

A3 AI Intelligent Imager

# Cilt Analiz Cihazı

Kullanma Kılavuzu

Marka: Defond

Model:ZMLH-A3



# A3 AI YAPAY ZEKA İLE AKILLI GÖRÜNTÜLEME CİHAZI

YENİ ÜRÜN LANSMANI

A3 AI akıllı görüntüleyici: Cilt sorunlarını çözmeye odaklanan bir araştırma ve geliştirme ile sekiz spektral görüntüleme teknolojisini entegre eder ve esnek işlemlerle on beş cilt sorununu profesyonel ve objektif bir şekilde analiz edebilir. Araştırma ve geliştirmenin asıl amacı, tek bir tıklama ile fotoğraf çekmek ve analiz raporları oluşturmak, böylece kullanımı daha kolay hale getirmektir.



# CONTENT

01

FUNCTION  
DEMO

02

PARAMETERS

03

EIGHT  
SPECTRAL  
IMAGE  
ANALYSIS

04

FIFTEEN  
DETECTION&  
ANALYSIS  
INDICATORS

05

MICROSCOPIC  
DETECTION  
SKIN DETAILS

06

OUR  
SERVICE

07

COOPERATION  
BRAND



A3 AI INTELLIGENT IMAGER

01

FUNCTION  
DEMO

## FUNCTION DEMO

3D SHOOTING

EIGHT SPECTRAL  
IMAGING

CLOUD DATA  
STORAGE

CUSTOMER FILE  
MANAGEMENT

ADJUSTING SKIN  
TEST RESULTS

BACKEND SYSTEM  
MANAGEMENT

A3 AI INTELLIGENT IMAGER

TWO SKIN TESTING  
MODES

FIFTEEN TESTING  
INDICATORS

THREE COMPARATIVE  
ANALYSIS MODES

THREE REPORTING  
MODES



## 3D SHOOTING



sitive



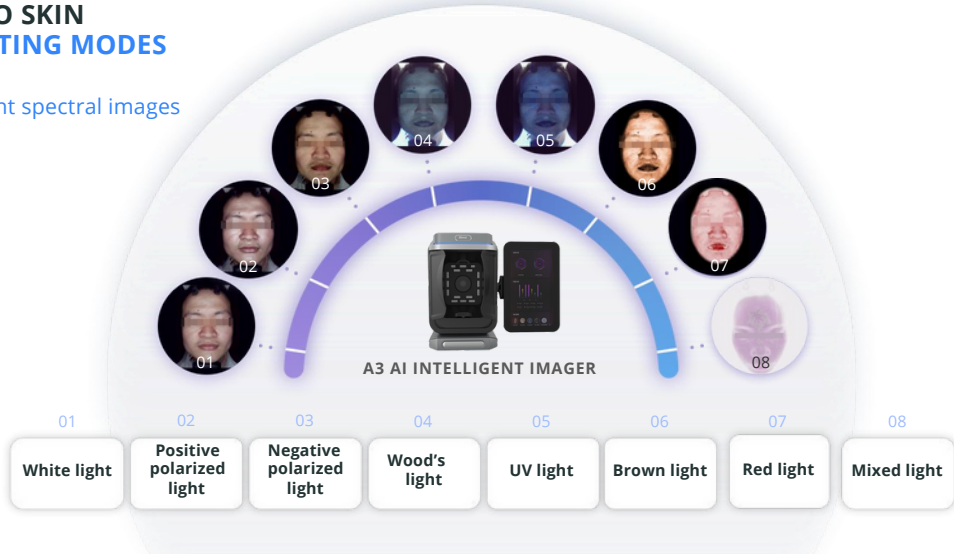
face



Right face

## TWO SKIN TESTING MODES

- Eight spectral images

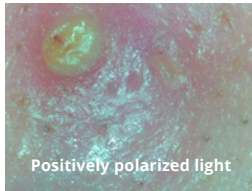


## TWO SKIN TESTING MODES

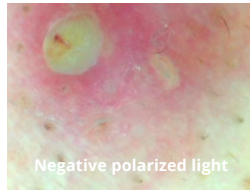
- Local area detection, microscopic image presentation



