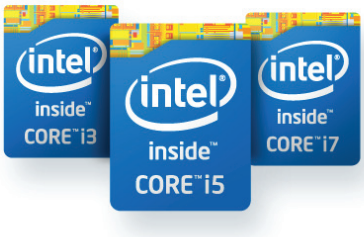
PRODUCT BRIEF
Mobile Intel® 8 Series
HM87 Chipset
Maximum Performance and Flexibility

Maximum Performance and Flexibility for Notebooks

Mobile Intel® 8 Series HM87 Chipset and 4th Generation Intel® Core™ Processors



With industry-leading performance and responsiveness, the Intel® HM87 Chipset and 4th generation Intel® Core™ processor family delivers maximum performance and flexibility for your notebook.

Smarter Performance

The combination of the Mobile Intel® 8 Series HM87 Chipset and 4th generation Intel® Core™ processors delivers an incredible notebook experience. You'll get maximum power for whatever you do, thanks to the combination of smart features like Intel® Turbo Boost Technology 2.0[1] and Intel® Hyper-Threading Technology,[2] which together activate full processing power exactly where and when you need it.

Increased Responsiveness

Intel® Smart Connect Technology[3] enables instant access to your data by allowing your content to be refreshed in the standby power state—all while minimizing power consumption. In addition to faster boot and resume times, ***Intel® Rapid Start Technology***[4] provides longer battery life without sacrificing the quickness to access your system. While providing SSD-like performance and large HDD capacity at lower costs, the Mobile Intel® 8 Series HM87 Chipset features ***Intel® Smart Response Technology***[5] that boots up your notebook faster and enables you to wait less to open the applications and data you use the most.

Unlocked Flexibility and Freedom

The Mobile Intel® 8 Series HM87 Chipset enables the performance tuning features of unlocked Intel Core processors, allowing the user to change the core multiplier to increase frequencies without having to run any other part of the system above specifications. Get the ultimate system performance with the flexibility to set your system specs just the way you like.

Improved Built-In Visuals

With smart performance and built-in 3D visual and graphics support, the 4th generation Intel Core processor family will add a new dimension to your notebook experience.[6] Intel® Quick Sync Video technology, our built-in hardware acceleration technology in all 4th generation Intel Core processors, delivers astonishing video transcoding performance, enabling your notebook to edit, burn, and share your content faster—without the need for add-in hardware. InTru™ 3D Technology[7] delivers 3D movie playback without hesitation or interruption. The Mobile Intel® 8 Series HM87 Chipset and 4th generation Intel Core processors now come with built-in Intel® Wireless Display (Intel® WiDi),[8] allowing users to view content from their notebook to an Intel® WiDi-enabled TV screen. The 4th generation Intel® Core™ Processors and Mobile Intel® 8 Series HM87 Chipset also supports ***up to three displays***. Collaborate with others more effectively in full high definition video using Intel® Clear Video HD Technology.

