Layer Stack Up Detail for: PMP15013.PcbDoc

Layer Name	Gerber Document	Copper Thickness	Dielectric Height	Dielectric Material	Dielectric Type
Top Solder Mask	(.GTS)		0.4mil	Solder Resist	
Top Layer	(.GTL)	2.8mil			
			19mil	FR-4	Core
MidLayer1	(.G1)	2.8mil			
			18.4mil	FR-4	PrePreg
MidLayer2	(.G2)	2.8mil			
			19mil	FR-4	Core
Bottom Layer	(.GBL)	2.8mil			
Bottom Solder Mask	(.GBS)		0.4mil	Solder Resist	

DESIGN INFORMATION

BOARD SIZE (REFER ALSO ARRAY/PANEL PROFILING INFORMATION)

3000MIL X 3000MIL

Number of Layers : 4
MIN. TRACK WIDTH: 8 MIL
MIN. CLEARANCE: 8 MIL
MIN. VIA PAD SIZE: 22 MIL

MINIMUM ANNULAR RING 0.05mm (2MIL) EXTERNAL
PER IPC-D-275 CLASS 2 LEVEL C
REGISTRATION TOLERANCES: METAL +/- 5 MIL, HOLES +/- 3 MIL

MATERIAL:
☒ FR-4 ☐ FR-4 High Tg ☐ OTHER ______
THICKNESS: ☒ 62 MIL (1.6mm) +/-10% ☐ OTHER ______
TOLERANCE: ☒ ANSI IPC-6012 TYPE 3 CLASS 2
☐ OTHER +/- ______
BOW & TWIST: ☒ ANSI IPC-6012 TYPE 3 CLASS 2
☐ OTHER +/- ______

COPPER THICKNESS (FINISHED):
OUTER: ☐ 1.4MIL (1oz) ☐ 2MIL (1.4oz) ☒ 2.8MIL (2oz)
INNER SIGNAL: ☐ 1.4MIL (1oz) ☒ 2.8MIL (2oz)

DRILLING:
REFERENCE: ☒ AS SHOWN ☒ NC_DRILL FILES
PTH MIN COPPER THICKNESS: ☒ 1MIL ☐ OTHER ______

BOARD FINISH:
SILKSCREEN: ☒ TOP ☒ BOTTOM
SILKSCREEN COLOR: ☒ WHITE ☐ OTHER ______
SOLDER RESIST COLOR:
☒ GREEN ☐ BLUE ☐ OTHER ______

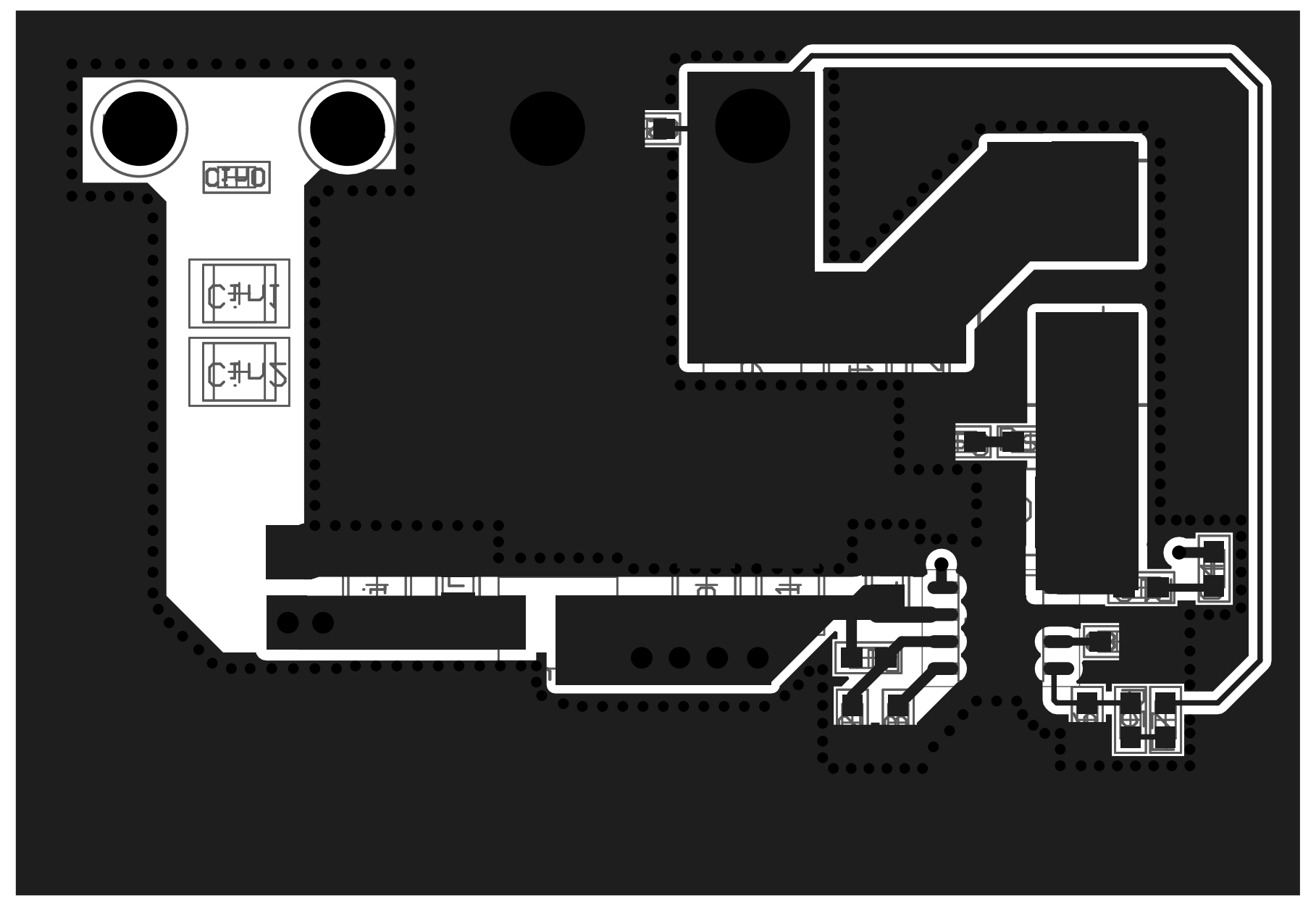
SURFACE FINISH: ☐ IMMERSION GOLD (ENIG) ☒ Pb-FREE HASL
☐ OTHER ______

ARRAY/PANEL: ☐ CUT AND TRIM PER MECH LAYER 1
☐ N.C. ROUTE ☒ V. SCORE

CERTIFICATION: MATERIALS AND WORKMANSHIP FOR ALL PCBS
TO MEET OR EXCEED THE REQUIREMENTS OF:
☒ ANSI IPC-A-600F CLASS -> ☐ 1 ☒ 2 ☐ 3
☒ UL 94V-0 ☒ RoHS ☐ OTHER PER ORDER

ADDITIONAL REQUIREMENTS:
MICROSECTION: ☐ YES
BARE BOARD ELEC. TEST: ☐ NONE ☒ REQUIRED ☐ PER ORDER
MANUFACTURER'S ID/LOGO: ☐ RAIL ☐ METAL ☒ SILK

- Install label in silkscreened box after final wash. Text shall be 8 pt font. Text shall be per the Label Table in the PDF schematic.
- These assemblies are ESD sensitive, ESD precautions shall be observed.
- These assemblies must be clean and free from flux and all contaminants. Use of no clean flux is not acceptable.
- These assemblies must comply with workmanship standards IPC-A-610 Class 2., unless otherwise specified.



1000 (mil)

COMPONENTS MARKED 'DNP' SHOULD NOT BE POPULATED, AND MAY NOT BE IN BILL OF MATERIALS
ASSEMBLY VARIANT: CISPR 22 Version

PCB VIEWED FROM TOP SIDE	BOARD #:	REV: B	SVN REV: Not In VersionControl
LAYER NAME =			
PLOT NAME =	GENERATED : 5/30/2016 3:59:18 PM		TEXAS INSTRUMENTS

TEXAS INSTRUMENTS

PROJECT TITLE:
PMP15013

DESIGNED FOR:

FILE NAME:
PMP15013_LMR16030_Update.PcbDoc

ENGINEER: Vincent Zhang	LAYOUT BY: Vincent Zhang
SCALE: 1.00	ALTIUM DESIGNER VERSION: .Application_16

Layer Stack Up Detail for: PMP15013.PcbDoc

Layer Name	Gerber Document	Copper Thickness	Dielectric Height	Dielectric Material	Dielectric Type
Top Solder Mask	(.GTS)		0.4mil	Solder Resist	
Top Layer	(.GTL)	2.8mil			
			19mil	FR-4	Core
MidLayer1	(.G1)	2.8mil			
			18.4mil	FR-4	PrePreg
MidLayer2	(.G2)	2.8mil			
			19mil	FR-4	Core
Bottom Layer	(.GBL)	2.8mil			
Bottom Solder Mask	(.GBS)		0.4mil	Solder Resist	

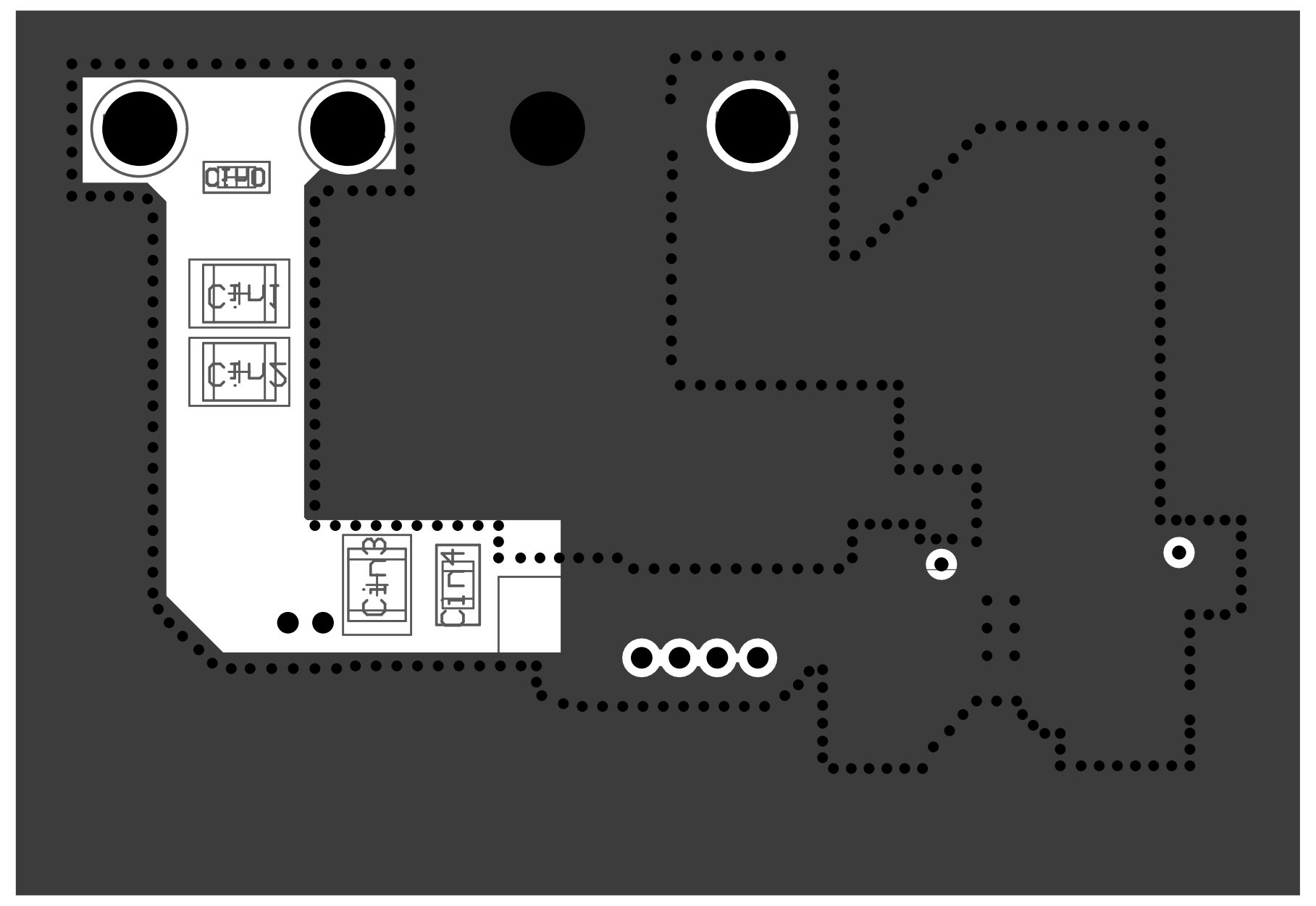
DESIGN INFORMATION

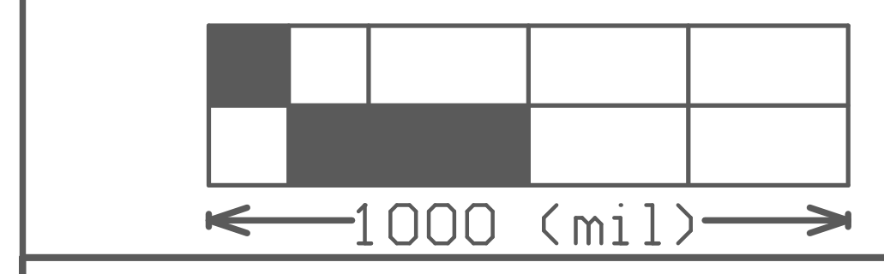
BOARD SIZE (REFER ALSO ARRAY/PANEL PROFILING INFORMATION)
3000MIL X 3000MIL

Number of Layers : 4
MIN. TRACK WIDTH: 8 MIL
MIN. CLEARANCE: 8 MIL
MIN. VIA PAD SIZE: 22 MIL
MINIMUM ANNULAR RING 0.05mm (2MIL) EXTERNAL
PER IPC-D-275 CLASS 2 LEVEL C
REGISTRATION TOLERANCES: METAL +/- 5 MIL, HOLES +/- 3 MIL

