

**SONY**<sup>®</sup>

# White paper

May 2012



**XPERIA** acro S  
LT26w

# Purpose of this document

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Sony product White papers are intended to give an overview of a product and provide details in relevant areas of technology.

# Document history

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## Version

|          |                        |           |
|----------|------------------------|-----------|
| May 2012 | First released version | Version 1 |
|----------|------------------------|-----------|

# Sony Mobile Developer World

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For the latest technical documentation and development tools, go to <http://developer.sonymobile.com/wp>.

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# Product overview

## Sony Xperia™ acro S – Experience everything in HD

Happy faces, remarkable places. Shoot them in HD video and see them shine back from the crisp clear HD display. Then move on to a wider world of entertainment. Movies, hit music, PlayStation® games. And don't keep all the fun to yourself.

### See every detail

See every inch of that award-winning actor. Zoom in on every detail of your favourite TV show. Experience videos and photos in deep, vivid, colour on the large, bright 4.3" HD Reality Display with Mobile BRAVIA® Engine. Sharp pictures. No jagged edges. Merely the terrific entertainment in HD.

### Snap your shots in an instant

Some events are too good to miss. Now you don't have to. Start your camera in just over a second. Pointing and shooting takes one second too. And you can keep on shooting. No delays, no missing the subject. Just you capturing that special moment forever. Then share it direct, on Facebook™ or in a message.

### Show it like it is

First day of the summer, last day at the beach. Memories may fade, but Xperia™ acro S keeps them bright. Record it all in HD video with the 12.1 megapixel camera, even in low light. The Exmor R™ for mobile camera sensor lightens up any gloomy day.

### Got it on your smartphone? Share it on your TV

Want to be entertained? Download a movie from Video Unlimited™\*. Connect Xperia™ acro S to an HD TV with an HDMI cable and the TV launcher pops up automatically. Now use your phone to play, fast forward, or enjoy your favourite scene again.

*\*Sony Entertainment Network with Video Unlimited™ and Music Unlimited™ are not available in all markets. Additional charges may apply.*



## Signature features

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The Sony Xperia™ acro S comes with a range of features as standard. Below is a summary of the key signature features.

### **Xperia™ Timescape™**

#### **Communication made easy**

The Timescape™ application manages all your communication with one person in one place. You can effortlessly browse by category your Facebook™ and Twitter™ communications, as well as view your photos. Now everything is all together and in chronological order, so you don't have to open different applications to see what's going on.

### **Xperia™ Infinite button**

#### **Everything you want – from everywhere**

Tap the infinite button in the Timescape™ application and smart filter each category of communication by person. For example, when viewing a text message from a friend in Timescape™, tap the infinite button to view a list of all chat messages with that friend.

### **Xperia™ Local connectivity**

#### **More control over your media**

Using Xperia™ Local connectivity, you can exercise more control over how media files get transferred and stored. For example, you can select MTP mode to transfer files if you want to limit the risk of data corruption or select MSC mode if you want to have more control over the data storage.

### **Xperia™ Home screen application**

#### **The place you call Home**

Customise your Home screen with widgets, shortcuts, folders, themes, wallpaper and other items. Where's best for you? Email top right? Music player bottom left? You decide. With four extensions to your Home screen, you've got plenty of space to put things where you want. Just remember to flick left or right to find them.

