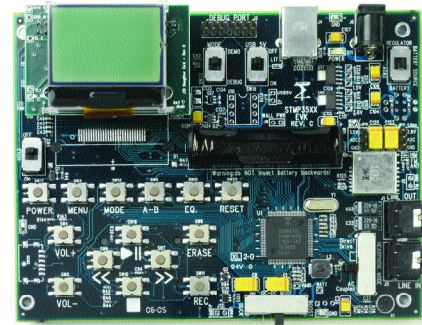## STMP3500 AND 3600 EVK/SDK PLATFORMS

● **EVK PLATFORMS**

— The STMP3500 and STMP3600 Evaluation Platforms (EVK) allows customers to evaluate the SigmaTel platform and firmware in a small battery or USB powered environment. Four versions are available:

- STMP3550 EVK Board
- STMP3560 EVK Board
- STMP3650 EVK Board
- STMP3660 EVK Board

HARDWARE

● **ENGINEERING BOARD**

— The engineering board is the base unit of the SigmaTel Software Development Platform. Engineering boards are offered for both the STMP3500 and STMP3600 series of products and are the mechanism by which you communicate with the following daughter cards:

- CPU Daughter Card
- NAND Daughter Card
- LCD Daughter Card
- MMC/SD Daughter Card
- FM Tuner Daughter Card

● **CPU DAUGHTER CARD**

— The CPU Daughter Card is the mechanism by which you control and customize features of the SigmaTel STMP3500 and STMP3600 series products and is distributed with one of the following central processing units (CPUs):

- STMP3550B 144-pin BGA
- STMP3560B 144-pin BGA (enables MP3 encode)
- STMP3550L 100-pin QFP
- STMP3560L 100-pin QFP (enables MP3 encode)
- STMP3650B 169-pin BGA
- STMP3660B 169-pin BGA (enables MP3 encode)

DEVELOPMENT TOOLS

● **STMP3500**

— The STMP3500 Software Development Platforms ship with Altium® Professional Services Tasking software as well as a BoxView™ DSP debugging toolkit provided by Domain Technologies. The STMP3500 Software Development Platforms contain the following items:

- Tasking software
- BoxView debugger software CD
- C Compiler User's Guide
- BoxView SB–USB emulator box
- 1 USB cable
- Assembler Linker and Utilities User's Guide
- User reference documentation
- 1 OnCE connector and multipurpose screwdriver

● **STMP3600**

— The STMP3600 Software Development Platforms ship with Green Hills® software and hardware tools.

The STMP3600 Software Development Platforms contain the following items:

- MULTI® Integrated Development Environment which includes:
  - Source level debugger
  - Project builder
  - Event analyzer
  - Graphical browser
  - Text editor
  - Version control system
- ThreadX® Real Time Operating System
- Slingshot™ Hardware Debug Device
- User reference documentation, USB cable and multipurpose screwdriver

