

White paper

October 2010

The Sony Ericsson Hazel™ phone J20, J20i



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

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Product overview

The Sony Ericsson Hazel™ phone – Smile for a while

Play back the love scene. Enjoy some pop classics. Close your eyes and sink into your favourite book. On the platform. On the train. On your way home. Use the Sony Ericsson Hazel™ phone to juggle your day, and balance your life. And make room for a little fun.

More voice, less noise

Hate taking calls in noisy surroundings? The Sony Ericsson Hazel™ phone filters out the sounds around you, so your friends hear you and not the crowd. And you can pull that finger out of your ear. Clear voice and Intelligent volume adaptation treat you to the best possible sound.

Stop by Facebook™ on your way home

A honeymoon in Rome. A pool party for the kids. Post your happy snaps on Facebook™. Or share the laughs on MySpace™. And check on your friends while you're there. Want the latest news? Catch up on Twitter™. Do it all with ease straight from the home screen of the Sony Ericsson Hazel™ phone, thanks to the widget manager.

Think inside the inbox

Work doesn't always stay at the office, does it? Write emails and plan your day directly on the Sony Ericsson Hazel™ phone. From the back of a car, a coffee bar or your favourite bazaar. And remember to synch the calendar with your PC to avoid embarrassing double bookings. Rain coming up? No worries. The Sony Ericsson Hazel™ phone is splash proof.



Facts – dimensions, weight, performance and networks

Size	102.5 x 49.5 x 16 mm
Weight	120 grams
Available colours	Superior Black Passionate Rouge
Main screen	
Colours	16,777,216 colour TFT
Resolution	240x320 pixels
Size (diagonal)	2.6 inches
Scratch-resistant	Yes – mineral glass
Memory	
Phone memory	Up to 280 MB
Memory card support	SanDisk microSD™, up to 16 GB
Networks	
J20i	UMTS HSPA 900 (Band VIII), 2100 (Band I) GSM GPRS/EDGE 850, 900, 1800, 1900
J20 (Without Wi-Fi™)	UMTS HSPA 900 (Band VIII), 2100 (Band I) GSM GPRS/EDGE 850, 900, 1800, 1900
Data transfer speeds	
GSM GPRS (Class 10 CS4)	Up to 80 kbps (download). Up to 40 kbps (upload)
GSM EDGE (Class 10 MCS9)	Up to 247 kbps (download). Up to 123 kbps (upload)
UMTS HSPA (cat. 5 upload)	Up to 2.0 Mbps
UMTS HSPA (cat. 8 download)	Up to 7.2 Mbps
Talk time (GSM)	4 hours 10 min*
Standby time (GSM)	469 hours*
Talk time (UMTS)	3 hours 20 min*
Standby time (UMTS)	588 hours*

* According to GSM Association Battery Life Measurement Technique.

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

Full feature list – categorised list of features

 <p>Camera 5 megapixel camera 4x digital zoom Auto focus Face detection Geo tagging Photo feeds Photo fix Photo flash (LED) Send to web Picture blogging Smile detection Video blogging Video light Video recording</p>	 <p>Music Album art Bluetooth™ stereo (A2DP) Media player MEGA BASS™ Music tones (MP3/AAC) PlayNow™* SensMe™ TrackID™</p>	 <p>Web Access NetFront™ Web browser Bookmarks Google™ search Mouse pointer Pan & zoom Web feeds Web search (from standby) HTML 4.01 XHTML 1.1</p>
 <p>Communication Call list Conference calls Clear voice HD Voice ready* Intelligent volume adaptation Noise shield Polyphonic ringtones Speakerphone Vibrating alert Video calling</p> <p><i>*Designed to support AMR-WB technology during the product lifecycle.</i></p>	 <p>Messaging Conversations Email Microsoft®Exchange Active-Sync® Instant messaging Picture messaging (MMS) Predictive text input Sound recorder Text messaging (SMS) Unified messaging</p>	 <p>Design Activity menu key Auto rotate Light Media browser Navigation key Picture wallpaper Splash resistance Wallpaper animation</p>



Entertainment

3D games
Facebook™
FM radio with RDS
Java™
MySpace™
Tracker
Twitter™
Video streaming
Video viewing
Walk mate Eco
Widget Manager
YouTube™



Organiser

Alarm clock
Calculator
Calendar
Flight mode
Notes
Phone book
Stopwatch
Tasks
Timer



Connectivity

A-GPS
Bluetooth™ technology
DLNA Certified™
Google Maps™
Modem
PictBridge™
Synchronisation
USB mass storage
USB support
Wi-Fi™ (J20i)
Wisepilot™ turn-by-turn navigation*

**This 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 Developers World or your Sony Ericsson contact person where applicable.

Device-to-device communications (local)

Bluetooth™ wireless technology

Bluetooth™ profiles supported	<ul style="list-style-type: none"> Advanced Audio Distribution Profile Audio/Video Remote Control Profile Basic Imaging Profile Dial-up Networking Profile File Transfer Profile Generic Access Profile Generic Object Exchange Profile Handsfree Profile Headset Profile Object Push Profile Personal Area Networking Profile Phonebook Access Profile Serial Port Profile Synchronisation Profile SyncML™ OBEX binding
Core version and supported features	2.1+EDR
Connectable devices	Interoperability and compatibility among Bluetooth™ devices varies. The device generally supports products utilising Bluetooth™ spec. 1.1, or higher, and at least one of the profiles above.

