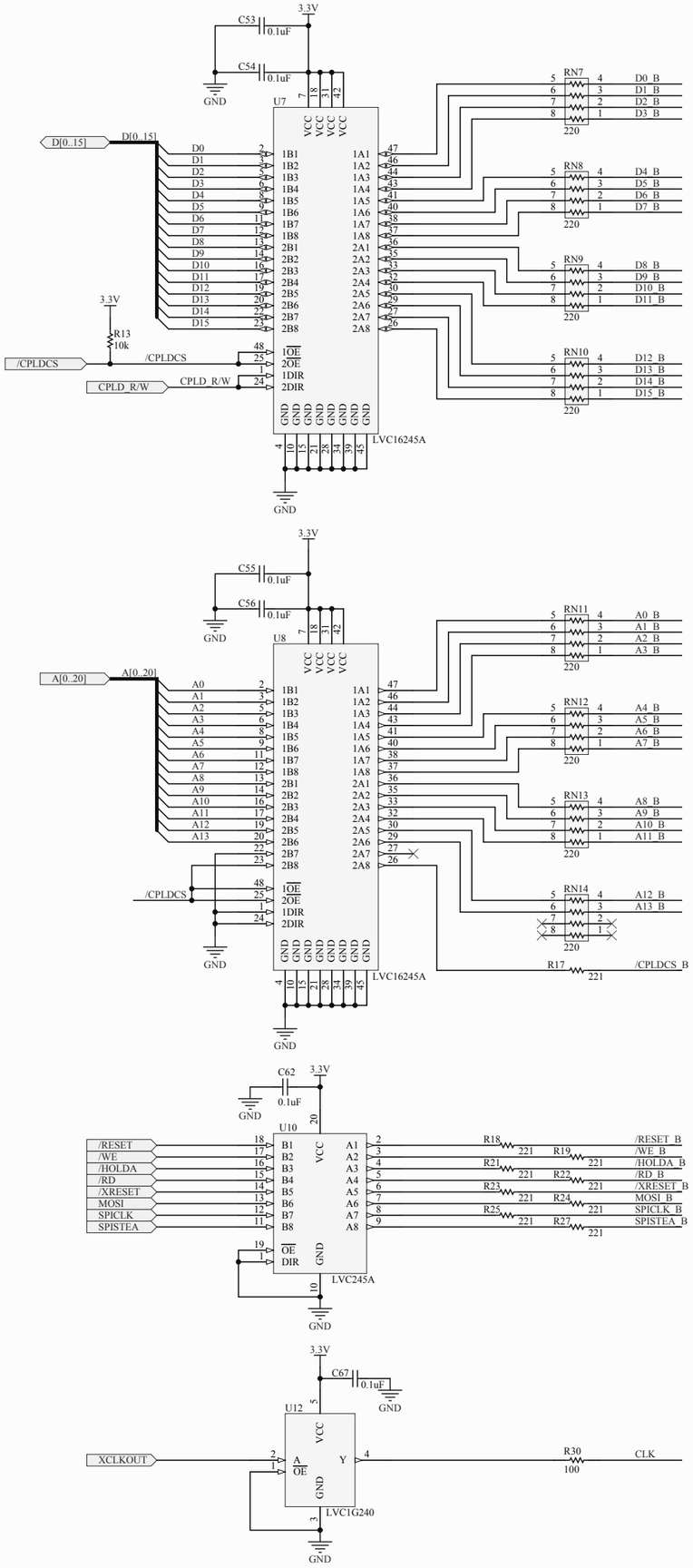
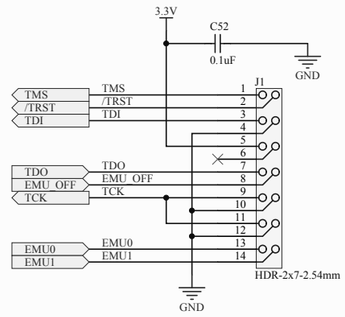
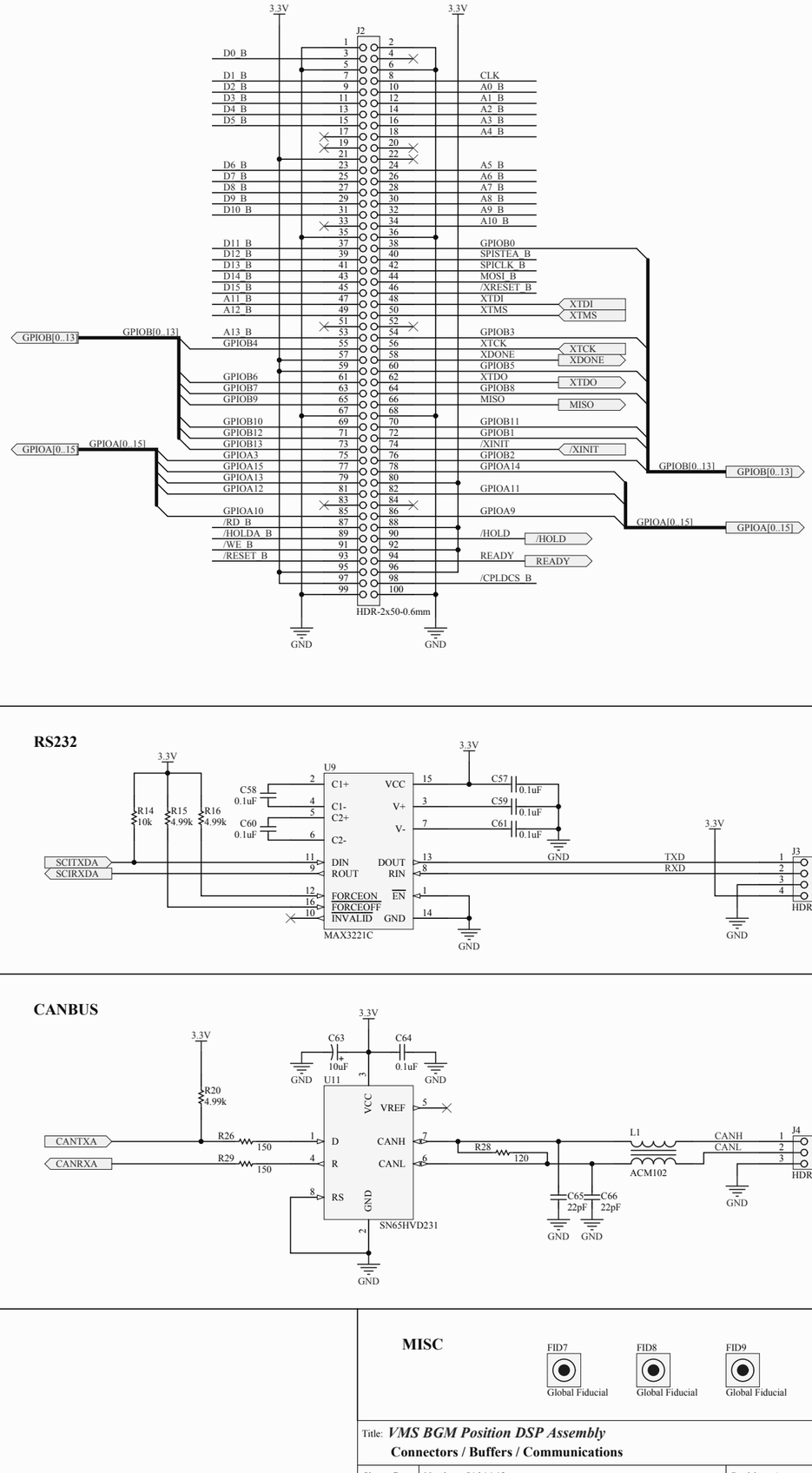
BUFFERS



JTAG



ETX CONNECTOR



RS232

CANBUS

MISC

FID7 Global Fiducial
FID8 Global Fiducial
FID9 Global Fiducial
FID10 Global Fiducial

Title: *VMS BGM Position DSP Assembly*
Connectors / Buffers / Communications

Size: C	Number: 5101148	Revision: A
Engineer: C. Back		
Date: Dec 7, 2010		Sheet * of *
File: Connectors.SchDoc		

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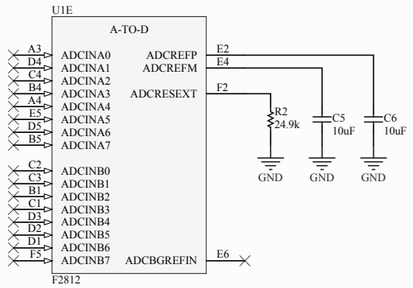
A-TO-D



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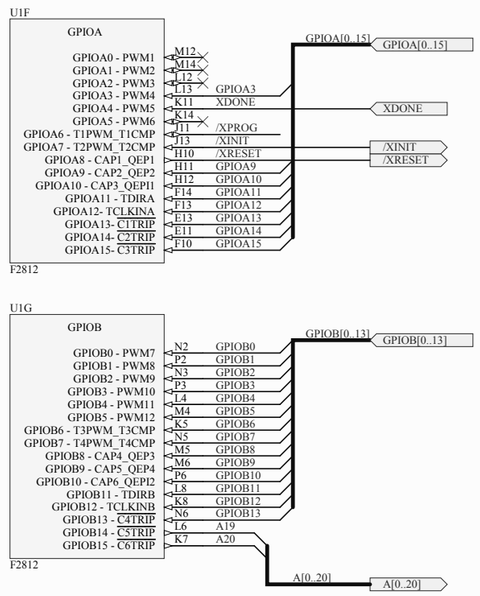
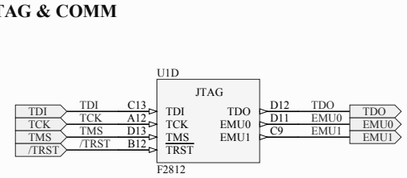
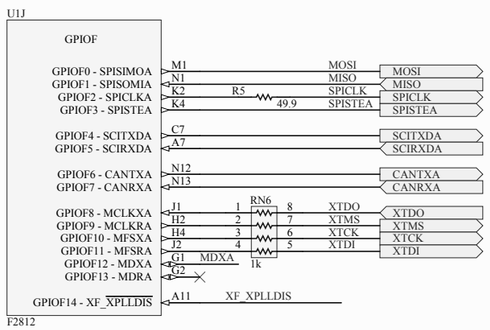
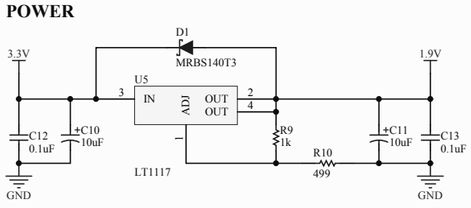


