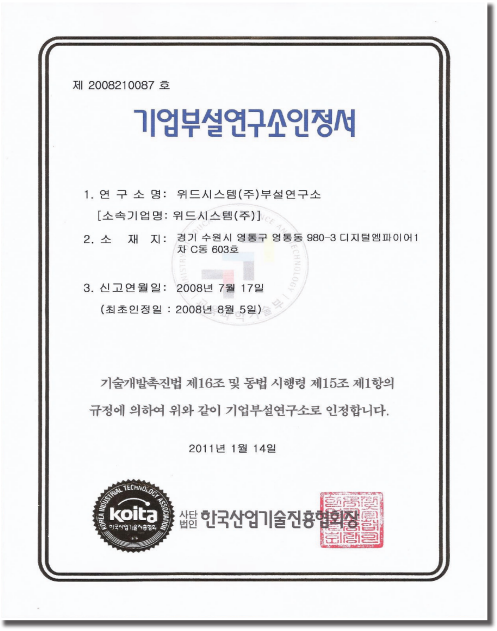
www.withsystem.co.kr

Innovative changes based on
unlimited creative imagination

withsystem



제 2008210087 호

기업부설연구소인정서

1. 연 구 소 명: 위드시스템(주)부설연구소
   [소속기업명: 위드시스템(주)]
2. 소 재 지: 경기 수원시 영통구 영통동 980-3 디지털엠파이어1차 C동 603호
3. 신고연월일: 2008년 7월 17일
   (최초인정일 : 2008년 8월 5일)

기술개발촉진법 제16조 및 동법 시행령 제15조 제1항의 규정에 의하여 위와 같이 기업부설연구소로 인정합니다.

2011년 1월 14일

사단법인 한국산업기술진흥협회장

KQA Q.Assurance

품질경영시스템 인증서

품질경영시스템에 대한 IAF의 국제다자간상호인정협정(MLA)가입 인정기관에 의한 인정

인증번호 : KQA-Q082325
회 사 명 : 위드시스템(주) 대 표 자 : 김 명 준
사업자등록번호 : 513-81-25753
소 재 지 : 경상북도 구미시 공단동 282-61

위 업체에 대하여 아래와 같이 품질경영시스템을 인증합니다.

적용표준 : ISO 9001:2008, KS Q ISO 9001:2009, EN ISO 9001:2008
인증범위 : LCD Module 생산용 기기에 대한 설계/개발 및 제조

최초인증 : 2008 년 5 월 26 일
유효기간 : 2011 년 5 월 25 일 ~ 2014 년 5 월 24 일
발행일자 : 2011 년 5 월 25 일 (인증갱신)

한국품질보증원장

KQA Q.Assurance

환경경영시스템 인증서

환경경영시스템에 대한 IAF의 국제다자간상호인정협정(MLA)가입 인정기관에 의한 인정

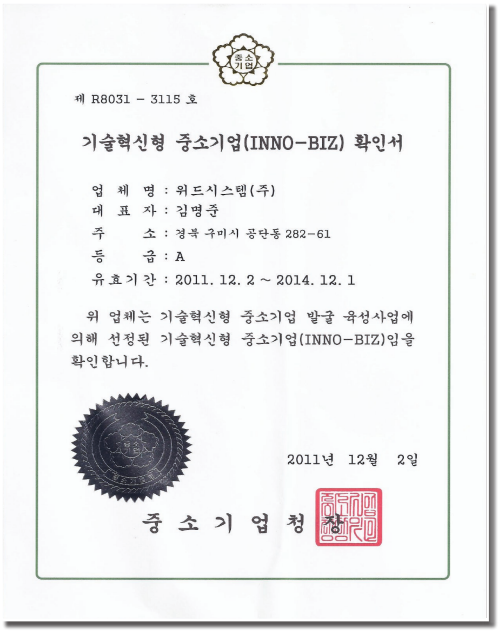
인증번호 : KQA-E08437
회 사 명 : 위드시스템(주) 대 표 자 : 김 명 준
사업자등록번호 : 513-81-25753
소 재 지 : 경상북도 구미시 공단동 282-61

위 업체에 대하여 아래와 같이 환경경영시스템을 인증합니다.

적용표준 : ISO 14001:2004 / KS I ISO 14001:2009
인증범위 : LCD Module 생산용 기기에 대한 설계/개발 및 제조

최초인증 : 2008 년 5 월 26 일
유효기간 : 2011 년 5 월 25 일 ~ 2014 년 5 월 24 일
발행일자 : 2011 년 5 월 25 일 (인증갱신)

한국품질보증원장



제 R8031 - 3115 호

기술혁신형 중소기업(INNO-BIZ) 확인서

업 체 명 : 위드시스템(주)
대 표 자 : 김명준
주 소 : 경북 구미시 공단동 282-61
등 급 : A
유효기간 : 2011. 12. 2 ~ 2014. 12. 1

위 업체는 기술혁신형 중소기업 발굴 육성사업에 의해 선정된 기술혁신형 중소기업(INNO-BIZ)임을 확인합니다.

2011년 12월 2일

중 소 기 업 청 장

수출유망중소기업지정증

제 11대구경북 - 101호

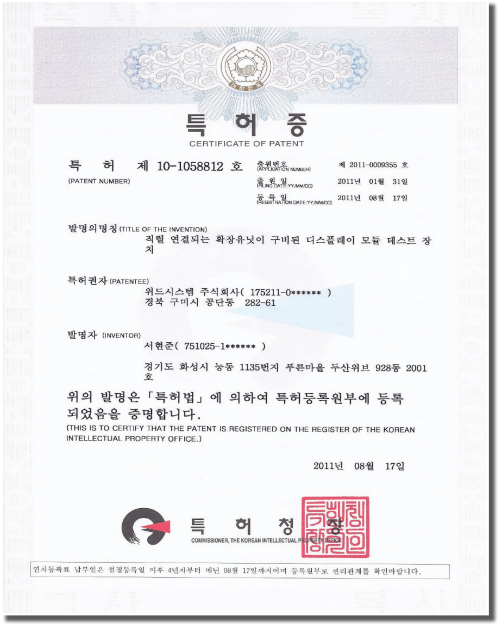
업 체 명 : 위드시스템(주) (사업자등록번호: 513-81-25753)
생산품목 : lcd검사장비
주 소 : 경북 구미시 공단동 282-61번지
대 표 자 : 김명준

귀사를 중소기업수출지원센터의 설치 및 운영에 관한 규정에 따라 2011년도 수출유망중소기업으로 지정함

지정기간 : 2011. 12. 01 ~ 2013 . 11. 30

2011 . 12. 01

대구·경북지방중소기업청장(수출지원센터장)



특 허 증

CERTIFICATE OF PATENT

특 허 제 10-1058812 호 (PATENT NUMBER)
출원번호 (APPLICATION NUMBER) 제 2011-0009355 호
출원일 (APPLICATION DATE-YY/MM/DD) 2011년 01월 31일
등록일 (REGISTRATION DATE-YY/MM/DD) 2011년 08월 17일

발명의명칭 (TITLE OF THE INVENTION)
직렬 연결되는 확장유닛이 구비된 디스플레이 모듈 테스트 장치

특허권자 (PATENTEE)
위드시스템 주식회사(175211-0******)
경북 구미시 공단동 282-61

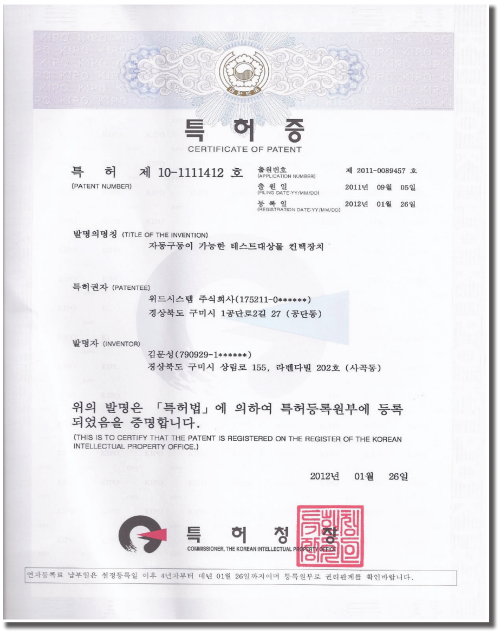
발명자 (INVENTOR)
서현준(751025-1******)
경기도 화성시 능동 1135번지 푸른마을 두산위브 928동 2001호

위의 발명은 「특허법」에 의하여 특허등록원부에 등록되었음을 증명합니다.
(THIS IS TO CERTIFY THAT THE PATENT IS REGISTERED ON THE REGISTER OF THE KOREAN INTELLECTUAL PROPERTY OFFICE.)

2011년 08월 17일

특 허 청 장
COMMISSIONER, THE KOREAN INTELLECTUAL PROPERTY OFFICE

연차등록료 납부일은 설정등록일 이후 4년차부터 매년 08월 17일까지이며 등록료부족 연리관계를 확인바랍니다.



