Vzense ConfigTool User Guide

Windows

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Vzense

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1 Overview

Welcome to the Vzense UpgradeTool User Guide. UpgradeTool is a graphical Windows-based tool developed for Vzense TOF Cameras including DCAM710, DCAM550P, DCAM550U, DCAM560CPRO, DCAM560CLITE, (herein referred to as a *camera module*). It can be used to pre-configure default working mode while powered up.

The tool supports two type of product interface, USB and Ethernet. Please do setup the hardware correctly.

USB interface Product: DCAM710, DCAM550-U;

Ethernet interface Product: DCAM550-P, DCAM560CPRO, DCAM560CLITE;

Below is an example of the configure tool UI;

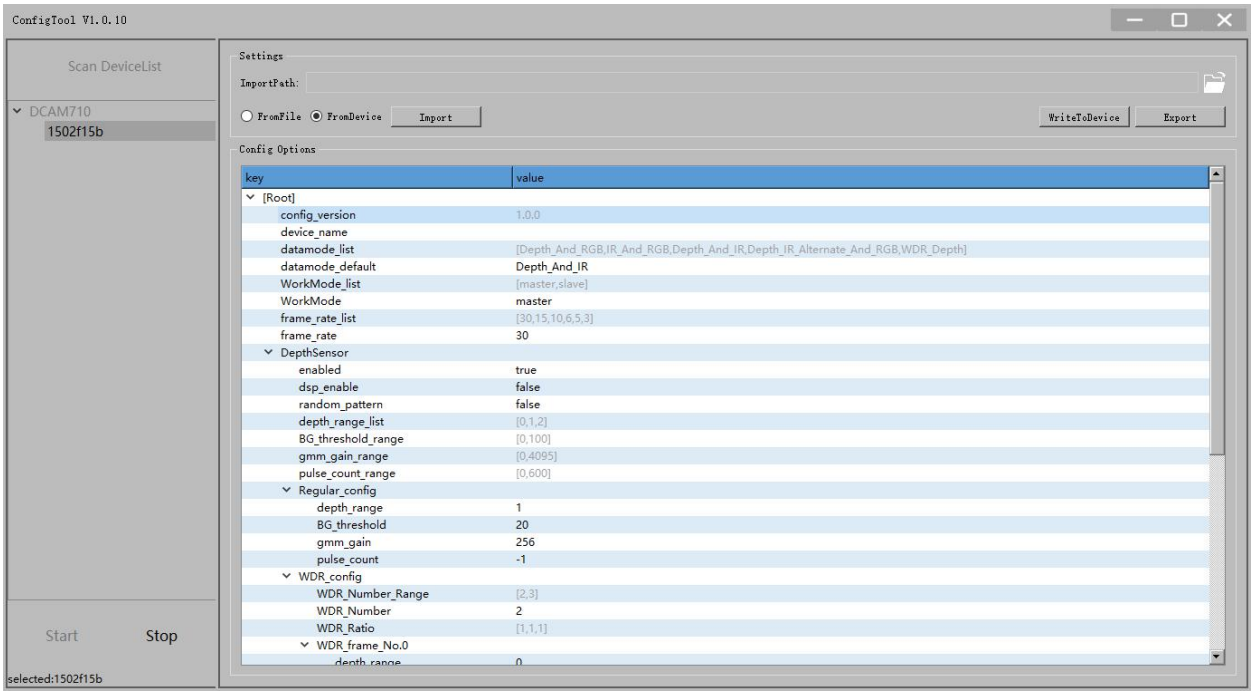


Figure 1 - VzenseConfigTool.

