Chipsmall

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

EVALUATION KIT

GRID-EYE SENSOR

Panasonic

INTRODUCTION

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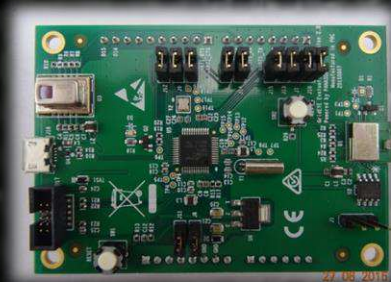
Evaluation Kit Grid EYE

- Grid-EYE Infrared (IR) Array sensor Evaluation Kit combines the following components on a single board:

    - Panasonic's state of the art Grid-EYE sensor
    - Panasonic "nanopower" PAN1740 Bluetooth Smart module
    - Atmel Microcontroller

- By combining new IR sensor technology with Bluetooth technology and software for IR detection of people and objects on one board, Panasonic enables customers to develop rapid prototypes and quickly build their own applications within no time.

- To make it simpler and easier for the user, Panasonic has been flexible in the development of this evaluation kit. The board functions in a standalone mode or it can be connected to an Arduino host board if the user wants to realize the functionality of the sensor with more than the provided interfaces.

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Overview Evaluation Kit

- Below you can see how the evaluation kit looks like and a brief description of its components.

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SPECIFICATIONS

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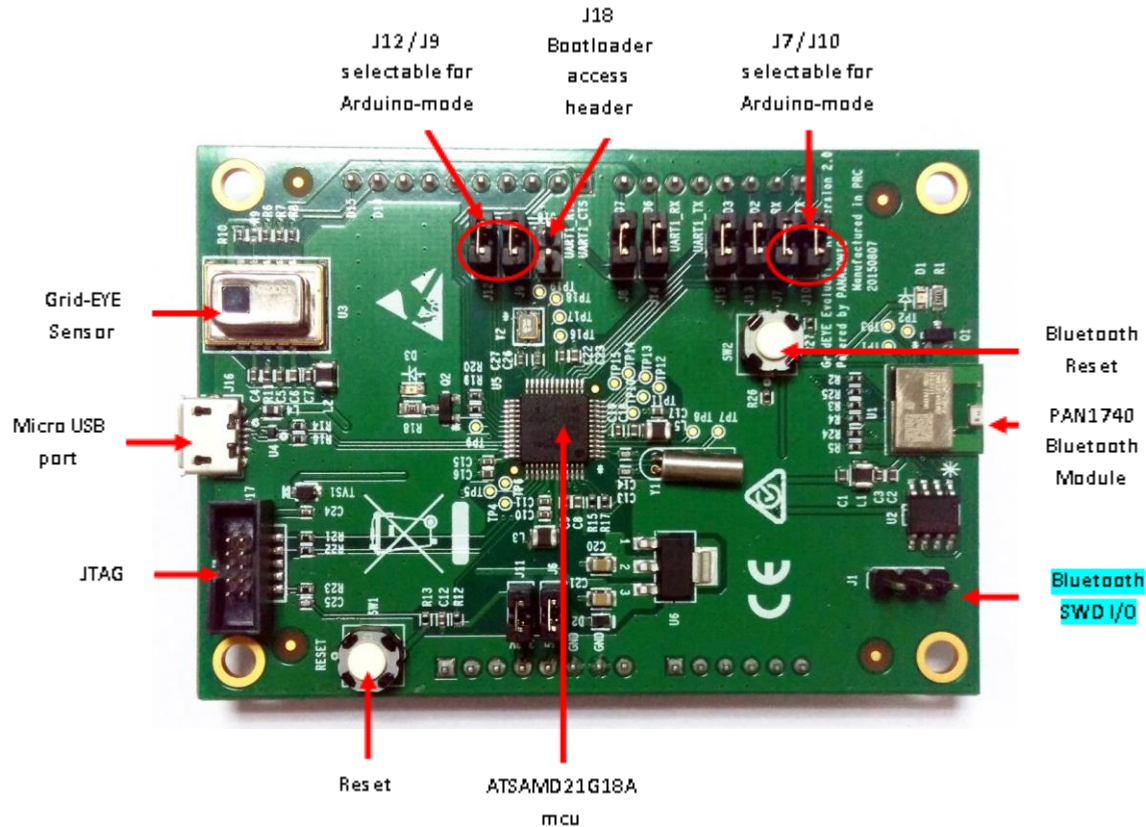
SPECIFICATIONS

