Two module sizes are defined: 82mm x 50mm and 82mm x 80mm. The module PCBs have 314 edge fingers that mate with a low profile 314 pin 0.5mm pitch right angle connector (the connector is sometimes identified as a 321 pin connector, but 7 pins are lost to the key). The modules are used as building blocks for portable and stationary embedded systems.

The core CPU and support circuits, including DRAM, boot flash, power sequencing, CPU power supplies, GbE and a single channel LVDS display transmitter are concentrated on the module. The modules are used with application specific carrier boards that implement other features such as audio codec, touch controllers, wireless devices, etc. The modular approach allows scalability, fast time to market and upgradability while still maintaining low costs, low power and small physical size.

The new revision 2.0 offers modern interfaces and supports latest SOC architectures.
SMARC modules typically use highly integrated System On Chip (SOC) CPU’s targeted for low power devices such as tablets or phones. They may use RISC (e.g. ARM) or x86 devices with a typical power envelop of 10W or lower.
### SMARC

#### Altera

<table>
<thead>
<tr>
<th>Product</th>
<th>Features</th>
<th>Manufacturer</th>
</tr>
</thead>
<tbody>
<tr>
<td>SXOM MS1-C5</td>
<td>The core of SXoM-C5 is an Altera Cyclone® V SoC</td>
<td>Solectrix GmbH</td>
</tr>
</tbody>
</table>

#### Intel Atom

<table>
<thead>
<tr>
<th>Product</th>
<th>Features</th>
<th>Manufacturer</th>
</tr>
</thead>
<tbody>
<tr>
<td>uCOM-BT</td>
<td>SMARC CPU Module with Onboard Intel Atom®/Celeron® Processor SoC</td>
<td>AAEON Technology, Inc.</td>
</tr>
<tr>
<td>LEC-BT</td>
<td>SMARC® Full Size Module with Intel Atom® Processor E3800 Series System-on-Chip</td>
<td>ADLINK Technology, Inc.</td>
</tr>
<tr>
<td>LEC-BTS</td>
<td>SMARC® Short Size Module with Intel Atom® Processor E3800 Series System-on-Chip</td>
<td>ADLINK Technology, Inc.</td>
</tr>
<tr>
<td>LEC-BW</td>
<td>SMARC® Short Size Module with Intel Pentium® and Celeron® Processor N3000 Series SoC</td>
<td>ADLINK Technology, Inc.</td>
</tr>
<tr>
<td>LEC-AL</td>
<td>SMARC® Short Size Module with Intel Atom® Processor E3900 Series, Pentium® N4200 or Celeron® N3350 Processor (codename: Apollo Lake)</td>
<td>ADLINK Technology, Inc.</td>
</tr>
<tr>
<td>conga-SA5</td>
<td>Low-Power SMARC 2.0 module based on the latest Intel Atom®, Intel® Celeron® and Intel® Pentium® processors</td>
<td>congatec AG</td>
</tr>
<tr>
<td>PSMC-M101</td>
<td>SMARC 2.0 module based on Intel Atom® E3900 series platform with LP DDR4 SDRAM</td>
<td>European Portwell Technology</td>
</tr>
<tr>
<td>SMARC-sxBTi</td>
<td>SMARC® module with Intel® processor E3800 series with extremely low-profile and high graphics performance</td>
<td>Kontron AG</td>
</tr>
<tr>
<td>SMARC-sxAL (E2)</td>
<td>SMARC 2.0 module based on Intel Atom® E3900, Pentium® and Celeron® Processor Series</td>
<td>Kontron AG</td>
</tr>
<tr>
<td>MSC SM2F-AL (SMARC 2.0 Full Size)</td>
<td>The new MSC SM2F-AL module features Intel’s next-generation low-power System-on-Chip (SOC) for the Internet of Things</td>
<td>MSC Technologies</td>
</tr>
<tr>
<td>MSC SM2S-AL (SMARC 2.0 Short Size)</td>
<td>The new MSC SM2S-AL module features Intel’s next-generation low-power System-on-Chip (SOC) for the Internet of Things</td>
<td>MSC Technologies</td>
</tr>
<tr>
<td>SM-B69</td>
<td>SMARC Rel. 2.0 compliant module with the Intel Atom® E39xx family, Intel® Celeron® N3350 and Intel® Pentium® N4200 (Apollo Lake) SoCs</td>
<td>SECO srl</td>
</tr>
<tr>
<td>SM-B71</td>
<td>SMARC Rel. 2.0 compliant module with the Xilinx® Zynq® UltraScale+™ MPSoC</td>
<td>SECO srl</td>
</tr>
<tr>
<td>SM-C12</td>
<td>SMARC Rel. 2.0 compliant module with the NXP i.MX 8M Applications Processor</td>
<td>SECO srl</td>
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#### Intel Quark