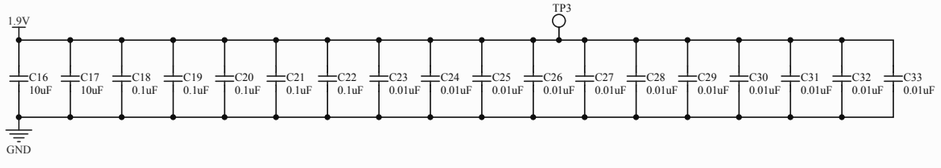
JTAG & COMM

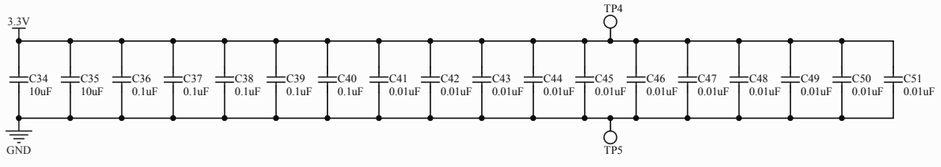




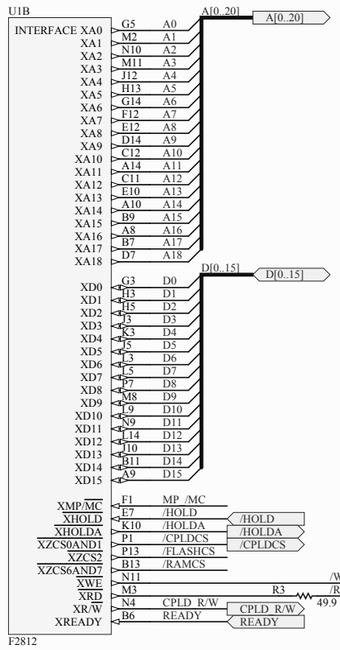
POWER

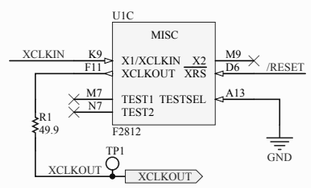




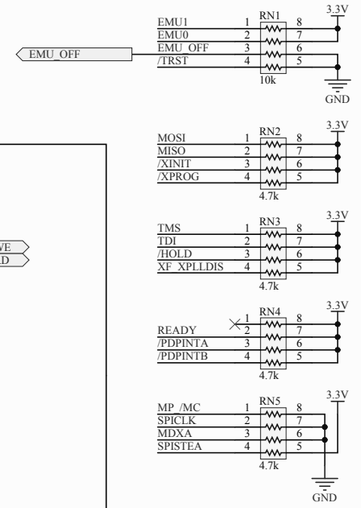


INTERFACE & CONTROL

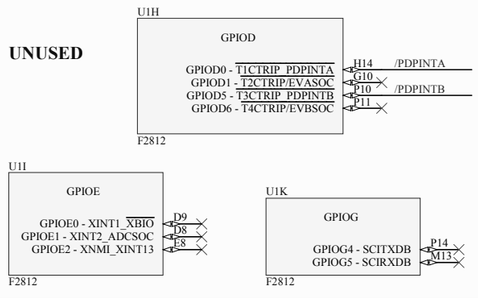


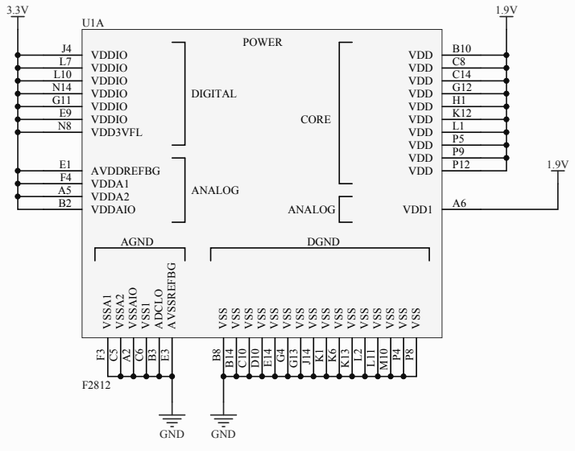


PULL-UPS & PULL-DOWNS

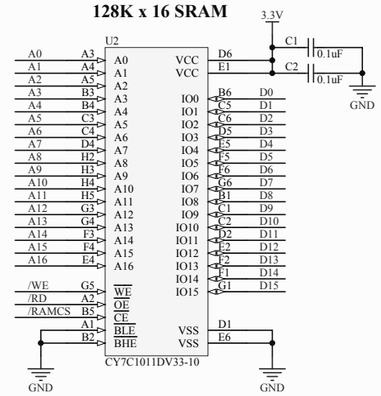


UNUSED

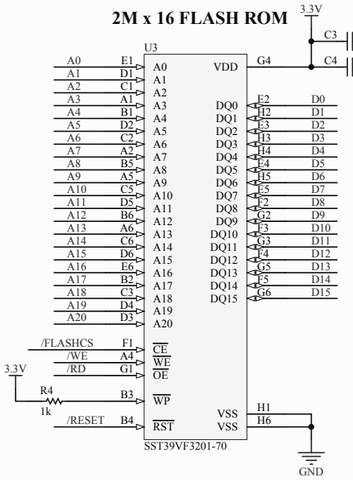




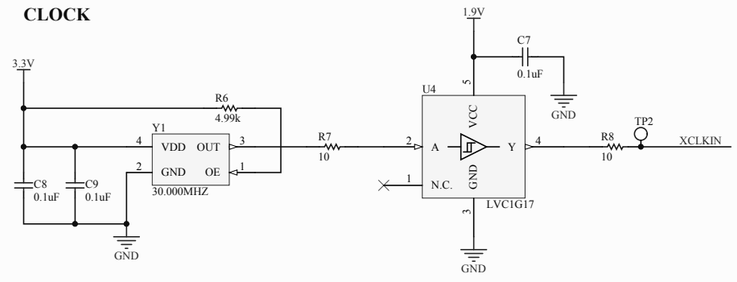
128K x 16 SRAM



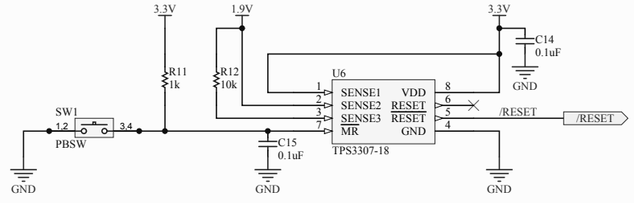
2M x 16 FLASH ROM



CLOCK



RESET



Title: *VMS BGM Position DSP Assembly* **DSP / Clock / Reset**		
Size: C	Number: 5101148	Revision: A
Engineer: C. Back		
Date: Dec 7, 2010		Sheet * of *
File: DSP.SchDoc		

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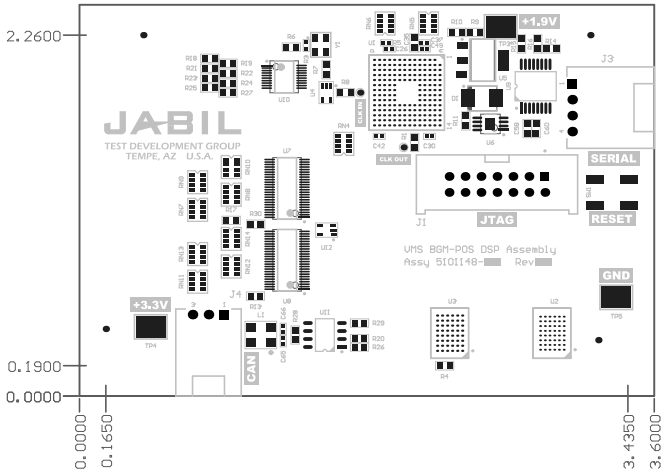

Top Assembly Drawing

Notes:

- Board is to be RoHS Compliant
- 4 mil minimum copper spacing
- Board Finish: ENIG

Layer Stack Information

Name	Type	Thickness
Top	Signal	1 oz
Mid Layer 1	Signal	1 oz
Ground	Plane	1 oz
Mid Layer 2	Signal	1 oz
Mid Layer 3	Signal	1 oz
Power	Plane	1 oz
Mid Layer 4	Signal	1 oz
Bottom	Signal	1 oz

Dielectric Material: PCL-370HR or Equivalent	**Board Thickness:** 0.062 +/- 0.006
Solder Mask: Green LPI SMOBC	**Silk Screen Color:** White
Dimension Units: Inches	**Dimension Tolerance:** x.xxx = +/- 0.005 x.xx = +/- 0.01 Angle = +/- 2 Degrees