MATERIAL:
☒ FR-4 ☐ FR-4 High Tg ☐ OTHER ____
THICKNESS: ☒ 62 MIL (1.6mm) +/-10% ☐ OTHER ____
TOLERANCE: ☒ ANSI IPC-6012 TYPE 3 CLASS 2
☐ OTHER +/- ____
BOW & TWIST: ☒ ANSI IPC-6012 TYPE 3 CLASS 2
☐ OTHER +/- ____
COPPER THICKNESS (FINISHED):
OUTER: ☐ 1.4MIL (1oz) ☐ 2MIL (1.4oz) ☒ 2.8MIL (2oz)
INNER SIGNAL: ☐ 1.4MIL (1oz) ☒ 2.8MIL (2oz)
DRILLING:
REFERENCE: ☒ AS SHOWN ☒ NC_DRILL FILES
PTH MIN COPPER THICKNESS: ☒ 1MIL ☐ OTHER ____
BOARD FINISH:
SILKSCREEN: ☒ TOP ☒ BOTTOM
SILKSCREEN COLOR: ☒ WHITE ☐ OTHER ____
SOLDER RESIST COLOR:
☒ GREEN ☐ BLUE ☐ OTHER ____
SURFACE FINISH: ☐ IMMERSION GOLD (ENIG) ☒ Pb-FREE HASL
☐ OTHER ____
ARRAY/PANEL: ☐ CUT AND TRIM PER MECH LAYER 1
☐ N.C. ROUTE ☒ V. SCORE
CERTIFICATION: MATERIALS AND WORKMANSHIP FOR ALL PCBS TO MEET OR EXCEED THE REQUIREMENTS OF:
☒ ANSI IPC-A-600F CLASS -> ☐ 1 ☒ 2 ☐ 3
☒ UL 94V-0 ☒ RoHS ☐ OTHER PER ORDER
ADDITIONAL REQUIREMENTS:
MICROSECTION: ☐ YES
BARE BOARD ELEC. TEST: ☐ NONE ☒ REQUIRED ☐ PER ORDER
MANUFACTURER'S ID/LOGO: ☐ RAIL ☐ METAL ☒ SILK

- Install label in silkscreened box after final wash. Text shall be 8 pt font. Text shall be per the Label Table in the PDF schematic.
- These assemblies are ESD sensitive, ESD precautions shall be observed.
- These assemblies must be clean and free from flux and all contaminants. Use of no clean flux is not acceptable.
- These assemblies must comply with workmanship standards IPC-A-610 Class 2., unless otherwise specified.





COMPONENTS MARKED 'DNP' SHOULD NOT BE POPULATED, AND MAY NOT BE IN BILL OF MATERIALS
ASSEMBLY VARIANT: CISPR 22 Version

PCB VIEWED FROM TOP SIDE
BOARD #:
REV: B
SVN REV: Not In VersionControl
LAYER NAME =
PLOT NAME =
GENERATED : 5/30/2016 3:59:22 PM
TEXAS INSTRUMENTS

TEXAS INSTRUMENTS

PROJECT TITLE:
PMP15013
DESIGNED FOR:
FILE NAME:
PMP15013_LMR16030_Update.PcbDoc
ENGINEER:
Vincent Zhang
LAYOUT BY:
Vincent Zhang
SCALE: 1.00
ALTIUM DESIGNER VERSION:
.Application_16

Layer Stack Up Detail for: PMP15013.PcbDoc

Layer Name	Gerber Document	Copper Thickness	Dielectric Height	Dielectric Material	Dielectric Type
Top Solder Mask	(.GTS)		0.4mil	Solder Resist	
Top Layer	(.GTL)	2.8mil			
			19mil	FR-4	Core
MidLayer1	(.G1)	2.8mil			
			18.4mil	FR-4	PrePreg
MidLayer2	(.G2)	2.8mil			
			19mil	FR-4	Core
Bottom Layer	(.GBL)	2.8mil			
Bottom Solder Mask	(.GBS)		0.4mil	Solder Resist	

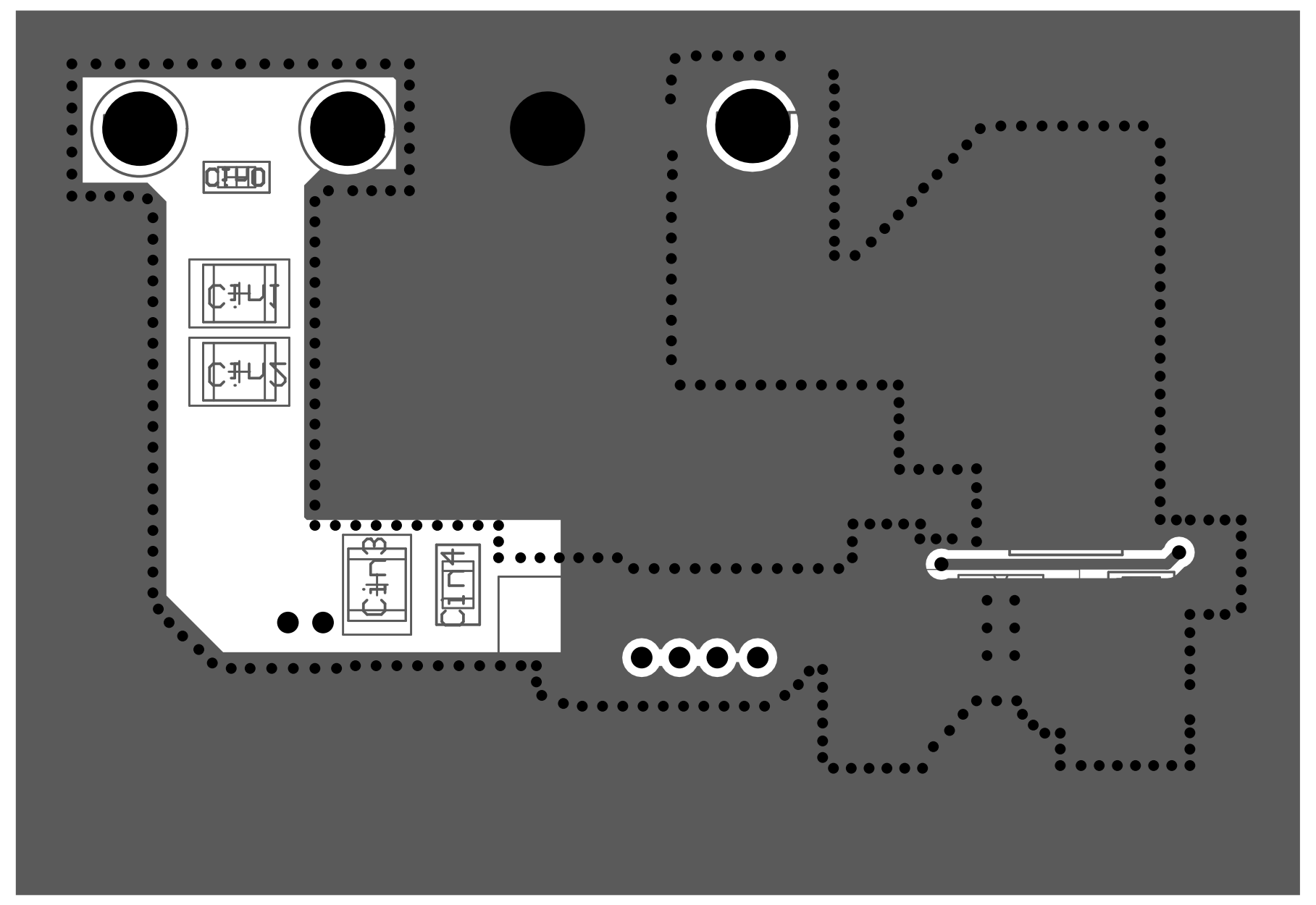
DESIGN INFORMATION

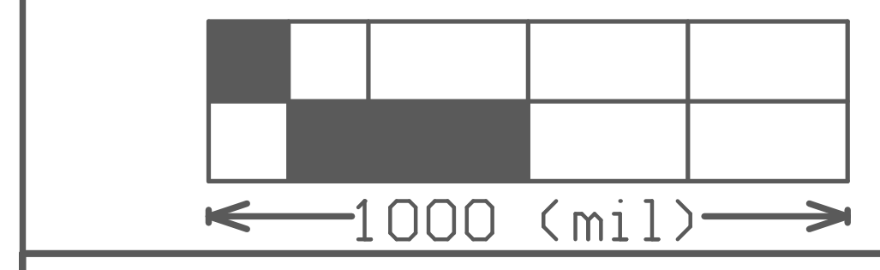
BOARD SIZE (REFER ALSO ARRAY/PANEL PROFILING INFORMATION)
3000MIL X 3000MIL

Number of Layers : 4
MIN. TRACK WIDTH: 8 MIL
MIN. CLEARANCE: 8 MIL
MIN. VIA PAD SIZE: 22 MIL
MINIMUM ANNULAR RING 0.05mm (2MIL) EXTERNAL
PER IPC-D-275 CLASS 2 LEVEL C
REGISTRATION TOLERANCES: METAL +/- 5 MIL, HOLES +/- 3 MIL

MATERIAL:
☒ FR-4 ☐ FR-4 High Tg ☐ OTHER ______
THICKNESS: ☒ 62 MIL (1.6mm) +/-10% ☐ OTHER ______
TOLERANCE: ☒ ANSI IPC-6012 TYPE 3 CLASS 2
☐ OTHER +/- ______
BOW & TWIST: ☒ ANSI IPC-6012 TYPE 3 CLASS 2
☐ OTHER +/- ______
COPPER THICKNESS (FINISHED):
OUTER: ☐ 1.4MIL (1oz) ☐ 2MIL (1.4oz) ☒ 2.8MIL (2oz)
INNER SIGNAL: ☐ 1.4MIL (1oz) ☒ 2.8MIL (2oz)
DRILLING:
REFERENCE: ☒ AS SHOWN ☒ NC_DRILL FILES
PTH MIN COPPER THICKNESS: ☒ 1MIL ☐ OTHER ______
BOARD FINISH:
SILKSCREEN: ☒ TOP ☒ BOTTOM
SILKSCREEN COLOR: ☒ WHITE ☐ OTHER ______
SOLDER RESIST COLOR:
☒ GREEN ☐ BLUE ☐ OTHER ______
SURFACE FINISH: ☐ IMMERSION GOLD (ENIG) ☒ Pb-FREE HASL
☐ OTHER ______
ARRAY/PANEL: ☐ CUT AND TRIM PER MECH LAYER 1
☐ N.C. ROUTE ☒ V. SCORE
CERTIFICATION: MATERIALS AND WORKMANSHIP FOR ALL PCBS TO MEET OR EXCEED THE REQUIREMENTS OF:
☒ ANSI IPC-A-600F CLASS -> ☐ 1 ☒ 2 ☐ 3
☒ UL 94V-0 ☒ RoHS ☐ OTHER PER ORDER
ADDITIONAL REQUIREMENTS:
MICROSECTION: ☐ YES
BARE BOARD ELEC. TEST: ☐ NONE ☒ REQUIRED ☐ PER ORDER
MANUFACTURER'S ID/LOGO: ☐ RAIL ☐ METAL ☒ SILK

- ■ Install label in silkscreened box after final wash. Text shall be 8 pt font. Text shall be per the Label Table in the PDF schematic.
- ■ These assemblies are ESD sensitive, ESD precautions shall be observed.
- ■ These assemblies must be clean and free from flux and all contaminants. Use of no clean flux is not acceptable.
- ■ These assemblies must comply with workmanship standards IPC-A-610 Class 2., unless otherwise specified.