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<tr>
<th>Product</th>
<th>Features</th>
<th>Manufacturer</th>
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<tbody>
<tr>
<td>SMARC-sXQU</td>
<td>SMARC module with Intel® Quark™ processor</td>
<td>Kontron AG</td>
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#### ARM Cortex

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<thead>
<tr>
<th>Product</th>
<th>Features</th>
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<tbody>
<tr>
<td>ROM-DK5420</td>
<td>Development kit for SMARC CPU Module ROM-5420</td>
<td>Advantech</td>
</tr>
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</table>

#### Marvell

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<thead>
<tr>
<th>Product</th>
<th>Features</th>
<th>Manufacturer</th>
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<tbody>
<tr>
<td>IGEP SMARC PXA2128</td>
<td>SMARC module DUAL core ARM Cortex-A9 up to 1.2 GHz</td>
<td>ISEE Integration Software Electronic Engineering</td>
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#### Nvidia Tegra

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<tr>
<th>Product</th>
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<tbody>
<tr>
<td>SMARC-sAT30</td>
<td>Ultra Low-Power SMARC module based on Nvidia® Tegra® 3</td>
<td>Kontron AG</td>
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### NXP

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<thead>
<tr>
<th>Product</th>
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<tbody>
<tr>
<td>IGEP SMARC IMX6</td>
<td>IMX6 Solo/DualLite/Dual/Quad, by NXP Semiconductors</td>
<td>ISEE Integration Software Electronic Engineering</td>
</tr>
<tr>
<td>IGEP SMARC AM335x</td>
<td>ARM Cortex-A8 computer module</td>
<td>ISEE Integration Software Electronic Engineering</td>
</tr>
<tr>
<td>SMARC-sAMX6i</td>
<td>Ultra-low power ARM and SoC-based SMARC module based on Freescale i.MX6 family Solo - Dual - Quad Core</td>
<td>Kontron AG</td>
</tr>
<tr>
<td>MSC SM2S-iMX6</td>
<td>SMARC Rev. 2.0 compatible module with Freescale i.MX6 Solo/Dual/Quad and Dual/QuadPlus Processors</td>
<td>MSC Technologies</td>
</tr>
<tr>
<td>EZ-ROJ-1</td>
<td>EZ-ROJ-1 SMARC module based on iMX6 ARM® Cortex™ A9 architecture, a complete 64-bit data bus, Quad/Dual/Single Core 1GHz speed SoC engine</td>
<td>ROJ s.r.l.</td>
</tr>
<tr>
<td>SM-C12</td>
<td>SMARC Ref. 2.0 compliant module with the NXP i.MX 8M Applications Processor</td>
<td>SECO srl</td>
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<tr>
<td>SES-MX6S/D/Q</td>
<td>SMARC module based on Freescale ARM Cortex-A9 i.MX6</td>
<td>Sintecs BV</td>
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### Texas Instruments

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<tr>
<th>Product</th>
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<tbody>
<tr>
<td>SMARC-sA3874i</td>
<td>Ultra-low power ARM and SoC-based SMARC Module based on Texas Instruments AM3874 up to 800MHz</td>
<td>Kontron AG</td>
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### Vortex

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<tr>
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<tbody>
<tr>
<td>SMARCBoard EX</td>
<td>SubAtom x86 SMARC® module</td>
<td>b-plus GmbH</td>
</tr>
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</table>

### Xilinx

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<thead>
<tr>
<th>Product</th>
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<tbody>
<tr>
<td>SXOM MS2-K7</td>
<td>The core of SXoM-K7 is a Xilinx® Zynq® Z-7045 SoC</td>
<td>Solectrix GmbH</td>
</tr>
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</table>

