

RD-RD-KDS-SPEC-0054

MANUFACTURING SPECIFICATION FOR xCMS DAQ TRANSDUCER INPUT MODULE BOARD

TRANSNET ENGINEERING
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Date : 22/07/2022

ASSEMBLY SPECIFICATION

Component Placement	Top, bottom
Component Termination	Through Hole, Surface mount

PCB SPECIFICATION

PCB Name	xCMS_DAQ_TIM_vA0
Version	A0
PCB Dimensions	90 mm x 90 mm
PCB Base Material	FR4
Number of Layers	2
Layer Stack Up Summary	See Figure 1
Drill Hole Summary	See Table 1
Nominal PCB Thickness	1.6 mm
Solder Mask	Top and Bottom
Silkscreen/Legend/Identification	Top and Bottom
PCB Finishing	ENIG (Electroless Nickel Gold)
Min Track Clearance	0.2mm
Min Track Width	0.2mm

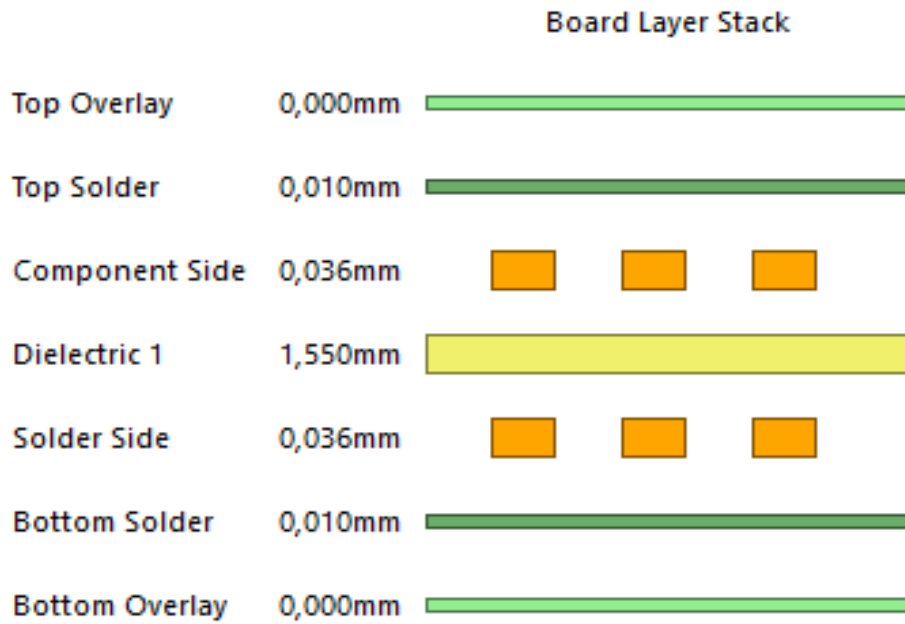


Figure 1: PCB Layer Stack Up Summary

Count	Hole size	Plated	Hole Type	Drill layer pair	Via/Pad
4	3.100 mm	PTH	Round	Component Side-Solder Side	Pad
4	3.000mm	PTH	Round	Component Side-Solder Side	Pad
24	0.500mm	PTH	Round	Component Side-Solder Side	Pad
84	0.300mm	PTH	Round	Component Side-Solder Side	Via
54	1.000mm	PTH	Round	Component Side-Solder Side	Pad

Table 1: PCB Drill Holes Summary

COMPONENT SPECIFICATION

#	Quantity	Description	Package	Part Number
1	16	Murata 0402 GRM 100nF Ceramic Multilayer Capacitor, 50 V dc, +85°C, X5R Dielectric, ±10% SMD	0402	GRM155R61H104KE19D
2	14	TDK 1nF Multilayer Ceramic Capacitor MLCC 50 V dc ±10% X7R Dielectric 0402 Surface Mount Max. Op. Temp. +125°C	0402	C1005X7R1H102K050BA
3	7	Multilayer Ceramic Capacitors MLCC - SMD/SMT 0402 0.01uF 50volts X7R 10%	0402	GCM155R71H103KA55D
4	7	Multilayer Ceramic Capacitors MLCC - SMD/SMT 0603 50Vdc 1.0uF X5R 10%	0603	GRT188R61H105KE13D
5	14	Multilayer Ceramic Capacitors MLCC - SMD/SMT, 10uF, 0805	0805	GRM21BR61H106KE43L
6	1	D-Sub Standard Connectors DSUB IP67 FEM STR PCB 37P S4 MET FRAM	D-sub Connector	09676376775
7	1	D-Sub Standard Connectors DSUB IP67 ML STR PCB 37P S4 MET FRAM	D-sub Connector	09676377675 09676377675
8	1	Shunt Voltage Reference IC ±0.1% SOT-23-3	SOT-23	LM4040AIM3X-5.0/NOPB
9	1	Vishay VSSB310-M3, UDiode, 2-Pin DO-214AA (SMB)	DO-214AA/SMB	VSSB310-M3/52T
10	1	Zener Diodes Diode Zener Single 15V 2% 550mW 2-Pin	SOD-323F	BZX84J-B15,115
11	2	Osram Opto LT Q39G, CHIPLED 0603 Series Green LED, 540 nm , Rectangle Lens SMD package	0603	LT Q39G

12	7	TVS DIODE 30VWM 48.4VC DO214AB	DO-214AB/SMC	SMCJ30CA
13	1	Fixed surface mounted 0603 0.1W Resistor; 10K	0603	CRCW060310K0FK 10K
14	2	12k Ω 0603 Thin Film SMD Resistor $\pm$ 0.1% 0.1W	0603	ERA3AEB123
15	14	Fixed surface mounted 0402 0.063W Resistor; 3K9	0402	CRCW04023K90FK 3K9
16	7	Thin Film Resistors - SMD RP 2A 0.25W 14R 0.1% 25PPM	0805	RP73PF2A14RBTDF
17	35	Fixed surface mounted 0402 0.063W Resistor; 1M	0402	CRCW04021M00JN 1M
18	1	Precision Amplifiers SINGLE, PRECISION LOW NOISE OP AMP	MSOP-8	OP1177ARMZ
19	7	Analog Devices AD8226ARMZ, Instrumentation Amplifier 1.5MHz, 2.2 $\rightarrow$ 36 V, 8-Pin MSOP	MSOP-8	AD8226ARMZ
20	1	Hammond Manufacturing Diecast Aluminium Enclosure 120mm x 120mm x 59mm		1590WUFBK