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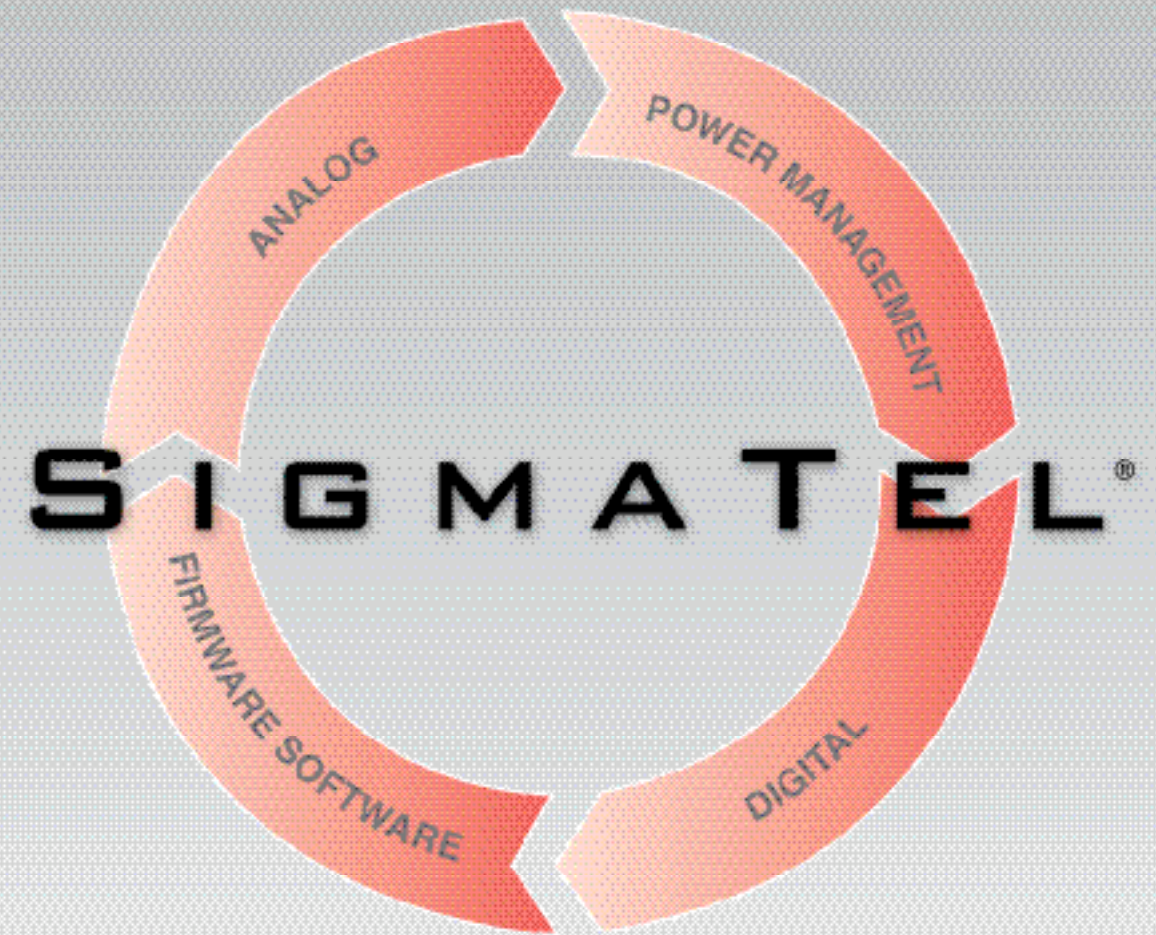
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HARDWARE FEATURES

