

SONY®

White paper

January 2014



Xperia™ T2 Ultra XM50t

Note: Screen images are simulated.

Purpose of this document

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

Document history

Version

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Sony Mobile Developer World

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Product overview

Xperia™ T2 Ultra XM50t highlights

- 6-inch IPS HD screen with TRILUMINOS™ Display for mobile and Mobile BRAVIA® Engine 2
- 13MP smart social camera with Exmor RS™ for mobile and Xperia™ camera apps
- Powerful 3000 mAh battery with Battery STAMINA mode
- Super performance – LTE and Snapdragon quad-core 1.4 GHz processor
- NFC-based one-touch functions – connectivity made easy

Large screen, maximum portability

For a phone with a 6-inch screen, the Xperia™ T2 Ultra XM50t has a surprisingly sleek look and feel. This is because of the extremely high ratio of screen to phone size – 73.6%, to be exact. And the Xperia™ T2 Ultra XM50t features an easy-toggle keyboard for one-handed input. Ideal when using its mini keypad, dial pads and easy trigger notification tray.

True colours on the 6-inch display

The wide-viewing angle screen is a 6-inch HD TRILUMINOS™ Display for mobile. This means it's built with the same ground breaking technology as Sony BRAVIA® TVs. You can expect a wider palette and an amazingly vivid reproduction of colours. The screen also includes Mobile BRAVIA® Engine 2, a Sony display technology optimised to enhance sharpness and reduce noise.

Camera brilliance

Everyday life is full of memorable moments. With the Xperia™ T2 Ultra XM50t, you've got the means to catch them all, and experience them again and again. This stylish smartphone has an impressive 13 megapixel smart social camera with an Exmor RS™ for mobile image sensor. All this glorious technology results in great picture quality, even in low-light situations.

Xperia™ camera apps take your camera further

The Xperia™ T2 Ultra XM50t comes loaded with Xperia™ camera apps designed to take your creativity to the next level. Portrait retouch will make your subjects more photogenic than ever before. The app will let you apply 8 different beauty styles to your portrait – and you can check the change in real time, before capturing the shot. When in photo edit mode, you can also try the new Collage photo function. Choose from 51 templates and 25 background options and combine several pictures into a collage.

With the Timeshift-burst feature, you'll always get the best shot. This intelligent app captures 61 frames in 2 seconds. Keep the shots you want, scrap the rest. Or switch to AR Effect mode and liven up your pictures and videos with anything from animated dinosaurs to ocean life.

Wireless NFC technology connects it all

Tired of tripping over cables? The Xperia™ T2 Ultra XM50t can be wirelessly connected to a large range of NFC-enabled Sony devices – from headsets to BRAVIA® TVs. View photos or videos from your smartphone on your TV. Or play your music through a wireless speaker or wireless headphones. You can easily and wirelessly connect the NFC devices to your smartphone with just one touch. That's it. No fiddling with buttons, settings or – you've guessed it - cables. Just pure entertainment. Just so easy.

Super speed and stamina

Does speed have to compromise stamina? The Xperia™ T2 Ultra XM50t proves the answer is no. This Sony smartphone has support for lightning fast LTE networks. For super powerful performance, there's the quad-core 1.4 GHz Snapdragon processor. And thanks to Battery STAMINA Mode, you don't have to worry about wasted battery drain. This function can recognise when you're not using your display and automatically turns off certain functions. In short, that means your battery can last longer.

Sony Select – great content on your Xperia™ T2 Ultra XM50t

The best content from different applications and services, all accessible in one view. With Sony Select, you get the cherries picked for you.

For more information about Sony Select, visit <http://www.sonymobile.com/global-en/apps-services/sony-select/>.

Facts – dimensions, weight, performance and networks

Operating system	Google™ Android™ 4.3 (Jelly Bean MR2)
Processor	1.4 GHz Qualcomm MSM8928 Quad Core
GPU	Adreno 305
Size	165.2 x 83.8 x 7.65mm
Weight	170.6 grams
Available colours	Black White Purple
SIM card	micro SIM
Main screen	
Colours	16,777,216 colour TFT
Resolution	720x1280 pixels
Size (diagonal)	6.0 inches
Input mechanisms	
Text input	On-screen QWERTY keyboard
Touch screen	Capacitive
Touch gesture	Yes – multi-touch, up to 10 fingers supported
Memory	
RAM	1 GB
Flash memory	8 GB*
Expansion slot	microSD™ card, up to 32 GB
Camera	
Camera resolution	13 MP
Digital zoom	16x
Photo light	Yes – Pulsed LED
Video recording	Yes – HD 1080p
Front Camera	Yes – HD 720p for video chat and 1.1 MP for camera capture
Sensors	
Accelerometer	Yes
Proximity sensor	Yes
Ambient light sensor	Yes