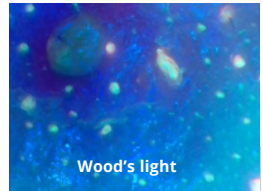
Handheld skin microimager



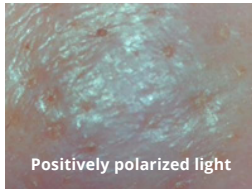
Positively polarized light



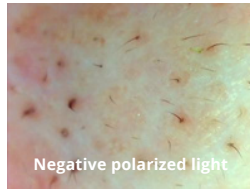
Negative polarized light



Wood's light



Positively polarized light



Negative polarized light



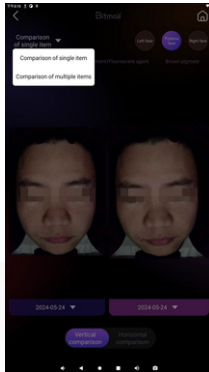
Wood's light

**Multiple light source  
targeting analysis**

## FIFTEEN TESTING INDICATORS



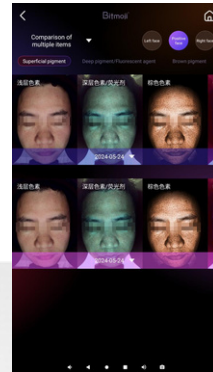
## THREE COMPARISON MODES



Horizontal  
comparison



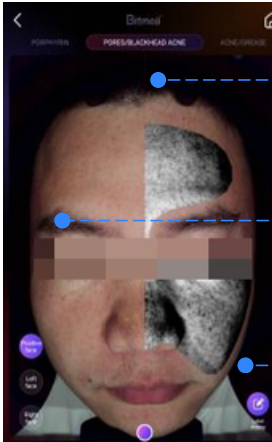
Vertical  
comparison



Multinomial  
comparison

## THREE REPORTING MODES

### Single independent report 1



#### Multinomial comparison

Two spectra were compared simultaneously

#### Multidimensional perspective

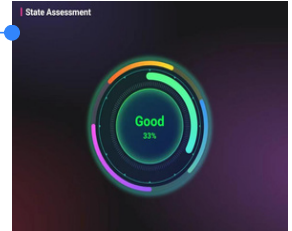
Multi-angle image display comprehensive

#### Microscopic image

Skin detail problem, microscopic image presentation

#### State assessment

Dynamic Skin condition shows that there are 3 states in total (poor means poor skin quality, warning means average skin quality, good means good skin condition) as picture showed:



Poor (purple)



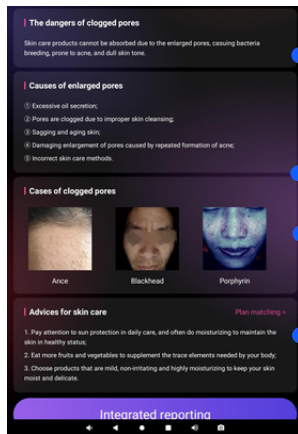
Warning (yellow)



Good (green)