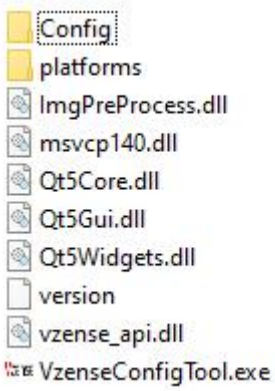
2 Package Structure

Download the VzenseUpgradeTool from below link:

China: https://gitee.com/Vzense/VzenseConfigTool

Oversea: https://github.com/Vzense/VzenseConfigTool

The ConfigTool package for Windows contains the following notable directories and files:



3 Requirements

ConfigTool has the following requirements:

Supported Operating Systems: Windows 7 32/64 bit, Windows 10 32/64 bit

RAM: A minimum of 4GB

4 Setting up the Upgrade Environment

4.1 Hardware Installation

Connect the camera module to a PC using a USB cable or a Network cable as shown in Figure 1:

Please do make sure ONLY ONE Vzense product is connected to the PC while configuring the product.

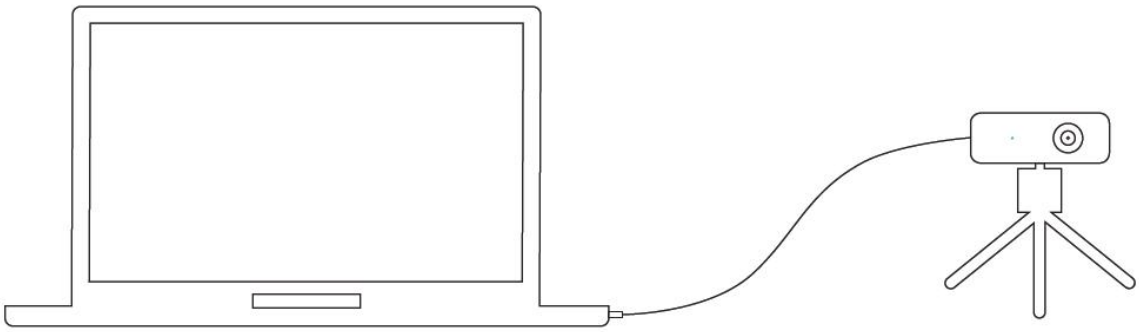


Figure 1 - Hardware installation.

4.1.1 USB Interface Product Setup

DCAM710, DCAM550-U products support configuration by USB interface.

1) Connect the camera module to PC USB interface through USB cable.
2) In Windows, when the camera module is successfully connected, it will pop up the notice of the device driver installation. After the driver is auto-installed successfully, it will show the **`Vzense TOF Camera`** device in Windows Device Manger.

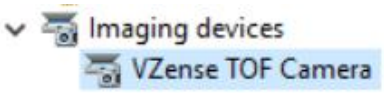


Figure 3 Vzense TOF Camera

4.1.2 Ethernet Product Setup

DCAM550-P, DCAM560CPRO, DCAM560CLITE products support configuration by Ethernet interface.

The product shall be connected to the windows PC by Ethernet, the IP address of the product could be either a fixed IP address or DHCP by AP.

Please MUST set the IP address of the product and window PC at the same IP segment.

1. Fixed address

The fixed address connection can be directly connected to the camera and the computer, or it can be configured to be used in the same network segment.

Direct connection: one end is connected to the camera, and the other end is connected to the network cable interface of the PC host. The default IP of the camera is 192.168.1.101. On the PC side, set the subnet mask of "local connection" to 255.255.255.0, and the IP address to the same network segment (such as 192.168.1.100).