### Carrier

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<tr>
<th>Product</th>
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<tbody>
<tr>
<td>ROM-DK5420</td>
<td>Development kit for SMARC CPU module ROM-5420</td>
<td>Advantech</td>
</tr>
<tr>
<td>IGEP SMARC ESX PANSION</td>
<td>Expansion board for SMARC modules</td>
<td>ISEE Integration Software Electronic Engineering</td>
</tr>
<tr>
<td>LEC-BASE</td>
<td>SMARC® Reference Carrier Board</td>
<td>ADLINK Technology, Inc.</td>
</tr>
<tr>
<td>SMARC-Starter Kit</td>
<td>This SMARC Starter Kit gets you going with Carrier Board Design and Software Verification in no time</td>
<td>ADLINK Technology, Inc.</td>
</tr>
<tr>
<td>ROM-DB5900</td>
<td>Development board for RISC SMARC v1.0 module</td>
<td>Advantech</td>
</tr>
<tr>
<td>ROM-DK5420</td>
<td>Development kit for SMARC CPU module ROM-5420</td>
<td>Advantech</td>
</tr>
<tr>
<td>SMARCpico-Carrier 2</td>
<td>pITX sized carrier for SMARC™ modules</td>
<td>b-plus GmbH</td>
</tr>
<tr>
<td>PSMC-C300ARM</td>
<td>Mini-ITX Form Factor Carrier Board for SMARC module with GbE, HDMI, VGA and dual LVDS</td>
<td>European Portwell Technology</td>
</tr>
<tr>
<td>SMARC Evaluation Carrier</td>
<td>Evaluation Carrierboard for ultra-low-power ARM and SoC based Computer-on-modules</td>
<td>Kontron AG</td>
</tr>
<tr>
<td>MSC SM2S-MB-EP1</td>
<td>SMARC Rev. 2.0 compatible Carrier Board in MiniTX Format</td>
<td>MSC Technologies</td>
</tr>
<tr>
<td>MSC SM2S-SK-iMX6-EP1-KIT001</td>
<td>SMARC Rev. 2.0 Starterkit for modules with NXP™ i.MX6</td>
<td>MSC Technologies</td>
</tr>
<tr>
<td>CSM-B79</td>
<td>SMARC 2.0 evaluation carrier board</td>
<td>SECO srl</td>
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</table>
The Qseven concept is an off-the-shelf, multi vendor, Computer-On-Module that integrates all the core components of a common PC and is mounted onto an application specific carrier board.

Qseven module provides the functional requirements for an embedded application. These functions include, but are not limited to, graphics, sound, mass storage, network and multiple USB ports. A single ruggedized MXM connector provides the carrier board interface to carry all the I/O signals to and from the Qseven module. This MXM connector is a well known and proven high speed signal interface connector that is commonly used for high speed PCI Express graphics cards in notebooks.

Carrier board designers can utilize as little or as many of the I/O interfaces as deemed necessary. The carrier board can therefore provide all the interface connectors required to attach the system to the application specific peripherals. This versatility allows the designer to create a dense and optimized package, which results in a more reliable product while simplifying system integration. Most importantly, Qseven® applications are scalable, which means once a product has been created there is the ability to diversify the product range through the use of different performance class Qseven® modules. Simply unplug one module and replace it with another, no redesign is necessary.
Qseven modules have a standardized form factor of 70mm x 70mm or 40mm x 70mm and have specified pinouts based on the high speed MXM system connector that has a standardized pinout regardless of the vendor. The Qseven form factor can be deployed in low power applications up to 12W, and is suitable for x86 and ARM SOCs and CPUs.
### QSEVEN