## Facts – dimensions, weight, performance and networks

---

|                          |  |
|--------------------------|--|
| <b>Operating system</b>  | Google™ Android™ 4.0 (Ice Cream Sandwich)                  |
| <b>Processor</b>         | 1.5 GHz Qualcomm MSM8260 Dual Core                         |
| <b>GPU</b>               | Adreno™ 220  |
| <b>Size</b>              | 126 x 66 x 11.9 mm   |
| <b>Weight</b>            | 147 grams  |
| <b>Available colours</b> | Black<br>White<br>Pink                                     |
| <b>Main screen</b>       |  |
| Colours                  | 16,777,216 colour TFT                                      |
| Resolution               | 1280x720 pixels  |
| Size (diagonal)          | 4.3 inches   |
| Scratch-resistant        | Shatter-proof sheet on scratch-resistant glass             |
| <b>Input mechanisms</b>  |  |
| Text input               | on-screen 12 key keyboard                                  |
| Touch screen             | Capacitive   |
| Touch gesture            | Yes – multi-touch, up to 10 fingers supported              |
| <b>Memory</b>            |  |
| Internal phone storage   | 16 GB*** (up to 11 GB user-accessible memory)              |
| RAM                      | 1 GB   |
| Expansion slot           | microSD™ card, up to 32 GB                                 |
| <b>Camera</b>            |  |
| Camera resolution        | 12.1 MP  |
| Digital zoom             | 16x  |
| Photo flash              | Yes – Pulsed LED   |
| Video recording          | Yes – HD 1080p   |
| Front Camera             | Yes – HD 720p for video chat and 1.3 MP for camera capture |
| <b>Sensors</b>           |  |
| Accelerometer            | Yes  |
| Proximity sensor         | Yes  |
| Ambient light sensor     | Yes**  |

|                             |  |
|-----------------------------|--|
| Magnetometer                | Yes  |
| Gyroscope                   | Yes  |
| <b>Networks</b>             |  |
| LT26w                       | HSPA+ 850 (Band V), 900 (Band VIII), 1900 (Band II) and 2100 (Band I)<br>GSM 850/900/1800/1900 |
| <b>Data transfer speeds</b> |  |
| GSM GPRS                    | Up to 86 kbps  |
| GSM EDGE                    | Up to 237 kbps   |
| UMTS HSPA cat 6 (upload)    | Up to 5.8 Mbps   |
| UMTS HSPA cat 10(download)  | Up to 14.4 Mbps  |
| <b>Talk time (GSM)</b>      | Up to 6 hours 40 min.*   |
| <b>Standby time (GSM)</b>   | Up to 290 hours*   |
| <b>Talk time (UMTS)</b>     | Up to 7 hours 10 min.*   |
| <b>Standby time (UMTS)</b>  | Up to 310 hours*   |
| <b>Music listening time</b> | Up to 23 hours*  |
| <b>Video playback time</b>  | Up to 6 hours 30 min.*   |
| <b>Embedded Battery</b>     | 1910 mAh typical<br>1840 mAh minimum   |

\*\*\* Some portion of the capacity may be used by pre-installed applications.

\*\* There is no API for the light sensor.

\* Values are according to GSM Association Battery Life Measurement Technique as performed in controlled laboratory conditions. Actual time may vary.

**NOTE:** All performance metrics are measured under laboratory conditions.

**NOTE:** Battery performance may vary depending on network conditions and configurations, and phone usage.

## Categorised feature list

|   |  |  |
|---|--|--|
|  <p><b>Camera</b><br/>           3D Sweep Panorama™<br/>           12.1 megapixel camera<br/>           16x digital zoom<br/>           Auto focus<br/>           Aperture f/2.4<br/>           Exposure value<br/>           Face detection<br/>           Flash/Pulsed LED<br/>           Front-facing camera (1.3 MP)<br/>           Geotagging<br/>           HD video recording (1080p)<br/>           Image stabiliser<br/>           Red-eye reduction<br/>           Send to web<br/>           Self-timer<br/>           Smile detection™<br/>           Sony Exmor R™ for mobile image sensor<br/>           Touch capture<br/>           Touch focus<br/>           Video light<br/>           Video recording<br/>           Video stabiliser<br/>           White balance</p> |  <p><b>Music</b><br/>           Album art<br/>           Bluetooth™ stereo (A2DP)<br/>           Music tones (MP3/AAC)<br/>           PlayNow™ service*<br/>           Walkman Player<br/>           TrackID™ music recognition*<br/>           xLoud™ Experience</p> |  <p><b>Internet</b><br/>           Bookmarks<br/>           Google Maps™ for Mobile with Google Latitude™ and Street View*<br/>           Google Play™<br/>           Google™ search*<br/>           Google Voice™ Search*<br/>           Pan &amp; zoom<br/>           Web browser (WebKit™)</p>   |
|  <p><b>Communication</b><br/>           Call list<br/>           Google Talk2™ application*<br/>           Facebook™ application*<br/>           Noise Suppression<br/>           Polyphonic ringtones<br/>           SIP<br/>           Xperia™ Timescape™<br/>           Speakerphone<br/>           Twitter™ (Timescape™ integration)*<br/>           Vibrating alert</p>   |  <p><b>Messaging</b><br/>           Conversations<br/>           Email<br/>           Google mail™*<br/>           Instant messaging<br/>           Predictive text input<br/>           Sound recorder<br/>           Text messaging (SMS)</p>                     |  <p><b>Design</b><br/>           Auto rotate<br/>           Gesture input<br/>           Gyroscope<br/>           On-screen QWERTY keyboard<br/>           On-screen 12 key keyboard<br/>           HD Reality Display with Sony Mobile BRAVIA® ENGINE<br/>           Screenshot capturing<br/>           Touch screen<br/>           Dustproof (IP5X) and Water resistant (IPX5/7)<br/>           Wallpaper<br/>           Wet finger tracking</p> |