## THREE REPORTING MODES

### Single independent report 1



#### Case presentation

Skin problem Cases

#### Symptom description

#### Product recommendations

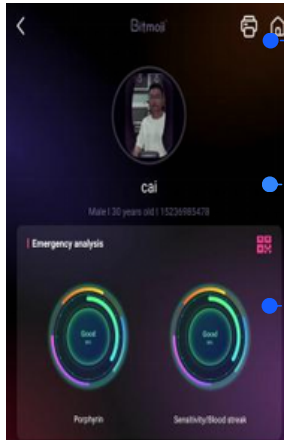
#### Effect display

Recommend the relevant nursing plan and show after-treatment effect



## THREE REPORTING

### Comprehensive analysis Report 2



#### Print report

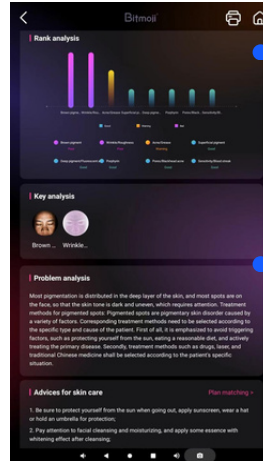
Print PDF report

#### Download report

Scan QR code to get the report by phone

#### Emergency analysis

Priority display of urgent skin problems, dynamic skin condition display



#### Rank analysis

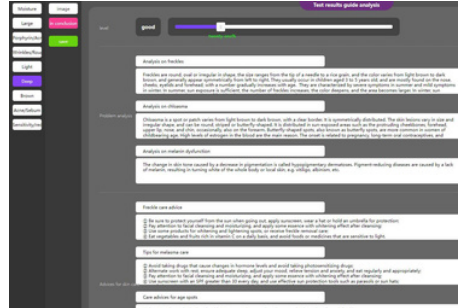
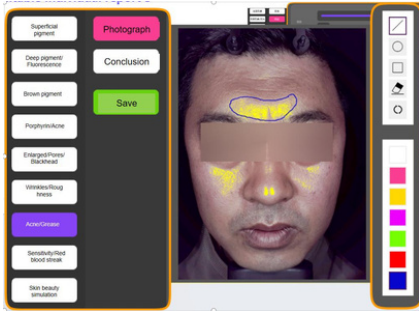
Analysis results are displayed comprehensively and dynamically (Purple is poor, yellow is warning, and green is good)

#### Focus analysis

The more serious skin problems will be displayed priority, click on the image to enlarge the focus

## THREE REPORTING

### Editable Individual report 3



Gereksinimlere göre, arka plan sisteminde açıklama eklenecek ilgili görüntüyü seçin

Test sonuçlarını gereksinimlerinize göre özelleştirin

Her gösterge hata ayıklaması yapılabilir

İçerikleri özgürce düzenleme

## OPTIMIZING DETECTION PROJECTS MANUALLY



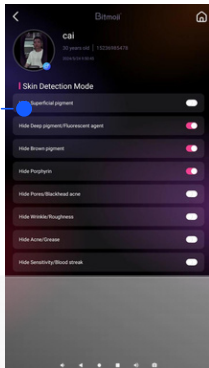
Data result optimization  
Manual debugging

Single Data  
Adjustment

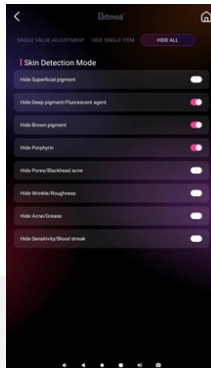
## HIDING SETTINGS FOR DETECTION PROJECT

### Individual Customization

According to customer's  
Nursing project needs,  
hiding analysis project if no  
needed