More information:

www.sonyericsson.com/developer

www.bluetooth.com

DLNA (Digital Living Home 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 Hi-Fi equipment, TVs and PCs.

Supported Device Classes	<p>DMS – Digital Media Server Media Types: Music, Images, Video Summary: The digital media server exposes the media files in your phone to a Wi-Fi network. The media can then be accessed from a DLNA client such as a PS3 or even another phone.</p> <p>DMP – Digital Media Player Media Types: Music Summary: The digital media player lets you access music that is stored on a DLNA DMS (digital media server) and play it in your phone.</p> <p>DMC – Digital Media Controller Push Controller for Images, Music Summary: The push controller lets you stream local content in the phone to a compatible rendering device such as a BRAVIA™ TV, or a compatible stereo system.</p> <p>Media Home and Media Go™ Media Types: Music, Images, Video Summary: The Media Home application in your phone lets you transfer media files from Media Go™ on your computer. Media Go™ lets you organise, transfer, play and sync your media files.</p>
Supported Bearers	Wi-Fi™
DRM Support	The Sony Ericsson DLNA implementation does not support DRM protected content.

Java™

Java™ Platform, Micro Edition	JSR-75 PDA Optional Packages for J2ME™ JSR-82 Bluetooth™ Wireless Technology API JSR-118 MIDP 2.0 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 JSR-180 SIP 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-226 SVG API for J2ME™ JSR-229 Payment API JSR-234 Advanced Multimedia Supplements JSR-238 Mobile Internationalization API JSR-239 OpenGL® ES JSR-248 Mobile Services Architecture JSR-256 Mobile Sensor API (accelerometer) Nokia UI Extension API
Java 3D	Mascot Capsule® Micro3D Version 3 JSR-239 OpenGL® ES JSR-184 Mobile 3D Graphics API for J2ME™

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 and IMAP4
Push email	IMAP IDLE (extension of IMAP4 Rev1), OMA Email Notification 1.0 and scheduled checking, Exchange ActiVSync® (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

Positioning – location based services

Supported standards:

JSR-179 (Location API 1.0)

OMA Secure User Plane Location (SUPL) v1.0

3GPP Control Plane location (incl. Emergency location)

Nokia Landmark Exchange format (LMX) - for sharing locations using MMS

Provisioning (OMA CP, OMA DM)

OMA CP version 1.1

OMA DM version 1.2

Related information:

www.sonyericsson.com/developer

Synchronisation (OMA DS, EAS)

OMA Data Synchronisation 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® protocol version 2.5

Related information

www.sonyericsson.com/developer

Multimedia (audio and video)

Audio Playback	Decoder format Audio decoding MPEG-1/2/2.5, audio layer 3 AAC, AAC+, eAAC+ AMR-NB AMR-WB AMR-WB+ WMA versions 2, 7, 8: Class 1 WMA version 9: Level 3 WMA Pro (profile M0a) General MIDI (GM) GML SP-MIDI DLS (Mobile DLS supported) Linear/A-law/-law PCM iMelody	Supported in file format MP3 (.mp3) 3GP (.3gp); AAC (.aac); MP4 (.mp4, .m4a) 3GP (.3gp); AMR (.amr) 3GP (.3gp); AMR (.amr); AMR-WB (.awb) 3GP (.3gp); AMR (.amr); AMR-WB (.awb) WMA (.wma) WMA (.wma) WMA (.wma) SMF (.mid) SMF (.mid) SMF(.mid); XMF (.xmf, .mxmf) XMF (.xmf) WAV (.wav) iMelody (.imy)
Audio Recording	Encoder format AMR-NB AMR-WB	Supported in file format AMR (.amr) 3GP (.3gp); AMR (.amr); AMR-WB (.awb)
Video Playback	Decoder format MPEG-4 Visual Simple Profile H.264 Baseline Profile H.263 Profile 0 VC-1 (WMV9)	Supported in file format 3GP (.3gp); MP4 (.mp4) 3GP (.3gp); MP4 (.mp4) 3GP (.3gp) ASF (.asf, .wmv)
Video Recording	Encoder format - Video: H.263 Profile 0 - Audio: AMR-NB - Video: MPEG-4 Visual Simple Profile - Audio: AAC-LC	Supported in file format 3GP (.3gp) MP4 (.mp4)
Audio/Video Streaming	Streaming transport	RTSP 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	Access NetFront™ 3.5
Bookmarks	Folders and sorting supported
Bookmark export/import	Bookmarks can be sent and received using vBookmark format using Bluetooth™ technology, SMS, MMS and email
Navigation/rendering	Pan & Zoom (page overview model) Landscape/portrait rendering Full page PC rendering
Search	Internet Search Find on page
Browser compliancy	HTML 5.0 Canvas HTML version. 4.01 XHTML Basic version 1.0 XHTML version 1.1 XHTML Mobile Profile version 1.1 WML 1.3 CSS 2.1 WCSS Version 26-Oct-2001 ECMA-script 262 3rd edition ECMAScript Mobile Profile 1.0 HTTPXMLRequest AJAX DOM 2.0 SVG Tiny, version 1.2
Browser plugin	SVG-T Adobe™ Flash Lite™ Audio/Video
Web feeds	Feeds detection in Browser Feeds reader Podcasting
Web albums	Publish to Picasa™ site Publish to a social site Publish to a Blogger™ site Publish to a Flickr™ site
Protocol Compliancy	HTTP/1.1 TLS 1.0 and SSL 3.0 OMA Download 1.0 RSS 2.0

Related information: www.access-company.com/products/mobile_solutions

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