|  |   |   |
|--|---|---|
|  <p><b>Entertainment</b><br/>         3D games<br/>         Media browser<br/>         Motion gaming<br/>         PlayStation® Certified<br/>         Radio (FM radio with RDS)<br/>         Sony Entertainment Network*<br/>         TV launcher<br/>         Video streaming<br/>         YouTube™*</p> |  <p><b>Organiser</b><br/>         Alarm clock<br/>         Airplane mode<br/>         Calculator<br/>         Contacts<br/>         Document readers<br/>         eCompass™<br/>         Infinite button<br/>         OfficeSuite Pro<br/>         Setup guide<br/>         Widget manager</p> |  <p><b>Connectivity</b><br/>         3.5 mm audio jack (CTIA)<br/>         aGPS*<br/>         Bluetooth™ wireless technology<br/>         DLNA Certified®<br/>         GLONASS*<br/>         HDMI support<br/>         Media Transfer Protocol support<br/>         Micro USB support<br/>         Native USB tethering<br/>         NFC**<br/>         PC Companion<br/>         Synchronisation via Microsoft®<br/>         Exchange ActiveSync®<br/>         USB mass storage<br/>         USB High speed 2.0 support<br/>         Wi-Fi®<br/>         Wi-Fi® Hotspot functionality</p> |
|--|---|---|

\* This service is not available in all markets.

\*\* Not available for payments.

# Technologies in detail

**NOTE:** The information outlined below is general and levels of compliance to standards and specifications may vary between products and markets. For more information, contact Sony Mobile Developer World or your Sony contact person where applicable.

## Device-to-device communications (local)

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### Bluetooth™ wireless technology

|  |  |
|--|--|
| Bluetooth™ profiles supported            | Advanced Audio Distribution Profile v1.2<br>Audio/Video Remote Control Profile v.1.0<br>Handsfree Profile v1.5<br>Headset Profile v1.1<br>Object Push Profile v1.1<br>Phonebook Access Profile v1.0<br>Serial Port Profile v1.1<br>Personal Area Network Profile v1.0<br>Human Interface Device Profile v1.1<br>Health Device Profile v1.0 |
| Core version and supported core features | BT3.0  |
| Connectable devices                      | Products supporting at least one of the profiles above.  |

More information:

<http://developer.sonymobile.com/wp>

[www.bluetooth.com](http://www.bluetooth.com)

**Wi-Fi®**

|                     |   |
|---------------------|---|
| Supported standards | IEEE 802.11b/g/n and Wi-Fi®   |
| Connectable devices | Wi-Fi® access points  |
| Frequency band      | 2.4 GHz   |
| Data transfer rate  | Up to 72 Mbit/s   |
| Security            | WEP 64 bit<br>WEP 128 bit<br>TKIP<br>CCMP (AES)<br>Open Authentication<br>Shared Authentication<br>EAP-SIM<br>EAP-TLS<br>EAP-TTLS/MSCHAPv2<br>PEAPv0/EAP-MSCHAPv2<br>PEAPv1/EAP-GTC<br>WPA Personal and WPA2 Personal<br>WPA Enterprise and WPA2 Enterprise |
| Encryption          | WEP, TKIP and AES   |
| Power save          | WMM-UAPSD<br>QoS, WMM   |
| Auto setup          | WPS   |