COMPONENTS MARKED 'DNP' SHOULD NOT BE POPULATED, AND MAY NOT BE IN BILL OF MATERIALS
ASSEMBLY VARIANT: CISPR 22 Version

PCB VIEWED FROM TOP SIDE
BOARD #:
REV: B
SVN REV: Not In VersionControl
LAYER NAME =
PLOT NAME =
GENERATED : 5/30/2016 3:59:28 PM
TEXAS INSTRUMENTS

TEXAS INSTRUMENTS

PROJECT TITLE:
PMP15013

DESIGNED FOR:

FILE NAME:
PMP15013_LMR16030_Update.PcbDoc

ENGINEER:
Vincent Zhang

LAYOUT BY:
Vincent Zhang

SCALE: 1.00

ALTIUM DESIGNER VERSION:
.Application_16

Layer Stack Up Detail for: PMP15013.PcbDoc

Layer Name	Gerber Document	Copper Thickness	Dielectric Height	Dielectric Material	Dielectric Type
Top Solder Mask	(.GTS)		0.4mil	Solder Resist	
Top Layer	(.GTL)	2.8mil			
			19mil	FR-4	Core
MidLayer1	(.G1)	2.8mil			
			18.4mil	FR-4	PrePreg
MidLayer2	(.G2)	2.8mil			
			19mil	FR-4	Core
Bottom Layer	(.GBL)	2.8mil			
Bottom Solder Mask	(.GBS)		0.4mil	Solder Resist	

DESIGN INFORMATION

BOARD SIZE (REFER ALSO ARRAY/PANEL PROFILING INFORMATION)
3000MIL X 3000MIL

Number of Layers : 4
MIN. TRACK WIDTH: 8 MIL
MIN. CLEARANCE: 8 MIL
MIN. VIA PAD SIZE: 22 MIL
MINIMUM ANNULAR RING 0.05mm (2MIL) EXTERNAL
PER IPC-D-275 CLASS 2 LEVEL C
REGISTRATION TOLERANCES: METAL +/- 5 MIL, HOLES +/- 3 MIL

MATERIAL:
☒ FR-4 ☐ FR-4 High Tg ☐ OTHER ____
THICKNESS: ☒ 62 MIL (1.6mm) +/-10% ☐ OTHER ____
TOLERANCE: ☒ ANSI IPC-6012 TYPE 3 CLASS 2
☐ OTHER +/- ____
BOW & TWIST: ☒ ANSI IPC-6012 TYPE 3 CLASS 2
☐ OTHER +/- ____

COPPER THICKNESS (FINISHED):
OUTER: ☐ 1.4MIL (1oz) ☐ 2MIL (1.4oz) ☒ 2.8MIL (2oz)
INNER SIGNAL: ☐ 1.4MIL (1oz) ☒ 2.8MIL (2oz)

DRILLING:
REFERENCE: ☒ AS SHOWN ☒ NC_DRILL FILES
PTH MIN COPPER THICKNESS: ☒ 1MIL ☐ OTHER ____

BOARD FINISH:
SILKSCREEN: ☒ TOP ☒ BOTTOM
SILKSCREEN COLOR: ☒ WHITE ☐ OTHER ____
SOLDER RESIST COLOR:
☒ GREEN ☐ BLUE ☐ OTHER ____

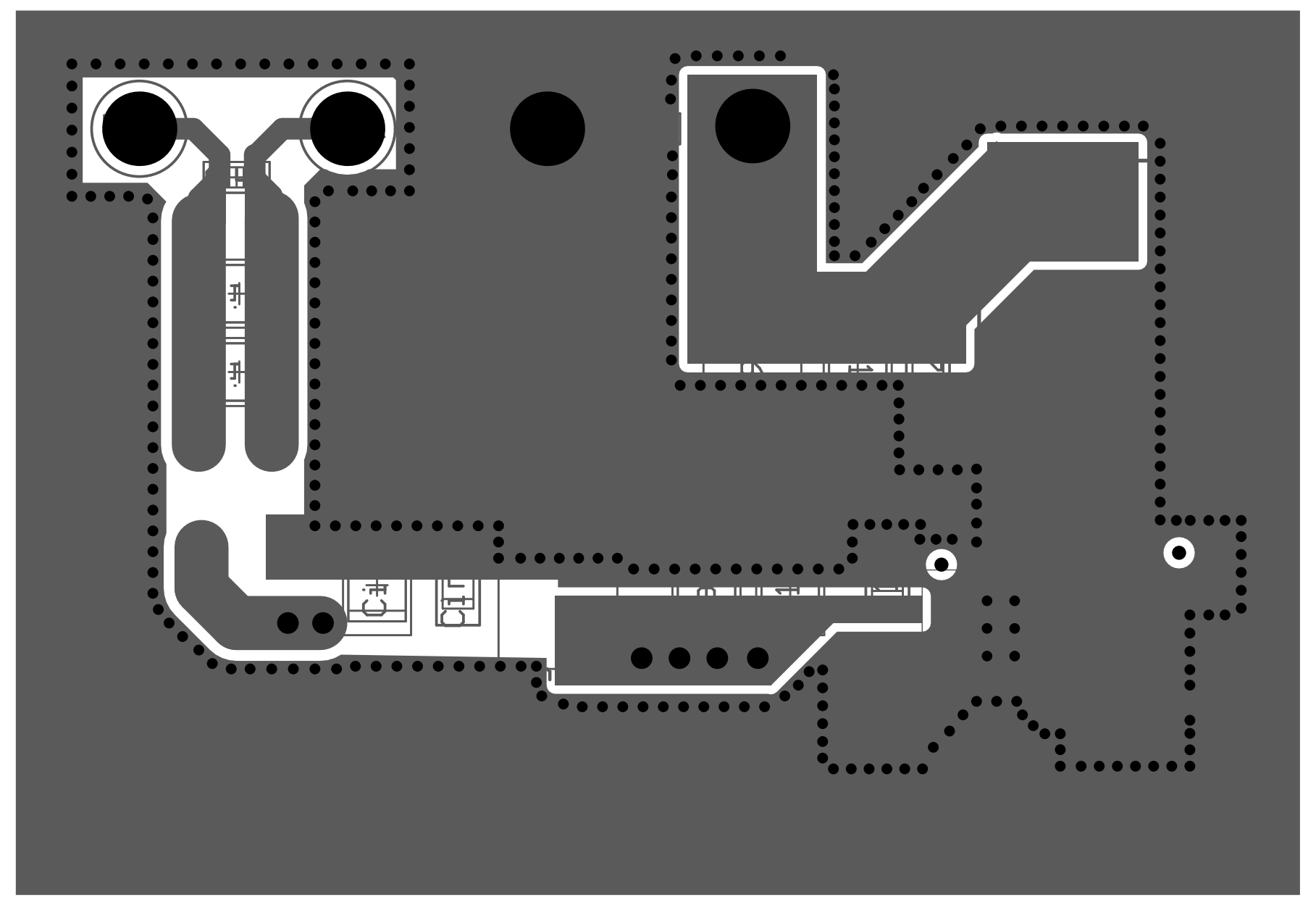
SURFACE FINISH: ☐ IMMERSION GOLD (ENIG) ☒ Pb-FREE HASL
☐ OTHER ____

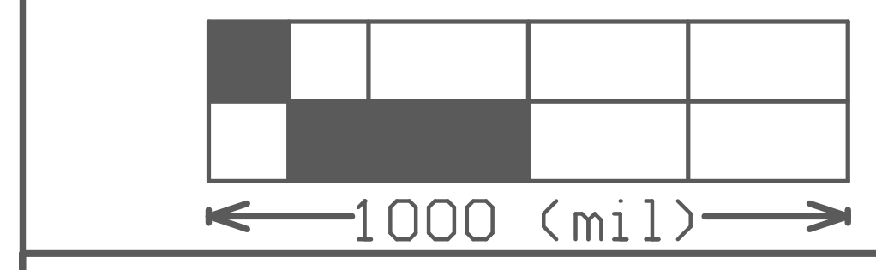
ARRAY/PANEL: ☐ CUT AND TRIM PER MECH LAYER 1
☐ N.C. ROUTE ☒ V. SCORE

CERTIFICATION: MATERIALS AND WORKMANSHIP FOR ALL PCBS
TO MEET OR EXCEED THE REQUIREMENTS OF:
☒ ANSI IPC-A-600F CLASS -> ☐ 1 ☒ 2 ☐ 3
☒ UL 94V-0 ☒ RoHS ☐ OTHER PER ORDER

ADDITIONAL REQUIREMENTS:
MICROSECTION: ☐ YES
BARE BOARD ELEC. TEST: ☐ NONE ☒ REQUIRED ☐ PER ORDER
MANUFACTURER'S ID/LOGO: ☐ RAIL ☐ METAL ☒ SILK

- Install label in silkscreened box after final wash. Text shall be 8 pt font. Text shall be per the Label Table in the PDF schematic.
- These assemblies are ESD sensitive, ESD precautions shall be observed.
- These assemblies must be clean and free from flux and all contaminants. Use of no clean flux is not acceptable.
- These assemblies must comply with workmanship standards IPC-A-610 Class 2., unless otherwise specified.





COMPONENTS MARKED 'DNP' SHOULD NOT BE POPULATED, AND MAY NOT BE IN BILL OF MATERIALS
ASSEMBLY VARIANT: CISPR 22 Version

PCB VIEWED FROM TOP SIDE
BOARD #:
REV: B
SVN REV: Not In VersionControl
LAYER NAME =
PLOT NAME =
GENERATED : 5/30/2016 3:59:28 PM
TEXAS INSTRUMENTS

TEXAS INSTRUMENTS

PROJECT TITLE:
PMP15013

DESIGNED FOR:

FILE NAME:
PMP15013_LMR16030_Update.PcbDoc

ENGINEER:
Vincent Zhang

LAYOUT BY:
Vincent Zhang

SCALE: 1.00

ALTIUM DESIGNER VERSION:
.Application_16

Layer Stack Up Detail for: PMP15013.PcbDoc

Layer Name	Gerber Document	Copper Thickness	Dielectric Height	Dielectric Material	Dielectric Type
Top Solder Mask	(.GTS)		0.4mil	Solder Resist	
Top Layer	(.GTL)	2.8mil			
			19mil	FR-4	Core
MidLayer1	(.G1)	2.8mil			
			18.4mil	FR-4	PrePreg
MidLayer2	(.G2)	2.8mil			
			19mil	FR-4	Core
Bottom Layer	(.GBL)	2.8mil			
Bottom Solder Mask	(.GBS)		0.4mil	Solder Resist	

DESIGN INFORMATION

BOARD SIZE (REFER ALSO ARRAY/PANEL PROFILING INFORMATION)
3000MIL X 3000MIL

Number of Layers : 4
MIN. TRACK WIDTH: 8 MIL
MIN. CLEARANCE: 8 MIL
MIN. VIA PAD SIZE: 22 MIL

MINIMUM ANNULAR RING 0.05mm (2MIL) EXTERNAL
PER IPC-D-275 CLASS 2 LEVEL C
REGISTRATION TOLERANCES: METAL +/- 5 MIL, HOLES +/- 3 MIL

