Specification of 55” Capacitive Touch Panel

Product Name	**Nuovo 55” CTP**
Product Model	**NF-W-C550-FF-01A**
Issue Date	**2018.05.02**

CONTENTS

1. Introduction

1.1 Purpose

The purpose of this specification is to define the quality standard, test criteria, and engineering drawing of capacitive touch panel.

1.2 Scope

This specification applies to the 55” Touch Panel model NF-W-C550-FF-01A provided by Nuovo Film.

1.3 Precaution

1.3.1 Storage

The touch panel should be stored under the environment condition as suggested, and avoid storing in direct sunlight.

1.3.2 Handling

i. Hold the touch panel body instead of the FPC all the time.
ii. Ensure that static precautions are observed at all times during handling of the TP modules

1.3.3 Cleaning

i. Prevent using any kind of the chemical solvent, acidic or alkali solution when cleaning.
ii. Neutral detergent or isopropyl alcohol is suggested if the panel need cleaning.

1.3.4 Assembly

i. Do not apply rough force such as bending or twisting to the touch panel during assembly.
ii. Excessive force or strain to the panel or FPC is prohibited.

1.3.5 Operation

i. The panel must be operated in a steady environment, the abrupt change of the environment conditions may cause malfunction.
ii. Do not pull the interface connector in or out while the touch panel is operating.
iii. Any sharp edged or hard objects are inhibited to contact the touch panel when under operation.

1.4 Warranty

Nuovo Film provides one year product guarantee under normal storage condition and operational guideline as defined in this document.

2. General Description

2.1 General Information

Item	Description
Panel Size	55”
Aspect Ratio	16:9
Interface	USB(2.0 Full Speed)
Power	5V(USB: 4.75V ~ 5.25V, Typical:5V)
Touch Controller IC	SIS9250*5+SIS9202*2
Active Points	Max 20 points
Channel Number	RX:122 ; TX：69
OS	Windows/ Android/ Linux

2.2 Dimension Overview

Item	Spec(mm)
Cover Lens OD	1309.00(L) × 792.00(W) × 3.0(T)
View Area	1209.6(L) ×680.4 (W)
Sensor OD	1267.3(L) ×737.93 (W)

2.3 Stack-up

Layer	Thickness	Materials
Cover Lens	3 mm	Strengthened glass
Top OCA	0.125mm	Adhesive
Sense side SNW	0.125mm	AgNW Film
Bottom OCA	0.05mm	Adhesive
Drive side SNW	0.125mm	AgNW Film
Total Thickness	**3.43mm**	**-**

2.4 Optical

Item	Specification	Measurement Method
Transparency	≥87.5%	Hunterlab

2.5 Environmental Conditions

Operating: -20℃～ +70℃; 45%～85%RH

Storage: -30℃～ +80℃; 45%～85%RH

3. Visual Inspection

3.1 Inspection Condition

i. The touch panel should be inspected at a clean room of at least class 10,000

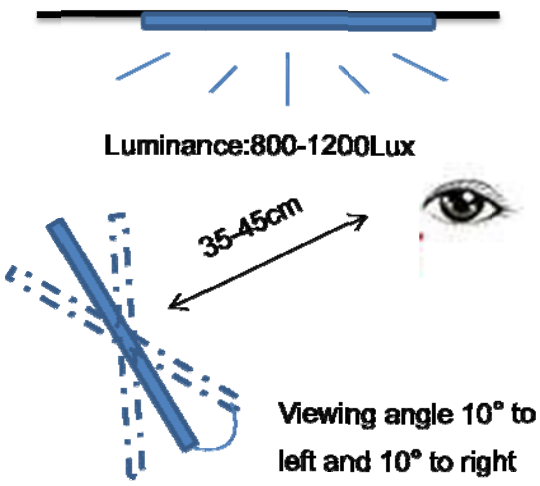
ii. Brightness at test site: 800-1200LUX

iii. Inspection distance: 35-45cm

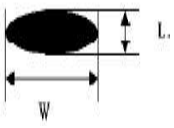
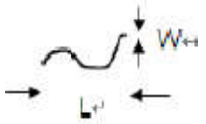
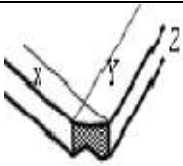
iv. Viewing angle: 90±10°

