bonded across the optical sample to provide a microwave field to the device.

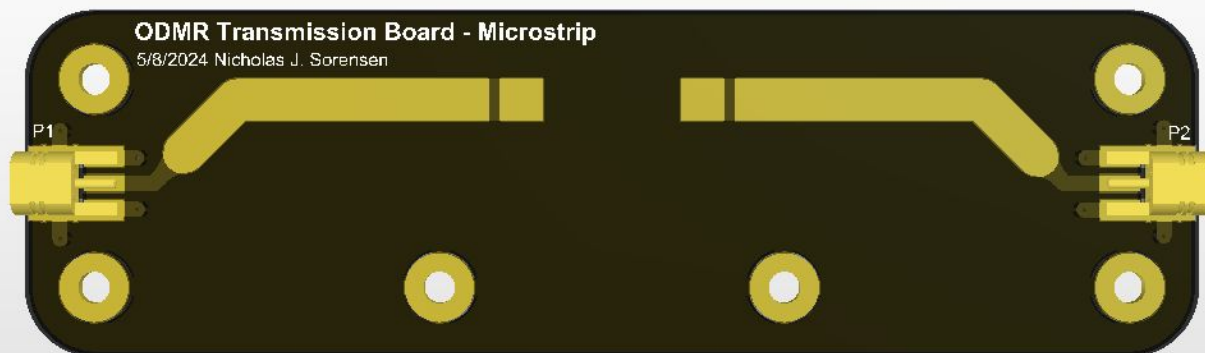
The RF connectors should be offset from the wire bonding pads to allow for easy wire soldering or wire bonding.

There should be three designs in total: this one, one with a microwave stripline, and another with an antenna.

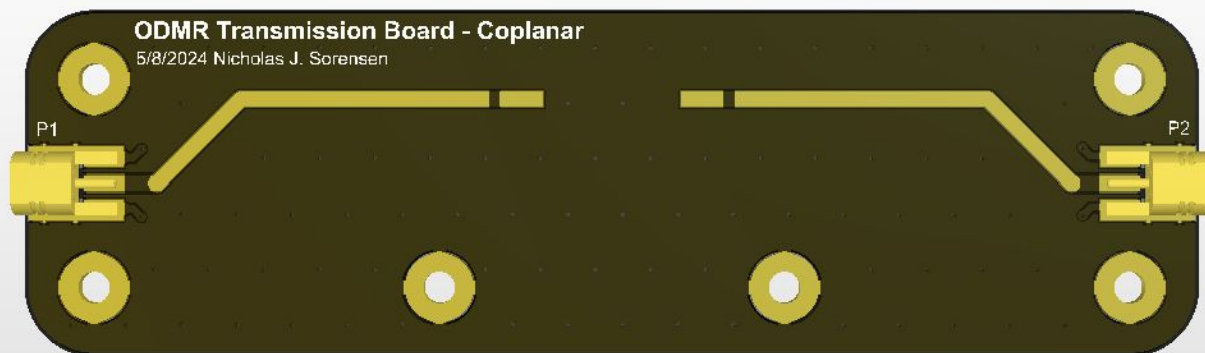
I may also design one with a coplanar waveguide and one with a microstrip. The microstrip could be tailored with a



Title		
Size	Number	Revision
Letter		
Date:	5/08/2024	Sheet of
File:	Z:\PCB Projects\microwaveBoardSimple	Drawn By:

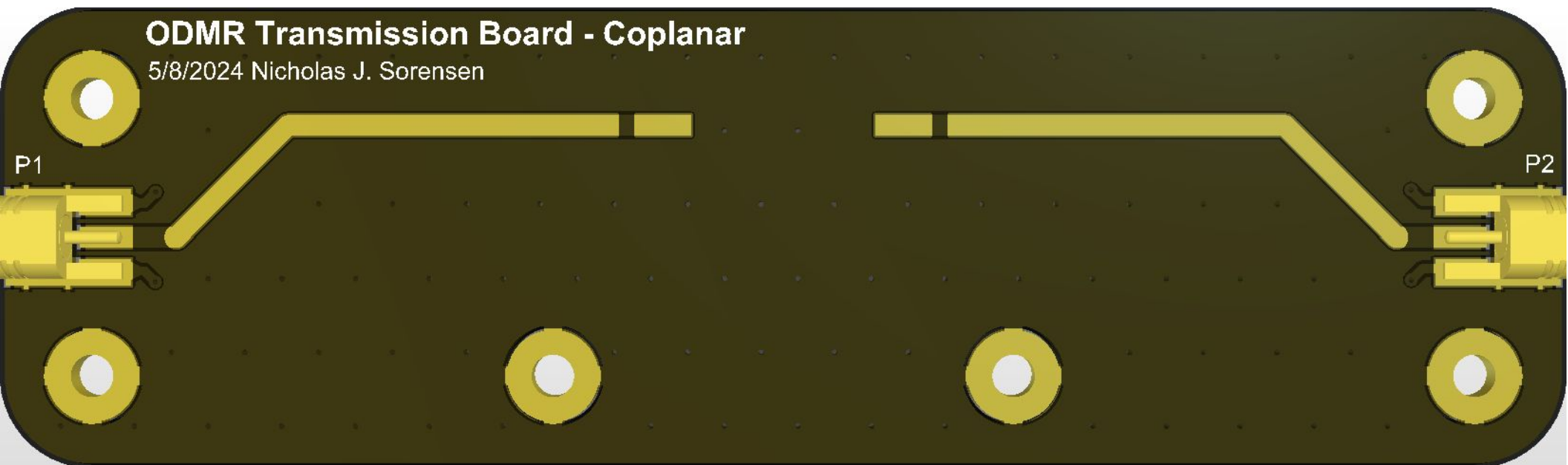


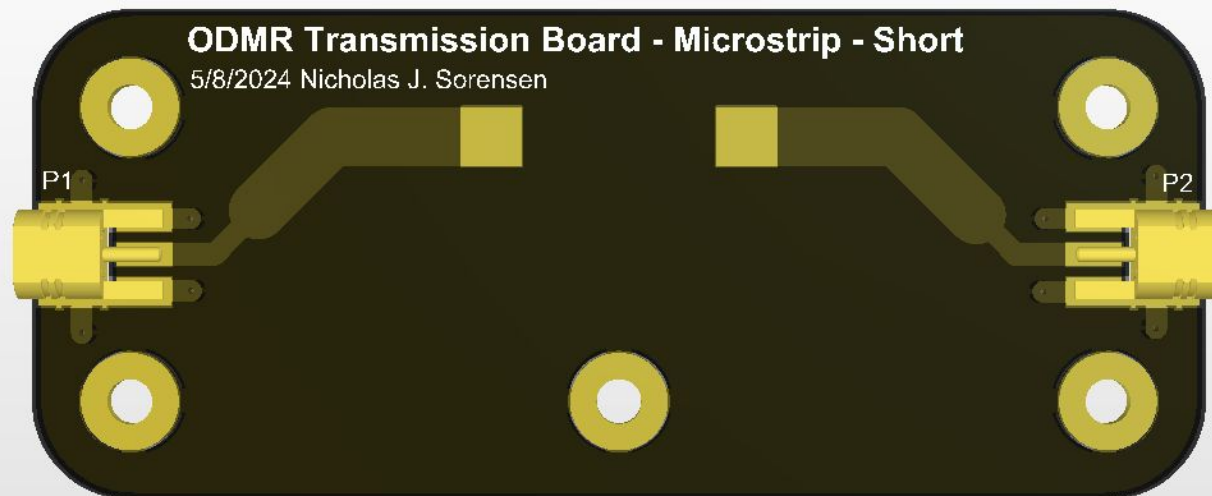


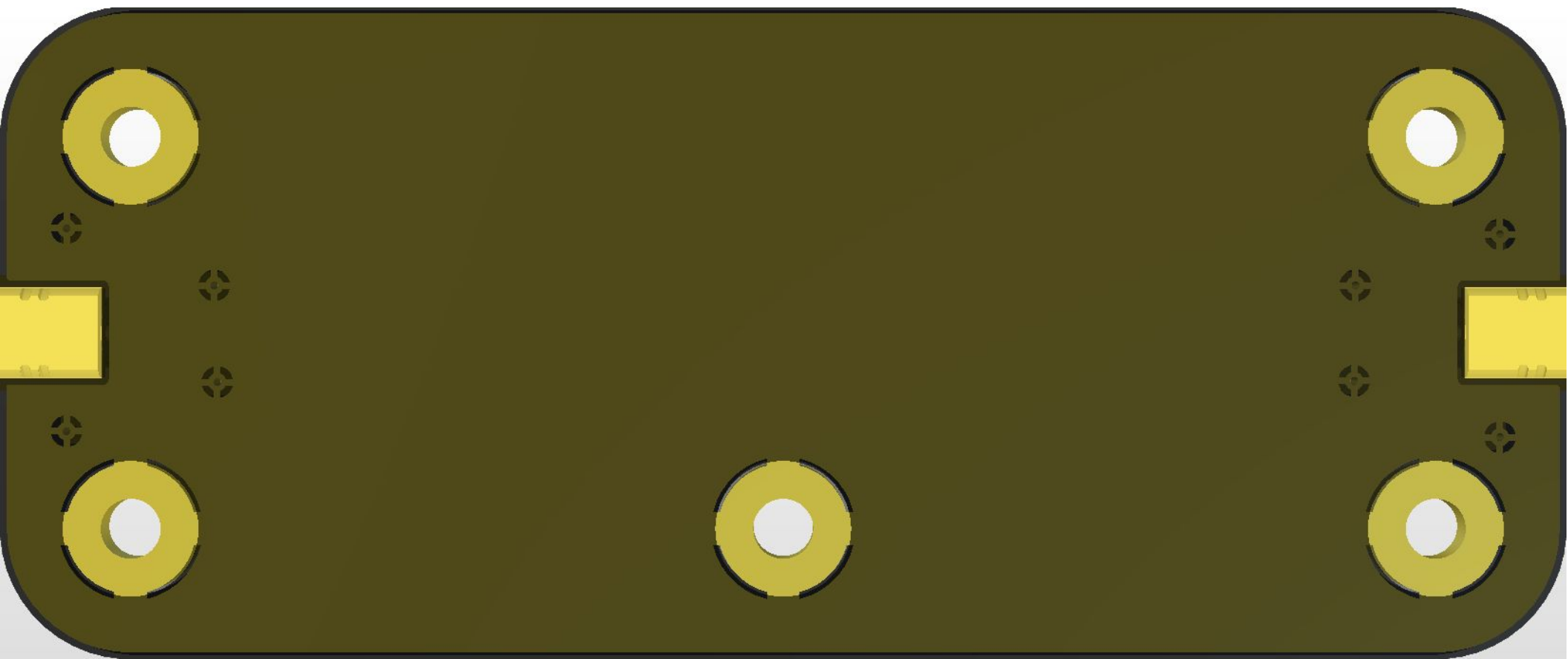