MATERIAL:
☒ FR-4 ☐ FR-4 High Tg ☐ OTHER
THICKNESS: ☒ 62 MIL (1.6mm) +/-10% ☐ OTHER
TOLERANCE: ☒ ANSI IPC-6012 TYPE 3 CLASS 2
☐ OTHER +/-
BOW & TWIST: ☒ ANSI IPC-6012 TYPE 3 CLASS 2
☐ OTHER +/-

COPPER THICKNESS (FINISHED):
OUTER: ☐ 1.4MIL (1oz) ☐ 2MIL (1.4oz) ☒ 2.8MIL (2oz)
INNER SIGNAL: ☐ 1.4MIL (1oz) ☒ 2.8MIL (2oz)

DRILLING:
REFERENCE: ☒ AS SHOWN ☒ NC_DRILL FILES
PTH MIN COPPER THICKNESS: ☒ 1MIL ☐ OTHER

BOARD FINISH:
SILKSCREEN: ☒ TOP ☒ BOTTOM
SILKSCREEN COLOR: ☒ WHITE ☐ OTHER
SOLDER RESIST COLOR:
☒ GREEN ☐ BLUE ☐ OTHER

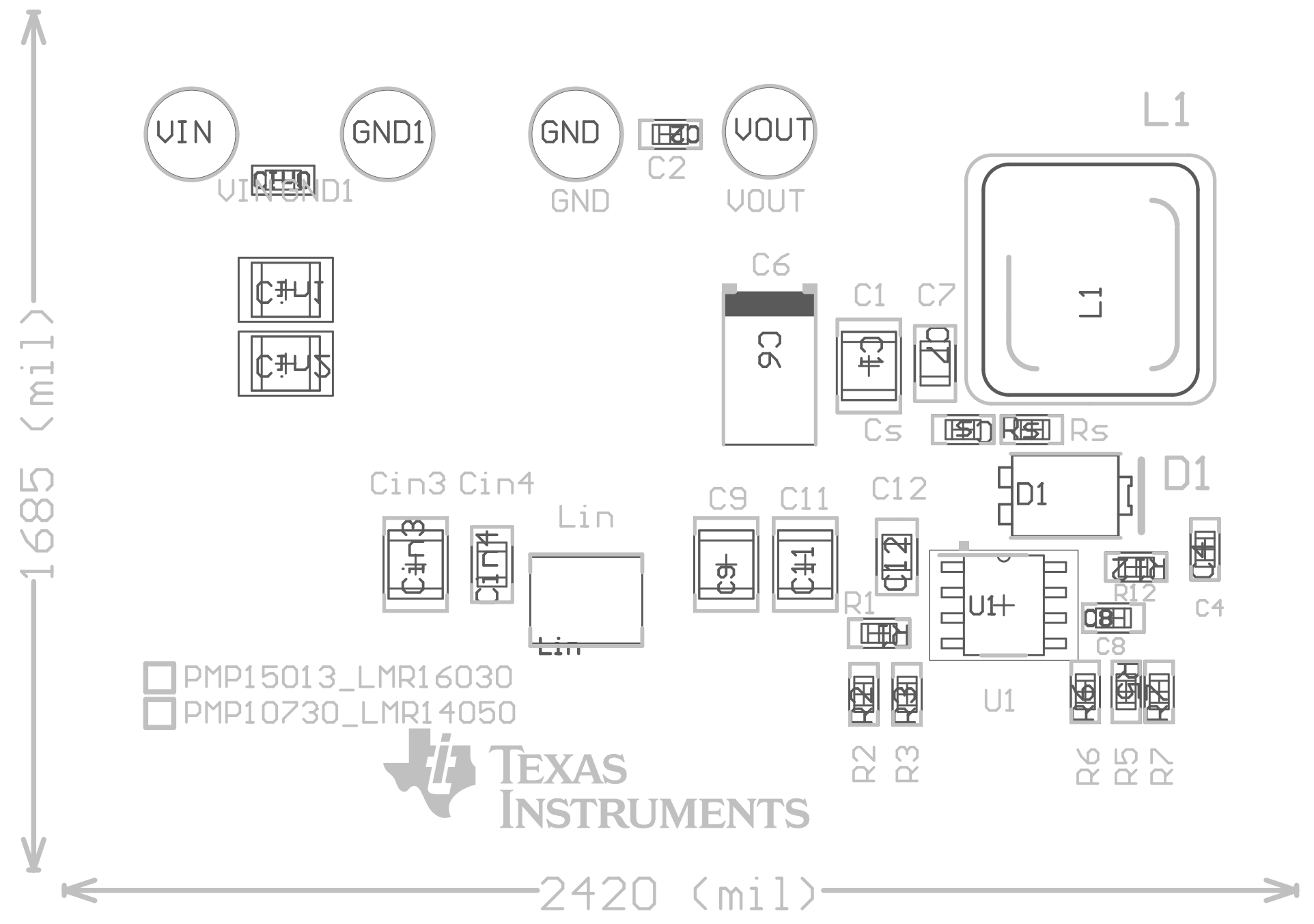
SURFACE FINISH: ☐ IMMERSION GOLD (ENIG) ☒ Pb-FREE HASL
☐ OTHER

ARRAY/PANEL: ☐ CUT AND TRIM PER MECH LAYER 1
☐ N.C. ROUTE ☒ V. SCORE

CERTIFICATION: MATERIALS AND WORKMANSHIP FOR ALL PCBS TO MEET OR EXCEED THE REQUIREMENTS OF:
☒ ANSI IPC-A-600F CLASS -> ☐ 1 ☒ 2 ☐ 3
☒ UL 94V-0 ☒ RoHS ☐ OTHER PER ORDER

ADDITIONAL REQUIREMENTS:
MICROSECTION: ☐ YES
BARE BOARD ELEC. TEST: ☐ NONE ☒ REQUIRED ☐ PER ORDER
MANUFACTURER'S ID/LOGO: ☐ RAIL ☐ METAL ☒ SILK

- Install label in silkscreened box after final wash. Text shall be 8 pt font. Text shall be per the Label Table in the PDF schematic.
- These assemblies are ESD sensitive, ESD precautions shall be observed.
- These assemblies must be clean and free from flux and all contaminants. Use of no clean flux is not acceptable.
- These assemblies must comply with workmanship standards IPC-A-610 Class 2., unless otherwise specified.



1000 (mil)

COMPONENTS MARKED 'DNP' SHOULD NOT BE POPULATED, AND MAY NOT BE IN BILL OF MATERIALS
ASSEMBLY VARIANT: CISPR 22 Version

TEXAS INSTRUMENTS

PROJECT TITLE:
PMP15013

DESIGNED FOR:

FILE NAME:
PMP15013_LMR16030_Update.PcbDoc

PCB VIEWED FROM TOP SIDE
BOARD #:
REV: B
SVN REV: Not In VersionControl
LAYER NAME =
PLOT NAME =
GENERATED : 5/30/2016 3:59:39 PM
TEXAS INSTRUMENTS

ENGINEER:
Vincent Zhang
SCALE: 1.00

LAYOUT BY:
Vincent Zhang
ALTIUM DESIGNER VERSION:
.Application_16

Layer Stack Up Detail for: PMP15013.PcbDoc

Layer Name	Gerber Document	Copper Thickness	Dielectric Height	Dielectric Material	Dielectric Type
Top Solder Mask	(.GTS)		0.4mil	Solder Resist	
Top Layer	(.GTL)	2.8mil			
			19mil	FR-4	Core
MidLayer1	(.G1)	2.8mil			
			18.4mil	FR-4	PrePreg
MidLayer2	(.G2)	2.8mil			
			19mil	FR-4	Core
Bottom Layer	(.GBL)	2.8mil			
Bottom Solder Mask	(.GBS)		0.4mil	Solder Resist	

DESIGN INFORMATION

BOARD SIZE (REFER ALSO ARRAY/PANEL PROFILING INFORMATION)

3000MIL X 3000MIL

Number of Layers : 4
MIN. TRACK WIDTH: 8 MIL
MIN. CLEARANCE: 8 MIL
MIN. VIA PAD SIZE: 22 MIL

MINIMUM ANNULAR RING 0.05mm (2MIL) EXTERNAL
PER IPC-D-275 CLASS 2 LEVEL C
REGISTRATION TOLERANCES: METAL +/- 5 MIL, HOLES +/- 3 MIL

MATERIAL:
☒ FR-4 ☐ FR-4 High Tg ☐ OTHER ________
THICKNESS: ☒ 62 MIL (1.6mm) +/-10% ☐ OTHER ________
TOLERANCE: ☒ ANSI IPC-6012 TYPE 3 CLASS 2
☐ OTHER +/- ________
BOW & TWIST: ☒ ANSI IPC-6012 TYPE 3 CLASS 2
☐ OTHER +/- ________

COPPER THICKNESS (FINISHED):
OUTER: ☐ 1.4MIL (1oz) ☐ 2MIL (1.4oz) ☒ 2.8MIL (2oz)
INNER SIGNAL: ☐ 1.4MIL (1oz) ☒ 2.8MIL (2oz)

DRILLING:
REFERENCE: ☒ AS SHOWN ☒ NC_DRILL FILES
PTH MIN COPPER THICKNESS: ☒ 1MIL ☐ OTHER ________

BOARD FINISH:
SILKSCREEN: ☒ TOP ☒ BOTTOM
SILKSCREEN COLOR: ☒ WHITE ☐ OTHER ________
SOLDER RESIST COLOR:
☒ GREEN ☐ BLUE ☐ OTHER ________