## DLNA Certified® (Digital Living Home Alliance)

|                          |  |
|--------------------------|--|
| Supported Device Classes | <p><b>M-DMS – Mobile Digital Media Server</b><br/>Media Types: images, video and music<br/>Summary: The digital media server exposes the media files in your phone to a Wi-Fi® network. The files can then be accessed from other DLNA Certified® clients.</p> <p><b>+PU+</b><br/>Media Types: image, video and music<br/>Summary: Play media in the phone on another device, such as a TV or computer using 2-box push technology. +PU+ is integrated into the Gallery and Music applications.</p> <p><b>M-DMP – Mobile Digital Media Player</b><br/>Media Types: image, video and music<br/>Summary: Play content stored on another device, for example, a server or a PC, directly on the phone.</p> <p><b>+DN+</b><br/>Media Types: image, video and music<br/>Summary: Download content stored on another device, for example, a server or a PC, and play the downloaded content directly on the phone.</p> |
| Supported Bearers        | Wi-Fi®   |
| DRM Support              | The Sony DLNA Certified® implementation does not support DRM-protected content.  |

## Messaging

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### MMS (Multimedia Messaging Service)

According to OMA Multimedia Messaging Service v1.0 + SMIL

### Email

|                  |   |
|------------------|---|
| Bearer type (IP) | GPRS, EGPRS, UMTS   |
| Character sets   | BIG5 Traditional Chinese<br>GB18030<br>ISO-2022-JP Japanese<br>ISO-8859-1<br>ISO-8859-2 Eastern Europe<br>ISO-8859-5 Cyrillic<br>ISO-8859-7 Greek<br>ISO-8859-9 Turkish<br>ISO 8859-11<br>KOI8-R Cyrillic<br>Shift_JIS Japanese<br>USASCII<br>UTF-16<br>UTF-8<br>Windows® 874<br>Windows® 1251 Cyrillic<br>Windows® 1252<br>Windows® 1254 Turkish<br>Windows® 1258 Vietnamese |
| Protocols        | POP3 and IMAP4  |
| Push email       | Microsoft® Exchange ActiveSync® (EAS)   |
| Secure email     | SSL/TLS, both port methods (POPS/IMAPS) and START-TLS   |
| HTML mail        | Yes (read only)   |

#### More information:

<http://developer.sonymobile.com/wp>

[www.openmobilealliance.org](http://www.openmobilealliance.org)

## Positioning – location based services

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Supported standards:

- OMA Secure User Plane Location (SUPL) v1.0
- 3GPP™ Control Plane location (including Emergency location)
- Qualcomm® GPSTOneXTRA™

Supported satellite systems:

- GPS
- GLONASS\*

\* **NOTE:** GPS and GLONASS are used together to calculate the position. Positioning is more robust and accurate in most conditions, if both systems are active. The benefits of using GLONASS are automatically available for all applications using the Satellite Positioning API ("GPS Provider" in Android terminology).