#### AMD G Series

<table>
<thead>
<tr>
<th>Product</th>
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<th>Manufacturer</th>
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<tbody>
<tr>
<td>EmQ-a50M1</td>
<td>AMD Fusion G-T40E Qseven® CPU Module</td>
<td>ARBOR Technology Corp.</td>
</tr>
<tr>
<td>QSM-520E</td>
<td>Wide-Range Operating Temperature AMD Fusion G-T40E Qseven® CPU Module</td>
<td>ARBOR Technology Corp.</td>
</tr>
<tr>
<td>conga-QAF</td>
<td>Based on AMD Embedded G-Series Processors</td>
<td>congatec AG</td>
</tr>
<tr>
<td>conga-QG</td>
<td>Qseven module based on the high-performance, low-power AMD Embedded G-Series SOC platform</td>
<td>congatec AG</td>
</tr>
<tr>
<td>MSC Q7-A50M</td>
<td>AMD Embedded G-Series</td>
<td>MSC Technologies</td>
</tr>
<tr>
<td>Q7-A29</td>
<td>Qseven® standard module with the 1st and 2nd Generation (&quot;eKabini&quot; and &quot;Steppe Eagle&quot;) AMD Embedded G-Series SOCs</td>
<td>SECO srl</td>
</tr>
</tbody>
</table>

#### Intel Atom

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<thead>
<tr>
<th>Product</th>
<th>Features</th>
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</thead>
<tbody>
<tr>
<td>A7T-BT</td>
<td>Q7 CPU module with Onboard Intel Atom® E3800 Product Family Processor SoC</td>
<td>AAEON Technology, Inc</td>
</tr>
<tr>
<td>A7T-LN</td>
<td>Qseven CPU module with Onboard Intel Atom® N455 Processor</td>
<td>AAEON Technology, Inc</td>
</tr>
<tr>
<td>Q7T-BT</td>
<td>Qseven® Standard Size module with Intel Atom® Processor E3800 Series System-on-Chip</td>
<td>ADLINK Technology, Inc</td>
</tr>
<tr>
<td>Q7T-BW</td>
<td>Qseven Standard Size module with Intel® Pentium™ and Celeron™ Processor N3000 Series SoC</td>
<td>ADLINK Technology, Inc</td>
</tr>
<tr>
<td>Q7T-AL</td>
<td>Qseven® Standard Size module with 6th Gen Intel® Pentium™ and Celeron™ Processor (codename: Apollo Lake)</td>
<td>ADLINK Technology, Inc</td>
</tr>
<tr>
<td>SOM-3565</td>
<td>Intel Atom® Processor N2600 Qseven® CPU module</td>
<td>Advantech</td>
</tr>
<tr>
<td>EmQ-i2506</td>
<td>Intel Atom® N2600 Qseven® CPU module</td>
<td>ARBOR Technology Corp</td>
</tr>
<tr>
<td>EmQ-i2301</td>
<td>Intel Atom® Processor E3800 family Qseven® CPU module</td>
<td>ARBOR Technology Corp</td>
</tr>
<tr>
<td>QSM-653E</td>
<td>Wide-Range Temperature Intel Atom® Processor N2600 Qseven® CPU module</td>
<td>ARBOR Technology Corp</td>
</tr>
<tr>
<td>QSM-662E</td>
<td>Wide-Range Temperature Intel Atom® Processor E3800 family Qseven® CPU module</td>
<td>ARBOR Technology Corp</td>
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<tr>
<td>conga-QA</td>
<td>Low Power Qseven® module</td>
<td>congatec AG</td>
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<tr>
<td>conga-QA3</td>
<td>Low Power Qseven® module with Industrial Temperature Range</td>
<td>congatec AG</td>
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<tr>
<td>conga-QA4</td>
<td>Highest performance Qseven module with 4th Generation Intel Atom® / Celeron® processors</td>
<td>congatec AG</td>
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<tr>
<td>conga-QA5</td>
<td>Highest performance Qseven module with 5th Generation Intel Atom® / Celeron® processors</td>
<td>congatec AG</td>
</tr>
<tr>
<td>conga-QA6</td>
<td>Low Power Qseven® module with Enhanced Graphics</td>
<td>congatec AG</td>
</tr>
<tr>
<td>PQ7-M106</td>
<td>Intel Atom® based Qseven 2.0 module board with momorydown, Dual DP, SATA, PCIe, Gigabit Ethernet and eMMC</td>
<td>European Portwell Technology</td>
</tr>
<tr>
<td>PQ7-M107</td>
<td>PQ7-M107 based on Qseven 2.0 SPEC designed with Intel Atom® N3000 series processor. Up to 4GB, 24bit LVDS, DP, USB 3.0</td>
<td>European Portwell Technology</td>
</tr>
<tr>
<td>PQ7-M108</td>
<td>Qseven 2.1 module based on Intel Atom® E3900 series platform with LP DDR4 SDRAM</td>
<td>European Portwell Technology</td>
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<tr>
<td>iW-RainboW-G6M-Q7</td>
<td>Atom® Z5xx Qseven SOM</td>
<td>iWave Systems Technologies Pvt. Ltd.</td>
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<tr>
<td>MSC Q7-TTCT-FD</td>
<td>Intel Atom® E8x0, extended Temperature - Low-Power Atom technology for industrial temperature applications</td>
<td>MSC Technologies</td>
</tr>
<tr>
<td>MSC Q7-AL</td>
<td>Qseven Rev. 2.1 module with Intel Atom® E3900 / Pentium® / Celeron® processors</td>
<td>MSC Technologies</td>
</tr>
<tr>
<td>MSC Q7-BT</td>
<td>Qseven Rev. 2.0 compatible module with Intel Atom® E38xx Solo/Dual/Quad Processor</td>
<td>MSC Technologies</td>
</tr>
<tr>
<td>MSC Q7-BW</td>
<td>Qseven Rev. 2.0 compatible module with Intel Atom® N3000 and Celeron/Pentium Processors</td>
<td>MSC Technologies</td>
</tr>
</tbody>
</table>
## Intel Atom