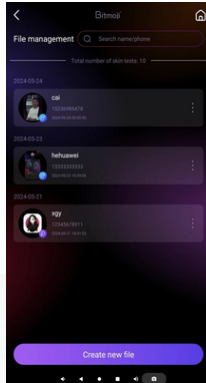


Single item hiding

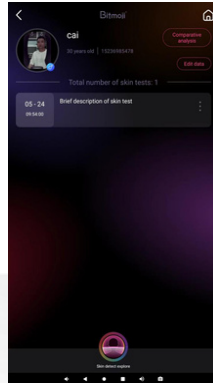


Bulk hiding

## CLOUD STORAGE FILE MANAGEMENT



File management




Personal file

Cloud storage

One-click search

Counting  
skin tests  
times

## BACKEND MANAGEMENT



**Recording  
Nursing  
project freely**

**Unified  
management  
of multiple  
equipments**

**Customer  
profile  
management  
in Real-time**

**Review  
And edit  
Detection  
Record in  
Real-time**



A3 AI INTELLIGENT IMAGER

02

PARAMETERS

## HARDWARE PARAMETERS

DEVICE NAME	A3-AI INTELLIGENT IMAGE INSTRUMENT
MODEL	ZMLH-A3
PIXEL	Industrial grade 36 Million pixel
SPECTRUM	RGB white light, Positive polarized light, Negative polarized light, Wood's light, UV light, Red light, Brown light, Mixed light
SHADING METHOD	Semi-open
PRODUCT MATERIAL	Industrial Grade ABS
POWER SUPPLY	AC 100-260V, 50/60Hz
PRODUCT DIMENSIONS	Unfolded: 600 x 415 x 504mm Folded: 309 x 415 x 504mm
CENTRAL PROCESSING	Rockchip RK3568; Quad-core Cortex-A55
MOTHERBOARD	R10-S 6810p Pmotherboard, running Android 11 system
MAIN MEMORY	Dual-channel LP DD R4, 4G
STORAGE	MMC 5.1, 32G

## HARDWARE PARAMETERS

DEVICE NAME	A3-AI INTELLIGENT IMAGE INSTRUMENT
OPERATING METHOD	Multi-point capacitive touch
SCREEN FEATURES	Foldable 90 degrees
WIFI	Built-in dual-band WIFI (2.4G, 5G)
HDMI	1 port (optional)
USB	2 ports
SCREEN RATIO	16 : 9
SCREEN SIZE	15.6 inches
SCREEN RESOLUTION	1920*1080
NET WEIGHT	11.8KG
GROSS WEIGHT	16.6KG
PACKAGING DIMENSIONS	590*530*605mm
PACKAGING MATERIAL	Corrugated paper + pearl cotton
OTHER ACCESSORIES	Handheld skin analyzer, power cord

## PARAMETERS



## A3 AI INTELLIGENT IMAGER

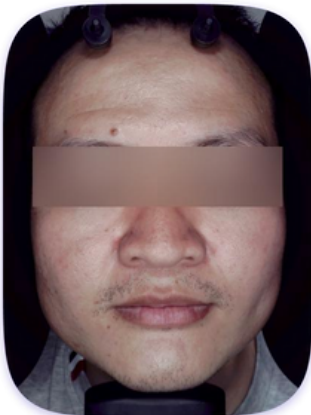


A3 AI INTELLIGENT IMAGER

03

EIGHT  
SPECTRAL  
IMAGE  
ANALYSIS

## EIGHT SPECTRAL IMAGE ANALYSIS



White light

### THEORY

Visible spots and other blemishes on the skin surface (acne, stains, wrinkles, pores, etc.) under natural light sources, which are mainly used as the basis for other spectral image comparison.

Pimple



Stain



Wrinkle



Pore



## EIGHT SPECTRAL IMAGE ANALYSIS



Positive polarized light

### THEORY

Positive polarized light can improve the clarity of superficial texture, magnify local details, so as to clearly observe the smoothness of skin, fine lines and wrinkles and bumps (wrinkles, pores, potholes, pimples, etc).

Wrinkle



Pore



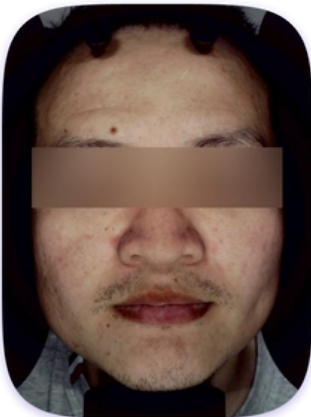
Pothole



Pimple



## EIGHT SPECTRAL IMAGE ANALYSIS



Negative polarized light

### THEORY

Using negative polarized technology to filter out the refracted light on the skin surface, so that you can clearly examine the light brown, tan, dark brown, light yellow or dark red skin lesions; It can distinguish the condition of capillaries, facial acne, uniformity skin and other skin problems.