ODMR Transmission Board - Coplanar

5/8/2024 Nicholas J. Sorensen







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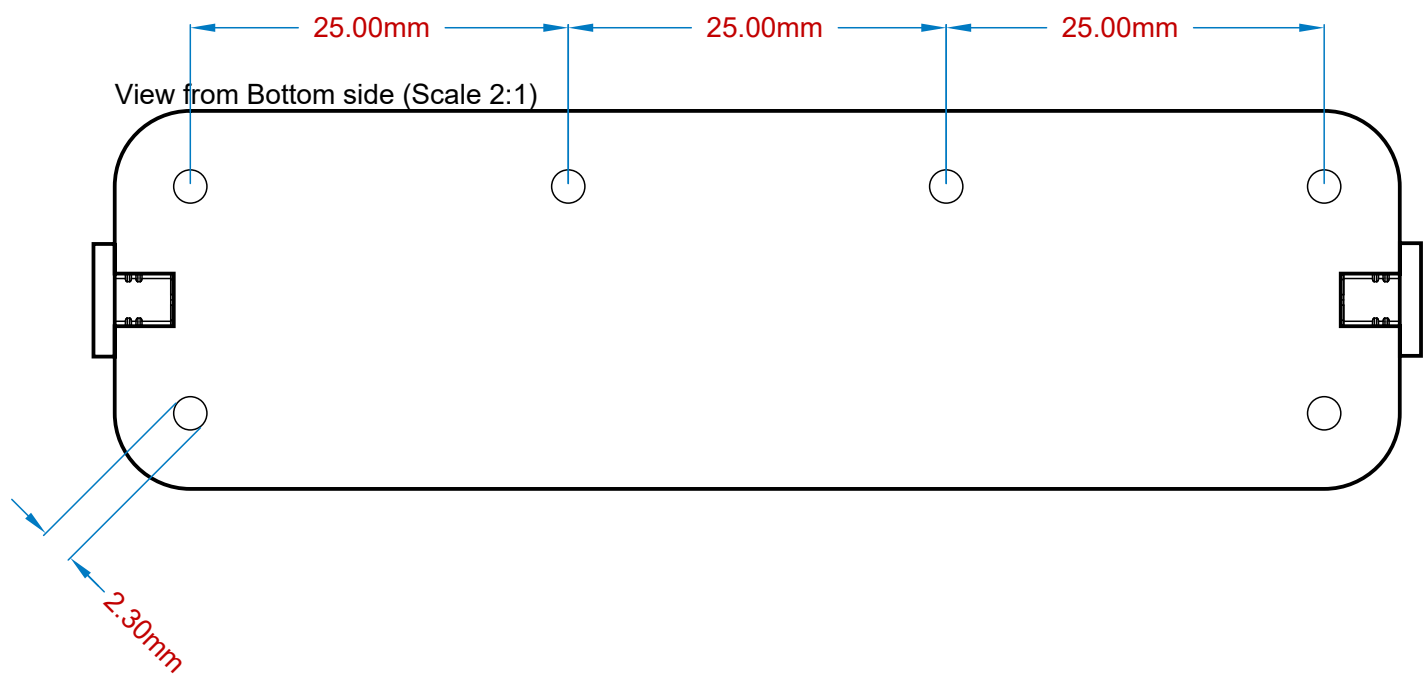