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<tr>
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<tbody>
<tr>
<td>Q7-881</td>
<td>Computer on module with Intel Atom® E6xx series CPU+ EG20T Chipset</td>
<td>SECO srl</td>
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<tr>
<td>Q7-878</td>
<td>Qseven® Rel. 2.0 Compliant module with Intel Atom® Cedar View family Processors and Intel® NM10 Express Chipset</td>
<td>SECO srl</td>
</tr>
<tr>
<td>Q7-963</td>
<td>Qseven® Rel. 1.20 Compliant module with Intel Atom® E6xxT series CPU + EG20T Chipset</td>
<td>SECO srl</td>
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<tr>
<td>Q7-974</td>
<td>Qseven® Rel. 2.0 Compliant module with the Intel Atom® E3800 and Celeron® families with SSD</td>
<td>SECO srl</td>
</tr>
<tr>
<td>μQ7-A76-J</td>
<td>μQseven Rev. 2.0 Compliant module with the Intel Atom® E3800 and Celeron® families (&quot;Bay Trail&quot;)</td>
<td>SECO srl</td>
</tr>
<tr>
<td>Q7-A36</td>
<td>Qseven® Rev. 2.0 based on Intel Atom® E3800 and Celeron® families, cost-effective and mobile-oriented version with eMMC and Camera Interface</td>
<td>SECO srl</td>
</tr>
<tr>
<td>Q7-B03</td>
<td>Qseven® Rel. 2.1 compliant module with the Intel Atom® E39xx Processor family (Apollo Lake)</td>
<td>SECO srl</td>
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<tr>
<td>Q7-796</td>
<td>Computer on Module based on the Texas Instruments® OMAP™ 37xx Family</td>
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## Cortex

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<thead>
<tr>
<th>Product</th>
<th>Features</th>
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<tbody>
<tr>
<td>iW-RainboW-G17M-Q7</td>
<td>Cyclone V SoC Qseven module</td>
<td>iWave Systems Technologies Pvt. Ltd.</td>
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## Nvidia Tegra

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<tr>
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<tbody>
<tr>
<td>Q7-922</td>
<td>Computer on module with NVIDIA® Tegra® T30 Processor</td>
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## NXP