Stain



Pigment



Acne



## EIGHT SPECTRAL IMAGE ANALYSIS



Wood's light

### THEORY

Wood's light can detect deep pigments in dermis. The principle behind this is that melanin does not fluoresce after exposure to ultraviolet radiation, allowing melanin to stand out more clearly with stronger contrast.

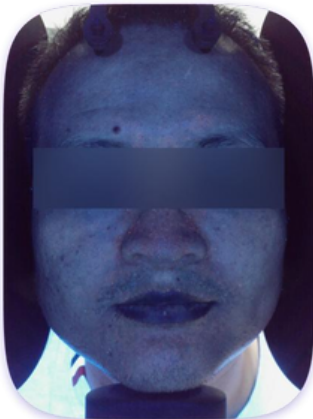
Fleck

Fleck

Fleck

Fluoresce-  
nce

## EIGHT SPECTRAL IMAGE ANALYSIS



UV light

### THEORY

Under UV light source, the content and distribution of the purple pigment bilirubin are displayed clearly through fluorescence, which can be used for the auxiliary diagnosis and efficacy observation of pigmentary dermatoses, pore issues, skin infections, and porphyria.

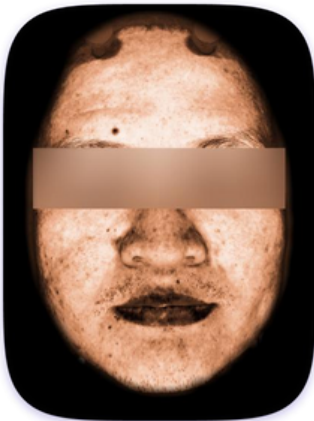
Porphyrin



Fluorescence



## EIGHT SPECTRAL IMAGE ANALYSIS



Brown light

**THEORY** The position, area, shape, and severity of subcutaneous facial UV spots are processed by using RBX light source technology, which demonstrate skin damage from UV radiation and the accumulation of subcutaneous melanin.



Mole



Lentigo

## EIGHT SPECTRAL IMAGE ANALYSIS



Red light

### THEORY

Used to analyze subcutaneous hemoglobin and inflammatory pigment deposition on the face, such as sensitivity, skin lesions, acne, erythema, etc. .

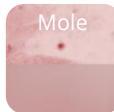
Pimple



Blood  
streak



Mole



## EIGHT SPECTRAL IMAGE ANALYSIS



Mixed light

### THEORY

Skin texture roughness and collagen loss were revealed by polarizing analysis.

Rough  
texture

Wrinkle



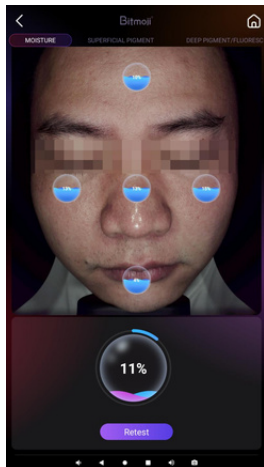
A3 AI INTELLIGENT IMAGER

04

15  
DETECTION &  
ANALYSIS  
INDICATORS

## 15 DETECTION&ANALYSIS INDICATORS

### Moisture test report 1



#### Regional moisture detection

Facial moisture were detected by partition

#### Comprehensive calculation

Calculate the water content comprehensively



#### Skin Condition Evaluation

Watershortage Evaluation

#### Harzard analysis

The harzards of dehydration

# 15 DETECTION&ANALYSIS INDICATORS

## Moisture test report 2



### Dyhydration Case

Dyhydration Case

### Recommended scheme

Nursing method description



### Recommended scheme

Nursing care recommendations (products)

## 15 DETECTION&ANALYSIS INDICATORS



**Superficial pigment**



pThe image displays pigment deposition formed in the superficial layers of the skin, including acne scars, pigmentation, and inflammatory pigmentation. pPigment may exist in both deep and superficial layers of the skin. This image can be compared with a deep pigment image. If pigment is present in the superficial layer but not in the deep layer, it indicates that the pigment is only deposited in the superficial layer of the skin. pPlease refer to the examples below the report to determine the type of pigmentation.