## Provisioning (OMA CP)

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OMA CP version 1.1

## Multimedia (audio, image and video)

|                        |   |   |
|------------------------|---|---|
| <b>Audio Playback</b>  | <b>Decoder format</b>   | <b>Supported in file format</b>           |
|                        | Audio decoding MPEG-1/2/2.5, audio layer 3                                    | MP3 (.mp3), 3GPP (.3gp), MP4 (.mp4, .m4a) |
|                        | AAC, AAC+, eAAC+  | 3GPP (.3gp), MP4 (.mp4)                   |
|                        | AMR-NB, AMR-WB  | 3GPP (.3gp), MP4 (.mp4)                   |
|                        | General MIDI (GM)   | SMF (.mid)                                |
|                        | Linear PCM 16bit  | WAV (.wav)                                |
|                        | OTA   | OTA (.ota)                                |
|                        | Ogg vorbis  | Ogg vorbis (.ogg)                         |
|                        | PIFF  | PIFF (.isma)                              |
|                        | FLAC  | FLAC (.flac)                              |
| <b>Audio Recording</b> | <b>Encoder format</b>   | <b>Supported in file format</b>           |
|                        | AMR-NB, AMR-WB  | 3GPP (.3gp)                               |
|                        | AAC-LC stereo, sample rate 48 kHz bit rate up to 384 kbps                     | 3GPP (.3gp, .3gpp)<br>MP4 (.mp4, .m4a)    |
| <b>Image Playback</b>  | <b>Decoder format</b>   | <b>Supported in file format</b>           |
|                        | 1, 4, 8, 16, 24 and 32 bpp and RLE encoded formats                            | BMP (.bmp)                                |
|                        | Single and multi-frame, bitmap mask support (GIF87a format and GIF89a format) | GIF (.gif)                                |
|                        | Joint Photographic Experts Group  | JPEG (.jpg)                               |
|                        | Portable Network Graphics Bitmap mask support                                 | PNG (.png)                                |
| <b>Image Capture</b>   | <b>Encoder format</b>   | <b>Supported in file format</b>           |
|                        | Joint Photographic Experts Group  | JPEG (.jpg)                               |
| <b>Video Playback</b>  | <b>Decoder format</b>   | <b>Supported in file format</b>           |
|                        | MPEG-4 Visual Simple Profile Level 6, Advanced Simple Profile Level 5         | 3GPP (.3gp), MP4 (.mp4)                   |
|                        | H.264 Baseline/Main/High Profile Level 4                                      | 3GPP (.3gp), MP4 (.mp4)                   |
|                        | H.263 Profile 0, Profile 3 Level 70   | 3GPP (.3gp)                               |
|                        | VP8   | WebM (.webm)                              |
|                        | PIFF  | PIFF (.ismv)                              |

| <b>Video Recording</b>       | <b>Encoder format</b>  | <b>Supported in file format</b>           |
|------------------------------|--|---|
|                              | Video H.263 Profile 0, H.264 Baseline Profile<br>Audio: AAC-LC stereo, sample rate 48 kHz, bit rate 128 kbps, AMR-NB | 3GPP (.3gp), MP4 (.mp4)                   |
| <b>Audio/Video Streaming</b> | Streaming transport  | RTSP according to 3GPP™<br>HTTP streaming |
| <b>DRM</b>                   | DRM (Digital Rights Management) – features the rights and copy protection of downloaded content                      | OMA DRM 1.0<br>Marlin DRM<br>PlayReady™   |

## **Synchronisation (OMA DS, EAS, Google Sync™)**

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OMA Data Synchronisation protocol versions 1.1.2 and 1.2

OMA Data Formats: vCard 2.1, vCalendar 1.0

Microsoft® Exchange ActiveSync® protocol version 2.5

Microsoft® Exchange ActiveSync® protocol version 12

Microsoft® Exchange ActiveSync® protocol version 12.1

Google Sync™

Related information:

<http://developer.sonymobile.com/wp>

## Web browser

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|                      |   |
|----------------------|---|
| Browser version      | Android 4.0 Browser (Based on WebKit™)  |
| Browser Application  | Bookmark synch<br>Desktop mode<br>Full-page PC rendering<br>Internet search<br>Landscape/portrait rendering<br>Off-line reading<br>Pan & Zoom   |
| Browser compliancy   | CSS 2.0<br>CSS 2.1<br>CSS 3.0<br>DOM 2.0<br>DOM 3.0<br>HTML version. 4.0<br>HTML version. 5.0<br>JavaScript 1.7/ECMA-script 262 3rd edition<br>WebGL 1.0<br>XHTML Basic version 1.0<br>XHTML 1.1<br>SVG 1.1 |
| Supported Device API | Geo-location API<br>Device orientation API<br>File reader API<br>Touch events API (including multi-touch)   |
| Protocol compliancy  | Gzip<br>HTTP/1.1<br>OMA Download 1.0<br>TLS 1.0 and SSL 3.0   |

Related information:

<http://developer.sonymobile.com/wp>

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