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<tr>
<td>AQ7-IMX6</td>
<td>Qseven CPU module with Onboard Freescale® i.MX6 Dual Lite/Quad ARM Cortex A9 Processor</td>
<td>AAEON Technology, Inc</td>
</tr>
<tr>
<td>ROM-7420</td>
<td>Freescale ARM Cortex-A9 i.MX6 Qseven module</td>
<td>Advantech</td>
</tr>
<tr>
<td>conga-QMX6</td>
<td>Qseven module based on NXP i.MX6 ARM Cortex A9 processors</td>
<td>congatec AG</td>
</tr>
<tr>
<td>conga-QMX8</td>
<td>Qseven module based on NXP i.MX 8 Arm Cortex A53 / A72 with 3D Graphics and 4K Video</td>
<td>congatec AG</td>
</tr>
<tr>
<td>eDM-QMX6</td>
<td>Qseven ARM module Quad-core</td>
<td>Data Modul AG</td>
</tr>
<tr>
<td>i.CORE RQS M6</td>
<td>uQ7 CPU module based on Freescale™ i.MX6 single, dual light, dual or quad core</td>
<td>Engicam s.r.l.</td>
</tr>
<tr>
<td>PQ7-M640F</td>
<td>Qseven module based on Freescale® i.MX6 family, ARM® Cortex-A9, Solo / Dual / Quad core processor</td>
<td>European Portwell Technology</td>
</tr>
<tr>
<td>QBlissA9</td>
<td>Qseven module with Freescale i.MX 6 CPU</td>
<td>F &amp; S Elektronik Systeme GmbH</td>
</tr>
<tr>
<td>QBlissA9r2</td>
<td>Qseven module with NXP i.MX 6 Processor</td>
<td>F &amp; S Elektronik Systeme GmbH</td>
</tr>
<tr>
<td>iW-RainboW-G15M-Q7</td>
<td>i.MX6 Qseven SOM</td>
<td>iWave Systems Technologies Pvt. Ltd.</td>
</tr>
<tr>
<td>iW-RainboW-G8M-Q7</td>
<td>i.MX51 Qseven SOM</td>
<td>iWave Systems Technologies Pvt. Ltd.</td>
</tr>
<tr>
<td>MSC Q7-IMX6PLUS</td>
<td>Qseven Rev. 2.0 compatible module with Freescale i.MX6 Solo/Dual/Quad and Dual/QuadPlus Processors</td>
<td>MSC Technologies</td>
</tr>
<tr>
<td>μQ7-962</td>
<td>μQseven® standard module with NXP i.MX6 Processor</td>
<td>SECO srl</td>
</tr>
<tr>
<td>Q7-928</td>
<td>Qseven® standard module with NXP i.MX6 Processor</td>
<td>SECO srl</td>
</tr>
<tr>
<td>μQ7-A75-J</td>
<td>μQseven® standard module with NXP i.MX6 Processor</td>
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## Qseven

### Renesas RZ

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<tr>
<td>iW-Rainbow-G21M-Q7</td>
<td>RZ/G1H Qseven System On module</td>
<td>iWave Systems Technologies Pvt. Ltd.</td>
</tr>
</tbody>
</table>

### Texas Instruments

<table>
<thead>
<tr>
<th>Product</th>
<th>Features</th>
<th>Manufacturer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q7-796</td>
<td>Computer on module based on the Texas Instruments® OMAP™ 37xx Family</td>
<td>SECO srl</td>
</tr>
<tr>
<td>iW-Rainbow-G12M-Q7</td>
<td>AM389x/DM816x Qseven SOM</td>
<td>iWave Systems Technologies Pvt. Ltd.</td>
</tr>
</tbody>
</table>

### VIA Nano

<table>
<thead>
<tr>
<th>Product</th>
<th>Features</th>
<th>Manufacturer</th>
</tr>
</thead>
<tbody>
<tr>
<td>EmQ-v900</td>
<td>VIA Nano® Qseven® CPU module</td>
<td>ARBOR Technology Corp.</td>
</tr>
</tbody>
</table>
## Carrier / Accessories

