

Automation Stress Testing

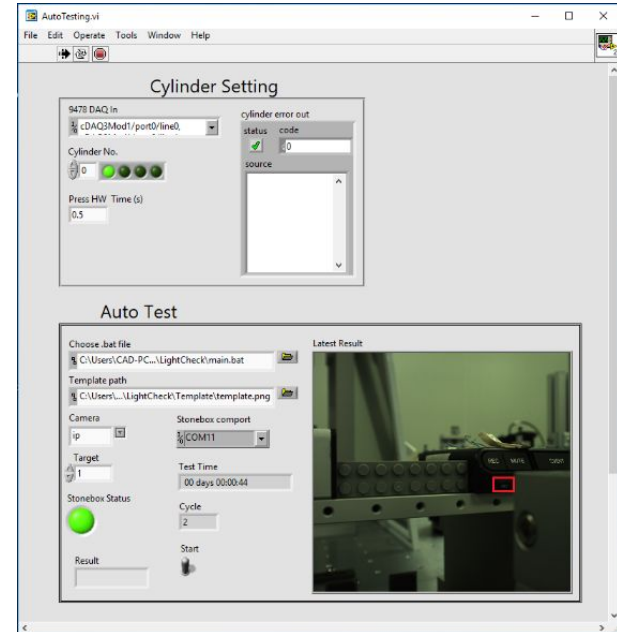
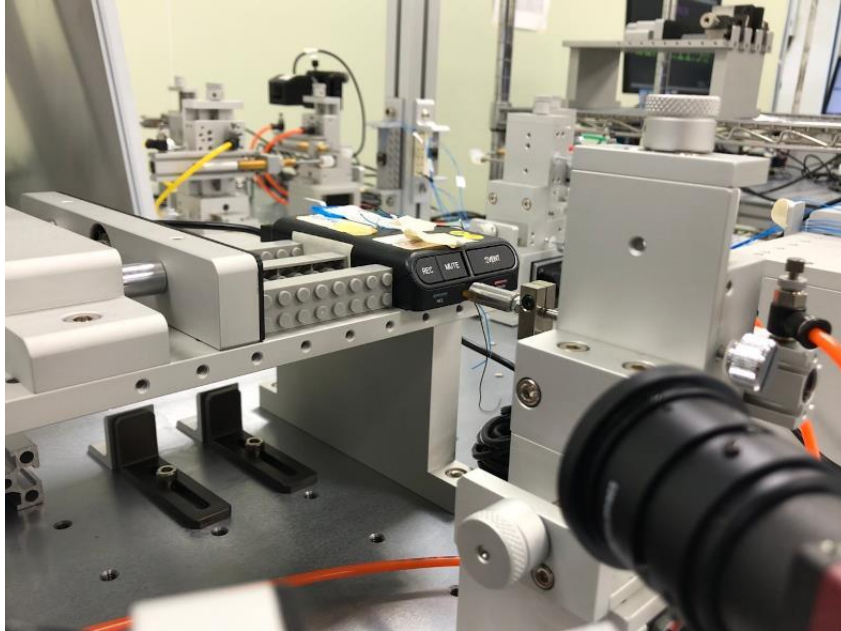
For accurate and repetitive motion quality test on devices.