특 허 증
CERTIFICATE OF PATENT

특 허 제 10-1111412 호 (PATENT NUMBER)

출원번호 (APPLICATION NUMBER) 제 2011-0089457 호
출 원 일 (FILING DATE:YY/MM/DD) 2011년 09월 05일
등 록 일 (REGISTRATION DATE:YY/MM/DD) 2012년 01월 26일

발명의명칭 (TITLE OF THE INVENTION)
자동구동이 가능한 테스트대상물 컨택장치

특허권자 (PATENTEE)
위드시스템 주식회사(175211-0******)
경상북도 구미시 1공단로2길 27 (공단동)

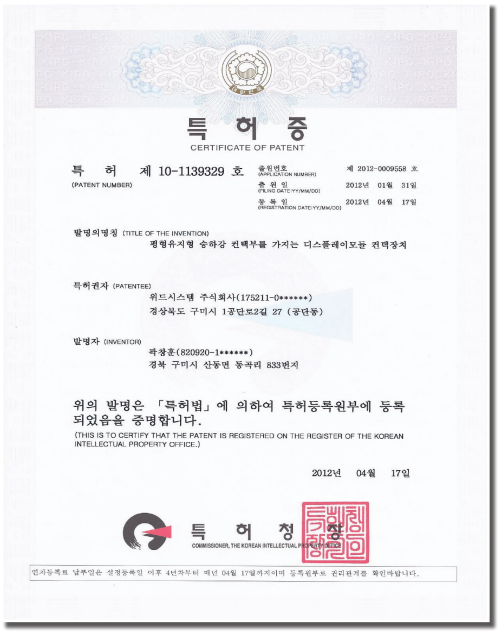
발명자 (INVENTOR)
김문성(790929-1******)
경상북도 구미시 상림로 155, 라엘다빌 202호 (사곡동)

위의 발명은 「특허법」에 의하여 특허등록원부에 등록되었음을 증명합니다.
(THIS IS TO CERTIFY THAT THE PATENT IS REGISTERED ON THE REGISTER OF THE KOREAN INTELLECTUAL PROPERTY OFFICE.)

2012년 01월 26일

특 허 청 장
COMMISSIONER, THE KOREAN INTELLECTUAL PROPERTY OFFICE

연차등록료 납부일은 설정등록일 이후 4년차부터 매년 01월 26일까지이며 등록원부로 권리관계를 확인바랍니다.



특 허 증
CERTIFICATE OF PATENT

특 허 제 10-1139329 호 (PATENT NUMBER)

출원번호 (APPLICATION NUMBER) 제 2012-0009558 호
출 원 일 (FILING DATE:YY/MM/DD) 2012년 01월 31일
등 록 일 (REGISTRATION DATE:YY/MM/DD) 2012년 04월 17일

발명의명칭 (TITLE OF THE INVENTION)
평형유지형 승하강 컨택부를 가지는 디스플레이모듈 컨택장치

특허권자 (PATENTEE)
위드시스템 주식회사(175211-0******)
경상북도 구미시 1공단로2길 27 (공단동)

발명자 (INVENTOR)
곽창훈(820920-1******)
경북 구미시 산동면 봉곡리 833번지

위의 발명은 「특허법」에 의하여 특허등록원부에 등록되었음을 증명합니다.
(THIS IS TO CERTIFY THAT THE PATENT IS REGISTERED ON THE REGISTER OF THE KOREAN INTELLECTUAL PROPERTY OFFICE.)

2012년 04월 17일

특 허 청 장
COMMISSIONER, THE KOREAN INTELLECTUAL PROPERTY OFFICE

연차등록료 납부일은 설정등록일 이후 4년차부터 매년 04월 17일까지이며 등록원부로 권리관계를 확인바랍니다.

특 허 증
CERTIFICATE OF PATENT

특 허 제 10-1174851 호 (PATENT NUMBER)

출원번호 (APPLICATION NUMBER) 제 2012-0039563 호
출 원 일 (FILING DATE:YY/MM/DD) 2012년 04월 17일
등 록 일 (REGISTRATION DATE:YY/MM/DD) 2012년 08월 10일

발명의명칭 (TITLE OF THE INVENTION)
슬라이딩 구동모듈을 가지는 디스플레이모듈 컨택장치

특허권자 (PATENTEE)
위드시스템 주식회사(175211-0******)
경상북도 구미시 1공단로2길 27 (공단동)

발명자 (INVENTOR)
김문성(790929-1******)
경북 구미시 사곡동 수정캐슬(바다) 302호

위의 발명은 「특허법」에 의하여 특허등록원부에 등록되었음을 증명합니다.
(THIS IS TO CERTIFY THAT THE PATENT IS REGISTERED ON THE REGISTER OF THE KOREAN INTELLECTUAL PROPERTY OFFICE.)

2012년 08월 10일

특 허 청 장
COMMISSIONER, THE KOREAN INTELLECTUAL PROPERTY OFFICE

연차등록료 납부일은 설정등록일 이후 4년차부터 매년 08월 10일까지이며 등록원부로 권리관계를 확인바랍니다.

디자인등록증
CERTIFICATE OF DESIGN REGISTRATION

등 록 제 30-0692143 호 (REGISTRATION NUMBER)

출원번호 (APPLICATION NUMBER) 제 2012-0017915 호
출 원 일 (FILING DATE:YY/MM/DD) 2012년 04월 17일
등 록 일 (REGISTRATION DATE:YY/MM/DD) 2013년 05월 02일
등록의 구분 (TYPE OF REGISTRATION) 심 사 등 록 (EXAMINED REGISTRATION)

디자인의 대상이 되는 물품 (ARTICLE THAT IS THE OBJECT OF THE DESIGN)
디스플레이모듈 테스트기

디자인권자 (OWNER OF THE DESIGN RIGHT)
위드시스템 주식회사(175211-0******)
경상북도 구미시 1공단로2길 27 (공단동)

창작자 (CREATOR)
김문성(790929-1******)
경북 구미시 사곡동 수정캐슬(바다) 302호

위의 디자인은 「디자인보호법」에 따라 디자인등록원부에 등록되었음을 증명합니다.
(THIS IS TO CERTIFY THAT THE DESIGN IS REGISTERED ON THE REGISTER OF THE KOREAN INTELLECTUAL PROPERTY OFFICE.)

2013년 05월 02일

특허청장 김 영 민
COMMISSIONER, THE KOREAN INTELLECTUAL PROPERTY OFFICE

연차등록료 납부일은 설정등록일 이후 4년차부터 매년 05월 02일까지이며 등록원부로 권리관계를 확인바랍니다.

디자인등록증
CERTIFICATE OF DESIGN REGISTRATION

등 록 제 30-0646487 호 (REGISTRATION NUMBER)

출원번호 (APPLICATION NUMBER) 제 2011-0004034 호
출 원 일 (FILING DATE:YY/MM/DD) 2011년 01월 31일
등 록 일 (REGISTRATION DATE:YY/MM/DD) 2012년 05월 25일
등록의 구분 (TYPE OF REGISTRATION) 심 사 등 록 (EXAMINED REGISTRATION)

디자인의 대상이 되는 물품 (ARTICLE THAT IS THE OBJECT OF THE DESIGN)
디스플레이용 모듈 테스트기

디자인권자 (OWNER OF THE DESIGN RIGHT)
위드시스템 주식회사(175211-0******)
경상북도 구미시 1공단로2길 27 (공단동)

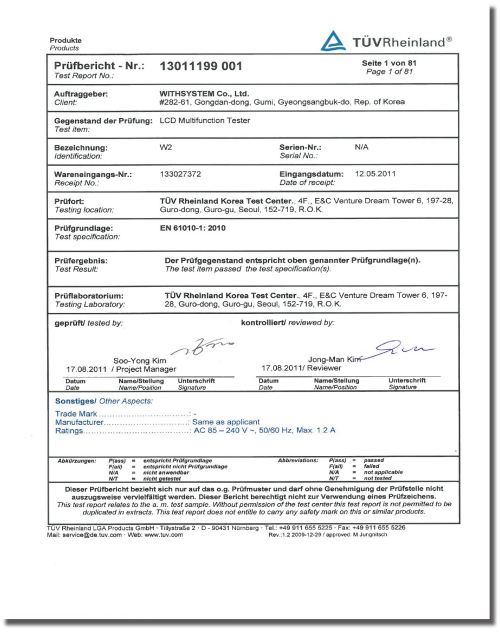
창작자 (CREATOR)
구현우(730909-1******)
경기도 수원시 영통구 매영로 346, 662동 201호 (영통동, 신나무실 선경아파트)

위의 창작은 「디자인보호법」에 의하여 디자인등록원부에 등록되었음을 증명합니다.
(THIS IS TO CERTIFY THAT THE DESIGN IS REGISTERED ON THE REGISTER OF THE KOREAN INTELLECTUAL PROPERTY OFFICE.)

2012년 05월 25일

특 허 청 장
COMMISSIONER, THE KOREAN INTELLECTUAL PROPERTY OFFICE

연차등록료 납부일은 설정등록일 이후 4년차부터 매년 05월 25일까지이며 등록원부로 권리관계를 확인바랍니다.



Produkte
Products

TÜVRheinland®

Prüfbericht - Nr.: 13011199 001
Test Report No.:

Seite 1 von 81
Page 1 of 81

Auftraggeber: *Client:*	**WITHSYSTEM Co., Ltd.** #282-51, Gongdan-dong, Gumi, Gyeongsangbuk-do, Rep. of Korea
Gegenstand der Prüfung: *Test item:*	LCD Multifunction Tester
Bezeichnung: *Identification:*	W2 — **Serien-Nr.:** *Serial No.:* N/A
Wareneingangs-Nr.: *Receipt No.:*	133027372 — **Eingangsdatum:** *Date of receipt:* 12.05.2011
Prüfort: *Testing location:*	**TÜV Rheinland Korea Test Center.** 4F., E&C Venture Dream Tower 6, 197-28, Guro-dong, Guro-gu, Seoul, 152-719, R.O.K.
Prüfgrundlage: *Test specification:*	**EN 61010-1: 2010**
Prüfergebnis: *Test Result:*	**Der Prüfgegenstand entspricht oben genannter Prüfgrundlage(n).** *The test item passed the test specification(s).*
Prüflaboratorium: *Testing Laboratory:*	**TÜV Rheinland Korea Test Center.** 4F., E&C Venture Dream Tower 6, 197-28, Guro-dong, Guro-gu, Seoul, 152-719, R.O.K.

geprüft/ *tested by:*	**kontrolliert/** *reviewed by:*
Soo-Yong Kim	Jong-Man Kim
17.08.2011 / Project Manager	17.08.2011/ Reviewer
Datum / *Date* — Name/Stellung / *Name/Position* — Unterschrift / *Signature*	Datum / *Date* — Name/Stellung / *Name/Position* — Unterschrift / *Signature*

Sonstiges/ *Other Aspects:*

Trade Mark ..... -
Manufacturer ..... Same as applicant
Ratings ..... AC 85 – 240 V ~, 50/60 Hz, Max. 1.2 A

Abkürzungen:		Abbreviations:	
P(ass)	= entspricht Prüfgrundlage	P(ass)	= passed
F(ail)	= entspricht nicht Prüfgrundlage	F(ail)	= failed
N/A	= nicht anwendbar	N/A	= not applicable
N/T	= nicht getestet	N/T	= not tested

Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens.
This test report relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any safety mark on this or similar products.