Evaluation Kit Specifications

Item	Description
Part No.	AMG8832EK
Sensor	AMG 8832 - Grid-EYE Infra-red sensor
Wireless Interface	Bluetooth Module PAN1740
Microcontroller	ATSAMD21
Wired Interface	Micro USB 2.0
Power Supply	Micro USB 5V

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Components of Evaluation Kit

- As mentioned earlier following are the major components of the evaluation kit:

  - Grid-EYE Sensor

  - ATSAMD21- SMART ARM-Based Microcontroller

  - Bluetooth Module PAN1740

- In the next slides you will see the technical details of each of these components.

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Grid-EYE Sensor

Specification	Value
Power voltage	3.3V ±10%
Current consumption	4.5mA (normal), 0.8mA (standby), 0.2mA (sleep)
View angle	60 degrees (x,y)
Absolute temperature accuracy	Low gain: ±3.0ºC (typ.)
Noise Equivalent Temperature Difference	0.5°C @ 10Hz
Frame rate (selectable):	1 frame/sec or 10 frames/sec
External interface	I^{2}C (12bit)
Operation mode	Normal, Standby, Sleep (Selectable)
Number of Pixel	64 - (Vertical 8 × Horizontal 8 Matrix)

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ATSAMD21- SMART ARM-Based Microcontroller

Item	Description
CPU Core	Cortex-M0+
Max. CPU frequency	48MHz
ROM	256K
RAM	32K
USB	Full-speed USB 2.0 (Support USB Host and USB device)
I²C	Up to 3.4MHz
UART	Up to 3.4MHz
Power Supply	1.62V to 3.63V

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Bluetooth Module PAN1740

Item	Description
CPU Core	Cortex-M0
CPU frequency	16MHz or 32.768KHz
Power Consumption	Max power consumption: 4.9mA (TX and RX).
Bluetooth	Embedded BLE Stack and GATT Profile, qualified to the Bluetooth 4.0 standard
Operating Temperature	-40°C to 85°C
Gain	93dBm

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INTERFACES

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Interfaces on the Evaluation Kit

- The following diagram shows all the interfaces on the evaluation kit for Grid-EYE.
- They include the communication interfaces as well as development interfaces.
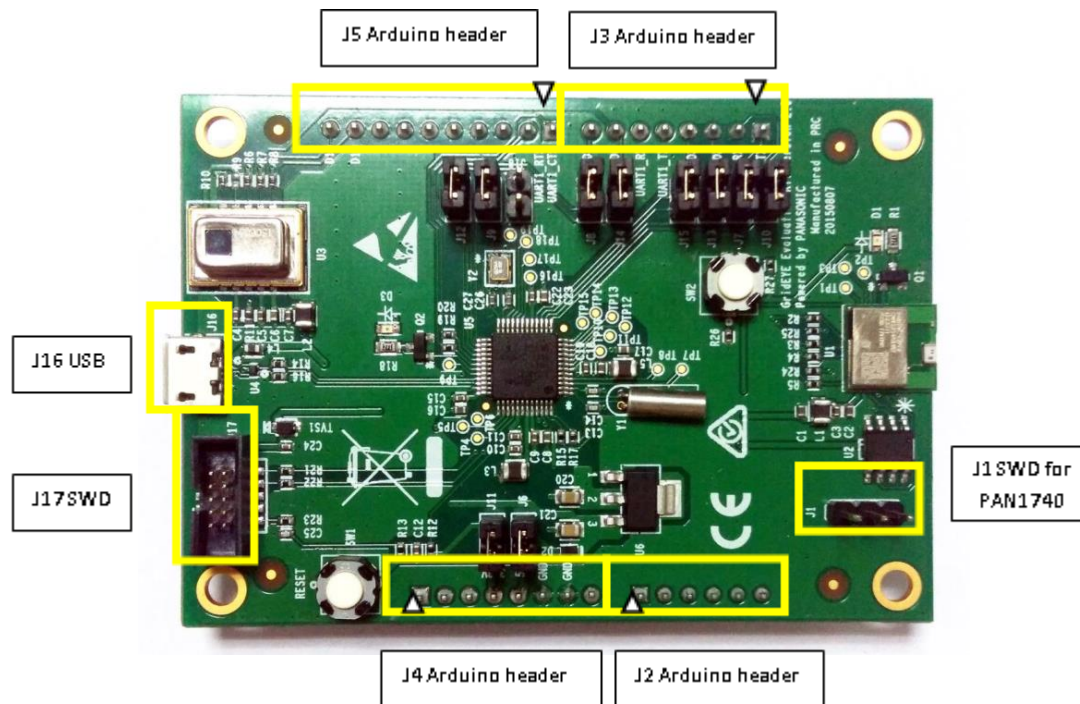
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SOFTWARE FOR EVALUATION KIT

