XPERIA acro

IS11S

Sony Ericsson
make.believe ™

Purpose of this document

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

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Document history

Version		
May 2011	First released version	Version 1

Sony Ericsson Developer World

For the latest Sony Ericsson technical documentation and development tools, go to *www.sonyericsson.com/developer.*

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Product overview

Xperia™ acro – That's Entertainment

Get entertained through the Xperia™ acro. Snap those special moments, share them with your family and friends. Enjoy some time for yourself. Real life experience with wider than before images. Xperia™ acro is the most entertaining Smartphone to hit Japan.

Try Widescreen for a Change

Shoot cherry blossoms in natural colours in spring. Record those joyous moments in HD even in low light, which is beautifully enhanced by the technology, "Exmor R for mobile" and gaze in wonder when you replay it on the crystal clear multi-touch 4.2 inches Reality Display driven by Sony Mobile BRAVIA® Engine. The images are further enhanced by the clear black front panel wrapped in the classy form of the Xperia™ acro. If that is not enough, try the HDMI and connect to your TV for even bigger viewing.

The Japanese touch

Stay tuned to the latest news or your favorite program even when you are away from home on the 1 seg TV. Share your personal information by IrDA with friends and use the convenient FeliCa application for all your financial transactions. Xperia™ acro will touch the life of every Japanese user.

Mind-Boggling applications

With the Android OS ver.2.3 on Xperia™ acro, you can enjoy many Google's services and applications. Download free and paid applications from over 100,000 apps from Android Market™. You can get whatever you want for whatever to make you smile.

High Speed Action

Sony Ericsson UX is classic. Timescape - a very convenient application which shows SNS conversation and if you have missed that call from your girl friend or boss. Get easy access to your favorite applications and widgets on the home screen. GSM and CDMA dual roaming are available on Xperia acro IS11S and with MC.RevA enables high speed internet.

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Facts – dimensions, weight, performance and networks

Operating system	Google™ Android™ 2.3 (Gingerbread)
Processor	1 GHz Qualcomm MSM8655
GPU	Adreno 205
Size	127 x 63 x 11.8 mm
Weight	135 grams
Available colours	Black White Ruby
Main screen	
Colours	16,777,216 colour TFT
Resolution	854 x 480 pixels
Size (diagonal)	4.2 inches
Scratch-resistant	Shatter proof sheet on Scratch-resistant glass
Input mechanisms	
Text input	PO Box Touch (Japanese)
Touch screen	Capacitive (multi-touch)
Touch gesture	Yes, multi-touch
Memory	
Internal phone storage	1 GB (up to 320 MB user free memory)
RAM	512 MB
Expansion slot	microSD™, up to 32 GB
Camera	
Camera resolution	8.1 megapixel
Digital zoom	Up to 16x
Photo flash	Yes, LED
Video recording	Yes, HD 720p

Sensors	
Accelerometer	Yes
Proximity sensor	Yes
Ambient light sensor	Yes
Magnetometer	Yes
Networks	
IS11S	CDMA 2000 BC0/3/6 GSM 850/900/1800/1900
Data transfer speeds	
EV-DO Rev.A+	Up to 9.2Mbps (download). Up to 5.5Mbps (upload)
Talk time (GSM)	7 hours
Standby time (GSM)	380 hours
Talk time (CDMA 2000)	9 hours 50 mins
Standby time (CDMA 2000)	310 hours
Talk time (JCDMA)	8 hours
Standby time (JCDMA)	290 hours
Battery	1500 mAh

Talk time/Standby time(GSM/CDMA2000) is according to KDDI measurement conditions.

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

Application overview list

Sony Ericsson signature applications
Sony Ericsson Home application
Sony Ericsson Music Player
Sony Ericsson Timescape™

Sony Ericsson services
PlayNow™ service *
TrackID™ application
Sony Ericsson Local Connectivity

Open Handset Alliance™ applications
Alarm clock
Browser
Calculator
Calendar
Settings
Email
Google Mail™
Google Latitude™*
Google Voice™ Search*
Navigation
Google Places
Google Maps™ with Street View*
Android Market™**
Google Search
YouTube
Google Talk™*
Downloads
News & Weather
Telephony
Clock
Google Gallery 3D *

Other applications
Facebook™ *
PC Companion
OfficeSuite Pro
E-manual
Jibe
Skype™
au One

The service is not available in all markets.

Full feature list

1. Signature features

Sony Ericsson Timescape™

The place to meet your friends

The Timescape™ application manages all your communication with one person in one place. Browse through your conversations the bright way to check out your Facebook™, MySpace™, Twitter™, photos, emails, and texts. Now they're all kept together so you don't have to open loads of different applications to see what's going on.

Infinite button

Everything you want – from everywhere

Find out all about your friends in a flash. Press the infinite button in the Timescape™ application and smart filter everything that's going on with each person.

Sony Ericsson Local connectivity

A great experience of transferring media files

Get a great experience of transferring media file. In Sony Ericsson Local connectivity, you can choose between USB mass-storage device class (MSC) mode and Media Transfer Protocol (MTP) mode. You may either choose MSC mode to have absolute control of the storage or you may choose MTP mode to focus on transferring media files without risk of data corruption. Experience more with MTP via USB cable.