UI & instrument control

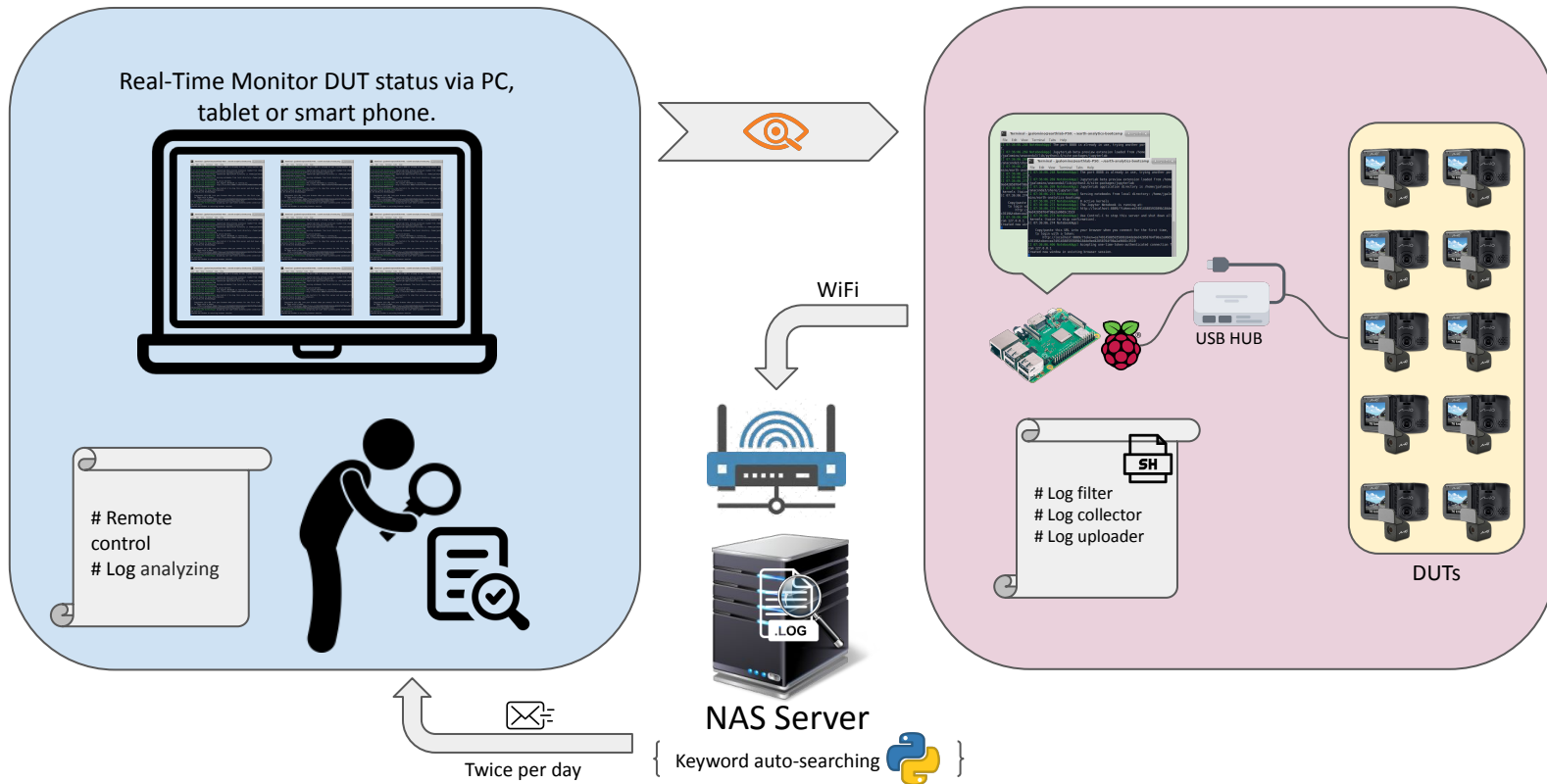


Image capture & matching



Keyword Auto-Searching System

This system analysis and periodic report notification system for large log files.



Keyword Auto-Searching Tool (Standalone Ver.)



<Mode 1> Stress test logs checking

- Searching expected keywords in cycles, there are lots of cycles in every device stress log, keywords we cared for would be searched in only a few seconds via this tool.

