SONY

White paper
September 2019   Version 4

Xperia ™(TBD)
J9210

Purpose of this document

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

Document history

June 2019	Version 1
August 2019	Version 2
August 2019	Version 3
September 2019	Version 4

Facts

Operating system	Android™ 9 (P)
Processor	Qualcomm SDM855, Gold prime core: Fmax=2.842GHz, Gold core: Fmax=2.419GHz, Silver core: Fmax=1.786GHz,
GPU	Adreno640
Size	158 x 68 x 8.2 mm
Weight	164 grams
Available colours	Black/Grey/Blue/Red
SIM card	Dual nanoSIM
Main screen	
Size (diagonal)	6.1 inches (2520x1080)
Colours	16777216
Resolution	Full HD+ 2520x1080
Pixel density	450ppi
Cover glass	Corning® Gorilla® Glass 6
Type of display	P OLED
Brightness	Normal Max:400cd/m2 Boost:650cd/m2
Input mechanisms	
Text input	On-screen QWERTY keyboard
Touch screen	Capacitive
Touch gesture	Up to 10 fingers
Memory	
RAM	6GB LPDDR4X
Flash memory	UFS 128GB
Internal storage for user *	114GB
Expansion slot **	microSD™ card, microSDHC, microSDXC
Max capacity of external slot	Up to 512 GB
Camera	
Main Camera	
Effective pixels	12MP,12MP,12MP
Aperture	Wide F1.6 Tele F2.4 Super wide F2.4
Focus distance	Wide 100mm Tele 400mm Super wide 500mm
Optical zoom	x2
OIS	Yes (Wide, Tele) No (UltraWide)
Auto focus	Yes (Wide-Tele) No (UltraWide)
Flash	Yes
ISO	3200
Video Recording	4K
Front Camera	
Effective pixels	8MP
Aperture	F2.0
Focus distance	340mm
Optical zoom	No
OIS	No
Auto focus	No
Flash	Yes (Display Flash)
ISO	1600
Video Recording	Full HD

Sensors	
Accelerometer	Yes
Ambient light sensor	Yes
Barometer sensor	Yes
eCompass™	Yes
Game rotation vector	Yes
Geomagnetic rotation vector	Yes
Gyroscope	Yes
Magnetometer	Yes
Step counter	Yes
Step detector	Yes
Significant motion detector	Yes
Proximity sensor	Yes
Networks	
J9210	UMTS HSPA+ 2100(Band 1), 1900(Band 2), 1700(Band 4), 850(Band 5), 800(Band 6), 900(Band 8), 800(Band 19) MHz GSM GPRS/EDGE 850, 900, 1800, 1900 MHz LTE (Bands 1,2,3,4,5,7,8,12,13,17,19,20,25,26,28,29,32,34,38,39,40,41,46,66) Wi-Fi® 2.4 GHz/5 GHz
Data transfer speeds	
GSM GPRS	Up to 107 kbps
GSM EDGE	Up to 296 kbps
HSUPA (upload)	Category 6, Up to 5.76Mbps
HSDPA (download)	Category 24, Up to 42.2Mbps
LTE (4G) ***	[Single SIM] DL: Up to 1.6Gbps UL: Up to 150Mbps *Theoritical value [Dual SIM] DL: Up to 1.2Gbps UL: Up to 150Mbps *Theoritical value
Battery performance	
Talk time (GSM) ****	590 min
Standby time (GSM) ****	460 hours
Talk time (UMTS) ****	1350 min
Standby time (UMTS) ****	510 hours
Standby time (LTE) ****	440 hours
MP3 Music Playback w/ headset ****	91 hours
Full HD Video playback (H.264) ****	890 min
Battery (Embedded)	TYP 3140mAh
Battery Cell Type	Li-polymer
Wireless charging	No
Charge to other phone	Yes

* Internal storage for user depends on the size of firmware, firmware update, preloaded contents and variant.

** Flash memory performance is dependent on the application and task being performed on the device. If you would like to know about your memory card, refer to the technical specifications that came with the card.

*** This service is not available in all variants or markets.

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

NOTE: The battery performance may vary depending on network conditions and configurations, external environment and device usage.

NOTE: The performance metrics are all measured under laboratory conditions.

Categorised feature list

Call		Organiser		Hardware	
Noise suppression	Yes	ActiveSync®	Yes	Fingerprint sensor	Yes
		Airplane mode	Yes	3.5 mm audio jack (CTIA 4 pole)	No
				FM Radio	No

Camera		Text Input		Connectivity	
Geo tagging	Yes	Gesture input	Yes	aGNSS	Yes
Self-timer(Photo)	Yes	On-screen QWERTY keyboard	Yes	Bluetooth® Core version	5.0
Touch capture	Yes	**SwiftKey™**	No	HDCP	Yes
		Predictive text input	Yes	Media Transfer Protocol	Yes
				NFC	Yes
		Display		Quick Charger	No
		Screenshot capturing	Yes	USB Power Delivery	Rev. 3.0 Ver. 1.1
				USB charging	Yes
				USB version	SuperSpeed 3.1 Gen 1
				USB Host	Yes
				Wi-Fi®	Yes
				Wi-Fi® Hotspot functionality	Yes
				Wi-Fi CERTIFIED Miracast™	No
				Screen Mirroring	Yes
				Cast	Yes
				DLNA support	No
				DLNA version	-

These services are not available in all markets.