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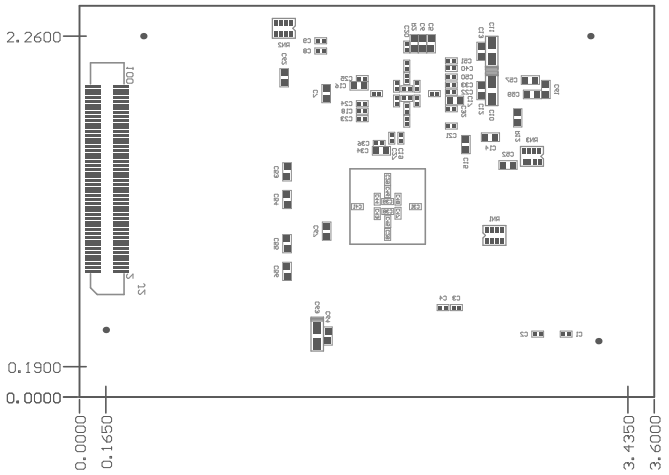
ENGINEER: C. Back	TITLE: VMS BGM Position DSP Assembly Top Assembly Drawing		
PCB DESIGNER: C. Back			
DATE: Dec 7, 2010	PART NO.: 5101149	SCALE: SCALE: 1.00	
FILE NAME: 5101149.PcbDoc	ASSY NO: 5101148		SIZE: A



Bottom Assembly Drawing

Notes:

- Board is to be RoHS Compliant
- 4 mil minimum copper spacing
- Board Finish: ENIG

Layer Stack Information

Name	Type	Thickness
Top	Signal	1 oz
Mid Layer 1	Signal	1 oz
Ground	Plane	1 oz
Mid Layer 2	Signal	1 oz
Mid Layer 3	Signal	1 oz
Power	Plane	1 oz
Mid Layer 4	Signal	1 oz
Bottom	Signal	1 oz

Dielectric Material: PCL-370HR or Equivalent	**Board Thickness:** 0.062 +/- 0.006
Solder Mask: Green LPI SMOBC	**Silk Screen Color:** White
Dimension Units: Inches	**Dimension Tolerance:** x.xxx = +/- 0.005 x.xx = +/- 0.01 Angle = +/- 2 Degrees

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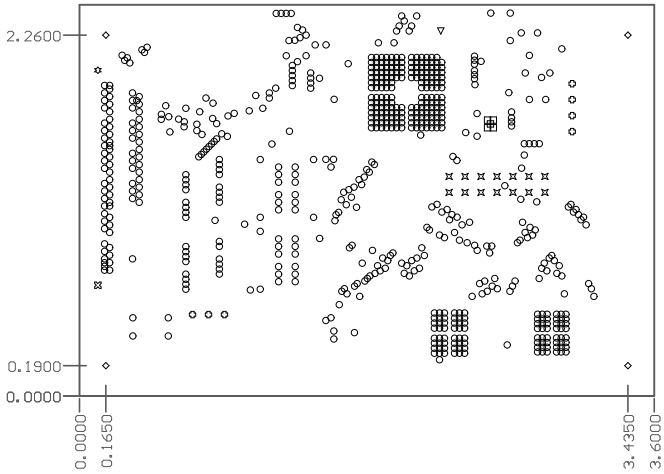
ENGINEER: C. Back	TITLE: VMS BGM Position DSP Assembly Bottom Assembly Drawing		
PCB DESIGNER: C. Back			
DATE: Dec 7, 2010	PART NO.: 5101149	SCALE: SCALE: 1.00	
FILE NAME: 5101149.PcbDoc	ASSY NO: 5101148		SIZE: A



Drill Drawing For (Bottom Layer,Top Layer)

Symbol	Hit Count	Tool Size	Plated	Hole Type
○	663	8mil (0.2032mm)	PTH	Round
□	5	11.811mil (0.3mm)	PTH	Round
▽	1	13mil (0.3302mm)	PTH	Round
✡	1	27.559mil (0.7mm)	NPTH	Round
⌑	14	40mil (1.016mm)	PTH	Round
⊠	1	43.307mil (1.1mm)	NPTH	Round
⌬	7	45mil (1.143mm)	PTH	Round
◇	4	120mil (3.048mm)	PTH	Round
	696 Total			

HOLE SIZE TOLERANCE:

Finished Hole Tolerance: +/−0.003

Via Hole Tolerance: +0.003/−Hole Size

Slot Tolerance: +/−0.006

Notes:

- Board is to be RoHS Compliant
- 4 mil minimum copper spacing
- Board Finish: ENIG

Layer Stack Information

Name	Type	Thickness
Top	Signal	1 oz
Mid Layer 1	Signal	1 oz
Ground	Plane	1 oz
Mid Layer 2	Signal	1 oz
Mid Layer 3	Signal	1 oz
Power	Plane	1 oz
Mid Layer 4	Signal	1 oz
Bottom	Signal	1 oz

Dielectric Material:	Board Thickness:
PCL−370HR or Equivalent	0.062 +/− 0.006
Solder Mask:	**Silk Screen Color:**
Green LPI SMOBC	White
Dimension Units:	**Dimension Tolerance:**
Inches	x.xxx = +/− 0.005 x.xx = +/− 0.01 Angle = +/− 2 Degrees

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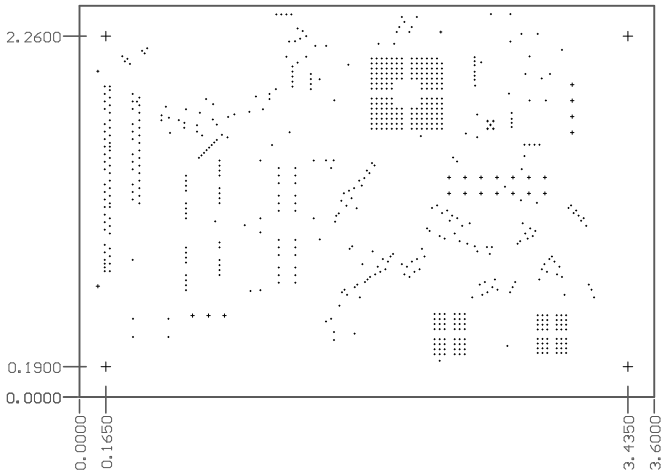
ENGINEER: C. Back	TITLE: VMS BGM Position DSP Assembly Drill Drawing For (Bottom Layer,Top Layer)		
PCB DESIGNER: C. Back			
DATE: Dec 7, 2010	PART NO.: 5101149	SCALE: SCALE: 1.00	
FILE NAME: 5101149.PcbDoc	ASSY NO: 5101148		SIZE: A



Drill Guide For (Bottom Layer,Top Layer)

Notes:

- Board is to be RoHS Compliant
- 4 mil minimum copper spacing
- Board Finish: ENIG

Layer Stack Information

Name	Type	Thickness
Top	Signal	1 oz
Mid Layer 1	Signal	1 oz
Ground	Plane	1 oz
Mid Layer 2	Signal	1 oz
Mid Layer 3	Signal	1 oz
Power	Plane	1 oz
Mid Layer 4	Signal	1 oz
Bottom	Signal	1 oz

Dielectric Material:	Board Thickness:
PCL-370HR or Equivalent	0.062 +/- 0.006
Solder Mask:	**Silk Screen Color:**
Green LPI SMOBC	White
Dimension Units:	**Dimension Tolerance:**
Inches	x.xxx = +/- 0.005 x.xx = +/- 0.01 Angle = +/- 2 Degrees

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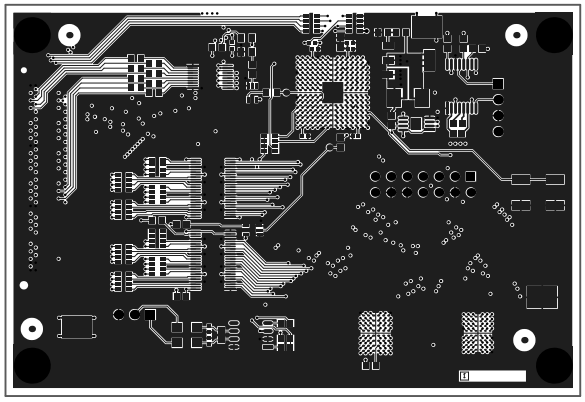
ENGINEER: C. Back	TITLE: VMS BGM Position DSP Assembly Drill Guide For (Bottom Layer,Top Layer)	
PCB DESIGNER: C. Back		
DATE: Dec 7, 2010	PART NO.: 5101149	SCALE: SCALE: 1.00
FILE NAME: 5101149.PcbDoc	ASSY NO: 5101148	SIZE: A



Top Layer

Notes:

- Board is to be RoHS Compliant
- 4 mil minimum copper spacing
- Board Finish: ENIG

Layer Stack Information

Name	Type	Thickness
Top	Signal	1 oz
Mid Layer 1	Signal	1 oz
Ground	Plane	1 oz
Mid Layer 2	Signal	1 oz
Mid Layer 3	Signal	1 oz
Power	Plane	1 oz
Mid Layer 4	Signal	1 oz
Bottom	Signal	1 oz

Dielectric Material:	Board Thickness:
PCL-370HR or Equivalent	0.062 +/- 0.006
Solder Mask:	**Silk Screen Color:**
Green LPI SMOBC	White
Dimension Units:	**Dimension Tolerance:**
Inches	x.xxx = +/- 0.005 x.xx = +/- 0.01 Angle = +/- 2 Degrees