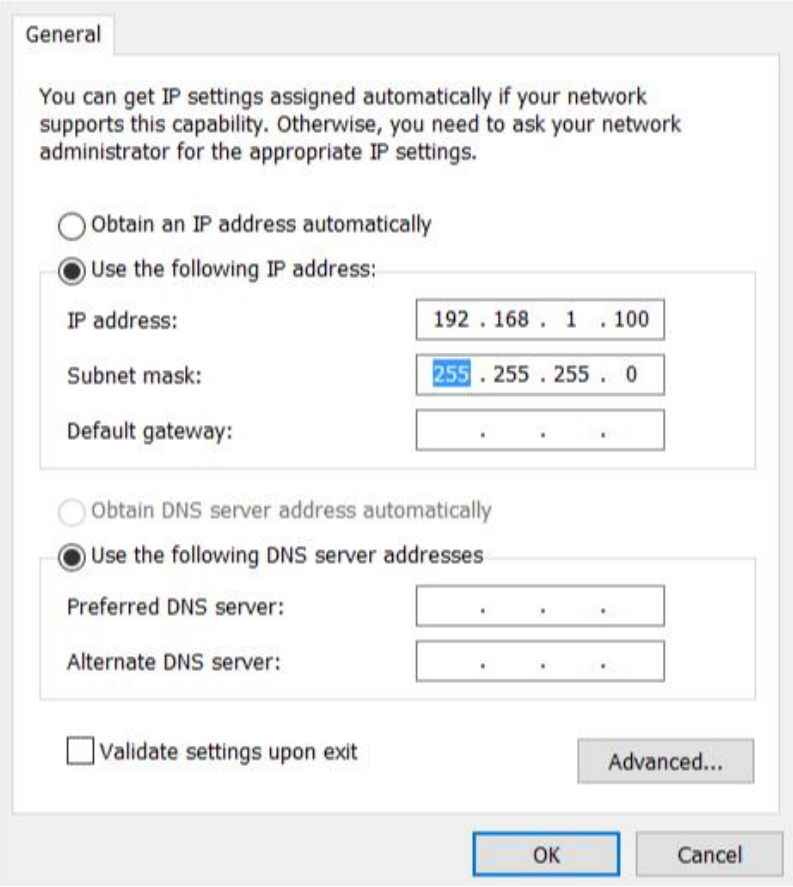


Figure 3.1 Direct connection

2. DHCP

For the DHCP connection mode, the camera needs to be connected to the router with DHCP enabled, and the PC in the same LAN is used for connection. It is recommended to set the "local connection" of the PC to obtain the IP address automatically.

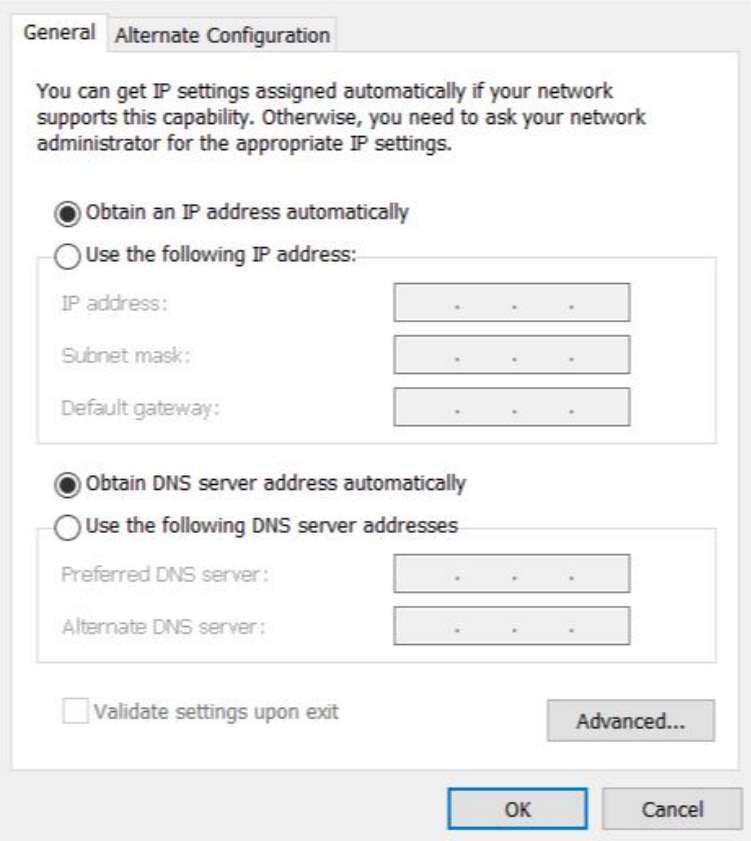


Figure 3.2 DHCP

Note:

1. Please do always allow access through the firewall;

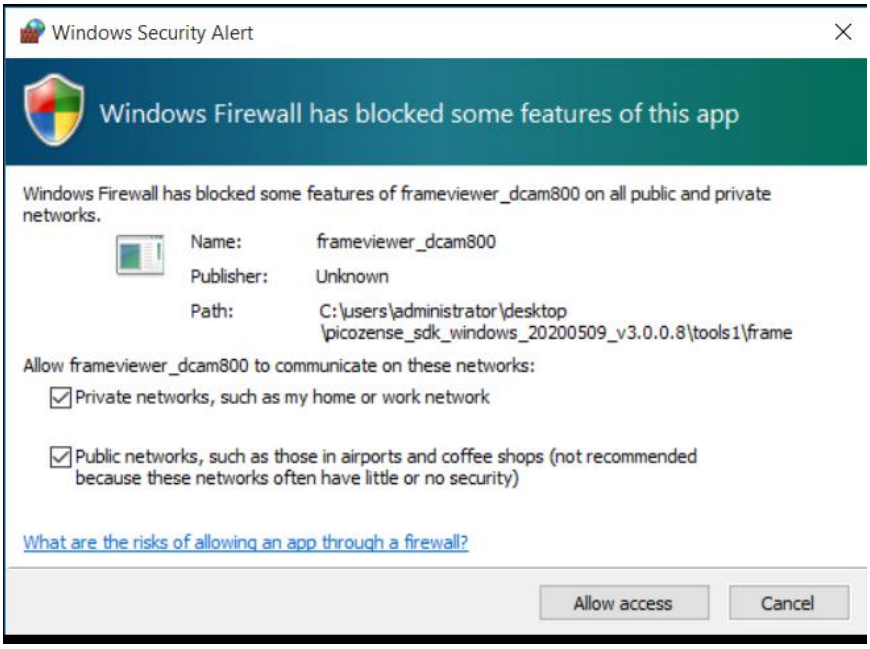
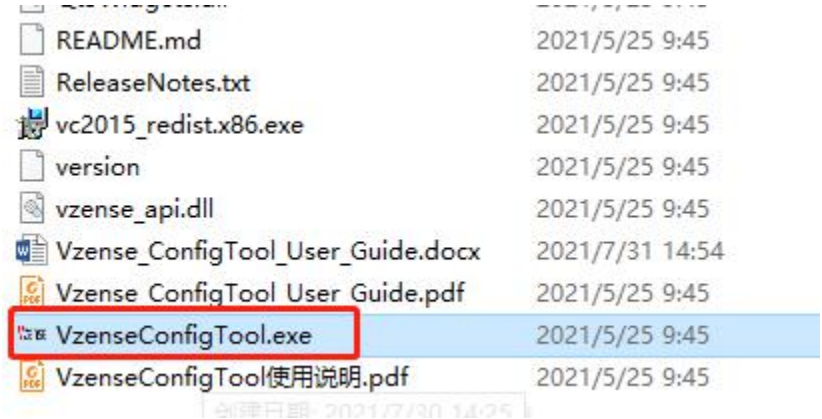