Technologies in detail

The information presented in this section is a general overview of the technology incorporated into the product. However, hardware and software levels of compliance to standards and specifications vary between products and markets. For more information, contact the relevant Sony representative.

Accessibility

Hearing Aid Compatibility (HAC)*	Yes
Teletypewriter (TTY)**	Yes
Volume key shortcut	Yes
Screen readers	
Select-to-Speak	Yes
TalkBack	Yes
Text-to-speech output	Yes
Display	
Font size	Yes
Display size	Yes
Magnification	Yes
Colour correction	Yes
Colour inversion	Yes
Large mouse cursor	Yes
Remove animations	Yes
Interaction controls	
Accessibility Menu	Yes
Switch Access	Yes
Click after mouse pointer stops moving	Yes
Power button ends call	Yes
Auto-rotate screen	Yes
Touch & hold delay	Yes
Vibration	Yes
Audio & on-screen text	
Mono audio	Yes
Captions	Yes
Experimental	
High-contrast text	Yes

NOTE: The information listed above contains Android features and they are subject to change in future releases of Google™ Android™.

* Available in specific regions.
** The TTY feature is for deaf or hearing-impaired users.

Device-to-device communications (local)

Bluetooth® wireless technology

Bluetooth® profiles supported	Advanced Audio Distribution Profile	v1.3
	Audio/Video Control Transport Protocol Profiles	v1.4
	Audio/Visual Distribution Profiles	v1.3
	Audio/Video Remote Control Profile	v1.6
	Bluetooth Network Encapsulation Protocol	v1.0
	Device ID Profile	v1.3
	Generic Access Profile	-
	General Audio/video Distribution Profile	v1.2
	Hands-Free Profile	v1.7
	Human Interface Device Profile	v1.0
	Headset Profile	v1.2
	Message Access Profile *	v1.2
	Multi-Channel Adaptation Protocol	-
	Object Push Profile	v1.2
	Personal Area Networking Profile	v1.0
	PhoneBook Access Profile	v1.2
	RFCOMM with TS 07.10	v1.1
	Serial Port Profile	v1.2
	HID over GATT Profile	v1.0
Core version and supported core features	Version 5.0 Bluetooth Low Energy	
Other supported features	aptX®, aptX® HD, LDAC	

More information can be seen in following site (when officially announced):
www.sonymobile.com/
www.bluetooth.com

* Email access of Bluetooth MAP doesn't work

Wi-Fi®

Supported standards	IEEE802.11	a/b/g/n/ac
	MIMO	2x2
	Wi-Fi®	Yes
	Wi-Fi Direct®	Yes
	Wi-Fi Protected Setup™	No
	Wi-Fi CERTIFIED Passpoint™	Yes
	Wi-Fi CERTIFIED Miracast™	No
Connectable devices	Wi-Fi® compatible devices	Yes
	Wi-Fi® access points	Yes
	Wi-Fi Direct® compatible devices	Yes
Frequency band	2.4 GHz	Yes
	5 GHz	Yes
Data transfer rate		Up to 867Mbps
Security	Open Authentication	Yes
	Shared Authentication	Yes
	WPA™ Personal and WPA2™ Personal	Yes
	WPA™ Enterprise and WPA2™ Enterprise / 802.1x	Yes
Authentication method	EAP-SIM	Yes
	EAP-AKA	Yes
	EAP-AKA'	Yes
	EAP-TLS	Yes
	EAP-TTLS/MSCHAPv2	Yes
	PEAPv0/EAP-MSCHAPv2	Yes
	PEAPv1/EAP-GTC	Yes
Encryption	WEP 64 bit	Yes
	WEP 128 bit	Yes
	TKIP	Yes
	AES	Yes
Power save	WMM®-UAPSD	Yes
QoS	WMM®, WMM® Power Save	Yes

Messaging

MMS (Multimedia Messaging Service)
According to OMA Multimedia Messaging Service v1.0 + SMIL

Email

Character sets	BIG5 Traditional Chinese	Yes
	GB18030	Yes
	GB2312 Simplified Chinese	Yes
	ISO-2022-JP Japanese	Yes
	ISO-8859-1	Yes
	ISO-8859-2 Eastern Europe	Yes
	ISO-8859-5 Cyrillic	Yes
	ISO-8859-7 Greek	Yes
	ISO-8859-9 Turkish	Yes
	ISO 8859-11	Yes
	KOI8-R Cyrillic	Yes
	Shift_JIS Japanese	Yes
	USASCII	Yes
	UTF-16	Yes
	UTF-8	Yes
	Windows® 874	Yes
	Windows® 1251 Cyrillic	Yes
	Windows® 1252	Yes
	Windows® 1254 Turkish	Yes
	Windows® 1258 Vietnamese	Yes
Protocols	POP3 and IMAP4	Yes
Push email	Microsoft® Exchange ActiveSync® (EAS) IMAP4 IDLE (RFC2177)	Yes
Secure email	SSL/TLS, both port methods (POPS/IMAPS) and STARTTLS	Yes
HTML mail		Yes (read only)

