



Brookman Technology's intelligent time of flight depth sensing

BEC80T / BEM80T

EASY-TO-USE 3D ToF camera evaluation kit

Description

3D ToF camera development kit is mounted Brookman Technology's patented intelligent depth sensing CMOS image sensor. This evaluation kit is able to evaluate BT-ToF 3D depth sensor and provide strong support for development of 3D sensing systems.

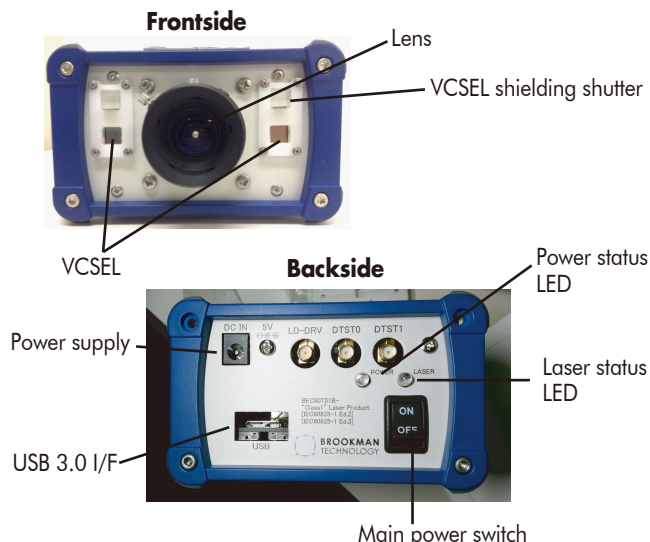
Features

- Built-in BT-ToF 3D depth CMOS image sensor
- Simultaneous infrared and depth imaging with excellent anti motion blur by global shutter technology
- Frame rates up to 60fps
- Low power consumption <150mW@sensor
- High ambient light tolerance by "Dynamic Ambient Light Suppression" technology
- USB3.0 interface

Evaluation Kit

Appearance

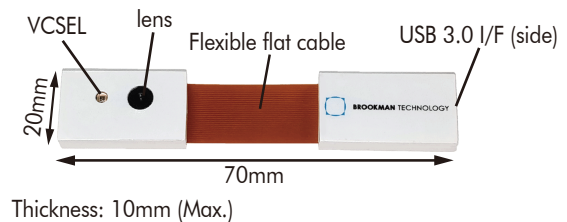
BEC80T (Standard type)



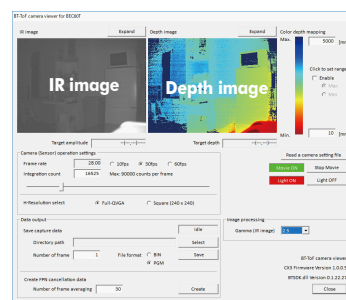
Depth image



BEM80T (Mini module type)

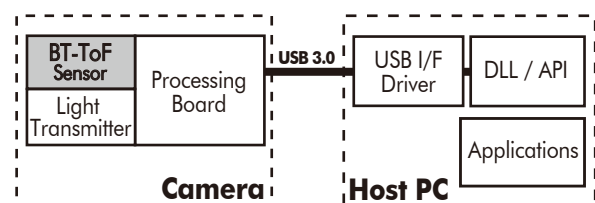


BT-ToF camera viewer



- Live view window
 - *IR image
 - *Depth image
- Capture image data
 - *Depth and IR image
 - Save as Binary and PGM format
 - *1~100 frames
- VCSEL Light On/Off
- ...etc

Block diagram of ToF camera system



Brookman Technology, Inc., reserves the right to change specifications of CIS and evaluation camera kit without notice.

For all product and custom CIS design inquiries, feel free to contact us below.



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BT-ToF Evaluation Kit



Appearance		
Model	BEC80T (Standard type)	BEM80T (Mini module type)
Dimensions	116mm x 107mm x 70mm (body only)	20mm x 70mm x 10mm
Weight	550g (body only)	16g
Depth sensor	BT008D 3D depth CMOS image sensor	
Measurement range	0.2 ~ 5m	0.2 ~ 2m
Frame rate	10fps, 30fps and 60fps	
Acquisition time of per frame	28.8msec(Typ.) @30fps	
Number of active pixels	320(H) x 240(V) pixels	240(H) x 240(V) pixels*
Illumination	VCSEL x 2 (Wavelength: 850nm) Laser class 1 certificated**	VCSEL x 1 (Wavelength: 850nm) Laser class 1 certificated**
Illumination power	Peak: 1.2W/VCSEL Average: 40mW/Camera	Peak: 1.2W/VCSEL Average: 15mW/Module
Depth noise	<1% of distance @ 4m***	<2% of distance @ 1.5m (T.B.D.)
Field of view	60(H)° x 45(V)°	60(H)° x 45(V)°
Lens	F#1.2, 1/3 Type	Integrated F2.2 lens in module
Power supply	DC 5V / ≤3A	DC 5V / ≤0.9A (USB bus power)
Interface	USB 3.0 (Micro-B) x1	
Operation system	Windows 10 64bit OS	

* Considering built-in Lens module performances, the active pixels area is limited to 240 x 240 pixels square resolution.

** This camera is classified in IEC standards (IEC 60825-1 Ed.2: 2007, IEC 60825-1 Ed.3: 2014).

Don't disassemble and/or modify the products for safety reasons.

*** Ambient light: 5k lux, Integration time: 27msec, Frame rate: 30fps, 10 x 10 pixels @ center of active pixel area.

BT008D 3D depth CIS

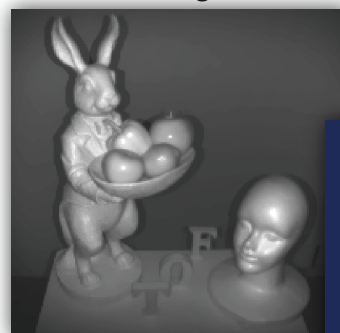


Depth sensing method	Indirect ToF with short pulse modulation
Optical format	1/3 type
Die size	7.6mm x 6.5mm
Pixel size	16.8μm x 16.8μm
Number of pixels	328(H) x 247(V) pixels
ADC resolution	12-bit on-chip
Readout time	4.5msec
Sensor interface	MIPI CSI-2 (subset); 2 data and 1 clock lanes
Input clock frequency	27MHz(typ.)
Output data rate	378Mbps
Power supply	3.3V
Power consumption	≤150mW @ 30fps
Sensor I/O pins	55pins
Package	Type: 100pin-CQFP Size: 17mm x 17mm

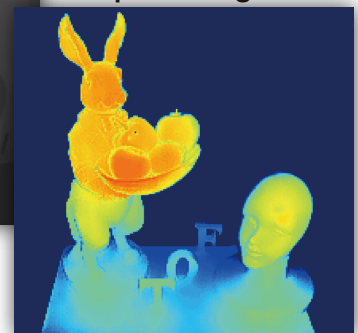
Target objects
(by RGB camera)



IR image



Depth image



...Demo movies at

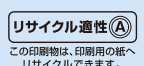


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