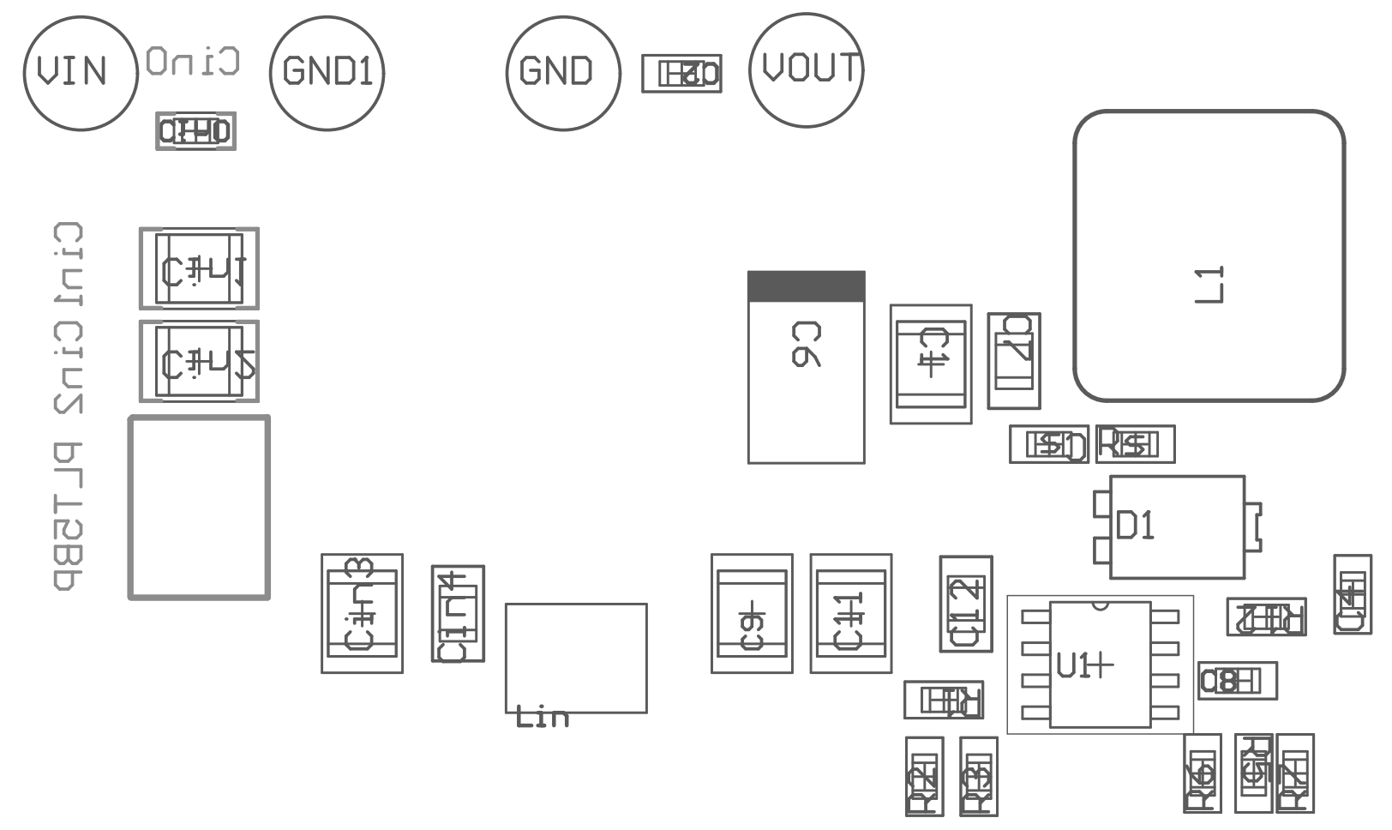
SURFACE FINISH: ☐ IMMERSION GOLD (ENIG) ☒ Pb-FREE HASL
☐ OTHER ________

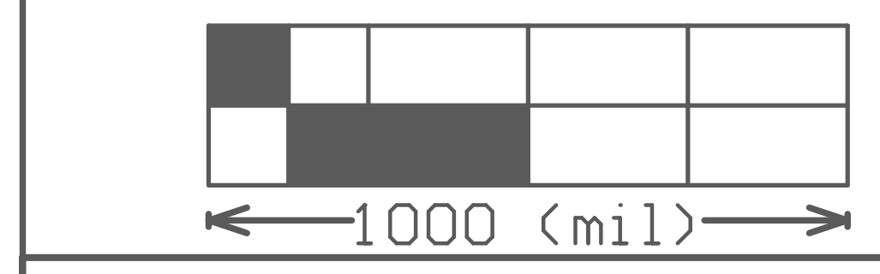
ARRAY/PANEL: ☐ CUT AND TRIM PER MECH LAYER 1
☐ N.C. ROUTE ☒ V. SCORE

CERTIFICATION: MATERIALS AND WORKMANSHIP FOR ALL PCBS
TO MEET OR EXCEED THE REQUIREMENTS OF:
☒ ANSI IPC-A-600F CLASS -> ☐ 1 ☒ 2 ☐ 3
☒ UL 94V-0 ☒ RoHS ☐ OTHER PER ORDER

ADDITIONAL REQUIREMENTS:
MICROSECTION: ☐ YES
BARE BOARD ELEC. TEST: ☐ NONE ☒ REQUIRED ☐ PER ORDER
MANUFACTURER'S ID/LOGO: ☐ RAIL ☐ METAL ☒ SILK

- Install label in silkscreened box after final wash. Text shall be 8 pt font. Text shall be per the Label Table in the PDF schematic.
- These assemblies are ESD sensitive, ESD precautions shall be observed.
- These assemblies must be clean and free from flux and all contaminants. Use of no clean flux is not acceptable.
- These assemblies must comply with workmanship standards IPC-A-610 Class 2., unless otherwise specified.





COMPONENTS MARKED 'DNP' SHOULD NOT BE POPULATED, AND MAY NOT BE IN BILL OF MATERIALS
ASSEMBLY VARIANT: CISPR 22 Version

PCB VIEWED FROM TOP SIDE	BOARD #:	REV: B	SVN REV: Not In VersionControl
LAYER NAME =			
PLOT NAME =	GENERATED : 5/30/2016 3:59:38 PM		TEXAS INSTRUMENTS

PROJECT TITLE:
PMP15013

DESIGNED FOR:

FILE NAME:
PMP15013_LMR16030_Update.PcbDoc

ENGINEER: Vincent Zhang	LAYOUT BY: Vincent Zhang
SCALE: 1.00	ALTIUM DESIGNER VERSION: .Application_16

Layer Stack Up Detail for: PMP15013.PcbDoc

Layer Name	Gerber Document	Copper Thickness	Dielectric Height	Dielectric Material	Dielectric Type
Top Solder Mask	(.GTS)		0.4mil	Solder Resist	
Top Layer	(.GTL)	2.8mil			
			19mil	FR-4	Core
MidLayer1	(.G1)	2.8mil			
			18.4mil	FR-4	PrePreg
MidLayer2	(.G2)	2.8mil			
			19mil	FR-4	Core
Bottom Layer	(.GBL)	2.8mil			
Bottom Solder Mask	(.GBS)		0.4mil	Solder Resist	

DESIGN INFORMATION

BOARD SIZE (REFER ALSO ARRAY/PANEL PROFILING INFORMATION)

3000MIL X 3000MIL

Number of Layers : 4

MIN. TRACK WIDTH: 8 MIL

MIN. CLEARANCE: 8 MIL

MIN. VIA PAD SIZE: 22 MIL

MINIMUM ANNULAR RING 0.05mm (2MIL) EXTERNAL

PER IPC-D-275 CLASS 2 LEVEL C

REGISTRATION TOLERANCES: METAL +/- 5 MIL, HOLES +/- 3 MIL

MATERIAL:
☒ FR-4 ☐ FR-4 High Tg ☐ OTHER

THICKNESS: ☒ 62 MIL (1.6mm) +/-10% ☐ OTHER

TOLERANCE: ☒ ANSI IPC-6012 TYPE 3 CLASS 2
☐ OTHER +/-

BOW & TWIST: ☒ ANSI IPC-6012 TYPE 3 CLASS 2
☐ OTHER +/-

COPPER THICKNESS (FINISHED):
OUTER: ☐ 1.4MIL (1oz) ☐ 2MIL (1.4oz) ☒ 2.8MIL (2oz)
INNER SIGNAL: ☐ 1.4MIL (1oz) ☒ 2.8MIL (2oz)

DRILLING:
REFERENCE: ☒ AS SHOWN ☒ NC_DRILL FILES
PTH MIN COPPER THICKNESS: ☒ 1MIL ☐ OTHER

BOARD FINISH:
SILKSCREEN: ☒ TOP ☒ BOTTOM
SILKSCREEN COLOR: ☒ WHITE ☐ OTHER
SOLDER RESIST COLOR:
☒ GREEN ☐ BLUE ☐ OTHER

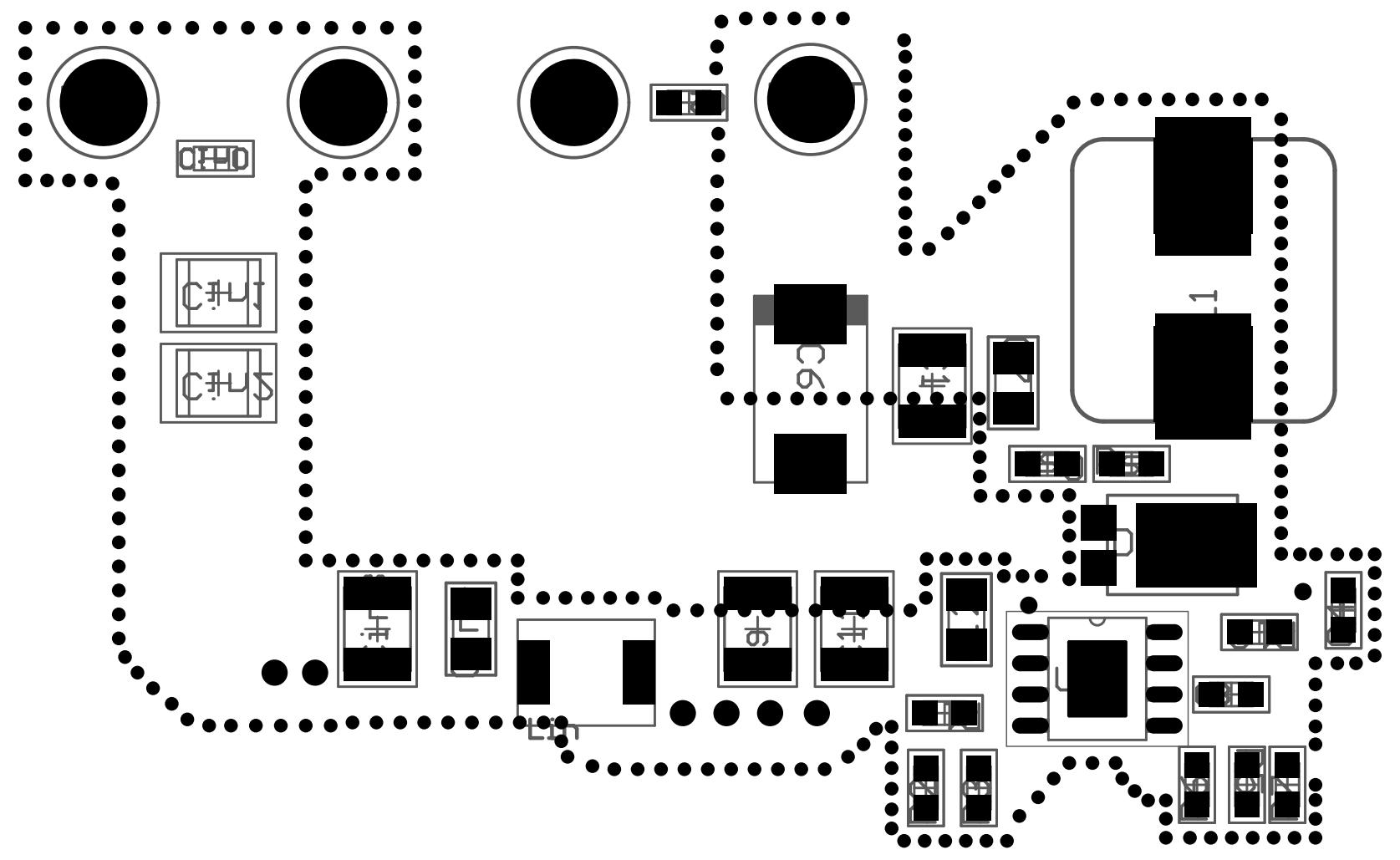
SURFACE FINISH: ☐ IMMERSION GOLD (ENIG) ☒ Pb-FREE HASL
☐ OTHER

ARRAY/PANEL: ☐ CUT AND TRIM PER MECH LAYER 1
☐ N.C. ROUTE ☒ V. SCORE

CERTIFICATION: MATERIALS AND WORKMANSHIP FOR ALL PCBS TO MEET OR EXCEED THE REQUIREMENTS OF:
☒ ANSI IPC-A-600F CLASS -> ☐ 1 ☒ 2 ☐ 3
☒ UL 94V-0 ☒ RoHS ☐ OTHER PER ORDER

ADDITIONAL REQUIREMENTS:
MICROSECTION: ☐ YES
BARE BOARD ELEC. TEST: ☐ NONE ☒ REQUIRED ☐ PER ORDER
MANUFACTURER'S ID/LOGO: ☐ RAIL ☐ METAL ☒ SILK

- Install label in silkscreened box after final wash. Text shall be 8 pt font. Text shall be per the Label Table in the PDF schematic.
- These assemblies are ESD sensitive, ESD precautions shall be observed.
- These assemblies must be clean and free from flux and all contaminants. Use of no clean flux is not acceptable.
- These assemblies must comply with workmanship standards IPC-A-610 Class 2., unless otherwise specified.