Log Checking Tool (Stress Log Mode)

File Mode

Cycle: 299

2020/05/03 07:39:32 [INFO] <FirmwareUtil::PlayVoiceImp> voice file5 : \ResidentFlash2\voice\001.wav

2020/05/03 07:39:39 [INFO] <FirmwareUtil::PlayVoiceImp> voice file5 : \ResidentFlash2\voice\020.wav

2020/05/03 07:43:38 [INFO] <FirmwareUtil::PlaySoundDirect> voice file8 : \ResidentFlash2\voice\002.wav

2020/05/03 07:44:31 [INFO] <FirmwareUtil::PlayVoiceImp> voice file5 : \ResidentFlash2\voice\001.wav

Cycle: 379

2020/05/03 14:27:14 [INFO] <FirmwareUtil::PlayVoiceImp> voice file5 : \ResidentFlash2\voice\020.wav

2020/05/03 14:31:19 [INFO] <FirmwareUtil::PlaySoundDirect> voice file8 : \ResidentFlash2\voice\002.wav

Cycle: 535

2020/05/04 03:39:55 [INFO] <FirmwareUtil::PlayVoiceImp> voice file5 : \ResidentFlash2\voice\001.wav

2020/05/04 03:40:03 [INFO] <FirmwareUtil::PlayVoiceImp> voice file5 : \ResidentFlash2\voice\020.wav

Check stress test logs by setting **start and end keywords** to sort out error cycle in the log.
Each keywords should appear only once in each cycle, if not we could use **keys setting**.

001.wav 1

020.wav 1

002.wav 1

OK Cancel

[Exclude Keyword]

[Cycle Setting]

Load Cycle Keys Keys Setting

Select Logpath

Start word

001.wav

End word

002.wav

Cycle Time

300 (secs)

Check

Simple Complete

PreTBBox.log

[Check Result]

Error section: 3

001.wav: 535

020.wav: 536

002.wav: 535

Log Checking Tool (Stress Log Mode)

File Mode

Cycle: 299

2020/05/03 07:39:32 [INFO] <FirmwareUtil::PlayVoiceImp> voice file5 : \ResidentFlash2\voice\001.wav

2020/05/03 07:39:32 [INFO] <NORManager> Write NOR FW version: 800

2020/05/03 07:39:32 [INFO] <SerialPortHelper> *** Port COM4: opened ***

2020/05/03 07:39:32 [DEBUG] <ReadThread> Read thread id = 0x113f019a:

2020/05/03 07:39:32 [DEBUG] <SendThread> Send thread id = 0x13801ae:

2020/05/03 07:39:32 [INFO] <NORManager> ...> Open SerialPort

Total time 00:00:05

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Keyword Auto-Searching Tool (Standalone Ver.)



<Mode 2> NMEA logs time checking

- One-click file lost and file error checking.
- One-click GPS time sequence check.

Log Checking Tool (NMEA Check Mode)

File Mode

21 \$GPGSV,5,4,17,41,38,242,33,50,60,167,31,193,25,147,30,194,59,158,32*75
22 \$GPGSV,5,5,17,195,64,040,29*7F
23 \$GSENSORD,0,0,0
24 **\$GPRMC,082529.00,A,2502.81635,N,12122.54600,E,0.000,,090420,,A*72**
25 STIMESTAMP,20200409-082529
26 \$SPEED,0
27 \$LOCATION,2502.81634,12122.5460
28 \$ACC,1
29 \$CAMSTATUS,1,1
30 \$GPGGA,082529.00,2502.81635,N,12122.54600,E,1,12,0.75,296.9,M,16.7,M,,*54
31 \$GPGSA,A,3,01,07,30,11,22,28,08,03,50,195,194,193,1.52,0.75,1.32*3D
32 \$GPGSV,5,1,17,01,61,028,30,03,36,135,32,06,00,223,22,07,41,211,38*7A
33 \$GPGSV,5,2,17,08,19,065,26,11,33,041,26,17,25,290,30,19,07,274,30*7A
34 \$GPGSV,5,3,17,22,41,100,35,28,37,327,25,30,46,259,34,40,13,259,*74
35 \$GPGSV,5,4,17,41,38,242,36,50,60,167,34,193,25,147,29,194,59,158,35*7A
36 \$GPGSV,5,5,17,195,64,040,28*7E
37 \$GSENSORD,0,0,0
38 **\$GPRMC,082530.00,A,2502.81635,N,12122.54600,E,0.000,,090420,,A*7A**
39 STIMESTAMP,20200409-082530
40 \$SPEED,0
41

