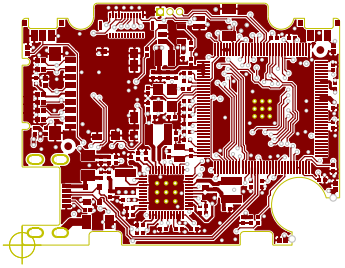

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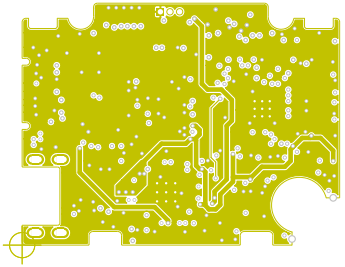

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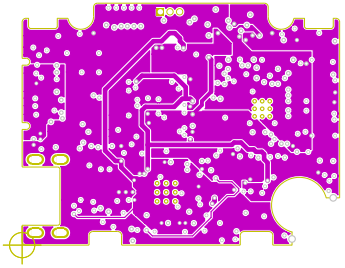

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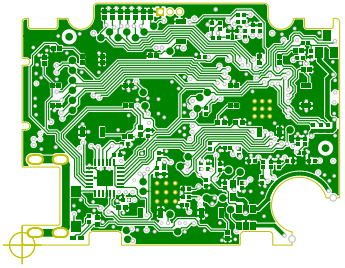

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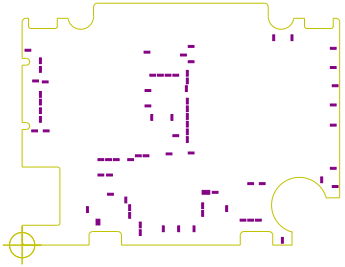

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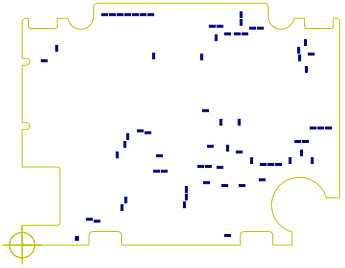

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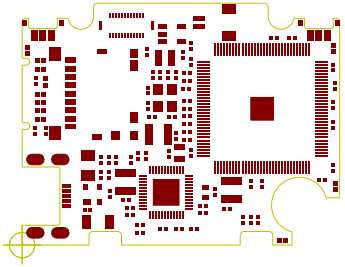

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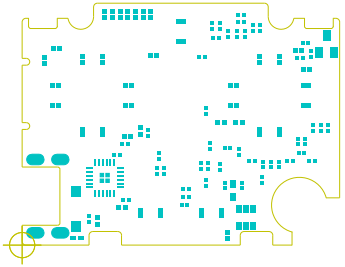

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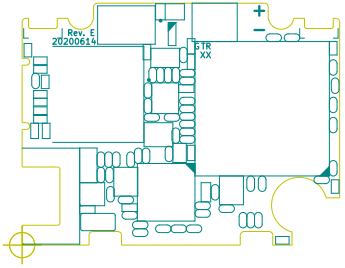

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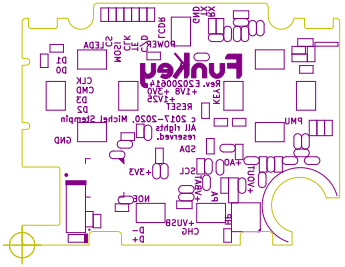

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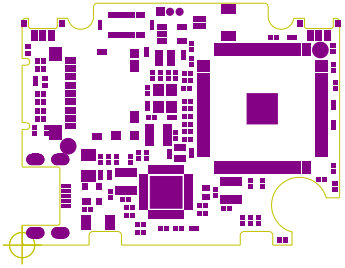

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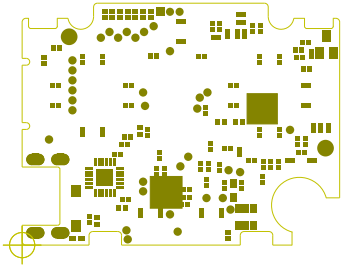

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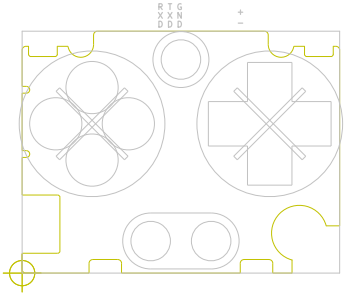

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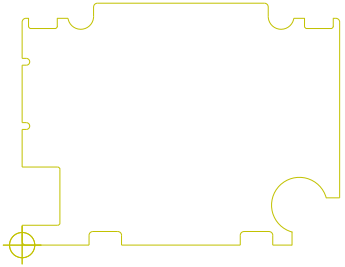
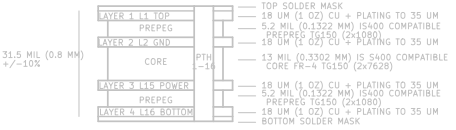


LINE WIDTH IMPEDANCE CHART FOR REFERENCE

Class	RF	Type	Coated Coplanar Waveguide With Ground 1B	
Layer	Impedance	Trace Width	Trace Separation	Ground Separation
TOP, BOTTOM	50 Ohms	16 mils	N/A	6 mils
Class	USB	Type	Diff Coated Coplanar Waveguide With Ground 1B	
Layer	Impedance	Trace Width	Trace Separation	Ground Separation
TOP, BOTTOM	90 Ohms	7.2 mils	6 mils	6 mils
Class	Ethernet	Type	Diff Coated Coplanar Waveguide With Ground 1B	
Layer	Impedance	Trace Width	Trace Separation	Ground Separation
TOP, BOTTOM	100 Ohms	5.5 mils	6 mils	6 mils