## FIFTEEN TESTING INDICATORS



Superficial pigment



### Recognize

pAlgorithm identifies the integrated facial spots and marks them with polygonal curves.

pAlgorithm recognize will avoid the eye and lip areas to reduce eyelashes and lip hair interference.

pProvide different type of pigment pictures and text, to identify different types of pigment.

## FIFTEEN TESTING INDICATORS



**Deep pigment**

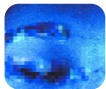


- Picture shows blue marks, which is generated through Wood's light, and the blue color is not used for analysis.
- Dark (black, brown) patches or spots on the face, showing skin pigmentation (such as melasma, freckles, cheekbone plaques, inflammatory pigmentation, acne marks, heme aggregation, etc.). Please compare the deep pigmentation picture with sensitivity picture to distinguish whether it is an inflammatory heme buildup or a stain problem.

## FIFTEEN TESTING INDICATORS

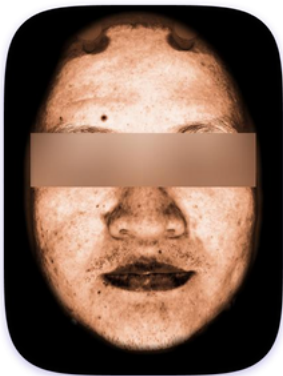


**Fluorescent agent**

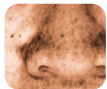


- Fluorescent agent and pigment problems may appear in the face image at the same time, to see the fluorescent agent only need to look at the fluorescence reaction.
- The difference between the fluorescent agent and the porphyrin is that the porphyrin shows brick red fluorescent spots, and the fluorescent agent shows high blue light and is mostly large-area flake.
- The difference between the fluorescent agent and the facial dust is that the facial dust presents a white light and floats on the surface.

## FIFTEEN TESTING INDICATORS



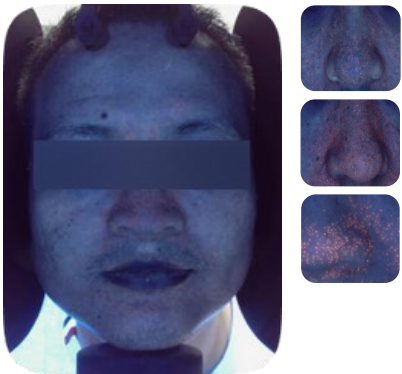
**Brown patch**



### Look at the picture

- The brown color of the skin is mainly related to skin tone, and people with darker skin tone or more hemoglobin have darker pigment.
- Darker pigmentation area generally correspond to higher pigment density
- This picture can be compared with Wood's picture to recognize deep pigment.

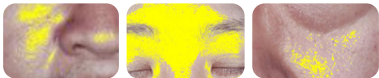
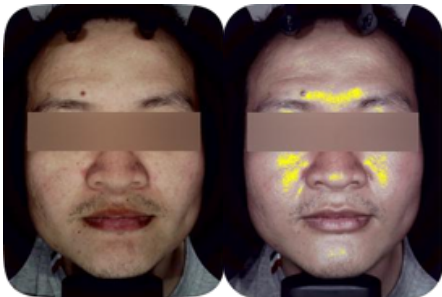
## FIFTEEN TESTING INDICATORS



**Porphyrin - acne**

- The red fluorescent spots showed in the picture are propionibacterium acnes and Malassezia. Propionibacterium acnes and Malassezia are two types of bacteria that can exacerbate the formation of acne on the skin. Therefore, they can serve as indicators for diagnosing skin acne.
- The survival environment of Propionibacterium acnes and Malassezia in acne requires the presence of sebum. Therefore, they can serve as indicators of sebum accumulation in skin pores.