<table>
<thead>
<tr>
<th>Product</th>
<th>Features</th>
<th>Manufacturer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q7-BASE</td>
<td>Qseven® Reference Carrier Board</td>
<td>ADLINK Technology, Inc.</td>
</tr>
<tr>
<td>SOM-DB3500</td>
<td>Qseven Development Board</td>
<td>Advantech</td>
</tr>
<tr>
<td>ROM-DK7420</td>
<td>Development kit for Freescale i.MX6 Qseven module ROM-7420</td>
<td>Advantech</td>
</tr>
<tr>
<td>ROM-DB7500</td>
<td>Development board for RISC Qseven module</td>
<td>Advantech</td>
</tr>
<tr>
<td>PBQ-3000</td>
<td>Qseven® Carrier Board in EPIC Form Factor</td>
<td>ARBOR Technology Corp.</td>
</tr>
<tr>
<td>conga-QEVAL</td>
<td>Evaluation Board for Qseven® modules</td>
<td>congatec AG</td>
</tr>
<tr>
<td>conga-MCB/Qseven®</td>
<td>Mini Carrier Board for Qseven®</td>
<td>congatec AG</td>
</tr>
<tr>
<td>PQ7-C201</td>
<td>Mini-ITX Form Factor Carrier Board for Qseven module with Triple Displays and One GbE</td>
<td>European Portwell Technology</td>
</tr>
<tr>
<td>iW-RainboW-G7D-Q7</td>
<td>Generic Qseven Carrier Board</td>
<td>iWave Systems Technologies Pvt. Ltd.</td>
</tr>
<tr>
<td>iW-RainboW-G6D-Q7</td>
<td>Atom™ Z5xx Qseven Development Kit</td>
<td>iWave Systems Technologies Pvt. Ltd.</td>
</tr>
<tr>
<td>iW-RainboW-G8D-Q7</td>
<td>i.MX51 Qseven Development Platform</td>
<td>iWave Systems Technologies Pvt. Ltd.</td>
</tr>
<tr>
<td>iW-RainboW-G12D-Q7</td>
<td>AM385x/DM8168 Qseven Development Platform</td>
<td>iWave Systems Technologies Pvt. Ltd.</td>
</tr>
<tr>
<td>iW-RainboW-G15D-Q7</td>
<td>i.MX6 Qseven Development Platform</td>
<td>iWave Systems Technologies Pvt. Ltd.</td>
</tr>
<tr>
<td>iW-RainboW-G20D-Q7</td>
<td>RZ/G1M Qseven Development Platform</td>
<td>iWave Systems Technologies Pvt. Ltd.</td>
</tr>
<tr>
<td>iW-RainboW-G21D-Q7</td>
<td>RZ/G1H Qseven Development Platform</td>
<td>iWave Systems Technologies Pvt. Ltd.</td>
</tr>
<tr>
<td>MSC Q7-MB-EP3</td>
<td>Qseven 1.2 Baseboard for industrial temperature applications with CAN</td>
<td>MSC Technologies</td>
</tr>
<tr>
<td>MSC Q7-MB-EP2</td>
<td>Qseven® 1.2 Embedded Platform</td>
<td>MSC Technologies</td>
</tr>
<tr>
<td>MSC Q7-MB-RP2</td>
<td>Qseven® 1.2 Reference Platform</td>
<td>MSC Technologies</td>
</tr>
<tr>
<td>MSC Q7-MB-EP4</td>
<td>Qseven® 1.2 Embedded Platform</td>
<td>MSC Technologies</td>
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<tr>
<td>MSC Q7-MB-EP6</td>
<td>Qseven® 2.0 Carrier Board</td>
<td>MSC Technologies</td>
</tr>
<tr>
<td>CQ7-901</td>
<td>Carrier Board for Qseven® modules on Pico-ITX Form Factor</td>
<td>SECO srl</td>
</tr>
<tr>
<td>CQ7-A42</td>
<td>Qseven® rel. 2.0 Compliant Carrier Board on 3.5” Form factor</td>
<td>SECO srl</td>
</tr>
<tr>
<td>Q7 DEV KIT 2.0</td>
<td>Cross Platform Development Kit for Qseven® philosophy, compatible with both x86 and ARM Rev. 2.0 Qseven® modules</td>
<td>SECO srl</td>
</tr>
<tr>
<td>MB-Q7-1</td>
<td>Qseven motherboard</td>
<td>TQ-Group</td>
</tr>
<tr>
<td>QSys Mainboard MB-Q7-2</td>
<td>Ultra compact 10x10 cm carrierboard for Qseven modules (x86, Spec 2.0)</td>
<td>TQ-Group</td>
</tr>
</tbody>
</table>
EMBEDDED NUC™

Specifies a new industrial standard for small form-factor PCs inspired by the Intel® NUC systems (NUC: Next Unit of Computing) used in consumer products.

Embedded NUC™ (NUC: Next Unit of Computing) specifies a new industrial standard for small formfactor PCs inspired by the Intel® NUC systems used in consumer products. By adapting the Intel® NUC for industrial applications, a wide range of PC functions in an extremely slim format (circa 10cm x 10cm) can be realized. With its PC power the embedded NUC™ presents a highly attractive solution for industrial applications targeting a wide range of appliances while providing numerous interfaces in a compact format.

