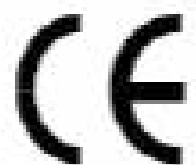
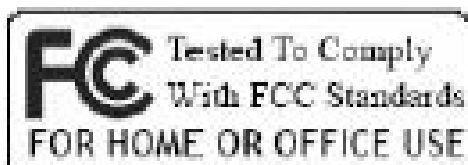




# USB Wireless Adapter

## USER'S GUIDE

Model:UWA3



# INFORMATION TO USER

## Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- \* Reorient or relocate the receiving antenna.
- \* Increase the separation between the equipment and receiver.
- \* Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- \* Consult the dealer or an experienced radio/TV technician for help.

### REGULATION INFORMATION

The WLAN USB Wireless Adapter must be installed and used in strict accordance with the manufacturer's instructions. This device complies with the following radio frequency and safety standards.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference.
- (2) This device must accept any interference received, including interference that may cause undesired operation.

FOR MOBILE DEVICE USAGE (>20cm/low power eg. AP routers)

#### Radiation Exposure Statement :

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body .

Your device contains a low power transmitter. When device is transmitted it sends out Radio Frequency (RF) signal. Use only with supplied antenna. Unauthorized antenna, modification, or attachments could damage the transmitter and may violate FCC regulations.

You are cautioned that changes or modifications not expressly approved by the part responsible for compliance could void the user's authority to operate the equipment.

The use of the USB adapter with laptops/notebooks is prohibited .

***Statement:***

FCC ID: HLZUWA3

***FCC***

*This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:*

*(1) This device may not cause harmful interference*

*(2) this device must accept any interference received, including interference that may cause undesired operation of the device.*

*This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications*

**Europe- R&TTE Compliance Statement**

Hereby, the company who declares that this equipment complies with the essential requirements and other relevant provisions of DIRECTIVE 1999/5/CE OF THE EUROPEAN PARLIAMENT AND THE COUNCIL of March 9, 1999 on radio equipment and telecommunication terminal Equipment and the mutual recognition of their conformity (R&TTE).

## 低功率電波輻射性電機管理辦法

低功率射頻電機警語標示內容：「(1)經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。(2)低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。前項合法通信，指依電信法規定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。」

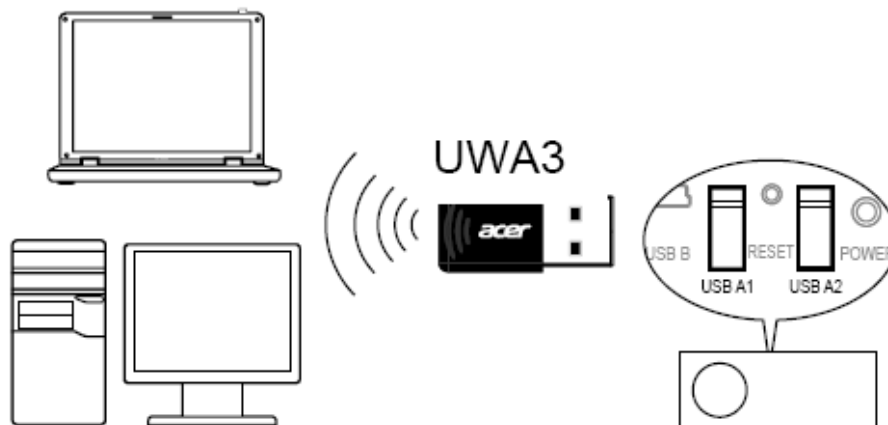
The channel identifiers, channel center frequencies, and regulatory domains of each 22-MHz-wide channel are shown in following Table.

Channel Identifier	Frequency (MHZ)	Regulatory Domains				
		Japan	ETSI	North America	Israel	Mexico
1	2412	●	●	●		
2	2417	●	●	●		
3	2422	●	●	●	●	
4	2427	●	●	●	●	
5	2432	●	●	●	●	
6	2437	●	●	●	●	
7	2442	●	●	●	●	
8	2447	●	●	●	●	
9	2452	●	●	●	●	
10	2457	●	●	●		●
11	2462	●	●	●		●
12	2467	●	●			
13	2472	●	●			
14	2484	●				

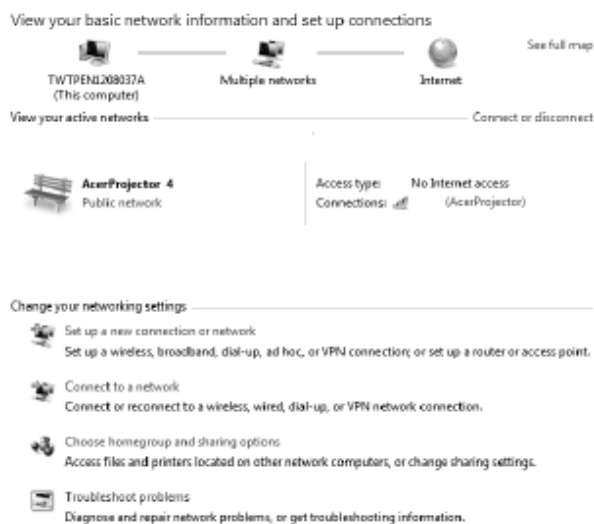
## How do I connect to the projector?