Figure 3.3 firewall setting

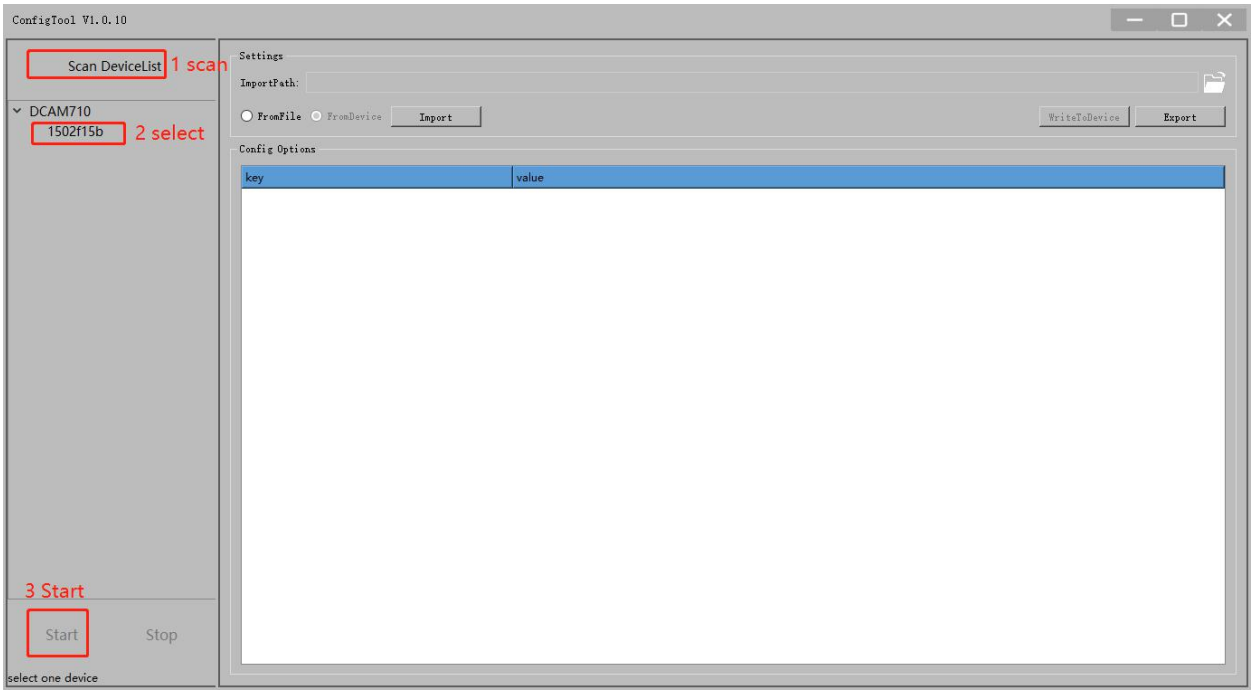
5 ConfigTool Settings and Functionality

The following subsections describe the settings and functionality of ConfigTool.

