

# Mobile Phone Application Processor IC (Multimedia IC) Industry Report, 2007-2008



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Application processor of a handset is developed for certain specific type of applications of a handset, which can be classified into three types, including an all-round type, a multimedia type and a single-media type. The all-round type has not only the function of a multimedia application processor, but also the ability to run complicated operating system similar to Linux. Vendors of this type include Samsung, ST, TI, Renesas and Marvell. The multimedia type refers to the processors that are capable of processing over two media as usual like image, audio, video and 3D graphics, and most of application processors belong to this type. The single-media type only handles static image or audio, which is not studied in this report.

Emergence of application processor is the outcome of ceaseless innovation and development of mobile phone applications. For the majority of handset manufacturers, they all have rich experience in the design of mobile phone platforms and own intellectual property rights. In early years, those platforms merely served for communication but could do nothing beyond communication. Therefore, application processor came into being. The biggest advantage of application processor lies in its independence from mobile phone communication platform, thus making it flexible and convenient. Also, the design flow is shortened and the existing experiences and IP are brought into full play. Emergence of camera handset has created a great number of application processor producers, specialized in the processing of camera back-end. Baseband vendors as SoC specialists integrated JPEG decoding function of camera back-end into baseband in 1-2 years, resulting in a market downturn for numerous vendors of application processor with JPEG decoding function. However, new application of mobile phone has conducted to another round of usage peak of application processor, and those applications comprise complex operating system, mobile TV, high-quality 3D graphic, 3-megapixel-and-above camera, intelligentization, GPS, high-definition photographing of video flow, etc. Yet, application processor vendors should attend to it that some baseband vendors have integrated the functions supporting 5-mega pixels, 30fps, H.264, MPEG4, H.263 and WMV9 video playing, VGA resolution output and 16-bit color depth into baseband. Those high-performance basebands are expected to be massively applied in mobile phone in 2011, when application processor vendors will face another market downturn.

Presently, there is a design idea, which combines ULC handset design with application processor, in particular the Infineon's ULC handset solutions, indicating an additional huge room for the market of application processor.

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