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Software for the Evaluation Kit

- Panasonic is also providing the customers with three options for software to use with the evaluation kit:

  - Software for PC
  - DSPS Bluetooth App for Smart phones
  - Application for iOS Smartphones (Coming soon)
  - Application for Android Smartphone (Coming soon)

- The purpose of these basic functionality software is to allow the customers to realize the potential of the Grid-EYE sensor as a product and to use these as a base for their future development.

- All the software is open source and all the codes are open and accessible to our customers of evaluation kit.

- To download the software or the source codes, please visit the Panasonic website:
  http://eu.industrial.panasonic.com/grideye-evalkit

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PC Software

- The PC software allows the user to get the following data from the Grid-EYE sensor on evaluation kit:

    - Temperature values for 64 pixels grid
    - Interpolated image from the temperature values

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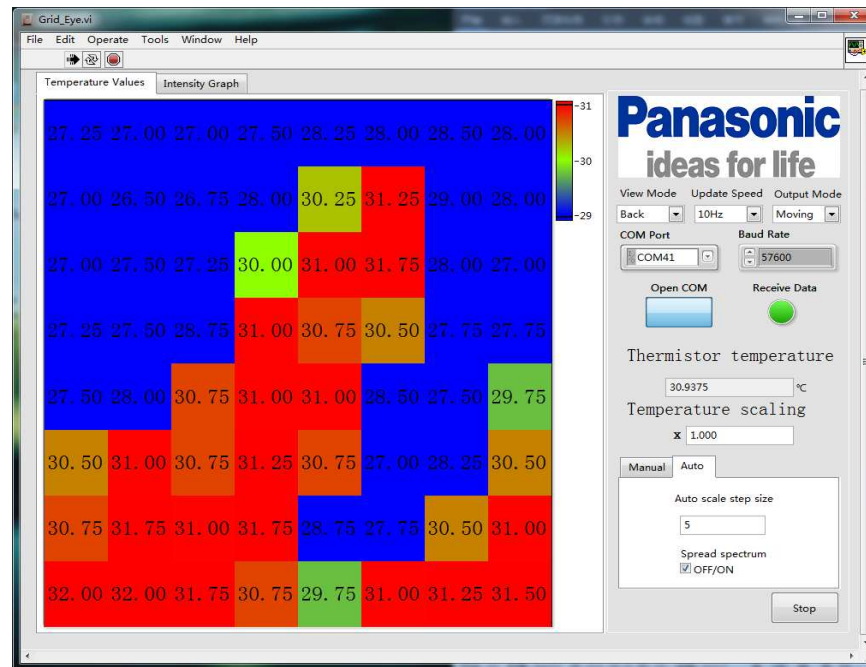
Interpolated View