5.1 Launch the VzenseConfigTool.exe



5.2 Find the device



Then it shows the default setting of the product

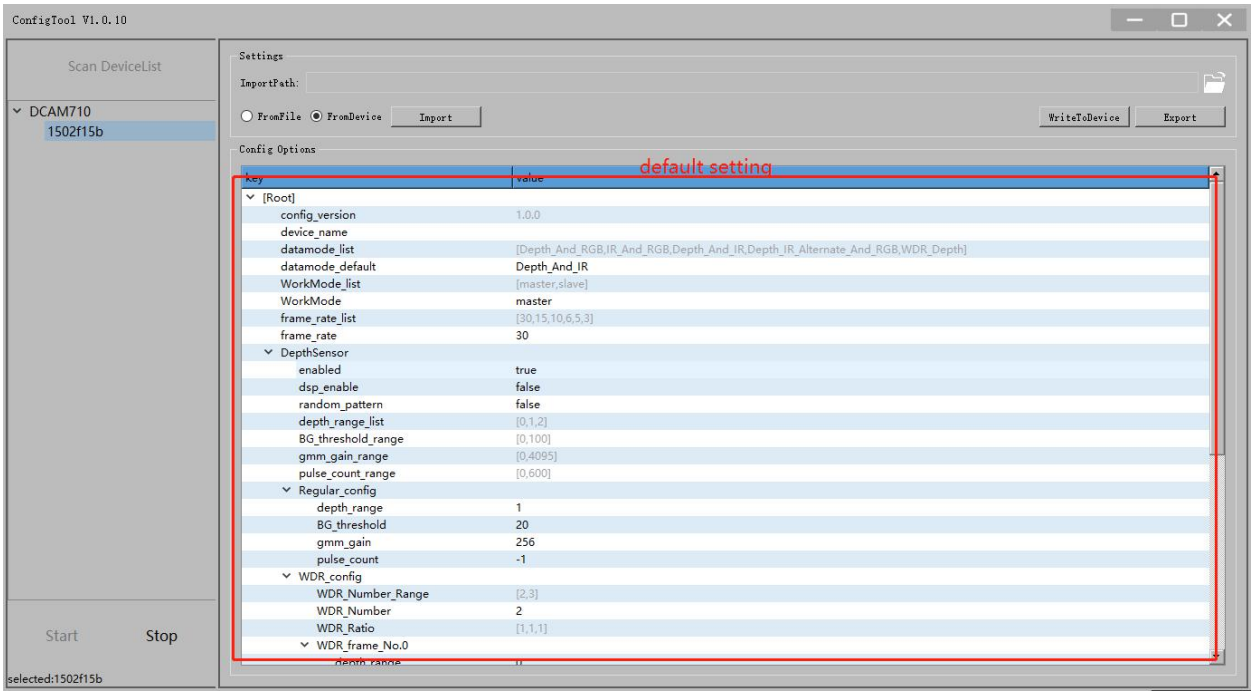


Figure 2 - DeviceList .

5.3 Import Configurations

ConfigTool will auto import the configurations from device and show it in the edit aera. User also can import the configurations from file. The detail is in the Chapter 7.

5.4 Configurations

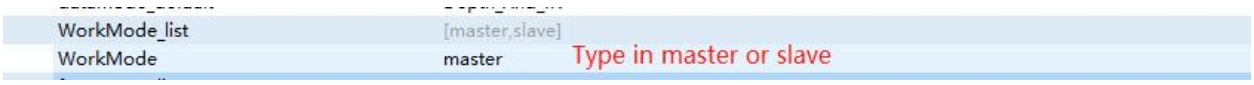
1) datamode_default

Datamode_default refers to the default data mode of the product. You shall type in one datamode in the list, case sensitive.

Datamode List:

Depth_And_RGB	By default, the product outputs both depth and RGB image. (DCAM710 only)
IR_And_RGB	By default, the product outputs both IR and RGB image. (DCAM710 only)
Depth_And_IR	By default, the product outputs both depth and IR image.
Depth_IR_Alternate_And_RGB	The product outputs depth, IR and RGB image, but the depth and IR frame rate is half of the “frame_rate” setting. (DCAM710 only)
WDR_Depth	By default, the product outputs both depth in WDR mode. DCAM710 will output RGB along with the WDR depth; Please refer to the application note of WDR function;

2) WorkMode setting

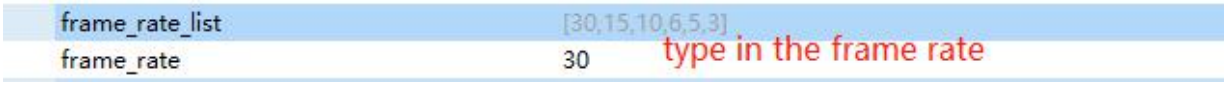


Configure the product at either master or slave mode; You shall type in one workmode in the list, case sensitive.

WorkMode_List:

master	The product works at master mode, or free-running mode.
slave	The product works at slave mode or snapshot mode, which require external trigger signal for each capture. Please refer to the application note of SLAVE Trigger function.

