XPERIA™
X2

White paper
X2, X2a

October 2009

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.

Document history

Version		
September 2009	First released version	Revision 1
October 2009	Second released version	Revision 2

Sony Ericsson Developer World

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Table of contents

Product overview

Xperia™ X2: Make a day at the office a walk in the park

Find more friends on Facebook™. Check out the news on CNN – or buzz your mates on Skype™. Connect, communicate, have fun – the way you want to with Xperia™ X2 and flexible panels. How do you want to play today? Personalize your panels the way you want them, and download many more from the web. With Xperia™ X2 you'll find living surprisingly less work.

How's business?
Pull Xperia™ X2 out of your pocket and find out directly. One touch on SlideView and you see directly who's trying to grab your attention. Your mails, calendar, contacts, tasks and notes are instantly updated so you never miss a trick –or a deal. Download attachments, rework then resend from wherever you are.

Pitch it perfect
Fatigue in your thumbs? Stay in touch with your customers the easy way. Use the full-touch display, or the QWERTY keyboard for messaging without the mess. And wouldn't your pitches be even more perfect when you deliver them direct from your phone to a projector via the TV out? We even added the cable.

Fancy a film at the takeout?
Watch your favourite clips shine off the 3.2" DVD quality high-resolution screen. Or snap the action when the party's in full swing. One press to the web and your friends will be crawling with envy when they see your shots from the 8.1 megapixel camera. Going out? Working out? Or fancy a film at the takeout? Enjoy all the latest applications and content direct from PlayNow™.

Xperia™ X2 panel interface

The Xperia™ panel interface gives you one-touch access to several desktop interfaces. For business or pleasure, use the Xperia™ panels to enjoy multimedia and working efficiency on the go.
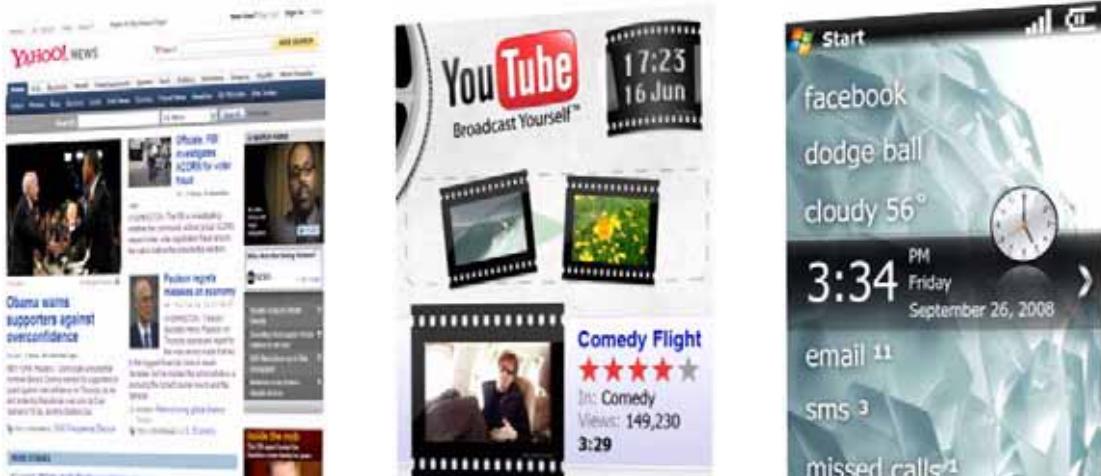
Facts – dimensions, weight, performance and networks

Size	110 x 54 x 16 mm
Weight	155 grams
Available colours	Elegant Black Modern Silver
Main screen	
Colours	65,536 colour
Resolution	480x800 pixels (WVGA) TFT
Size (diagonal)	3.2 inches
Memory	
Available user flash	Up to 110 MB
Total flash	512 MB
RAM	288 MB
Memory card support	microSD™ and microSDHC support
Networks	
Xperia™ X2	UMTS HSPA 900 (Band VIII), 1900 (Band II), 2100 (Band I) GSM GPRS/EDGE 850, 900, 1800, 1900
Xperia™ X2a	UMTS HSPA 850 (Band V), 1900 (Band II), 2100 (Band I) GSM GPRS/EDGE 850, 900, 1800, 1900
Data transfer speeds	
GSM GPRS	Up to 85 kbps (downlink) Up to 42 kbps (uplink)
GSM EDGE	Up to 225 kbps (downlink) Up to 112 kbps (uplink)
UMTS HSPA (upload)	Up to 2 Mbps (uplink, HSUPA, cat 5)
UMTS HSPA (download)	Up to 7.2 Mbps (downlink, HSDPA, cat 8)
Talk time (GSM)	Up to 10 hours
Standby time (GSM)	Up to 500 hours
Talk time (UMTS)	Up to 6 hours
Standby time (UMTS)	Up to 300 hours
Music listening time	Up to 20 hours
Battery	1500mAh Lithium Polymer