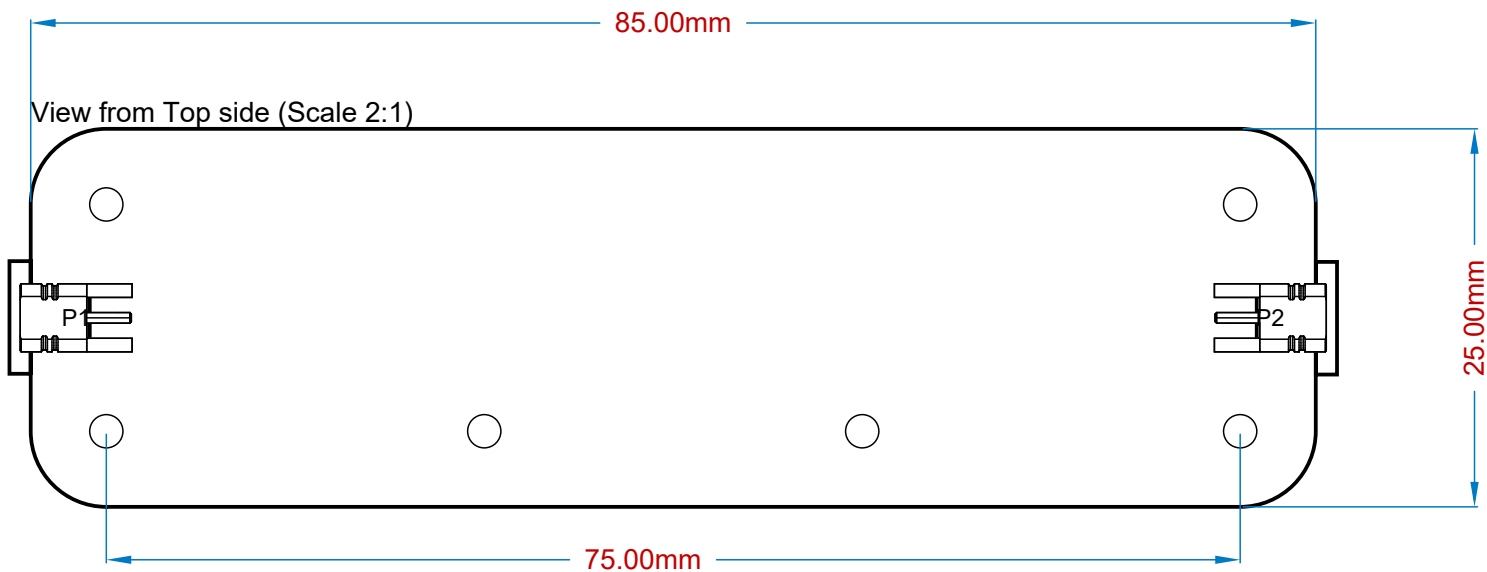
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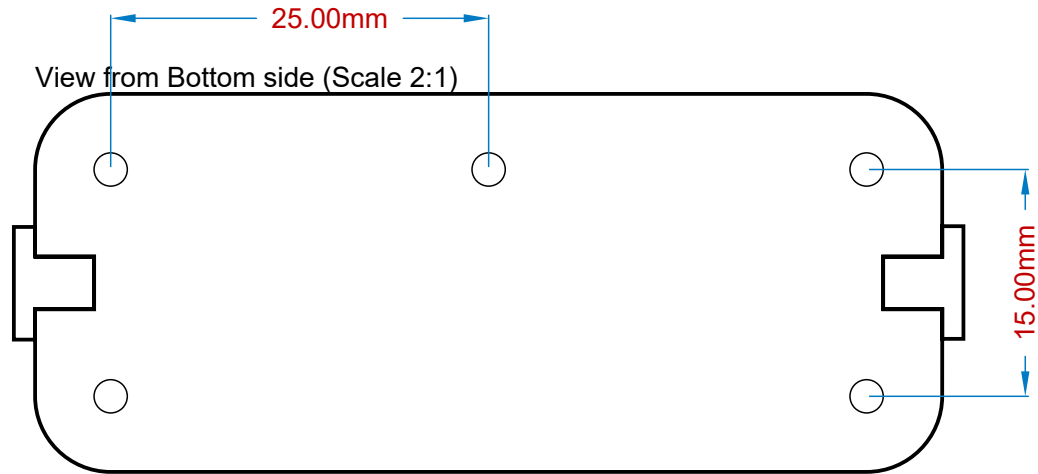