3) Frame rate setting

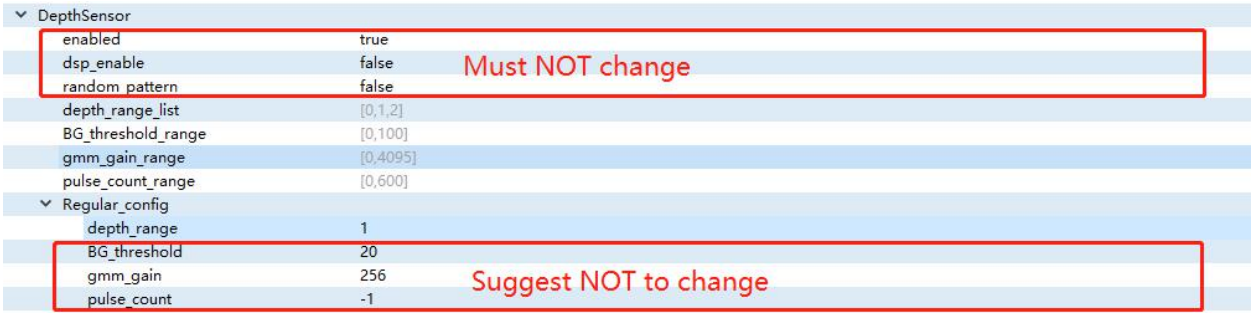


Configure the frame rate of the product, you shall type in the number of frame rate.

DCAM710 can work at 30,15,10,6,5,3Hz frame rate;

DCAM550-U, DCAM550-P can work at any frame rate from 3 to 30Hz.

4) Depth Sensor Setting



Depth range relates to the default depth range of the product, you shall type in one number in the above depth_range_list, case sensitive;

BG_threshold refers to the default confidence threshold of the product, from 0 to 100;

Gmm_gain refer to the brightness gain of the IR image, from 0 to 4095;

Pulse_count refers to the laser gating time, from 0 to 600. -1 means the default value of calibration, suggest not to change it without support of Vzense.

5) WDR configuration works only when the “datamode_default” is “WDR_Depth” mode;

Please read the application note of WDR function firstly.

▾ WDR_config	
WDR_Number_Range	[2,3]
WDR_Number	2
WDR_Ratio	[1,1,1]
▾ WDR_frame_No.0	
depth_range	0
BG_threshold	20
gmm_gain	256
pulse_count	-1
▾ WDR_frame_No.1	
depth_range	1
BG_threshold	20
gmm_gain	256
pulse_count	-1
▾ WDR_frame_No.2	
depth_range	2
BG_threshold	20
gmm_gain	256
pulse_count	-1

WDR_Number: means how many ranges in the WDR mode, either 2 or 3.

WDR Number is 2	2 ranges WDR mode, WDR_frame_No.0 and WDR_frame_No.1,
WDR Number is 3	3 ranges WDR mode, WDR_frame_No.0, WDR_frame_No.1 and WDR_frame_No.2

WDR_frame_No.0,1,2 means the setting of each range in WDR mode;

WDR_frame_No.0	
depth_range	0
BG_threshold	20
gmm_gain	256
pulse_count	-1
WDR_frame_No.1	
depth_range	1
BG_threshold	20
gmm_gain	256
pulse_count	-1
WDR_frame_No.2	
depth_range	2
BG_threshold	20
gmm_gain	256
pulse_count	-1

6) RGB sensor setting, only for DCAM710

RGBSensor	
enabled	true
resolution_list	[1920_1080,1280_720,640_480,640_360]
resolution_default	640_360

resolution_default refers to the RGB resolution, you shall type in one of the resolution_list