1000 (mil)

COMPONENTS MARKED 'DNP' SHOULD NOT BE POPULATED, AND MAY NOT BE IN BILL OF MATERIALS
ASSEMBLY VARIANT: CISPR 22 Version

TEXAS INSTRUMENTS

PROJECT TITLE:
PMP15013

DESIGNED FOR:

FILE NAME:
PMP15013_LMR16030_Update.PcbDoc

PCB VIEWED FROM TOP SIDE	BOARD #:	REV: B	SVN REV: Not In VersionControl
LAYER NAME =			
PLOT NAME =	GENERATED : 5/30/2016 3:59:40 PM		TEXAS INSTRUMENTS

ENGINEER:
Vincent Zhang

LAYOUT BY:
Vincent Zhang

ALTIUM DESIGNER VERSION:
.Application_16

SCALE: 1.00

Layer Stack Up Detail for: PMP15013.PcbDoc

Layer Name	Gerber Document	Copper Thickness	Dielectric Height	Dielectric Material	Dielectric Type
Top Solder Mask	(.GTS)		0.4mil	Solder Resist	
Top Layer	(.GTL)	2.8mil			
			19mil	FR-4	Core
MidLayer1	(.G1)	2.8mil			
			18.4mil	FR-4	PrePreg
MidLayer2	(.G2)	2.8mil			
			19mil	FR-4	Core
Bottom Layer	(.GBL)	2.8mil			
Bottom Solder Mask	(.GBS)		0.4mil	Solder Resist	

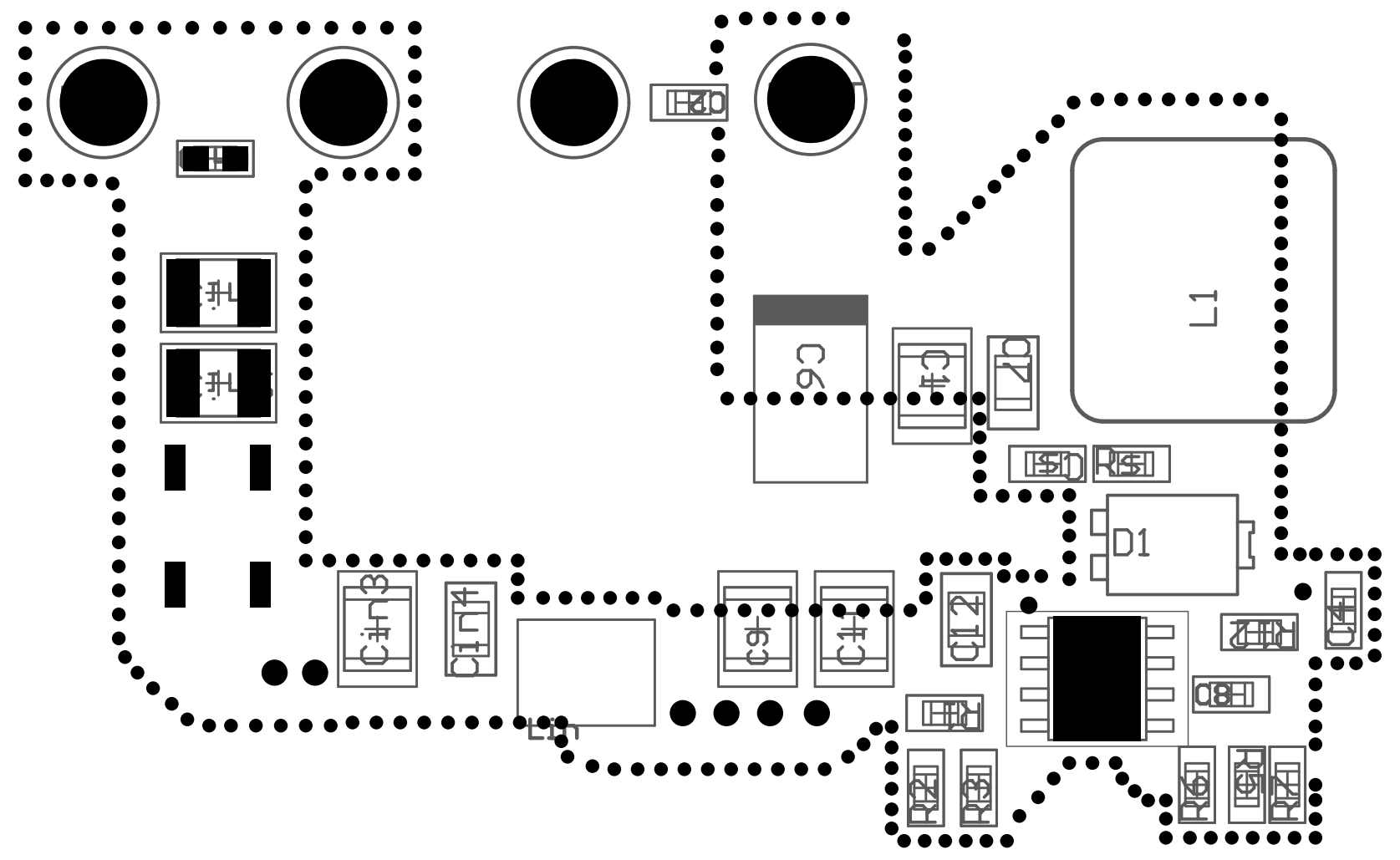
DESIGN INFORMATION

BOARD SIZE (REFER ALSO ARRAY/PANEL PROFILING INFORMATION)
3000MIL X 3000MIL

Number of Layers : 4
MIN. TRACK WIDTH: 8 MIL
MIN. CLEARANCE: 8 MIL
MIN. VIA PAD SIZE: 22 MIL
MINIMUM ANNULAR RING 0.05mm (2MIL) EXTERNAL
PER IPC-D-275 CLASS 2 LEVEL C
REGISTRATION TOLERANCES: METAL +/- 5 MIL, HOLES +/- 3 MIL

MATERIAL:
☒ FR-4 ☐ FR-4 High Tg ☐ OTHER ______
THICKNESS: ☒ 62 MIL (1.6mm) +/-10% ☐ OTHER ______
TOLERANCE: ☒ ANSI IPC-6012 TYPE 3 CLASS 2
☐ OTHER +/- ______
BOW & TWIST: ☒ ANSI IPC-6012 TYPE 3 CLASS 2
☐ OTHER +/- ______
COPPER THICKNESS (FINISHED):
OUTER: ☐ 1.4MIL (1oz) ☐ 2MIL (1.4oz) ☒ 2.8MIL (2oz)
INNER SIGNAL: ☐ 1.4MIL (1oz) ☒ 2.8MIL (2oz)
DRILLING:
REFERENCE: ☒ AS SHOWN ☒ NC_DRILL FILES
PTH MIN COPPER THICKNESS: ☒ 1MIL ☐ OTHER ______
BOARD FINISH:
SILKSCREEN: ☒ TOP ☒ BOTTOM
SILKSCREEN COLOR: ☒ WHITE ☐ OTHER ______
SOLDER RESIST COLOR:
☒ GREEN ☐ BLUE ☐ OTHER ______
SURFACE FINISH: ☐ IMMERSION GOLD (ENIG) ☒ Pb-FREE HASL
☐ OTHER ______
ARRAY/PANEL: ☐ CUT AND TRIM PER MECH LAYER 1
☐ N.C. ROUTE ☒ V. SCORE
CERTIFICATION: MATERIALS AND WORKMANSHIP FOR ALL PCBS TO MEET OR EXCEED THE REQUIREMENTS OF:
☒ ANSI IPC-A-600F CLASS -> ☐ 1 ☒ 2 ☐ 3
☒ UL 94V-0 ☒ RoHS ☐ OTHER PER ORDER
ADDITIONAL REQUIREMENTS:
MICROSECTION: ☐ YES
BARE BOARD ELEC. TEST: ☐ NONE ☒ REQUIRED ☐ PER ORDER
MANUFACTURER'S ID/LOGO: ☐ RAIL ☐ METAL ☒ SILK

- Install label in silkscreened box after final wash. Text shall be 8 pt font. Text shall be per the Label Table in the PDF schematic.
- These assemblies are ESD sensitive, ESD precautions shall be observed.
- These assemblies must be clean and free from flux and all contaminants. Use of no clean flux is not acceptable.
- These assemblies must comply with workmanship standards IPC-A-610 Class 2., unless otherwise specified.



1000 (mil)

COMPONENTS MARKED 'DNP' SHOULD NOT BE POPULATED, AND MAY NOT BE IN BILL OF MATERIALS
ASSEMBLY VARIANT: CISPR 22 Version

PCB VIEWED FROM TOP SIDE
BOARD #:
REV: B
SVN REV: Not In VersionControl
LAYER NAME =
PLOT NAME =
GENERATED : 5/30/2016 3:59:45 PM
TEXAS INSTRUMENTS

PROJECT TITLE:
PMP15013
DESIGNED FOR:
FILE NAME:
PMP15013_LMR16030_Update.PcbDoc
ENGINEER:
Vincent Zhang
LAYOUT BY:
Vincent Zhang
SCALE: 1.00
ALTIUM DESIGNER VERSION:
.Application_16

Layer Stack Up Detail for: PMP15013.PcbDoc

Layer Name	Gerber Document	Copper Thickness	Dielectric Height	Dielectric Material	Dielectric Type
Top Solder Mask	(.GTS)		0.4mil	Solder Resist	
Top Layer	(.GTL)	2.8mil			
			19mil	FR-4	Core
MidLayer1	(.G1)	2.8mil			
			18.4mil	FR-4	PrePreg
MidLayer2	(.G2)	2.8mil			
			19mil	FR-4	Core
Bottom Layer	(.GBL)	2.8mil			
Bottom Solder Mask	(.GBS)		0.4mil	Solder Resist	

DESIGN INFORMATION

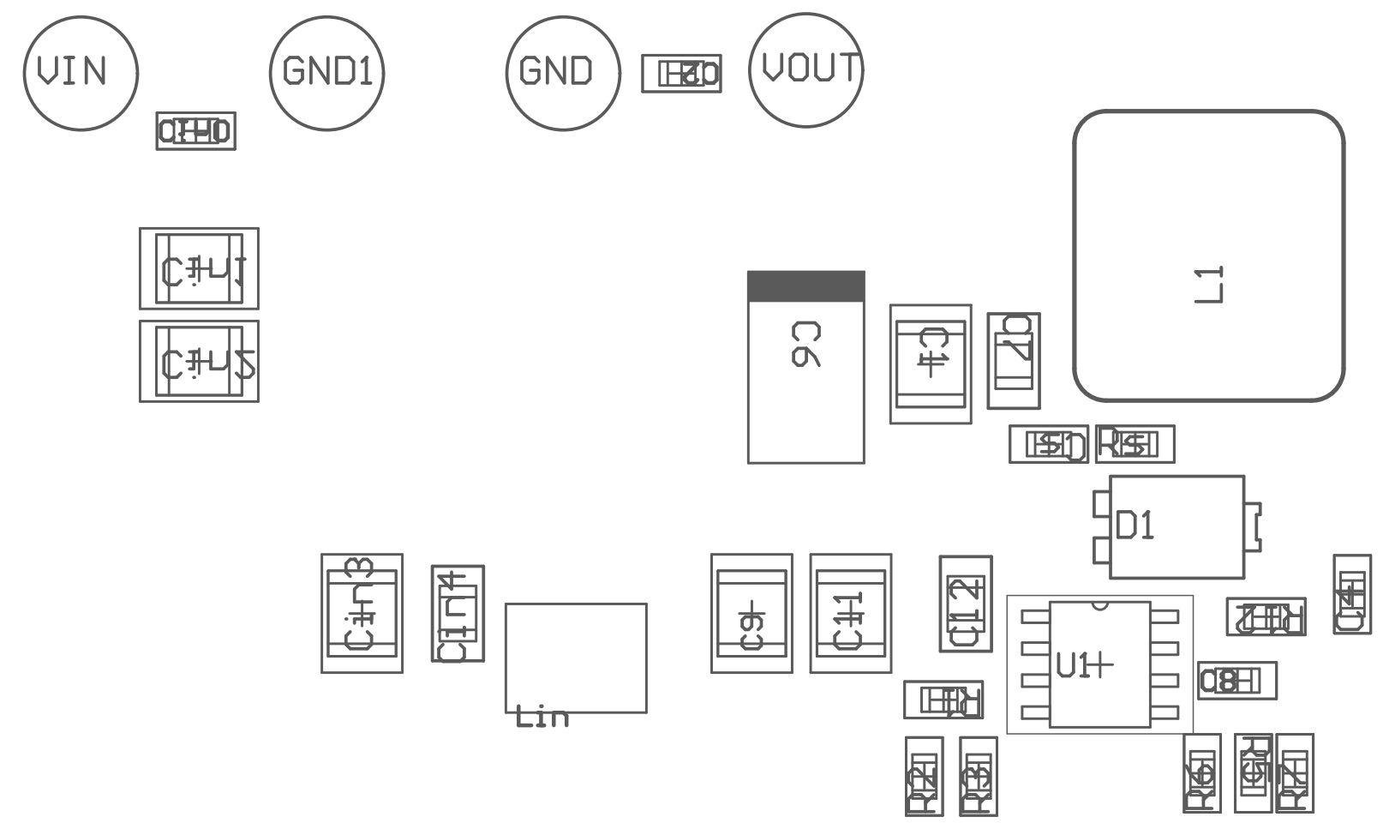
BOARD SIZE (REFER ALSO ARRAY/PANEL PROFILING INFORMATION)
3000MIL X 3000MIL

Number of Layers : 4
MIN. TRACK WIDTH: 8 MIL
MIN. CLEARANCE: 8 MIL
MIN. VIA PAD SIZE: 22 MIL

MINIMUM ANNULAR RING 0.05mm (2MIL) EXTERNAL
PER IPC-D-275 CLASS 2 LEVEL C
REGISTRATION TOLERANCES: METAL +/- 5 MIL, HOLES +/- 3 MIL