The Embedded NUC™ form factor is designed for the embedded market. All embedded NUC™ boards should have an expected product lifetime of 5 years or more after product launch.
The "embedded NUC™" Standard ("embedded Next Unit of Computing") is a versatile small form factor targeting the fast growing markets for multifunctional, small sized and cost effective standardized embedded computer boards.
## Intel Atom

<table>
<thead>
<tr>
<th>Product</th>
<th>Features</th>
<th>Manufacturer</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROFIVE® NUCI</td>
<td>PROFIVE® Single Board Computer NUCI</td>
<td>E.E.P.D. Electronic Equipment Production &amp; Distribution GmbH</td>
</tr>
<tr>
<td>SBC-B68-eNUC</td>
<td>SBC with the Intel Atom® E38xx family, Intel® Celeron® N3350 and Intel® Pentium® N4200 (Apollo Lake) in the embedded NUC form factor</td>
<td>SECO srl</td>
</tr>
<tr>
<td>SBC-A80-eNUC</td>
<td>SBC with the N-series Intel® Pentium® / Celeron® and x5-Series Atom™ SOCs in the embedded NUC™ form factor</td>
<td>SECO srl</td>
</tr>
</tbody>
</table>

## NXP

<table>
<thead>
<tr>
<th>Product</th>
<th>Features</th>
<th>Manufacturer</th>
</tr>
</thead>
</table>

## Carrier

<table>
<thead>
<tr>
<th>Product</th>
<th>Features</th>
<th>Manufacturer</th>
</tr>
</thead>
<tbody>
<tr>
<td>EZ-ROJ-10</td>
<td>EZ-ROJ-10 eNUC SMARC carrier board</td>
<td>ROJ srl</td>
</tr>
<tr>
<td>eNUC-Box</td>
<td>Complete embedded NUC Box-PC with mainboard, housing and cooling solution (active/passive)</td>
<td>iesy GmbH &amp; Co. KG</td>
</tr>
<tr>
<td>MB95 (x86)</td>
<td>Mainboard for embedded NUC suitable for Qseven, SMARC and COM Express Compact modules (x86), available with or without housing &amp; cooling</td>
<td>iesy GmbH &amp; Co. KG</td>
</tr>
</tbody>
</table>

## Cases

<table>
<thead>
<tr>
<th>Product</th>
<th>Features</th>
<th>Manufacturer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schroff Interscale C case</td>
<td>Total conduction cooling solution</td>
<td>Pentair Electronics Protection Schroff GmbH</td>
</tr>
</tbody>
</table>
UNIVERSAL IOT CONNECTOR

Introducing the Universal IoT Connector (UIC), the Standardization Group for Embedded Technologies (SGET) has released the first software-related standard since its inception in 2012.

The Universal IoT Connector architecture consists of three interface descriptions:

First, the HARDWARE access via the Embedded Driver Module (EDM) interface, which controls the connected peripherals and board functions via drivers and provides sensor, actuator or other local information.

Secondly, the CONFIGURATION Interface, which provides an easy mechanism for embedded systems to assign the devices and additional meta information. It regulates which periphery is to be controlled, how raw data is added to information sets and which data is going to be transmitted under what condition to the cloud server.

Last but not least the APPLICATION Interface, responsible for a secure communication channel transferring the device information to the cloud server, which includes sending and receiving of data sets or events.

SGET’s UIC standard offers an open approach to IoT solutions and Industry 4.0 applications in one of the strongest growing markets, with a forecasted €250 billion value by 2020, building on existing structures and maximizing synergies.

What makes UIC stand out as a universal interface?

It is the ability of hardware companies to focus on software support for their devices (EDM) not knowing the cloud solution. It is also simple for software companies to adopt their products without further knowledge of the underlying hardware.

Two implementations on Microsoft Azure with MQTT and XRCE are already available on the market. They demonstrate that all UIC enabled hardware from different SGET members works seamlessly.
SGETe.V. is a technical and scientific association with its registered office in Munich. The purpose of the association is to generate and to promote technical specifications or other work results such as implementation guidelines, software interfaces or system requirements. SGETe.V. has currently well over 50 members, and is constantly growing.