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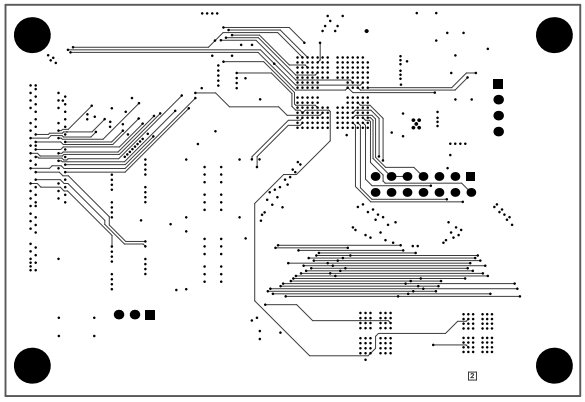
ENGINEER: C. Back	TITLE: VMS BGM Position DSP Assembly Top Layer	
PCB DESIGNER: C. Back		
DATE: Dec 7, 2010	PART NO.: 5101149	SCALE: SCALE: 1.00
FILE NAME: 5101149.PcbDoc	ASSY NO: 5101148	SIZE: A



MidLayer1

Notes:

- Board is to be RoHS Compliant
- 4 mil minimum copper spacing
- Board Finish: ENIG

Layer Stack Information

Name	Type	Thickness
Top	Signal	1 oz
Mid Layer 1	Signal	1 oz
Ground	Plane	1 oz
Mid Layer 2	Signal	1 oz
Mid Layer 3	Signal	1 oz
Power	Plane	1 oz
Mid Layer 4	Signal	1 oz
Bottom	Signal	1 oz

Dielectric Material: PCL-370HR or Equivalent	**Board Thickness:** 0.062 +/- 0.006
Solder Mask: Green LPI SMOBC	**Silk Screen Color:** White
Dimension Units: Inches	**Dimension Tolerance:** x.xxx = +/- 0.005 x.xx = +/- 0.01 Angle = +/- 2 Degrees

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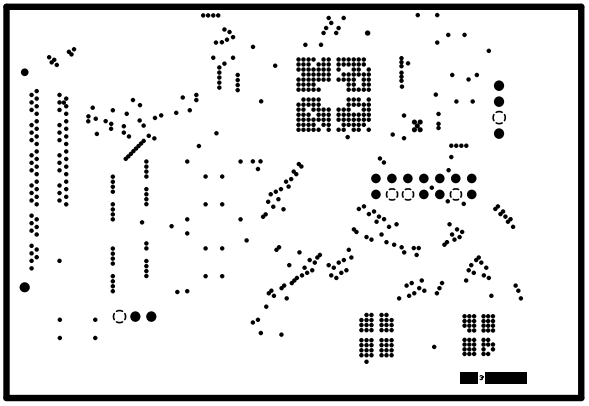
ENGINEER: C. Back	TITLE: VMS BGM Position DSP Assembly MidLayer1		
PCB DESIGNER: C. Back			
DATE: Dec 7, 2010	PART NO.: 5101149	SCALE: SCALE: 1.00	
FILE NAME: 5101149.PcbDoc	ASSY NO: 5101148		SIZE: A



Ground (GND)

Notes:

- Board is to be RoHS Compliant
- 4 mil minimum copper spacing
- Board Finish: ENIG

Layer Stack Information

Name	Type	Thickness
Top	Signal	1 oz
Mid Layer 1	Signal	1 oz
Ground	Plane	1 oz
Mid Layer 2	Signal	1 oz
Mid Layer 3	Signal	1 oz
Power	Plane	1 oz
Mid Layer 4	Signal	1 oz
Bottom	Signal	1 oz

Dielectric Material: PCL-370HR or Equivalent	**Board Thickness:** 0.062 +/- 0.006
Solder Mask: Green LPI SMOBC	**Silk Screen Color:** White
Dimension Units: Inches	**Dimension Tolerance:** x.xxx = +/- 0.005 x.xx = +/- 0.01 Angle = +/- 2 Degrees

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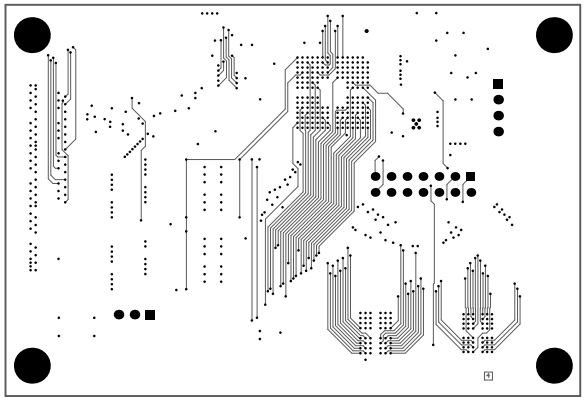
ENGINEER: C. Back	TITLE: VMS BGM Position DSP Assembly Ground (GND)		
PCB DESIGNER: C. Back			
DATE: Dec 7, 2010	PART NO.: 5101149	SCALE: SCALE: 1.00	
FILE NAME: 5101149.PcbDoc	ASSY NO: 5101148		SIZE: A



MidLayer2

Notes:

- Board is to be RoHS Compliant
- 4 mil minimum copper spacing
- Board Finish: ENIG

Layer Stack Information

Name	Type	Thickness
Top	Signal	1 oz
Mid Layer 1	Signal	1 oz
Ground	Plane	1 oz
Mid Layer 2	Signal	1 oz
Mid Layer 3	Signal	1 oz
Power	Plane	1 oz
Mid Layer 4	Signal	1 oz
Bottom	Signal	1 oz

Dielectric Material: PCL-370HR or Equivalent	**Board Thickness:** 0.062 +/- 0.006
Solder Mask: Green LPI SMOBC	**Silk Screen Color:** White
Dimension Units: Inches	**Dimension Tolerance:** x.xxx = +/- 0.005 x.xx = +/- 0.01 Angle = +/- 2 Degrees

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615 S RIVER DR
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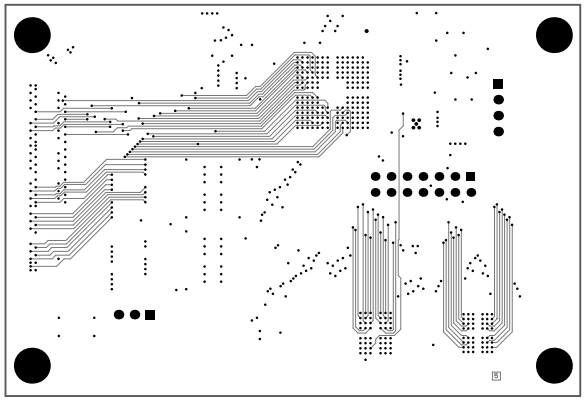
AZ 85281

ENGINEER: C. Back	TITLE: VMS BGM Position DSP Assembly MidLayer2		
PCB DESIGNER: C. Back			
DATE: Dec 7, 2010	PART NO.: 5101149	SCALE: SCALE: 1.00	
FILE NAME: 5101149.PcbDoc	ASSY NO: 5101148		SIZE: A



MidLayer3

Notes:

- Board is to be RoHS Compliant
- 4 mil minimum copper spacing
- Board Finish: ENIG

Layer Stack Information

Name	Type	Thickness
Top	Signal	1 oz
Mid Layer 1	Signal	1 oz
Ground	Plane	1 oz
Mid Layer 2	Signal	1 oz
Mid Layer 3	Signal	1 oz
Power	Plane	1 oz
Mid Layer 4	Signal	1 oz
Bottom	Signal	1 oz

Dielectric Material:	Board Thickness:
PCL-370HR or Equivalent	0.062 +/- 0.006
Solder Mask:	**Silk Screen Color:**
Green LPI SMOBC	White
Dimension Units:	**Dimension Tolerance:**
Inches	x.xxx = +/- 0.005 x.xx = +/- 0.01 Angle = +/- 2 Degrees

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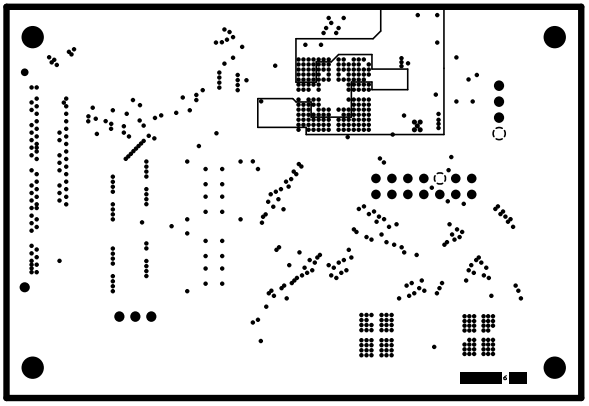
AZ 85281

ENGINEER: C. Back	TITLE: VMS BGM Position DSP Assembly MidLayer3	
PCB DESIGNER: C. Back		
DATE: Dec 7, 2010	PART NO.: 5101149	SCALE: SCALE: 1.00
FILE NAME: 5101149.PcbDoc	ASSY NO: 5101148	SIZE: A



Power ((Multiple Nets))

Notes:

- Board is to be RoHS Compliant
- 4 mil minimum copper spacing
- Board Finish: ENIG

Layer Stack Information

Name	Type	Thickness
Top	Signal	1 oz
Mid Layer 1	Signal	1 oz
Ground	Plane	1 oz
Mid Layer 2	Signal	1 oz
Mid Layer 3	Signal	1 oz
Power	Plane	1 oz
Mid Layer 4	Signal	1 oz
Bottom	Signal	1 oz

Dielectric Material: PCL-370HR or Equivalent	**Board Thickness:** 0.062 +/- 0.006
Solder Mask: Green LPI SMOBC	**Silk Screen Color:** White
Dimension Units: Inches	**Dimension Tolerance:** x.xxx = +/- 0.005 x.xx = +/- 0.01 Angle = +/- 2 Degrees