Log Name Line Time

FILE200409-165733.NMEA		Time Shift Error
FILE200409-165753.NMEA		Time Shift Error
FILE200409-165813.NMEA		Time Shift Error
FILE200409-165834.NMEA		Time Shift Error
FILE200409-165853.NMEA		Time Shift Error
MAEM200409-172527.NMEA		0 hours 0 minutes 11 seconds
MAEM200409-172547.NMEA		0 hours 0 minutes 21 seconds
MAEM200409-172607.NMEA		0 hours 0 minutes 11 seconds
MAEM200409-172629.NMEA		0 hours 0 minutes 11 seconds

Total time 00:00:52, found 118 in 2 files

[NMEA]
Select Logpath
File Lost/Error Check
Time Check

File lost/error

File explorer showing files in KeywordSearch - FileCheckLost folder:

名称	日期	種類	大小	長さ
FILE200226-114514F.MP4	2015/8/7 下午 05:13	MP4 - MPEG...	1,534 KB	00:00:30
FILE200226-114514F.NMEA	2020/4/9 下午 04:55	NMEA 檔案	14 KB	
FILE200226-114514R.MP4	2015/8/7 下午 05:13	MP4 - MPEG...	1,534 KB	00:00:30
FILE200226-123456F.MP4	2015/8/7 下午 05:13	MP4 - MPEG...	1,534 KB	00:00:30
FILE200409-165514.NMEA	2020/4/9 下午 04:55	NMEA 檔案	14 KB	
FILE200409-165713.NMEA	2020/4/30 上午 10:...	NMEA 檔案	14 KB	
FILE200409-165713F.MP4	2015/8/7 下午 05:13	MP4 - MPEG...	1,534 KB	00:00:30
FILE200409-165713R.MP4	2020/4/16 上午 11:...	MP4 - MPEG...	0 KB	
FileLostConfirm.py	2020/4/16 上午 11:...	Python File	1 KB	

Check Result - Missing

FILE200226-123456F.NMEA
FILE200409-165713F.NMEA

File Size Error

FILE200409-165713R.MP4

If time sequence is correct, calculate total time.
Otherwise, list all time stamps.

Keyword Auto-Searching Tool (Standalone Ver.)



<Mode 3> Multiple keywords searching

- Quick keywords searching in multiple logs at one time.
- Searching result demonstrate detail.

The screenshot displays the 'Log Checking Tool (General Search Mode)' interface. The main window shows a log file with various system messages. A search for the keyword 'Error in Record stop' has been performed, and the results are displayed in a table at the bottom. The table has columns for Keyword, Time Stamp, Line, Hits, and Log Total Time. The search results show two hits for the keyword 'Error in Record stop (2)' at lines 314286 and 314584. The total time for the search is 00:00:54, and 118 files were found in 2 files.

Keyword: Error in Record stop (2)

Keyword	Time Stamp	Line	Hits	Log Total Time
Error in Record stop (2)	[4/8 22:09:13.9]	314286	1	-
Error in Record stop (2)	[4/8 22:09:18.9]	314584	2	-

Total time 00:00:54, found 118 in 2 files

Keyword List:

- sys_Abort
- Error in Record stop
- Auto Power off [Acc]
- IPL.bin Ver =
- ISO_ERRS
- Error in GPS error
- SET_TX_MODE

Log File: DUT37(Error in Record Stop).log

Log Content:

```
812308 [4/10 17:55:45.3]++^
812309 [4/10 17:55:45.3]++^
812310 [4/10 17:55:45.3]s
812311 [4/13 09:50:22.7]Fc
812312
```

Log File: DUT37(Error in Record Stop).log

Log Content:

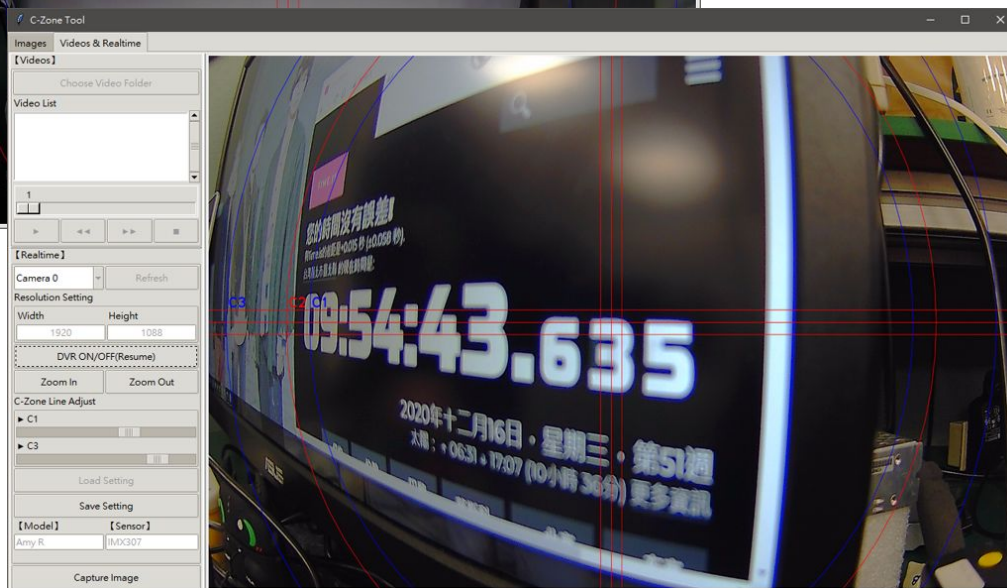
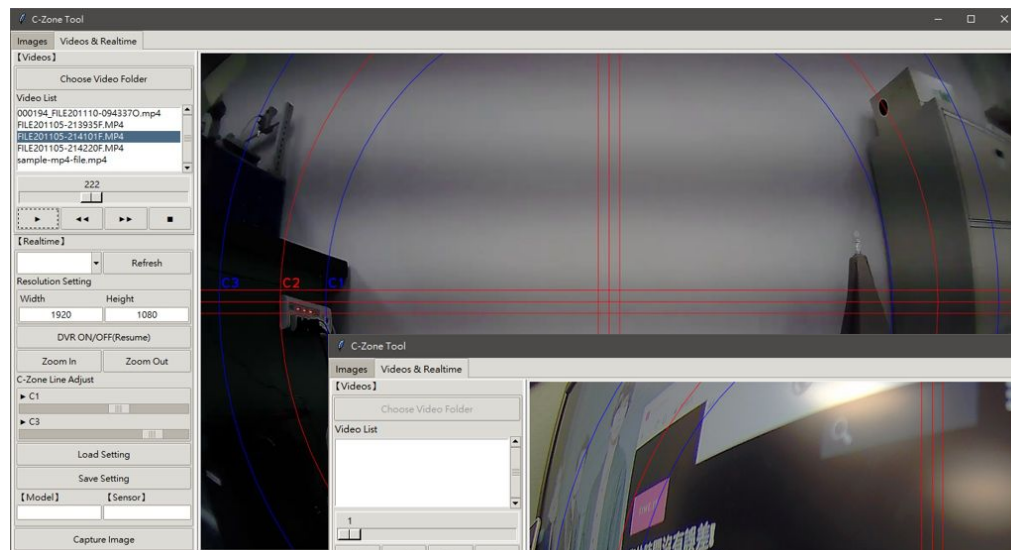
```
791975 [4/10 17:55:45.3] ^
791976 [4/10 17:55:45.3]!!
791977 [4/13 09:50:24.4]
791978 [4/13 09:50:24.4]Fc
791979
```