	STMP3504	STMP3507	STMP3530	STMP3550	STMP3630	STMP3638	STMP3650
ELECTRICAL CHARACTERISTICS							
Core Voltage	1.25 - 1.98	1.25 - 1.98	1.25 - 1.98	1.25 - 1.98	1.25 - 1.98	1.25 - 1.98	1.25 - 1.98
I/O Voltage	2.9 - 3.6	2.9 - 3.6	2.9 - 3.6	2.9 - 3.6	2.9 - 3.6	2.9 - 3.6	2.9 - 3.6
AUDIO SUPPORT							
MPEG-1, layer 3 decode	✔	✔	✔	✔	✔	✔	✔
WMA Decode	✔	✔	✔	✔	✔	✔	✔
WMA Encode					✔	✔	✔
Ogg Vorbis Decode	✔	✔	✔	✔	✔		
Voice Record	✔	✔	✔	✔	✔		✔
MP3 Encode - order part number		STMP3520		STMP3560	STMP3640		STMP3660
VIDEO SUPPORT							
BMP	✔	✔	✔	✔	✔	✔	✔
JPEG	✔	✔	✔	✔	✔	✔	✔
JPEG with simultaneous audio playback					✔	✔	✔
SigmaTel Motion Video (SMV)	✔	✔	✔	✔	✔	✔	✔
WMV						✔	✔
MPEG4						✔	✔
DRM							
PDDRM		✔		✔	✔		✔
WMDRM 10/MTP		✔		✔	✔		✔
USB							
USB 2.0 Full Speed Device	✔	✔					
USB 2.0 High Speed Device			✔	✔	✔	✔	✔
USB 2.0 High Speed Host							✔
USB OTG							✔
USB Mass Storage	✔	✔	✔	✔	✔	✔	
USB Media Transfer Protocol (MTP)		✔		✔	✔		✔
I/O							
LCD, OLED, LED Support	✔	✔	✔	✔	✔	✔	✔
EL Backlight		✔	✔	✔	✔	✔	✔
SPI (master or slave)	✔	✔	✔	✔	✔	✔	✔
Enhanced SPI (master only)	✔	✔	✔	✔	✔	✔	✔
High Speed UART					✔	✔	✔
SDIO Interface					✔	✔	✔
I2C (master or slave)	✔	✔	✔	✔	✔	✔	✔
DAC/Headphone Amp	✔	✔	✔	✔	✔	✔	✔
PWM Controller	✔	x4	x4	x4	x5	x5	x5
DC-DC Converter	x1	x2	x2	x2	x2	x2	x2
Low Resolution ADC	✔	✔	✔	✔	✔	✔	✔
WD Timer	✔	✔	✔	✔	✔	✔	✔
GP Timers (4)	✔	✔	✔	✔	✔	✔	✔
Rotary Decoder		✔			✔	✔	✔
Real Time Clock				✔	✔	✔	✔
Stereo Line-In/ADC	✔	✔	✔		✔	✔	✔
Speaker Amplifier					✔	✔	✔
SPDIF Output					✔	✔	✔
FM Tuner Input	✔	✔	✔	✔	✔	✔	✔
MEMORY SUPPORT							
SLC* NAND Flash Interface	✔	✔	✔	✔	✔	✔	✔
MLC** NAND Flash Interface	✔	✔	✔	✔	✔	✔	✔
SD/MMC Interface	✔	✔	✔	✔	✔	✔	✔
Flash ECC Accelerator	✔	✔	✔	✔	✔	✔	✔
SDRAM Interface				✔+	✔***	✔	✔
NOR Support					✔	✔	✔
Compact Flash - ATA/IDE					✔	✔	✔
BATTERY TYPE SUPPORT							
1xAA, 1xAAA	✔	✔	✔	✔	✔	✔	✔
Lithium Ion 1 Inductor	✔	✔	✔	✔	✔	✔	✔
Lithium Ion 2 Inductor					✔	✔	✔
Battery Charging	✔	✔	✔	✔			
Battery Life (1 AA Cell)	up to 50 hours	up to 50 hours	up to 50 hours	up to 50 hours	over 55 hours	over 55 hours	over 55 hours
Package							
TQFP	100 pin TQFP	100 pin TQFP	100 pin TQFP	100 pin TQFP			
BGA		144 pin BGA	144 pin BGA	144 pin BGA	169 pin BGA	169 pin BGA	169 pin BGA