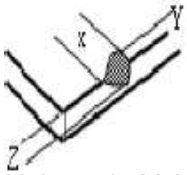
v. Light source: 40W fluorescent light

vi. Inspection time: 35±5s



3.2 Cosmetic Inspection ① ②

Defect Type	Criteria	Notes
Dot defects (Bubble/Fiber/Particle /Spot/Dent)	1. D≤0.5mm, Ignored 2. 0.5< D≤1.3mm, N≤10, DS≥10mm 3. D>1.3mm, not allowed	 D=(W+L)/2
Linear defects （Scratch/Fiber）	1. L≤15mm, W≤0.2mm, Ignored 2. 0.2mm<W≤0.5mm，L≤15mm, DS≥10mm 3. W>0.5mm, not allowed	
Corner chipping	1. X≤3mm & Y≤3mm, Z≤T/2, N≤5 acceptable 2. Otherwise not allowed	 X: Length; Y: Width; Z: Thickness

Side chipping	1. X≤8mm & Y≤1mm, Z≤T/2, N≤5 （not user side） 2. Otherwise not allowed	 X: Length; Y: Width; Z: Thickness
Smudge	Can be wipe clean within 15 seconds that judged to be OK	/
Color of cover lens/logo typeface/shade of background	Color shows no difference from that of the samples	/
	Clear typeface and clear pattern	
	Good shade of back color	

Note 1:
”D” means Diameter;
“L” means Length;
“W” for Width;
“N” for Quantity;
“T” for Glass Thickness;
“DS” for the distance between two defects.
Note 2:
Total number of defects for each piece: N≤10, DS≥10mm

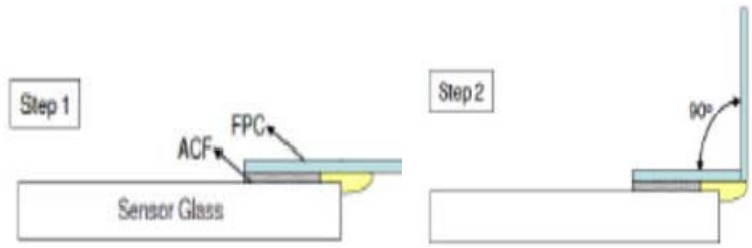
4. Reliability Test

Test Item	Test Condition	Criteria
Damp Heat	Temperature: 60℃ Humidity: 90%RH Time: 240hrs	1.No cosmetic defect 2.Function OK
Thermal Shock	High temperature：80℃ Low temperature：-30℃ 30 cycles	1.No cosmetic defect 2.Function OK
High Temperature	Temperature: 80℃ Time: 240hrs	1.No cosmetic defect 2.Function OK
Low Temperature	Temperature: -30℃ Time: 240hrs	1.No cosmetic defect 2.Function OK
Salt Spray Test	Concentration: 5% NaCl solution Temperature: 35℃ Time: 48hrs	1.No cosmetic defect 2.Function OK
Sweat Test	PH=4.7 sweat Time: 48hrs	1.No cosmetic defect 2.Function OK

Static Electricity	1.Air discharge: 8KV 2. Contact discharge: 6KV 3.10 times for each point	1.No cosmetic defect 2.Function OK

5. FPC Peeling Test

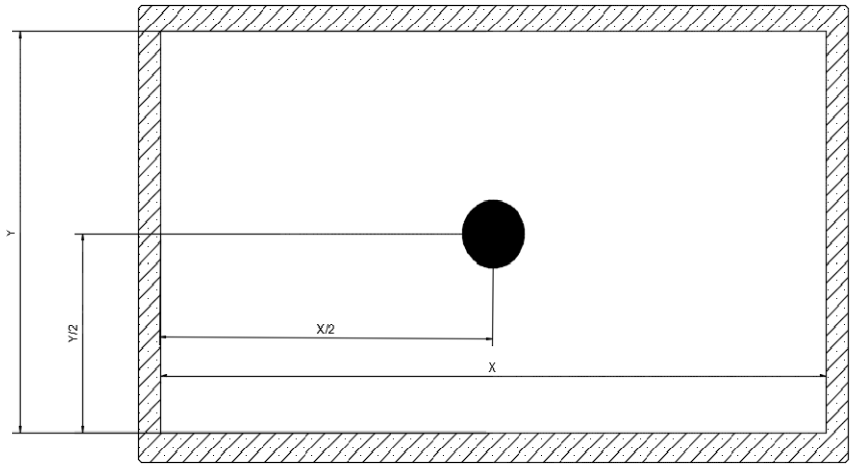
Item	Test Condition	Result
FPC Peeling Test	1. Pulling weight: 500g 2. Pulling speed: 25 mm/min 3. Pulling angle: 90°	1.FPC has no damage 2.Function OK



6. Cover Lens Test

Item	Spec
Warpage	Warpage 0.1% ≦ Length
Ball Drop Test ①	200g±2g, 35cm, No damage after one time impact at the central area.
Hardness ②	6H (Pencil: 6H, Pressure: 1N/45°)

Note 1: The ball drop test illustration is shown as follows.



Note 2: The hardness test follows the JIS K-5400 serials industry standard and the test illustration is shown as below.