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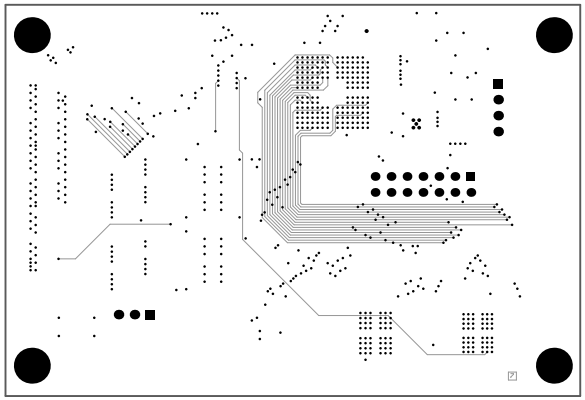
ENGINEER: C. Back	TITLE: VMS BGM Position DSP Assembly Power ((Multiple Nets))		
PCB DESIGNER: C. Back			
DATE: Dec 7, 2010	PART NO.: 5101149	SCALE: SCALE: 1.00	
FILE NAME: 5101149.PcbDoc	ASSY NO: 5101148		SIZE: A



MidLayer4

Notes:

- Board is to be RoHS Compliant
- 4 mil minimum copper spacing
- Board Finish: ENIG

Layer Stack Information

Name	Type	Thickness
Top	Signal	1 oz
Mid Layer 1	Signal	1 oz
Ground	Plane	1 oz
Mid Layer 2	Signal	1 oz
Mid Layer 3	Signal	1 oz
Power	Plane	1 oz
Mid Layer 4	Signal	1 oz
Bottom	Signal	1 oz

Dielectric Material: PCL-370HR or Equivalent	**Board Thickness:** 0.062 +/- 0.006
Solder Mask: Green LPI SMOBC	**Silk Screen Color:** White
Dimension Units: Inches	**Dimension Tolerance:** x.xxx = +/- 0.005 x.xx = +/- 0.01 Angle = +/- 2 Degrees

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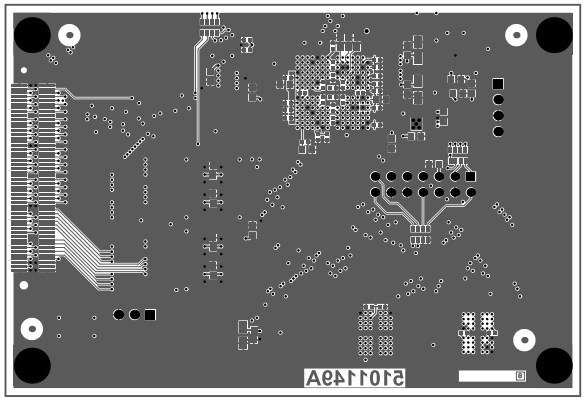
AZ 85281

ENGINEER: C. Back	TITLE: VMS BGM Position DSP Assembly MidLayer4		
PCB DESIGNER: C. Back			
DATE: Dec 7, 2010	PART NO.: 5101149	SCALE: SCALE: 1.00	
FILE NAME: 5101149.PcbDoc	ASSY NO: 5101148		SIZE: A



Bottom Layer

Notes:

- Board is to be RoHS Compliant
- 4 mil minimum copper spacing
- Board Finish: ENIG

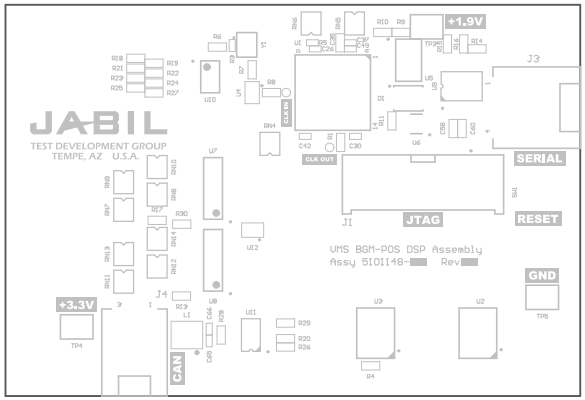
Layer Stack Information

Name	Type	Thickness
Top	Signal	1 oz
Mid Layer 1	Signal	1 oz
Ground	Plane	1 oz
Mid Layer 2	Signal	1 oz
Mid Layer 3	Signal	1 oz
Power	Plane	1 oz
Mid Layer 4	Signal	1 oz
Bottom	Signal	1 oz

Dielectric Material:	Board Thickness:
PCL-370HR or Equivalent	0.062 +/- 0.006
Solder Mask:	**Silk Screen Color:**
Green LPI SMOBC	White
Dimension Units:	**Dimension Tolerance:**
Inches	x.xxx = +/- 0.005 x.xx = +/- 0.01 Angle = +/- 2 Degrees

JABIL
615 S RIVER DR
TEMPE
AZ 85281

ENGINEER: C. Back	TITLE: VMS BGM Position DSP Assembly Bottom Layer	
PCB DESIGNER: C. Back		
DATE: Dec 7, 2010	PART NO.: 5101149	SCALE: SCALE: 1.00
FILE NAME: 5101149.PcbDoc	ASSY NO: 5101148	SIZE: A



Top Silkscreen Overlay

Notes:

- Board is to be RoHS Compliant
- 4 mil minimum copper spacing
- Board Finish: ENIG

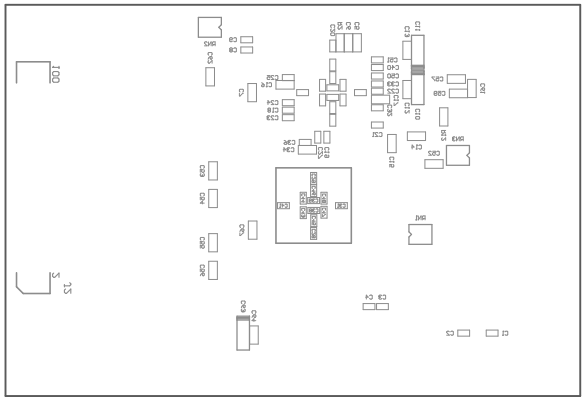
Layer Stack Information

Name	Type	Thickness
Top	Signal	1 oz
Mid Layer 1	Signal	1 oz
Ground	Plane	1 oz
Mid Layer 2	Signal	1 oz
Mid Layer 3	Signal	1 oz
Power	Plane	1 oz
Mid Layer 4	Signal	1 oz
Bottom	Signal	1 oz

Dielectric Material:	Board Thickness:
PCL-370HR or Equivalent	0.062 +/- 0.006
Solder Mask:	**Silk Screen Color:**
Green LPI SMOBC	White
Dimension Units:	**Dimension Tolerance:**
Inches	x.xxx = +/- 0.005 x.xx = +/- 0.01 Angle = +/- 2 Degrees

JABIL
615 S RIVER DR
TEMPE
AZ 85281

ENGINEER: C. Back	TITLE: VMS BGM Position DSP Assembly Top Silkscreen Overlay	
PCB DESIGNER: C. Back		
DATE: Dec 7, 2010	PART NO.: 5101149	SCALE: SCALE: 1.00
FILE NAME: 5101149.PcbDoc	ASSY NO: 5101148	SIZE: A



Bottom Silkscreen Overlay

Notes:

- Board is to be RoHS Compliant
- 4 mil minimum copper spacing
- Board Finish: ENIG

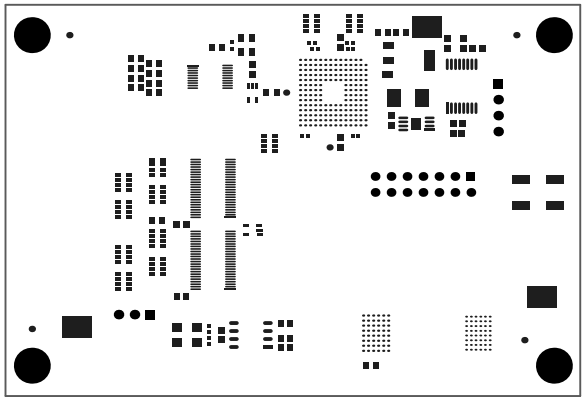
Layer Stack Information

Name	Type	Thickness
Top	Signal	1 oz
Mid Layer 1	Signal	1 oz
Ground	Plane	1 oz
Mid Layer 2	Signal	1 oz
Mid Layer 3	Signal	1 oz
Power	Plane	1 oz
Mid Layer 4	Signal	1 oz
Bottom	Signal	1 oz

Dielectric Material: PCL-370HR or Equivalent	**Board Thickness:** 0.062 +/- 0.006
Solder Mask: Green LPI SMOBC	**Silk Screen Color:** White
Dimension Units: Inches	**Dimension Tolerance:** x.xxx = +/- 0.005 x.xx = +/- 0.01 Angle = +/- 2 Degrees

JABIL
615 S RIVER DR
TEMPE
AZ 85281

ENGINEER: C. Back	TITLE: VMS BGM Position DSP Assembly Bottom Silkscreen Overlay		
PCB DESIGNER: C. Back			
DATE: Dec 7, 2010	PART NO.: 5101149	SCALE: SCALE: 1.00	
FILE NAME: 5101149.PcbDoc	ASSY NO: 5101148		SIZE: A



Top Pad Master

Notes:

- Board is to be RoHS Compliant
- 4 mil minimum copper spacing
- Board Finish: ENIG

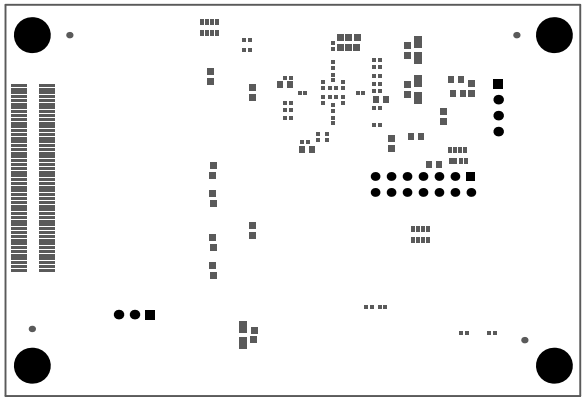
Layer Stack Information

Name	Type	Thickness
Top	Signal	1 oz
Mid Layer 1	Signal	1 oz
Ground	Plane	1 oz
Mid Layer 2	Signal	1 oz
Mid Layer 3	Signal	1 oz
Power	Plane	1 oz
Mid Layer 4	Signal	1 oz
Bottom	Signal	1 oz