Superb System Performance

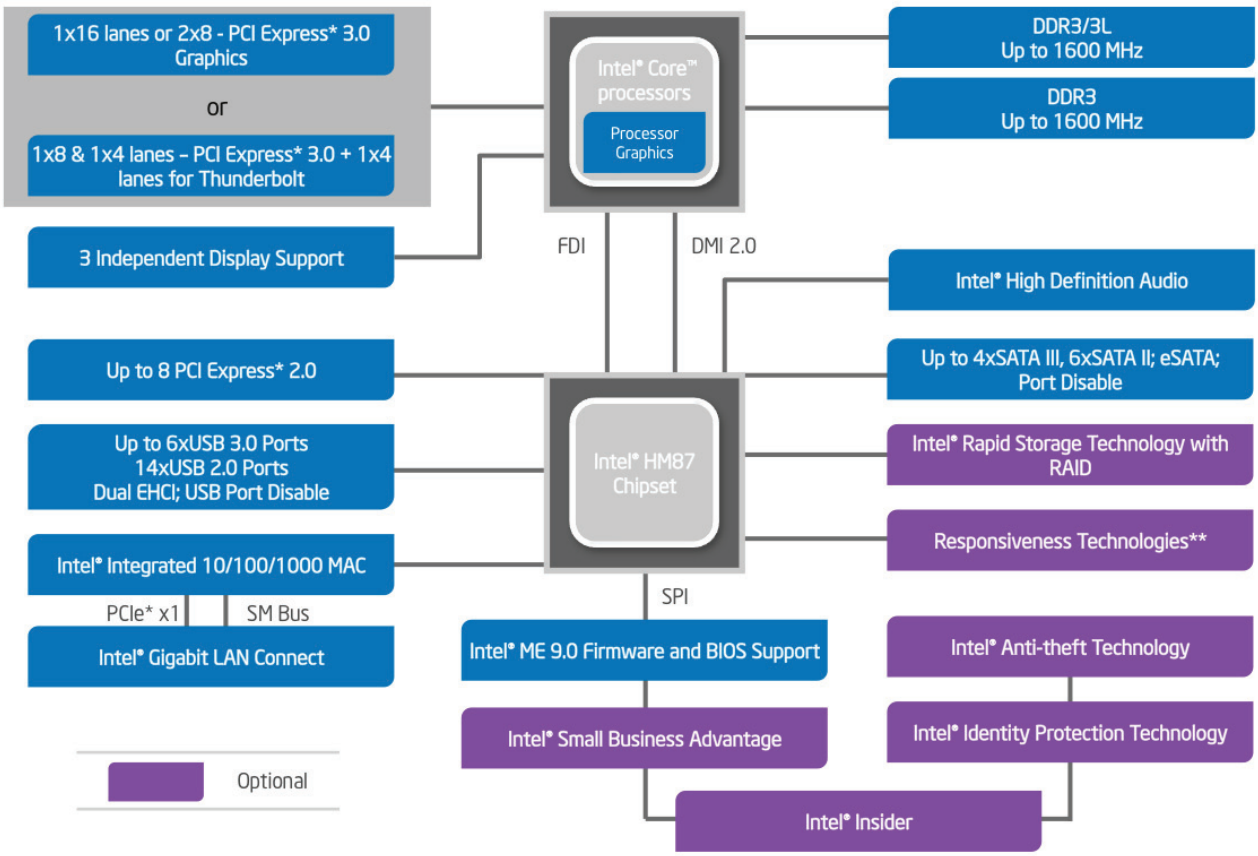
The Mobile Intel® 8 Series HM87 Chipset integrates several capabilities to provide flexibility for connecting I/O devices. ***Integrated USB 3.0*** support helps you connect faster to your digital life. The latest Intel® Rapid Storage Technology[10] enhanced with the new Dynamic Storage Accelerator enables the full Serial ATA (SATA) interface speed of up to 6 Gb/s to support next-generation Solid State Drives (SSDs) and traditional Hard Disk Drives (HDDs). In addition, the Mobile Intel® 8 Series HM87 Chipset drives lower power through enhanced link power management of the Advanced Host Controller Interface (AHCI), enable easier expandability with support for native hot plug, and enhance boot and multitasking performance with Native Command Queuing (NCQ).

Intel® Rapid Recover Technology (part of the Intel Rapid Storage Technology suite) provides a fast, easy-to-use method for the end user to recover their data and return their system to an operational status.

Enhanced Security and Productivity with Intel® Small Business Advantage

With the Mobile Intel® 8 Series HM87 Chipset and 4th generation Intel® Core™ processor family, small businesses are now enabled with ***Intel® Small Business Advantage*** (Intel® SBA), which has built-in IT support. Once configured, this state-of-the-art technology continually monitors your security software and alerts you if it's been compromised by viruses or malware. It will automatically back-up your company's data and manage routine maintenance tasks like running software updates, defragging disk drives and deleting cookies and temporary Internet files after hours, so your employees won't be interrupted. PCs can also be configured to power on or off in set times in order to provide your small business with increased energy savings. Prevent specific USB devices from being used on the system for additional security with USB Blocker.