Magnetometer	Yes
Gyroscope	Yes
Networks	
XM50t	TD LTE (Bands 38, 39, 40, 41) FDD LTE (Bands 1, 3, 7, 17) TD-SCDMA (Bands 34, 39) WCDMA (Bands 1, 2, 5) GSM GPRS/EDGE 850, 900, 1800, 1900 MHz
Data transfer speeds	
GSM GPRS	Up to 107 kbps
GSM EDGE	Up to 296 kbps
HSUPA (upload)	Cat 6, up to 5.8 Mbps
HSDPA (download)	Cat 10, up to 14.4 Mbps
Talk time (GSM)	Up to 14 hours**
Standby time (GSM)	Up to 1174 hours**
Talk time (WCDMA)	Up to 26 hours**
Standby time (WCDMA)	Up to 1102 hours**
Talk time (TD-SCDMA)	Up to 33 hours**
Standby time (TD-SCDMA)	Up to 1163 hours**
Standby time (FDD LTE)	Up to 960 hours**
Music listening time	Up to 82 hours**
Video playback time	Up to 12 hours**
Battery (Embedded)	3000 mAh minimum



* Memory comprises approximately 3.2 GB of firmware, plus 4.8 GB of “Internal storage” for music, pictures and movies, and downloaded applications and their data.







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

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

NOTE: Performance metrics measured under laboratory conditions.

Categorised feature list

 <p>Camera</p> <ul style="list-style-type: none"> 13 megapixel camera 16x digital zoom Auto focus Background defocus Burst mode HDR for photos and movies Face detection Flash/Pulsed LED Flash/Photo light Front-facing camera (1.1 MP 720p) Geotagging HD video recording (1080p) Image stabiliser Object tracking Picture Effect Portrait retouch Post editing Quick Launch Red-eye reduction Self-timer Send to web Smile Shutter™ Sony Exmor R® for chat camera Sony Exmor RS® for main camera Image sensor Superior Auto Sweep Panorama Time shift Touch capture Touch focus White balance 	 <p>Music</p> <ul style="list-style-type: none"> Sony Surround Sound technology (VPT) Album art Bluetooth® stereo (aptX®, A2DP) ClearAudio+ Clear Bass™ Clear Phase™ Clear stereo Dynamic normalizer Low power audio playback** Music tones (MP3/AAC) PlayNow™ service* SensMe™ TrackID™ music recognition* “WALKMAN” application xLOUD™ Experience 	 <p>Internet</p> <ul style="list-style-type: none"> Bookmarks Pan & zoom Sony Select Xperia™ Home Web browser (WebKit™)*
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 <p>Communication Call list Noise suppression Polyphonic ringtones Speakerphone Slow talk Talk equaliser Voice enhancement</p>	 <p>Messaging Conversations Email Handwriting recognition Instant messaging Multimedia messaging (MMS) One handed keyboard Predictive text input Sound recorder Text messaging (SMS)</p>	 <p>Design Auto rotation Content Adaptive Backlight Control (CABC) Direct touch Face Unlock Gesture input On-screen QWERTY keyboard Battery STAMINA mode Screenshot capturing Throw BRAVIA engine 2 for mobile Touch screen Theme Triluminos™ Voice input Wallpaper</p>
 <p>Entertainment 3D games Media browser Motion gaming PlayMemories PlayStation® Certified Radio (FM radio with RDS) Reader mode SensMe™ slideshow Sony Entertainment Network* Video streaming</p>	 <p>Organiser Airplane mode Alarm clock Calculator Contacts Document readers eCompass™ Lunar calendar Notes Setup guide Stopwatch Tasks Timer</p>	 <p>Connectivity 3.5 mm audio jack (CTIA) ANT+™ sport, fitness, health support aGPS* Bluetooth® 4.0 wireless technology DLNA Certified® GLONASS* Media Go™ Media Transfer Protocol support Micro USB support Native USB tethering NFC PC Companion Screen mirroring Smart Connect Microsoft® Exchange ActiveSync® Synchronisation via SyncML™ USB charging USB High speed 2.0 support WAPI WAPI Hotspot functionality</p>

* This service is not available in all markets.

*** This feature is only available when you play music using the "WALKMAN" application.*

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)

ANT+™ wireless technology

Connectable devices	ANT+™ devices require the download of a supporting application
Frequency band	2.4 GHz
Data transfer rate	Up to 60 Kbps
Encryption	AES-128
Topologies	One to Many, Many to One, Peer to Peer, Star, Practical Mesh

Bluetooth® wireless technology

Bluetooth® profiles supported	Advanced Audio Distribution Profile v1.2 Audio/Video Remote Control Profile v1.3 Device Identification Profile v1.3 Generic Attribute Profile Client/Server over LE Handsfree Profile v1.6 (Wide band speech) Headset Profile v1.2 Health Device Profile v1.1 Human Interface Device Profile, Host role v1.1 Messaging Access Profile v1.0 Object Push Profile v1.1 Personal Area Networking Profile v1.0 Phonebook Access Profile v1.1 Serial Port Profile v1.1
Core version and supported core features	Version 4.0
Other supported features	aptX® CD quality audio streaming over Bluetooth®
Connectable devices	Products support at least one of the Bluetooth® profiles listed above. Bluetooth® 4.0 accessories generally require installation of a supporting application.