WITHSYSTEM Co., Ltd is growing toward the world.

withsystem

WITHSYSTEM assures our customers that it will exert the utmost efforts to satisfy them and provide the best values.

Since its establishment in 2002, WITHSYSTEM has continuously developed proprietary inspection solutions that are used in display, mobile and other IT areas.

WITHSYSTEM assures our customers that it will exert the utmost efforts for them based on its technical expertise.

WITHSYSTEM will strive to become the best global company in this fiercely competitive era which provides a variety of solutions using differentiated inspectors, measuring systems, super-precision processed micro contacts and jigs.

Please continue to give us your support for our growth.

대 표

Head Office: 142-73(730-906), Sanho-daero, Gumi-si, Gyeongsanbuk-do
Tel: 82-54-465-7980 / Fax: 82-54-465-7984
www.withsystem.co.kr

Company's Lab: #C 603, 16, Deogyeong-daero 1556 beon-gil, Yeongtong-gu, Suwon-si, Gyeonggi-do (Yeongtong Digital Empire, Yeongtong-dong)
Tel: 82-31-202-7980 / Fax: 82-31-202-0458

China's Branch: New west #1 Zemeiluduan, Kanglenanlu, Xintangcun Houjiezhen, Dongguancity, Guangdong prc. China P.C: 523960
Tel : 86-769-8582-9396 / Fax: 86-769-8582-9556

withsystem

Vision

withsystem is growing toward the world. A Superior Global Company

To become a business partner that creates new values through developing future-directed and human-oriented new technologies from the perspective of our customers.

Future-directed and human-oriented management

WITHSYSTEM promotes a human-oriented management while placing great emphasis on respect for individual values and the achievement of goals in order to enhance further growth.

A business partner focusing on customers

WITHSYSTEM plays the role of the best business partner who understands and shares a variety of its customers' concerns and demands and seeks solutions based on advanced technologies.

Value creation through new technology development

WITHSYSTEM is continuously researching and developing based on its passion and desire to overcome challenges in order to provide better technologies and services in diverse areas.

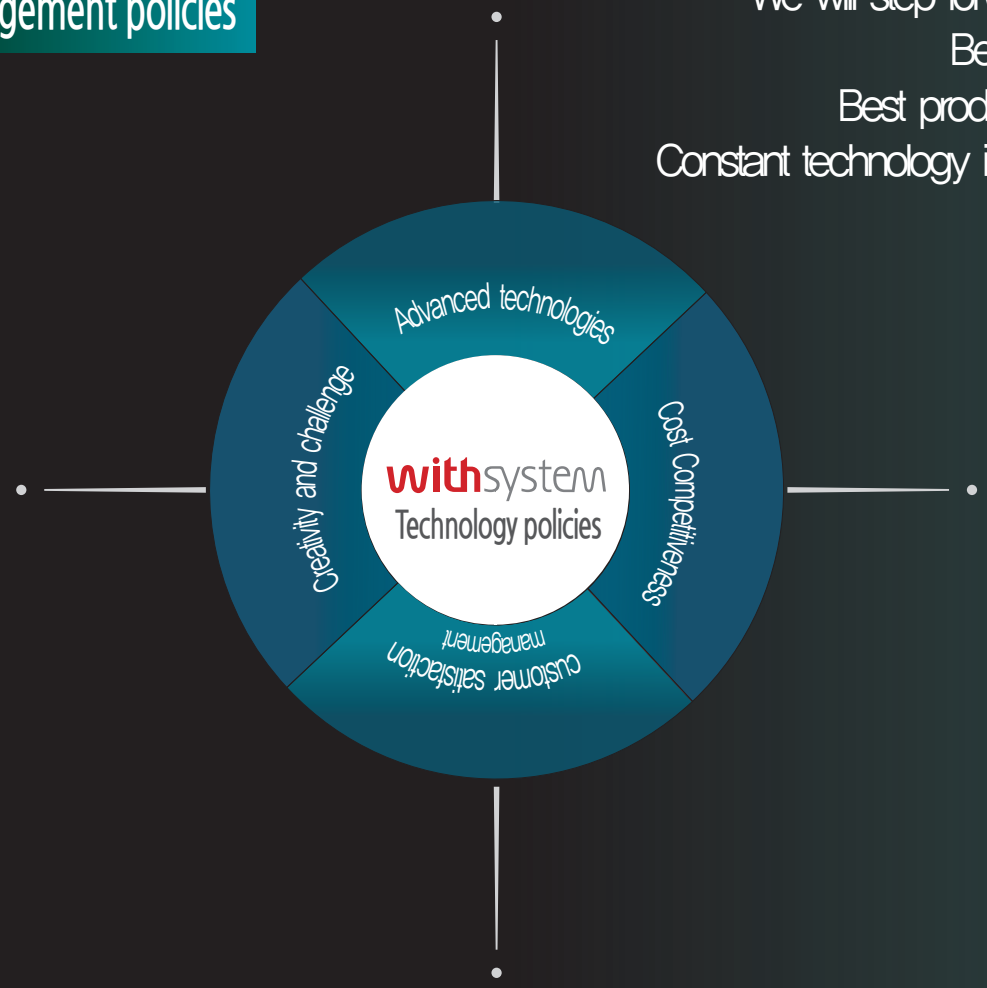
History

2002-2013 withsystem

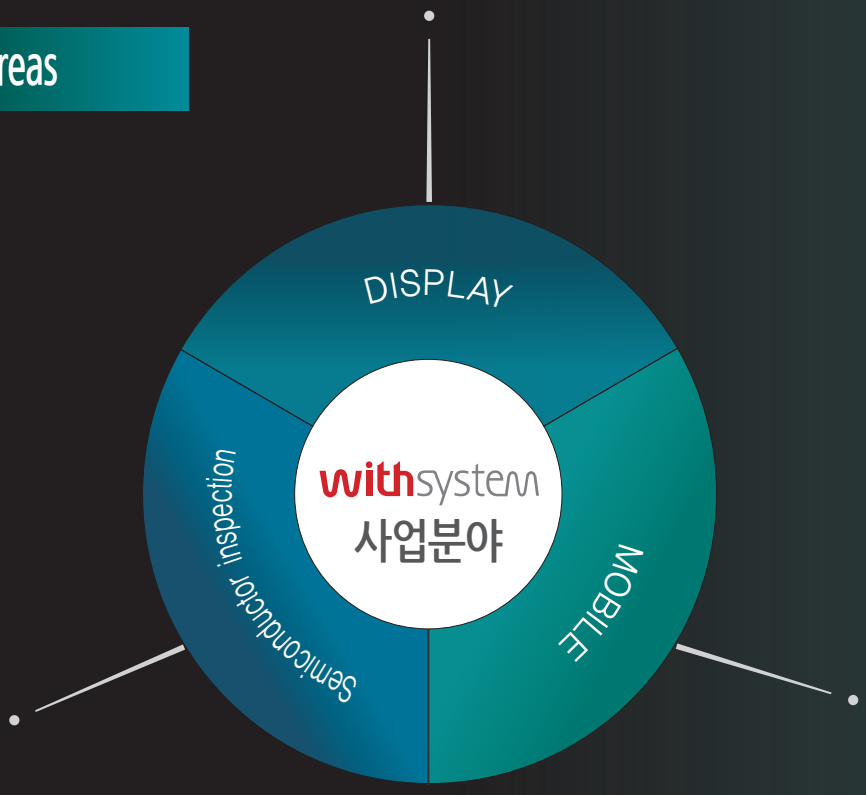
Mar	2002	WITH Co., Ltd. established
May	2004	Increased capital by 300 million won
Jul		Relocation after new factory construction
Oct	2005	Changed the company name to WITHSYSTEM Co., Ltd.
Mar	2006	Established a lab in Suwon
Mar	2008	Dongguan Wida Limited (China's Dongguan branch)
May		ISO 9001 Quality management system certified
May		ISO 14001 Environment management system certified
Jul		Company's lab licensed
Dec		INNO-BIZ certified
Dec	2009	Designated as an alternative form of military service
Nov	2011	Designated as an export promising business (SMB)
Dec	2012	Increased capital by 300 million won
Aug	2013	Relocation after new factory expansion construction

Management policies

We will step forward with
Best quality;
Best products; and
Constant technology innovation



Business areas



withsystem

WITHSYSTEM will do its best to become one with its customers while staying true to its original ideals.