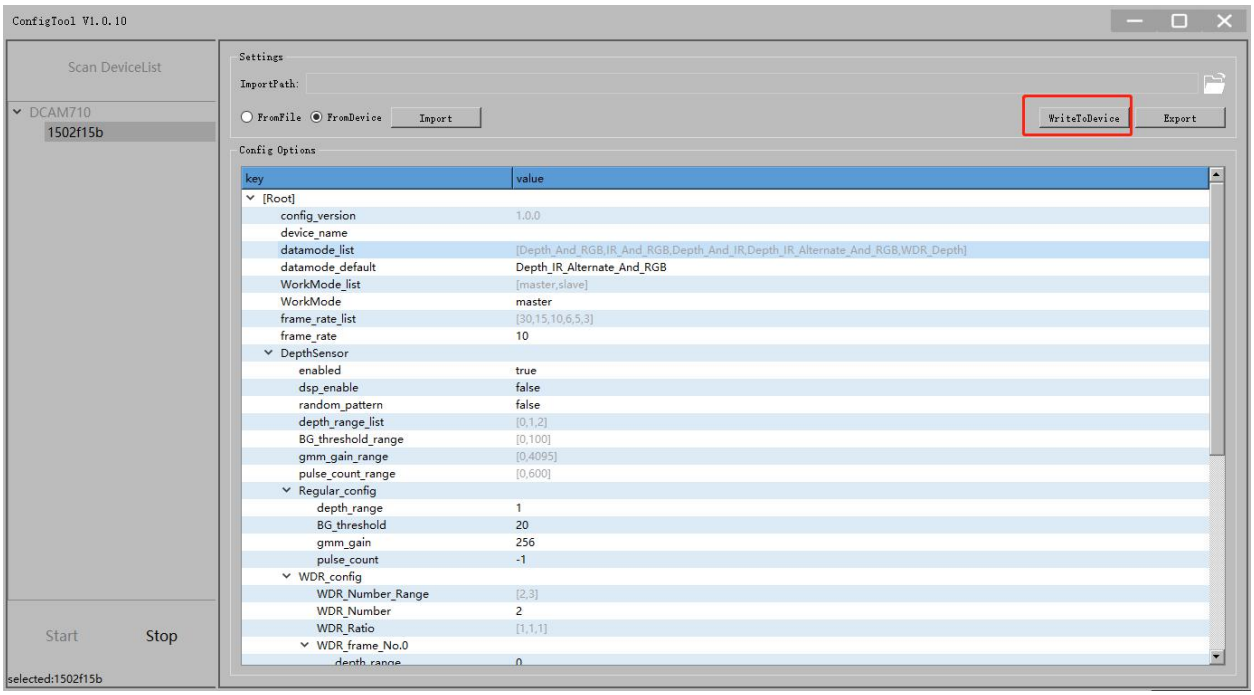
1920_1080

1280_720

640_480

640_360

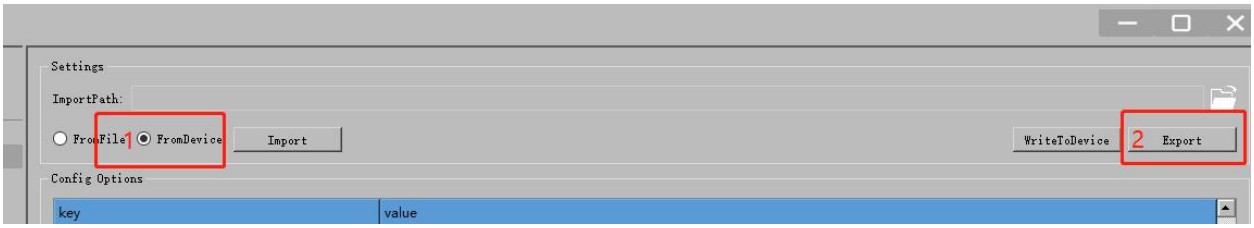
6 Write the updated configuration into device



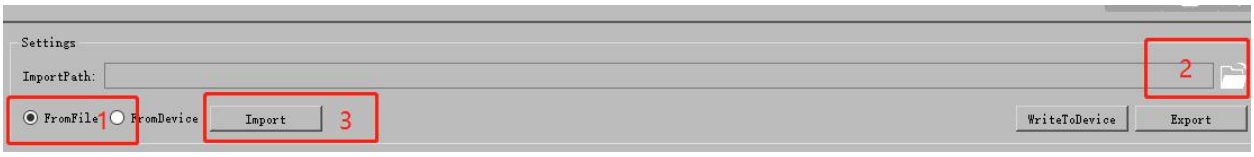
7 Import and Export from file

User can export the configuration into a .jason file or import that from .jason file.

Export from file:



Import from file:



8 FAQ

Q1: About “The Other Instance is Running!”

A1: “The Other Instance is Running!” represents that the existing ConfigTool program is running. You can restart the ConfigTool after closing the program. If this prompt still appears after closing, check the background process to close VzenseConfigTool.exe directly.