Full feature list – categorized list of features

Camera
8.1 megapixel camera
16x digital zoom
Auto focus
Geo tagging
Image stabilizer
Multishot
Picture blogging
Self timer
Smart contrast
Touch focus
Video blogging
Video light
Video recording

Music
Album art
Bluetooth™ stereo (A2DP)
Equalizer
Sony Ericsson media player
Music tones (MP3/AAC)
PlayNow™
Stereo speakers
Windows Media® Player Mobile

Web
Bookmarks
Google™ search
Internet Explorer® Mobile
Pan & zoom
Web feeds
HTML 4.01
XHTML 1.1

Voice
Call list
Conference calls
Polyphonic ringtones
Speakerphone
Vibrating alert

Messaging
Conversational messaging
Email
Microsoft Exchange ActiveSync®
Handwriting recognition
Instant messaging
Picture messaging (MMS)
Predictive text input
Sound recorder
Text messaging (SMS)
Unified SMS/MMS messaging
composer

Design
Windows Mobile® 6.5
Auto rotate
Media browser
Optical joystick
Picture wallpaper
QWERTY keyboard
Touchscreen
Wallpaper animation
Flight mode

Entertainment
3D games
Capuchin version 1.0
Adobe ™ Flash Lite™ 3.1 support
Java™
Motion gaming
Video streaming
Video viewing
YouTube™

Organiser
Alarm clock
Calculator
Calendar
Adobe PDF reader
Microsoft Office® mobile
Notes
Outlook® Mobile
Phone book
Tasks

Connectivity
3.5 mm audio jack
A-GPS
Bluetooth™ technology
Google Maps™
Micro USB connector
Modem
Synchronisation
TV out
USB support
Wi-Fi™

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 Developers World or your Sony Ericsson contact person where applicable.

Windows mobile support

Windows Mobile 6.5 Professional	Microsoft Outlook Mobile Microsoft Office Mobile: Word, Excel, PowerPoint® and OneNote Microsoft Internet Explorer Mobile Windows Media Player 10 Mobile Windows Live™ ActiveSync client File Explorer Direct Push email MSFT Voice command
Platform components	.NET CF v2, SQL CE Windows Mobile Marketplace Windows Mobile Update

Device-to-device communications (local)

Bluetooth™ wireless technology

Bluetooth™ 2.1 profiles supported	Advanced Audio Distribution Profile Audio/Video Remote Control Profile Generic Access Profile Generic Audio/Video Distribution Profile Generic Object Exchange Profile Handsfree Profile Headset Profile Object Push Profile Personal Area Networking Profile Phonebook Access Profile Serial Port Profile Sony Ericsson Watch Profile ActiveSync over Bluetooth
Core version and supported core features	2.1+EDR
Connectable devices	All products supporting Bluetooth spec. 1.1, or higher, and at least one of the profiles above

More information: *www.sonyericsson.com/developer*

www.bluetooth.com

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. If a mobile phone supports Wi-Fi™, it can be used to utilize high data transfer rates and lower calling costs.

Supported standards	Wi-Fi™ certified Support: 802.11g/802.11b
Connectable devices	Wi-Fi™ access points Wi-Fi™ ad-hoc mode
Frequency band	2.4 GHz
Data transmission rate	Up to 54 Mbits/s
Security	Open Open WEP Shared WEP WPA Personal and WPA2 Personal WPA Enterprise and WPA2 Enterprise WAPI
Encryption	TKIP and AES

Messaging

(MMS) Multimedia Messaging Service
According to OMA Multimedia Messaging Service v1.2 + SMIL

Email

Bearer type (IP)	GSM Data (IP) GPRS and HSCSD
Character sets	USASCII UTF-7 UTF-8 UTF-16 UTF-17LE UTF-16BE UCS-2 / ISO10646 UCS2 ISO-8859-1 ISO-8859-2 Eastern Europe ISO-8859-5 Cyrillic ISO-8859-7 Greek ISO-8859-9 Turkish ISO-8859-10 Nordic ISO-8859-11 Thai ISO-8859-15 Western MR5 KOI8 GB18030 Simplified Chinese GB2312 Simplified Chinese BIG5 ISO2022JP Windows 1251 Cyrillic Windows 1252 Windows 1254 Turkish Windows 1255 Hebrew Windows 1258 Vietnamese Shift JIS Note: GB2312 is only available in Simplified Chinese variants only, that is, Mainland China variants. BIG5 is only available in Traditional Chinese variants, that is, Hong Kong and Taiwan variants.
OTA provisioning solution	OMA Client Provisioning 1.1
Protocols	POP3, SMTP, IMAP4 and Microsoft Exchange
Push email	IMAP IDLE (extension of IMAP4 Rev1), OMA Email Notification 1.0 and scheduled checking, Exchange Active-Sync® (EAS)
Secure email	SSL/TLS, both port methods (POPS/IMAPS) and START-TLS
HTML mail	Yes