- DISPLAY MULTI FUNCTION TESTER (W3, W2, U3)
- 2013 DEMOKIT.
- LCD FUNCTION TESTER DEMOKIT.
- LCD FUNCTION TESTER F2
- AGING TEST SYSTEM
- FLICKER TESTER
- POGO PIN BLOCK
- LCD VISUAL TESTER P2

LCD MULTI FUNCTION TESTER W3

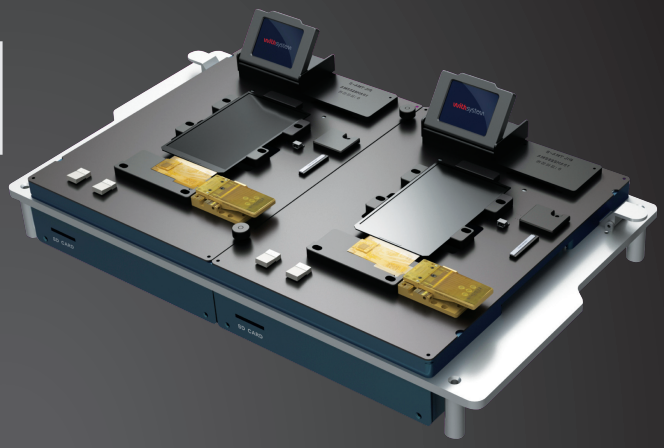
LCD MULTI FUNCTION TESTER W2

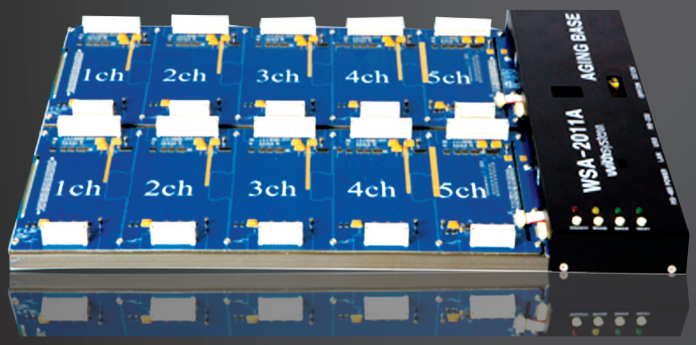
LCD MULTI FUNCTION TESTER U2, U3

PRODUCT

withsystem

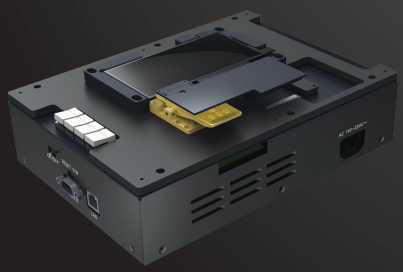
LCD FUNCTION TESTER F2



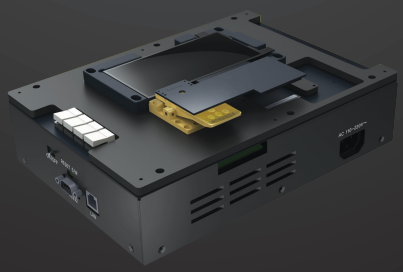


AGING TEST SYSTEM

LCD FUNCTION TESTER DEMOKIT



1ch -1

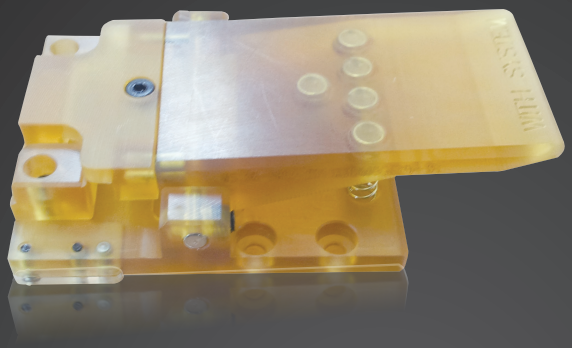


1ch -2

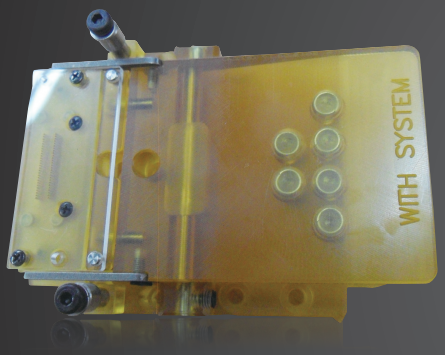
2013

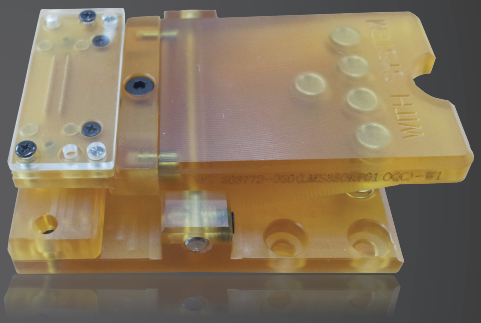
PRODUCT

withsystem

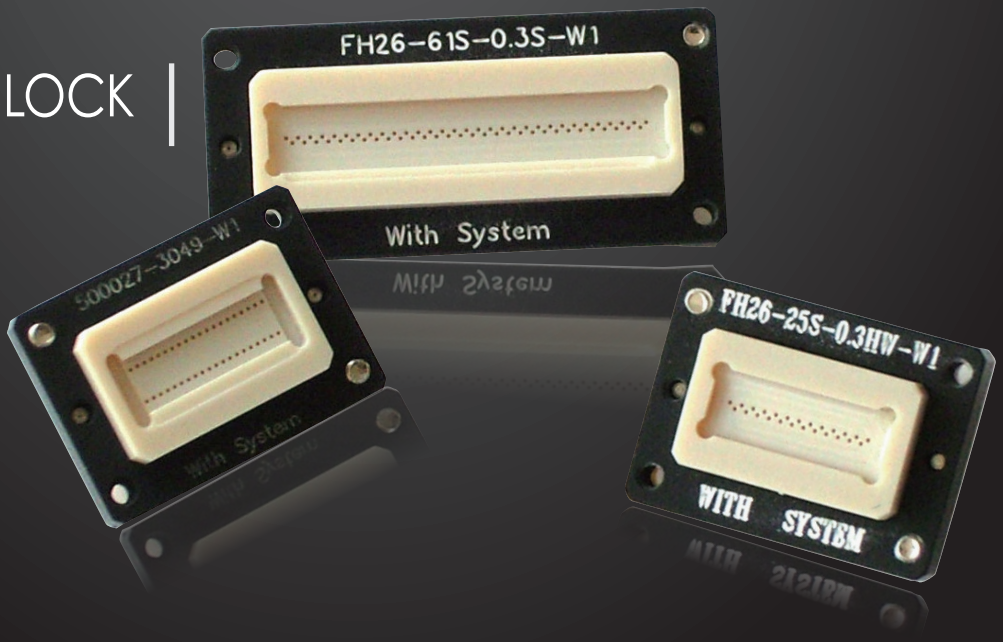


Original socket





POGO PIN BLOCK



PRODUCT

withsystem

DISPLAY MULTI FUNCTION TESTER w3

W3 FEATURES

Inspection Item

- Interface offered for the mobile display
- Testing various patterns of the test module
- Camera test and image file test
- Testing the touch panel and current limit
- Current consumption measurement available
- SIZE : 120(W)*150(D)*60(H)

SPECIFICATION

Model Name		W3				
Testing object		OLED, LCD Module, OTP, MTP, COG E/T Test, Touch etc				
Size		120(W) * 150(D) * 60(H)				
System power		DC 12V 10A				
CPU		Cortex-A8 S5PV210 (1GHz, 32bit)				
PC Connect		LAN, RS-232				
External Interface		RS-232, USB_A, USB A_DUAL, MINI USB, LAN				
Internal Interface		CPU 24bit Interface (8,9,16,18,24bit) RGB 24bit Interface (6,8,16,18,24bit) MIPI 4Lane eDP 4Lane LVDS 4Lane-Single/Dual				
Support Resolution		2048*2048 Format (BMP supported)				
Function		ICT(RGB, MIPI, CTRL LINE), WIFI				
Extension I/O		100PIN*2, 20PIN*1, 32PIN*1				
Power	**ITEM**	VBAT1	ELVSS	VDD1,2, VCI, VBAT2	VEXT1,2	VEXT3
	Out Voltage	1.0V~10V ±0.003V	-1.0V~-10V ±0.003V	-1.0V~-10V ±0.003V	1.0V~23V±0.1V (with no load)	-1.0V~28V±0.1V (with no load)
	Current	4A Scale±0.5%	2A Scale±0.5%	950mA Scale±0.5%	Power shut off at over 100mA	Power shut off at over 15mA
		50mA Scale±0.5%	50mA Scale±0.5%	50mA Scale±0.5%		
		5mA Scale±0.5%	5mA Scale±0.5%	5mA Scale±0.5%		
		500μA Scale±1.0%	500μA Scale±1.0%	500μA Scale±1.0%		
Test Application		Register setting, Power setting, Interface setting, Timing setting, Test pattern, Test sequence and final test file created to determine detailed inspection direction .				
Accessory		PC Program (UI), User's Manual, 12V/10A Power Adapter				

LCD MULTI FUNCTION TESTER W2

W2 Inspection is the major feature

Inspection Items

- CPU 24bit (8, 9, 16, 18, 24) Interface (max 2048X2048)
- RGB 24bit (6, 8, 16, 18, 24)
  Interface 1600X1200 (max 2048X2048)
- LVDS Output
- MDDI 2Lane Interface
- MIPI 4Lane Interface (1Clock, 4Lane)
- MIPI-DSI 1Port Supported
- PWM Control
- Touch Panel (4-wire type)
- Capactive Touch Panel
- Current Limit Test, Current Draw Measurement
- FLM Frequency Measurement
- SPI, I2C Supported