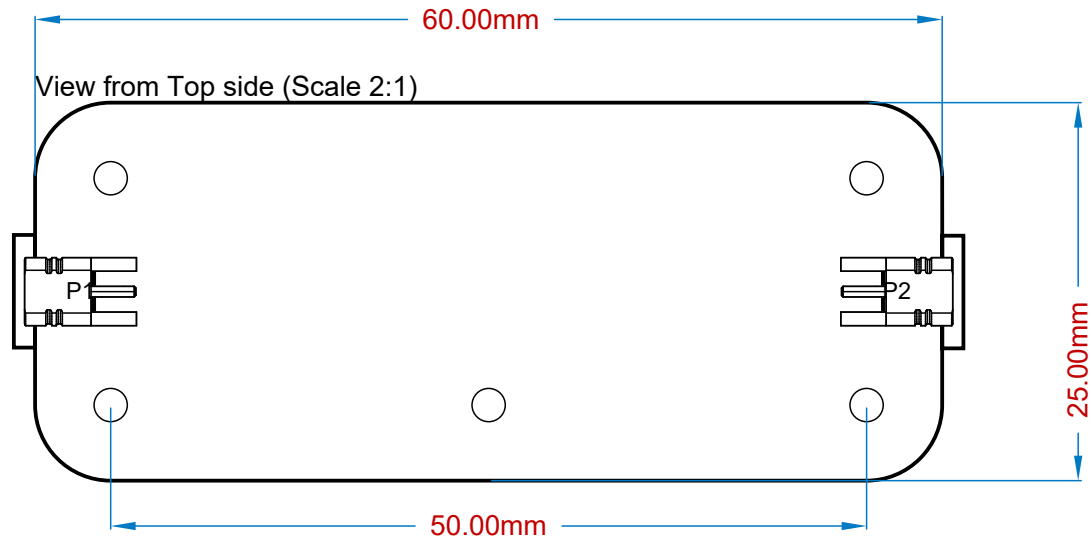
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Design Rules Verification Report

