


GomSpace A/S Langagervej 6 9220 Aalborg East Denmark Phone: +45 71741741				Document revision v2
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C H E C K E D  I N  ↓	Date:	02-03-2020
	Program & PCB Name:	MSP-GSSB V2
	Part Number:	108152-1
	Revision:	A
	PCB Designer:	KAME
	<b>PCB Specifications:</b>	
	Base Specification:	IPC-6013-D class 3
	Material:	Glass/polyimide (GI) IPC-4101/40. Arlon 85N or Arlon 35N is preferable. Other vendors supplying IPC-4101/40 can be chosen. Full documentation on the material used shall be provided
	Construction:	High Density Interconnect (1+n+1)
	Layer count:	4
Stackup details:	See Stack-up.pdf document	
Tolerances:	Thickness: +/- 10%, Outline: +/- 0,2mm, Cluster dimensions: +/- 0,2mm	

<b>Special requirements:</b>		
<input type="checkbox"/>	Notation Top	White low-outgassing epoxy
<input checked="" type="checkbox"/>	Notation Bottom	White low-outgassing epoxy
<input type="checkbox"/>	Nickel/Hard Gold edge plating:	See Gold plated mechanical layer in files included below.
<input checked="" type="checkbox"/>	IPC 6012 type VII vias	Through going, plugging paste filled and copper cap plated vias
<input checked="" type="checkbox"/>	Copper filled Microvias	Microvias in SMD soldering pads.
<input type="checkbox"/>	Surface finish:	Hot Air Solder Leveling
<input type="checkbox"/>	Nickel/Hard gold contacts:	See Gold plated mechanical layer in files included below.
<input type="checkbox"/>	Panelization	See Cluster.pdf document
<input type="checkbox"/>	Panel gerber data required	The stepped gerber files for milling the PCB must be provided
<input type="checkbox"/>	Minimum isolation distance:	100um
<input type="checkbox"/>	Countersunk holes	All 2.5 mm holes countersunk by 90 degrees to 5.5mm opening from the bottom layer.
<input type="checkbox"/>	PCB manufacturer logo - <b>Not allowed</b>	unless otherwise agreed
<input checked="" type="checkbox"/>	PCB Manufacturer unique serial number	See specified area in mechanical layer 7
<input checked="" type="checkbox"/>	Stencil data required	Stencil data shall be based on compensated production files
<input checked="" type="checkbox"/>	Electrically test to be done.	In accordance with IPC-9252, test level B
<input type="checkbox"/>	Peelable Solder Mask:	
<input type="checkbox"/>	Impedance controlled nets	

Files included in data package				
	File Description	File Name	Format	Comments
<input checked="" type="checkbox"/>	Read-Me File	MSP-GSSB_V2_PCB.pdf	ACROBAT	This Document
<input checked="" type="checkbox"/>	Outline (Mechanical 4)	xyz.GM4	gerber RS274X	Board Outline
<input checked="" type="checkbox"/>	Top Layer	xyz.GTL	gerber RS274X	Top layer
<input checked="" type="checkbox"/>	mid1	xyz.G1	gerber RS274X	Mid layer 1
<input checked="" type="checkbox"/>	mid2	xyz.G2	gerber RS274X	Mid layer 2
<input type="checkbox"/>	mid3	xyz.G3	gerber RS274X	Mid layer 3
<input type="checkbox"/>	mid4	xyz.G4	gerber RS274X	Mid layer 4
<input type="checkbox"/>	mid5	xyz.G5	gerber RS274X	Mid layer 5
<input type="checkbox"/>	mid6	xyz.G6	gerber RS274X	Mid layer 6
<input type="checkbox"/>	mid7	xyz.G7	gerber RS274X	Mid layer 7
<input type="checkbox"/>	mid8	xyz.G8	gerber RS274X	Mid layer 8
<input type="checkbox"/>	mid9	xyz.G9	gerber RS274X	Mid layer 9
<input type="checkbox"/>	mid10	xyz.G10	gerber RS274X	Mid layer 10
<input checked="" type="checkbox"/>	Bottom	xyz.GBL	gerber RS274X	Bottom layer
<input type="checkbox"/>	Top Paste	xyz.GTP	gerber RS274X	Top paste
<input type="checkbox"/>	Bottom Paste	xyz.GBP	gerber RS274X	Bottom paste
<input type="checkbox"/>	Top SolderMask	xyz.GTS	gerber RS274X	Top soldermask
<input type="checkbox"/>	Bottom SolderMask	xyz.GBS	gerber RS274X	Bottom soldermask
<input checked="" type="checkbox"/>	mechanical 7	xyz.GM7	gerber RS274X	Area for manufacturer serial number
<input type="checkbox"/>	mechanical 5	xyz.GM5	gerber RS274X	Notation top - white low-outgassing epoxy
<input checked="" type="checkbox"/>	mechanical 6	xyz.GM6	gerber RS274X	Notation bottom - white low-outgassing epoxy
<input checked="" type="checkbox"/>	drill	See NC Drill Files folder	gerber RS274X	Drill files
<input checked="" type="checkbox"/>	ODB++	See ODB++ Files folder	ODB++	Netlist etc.
<input checked="" type="checkbox"/>	Panel	Cluster.pdf	PDF	Cluster panel drawing
<input checked="" type="checkbox"/>	Stackup details	MSP-GSSB_V2_PCB.pdf	ACROBAT	

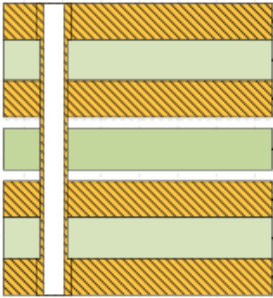
All files are in millimeters and showed from top view.  
 Format: 4:3  
 Any changes/production optimizations shall be approved by GomSpace.

360 degree annularring verification by mandatory use of IPC type F or type R or similar registration test coupon is required.  
 The electrical registration test coupons shall be placed in min. all 4 corners of production panel, and be designed so breakout of innerlayer annularring for all drill sequences can be detected.

As delivery documentation Gomspace require the following items;  
 Boards from batch approved acc. to qty from PO  
 CoC with serial numbers noted of shipped boards  
 1 Thermal stress micro section from each production panel where boards originate from  
 1 test coupon with min section type A/B/D/E acc. to IPC-2221 per panel where boards originate from

Gomspace require PCB manufacturer to keep on storage following items for min. 10 years;  
 Rest of micro sections from batch  
 Rest of test coupons from batch  
 Production traveler and other production records concerning history of manufacturing.

Stack up

Layer Stack Legend MSP-GSSB_V2						
	Material	Layer	Thickness	Dielectric Material	Type	Gerber
	Copper	Top Layer	0.018mm		Signal	GTL
	Core		0.100mm	2 X Arlon 85N 106	Dielectric	
	Copper	Midlayer 1	0.070mm		Signal	G1
	Prepreg		0.101mm	Arlon 85N Laminat	Dielectric	
	Copper	Layer 2	0.070mm		Signal	G2
	Core		0.100mm	2 X Arlon 85N 106	Dielectric	
	Copper	Bottom Layer	0.018mm		Signal	GBL
Total thickness: 0.477mm						

PCB drawing