Dielectric Material: PCL-370HR or Equivalent	**Board Thickness:** 0.062 +/- 0.006
Solder Mask: Green LPI SMOBC	**Silk Screen Color:** White
Dimension Units: Inches	**Dimension Tolerance:** x.xxx = +/- 0.005 x.xx = +/- 0.01 Angle = +/- 2 Degrees

JABIL
615 S RIVER DR
TEMPE
AZ 85281

ENGINEER: C. Back	TITLE: VMS BGM Position DSP Assembly Top Pad Master		
PCB DESIGNER: C. Back			
DATE: Dec 7, 2010	PART NO.: 5101149	SCALE: SCALE: 1.00	
FILE NAME: 5101149.PcbDoc	ASSY NO: 5101148		SIZE: A



Bottom Pad Master

Notes:

- Board is to be RoHS Compliant
- 4 mil minimum copper spacing
- Board Finish: ENIG

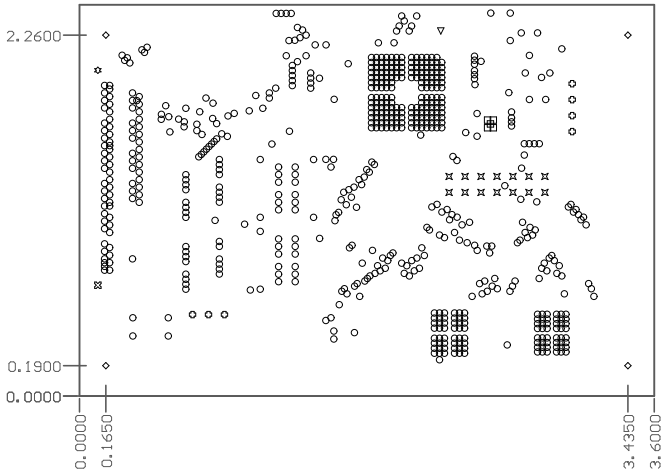
Layer Stack Information

Name	Type	Thickness
Top	Signal	1 oz
Mid Layer 1	Signal	1 oz
Ground	Plane	1 oz
Mid Layer 2	Signal	1 oz
Mid Layer 3	Signal	1 oz
Power	Plane	1 oz
Mid Layer 4	Signal	1 oz
Bottom	Signal	1 oz

Dielectric Material:	Board Thickness:
PCL-370HR or Equivalent	0.062 +/- 0.006
Solder Mask:	**Silk Screen Color:**
Green LPI SMOBC	White
Dimension Units:	**Dimension Tolerance:**
Inches	x.xxx = +/- 0.005 x.xx = +/- 0.01 Angle = +/- 2 Degrees

JABIL
615 S RIVER DR
TEMPE
AZ 85281

ENGINEER: C. Back	TITLE: VMS BGM Position DSP Assembly Bottom Pad Master	
PCB DESIGNER: C. Back		
DATE: Dec 7, 2010	PART NO.: 5101149	SCALE: SCALE: 1.00
FILE NAME: 5101149.PcbDoc	ASSY NO: 5101148	SIZE: A



Drill Drawing For (Bottom Layer,Top Layer)

Symbol	Hit Count	Tool Size	Plated	Hole Type
○	663	8mil (0.2032mm)	PTH	Round
□	5	11.811mil (0.3mm)	PTH	Round
▽	1	13mil (0.3302mm)	PTH	Round
✡	1	27.559mil (0.7mm)	NPTH	Round
⌑	14	40mil (1.016mm)	PTH	Round
⊠	1	43.307mil (1.1mm)	NPTH	Round
⌬	7	45mil (1.143mm)	PTH	Round
◇	4	120mil (3.048mm)	PTH	Round
	696 Total			

HOLE SIZE TOLERANCE:

Finished Hole Tolerance: +/−0.003

Via Hole Tolerance: +0.003/−Hole Size

Slot Tolerance: +/−0.006

Notes:

- Board is to be RoHS Compliant
- 4 mil minimum copper spacing
- Board Finish: ENIG

Layer Stack Information

Name	Type	Thickness
Top	Signal	1 oz
Mid Layer 1	Signal	1 oz
Ground	Plane	1 oz
Mid Layer 2	Signal	1 oz
Mid Layer 3	Signal	1 oz
Power	Plane	1 oz
Mid Layer 4	Signal	1 oz
Bottom	Signal	1 oz

Dielectric Material:	Board Thickness:
PCL−370HR or Equivalent	0.062 +/− 0.006
Solder Mask:	**Silk Screen Color:**
Green LPI SMOBC	White
Dimension Units:	**Dimension Tolerance:**
Inches	x.xxx = +/− 0.005 x.xx = +/− 0.01 Angle = +/− 2 Degrees

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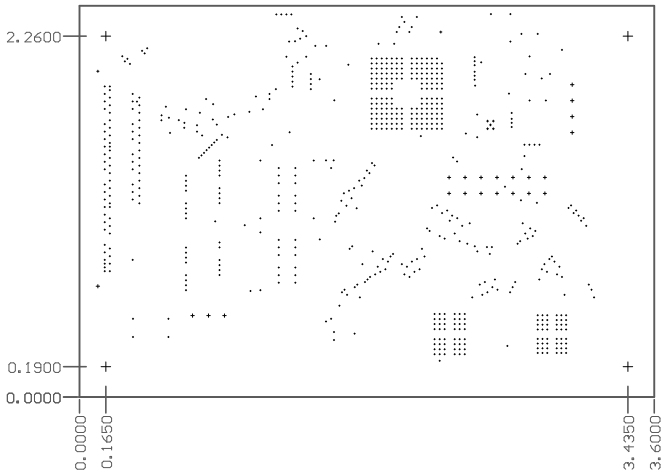
615 S RIVER DR
TEMPE
AZ 85281

ENGINEER: C. Back	TITLE: VMS BGM Position DSP Assembly Drill Drawing For (Bottom Layer,Top Layer)		
PCB DESIGNER: C. Back			
DATE: Dec 7, 2010	PART NO.: 5101149	SCALE: SCALE: 1.00	
FILE NAME: 5101149.PcbDoc	ASSY NO: 5101148		SIZE: A



Drill Guide For (Bottom Layer,Top Layer)

Notes:

- Board is to be RoHS Compliant
- 4 mil minimum copper spacing
- Board Finish: ENIG

Layer Stack Information

Name	Type	Thickness
Top	Signal	1 oz
Mid Layer 1	Signal	1 oz
Ground	Plane	1 oz
Mid Layer 2	Signal	1 oz
Mid Layer 3	Signal	1 oz
Power	Plane	1 oz
Mid Layer 4	Signal	1 oz
Bottom	Signal	1 oz

Dielectric Material:	Board Thickness:
PCL-370HR or Equivalent	0.062 +/- 0.006
Solder Mask:	**Silk Screen Color:**
Green LPI SMOBC	White
Dimension Units:	**Dimension Tolerance:**
Inches	x.xxx = +/- 0.005 x.xx = +/- 0.01 Angle = +/- 2 Degrees

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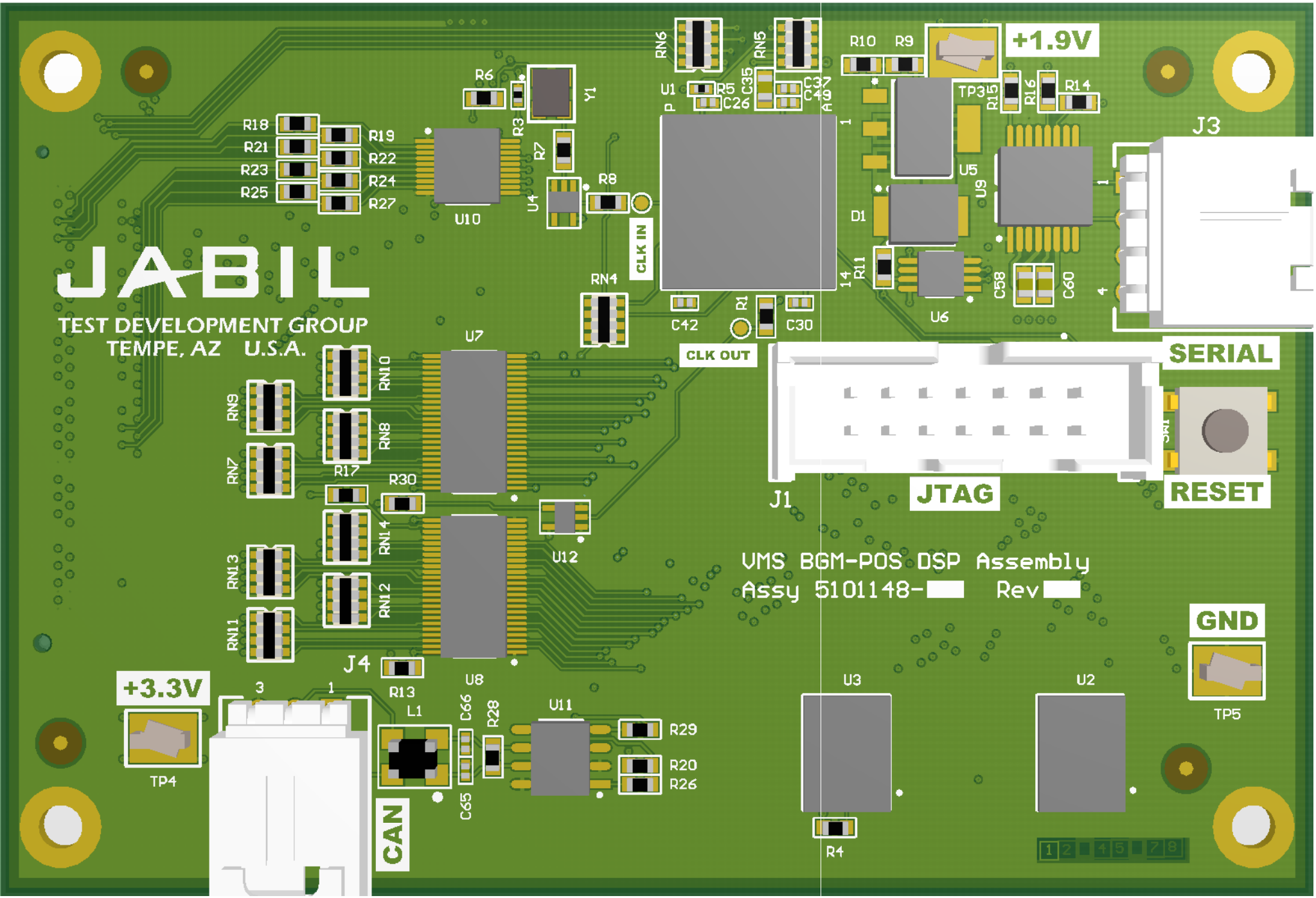
615 S RIVER DR
TEMPE
AZ 85281