Windows (CR UTF-8) INS

FOV Focus Tool (C-Zone)



Assistant tool for DVR field of view and optical axis checking. (For capture images, videos, and also real-time used)



GPS Signal Monitor



Monitor GPS signal and realtime alarm system

- Signal values saved for root cause analyzation.
- Alarm system for LINE or Telegram



Video Files Analysis Tool

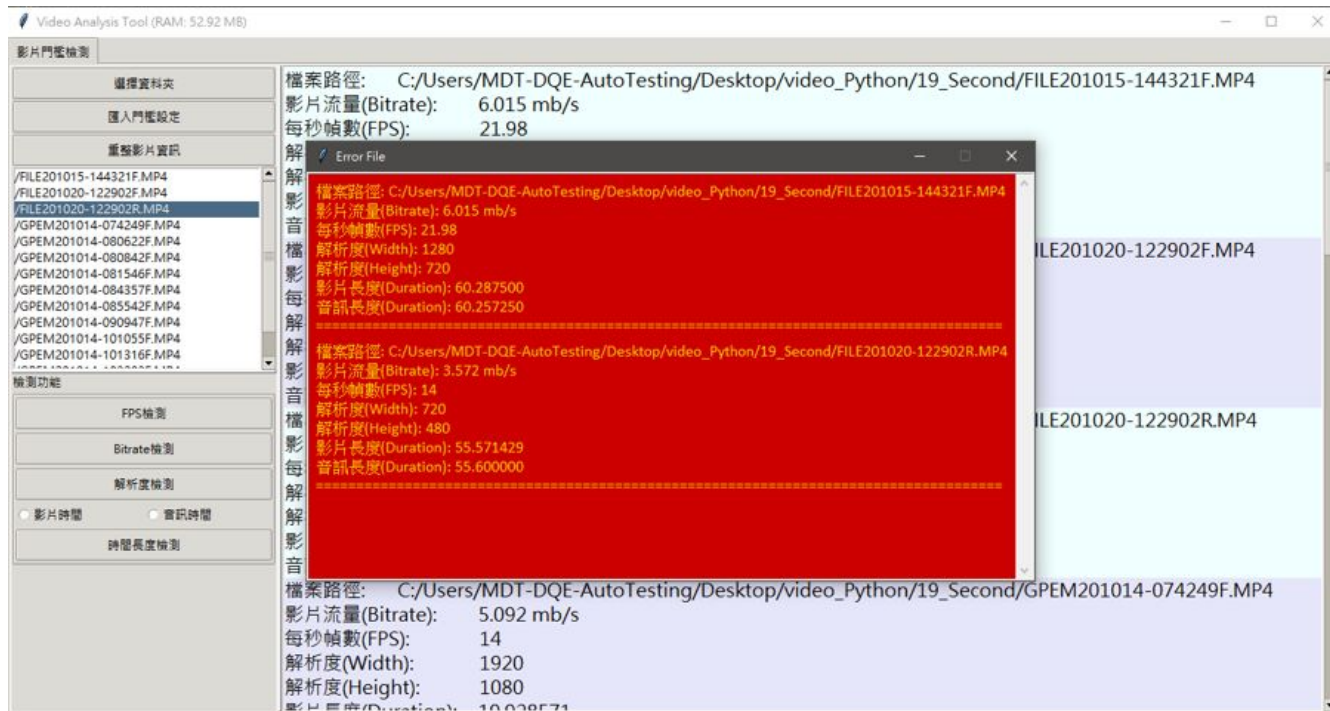


A video files analyzer

FPS, video duration, resolution, bitrate, crash file, and abnormal file detection.