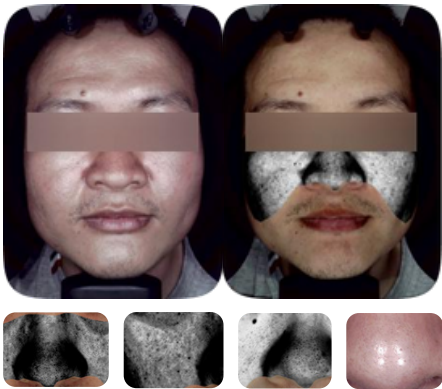
## FIFTEEN TESTING INDICATORS



**Oil - Acne**

- Negative Polarized light is used to observe the distribution of acne on the skin as well as the superficial redness condition.
- The sebum map shows the distribution of yellow fluorescence, with areas of yellow fluorescence indicating the current surface oiliness of the skin.
- Excess sebum is one of the factors that trigger acne growth. Therefore, please take care to control oiliness, especially in cases of acne.

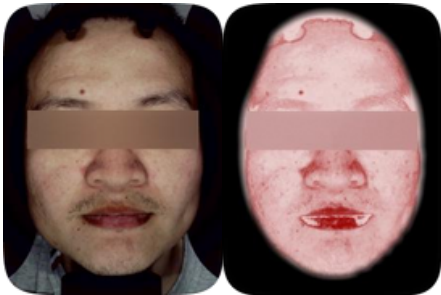
## FIFTEEN TESTING INDICATORS



**Large pores - Blackheads**

- In a positive polarized light source, you can observe the situation where pores have already enlarged on the skin surface, contrasting it with black images for comparison.
- In black images, areas of enlarged pores in the skin are processed using RBX technology to present a stronger contrast with smoother areas, allowing for a clearer and more intuitive view of the areas where pores have enlarged on the facial skin.
- Blackheads form in the skin's nasal area due to excess accumulation of sebum and air oxidation.
- Regions with enlarged pores are more prone to accumulate sebum and dust from the air. Therefore, timely cleansing and moisturizing are essential to reduce the formation of enlarged pores.

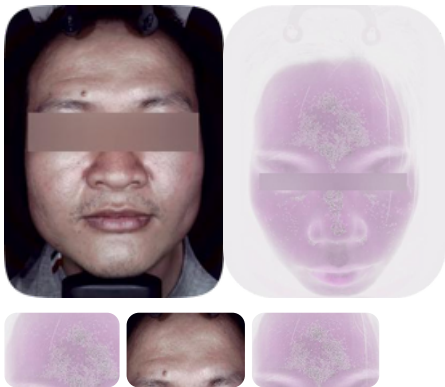
## FIFTEEN TESTING INDICATORS



**Sensitive - Red blood**

- In a negative polarized light source, we can observe the redness condition of the superficial skin as well as the distribution of blood vessels.
- The obvious distribution of telangiectasia in the polarized light source means that the skin is thin and sensitive and need proper nursing care.
- The depth of the red background in the red images is related to the overall skin tone, individuals having lower levels of hemoglobin appearing lighter red background
- The areas with more concentrated redness indicate accumulation of hemoglobin in the skin, and these concentrated areas can serve as reference points for assessing the sensitivity of the skin and the presence of inflammation.

## FIFTEEN TESTING INDICATORS



Texture-roughness

- In a positive polarized light source, we can observe the texture condition of the skin surface.
- The mixed light image presents the condition of rough skin texture, such as enlarged pores, fine lines, and wrinkles, which can serve as reference for assessing skin smoothness and collagen loss.
- The more discontinuous lines in the mixed light image, the rougher the skin texture.

