

Microsoft Lumia 650

### **Operating System**

Software release: Windows 10

### **Size & weight**

Height: 142 mm

Width: 70.9 mm

Thickness: 6.9 mm

Weight: 122 g

### **Display**

Display size: 5 "

Display resolution: HD720 (1280 x 720)

Display colours: TrueColor (24-bit/16M)

Display technology: OLED, ClearBlack

Pixel density: 297 ppi

Display Features: Orientation sensor, Sunlight readability enhancements, Corning® Gorilla® Glass 3, Easy to clean, Lumia Color profile, Wide viewing angle, Automatic brightness control

Touch screen technology: Capacitive multipoint-touch

### **Memory**

Mass memory: 16 GB

RAM: 1 GB

Maximum memory card size: 200 GB

Expandable memory card type: MicroSD

User data storage: In device, OneDrive cloud storage, App and data storage on memory card

### **Network**

Network: 4G LTE

### **Battery**

Replaceable battery: Yes

Battery capacity: 2000 mAh

Battery voltage: 3.8 V

Maximum standby time: 26 days

Maximum talk time (4G): 16 h

### **Design**

Design details: Solid aluminium frame, Exchangeable back cover, Precision-crafted details

Other user interface features: Glance screen, Tactile feedback, Vibrating alerts, Voice Commands

### **Keys and Input Methods**

User Input: Touch

Operating keys: Volume keys, Power/Lock key

### **Sensors**

Sensors: Ambient Light Sensor, Accelerometer, Proximity Sensor

### **Processor**

CPU name: Qualcomm® Snapdragon™ 212

Number of cores: Quad core

Clock rate: 1300 MHz

Read more: [www.qualcomm.com](http://www.qualcomm.com)

## **Connectivity basics**

SIM card type: Nano SIM

AV connectors: 3.5 mm stereo headset connector

Charging connectors: Micro-USB

System connectors: Micro-USB-B

USB: USB 2.0

Bluetooth: Bluetooth 4.1

Bluetooth profiles: Advanced Audio Distribution Profile (A2DP) 1.2, Audio/Video Remote Control Profile (AVRCP) 1.3, Generic Attribute Profile (GATT), Hands-free profile (HFP) 1.6, Human Interface Device Profile (HID), Object Push profile (OPP) 1.1, Personal Area Network Profile (PAN) 1.0, Phone Book Access Profile (PBAP) 1.1, HID over GATT profile (HOGP) 1.0, Message Access Profile (MAP) 1.1

NFC: Pairing, Secure NFC for payment, Sharing, Tagging, Connecting

Wi-Fi: WLAN IEEE 802.11 b/g/n, Wi-Fi call

Wi-Fi hotspot: Up to 8 Wi-Fi-enabled devices

## **Cellular connectivity<sup>2</sup>**

GSM network: 850 MHz, 900 MHz, 1800 MHz, 1900 MHz

GSM max data speed DL: EGPRS 296.0 kbps

GSM max data speed UL: EGPRS 236.8 kbps

WCDMA network: Band 1 (2100 MHz), Band 5 (850 MHz), Band 8 (900 MHz)

WCDMA max data speed DL: 42.2 Mbps (Cat 24)

WCDMA max data speed UL: 5.76 Mbps (Cat 6)

LTE FDD network: Band 1 (2100 MHz), Band 3 (1800 MHz), Band 7 (2600 MHz), Band 8 (900MHz), Band 20

LTE max data speed DL: 150 Mbps (Cat 4)

LTE max data speed UL: 50 Mbps (Cat 4)

## **GPS and navigation<sup>3</sup>**

Location technologies: A-GLONASS, A-GPS, Cellular and Wi-Fi network positioning, A-BeiDou

Maps: Free maps, Online and offline favourites, Pin places to Start screen, Real-time traffic information, Reveal the surrounding places, Turn-by-turn walk directions, Public transport and drive directions, Free global voice guided turn-by-turn drive navigation, Offline maps and navigation, Speed limit information, Where is my car - feature, Map views: satellite - street map - public transport

## **Main camera**

Main camera: 8.0MP

Main camera focus type: Auto Focus

Camera digital zoom: 2x

Sensor size: 1/4 inch

Main camera f-number/aperture: f/2.2

Camera focal length: 28 mm

Flash Type: LED flash

Camera features: Auto and manual exposure, Auto and manual white balance, Automatic photo upload to web services, Face recognition, Full resolution photo and video upload, Full screen viewfinder, Geotagging,