Using frame error detection algorithm:

- MSE (Mean-Square Error)
- SSIM (structural similarity index)

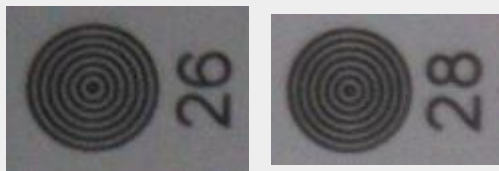


Camera Module Defocus Filter Tool (Positioning)

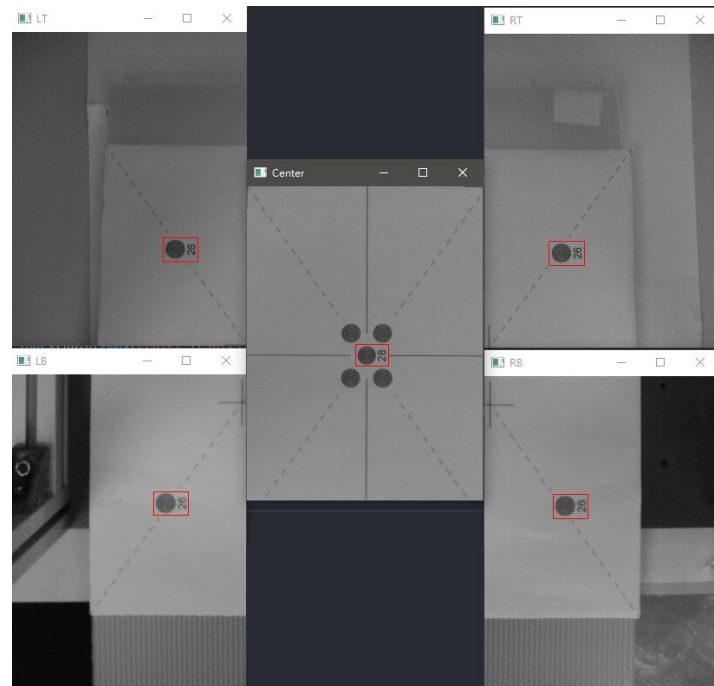
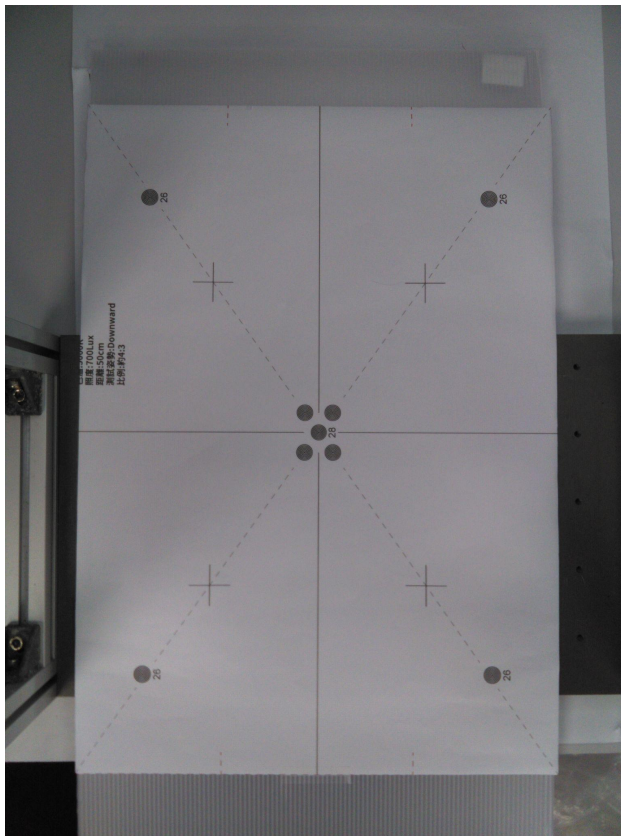


Somehow, each camera module might cause some failure after assembling. This tool could double-check final products' defocus or not.

- Positioning: pattern matching
- Score calculate: image processing, adaptive threshold



patterns



Camera Module Defocus Filter Tool (Score Calculation)



Somehow, each camera module might cause some failure after assembling. This tool could double-check final products' defocus or not.

- Positioning: pattern matching
- Score calculation: image processing, adaptive threshold