Mobile Intel® 8 Series HM87 Chipset Block Diagram



Mobile Intel® 8 Series HM87 Chipset Specifications at a Glance

Chipset Name	Mobile Intel® HM87 Chipset
Processor Support	4th Gen Intel® Core™ i7, i5, and i3 Processors (47W, 37W), Intel® Pentium™ and Celeron™ Processors (37W)
Category	Performance Built for business
Max TDP	2.7W
Halogen Free	Yes
USB Ports	14 USB 2.0 (Up to 6† USB 3.0)
PCIe 2.0 Express Ports	Up to 8†
SATA Ports	6 SATA Gbps (Up to 2 SATA 4 6Gbps†)
Intel® AMT 9.0	No
Intel® Small Business Advantage	Yes
Intel® Performance Tuning Utility	Yes
Intel® Anti-Theft Technology	Yes[2]
Intel® Wireless Display	Yes[2,3]
Intel® Rapid Storage Technology	Yes
RAID Support	Yes
Intel® Smart Response Technology	Yes
Intel® High Definition Audio	Yes

†Enabled with Flexible I/O

[1]Available only with processors supporting Intel® vPro™ Technology

[2] Available only with Intel® Core™ Processor Family

[3] Requires a wireless networking card supporting Intel® Wireless Display

Mobile Intel® 8 Series HM86 Chipset Features at a Glance

Features	Benefits
Support for 4th generation Intel® Core™ processors	▪ Support for 4th generation Intel® Core™ processors with Turbo Boost Technology 2.0,[1] Next-Gen HD Graphics/Built in Visuals, and Power Optimizer that provide improved CPU, graphics and media performance, and battery life.
Intel® Small Business Advantage (Intel® SBA)[9]	▪ Provides small businesses with out-the-box features to enhance the security and productivity of their small business with software monitor, data backup and restore, USB port blocker, health center and wireless display.
Intel® Rapid Storage Technology[10]	▪ With additional hard drives added, provides quicker access to digital photo, video and data files with RAID 0, 5, and 10, and greater data protection against a hard disk drive failure with RAID 1, 5, and 10. ▪ Dynamic Storage Accelerator unleashes the maximum performance of Solid State Disks (SSD) when multitasking.
Intel® Rapid Recover Technology[10]	▪ Intel's latest data protection technology provides a recovery point that can be used to quickly recover a system should a hard drive fail or if there is data corruption. The clone can also be mounted as a read-only volume to allow a user to recover individual files.
Intel® Anti-Theft Technology[9]	▪ Feel safe that when you lose your notebook, you can remotely disable your notebook to be inoperable and lock your hard drive to protect your data with an Intel Anti-Theft Technology-enabled service.
Intel® Identity Protection Technology[9]	▪ Protect your one-time-password (OTP) credentials and add a layer of encrypted second factor authentication for online transactions. ▪ Log into your system or make secure credit card purchases on your system using near field communication (NFC) enabled cards.
Intel® High Definition Audio[11]	▪ Integrated audio support enables premium digital surround sound and delivers advanced features such as multiple audio streams and jack re-tasking.
Intel® Smart Response Technology[5]	▪ Wait less with faster access to the files and applications you use the most.
Intel® Smart Connect Technology[3]	▪ Stay current with automatic, no-wait updates to your email and social networks, even when your de vice is asleep. Automatically connect to free public WiFi hotspots and refresh content in more locations world-wide.
Intel® Rapid Start Technology[4]	▪ Instantly return to where you left off with a device that goes from deep-sleep to fully awake in a flash.
Universal Serial Bus 3.0	▪ Integrated USB 3.0 support, provides greater enhancement in performance with a design data rate of up to 5 gigabits per second (Gbps) with up to 4 USB 3.0 ports.[12]
Universal Serial Bus 2.0	▪ Hi-Speed USB 2.0 support with a design data rate of up to 480 megabits per second (Mbps) with up to 14 USB 2.0 ports.
USB 2.0 Rate Matching Hub	▪ Enables lower power requirements and manages the transition of the communication data rate from the high speed of the host controller to the lower speed of USB full-speed/low-speed devices.
Serial ATA (SATA) 6 Gb/s	▪ Next-generation high-speed storage interface supporting up to 6 Gb/s transfer rates for optimal data access with up to 2 SATA 6Gb/s ports.[12]
Serial ATA (SATA) 3 Gb/s	▪ High-speed storage interface supporting up to 6 SATA 3Gb/s ports.
eSATA	▪ SATA interface designed for use with external SATA devices. Provides a link for 3 Gb/s data speeds to eliminate bottlenecks found with current external storage solutions.
SATA Port Disable	▪ Enables individual SATA ports to be enabled or disabled as needed. This feature provides added protection of data by preventing malicious removal or insertion of data through SATA ports. Especially targeted for eSATA ports.
PCI Express* 2.0 Interface	▪ Offers up to 5 GT/s for fast access to peripheral devices and networking with up to 8 PCI Express 2.0 x1 ports[12], configurable as x2 and x4 depending on motherboard designs.
USB Port Disable	▪ Enables individual USB ports to be enabled or disabled as needed. This feature provides added protection of data by preventing malicious removal or insertion of data through USB ports.
Intel® Integrated 10/100/1000 MAC	▪ Support for the Intel® I217LM Gigabit Network Connection.
Green Technology	▪ Manufactured with lead-free and halogen-free component packages.

