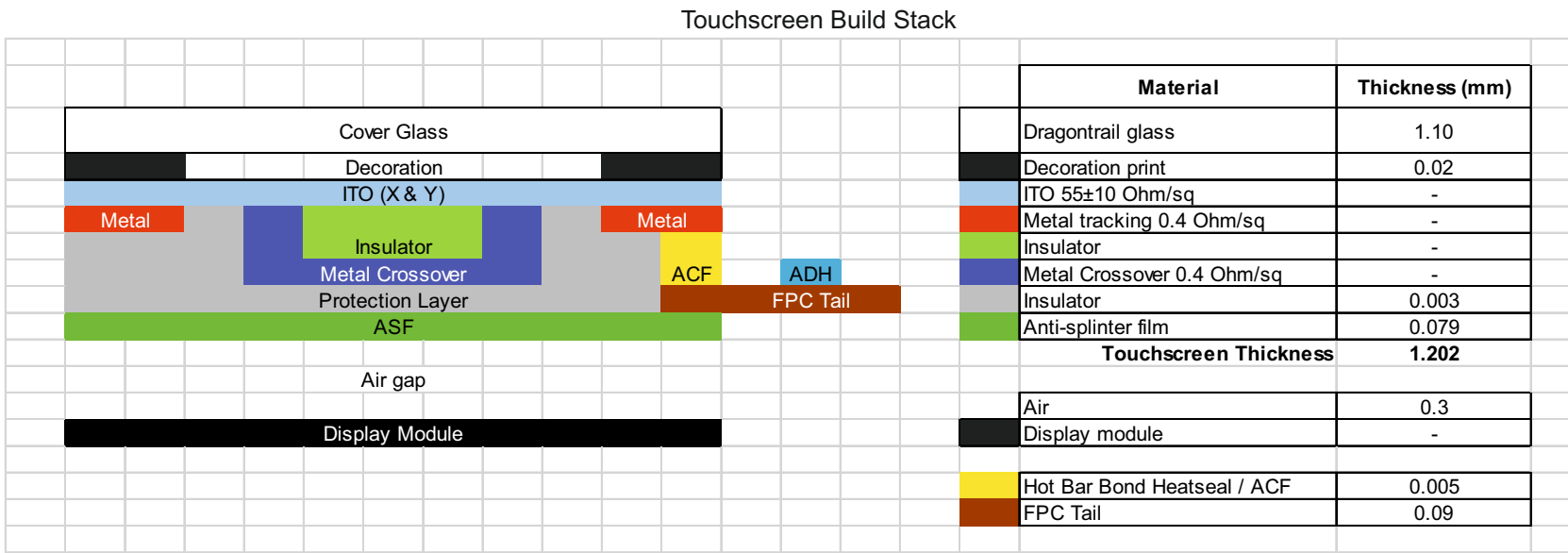
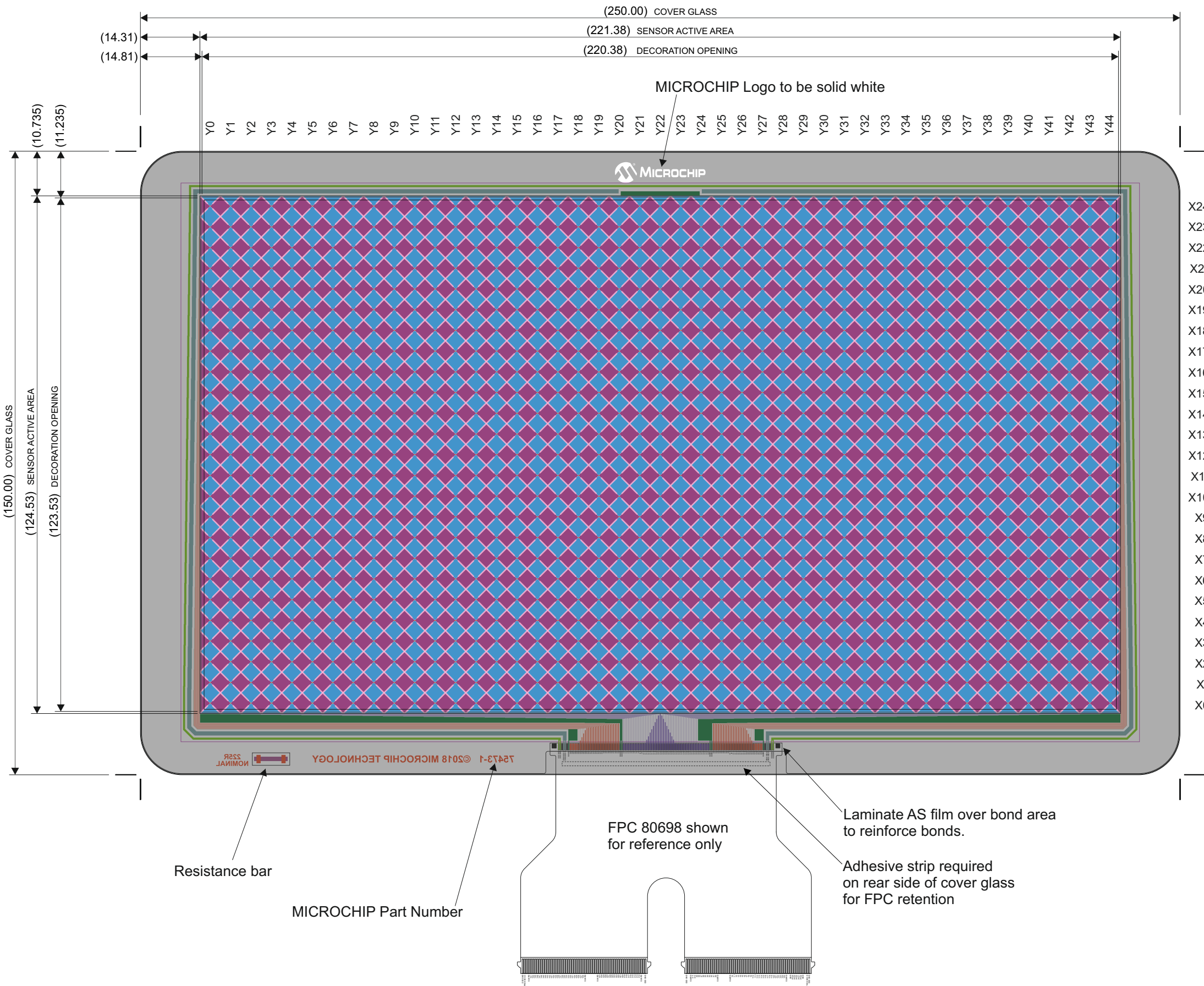