Sony Ericsson Home screen application

Your home screen – just like home

Where's best for you? Email top right? Music player bottom left? You decide. Put your favourites in thumb's reach. Use the unique touchscreen interface to drag 'n drop the icons into the corners of your home screen. Messages. Calls. Web. Music. YouTube™**. Your favourite apps from Android Market™* or the PlayNow™ service**. What you want, where you want.

Applications in the Android Market™ varies widely in size, from less than 100 KB for small utilities to 3-4 MB for full games, music player applications, or other major offerings. The average size, if a representative selection of useful and fun applications are selected, is about 1 MB. This mean that on average, more than 100 applications can be downloaded and used without problems. With the ready availability of Android Market™ in the phone, it is also very easy to delete and later reinstall infrequently used applications.
***The service is not available in all markets.*

2. Categorised features

Camera

8.1 megapixel camera
16x digital zoom
Aperture f/2.4
Auto focus
Face detection
Flash / LED
Geo tagging
HD video recording (720p)
Image stabiliser
Red-eye reduction
Scene recognition
Self-timer
Send to web
Smile detection
Sony Exmor R™ CMOS sensor
Touch capture
Touch focus
Video light
Video recording
Video stabiliser

Music

Album art
Bluetooth™ stereo (A2DP)
Music tones (MP3/AAC)
PlayNow™ service *
Sony Ericsson Music Player
TrackID™ music recognition
application

Internet

Android Market™**
au One
Bookmarks
Google™ search*
Google Voice™ Search*
Pan & zoom
Web browser (WebKit)
Web Filtering

Entertainment

3D games
Digital TV (1seg)
Media browser
Motion gaming
Radio (FM radio with RDS)
Video streaming
YouTube™*

Messaging

C-mail
Email
Google Mail™*
Instant messaging
Predictive text input
Sound recorder

Design

Auto rotate
Keyboard (onscreen, QWERTY)
Picture wallpaper
Reality display with Sony Mobile
BRAVIA® Engine
Touchscreen
Wallpaper animation

* The service is not available in all markets.
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Communication
Call list
Call Waiting
Facebook™ application*
GlobalPassport CDMA/GSM
Google Talk™*
Jibe
Noise suppression
Polyphonic ringtones
SIP
Sony Ericsson Timescape™
Speakerphone
Three-Way Calling Service
Twitter™ (Timescape™ integration)
Skype™
Vibrating alert

Organiser
Alarm clock
Calculator
Calendar
OfficeSuite Pro
E-Manual
FeliCa
Flight mode
Google Calendar™*
Google Gallery 3D™*
Infinite button
Phone book
Setup Wizard
Widget manager

Connectivity
3.5 mm audio jack
aGPS
Bluetooth™ technology
DLNA
Google Latitude™*
Google Maps™ with Street View*
HDMI support
IrDA
Media Transfer Protocol support
Micro USB support
Modem
PC Companion
Synchronisation via Facebook™
Synchronisation via Google Sync*
Synchronisation: Exchange ActiveSync®
USB mass storage
USB High speed 2.0 support
Wi-Fi™

** The service is not available in all markets.

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 Ericsson Developer World or your Sony Ericsson contact person where applicable.

Device-to-device communications (local)

Bluetooth wireless technology

Bluetooth™ profiles supported	Advanced Audio Distribution Profile v1.2 Audio/Video Remote Control Profile v.1.0 Handsfree Profile v1.5 Headset Profile v1.1 Object Push Profile v1.1 Phonebook Access Profile v1.0 Serial Port Profile v1.1
Core version and supported core features	2.1+EDR
Connectable devices	Products supporting at least one of the profiles above.

More information:

www.sonyericsson.com/developer

www.bluetooth.com

IrDA

Supported standards	IrReady
Data transfer rate	IrDA SIR : up to 115.2 kbps
Maximum transfer data size	Up to 2MB

Communication Data	
Send Data	**Comment**
Contacts (include MyProfile)	Contacts is supported one or all data transfer.
Picture	Support format is followed Android standard. (vNote format is not supported.)

Movie	Support format is followed Android standard. (vNote format is not supported.)
Music	Support format is followed Android standard. (vNote format is not supported.)
Receive Data	**Comment**
All contents can be received.	vNote format is not supported. Contents with non supported format are stored in SD.

FeliCa

Mobile FeliCa Client	Ver 2.0.0
Card mode	Yes
R/W	Yes (Internal card / External card)
Ad-hoc	Yes
FALP	Yes

Wi-Fi™

Wi-Fi™ is a popular wireless networking technology that uses radio waves to provide wireless high-speed Internet and network connections. Wi-Fi hotspots exist in an increasing number of locations e.g airports, hotels, cafés and bistros. Mobile phones that support Wi-Fi can facilitate high data transfer rates and lower calling costs.