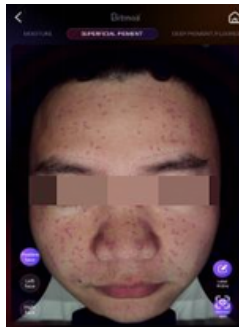
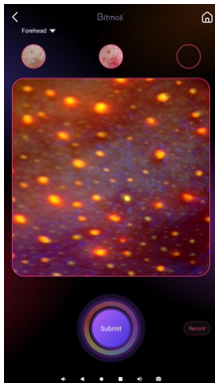


A3 AI INTELLIGENT IMAGER

05

**MICROSCOPIC  
DETECTION  
SKIN DETAILS**

## MICROSCOPIC DETECTION - SKIN DETAILS

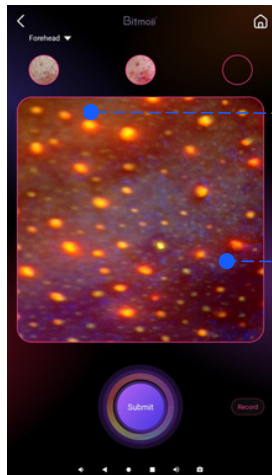


Each individual  
report window  
enters



- Multiple indicators can be detected through Microscopic detection
- Allow real-time viewing of the skin problems, to reduce the cumbersome steps of page navigation

## MICROSCOPIC DETECTION - SKIN DETAILS



Part marking:  
Convenient for  
labeling

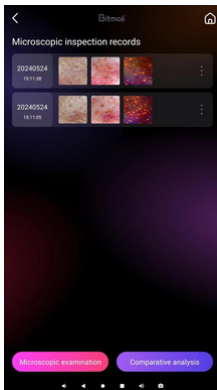
Local microscopic  
display



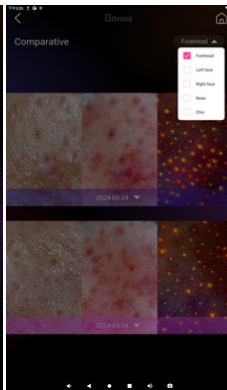
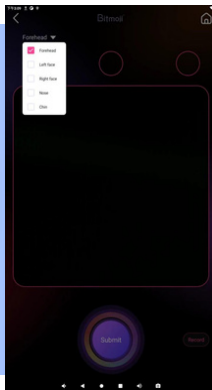
Multiple light  
sources detect skin  
problems

Handheld skin microimager

## MICROSCOPIC DETECTION - SKIN DETAILS



Independent file  
management for  
Each category



Comparison  
display for the  
same area



A3 AI INTELLIGENT IMAGER

06

SERVICE

## OUR SERVICES



**EXQUISIT  
CRAFTMANSHIP**

ORIGINAL  
MANUFACTURER



**SPECIALIST  
SERVICE**

AFTER-SALES  
GUARANTEE

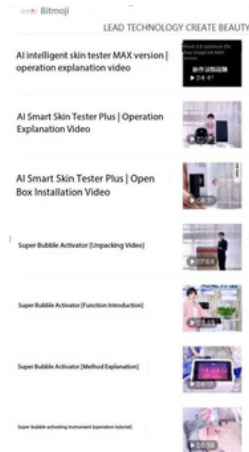
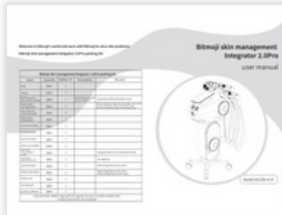
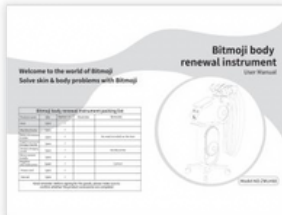


**TRAINING  
GUIDANCE**

PROFESSIONAL  
TEACHING

## OUR SERVICES

Training materials, user manuals and operation videos are all available





A3 AI INTELLIGENT IMAGER

07

COOPERATION  
BRAND

## DISPLAY OF PRODUCT PATENTS, TESTING REPORTS, AND CERTIFICATION CERTIFICATES



**Aramıza katılmaya Hoş geldiniz.**  
**[www.bitmoji.com.tr](http://www.bitmoji.com.tr)**