STRICTLY CONFIDENTIAL

SUBJECT TO NON-DISCLOSURE AGREEMENT
THIS DRAWING IS FOR SAMPLES & PROTOTYPES ONLY
TO BE ISSUED TO MICROCHIP APPROVED MANUFACTURERS ONLY



Artwork drawn as viewed from Touch Side

Edges of cover glass to be polished
with no sharp corners

All dimensions are in millimeters.
If In Doubt Please Ask.

Material Specifications

	Material	Thickness	Specification	design rules
Main ITO	ITO	-	55 Ohms/sq ± 10 Ohms	Minimum track / gap = 30um ± 10%
Insulator	Insulator	1.25um ± 0.25um	Er = 3.60	
Metal crossovers	Metal	-	0.4 Ohms/sq ± 10%	Minimum track width 12um
Metal tracks	Metal	-	0.4 Ohms/sq ± 10%	Minimum track / gap = 30um ± 10%
Protection Layer	Insulator	3um ± 0.25um	Er = 3.60	
Anti-splinter film	PET/OCA	0.079mm ± 10%	Er = 3.00	
FPC interconnect	ACF / ACP / ACA	<20um	Pad contact resistance <1 Ohm, Peel strength >5N/cm	Pads 0.20 x 1.8mm on 0.4mm pitch

Alignment Tolerances

Layer to Layer Alignment	± 15um
Print to Edge of Glass	± 400um
Metal to ITO	± 15um

Assumptions

Cover Glass	Dragontrail Glass or similar	1.10mm ± 10%	Er = 7.37
Decoration	Black Pantone EC non-conductive ink Microchip logo white non-conductive ink	20um ± 5um	Er = 3
Airgap to display	Air	0.30mm ± 10%	Er = 1.01

Performance Calculations

Charge Time	1.40us
Worst case touch separation in X	10.46mm
Worst case touch separation in Y	10.33mm
Touch separation difference	0.13mm

Layers (top to bottom)

Cover glass
ITO 55 ohm/sq
Insulator
Metal crossovers 0.4 ohm/sq
Metal tracks 0.4 ohm/sq
Protection layer
Anti-splinter film

Crossover Detail

insulator thickness = 1.25um
under track width = 70um
ITO resistance = 55±10 Ohm/sq
crossover track width = 12um
crossover metal track resistance = 0.4 Ohm/sq
crossover track resistive length = 200 um

Title: 10" ITO on Glass TS Single Diamond G2 25X 45Y	Project: mXT1189TAT
Number: 75473	CAD Check: Engr Check:
Filename: 75473.cdr	Approved:
Sheet 1 of 1	Drawn: P Cassidy

1	Updated to MCHP branding	N/A	PFC	20th Jun 2015	© 2018 Microchip Technology Inc. - This drawing and its contents are strictly confidential and provided for INFORMATION PURPOSES ONLY. Under NO circumstances should the drawing and its contents be copied, sold, transferred, or reproduced in whole or in part without the prior written consent of Microchip Technology Inc.
A2	Added Infills	N/A	MD	8th May 2015	
A1	Logo moved to top edge, ITO now 55±10ohm, glass changed to Dragontrail	N/A	PFC	29th Apr 2015	
A0	First Issue	N/A	PFC	10th Mar 2015	
Iss	Notes	ECN	Drm	Date	



All components and materials used must be RoHS compliant as described in European Parliament Directive 2002/95/EC