For more information, visit the Intel Web site:
www.intel.com/content/www/us/en/chipsets/performance-chipsets/notebook-desktop-performance-chipsets.html

[1] Requires a system with Intel® Turbo Boost Technology capability. Intel Turbo Boost Technology 2.0 is the next generation of Turbo Boost Technology and is only available on 4th gen Intel® Core™ processors. Consult your notebook manufacturer. Performance varies depending on hardware, software, and system configuration. For more information, visit http://www.intel.com/technology/turboboost.

[2] Requires an Intel® HT Technology enabled system, check with your notebook manufacturer. Performance will vary depending on the specific hardware and software used. For more information including details on which processors support HT Technology, visit http://www.intel.com/info/hyperthreading.

[3] Requires a select Intel® processor, Intel® software and BIOS update, Intel® wireless adapter, and Internet connectivity. Solid state memory or drive equivalent may be required. Depending on system configuration, your results may vary. Contact your system manufacturer for more information.

[4] Requires a select Intel® processor, Intel® software and BIOS update, and a small Solid-State Drive (SSD). Depending on system configuration, your results may vary. Contact your system manufacturer for more information.

[5] Requires a select Intel® processor, enabled chipset, Intel Rapid Storage Technology software, and a properly configured SSD hard drive. Depending on system configuration, your results may vary. Contact your system manufacturer for more information.

[6] Built-in visual features are not enabled on all notebooks and optimized software may be required. Check with your system manufacturer. Learn more at http://www.intel.com/go/biv.

[7] Viewing stereo 3D content requires 3D glasses and a 3D-capable display. Physical risk factors may be present when viewing 3D material.

[8] Requires an Intel® Wireless Display-enabled system, compatible adapter, and TV. 1080p and Blu ray* or other protected content playback only available on 4th gen Intel® Core™ processor-based notebooks with built-in visuals enabled, a compatible adapter and media player, and supporting Intel WiDi software and graphics driver installed. Consult your notebook manufacturer. For more information, see www. intel.com/go/widi.

[9] Requires the use of a 4th Generation Intel® Core™ processor. This feature is dependent on your system configuration.

[10] Intel® Rapid Storage Technology requires the computer have an Intel RST-enabled Intel chipset, RAID controller in the BIOS enabled and the Intel Rapid Storage Technology software driver installed. Please consult your system vendor for more information.

[11] Requires an Intel® HD Audio enabled system. Consult your notebook manufacturer for more information. Sound quality will depend on equipment and actual implementation. For more information about Intel® HD Audio, refer to http://www.intel.com/design/chipsets/hdaudio.htm.

[12] Actual number of ports available may vary by system configuration. Please consult your system vendor for more information.

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