LCD MULTI FUNCTION TESTER W2

Model Name	W2
Testing object	LCD(TFT, AMOLED, STN, MONO) module, OTP, MTP, COG E/T TEST, TOUCH etc
Feature	Main+Channel expansion (Max. 4 channels, individual channel separable)
Size	Total : 403(W) X 254(D) X 166(H) Main : 203(W) X 254(D) X 166(H) Channel : 50(W) X 254(D) X 166(H)
System power	AC 90~240V Free voltage. 50~60Hz
CPU	Main, Channel : Cortex-A8 S5PV210 (1GHz, 32bit)
OS	Window CE 6.0
Status LCD	· 800X600 RGB 7""TFT LCD (Touch supported) Test Information (Inspection items, drive voltage, real-time current monitoring) · UI configuration using ACT, MODEL, SETUP, TEST, Info etc.
Storage	· Inside Memory: 256MB Memory or above · Outside Memory: SD Card 4GB ore above: standard
PC connect	USB, LAN, RS-232
External Interface	· Main Front REMOTE_A,REMOTE_B,USB_A,SD Card, Function KEY Rear RS-232, USB_A, USB_B, LAN, SD Card, HDMI · Channel Rear RS-232, RS-232, USB_A, USB_B, SD Card
Channel Interface	· CPU 24bit Interface (8, 9, 16, 24bit) · RGB 24bit Interface (8, 9, 16, 24bit) · MDDI 2Lane · MIPI 4Lane (1Clock, 4Lane) MIP-DSI (LCD) 1Port supported
Channel Support Resolution	· SXGA: 1600X1200 Format (BMP supported) · D-CLK : MAX 80MHZ
Channel Extension I/O	26PIN, HDMI/VGA, HDMI_29PIN, 100PIN

	Item	ELVDD	ELVSS	VDD1,2,VCI,VBAT	VEXT1,2	VEXT3
Power	Outvoltage	1.0V~10V±0.01V	-1.0V~-10V±0.01V	1.0V~5V±0.05V	1.0V~23V±0.1V (at free of load)	-1.0V~-23V±0.1V (at free of load)
	Current	1uA~2A	1uA~1A	1uA~500mA	1uA~500mA	1uA~500mA

Test Application	· Register setting, Power setting, Interface setting, timing setting · Test pattern, test sequence and Detail inspection direction decision · Final test file created · Final test file download from W2 toSD memory
Accessory	· PC program (UI), MOD file · User's manual, Cable, SD card, Mouse
Option	· OTP, MTP use Remote · FS-2 : Flicker and brightness test sensor · Debug TOOL · Voltage Current proofreading TOOL

LCD MULTI FUNCTION TESTER U3

U3 TESTER CHARACTERISTICS

Application of high-speed process

Uses ARM9 400MHz and high-speed FPGA used in cell phones and other IT equipments enabling Pass/Fail through real-time monitoring of current and voltage leading to a more precise test.

Support Various Interfaces

- Supports RGB48bit, CPU24bit, MDDI, I2C, SPI etc Interface as default.
- Realizes internal image pattern regardless of resolution in RBG (inserts internal image)
- Provides FPGA palmware auto update function and MDDI Read function.
- Supports maximum 300Mbps high-speed serial interface such as CDP, MIPI, LVDS (Option)
- Can be expanded from minimum one channel to three channels, can test three same or different products as the same time, which reduces production time to enhance productivity.
  - can test OTP,MTP up to 3 channels simultaneously
  - can test LCD Test and supplementary functions up to 3 channels simultaneously (TOUCH, SPK, MOTOR, LED, BLU, KEY, CAMERA, AUDIO AMP, etc), allows auto flicker or manual flicker measurement and calibration by connecting with Flicker tester (FS series).

High-Resolution Testing Function

- Stop image(format:BMP) supports up to resolution 1600*1200(Dot-C LK 80MHz)
- Supports video can run up to 60 frames.

Improvement of user convenience

All test functions are offered in GUI type application, therefore, a separate compilation process is unnecessary, furthermore the product allows up to 3 comparison tests of the same or other models. In addition, the function also supports remote control where tester state and tester internal programs are controlled by remote from the main office.

Enables real-time operation by connecting with PC

User oriented UI program(anyone can set initial value and operation condition), real-time PC monitoring function

Compatible with various equipments with diverse interfaces

Easy operation with touch panel

LCD MULTI FUNCTION TESTER U3

Model Name	U3
Testing object	LCD(TFT, AMOLED, STN, MONO) module, OTP, MTP, COG E/T TEST, TOUCH etc
Feature	Channel expansion
Size	360(W) x 250(V) x 160(H)
System power	100-250 Free Voltage
Status LCD	· 6.4" QVGA Color TFT LCD TOUCH부착 · The present test mode, Supply voltage, Consume current Monitoring · ACT VIEW, ICT VIEW, MODEL SET, SETUP, LCD TEST, INFO
Storage	· Outside memory : SD card · Inside memory : 128 MB Memory
PC connect	· USB, LAN, RS-232
Interface	· RGB interface : 8, 16, 18, 24, 48bit · CPU(I80/M68) interface : 8,9,16,18, 24bit · MDDI series high-speed serial interface, MDDI Read · DMAC, I2C, SPI, Offer various types of interface · CDP, MIPI, LVDS(S/D) Option
Support resolution	· DOT CLK 80MHz · Stop movie high-resolution : 1600*1200, Format (BMP) · Support video : after upgrade
Extension I/O	· I/O1(100pin) : 24Bit data Bus, CS1, WE, RS1, RESET1, GPIO, Power, VSYNC, HSYNC, ENABLE, DOTCLK, Touch, PWM, POWER, SPI etc. · I/O2(20pin) : OTP, MTP power, Sol V/V control support max 8 · MDDI(6pin) : MDDI, power I/O1, I/O2I, MDDI cable length : 80Cm(MDDI 1.8M)

	Item	VDD	VEE	VBAT	VEXT1	VEXT2	VEXT3	VEXT4	VEXT5
Power	**Out voltage**	1.5V ~ 5 (Step 0.01V), MAX 500mA	1.0V ~ 5V (Step 0.01V), MAX 500mA	1.0V ~ 5V (Step 0.01V), MAX 500mA	1.0V ~ 15V (Step 0.01V), MAX 500mA	1.0V ~ 15V (Step 0.01V), MAX 500mA	1.0V ~ 24V (Step 0.1V), MAX 500mA	1.0V ~ 24V (Step 0.1V), MAX 500mA	0V ~ -28 (Step 0.1V), MAX 500mA
	Current	1uA~500mA	1uA~500mA	1uA~500mA	1uA~500mA	1uA~500mA	·	·	·

Test Application	· Register setting, Power setting, Interface setting, timing setting (LCD INIT) · Test pattern, test sequence and Detail inspection direction decision (ACTION SET) · OPEN/SHORT test (ICT SET) · Final test file created (INIT + ACT + ICT + MOD = WMT) · WMT file download from U2 toSD memory
Accessory	· PC program (UI), MOD file · User's manual, Cable(I/O1, I/O2, MDDI, POWER), SD card, Mouse
Option	· OTP, MTP use Remote (3channels) · FS-2 : Flicker and brightness test sensor · Debug TOOL · Voltage, Current proofreading TOOL

2013 DEMOKIT

2013 DEMOKIT FEATURES

Inspection Item

- Channel expandable from 1CH to 10CH
- Each channel can be driven individually when expanded
- Testing various patterns of the test module
- Image file test
- Touch(TSP) panel test
- Size : 116.4(W)*136.4(D)*19.9(H)
- Environmental temperature :
  Low temperature -20℃, room temperature 70℃,
  Moisture 93%(measured at 60℃)

SPECIFICATION

Model Name		2013 DEMOKIT	
Testing object		OLED, LCD Module, COG E/T Test, Touch etc	
Size		116.4(W) * 136.4(D) * 19.9(H)	
System Power		DC 12V 5A	
CPU		Cortex-A8 S5PV210 (1GHz, 32bit)	
PC Connect		LAN, USB	
External Interface		RS-232, USB_A, MINI USB, LAN, SD MEMORY SOCKET	
Internal Interface		CPU 24bit Interface(8,9,16,18,24bit) RGB 24bit Interface(6,8,16,18,24bit) MIPI 4Lane(Max 1Gbps)	
Support Resolution		2048*2048 Format (BMP supported)	
OS		WIN CE(Android 4.0 Ice Cream Sandwich optional)	
Extension I/O		100PIN*1	
POWER	**ITEM**	VBAT1	VDD1,2, VCI, VBAT2, IOVCC
	Output Voltage	1.0V~10V ±0.003V	1.0V~5.0V ±0.003V
Test Application		Register setting, Power setting, Interface setting, Timing setting, Test pattern, Test sequence and Detail inspection direction decision Final test file created.	
Accessory		PC Program (UI), User's Manual, 12V/5A용 Power Adapter, PC Connection Gender Board, LAN Cable, SD Memory Card	