STACK-UP FOR REFERENCE



NOTES:

1. PRINTED CIRCUIT BOARD MADE FROM NEMA GRADE FR-4 TG 150 EPOXY LAMINATE WITH 18 UM COPPER + 17 UM PLATING AND 0.8 MM THICKNESS.
2. ALL DIMENSIONS ARE GIVEN IN MILLIMETERS EXCEPT TRACE WIDTH/SPACE.
3. CIRCUIT PATHS ARE FOR REFERENCE ONLY.
4. HOLE SIZES SHOWN ARE FINISHED DIAMETERS AFTER PLATING.
5. BOARD PLATED USING REFLOW OR SIMILAR METHOD.
6. BOARD TO HAVE WHITE SOLDER MASK ON PLATED SURFACES USING WET FILM SR100 OR SR1010 EPOXY. EQUIVALENT WET OR DRY FILM MAY BE USED.
7. SILKSCREEN BOARD USING BLACK INK. DISTORTION OF SILKSCREEN IS ACCEPTABLE OVER TRACES. EPOXY INK ON PLATED LANDS IS NOT ACCEPTABLE
8. THE FOLLOWING INFORMATION APPLIES TO THIS BOARD:
   * 4 COPPER LAYERS
   * 0.8 MM BOARD THICKNESS
   * REQUIRES TOP AND BOTTOM SIDE SILKSCREENS

REVISION HISTORY

Rev. A:
- Initial version

Rev. B:
- Correct SZ resistor value
- Increase test pad diameter to 1 mm
- Drive LCD RESET from a CPU GPIO
- Add magnetic Reed switch for cover detection
- Change speaker mounting
- Solve mechanical interferences

Rev. C:
- Add test pads for MicroSD and USB
- Correct bug (short) of via on AXP209 QFN exposed pad
- Change shoulder buttons to Panasonic

Rev. D:
- Revert shoulder buttons to Omron

Rev. E:
- Change shoulder buttons to Panasonic (larger ones)
- Add TE signal for LCD sync
- Trimmed pull-up/down values for LED brightness and lower power consumption

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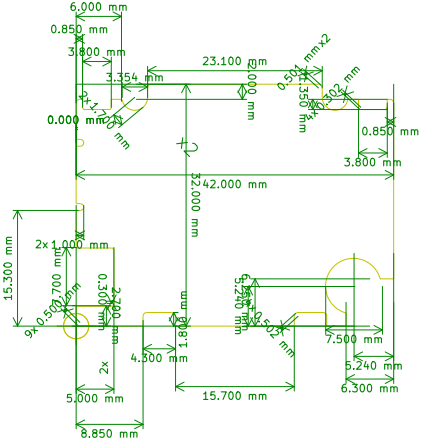

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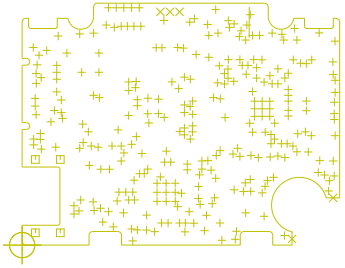
DRILL CHART: TOP TO BOTTOM

Sym	N°	Mils	MM	Qty	Plated
+	1	12	0.30	287	YES
×	2	28	0.71	5	YES
◱	3	31	0.80	4	YES



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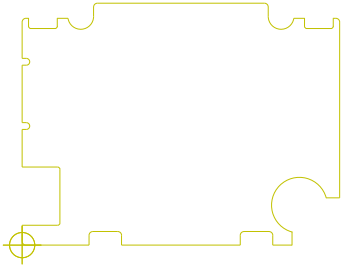

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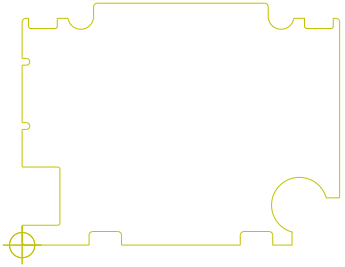

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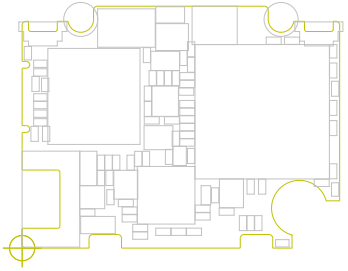

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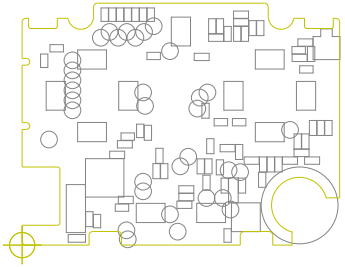

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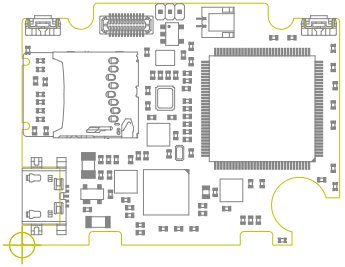

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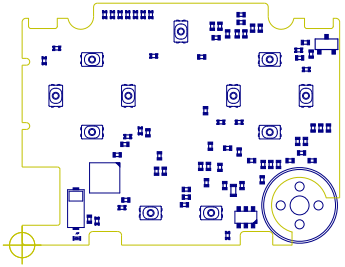

FunKey project

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Michel Stempin

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