More information:

www.sonyericsson.com/developer

www.openmobilealliance.org

Java™

Java™ Platform, Micro Edition	JSR-75 PDA Optional Packages for J2ME™ JSR-118 MIDP 2.1 JSR-120 Wireless Messaging API JSR-135 Mobile Media API 1.1 JSR-139 CLDC 1.1 JSR-172 J2ME™ Web Services Specification JSR-177 Security and Trust Services API for J2ME™ JSR-179 Location API for J2ME JSR-184 Mobile 3D Graphics API for J2ME™ JSR-185 Java™ Technology for the Wireless Industry JSR-205 Wireless Messaging API 2.0 JSR-211 Content Handler API JSR-234 Advanced Multimedia Supplements JSR-238 Mobile Internationalization API JSR-248 Mobile Services architecture JSR-256 Mobile Sensor API (accelerometer) Nokia UI Extension API Capuchin version 1.0 (This application framework makes it possible to bridge Flash technology with Flash.)
Java 3D	JSR-184 Mobile 3D Graphics API for J2ME™

Provisioning (OMA CP, OMA DM)

OMA CP version 1.1 (TBD)

OMA DM version 1.1.2, 1.2

Related information:

www.sonyericsson.com/developer

Synchronisation (OMA DS, EAS)

OMA Data Synchronization protocol versions 1.1.2 and 1.2

OMA Data Formats: vCard 2.1, vCalendar 1.0, vBookmark 1.0, notes as text/plain

Microsoft Exchange ActiveSync® and Windows Mobile Device Center

Multimedia

Audio and Video

Audio Playback	Decoder format	Supported in file format
	Audio decoding MPEG-1/2/2.5, audio layer 3	MP3 (.mp3)
	AAC, AAC+, eAAC+	3GP (.3gp); AAC (.aac); MP4 (.mp4, .m4a)
	AMR-NB	3GP (.3gp); AMR (.amr)
	AMR-WB	3GP (.3gp); AMR (.amr) ; AMR-WB (.awb)
	AMR-WB+	3GP (.3gp); AMR (.amr) ; AMR-WB (.awb)
	WMA version 2,7,8: Class 1	WMA (.wma)
	WMA version 9: Level 3	WMA (.wma)
	WMA Pro (profile M0a)	WMA (.wma)
	General MIDI (GM)	SMF (.mid)
	GML	SMF (.mid)
	SP-MIDI	SMF (.mid); XMF (.xmf, .mxmf)
	DLS (Mobile DLS supported)	XMF (.xmf)
	Linear/A-law/.-law PCM	WAV (.wav)
Audio Recording	Encoder format	Supported in file format
	AMR-NB	AMR (.amr)
	AAC-LC	MP4 (.m4a)
Video Playback	Decoder format	Supported in file format
	MPEG-4 Visual Simple Profile	3GP (.3gp); MP4 (.mp4)
	MPEG-4 Advanced Simple Profile	3GP/MP4
	H.264 Baseline Profile	3GP/MP4/FLV/F4V
	H.263 Profile 0	3GP (.3gp)
	VC-1 (WMV9)	ASF (.asf, .wmv)
	Xvid MPEG4 Advanced Simple Profile	AVI
Video Recording	Encoder format	Supported in file format
	- Video: H.263 Profile 0	3GP (.3gp)
	- Audio: AMR-NB"	
	- Video: MPEG-4 Visual Simple Profile	MP4 (.mp4)
	- Audio: AAC-LC"	
Audio/Video Streaming	Streaming transport	RTSP/RTP/RTCP/SDP according to 3GPP™
DRM	DRM (Digital Rights Management) features the rights and copy protection of downloaded content.	OMA DRM 1.0, 2.0, 2.1 Microsoft DRM Janus

Web browser

Browser version	Internet Explorer Mobile HTML - 4.01 XHTML - Basic, XHTML 1.01 WAP - 1.2.1, 2.0 CSS - Level 1, Level 2 (partial), Mobile Profile 1.0, Wireless (WAP) CSS 1.1 Scripting/DOM - JScript 5.6, DOM Level 0, DOM Level 1 (partial), DOM Level 2 (partial) cHTML - A mobile device adapted version of the standard Internet communications protocol HTML Full HTML support, JScript, Progressive download of video files Direct access to Search Internet and Enter address HTML - 4.01 (with some exceptions) XHTML - Basic, 1.0, 1.1 (both with some exceptions) XHTML Mobile Profile 1.0, 1.1, 1.2 (with some exceptions) WML 1.3, 2.0 (both with some exceptions) CSS - Level 1, Level 2 (partial), Mobile Profile 1.0, Wireless (WAP) CSS 1.0, 1.1 XSLT 1.0, XPath 1.0, XML Namespaces, XML ID, XML Events Scripting/DOM - JScript 5.6, DOM Level 0, DOM Level 1 (partial), DOM Level 2 (partial)

Related information:

www.sonyericsson.com/developer

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