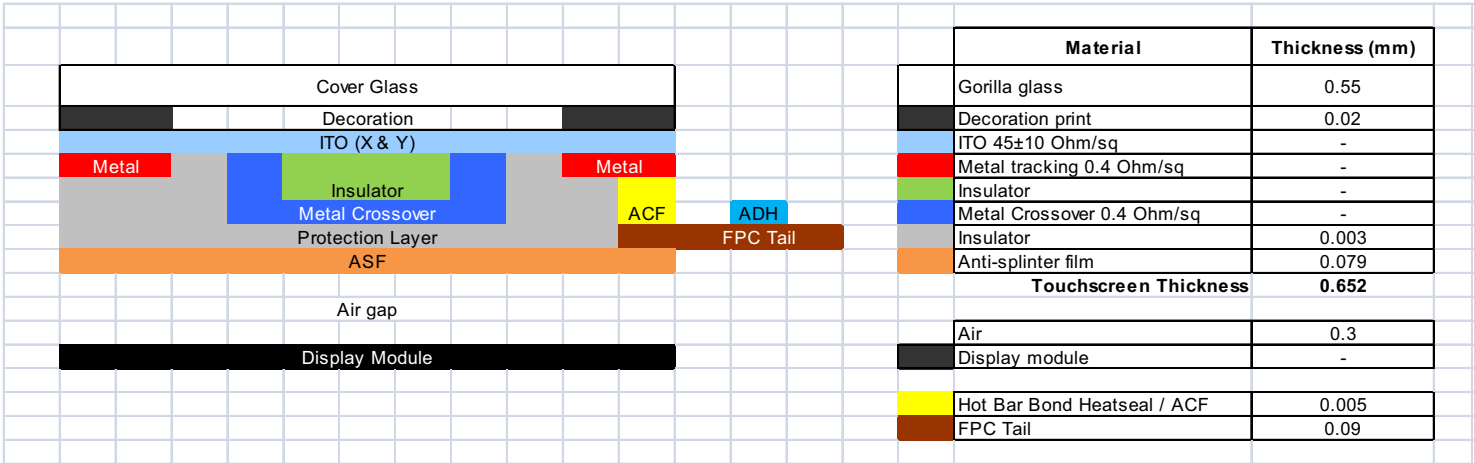


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All components and materials used must be RoHS compliant as described in European Parliament Directive 2002/95/EC

Touchscreen Build Stack



Material Specifications

	Material	Thickness	Specification	design rules
Main ITO	ITO	-	45 Ohms/sq ± 10 Ohms	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%	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	Gorilla Glass or similar	0.55mm ± 10%	Er = 7.37
Decoration	Black Pantone EC non-conductive ink	20um ± 5um	Er = 3
Airgap to display	Air	0.30mm ± 10%	Er = 1.01

\* For optical, environmental and ageing performance, please refer to the Nokia 'Capacitive Touch Screen Test Specification' document

Performance Calculations	
Charge Time	0.87us
Worst case touch separation in X	8.72mm
Worst case touch separation in Y	8.41mm
Touch separation difference	0.31mm

Title: TS 4.5" ITO on Glass G2 Single Diamond 24X 14Y + Driven Shield		Project: mXT337T	
Number: 75054	CAD Check:	Engr Check:	
Filename: 75054.cdr		Approved:	
Sheet 1 of 1	Drawn: P Cassidy		

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1	Updated to MCHP branding	N/A	PFC	15th Feb 2022
A0	First Issue	N/A	PFC	9th Dec 2013
Iss	Notes	ECN	Drn	Date