MATERIAL:
☒ FR-4 ☐ FR-4 High Tg ☐ OTHER
THICKNESS: ☒ 62 MIL (1.6mm) +/-10% ☐ OTHER
TOLERANCE: ☒ ANSI IPC-6012 TYPE 3 CLASS 2
☐ OTHER +/-
BOW & TWIST: ☒ ANSI IPC-6012 TYPE 3 CLASS 2
☐ OTHER +/-
COPPER THICKNESS (FINISHED):
OUTER: ☐ 1.4MIL (1oz) ☐ 2MIL (1.4oz) ☒ 2.8MIL (2oz)
INNER SIGNAL: ☐ 1.4MIL (1oz) ☒ 2.8MIL (2oz)
DRILLING:
REFERENCE: ☒ AS SHOWN ☒ NC_DRILL FILES
PTH MIN COPPER THICKNESS: ☒ 1MIL ☐ OTHER
BOARD FINISH:
SILKSCREEN: ☒ TOP ☒ BOTTOM
SILKSCREEN COLOR: ☒ WHITE ☐ OTHER
SOLDER RESIST COLOR:
☒ GREEN ☐ BLUE ☐ OTHER
SURFACE FINISH: ☐ IMMERSION GOLD (ENIG) ☒ Pb-FREE HASL
☐ OTHER
ARRAY/PANEL: ☐ CUT AND TRIM PER MECH LAYER 1
☐ N.C. ROUTE ☒ V. SCORE
CERTIFICATION: MATERIALS AND WORKMANSHIP FOR ALL PCBS TO MEET OR EXCEED THE REQUIREMENTS OF:
☒ ANSI IPC-A-600F CLASS -> ☐ 1 ☒ 2 ☐ 3
☒ UL 94V-0 ☒ RoHS ☐ OTHER PER ORDER
ADDITIONAL REQUIREMENTS:
MICROSECTION: ☐ YES
BARE BOARD ELEC. TEST: ☐ NONE ☒ REQUIRED ☐ PER ORDER
MANUFACTURER'S ID/LOGO: ☐ RAIL ☐ METAL ☒ SILK

- Install label in silkscreened box after final wash. Text shall be 8 pt font. Text shall be per the Label Table in the PDF schematic.
- These assemblies are ESD sensitive, ESD precautions shall be observed.
- These assemblies must be clean and free from flux and all contaminants. Use of no clean flux is not acceptable.
- These assemblies must comply with workmanship standards IPC-A-610 Class 2., unless otherwise specified.



1000 (mil)

COMPONENTS MARKED 'DNP' SHOULD NOT BE POPULATED, AND MAY NOT BE IN BILL OF MATERIALS
ASSEMBLY VARIANT: CISPR 22 Version

PROJECT TITLE:
PMP15013
DESIGNED FOR:
FILE NAME:
PMP15013_LMR16030_Update.PcbDoc

PCB VIEWED FROM TOP SIDE
BOARD #:
REV: B
SVN REV: Not In VersionControl
LAYER NAME =
PLOT NAME =
GENERATED : 5/30/2016 3:59:40 PM
TEXAS INSTRUMENTS

ENGINEER:
Vincent Zhang
LAYOUT BY:
Vincent Zhang
ALTIUM DESIGNER VERSION:
.Application_16
SCALE: 1.00

Layer Stack Up Detail for: PMP15013.PcbDoc

Layer Name	Gerber Document	Copper Thickness	Dielectric Height	Dielectric Material	Dielectric Type
Top Solder Mask	(.GTS)		0.4mil	Solder Resist	
Top Layer	(.GTL)	2.8mil			
			19mil	FR-4	Core
MidLayer1	(.G1)	2.8mil			
			18.4mil	FR-4	PrePreg
MidLayer2	(.G2)	2.8mil			
			19mil	FR-4	Core
Bottom Layer	(.GBL)	2.8mil			
Bottom Solder Mask	(.GBS)		0.4mil	Solder Resist	

DESIGN INFORMATION

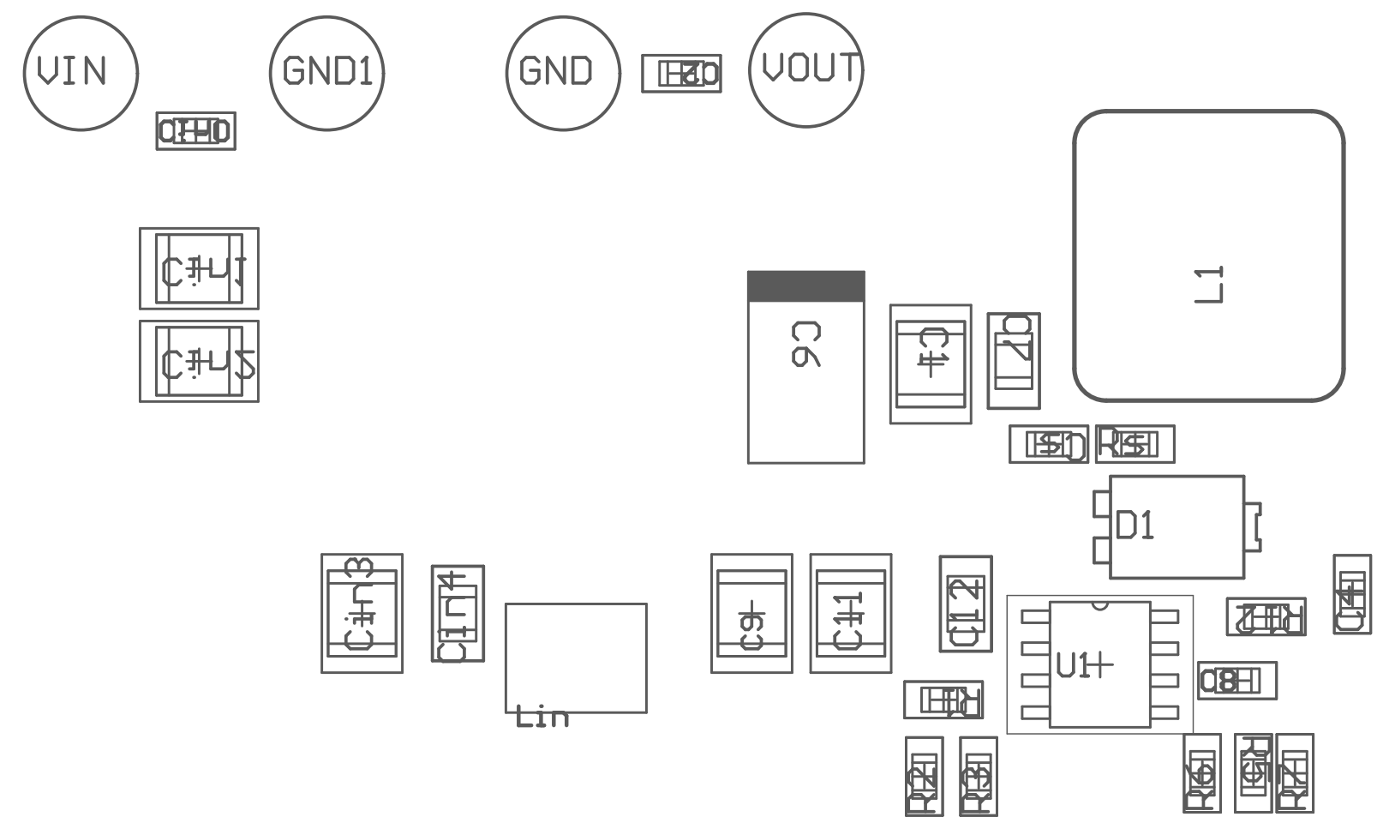
BOARD SIZE (REFER ALSO ARRAY/PANEL PROFILING INFORMATION)
3000MIL X 3000MIL

Number of Layers : 4
MIN. TRACK WIDTH: 8 MIL
MIN. CLEARANCE: 8 MIL
MIN. VIA PAD SIZE: 22 MIL

MINIMUM ANNULAR RING 0.05mm (2MIL) EXTERNAL
PER IPC-D-275 CLASS 2 LEVEL C
REGISTRATION TOLERANCES: METAL +/- 5 MIL, HOLES +/- 3 MIL

MATERIAL:
☒ FR-4 ☐ FR-4 High Tg ☐ OTHER
THICKNESS: ☒ 62 MIL (1.6mm) +/-10% ☐ OTHER
TOLERANCE: ☒ ANSI IPC-6012 TYPE 3 CLASS 2
☐ OTHER +/-
BOW & TWIST: ☒ ANSI IPC-6012 TYPE 3 CLASS 2
☐ OTHER +/-
COPPER THICKNESS (FINISHED):
OUTER: ☐ 1.4MIL (1oz) ☐ 2MIL (1.4oz) ☒ 2.8MIL (2oz)
INNER SIGNAL: ☐ 1.4MIL (1oz) ☒ 2.8MIL (2oz)
DRILLING:
REFERENCE: ☒ AS SHOWN ☒ NC_DRILL FILES
PTH MIN COPPER THICKNESS: ☒ 1MIL ☐ OTHER
BOARD FINISH:
SILKSCREEN: ☒ TOP ☒ BOTTOM
SILKSCREEN COLOR: ☒ WHITE ☐ OTHER
SOLDER RESIST COLOR:
☒ GREEN ☐ BLUE ☐ OTHER
SURFACE FINISH: ☐ IMMERSION GOLD (ENIG) ☒ Pb-FREE HASL
☐ OTHER
ARRAY/PANEL: ☐ CUT AND TRIM PER MECH LAYER 1
☐ N.C. ROUTE ☒ V. SCORE
CERTIFICATION: MATERIALS AND WORKMANSHIP FOR ALL PCBS TO MEET OR EXCEED THE REQUIREMENTS OF:
☒ ANSI IPC-A-600F CLASS -> ☐ 1 ☒ 2 ☐ 3
☒ UL 94V-0 ☒ RoHS ☐ OTHER PER ORDER
ADDITIONAL REQUIREMENTS:
MICROSECTION: ☐ YES
BARE BOARD ELEC. TEST: ☐ NONE ☒ REQUIRED ☐ PER ORDER
MANUFACTURER'S ID/LOGO: ☐ RAIL ☐ METAL ☒ SILK

- Install label in silkscreened box after final wash. Text shall be 8 pt font. Text shall be per the Label Table in the PDF schematic.
- These assemblies are ESD sensitive, ESD precautions shall be observed.
- These assemblies must be clean and free from flux and all contaminants. Use of no clean flux is not acceptable.
- These assemblies must comply with workmanship standards IPC-A-610 Class 2., unless otherwise specified.