More information:

www.sonymobile.com/developer

www.bluetooth.com

WAPI

Supported standards	IEEE 802.11a/b/g/n and WLAN WLAN Direct, WLAN Protected Setup
Connectable devices	WLAN access points WLAN Direct compatible devices
Frequency band	2.4 GHz/5 GHz
Data transfer rate	Up to 150 Mbit/s
Security	Open Authentication Shared Authentication EAP-SIM EAP-AKA EAP-TLS EAP-TTLS/MSCHAPv2 PEAPv0/EAP-MSCHAPv2 PEAPv1/EAP-GTC WPA Personal and WPA2 Personal WPA Enterprise and WPA2 Enterprise
Encryption	WEP 64 bit, WEP 128 bit, TKIP and CCMP (AES)
Power save	WMM-UAPSD
QoS	WMM

DLNA Certified® (Digital Living Network Alliance)

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

Messaging

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 GB18030 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 US-ASCII 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 STARTTLS
HTML mail	Yes (read only)

More information:

www.sonymobile.com/developer

www.openmobilealliance.org

Positioning – location based services

Supported standards:

- OMA Secure User Plane Location (SUPL) v1.0 & v2.0
- 3GPP™ Control Plane location (incl. 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 (referred to as "GPS Provider" in Android terminology).

Provisioning (OMA CP)

OMA CP version 1.1

Multimedia (audio, image and video)

Audio Playback	Decoder format	Supported in file format
	MP3	MP3 (.mp3)
	AAC (AAC-LC, AAC+, eAAC+)	3GPP (.3gp, .3gpp, .m4v), MP4 (.mp4, .m4a), ADTS (.aac)
	AMR-NB, AMR-WB	3GPP (.3gp, .3gpp), MP4 (.mp4, .m4a), AMR (.amr, .awb)
	MIDI	SMF (.mid), XMF (.xmf), Mobile XMF (.mxmf), OTA (.ota), RTTTL (.rtttl), RTX (.rtx), iMelody (.imy)
	PCM	WAV (.wav)
	Vorbis	OGG (.ogg)
	FLAC	FLAC (.flac)
Audio Recording	Encoder format	Supported in file format
	AMR (AMR-NB, AMR-WB)	3GPP (.3gp, .3gpp), MP4 (.mp4, .m4a) AMR (.amr)
	AAC (AAC-LC)	3GPP (.3gp, .3gpp), MP4 (.mp4, .m4a)
Image Playback	Decoder format	Supported in file format
	Windows bitmap	BMP (.bmp)
	GIF	GIF (.gif)
	JPEG	JPEG (.jpg, .jpeg)
	PNG	PNG (.png)
	BMP	BMP (.bmp)
	WebP	WebP (.webp)
Image Capture	Encoder format	Supported in file format
	JPEG	JPEG (.jpg)

Video Playback	Decoder format	Supported in file format
	MPEG-4	3GPP (.3gp, .3gpp), MP4 (.mp4, .m4v) Matroska (.mkv), AVI (.avi), Xvid (.xvid)
	H.265*	MP4 (.mp4, .m4v)
	H.264	3GPP (.3gp, .3gpp), MP4 (.mp4, .m4v) Matroska (.mkv)
	H.263	3GPP (.3gp, .3gpp), MP4 (.mp4, .m4v)
	VP8	Webm (.webm, .mkv)
Video Recording	Encoder format	Supported in file format
	H.264	3GPP (.3gp, .3gpp), MP4 (.mp4, .m4v), Video Unlimited (.mrv)
	H.263	3GPP (.3gp, .3gpp), MP4 (.mp4, .m4v)
	MPEG-4	3GPP (.3gp), MP4 (.mp4)
Audio/Video Streaming	Streaming transport	RTSP HTTP progressive download HLS
DRM	DRM (Digital Rights Management) – features the rights and copy protection of downloaded content	OMA DRM v1.0 Marlin DRM Widevine Level 3 PlayReady DRM (available in specific regions)

* NOTE: H.265 is not available in all markets.

Synchronisation (OMA DS, EAS)

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

Microsoft® Exchange ActiveSync® protocol version 14

Microsoft® Exchange ActiveSync® protocol version 14.1

Related information:

www.sonymobile.com/developer

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