LCD FUNCTION TESTER DEMOKIT

DEMOKIT Features

Inspection Items

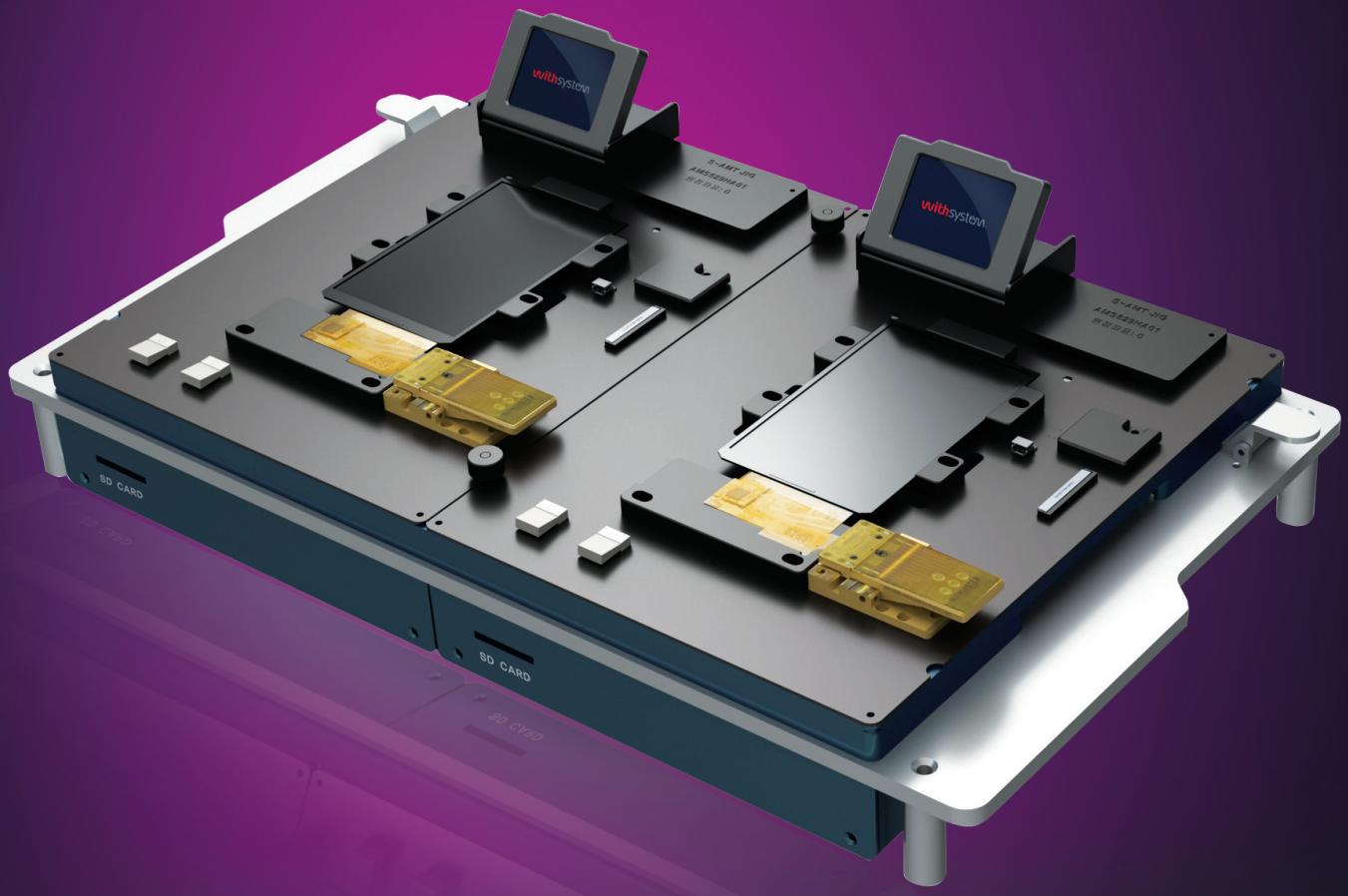
- CPU 24bit (8, 9, 16, 18, 24)
- RGB 24bit (6, 8, 16, 18, 24)
- Resolution 1600X1200 (Internal Pattern max 2048X2048)
- MDDI 2Lane Interface
- MIPI 4Lane Interface (1Clock, 4Lane)
- MIPI-DSI 1Port
- PWM Control
- Touch Panel (4-wire)
- Capactive Touch Panel
- FLM Frequency Measurement
- SPI, I2C

LCD FUNCTION TESTER DOMOKIT

Model Name	DOMOKIT
Testing object	LCD(TFT, AMOLED, STN, MONO) module, OTP, MTP, COG E/T TEST, TOUCH etc
Feature	Main Control Board & Sub Board
Size	Total : 180mm(W) X 250mm(D) X 77mm(H)
System power	AC 90~240V Free voltage 50~60Hz
CPU	Cortex-A8 S5PV210 (1GHz, 32bit)
Storage	Inside Memory: 256MB Memory
PC connect	USB, RS232, LAN
Interface	· CPU 24bit Interface (8, 9, 16, 24bit) · RGB 24bit Interface (8, 9, 16, 24bit) · MDDI 2Lane · MIPI 4Lane (1Clock, 4Lane) MIP-DSI (LCD) 1Port
Support Resolution	· SXGA: 1600X1200 Format (BMP Support) · D-CLK : MAX 80MHZ

	Item	ELVDD	VDD1,2,VCI,VBAT	VEXT1,2	VEXT3
Power	**voltage**	1.0V~10V±0.01V	1.0V~5V±0.05V	1.0V~23V±0.1V (No load)	-1.0V~-23V±0.1V (No load)
	Current	1uA~2A	1uA~500mA	1uA~500mA	1uA~500mA

Test Application	· Register setting, Power setting, Interface setting, timing setting · Test pattern, test sequence and Detail inspection direction decision
Accessory	PC program (UI), MOD file, User's manual, Cable, SD card



LCD FUNCTION TESTER F2

F2 Features

Inspection Items

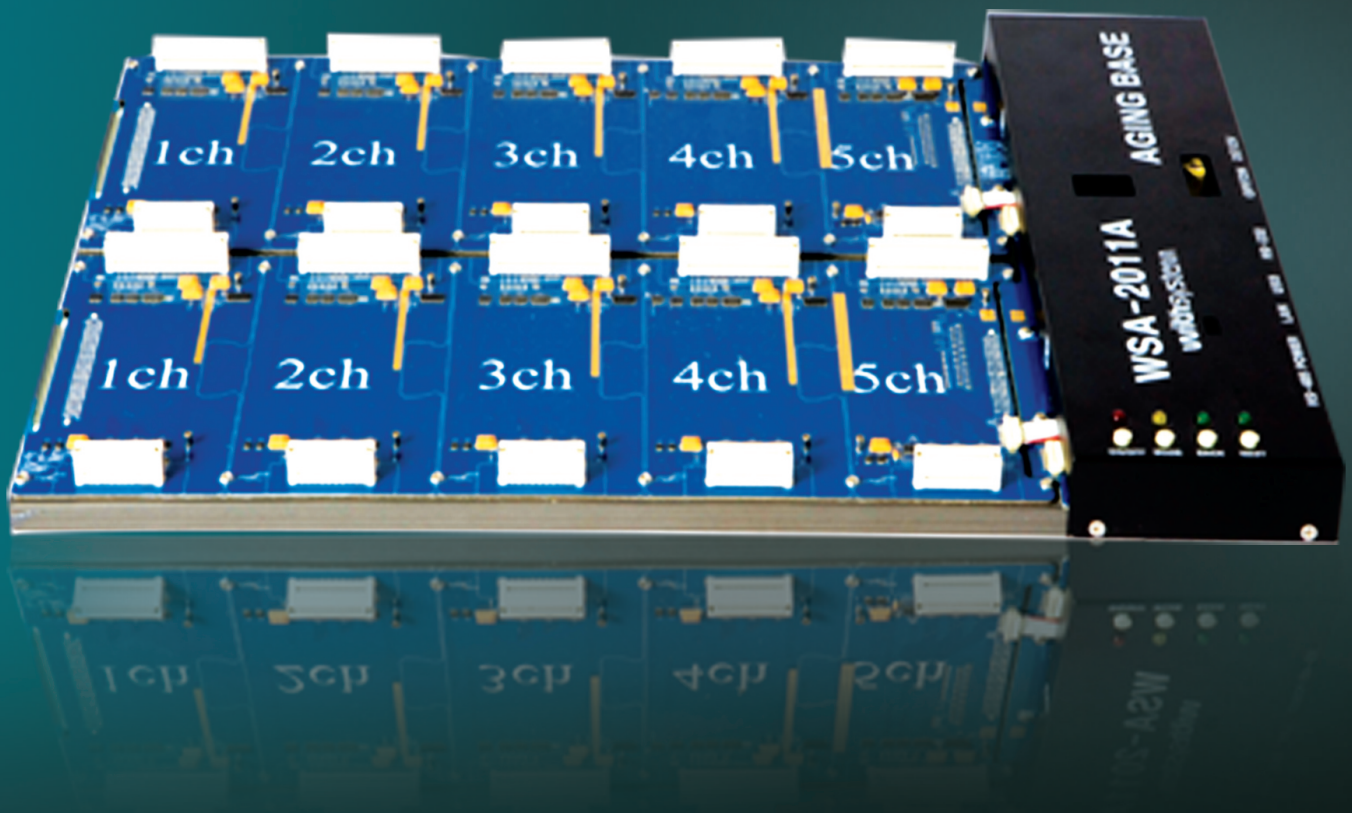
- CPU 24bit (8, 9, 16, 18, 24)
- RGB 24bit (6, 8, 16, 18, 24)
- Resolution 1600X1200 (Interface Pattern max 2048X2048)
- LVDS Interface (Option)
- MDDI 2Lane Interface
- MIPI 4Lane Interface (1Clock, 4Lane)
- MIPI-DSI 1Port Supported
- PWM Control
- Touch Panel (4-wire)
- Capactive Touch Panel
- Current limit Test, Current consumption measurement
- FLM Frequency Measurement
- SPI, I2C