1000 (mil)

COMPONENTS MARKED 'DNP' SHOULD NOT BE POPULATED, AND MAY NOT BE IN BILL OF MATERIALS
ASSEMBLY VARIANT: CISPR 22 Version

PROJECT TITLE:
PMP15013

DESIGNED FOR:

FILE NAME:
PMP15013_LMR16030_Update.PcbDoc

PCB VIEWED FROM TOP SIDE
BOARD #:
REV: B
SVN REV: Not In VersionControl
LAYER NAME =
PLOT NAME =
GENERATED : 5/30/2016 3:59:50 PM
TEXAS INSTRUMENTS

ENGINEER:
Vincent Zhang
SCALE: 1.00

LAYOUT BY:
Vincent Zhang
ALTIUM DESIGNER VERSION:
.Application_16

Layer Stack Up Detail for: PMP15013.PcbDoc

Layer Name	Gerber Document	Copper Thickness	Dielectric Height	Dielectric Material	Dielectric Type
Top Solder Mask	(.GTS)		0.4mil	Solder Resist	
Top Layer	(.GTL)	2.8mil			
			19mil	FR-4	Core
MidLayer1	(.G1)	2.8mil			
			18.4mil	FR-4	PrePreg
MidLayer2	(.G2)	2.8mil			
			19mil	FR-4	Core
Bottom Layer	(.GBL)	2.8mil			
Bottom Solder Mask	(.GBS)		0.4mil	Solder Resist	

DESIGN INFORMATION

BOARD SIZE (REFER ALSO ARRAY/PANEL PROFILING INFORMATION)
3000MIL X 3000MIL

Number of Layers : 4
MIN. TRACK WIDTH: 8 MIL
MIN. CLEARANCE: 8 MIL
MIN. VIA PAD SIZE: 22 MIL

MINIMUM ANNULAR RING 0.05mm (2MIL) EXTERNAL
PER IPC-D-275 CLASS 2 LEVEL C
REGISTRATION TOLERANCES: METAL +/- 5 MIL, HOLES +/- 3 MIL

MATERIAL:
☒ FR-4 ☐ FR-4 High Tg ☐ OTHER ______
THICKNESS: ☒ 62 MIL (1.6mm) +/-10% ☐ OTHER ______
TOLERANCE: ☒ ANSI IPC-6012 TYPE 3 CLASS 2
☐ OTHER +/- ______
BOW & TWIST: ☒ ANSI IPC-6012 TYPE 3 CLASS 2
☐ OTHER +/- ______

COPPER THICKNESS (FINISHED):
OUTER: ☐ 1.4MIL (1oz) ☐ 2MIL (1.4oz) ☒ 2.8MIL (2oz)
INNER SIGNAL: ☐ 1.4MIL (1oz) ☒ 2.8MIL (2oz)

DRILLING:
REFERENCE: ☒ AS SHOWN ☒ NC_DRILL FILES
PTH MIN COPPER THICKNESS: ☒ 1MIL ☐ OTHER ______

BOARD FINISH:
SILKSCREEN: ☒ TOP ☒ BOTTOM
SILKSCREEN COLOR: ☒ WHITE ☐ OTHER ______
SOLDER RESIST COLOR:
☒ GREEN ☐ BLUE ☐ OTHER ______

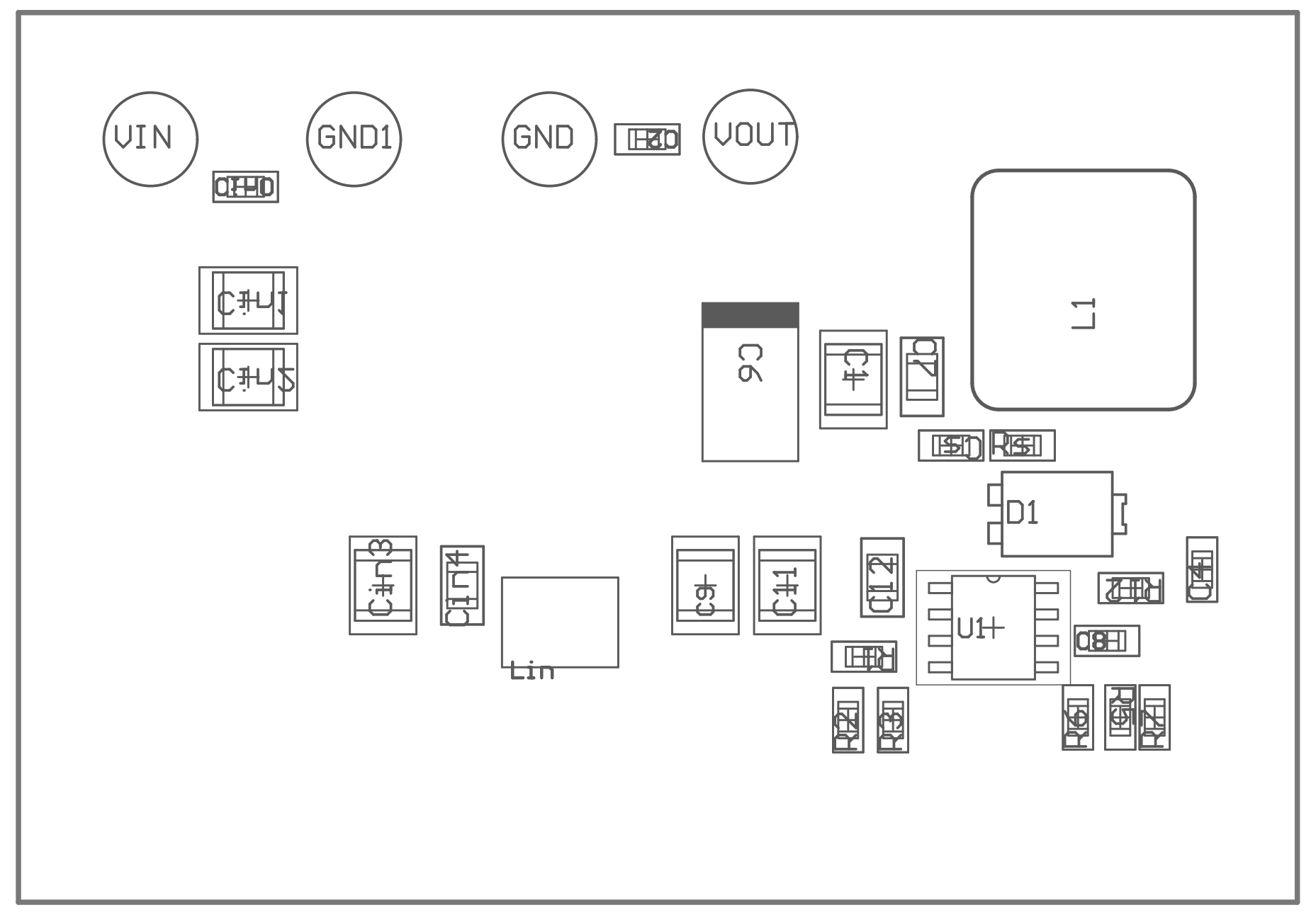
SURFACE FINISH: ☐ IMMERSION GOLD (ENIG) ☒ Pb-FREE HASL
☐ OTHER ______

ARRAY/PANEL: ☐ CUT AND TRIM PER MECH LAYER 1
☐ N.C. ROUTE ☒ V. SCORE

CERTIFICATION: MATERIALS AND WORKMANSHIP FOR ALL PCBS
TO MEET OR EXCEED THE REQUIREMENTS OF:
☒ ANSI IPC-A-600F CLASS -> ☐ 1 ☒ 2 ☐ 3
☒ UL 94V-0 ☒ RoHS ☐ OTHER PER ORDER

ADDITIONAL REQUIREMENTS:
MICROSECTION: ☐ YES
BARE BOARD ELEC. TEST: ☐ NONE ☒ REQUIRED ☐ PER ORDER
MANUFACTURER'S ID/LOGO: ☐ RAIL ☐ METAL ☒ SILK

- Install label in silkscreened box after final wash. Text shall be 8 pt font. Text shall be per the Label Table in the PDF schematic.
- These assemblies are ESD sensitive, ESD precautions shall be observed.
- These assemblies must be clean and free from flux and all contaminants. Use of no clean flux is not acceptable.
- These assemblies must comply with workmanship standards IPC-A-610 Class 2., unless otherwise specified.



1000 (mil)

COMPONENTS MARKED 'DNP' SHOULD NOT BE POPULATED, AND MAY NOT BE IN BILL OF MATERIALS
ASSEMBLY VARIANT: CISPR 22 Version

PCB VIEWED FROM TOP SIDE	BOARD #:	REV: B	SVN REV: Not In VersionControl
LAYER NAME =			
PLOT NAME =	GENERATED : 5/30/2016 3:59:55 PM		TEXAS INSTRUMENTS

PROJECT TITLE:
PMP15013

DESIGNED FOR:

FILE NAME:
PMP15013_LMR16030_Update.PcbDoc

ENGINEER:
Vincent Zhang

LAYOUT BY:
Vincent Zhang

SCALE: 1.00

ALTIUM DESIGNER VERSION:
.Application_16

IMPORTANT NOTICE FOR TI REFERENCE DESIGNS

Texas Instruments Incorporated (‘TI”) reference designs are solely intended to assist designers (“Designer(s)”) who are developing systems that incorporate TI products. TI has not conducted any testing other than that specifically described in the published documentation for a particular reference design.

TI’s provision of reference designs and any other technical, applications or design advice, quality characterization, reliability data or other information or services does not expand or otherwise alter TI’s applicable published warranties or warranty disclaimers for TI products, and no additional obligations or liabilities arise from TI providing such reference designs or other items.

TI reserves the right to make corrections, enhancements, improvements and other changes to its reference designs and other items.

Designer understands and agrees that Designer remains responsible for using its independent analysis, evaluation and judgment in designing Designer’s systems and products, and has full and exclusive responsibility to assure the safety of its products and compliance of its products (and of all TI products used in or for such Designer’s products) with all applicable regulations, laws and other applicable requirements. Designer represents that, with respect to its applications, it has all the necessary expertise to create and implement safeguards that (1) anticipate dangerous consequences of failures, (2) monitor failures and their consequences, and (3) lessen the likelihood of failures that might cause harm and take appropriate actions. Designer agrees that prior to using or distributing any systems that include TI products, Designer will thoroughly test such systems and the functionality of such TI products as used in such systems. Designer may not use any TI products in life-critical medical equipment unless authorized officers of the parties have executed a special contract specifically governing such use. Life-critical medical equipment is medical equipment where failure of such equipment would cause serious bodily injury or death (e.g., life support, pacemakers, defibrillators, heart pumps, neurostimulators, and implantables). Such equipment includes, without limitation, all medical devices identified by the U.S. Food and Drug Administration as Class III devices and equivalent classifications outside the U.S.

Designers are authorized to use, copy and modify any individual TI reference design only in connection with the development of end products that include the TI product(s) identified in that reference design. HOWEVER, NO OTHER LICENSE, EXPRESS OR IMPLIED, BY ESTOPPEL OR OTHERWISE TO ANY OTHER TI INTELLECTUAL PROPERTY RIGHT, AND NO LICENSE TO ANY TECHNOLOGY OR INTELLECTUAL PROPERTY RIGHT OF TI OR ANY THIRD PARTY IS GRANTED HEREIN, including but not limited to any patent right, copyright, mask work right, or other intellectual property right relating to any combination, machine, or process in which TI products or services are used. Information published by TI regarding third-party products or services does not constitute a license to use such products or services, or a warranty or endorsement thereof. Use of the reference design or other items described above may require a license from a third party under the patents or other intellectual property of the third party, or a license from TI under the patents or other intellectual property of TI.

TI REFERENCE DESIGNS AND OTHER ITEMS DESCRIBED ABOVE ARE PROVIDED “AS IS” AND WITH ALL FAULTS. TI DISCLAIMS ALL OTHER WARRANTIES OR REPRESENTATIONS, EXPRESS OR IMPLIED, REGARDING THE REFERENCE DESIGNS OR USE OF THE REFERENCE DESIGNS, INCLUDING BUT NOT LIMITED TO ACCURACY OR COMPLETENESS, TITLE, ANY EPIDEMIC FAILURE WARRANTY AND ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND NON-INFRINGEMENT OF ANY THIRD PARTY INTELLECTUAL PROPERTY RIGHTS.

TI SHALL NOT BE LIABLE FOR AND SHALL NOT DEFEND OR INDEMNIFY DESIGNERS AGAINST ANY CLAIM, INCLUDING BUT NOT LIMITED TO ANY INFRINGEMENT CLAIM THAT RELATES TO OR IS BASED ON ANY COMBINATION OF PRODUCTS AS DESCRIBED IN A TI REFERENCE DESIGN OR OTHERWISE. IN NO EVENT SHALL TI BE LIABLE FOR ANY ACTUAL, DIRECT, SPECIAL, COLLATERAL, INDIRECT, PUNITIVE, INCIDENTAL, CONSEQUENTIAL OR EXEMPLARY DAMAGES IN CONNECTION WITH OR ARISING OUT OF THE REFERENCE DESIGNS OR USE OF THE REFERENCE DESIGNS, AND REGARDLESS OF WHETHER TI HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

TI’s standard terms of sale for semiconductor products (http://www.ti.com/sc/docs/stdterms.htm) apply to the sale of packaged integrated circuit products. Additional terms may apply to the use or sale of other types of TI products and services.

Designer will fully indemnify TI and its representatives against any damages, costs, losses, and/or liabilities arising out of Designer’s non-compliance with the terms and provisions of this Notice.

Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265