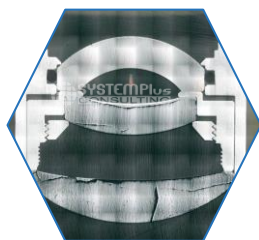
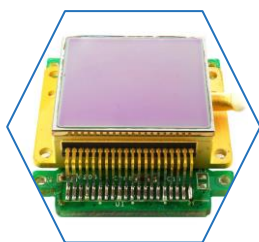


Hikvision Intelligent Thermal Network Camera (DS-2TD2166-15 V1)

Dig deep into Hikvision's AI-powered thermal network camera for security applications.



Founded in 2001, Chinese company Hikvision is now the world leader of the surveillance camera market. Up against renowned European companies like Bosch, Axis and the American company FLIR, Hikvision today has over 19,000 R&D engineers among 40,000 employees worldwide to protect its market share and tackle futures challenges driven by connected technology accessibility and city security reinforcement.

Hikvision has a broad range of cameras covering many applications including network, pan/tilt/zoom (PTZ), thermal, traffic and checkpoint cameras and manages to control every production step. The company has invested in high-tech factories and equipment for manufacturing including surface mount technology, MEMS and packaging and system assembly lines.

This full reverse costing study has been conducted to provide insights into technology data, manufacturing cost and manufacturer price of one thermal network camera supplied by Hikvision.

This system integrates in-situ Artificial Intelligence (AI) processing, for a total power consumption of 10W. Integrating a 17µm local microbolometer and a HiSilicon Internet Protocol (IP) camera processor, Hikvision seems to bet on Chinese technology for the high-end functionality of its product. Consequently, it was surprising to

discover non-Chinese processing chips inside the system, one in the thermal imaging block and another for the AI block.

With a thermal imaging definition of 640x512 pixels and 50 frames per second, Power Over Internet (PoE) and AI among many features, the DS-2TD2166-15 V1 is very innovative.

Along with the complete teardown analysis, this report includes a complete Bill of Materials, PCB and lens module analyses, electronic board HD photos and main Integrated Circuit (IC) die photos. It estimates material costs and assembly processes in order to deliver a final manufacturer price for this thermal network camera.

Title: Hikvision Intelligent Thermal Network Camera (DS-2TD2166-15 V1)

Pages: 218

Date: December 2020

Format: PDF & Excel file

Price: EUR 3,990

Reference: SP20574

COMPLETE TEARDOWN WITH:

- Teardown analysis of the camera, including HD Photos.
- Components identification
- PCBs/lens module cross-sections
- Lens EDX and material identification
- Supply chain evaluation
- System block diagram
- Manufacturing cost analysis including material cost and assembly cost
- Estimated manufacturer price
- Die photo and cost estimation for main integrated circuits

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- System Opening
- Electronic Board 1
 - ✓ Top Side - High-resolution photos, PCB markings, components markings and identification
 - ✓ Bottom Side – High-resolution photos, PCB markings, components markings and identification
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AUTHORS



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- *Youssef El Gmili, Laboratory Department Director*
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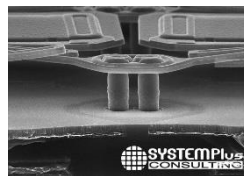
RELATED REPORTS



IRay Technology 12 μ m and 17 μ m Thermal Sensors

Comparison between 12 μ m and first and second generation 17 μ m LWIR microbolometers from Chinese manufacturer IRay Technology's.

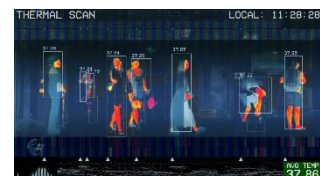
August 2020 - EUR 3,990*



FLIR Boson – a small, innovative, low power, smart thermal camera core

An infrared camera with a powerful vision processor in a small package, using a new 12 μ m microbolometer

September 2017 - EUR 3,490*

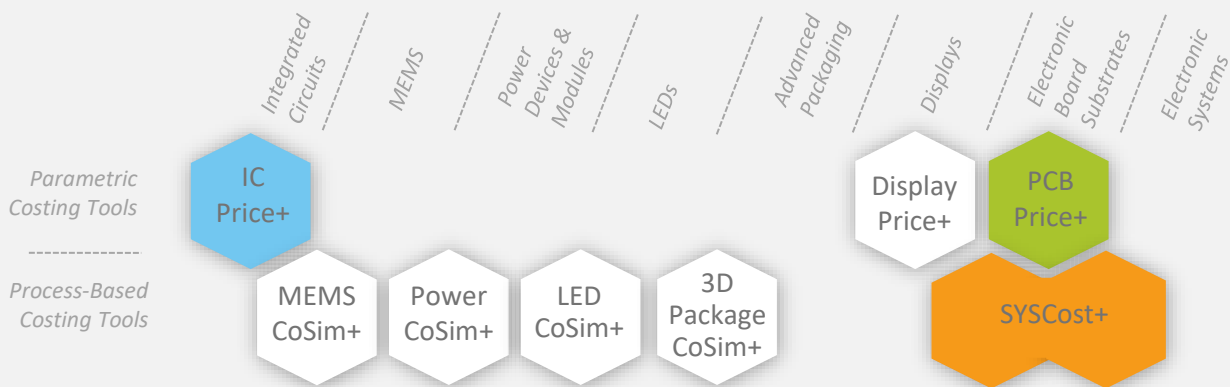


Thermal Imagers and Detectors 2020

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November 2020 - EUR 6,490*

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Our analysis is performed with our costing tools SYSCost+, IC Price+ and PCB Price+. System Plus Consulting offers powerful costing tools to evaluate the production cost and selling price from single chip to complex structures.

SYSCost+

Provides all component costs estimation including PCB, housing and connectors, and a simulation of the assembly cost and test process at the board and system level.

IC Price+

Performs the necessary cost simulation of any Integrated Circuit: ASICs, microcontrollers, memories, DSP, smartpower...

PCB Price+

Performs the necessary cost simulation of a large type of PCB substrates according to different technical characteristics such as the material, the metal layers, the type of Vias, etc.

ABOUT SYSTEM PLUS CONSULTING

WHAT IS A REVERSE COSTING®?

Reverse Costing® is the process of disassembling a device (or a system) in order to identify its technology and calculate its manufacturing cost, using in-house models and tools.



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System Plus Consulting is specialized in the cost analysis of electronics from semiconductor devices to electronic systems. A complete range of services and costing tools to provide in-depth production cost studies and to estimate the objective selling price of a product is available.

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