Filename : Z:\PCB Projects\microwaveBoardSimple\microwaveBoardMicrostrip.PcbDoc

Warnings 0
Rule Violations 0

Warnings	
Total	0

Rule Violations	
Clearance Constraint (Gap=0.2mm) (All),(All)	0
Short-Circuit Constraint (Allowed=No) (All),(All)	0
Un-Routed Net Constraint ((All))	0
Modified Polygon (Allow modified: No), (Allow shelved: No)	0
Width Constraint (Min=0.1mm) (Max=10mm) (Preferred=0.2mm) (All)	0
Width Constraint (Min=1mm) (Max=3mm) (Preferred=3mm) (InNetClass('All Nets'))	0
Power Plane Connect Rule(Relief Connect)(Expansion=0.508mm) (Conductor Width=0.254mm)	0
Minimum Annular Ring (Minimum=0.15mm) (All)	0
Hole Size Constraint (Min=0.2mm) (Max=6.2mm) (All)	0
Hole To Hole Clearance (Gap=0.4mm) (All),(All)	0
Minimum Solder Mask Sliver (Gap=0.254mm) (All),(All)	0
Silk To Solder Mask (Clearance=0.2mm) (IsPad),(All)	0
Silk to Silk (Clearance=0mm) (All),(All)	0
Net Antennae (Tolerance=0mm) (All)	0
Board Clearance Constraint (Gap=0mm) (All)	0
Height Constraint (Min=0mm) (Max=25.4mm) (Preferred=12.7mm) (All)	0
Total	0

Design Rules Verification Report

Filename : Z:\PCB Projects\microwaveBoardSimple\microwaveBoardCoplanar.PcbDoc

Warnings 0
Rule Violations 0

Warnings	
Total	0

Rule Violations	
Clearance Constraint (Gap=0.2mm) (All),(All)	0
Short-Circuit Constraint (Allowed=No) (All),(All)	0
Un-Routed Net Constraint ((All))	0
Modified Polygon (Allow modified: No), (Allow shelved: No)	0
Width Constraint (Min=0.1mm) (Max=10mm) (Preferred=0.2mm) (All)	0
Width Constraint (Min=0.5mm) (Max=1.106mm) (Preferred=1.1mm) (InNetClass('All Nets'))	0
Power Plane Connect Rule(Relief Connect)(Expansion=0.508mm) (Conductor Width=0.254mm)	0
Minimum Annular Ring (Minimum=0.15mm) (All)	0
Hole Size Constraint (Min=0.2mm) (Max=6.2mm) (All)	0
Hole To Hole Clearance (Gap=0.4mm) (All),(All)	0
Minimum Solder Mask Sliver (Gap=0.254mm) (All),(All)	0
Silk To Solder Mask (Clearance=0.2mm) (IsPad),(All)	0
Silk to Silk (Clearance=0mm) (All),(All)	0
Net Antennae (Tolerance=0mm) (All)	0
Board Clearance Constraint (Gap=0mm) (All)	0
Height Constraint (Min=0mm) (Max=25.4mm) (Preferred=12.7mm) (All)	0
Total	0

Design Rules Verification Report

Filename : Z:\PCB Projects\microwaveBoardSimple\microwaveBoardMicrostripShort.PcbDoc

Warnings 0
Rule Violations 0

Warnings	
Total	0

Rule Violations	
Clearance Constraint (Gap=0.2mm) (All),(All)	0
Short-Circuit Constraint (Allowed=No) (All),(All)	0
Un-Routed Net Constraint ((All))	0
Modified Polygon (Allow modified: No), (Allow shelved: No)	0
Width Constraint (Min=0.1mm) (Max=10mm) (Preferred=0.2mm) (All)	0
Width Constraint (Min=1mm) (Max=3mm) (Preferred=3mm) (InNetClass('All Nets'))	0
Power Plane Connect Rule(Relief Connect)(Expansion=0.508mm) (Conductor Width=0.254mm)	0
Minimum Annular Ring (Minimum=0.15mm) (All)	0
Hole Size Constraint (Min=0.2mm) (Max=6.2mm) (All)	0
Hole To Hole Clearance (Gap=0.4mm) (All),(All)	0
Minimum Solder Mask Sliver (Gap=0.254mm) (All),(All)	0
Silk To Solder Mask (Clearance=0.2mm) (IsPad),(All)	0
Silk to Silk (Clearance=0mm) (All),(All)	0
Net Antennae (Tolerance=0mm) (All)	0
Board Clearance Constraint (Gap=0mm) (All)	0
Height Constraint (Min=0mm) (Max=25.4mm) (Preferred=12.7mm) (All)	0
Total	0

Comment	Description	Designator	Footprint	LibRef	Quantity
MMCXV-JP-HF-ST-EM1	50 OHM MMCX HIGH-VIBRATION JACK,	P1, P2	MMCXV-JP-HF-ST-EM1	PXX-SAM-00013	2