Landscape orientation, Touch focus

Camera minimum focus range: 10 cm

## **Front-facing camera**

Front camera: 5 MP wide angle

Front camera f-number/aperture: f/2.2

Front camera features: Still image capture, Video call, Video recording

Front camera video resolution: 720p (HD, 1280 x 720)

## **Video recording**

Main camera video resolution: 720p (HD, 1280 x 720)

Camera video frame rate: 30 fps

Camera video zoom: 2x

Video recording features: Video zoom, Continuous autofocus, Video light

Video recording formats: MP4/H.264

## **Audio**

Audio recording codecs: AAC LC, AMR-NB, GSM FR

Audio recording features: Mono

Audio playback features: Album graphics display in Music player, Audio Streaming, Cloud music offline playback, Cloud music playback, Media Player, Music player, Podcasts

Radio features: Internet Radio, FM Radio

## **Video playback**

Video playback frame rate: 30 fps

Video playback codecs: H.263, H.264/AVC, MPEG-4, VC-1, Windows video, H.265/HEVC

Video streaming: Streaming from video services and internet, Progressive video download

## **Tools and productivity**

Productivity features: Calendar, Interactive notifications, Pin information to start screen, Reminders, Voice dictation in edit fields, Word flow keyboard

Personal information management features: Calculator, Clock, Alarm clock, Phonebook, To-do list, Family Room, Kid's Corner, OneNote, Social networks in Phonebook, Wallet, File manager

Business apps: Adobe Reader free download, Company Hub for enterprise applications, Microsoft Outlook, OneDrive storage for documents and notes, Skype for Business, Integrated OneDrive for business, Office apps

Back-up and restore your data: Yes

Sync type: Exchange ActiveSync, Via Windows Phone apps, OneDrive documents

Device management: AirWatch, MobileIron, Symantec, Microsoft System Center, OMA Client Provisioning v1.1, OMA Device Management v1.1.2, OMA Device Management v1.2, Windows Intune

## **Call management**

Call types: Audio call, Conference call, HD Voice call, Skype video call, Skype voice call

Call management features: Dual front microphones, Front facing hands-free speaker, Seamless upgrade to video call, Speed dial, Voice mail

Noise reduction: Two microphone uplink noise reduction

Supported amount of phonebooks: One integrated phonebook

## **Other Applications**

Game features: Touch UI, DirectX 11, Xbox

## **Email**

Email features: Viewing and editing of email attachments, Multiple email accounts, HTML emails, Inbox filtering, Text-to-speech message reader, Conversational view on email, Linked inboxes

## **Messaging features**

Messaging features: Text messaging, Automatic resizing of images for MMS, Distribution lists for messaging, Multimedia messaging, Conversational chat style SMS, Unified inbox for SMS and MMS, Concatenated SMS for long messages, Integrated text messaging and chat, Text-to-speech message reader, Built-in RCS chat

## **Browser**

Internet browsers: Microsoft Edge

## **Device security**

General security features: Device lock, PIN code, Device lock passcode, Regular signed firmware updates, Track and Protect via internet, Application certification, Application sandboxing, Backup and restore via Internet, Browser integrated anti-phishing, Remote device lock via Internet, Remote device wipe via Internet, Enterprise security features: Mobile VPN, Remote lock and wipe, Hardware accelerated device encryption, Mobile device management, Remote security policy enforcement, Data protection under PIN lock, Secure

Supported security standards: TLS v1.0, TLS v1.1, TLS v1.2, SSL v3.0, Suite B ciphers

Wi-Fi security modes: EAP-TTLS/MSCHAPv2, WPA, WEP, EAP-AKA, PEAP-MSCHAPv2, WPA2 (AES/TKIP), WPA2-Enterprise, WPA2-Personal, EAP-TLS, WPA-Enterprise, EAP-SIM, WPA-Personal

**Environment**

Materials: Free of PVC, Free of nickel on the product surface, Free of BFR

Packaging: Made of renewable materials, Minimized package, Packaging is 100 % recyclable, Virgin wood fibres up to 100% certified, Containing up to 55% recycled materials

Energy efficiency: Automatic screen brightness adjustment, Battery saver feature

Product recycling: 100% recoverable as materials and energy

Eco content and services: Available at Store, Maps for route optimization and navigation

User guide: In-device user guide, Small printed guide

**Accessibility features**

Hearing: Vibrating alerts, BT neckloop compatible, TTY support

Vision: Vibrating alerts, Voice recognition, Font magnification, Voice commands, Customizable home screen, High contrast mode, Screen magnification

Physical skills: Customizable home screen, Speakerphone, Speed dial, Voice recognition, Voice commands: part of languages