ENGINEER: C. Back	TITLE: VMS BGM Position DSP Assembly Drill Guide For (Bottom Layer,Top Layer)	
PCB DESIGNER: C. Back		
DATE: Dec 7, 2010	PART NO.: 5101149	SCALE: SCALE: 1.00
FILE NAME: 5101149.PcbDoc	ASSY NO: 5101148	SIZE: A


JABIL
TEST DEVELOPMENT GROUP
TEMPE, AZ U.S.A.
VMS BGM-POS DSP Assembly
Assy 5101148-
Rev
+1.9V
+3.3V
GND
SERIAL
RESET
JTAG
CAN
CLK IN
CLK OUT
J1
J3
J4
U1
U2
U3
U4
U5
U6
U7
U8
U9
U10
U11
U12
Y1
D1
L1
TP3
TP4
TP5
R1
R3
R4
R5
R6
R7
R8
R9
R10
R11
R12
R13
R14
R15
R16
R17
R18
R19
R20
R21
R22
R23
R24
R25
R26
R27
R28
R29
R30
RN4
RN5
RN6
RN7
RN8
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C26
C30
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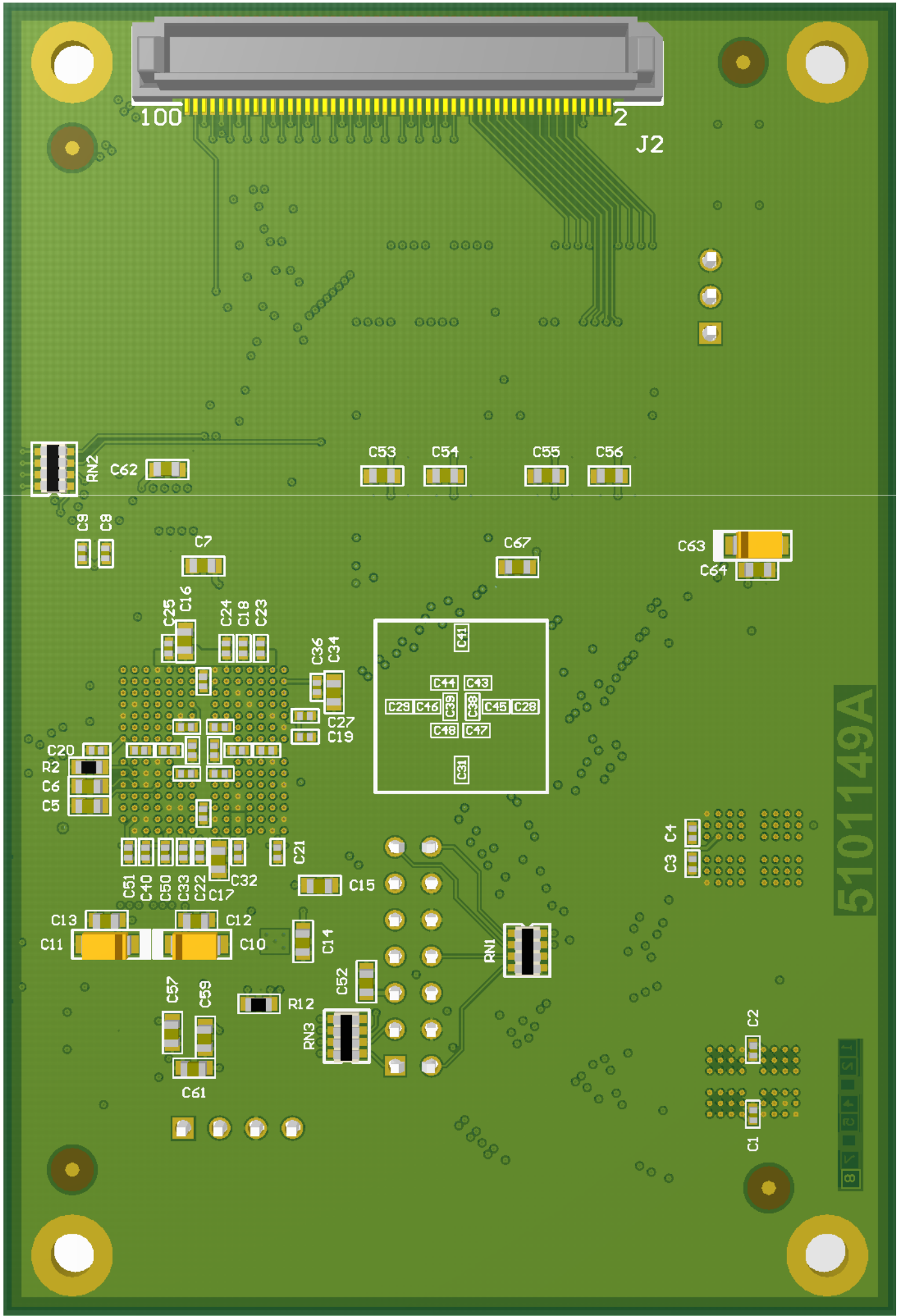
C58
C60
C65
C66


100
2
J2
RN2
C62
C53
C54
C55
C56
C9
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C63
C64
C25
C16
C24
C18
C23
C36
C34
C41
C44
C43
C29
C46
C39
C38
C45
C28
C48
C47
C31
C27
C19
C20
R2
C6
C5
C21
C51
C40
C50
C33
C22
C17
C32
C15
C4
C3
C13
C12
C11
C10
C14
RN1
C52
C57
C59
R12
RN3
C61
C2
C1
5101149A

Bill of Materials

Bill of Materials For Project [5101148.PrjPCB] (No PCB Document Selected)