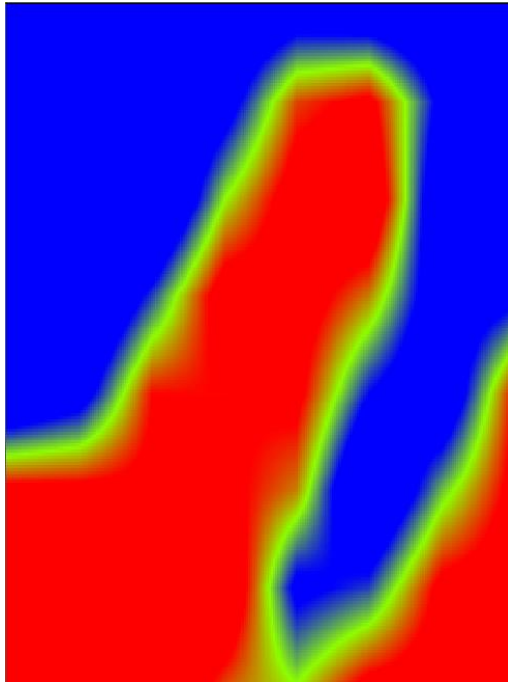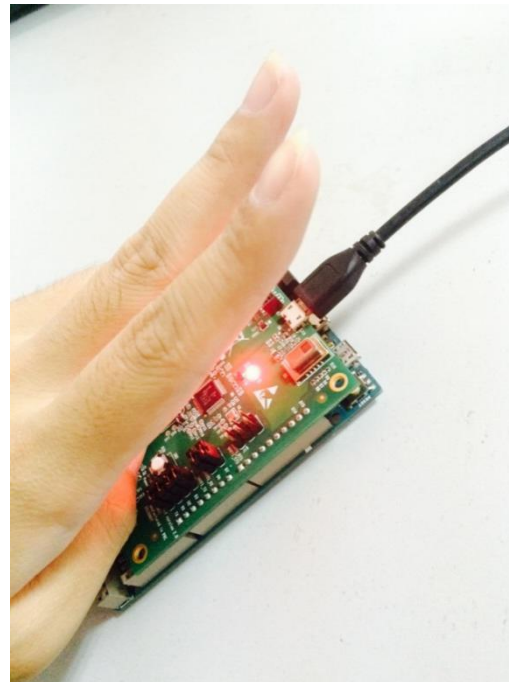- The following picture shows how the interpolated view looks like in the software.

| Image after smoothing | Original image |

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DSPS Application for Smart Phone

- As the smartphone applications will be available soon, until then the customer can use the DSPS app to get the data from the Grid-EYE sensor on the evaluation board. This would like the following.

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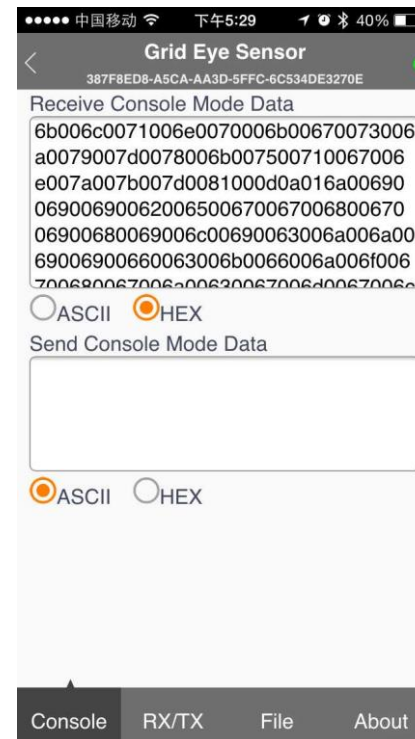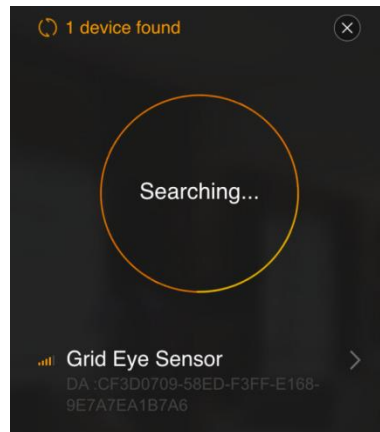
EVALUATION KIT PACKAGE

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Package from Outside
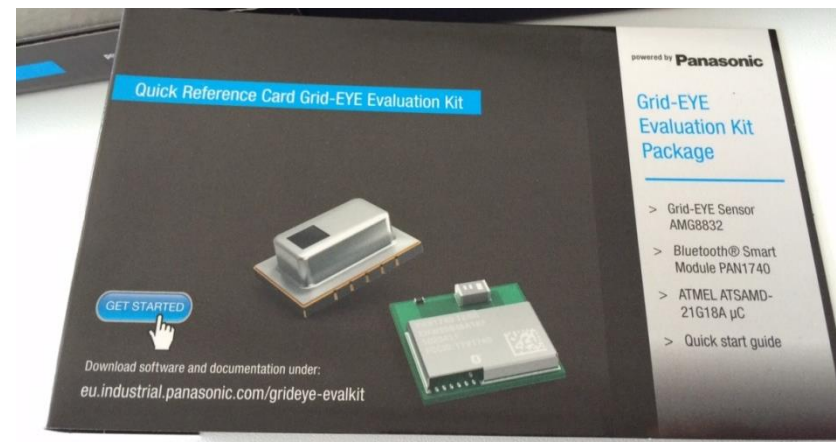