*SLC = Single Level Cell   **MLC = Multi Level Cell   ***2MB Maximum   +BGA only

PRODUCT NUMBERING

STMP3507AXBAEB6XR

- SigmaTel = ST
- MP3 = MP
- Family of Devices
- Part Number Adder
- Packages
  - 144 BGA = BA
  - 169 BGA = BB
  - 100 TQFP = LA
  - 144 TQFP = LB
- R = tape and reel
- Marketing Designator
  - M = MP3 decode paid
  - N = MP3 decode unpaid
  - X = No designator
- All layer fix
- Simple revision
- E = Environmental (Pb free)
- N = Normal (PB bearing)
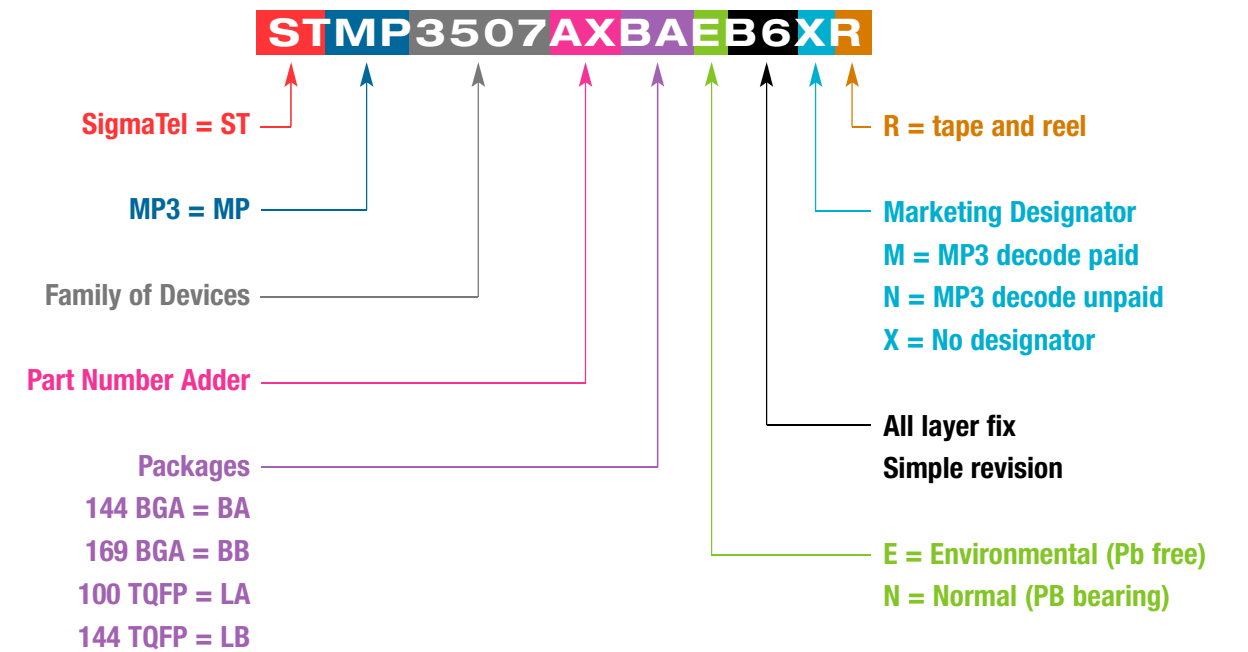
SOFTWARE DEVELOPMENT KIT

	STMP3500 SDK3.2	STMP3600 SDK4.xx
MPEG-1, Layer 3 Decode	✔	✔
MP3 Encoding	✔	✔
WMA Decode	✔	✔
WMA Encode		✔
Ogg Vorbis Decode		✔
PDDRM	✔	✔
WMDRM 10/MTP	✔	✔
Voice Record	✔	✔
Color OLED/LCD	✔	✔
JPEG	✔	✔
JPEG with Concurrent Audio Decode		✔
SigmaTel Motion Video (SMV)	✔	✔
MPEG4 and WMV video decode		✔
USB Mass Storage	✔	✔
Enhanced Alarm/Clock	✔	✔
Real Time Clock	✔	✔
Storage Type		
Small Block SLC NAND		
Large Block SLC NAND	✔	✔
Large Block MLC NAND	✔	✔
SD/MMC Cards	✔	✔
SD/MMC Cards with WMDRM10 Content		✔
Stereo Line-In	✔	✔
FM Tuner		
SigmaTel STFM1000	✔	✔
Lyrics	✔	✔
Meta Data Sorting	✔	✔
Requires SDRAM		✔
Vista™	✔	✔
PlaysForSure 2.2™		✔