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 WPA Personal and WPA2 Personal WPA Enterprise and WPA2 Enterprise EAP methods: EAP-TLS EAP-TTLS/MSCHAPv2 PEAPv0/EAP-MSCHAPv2 PEAPv1/EAP-GTC
Encryption	WEP 64 bit, WEP 128 bit, TKIP and AES (CCMP)
Power save	WMM-UAPSD QoS, WMM

DLNA (Digital Living Network Alliance)

DLNA is a term used to describe an inter-device media transfer technology. Designed to allow an array of devices in the home to communicate and share content and experiences. DLNA devices can include Wi-Fi equipment, TVs and PCs.

Supported Device Classes	M-DMS – Mobile Digital Media Server Media Types: Images Summary: The digital media server exposes the media files in your phone to a Wi-Fi™ network. The media can then be accessed from other DLNA clients.
Supported Bearers	Wi-Fi™
DRM Support	The Sony Ericsson DLNA implementation does not support DRM protected content.

Messaging

Email

Bearer type (IP)	CDMA2000 1x, EVDO
Character sets	BIG5 Traditional Chinese GB2312 Simplified Chinese ISO-2022-JP Japanese ISO-8859-1 ISO-8859-2 Eastern Europe ISO-8859-5 Cyrillic ISO-8859-7 Greek ISO-8859-9 Turkish ISO 8859-11 KOI8-R Cyrillic Shift_JIS Japanese USASCII UTF-16 UTF-8 Windows® 874 Windows® 1251 Cyrillic Windows® 1252 Windows® 1254 Turkish 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:

www.sonyericsson.com/developer

www.openmobilealliance.org

Positioning – location based services

Supported standards:

OMA Secure User Plane Location (SUPL) v1.0

3GPP™ Control Plane location (incl. Emergency location)

Qualcomm® GPSOneXtra

Provisioning (OMA CP)

OMA CP version 1.1

Multimedia (audio, image and video)

Audio Playback	**Decoder format** Audio decoding MPEG-1/2/2.5, audio layer 3 AAC, AAC+, eAAC+ AMR-NB, AMR-WB Standard MIDI File Linear PCM 16bit Ogg vorbis	**Supported in file format** MP3 (.mp3) , 3GPP (.3gp); MP4 (.mp4, .m4a) 3GPP (.3gp) MP4 (.mp4) 3GPP (.3gp) MP4 (.mp4) SMF (.mid) WAV (.wav) Ogg vorbis (.ogg)
Audio Recording	**Encoder format** AMR-NB: mono, sample rate 8 kHz bit rate 4.75kbps-12.2kbps AMR-WB: mono, sample rate 16kHz bit rate 6.60 kbit/s to 23.85 AAC-LC: stereo, sample rate 48 kHz bit rate 128 kbps	**Supported in file format** 3GPP (.3gp), MP4 (.mp4), AMR(.amr) 3GPP (.3gp), MP4 (.mp4)
Image Playback	**Decoder format** 1, 4, 8, 16, 24 and 32 bpp and RLE encoded formats GIF87a, GIF89a Joint Photographic Experts Group Portable Network Graphics Bit-map mask support	**Supported in file format** BMP (.bmp) GIF (.gif) JPEG (.jpg) PNG (.png)
Image Capture	**Encoder format** Joint Photographic Experts Group	**Supported in file format** JPEG (.jpg)
Video Playback	**Decoder format** MPEG-4 Visual Simple Profile Level 6 H.264 Baseline Profile/Main Profile/High Profile Level 3.2 H.263 Profile 0 Level 70	**Supported in file format** 3GPP (.3gp); MP4 (.mp4) 3GPP (.3gp); MP4 (.mp4) 3GPP (.3gp)
Video Recording	**Encoder format** - Video: H.264 Baseline Profile - Audio: AAC-LC stereo, sample rate 48 kHz bit rate 128 kbps	**Supported in file format** MP4 (.mp4)
Audio/Video Streaming	Streaming transport	RTSP according to 3GPP™ HTTP streaming
DRM	DRM (Digital Rights Management) — features the rights and copy protection of downloaded content.* *Separate delivery is not supported.	OMA DRM 1.0

Digital TV (1seg)

Data Broadcating	Support
Caption	Support
Recording	Not support
Viewing reservation	Not support
Recording reservation	Not support
G-Guide application	Not support
Note	No audio output via Bluetooth A2DP profile, because the Bluetooth function does not support SCMS-T.

* The service is not available in all markets

Synchronisation (OMA DS, EAS, Google Sync™)

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

Google Sync™

Related information:

www.sonyericsson.com/developer

Web browser

Browser version	Android 2.3 Browser (Based on WebKit)
Navigation/rendering	Pan & Zoom Landscape/portrait rendering Full page PC rendering Adobe™ Flash™ 10.1
Search	Internet Search
Browser compliancy	HTML version 4.0 HTML version 5.0 XHTML Basic version 1.0 XHTML 1.1 CSS 2.0 CSS 2.1 CSS 3.0 JavaScript 1.7/ECMA-script 262 3rd edition DOM 2.0 DOM 3.0
Supported Device API	Geo-location API
Protocol compliancy	HTTP/1.1 TLS 1.0 and SSL 3.0 Gzip

Related information:

www.sonyericsson.com/developer

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