Top side

Bottom side

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Package from Inside

Inside design
with a Leaflet

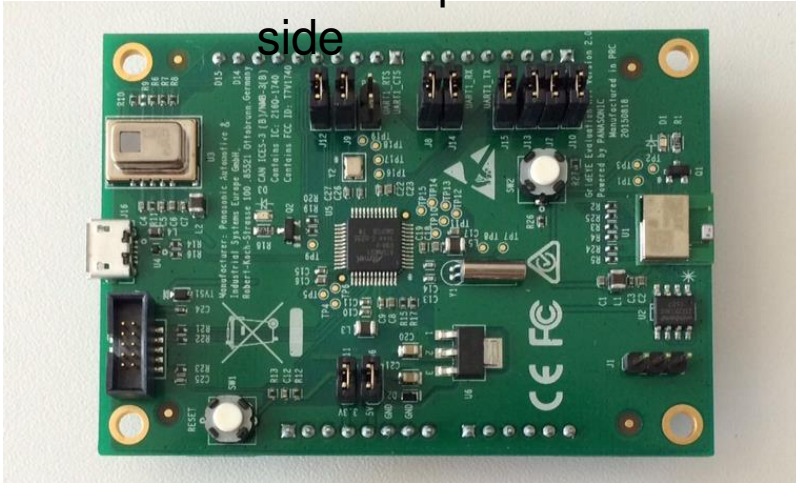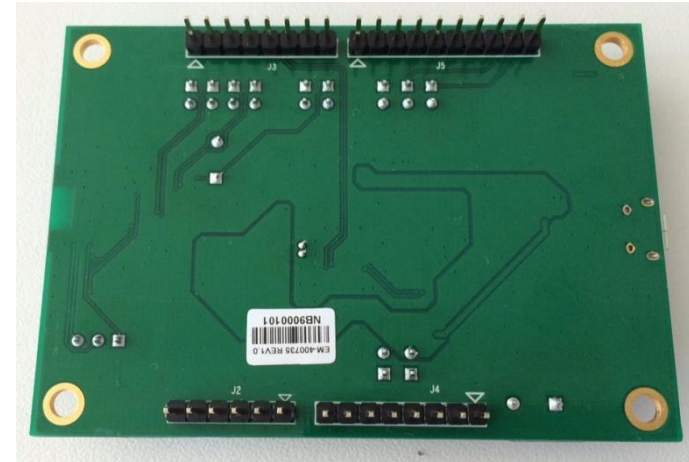Backside of leaflet

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Contents of the Package
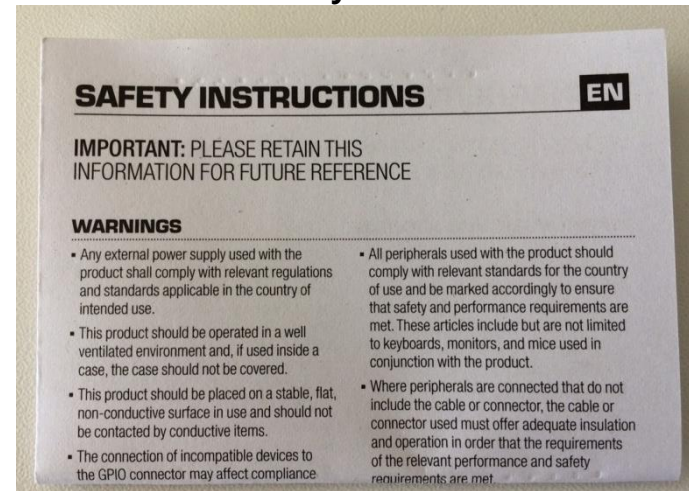
Board top side

Board bottom side

Micro USB Cable

Safety instructions

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Interested in the Evaluation kit?

Please contact us via Panasonic sales or the following:

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Product Marketing Manager
grideye@eu.panasonic.com
Robert-Koch-Strasse 100 · 85521 Ottobrunn

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