Source Data From: 5101148.PrjPCB
Project: 5101148.PrjPCB
Variant: None

Creation Date: 2/15/2011 10:01:03 AM
Print Date: 15-Feb-11 10:01:13 AM

Manufacturer	Manufacturer P/N	RoHS Compliant	Designator	Description	Quantity	Vendor	Vendor P/N	Unit Cost	Subtotal
TDK	C1005X7R1C104K	Yes	C1, C2, C3, C4, C8, C9, C18, C19, C20, C21, C22, C36, C37, C38, C39, C40	CAP, 0.1uF Ceramic, X7R, 16V, 10%, 0402, SMD, RoHS	16	MOUSER ELECTRONICS	810-C1005X7R1C104K	0.06	$0.96
KEMET	C0603C106M9PACTU	Yes	C5, C6, C16, C17, C34, C35	CAP, 10uF Ceramic, X5R, 6.3V, 20%, 0603, SMD, RoHS	6	MOUSER ELECTRONICS	80-C0603C106M9P	0.62	$3.72
KEMET	C0603C104K5RACTU	Yes	C7, C12, C13, C14, C15, C52, C53, C54, C55, C56, C57, C58, C59, C60, C61, C62, C64, C67	CAP, 0.1uF Ceramic, X7R, 50V, 10%, 0603, SMD, RoHS	18	MOUSER ELECTRONICS	80-C0603C104K5R411	0.05	$0.90
AVX	TCJA106M016R0200	Yes	C10, C11, C63	CAP, 10uF Polymer Tantalum, 16V, 20%, 200m Ohms ESR, 3216-18, SMD, RoHS	3	MOUSER ELECTRONICS	581-TCJA106M16R200	1.08	$3.24
KEMET	C0402C103K5RACTU	Yes	C23, C24, C25, C26, C27, C28, C29, C30, C31, C32, C33, C41, C42, C43, C44, C45, C46, C47, C48, C49, C50, C51	CAP, 0.01uF Ceramic, X7R, 50V, 10%, 0402, SMD, RoHS	22	MOUSER ELECTRONICS	80-C0402C103K5R	0.05	$1.10
MURATA	GRM1555C1H220FZ01D	Yes	C65, C66	CAP, 22pF Ceramic, NP0, 50V, 1%, 0402, SMD, RoHS	2	MOUSER ELECTRONICS	81-GRM1555C1H220FZ1D	0.04	$0.08
ON SEMICONDUCTOR	MBRS140T3G	Yes	D1	DIODE, Schottky, 40V, 1.0A, SMD, RoHS	1	DIGIKEY	MBRS140T3GOSCT-ND	0.55	$0.55
TYCO	5104338-2	Yes	J1	CONN, 14 Pin Shrouded Header, 2 Row, 2.54mm, Vertical, RoHS	1	DIGIKEY	A97490-ND	1.61	$1.61
HIROSE	FX8C-100P-SV1(91)	Yes	J2	CONN, 100 Pin Header, 2 Row, 0.6mm, Vertical, SMD, RoHS	1	MOUSER ELECTRONICS	798-FX8C100PSV191	5.25	$5.25
MOLEX	70553-0003	Yes	J3	CONN, 4 Pin Shrouded Header, 1 Row, 2.54mm, Right Angle, SMD, RoHS	1	MOUSER ELECTRONICS	538-70553-0003	1.06	$1.06
MOLEX	70553-0002	Yes	J4	CONN, 3 Pin Shrouded Header, 1 Row, 2.54mm, Right Angle, SMD, RoHS	1	MOUSER ELECTRONICS	538-70553-0002	1.27	$1.27
TDK	ACM3225-102-2P	Yes	L1	CHOKE, Common Mode Filter, 200mA, 1000 Ohms @ 100MHz, 500 mOhms, 3225, SMD, RoHS	1	DIGIKEY	445-2033-1-ND	0.97	$0.97
KOA SPEER	RK73H1JTTD49R9F	Yes	R1	RES, 49.9 Ohm Thick Film, 0.1W, 1%, 50V, 0603, SMD, RoHS	1	MOUSER ELECTRONICS	660-RK73H1JTTD49R9F	0.08	$0.08
KOA SPEER	RK73H1JTTD2492F	Yes	R2	RES, 24.9k Ohm Thick Film, 0.1W, 1%, 50V, 0603, SMD, RoHS	1	MOUSER ELECTRONICS	660-RK73H1JTTD2492F	0.08	$0.08
KOA SPEER	RK73H1ETTP49R9F	Yes	R3, R5	RES, 49.9 Ohm Thick Film, 0.063W, 1%, 50V, 0402, SMD, RoHS	2	MOUSER ELECTRONICS	660-RK73H1ETTP49R9F	0.06	$0.12
KOA SPEER	RK73H1JTTD1001F	Yes	R4, R9, R11	RES, 1k Ohm Thick Film, 0.1W, 1%, 50V, 0603, SMD, RoHS	3	MOUSER ELECTRONICS	660-RK73H1JTTD1001F	0.08	$0.24
KOA SPEER	RK73H1JTTD4991F	Yes	R6, R15, R16, R20	RES, 4.99k Ohm Thick Film, 0.1W, 1%, 50V, 0603, SMD, RoHS	4	MOUSER ELECTRONICS	660-RK73H1JTTD4991F	0.08	$0.32
KOA SPEER	RK73H1JTTD10R0F	Yes	R7, R8	RES, 10 Ohm Thick Film, 0.1W, 1%, 50V, 0603, SMD, RoHS	2	MOUSER ELECTRONICS	660-RK73H1JTTD10R0F	0.08	$0.16
KOA SPEER	RK73H1JTTD4990F	Yes	R10	RES, 499 Ohm Thick Film, 0.1W, 1%, 50V, 0603, SMD, RoHS	1	MOUSER ELECTRONICS	660-RK73H1JTTD4990F	0.08	$0.08
KOA SPEER	RK73H1JTTD1002F	Yes	R12, R13, R14	RES, 10k Ohm Thick Film, 0.1W, 1%, 50V, 0603, SMD, RoHS	3	MOUSER ELECTRONICS	660-RK73H1JTTD1002F	0.08	$0.24
KOA SPEER	RK73H1JTTD2210F	Yes	R17, R18, R19, R21, R22, R23, R24, R25, R27	RES, 221 Ohm Thick Film, 0.1W, 1%, 50V, 0603, SMD, RoHS	9	MOUSER ELECTRONICS	660-RK73H1JTTD2210F	0.08	$0.72
KOA SPEER	RK73H1JTTD1501F	Yes	R26, R29	RES, 150 Ohm Thick Film, 0.1W, 1%, 50V, 0603, SMD, RoHS	2	MOUSER ELECTRONICS	660-RK73H1JTTD1500F	0.08	$0.16
KOA SPEER	RK73H1JTTD1200F	Yes	R28	RES, 120 Ohm Thick Film, 0.1W, 1%, 50V, 0603, SMD, RoHS	1	MOUSER ELECTRONICS	660-RK73H1JTTD1200F	0.08	$0.08
KOA SPEER	RK73H1JTTD1000F	Yes	R30	RES, 100 Ohm Thick Film, 0.1W, 1%, 50V, 0603, SMD, RoHS	1	MOUSER ELECTRONICS	660-RK73H1JTTD1000F	0.08	$0.08
KOA SPEER	CN1J4TTD103J	Yes	RN1	RNET, 4 x 10k Ohm Isolated Network, 0.063W, 5%, 50V, 1206, SMD, RoHS	1	MOUSER ELECTRONICS	660-CN1J4TTD103J	0.05	$0.05
KOA SPEER	CN1J4TTD472J	Yes	RN2, RN3, RN4, RN5	RNET, 4 x 4.7k Ohm Isolated Network, 0.063W, 5%, 50V, 1206, SMD, RoHS	4	MOUSER ELECTRONICS	660-CN1J4TTD472J	0.05	$0.20
KOA SPEER	CN1J4TTD102J	Yes	RN6	RNET, 4 x 1k Ohm Isolated Network, 0.063W, 5%, 50V, 1206, SMD, RoHS	1	MOUSER ELECTRONICS	660-CN1J4TTD102J	0.05	$0.05
KOA SPEER	CN1J4TTD221J	Yes	RN7, RN8, RN9, RN10, RN11, RN12, RN13, RN14	RNET, 4 x 220 Ohm Isolated Network, 0.063W, 5%, 50V, 1206, SMD, RoHS	8	MOUSER ELECTRONICS	660-CN1J4TTD221J	0.05	$0.40
OMRON	B3SN-3012P	Yes	SW1	SW, SPST-Momentary, SMD, RoHS	1	MOUSER ELECTRONICS	653-B3SN-3012P	0.7	$0.70
KEYSTONE ELECTRONICS	5016	Yes	TP3, TP4, TP5	TP, Compact Test Point, SMD, RoHS	3	MOUSER ELECTRONICS	534-5016	0.42	$1.26
TEXAS INSTRUMENTS	TMS320F2812GHHA	Yes	U1	IC, TMS320F2812, 128K Flash, 16x 12-bit ADC, SMD, RoHS	1	MOUSER ELECTRONICS	595-TMS320F2812GHHA	31.13	$31.13
CYPRESS	CY7C1011DV33-10BVI	Yes	U2	IC, 2Mb (128K x 16) Asynchronous SRAM, 10ns, SMD, RoHS	1	DIGIKEY	CY7C1011DV33-10BVI-ND	5.88	$5.88
MICROCHIP	SST39VF3201-70-4C-B3KE	Yes	U3	IC, 32Mb (2M x 16) Multi-Purpose Flash Plus, 70ns, Parallel, SMD, RoHS	1	DIGIKEY	SST39VF3201-70-4C-B3KE-ND	4.66	$4.66
TEXAS INSTRUMENTS	SN74LVC1G17DCKR	Yes	U4	IC, Single Schmitt-Trigger Buffer, 1.65V - 5V VCC, +/- 24mA, SMD, RoHS	1	DIGIKEY	296-11934-1-ND	0.53	$0.53
LINEAR TECHNOLOGY	LT1117CST#PBF	Yes	U5	IC, Adjustable Low-Dropout Voltage Regulator, 800mA, SMD, RoHS	1	DIGIKEY	LT1117CST#PBF-ND	3.88	$3.88
TEXAS INSTRUMENTS	TPS3307-18DGNR	Yes	U6	IC, MultiVoltage Supervisor, 3.3V/1.8V, SMD, RoHS	1	DIGIKEY	296-3312-1-ND	3.15	$3.15
TEXAS INSTRUMENTS	SN74LVC16245ADGVR	Yes	U7, U8	IC, Dual Octal 3-State Transceiver, 1.65V - 3.6V, 5V Tolerant Inputs, +/- 24mA, SMD, RoHS	2	DIGIKEY	296-8473-1-ND	1.59	$3.18
TEXAS INSTRUMENTS	MAX3221CDBR	Yes	U9	IC, RS-232 Transceiver, 1 Driver/1 Receiver, 1Mbps, +/-15KV ESD Protection, SMD, RoHS, Commercial	1	DIGIKEY	296-9593-1-ND	2.28	$2.28
TEXAS INSTRUMENTS	SN74LVC245ADGVR	Yes	U10	IC, Octal 3-State Transceiver, 1.65V - 3.6V, 5V Tolerant Inputs, +/124mA, SMD, RoHS	1	DIGIKEY	296-8502-1-ND	0.58	$0.58
TEXAS INSTRUMENTS	SN65HVD231D	Yes	U11	IC, CAN Bus Tranceiver, 1 Driver/1 Receiver, 16kV HBM ESD, SMD, RoHS	1	DIGIKEY	296-12206-5-ND	4.62	$4.62
TEXAS INSTRUMENTS	SN74LVC1G240DCKR	Yes	U12	IC, Single 3-State Buffer, 1.65V - 5.5V VCC, +/-32mA, SMD, RoHS	1	DIGIKEY	296-1161-1-ND	0.44	$0.44
AVX/KYOCERA	KC3225A30.000C30E00	Yes	Y1	OSC, 30.000MHz Crystal Oscillator, 3.3V, 15pF, +/- 50PPM, SMD, RoHS	1	MOUSER ELECTRONICS	581-KC3225A30.0C30	2.91	$2.91
					134				

Approved

Notes