NOTE: SOMC Email application was replaced with Gmail (Outlook for MLC)

Positioning – location based services

Supported standards	OMA Secure User Plane Location (SUPL) version	2.0
	3GPP™ Control Plane location (incl. Emergency location)	Yes
Supported satellite systems	GPS	Yes
	GLONASS	Yes
	BeiDou*	Yes
	Galileo*	Yes
	QZSS*	Yes

NOTE1: When needed, the device automatically uses a combination of all available satellite system to accurately provide location information

* BeiDou, Galileo and QZSS satellites are not used for providing location information in U.S. territory.

Provisioning (OMA CP)

OMA CP version 1.1

Multimedia (audio, image and video)

Audio Playback	Decoder format	Supported in file format
	AAC-LC	MP4(.mp4), M4V(.m4v), 3GPP(.3gp, .3gpp), 3GPP2(.3g2, .3gpp2), MPEG-2 TS(.ts),ADTS(.aac), M4A(.m4a)
	AAC+	MP4(.mp4), 3GPP(.3gp, .3gpp), 3GPP2(.3g2, .3gpp2), MPEG-2 TS(.ts), ADTS(.aac)
	eAAC+	MP4(.mp4), 3GPP(.3gp, .3gpp), 3GPP2(.3g2, .3gpp2), MPEG-2 TS(.ts), ADTS(.aac)
	AAC-ELD	MP4(.mp4), 3GPP(.3gp, .3gpp), 3GPP2(.3g2, .3gpp2)
	ALAC	M4A(.m4a)
	AMR-NB	3GPP(.3gp, .3gpp), 3GPP2(.3g2, .3gpp2), AMR(.amr)
	AMR-WB	3GPP(.3gp, .3gpp), 3GPP2(.3g2, .3gpp2), AWB(.awb)
	DSD	DSF(.dsf), DSDIFF(.dff,.dsd)
	FLAC	FLAC(.flac)
	MIDI	SMF(.mid, .midi, .smf), XMF(.xmf), Mobile XMF(.mxmf), RTTTL(.rtttl), RTX(.rtx), OTA(.ota), iMelody(.imy)
	MP3	MP3(.mp3)
	PCM	WAVE(.wav), AIFF(.aiff, .aif, .aifc)
	Opus	Matroska(.mkv), WebM(.webm), MatroskaAudio(.mka), Ogg(.ogg, .oga)
	Vorbis	Matroska(.mkv), WebM(.webm), MatroskaAudio(.mka), Ogg(.ogg, .oga)
	WMA	ASF(.wma)
Audio Recording	Encoder format	Supported in file format
	AAC-LC	MP4(.mp4), ADTS(.aac)
	AAC+	MP4(.mp4)
	AAC-ELD	MP4(.mp4)
	AMR-NB	3GPP(.3gp), AMR(.amr)
	AMR-WB	3GPP(.3gp), AWB(.awb)
Image Playback	Decoder format	Supported in file format
	ARW	ARW(.arw)
	BMP	BMP(.bmp)
	CR2	CR2(.cr2)
	DNG	DNG(.dng)
	GIF	GIF(.gif)
	JPEG	JPEG(.jpg, jpeg)
	NEF	NEF(.nef)
	NRW	NRW(.nrw)
	ORF	ORF(.orf)
	PEF	PEF(.pef)
	PNG	PNG(.png)
	RAF	RAF(.raf)
	RW2	RW2(.rw2)
	SRW	SRW(.srw)
	WBMP	WBMP(.wbmp)
	WebP	WebP(.webp)

Image Capture	Encoder format	Supported in file format
	JPEG	JPEG (.jpg)
	PNG	PNG (.png)
	WebP	WebP (.webp)
Video Playback	Decoder format	Supported in file format
	MPEG-4 Video	MP4(.mp4), M4V(.m4v), 3GPP(.3gp, .3gpp), 3GPP2(.3g2, .3gpp2)
	H.263	MP4(.mp4), 3GPP(.3gp, .3gpp), 3GPP2(.3g2, .3gpp2)
	H.264	MP4(.mp4), M4V(.m4v), 3GPP(.3gp, .3gpp), 3GPP2(.3g2, .3gpp2), MPEG-2 TS(.ts), Matroska(.mkv)
	H.265	MP4(.mp4), Matroska(.mkv)
	VP8	Matroska(.mkv), WebM(.webm)
	VP9	Matroska(.mkv), WebM(.webm)
Video Recording	Encoder format	Supported in file format
	MPEG-4 Video	MP4 (.mp4), 3GPP (.3gp)
	H.263	MP4 (.mp4), 3GPP (.3gp)
	H.264	MP4 (.mp4), 3GPP (.3gp)
	H.265	MP4 (.mp4)
	VP8	WebM (.webm)
Audio/Video Streaming	Streaming transport	HLS HTTP progressive streaming RTSP