LCD FUNCTION TESTER F2

Model Name	F2
Testing object	LCD(TFT, AMOLED, STN, MONO) module, OTP, MTP, COG E/T TEST, TOUCH etc
Feature	Channel Expansion (Max. 2CH, Channel separation is available)
Size	Total : 520mm(W) X 300mm(D) X 64mm(H)
System power	Power Adapter 12V
CPU	Cortex-A8 S5PV210 (1GHz, 32bit)
Storage	· Inside Memory: 256MB Memory · Outside Memory: SD Card 4GB
PC connect	USB, RS232, LAN
Interface	· CPU 24bit Interface (8, 9, 16, 24bit) · RGB 24bit Interface (8, 9, 16, 24bit) · MDDI 2Lane · MIPI 4Lane (1Clock, 4Lane) MIP-DSI (LCD) 1Port
Support Resolution	· SXGA: 1600X1200 Format (BMP Support) · D-CLK : MAX 80MHZ

	Item	ELVDD	ELVSS	VDD1,2,VCI,VBAT	VEXT1,2	VEXT3
Power	voltage	1.0V~10V±0.01V	-1.0V~-10V±0.01V	1.0V~5V±0.05V	1.0V~23V±0.1V (No load)	-1.0V~-23V±0.1V (No load)
	Current	1uA~2A	1uA~1A	1uA~500mA	1uA~500mA	1uA~500mA

Test Application	· Register setting, Power setting, Interface setting, timing setting · Test pattern, test sequence and Detail inspection direction decision
Accessory	PC program (UI), MOD file, User's manual, Cable, SD card
Option	· OPT, MTP use REmote · FS-2: Flicker and brightness test sensor · Debug TOOL · Voltage Current proofreading TOOL · LVDS Interface Bridge Board



AGING TEST SYSTEM

AGING JIG PALLET

AGING PALLET Skills

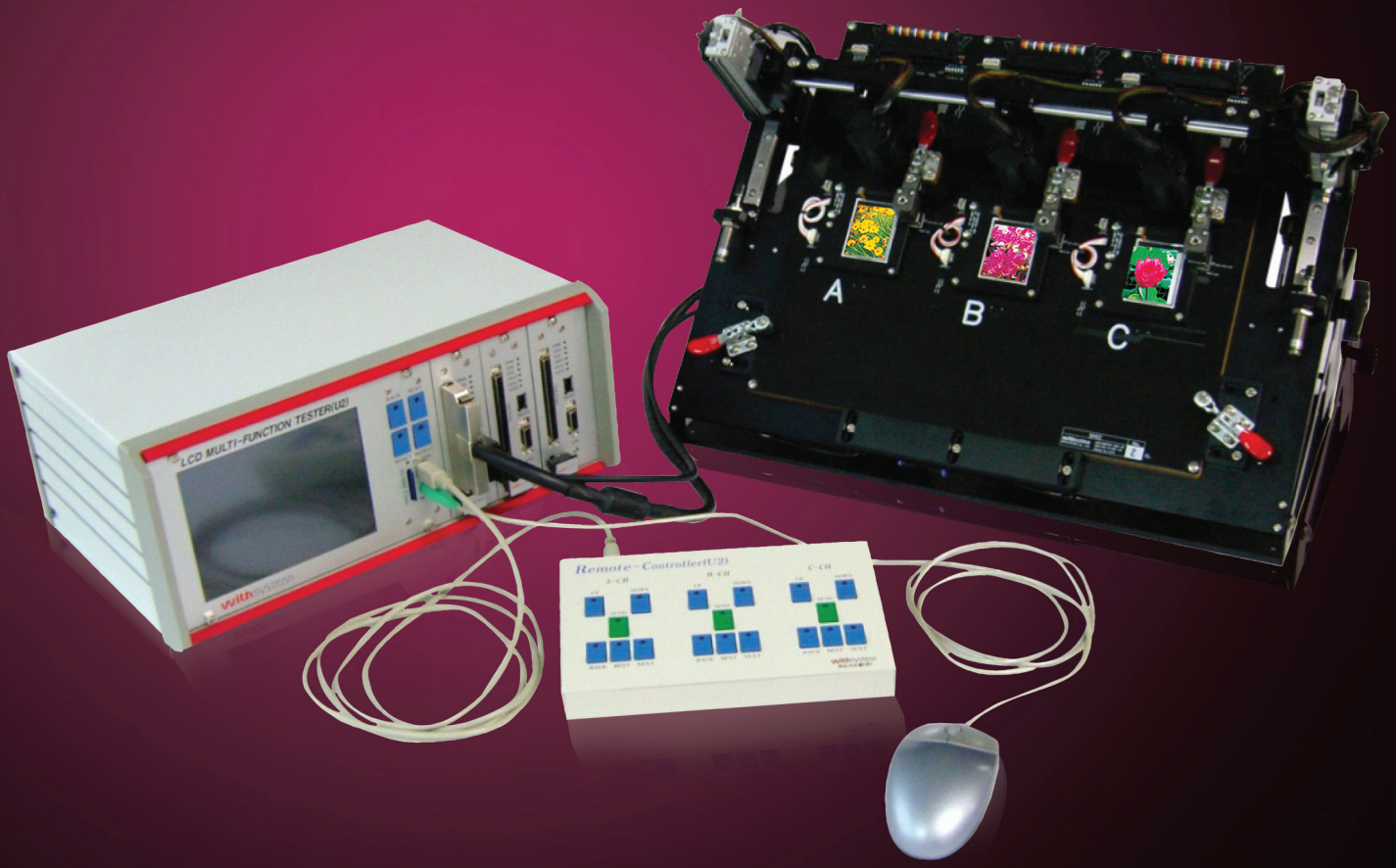
- Drive 10 channels at a time
- UI program for the User
  (Anyone can set initials and driving conditions)
- Max 30 devices can be particularly operated and program downloaded with a integrated remote-control

AGING JIG Specification

- **Model Name** : AGING JIG
- **Body** : ARM9 (400Hz)
- **Interface** : LAN, USB, RS-232, RS-485
- **Memory** : Built-in 64MB
- **Voltage** : VDD, VEE, VBAT, VEXT(1~5V)
- **Channel** : 10ch (controls all at a time)
- **Dot – CLK** : 80MHz
- **Drive** : R.G.B (24bit), CPU (18bit), MDDI, LVDS, MIPI
- **Testing object** : TFT, STN, OLED, MONO
- **POWER** : DC 12V 10A

AGING TEST SYSTEM

CPU	SAMSUNG S3C2440A (ARM920T,289FBGA)-400MHz
FLASH	AM29LV160 1EA (2MByte)
NAND FLASH	NAND FLASH K9F5616 2EA (64MByte)-8bit/16bit, Combination
SDRAM	K4S561632 2EA (64MByte)
USB	Supports USB Device
UART	Supports UART 2 ch (DSUB 9pin 2EA)-RS232
JTAG	JTAG Connector (Multi-Ice Compatible)
LCD	CPU(18BIT), RGB(24BIT), MDDI, MIPI LCD Interface
POWER	4Channel 1~5V (Max 3A)
RS485	19200bps, (00~99) ID set
TCMD	Take TCMD
POWER	7~15V DC, 3A
ETHERNET	10M, DHCP, TFTP SERVER & CLIENT
VOLTAGE	VDD, VEE, VBAT, VEXT(1~5V)
TEST TYPE	TFT, STN, OLED, MONO
DOT CLK	30MHZ
PC UI	ANYONE CAN SET INITIALS AND DRIVING CONDITIONS
KEYBOARD	NTERGRATED REMOTE-CONTROL
CHANNEL	10CH(CONTROLS ALL AT A TIME



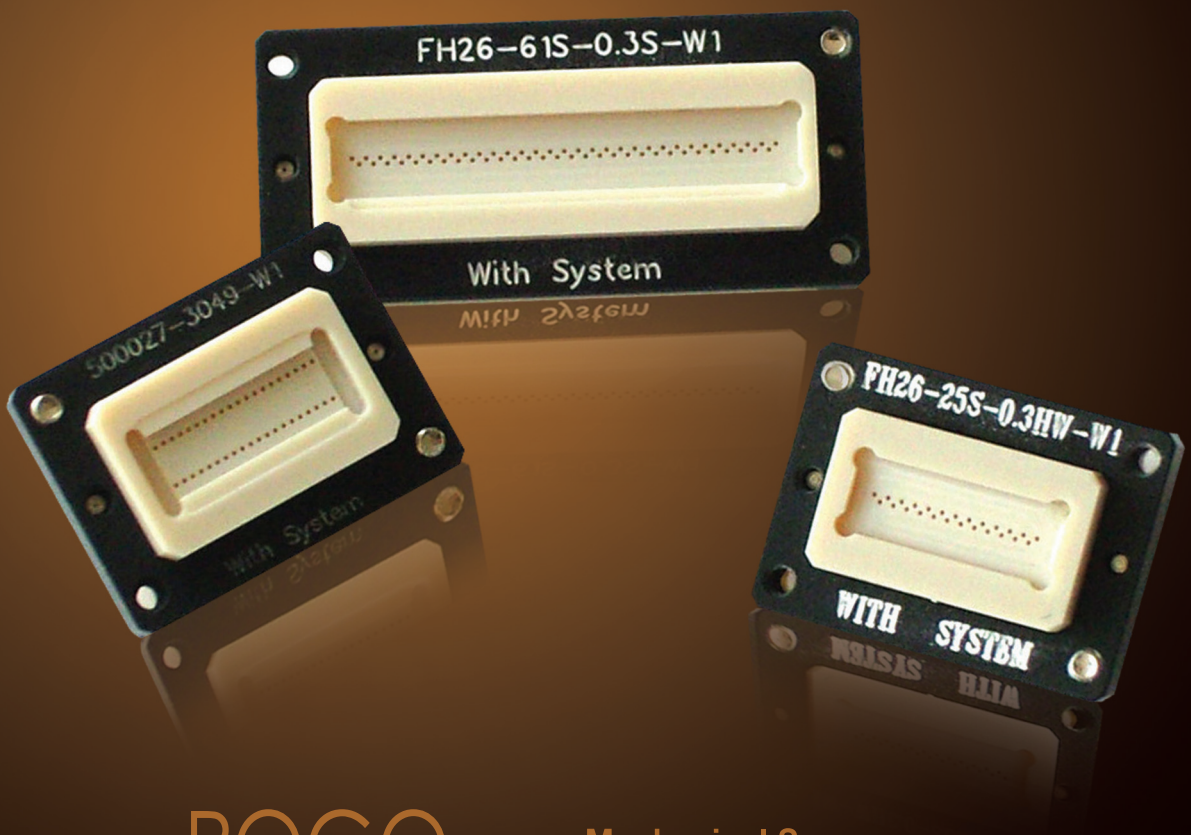
FLICKER TESTER

FLICKER TESTER (FS SERIES)

- Tested on : TFT, STN
- Measures : Flicker, luminance, and color coordinates
- Installed with self-controller
- Secures credibility by synchronizing with the measured value of CA-210 equipment
- Test number : allows up to maximum 3 simultaneous test
- When connecting with U3 tester, allows automatic flicker and luminance calibration
- Allows auto/manual measurement and calibration

FLICKER TESTER
(MANUAL FLICKER Series)

- Tested on : TFT, STN
- Measures : Flicker, luminance, and color coordinates
- Installed with self-controller
- Secures credibility by synchronizing with the measured value of CA-210 equipment
- Test number : allows up to maximum 3 simultaneous test
- When connecting with U3 tester, allows automatic flicker and luminance calibration
- Allows auto/manual measurement and calibration
- Can be produced at a lower price than FS Series, since the FLICKER sensor can be manually operated which allows a more simple design of tools.



POGO PIN BLOCK

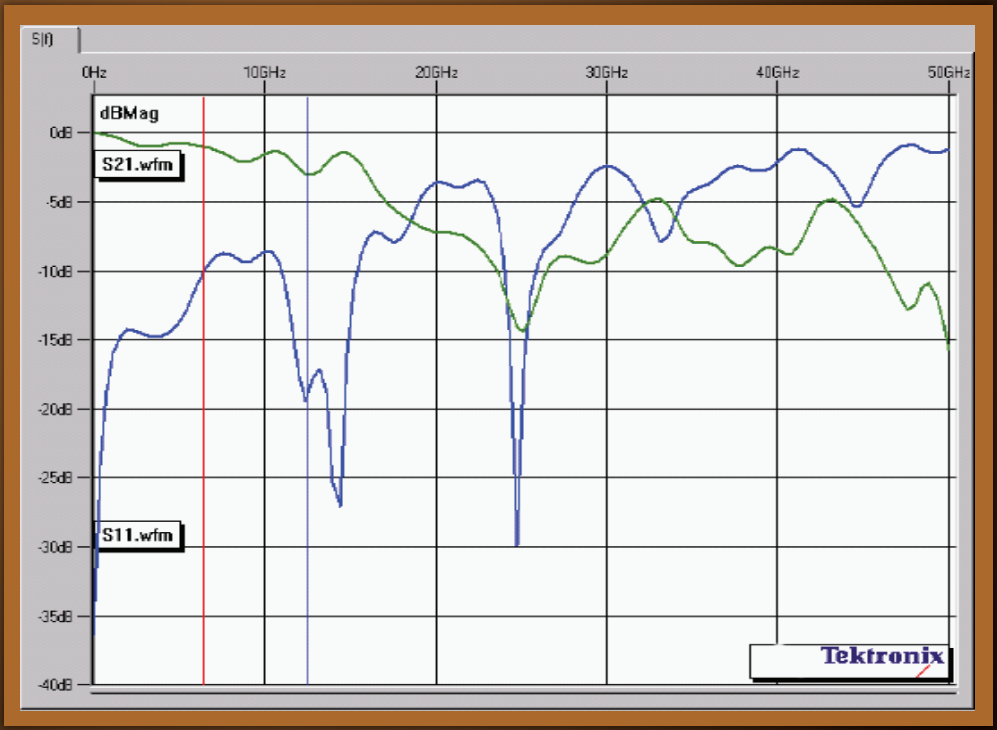
Product Introduction

Mechanical Spec

- Spring - Music Wire / Gold Plated
- Barrel - PBT / Gold Plated
- Plunger - SK4, BeCu / Gold Plated
- Full Travel : 0.8mm (.0314)
- Recommended travel : 0.6mm (.0236)
- Spring Force : 25g @ 0.7mm (.0236) (+/- 20%)

Electrical Spec.

- (Dielectric Material : MDS)
- Propagation Delay : 63ps
- (Dielectric Material : MDS)
- Self Inductance : 1.76nH
- (Dielectric Material : MDS)
- Bandwidth : 6.4 GHZ @ -1dB
- Probe Resistance : Less than 100mohm
- Current Rating : 0.5A Continuous



POGO PIN BLOCK CHARACTERISTICS

- POGO PIN BLOCK of With System provides diverse types of BLOCKS that fit the product by approaching with JIG concept. Designs after full review of the product with high-tech tester.
- The high-speed machine tools allows process precision and short lead time to enable mass production (maximum RPM 260,000)
- Produces various products of DNJF 800ROWJDEH
- Maximum production volume per month is approximately 3000.

LCD VISUAL TESTER P2

P2 TESTER FEATURES

Overview

Visual tester is an equipment that tests the abnormality of the panel by authorizing AC, DC, and Video signals instead of operating IC(LSI) of OLED and small sized TFT-LCD panel that is produced in A-SI, P-SI(LTPS) type and it is a high precision tester that supports up to SOG 1 to SOG 4 levels.

Usage

The visual tester(P2) is used in the final test of the companies' all panel process that produces TFT and OLED panels.

Features

P2 tester is a tester that currently supports up to SOG 1~SOG 4 level and since it needs to conduct complicated operating IC's functions as a tester, the product has the following features.

- AC PORT(30 channels) : -20V ~ +40V (0.1V precision / 100ns variable)
- DC PORT(6 channels) : -20V ~ +40V (0.1V precision / 100ns variable)
- VIDEO PORT(24 channels) : -15V ~ +15V (0.1V precision / 100ns variable)
- GND PORT(2 channels)
- The H/W has a high-speed image processing technology at FPGA, an analog technology that converts voltage by PORT to high speed signals and a PC UI technology where users can manually or automatically call each signal image and convert the image.
- FPGA uses Vertex 4 level of Xilinx that has high speed large memory volume and for voltage variable and variable speed, it realizes a precision voltage by using 100MBps level a/d and d/a.
- For PC UI, the product uses USB and LAN enabling various types of data downloads such as model operating materials speedily and is developed to enhance users'convenience.

LCD VISUAL TESTER(P2)

MODEL NAME		P2
DESCRIPTION		PATTERN GENERATOR SPECIPICATIONS
OUTPUT TERMINAL	CONNECTOR	FLAT CABLE (62 CH)
	AC PORT	54 CH (VIDEO PORT 24 CH)
	DC PORT	6 CH
	GND PORT	2 CH
OUTPUT CHARACTERISTICS	OUTPUT RANGE	-20V ~ +40V (VIDEO PORT : ±15V)
	VOLTAGE RESOLUTION	≤ 100 mV
	CURRENT	≥ 50 mA
	PEAK CURRENT	≥ 50 mA
AC PORT CHARACTERISTICS	RISE & FALL TIME	≤ 100ns at 0 ~ 20V AMPLITUDE
	NON - PERIOD FUNCTION	ALL PORT NON - PERIOD (70ms / FRAME)
	INVERTING, NON - INVERTING	AC PORT
	TIME RESOLUTION	≤ 100ns (VIDEO PORT : ≤50ns), IN ALL PORTS
	PORT TO PORT DELAY	VIDEO PORT ≤ 5ns
ARBITRARY WAVEFORM GENERATOR (GUI)		GENERAION USING SCRIPTER, VIEWER & CONTROL
INTERFACE (IO PORT)		USB2.0 HIGH - SPEED (480Mbps)x1, RS - 232x1, SPIOx1
LINE INPUT		220 VAC
DIMENSIONS		TBD

withsystem

본사 경북 구미시 산호대로 142-73(730-906)
T. 054-465-7980 F. 054-465-7984 E. withsystem@unitel.co.kr

수원기술연구소 경기도 수원시 영통구 덕영대로 1556번길 16, C603호(영통동 디지털엠파이어)
T. 031-202-7980 F. 031-202-0458 E. withsystem@unitel.co.kr

중국법인 Zemeiluduan, Kanglenanlu, Xintangcun, Houjiezhen, Dongguancity, Guangdong prc, China
T. +86-769-8582-9396 F. +86-769-8582-9556

http://www.withsystem.co.kr

Head office #142-73, Sanho-daero, Gumi-si, Gyeongsangbuk-do, 730-906 Korea
T. +82-54-465-7980 F. +82-54-465-7984 E. withsystem@unitel.co.kr

Suwon R&D Center C-603 Digital Empire Bldg., 16, Deogyeong-daero 1556beon-gil, Yeongtong-gu, Suwon-si, Gyeonggi-do, 443-702 Korea
T. +82-31-202-7980 F. +82-31-202-0458 E. withsystem@unitel.co.kr

Corporation in China Zemeiluduan, Kanglenanlu, Xintangcun, Houjiezhen, Dongguancity, Guangdong prc, China
T. +86-769-8169-4738 F. +86-769-8169-4768

http://www.withsystem.co.kr