- Please refer to the manual on the included CD for more details.

### 1 Plug the dongle UWA3 into a USB port on the projector



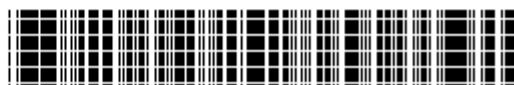
### 2 Connect your device to projector using Wi-Fi



### 3 Install the projection application required by your device



### 4 Use the installed App to start projection





## TECHNICAL SPECIFICATIONS

Model Name	UWA3
Product Name	USB Wireless Adapter
Standard	802.11b/g/n
Data Transfer Rate	1,2,5.5,6, 11, 12, 18,22,24,30,36,48,54,60,90,120,180,240,270 and maximum of 300Mbps
Modulation Method	BPSK/ QPSK/ 16-QAM/ 64-QAM/ DBPSK/ DQPSK/ CCK
Frequency Band	2.4GHz ISM Band
Spread Spectrum	IEEE 802.11b: DSSS (Direct Sequence Spread Spectrum) IEEE 802.11g/n:OFDM (Orthogonal Frequency Division Multiplexing)
RF Output Power (tolerance $\pm$ 2dBm)	13dBm@11n, 15dBm@11g, 17dBm@11b
Operation Mode	Ad hoc, Infrastructure
Receiver Sensitivity	11Mbps -80dBm@8%, 54Mbps -70dBm@10%, 300Mbps -64dBm@10%
Operation Range	Indoor up to 100 meters, Outdoor up to 280 meters
LED	Power
OS Support	Windows XP /Vista /7, Mac, Linux
Security	64 bit/128 bit WEP, TKIP, AES, WPA, WPA2
Interface	USB 2.0
Power Consumption	Transmit: around 235 mA Receive: around 148 mA
Operating Temperature	-10 - 60° C ambient temperature
Storage Temperature	-20 ~ 70° C ambient temperature
Humidity	5 to 90 % maximum (non-condensing)
Dimension	29x16x6.8mm (LxWxH)

## TROUBLESHOOTING

**Symptom :**

The LED is off.

**Remedy :**

Make sure the dongle is inserted properly. Otherwise contact your vendor.

**Symptom :**

The LED is always on not blinking.

**Remedy :**

Make sure that you have installed the driver from attached CD. Otherwise contact your vendor.

**Symptom :**

The LED is blinking but the icon does not appear in your icon tray.

**Remedy :**

Make sure that you have installed the Utility from the attached CD.

**Symptom :**

The dongle is linking, but can't share files with others.

**Remedy :**

Make sure the **file and printer sharing** function is enabled. You can enable the function by checking the icon of **My Computer -> Control Panel -> Network -> file and printer sharing -> I want to be able to give others to access to my files.**

**Symptom :**

Slow or poor performance under AP mode

**Remedy :**

Try to select another channel for the communicating group or move your device closer to the Access Point.

## GLOSSARY

### **IEEE 802.11 Standard**

The IEEE 802.11 Wireless LAN standards subcommittee, which is formulating a standard for the industry.

### **Access Point**

An internetworking device that seamlessly connects wired and wireless networks together.

### **Ad Hoc**

An Ad Hoc wireless LAN is a group of personal computers, each with a WLAN adapter, connected as an independent wireless LAN. Ad Hoc wireless LAN is applicable at a departmental scale for a branch or SOHO operation.

### **BSSID**

A specific Ad Hoc LAN is called a Basic Service Set (BSS). Personal computers in a

BSS must be configured with the same BSSID.

### **DHCP**

Dynamic Host Configuration Protocol - a method in which IP addresses are assigned by server dynamically to clients on the network. DHCP is used for Dynamic IP Addressing and requires a dedicated DHCP server on the network.

### **Direct Sequence Spread Spectrum**

This is the method the wireless cards use to transmit data over the frequency spectrum. The other method is frequency hopping. Direct sequence spreads the data over one frequency range (channel) while frequency hopping jumps from one narrow frequency band to another many times per second.

### **ESSID**

An Infrastructure configuration could also support roaming capability for mobile workers. More than one BSS can be configured as an Extended Service Set (ESS). Users within an ESS could roam freely between BSSs while served as a continuous connection to the network wireless stations and Access Points within an ESS must be configured with the same ESSID and the same radio channel.

### **Ethernet**

Ethernet is a 10/100Mbps network that runs over dedicated home/office wiring. Users must be wired to the network at all times to gain access.

### **Gateway**

A gateway is a hardware and software device that connects two dissimilar

systems, such as a LAN and a mainframe. In Internet terminology, a gateway is another name for a router. Generally a gateway is used as a funnel for all traffic to the Internet.

### **IEEE**

Institute of Electrical and Electronics Engineers  
Infrastructure

An integrated wireless and wired LAN is called an Infrastructure configuration. Infrastructure is applicable to enterprise scale for wireless access to central database, or wireless application for mobile workers.

### **ISM Band**

The FCC and their counterparts outside of the U.S. have set aside bandwidth for unlicensed use in the so-called ISM (Industrial, Scientific and Medical) band. Spectrum in the vicinity of 2.4 GHz, in particular, is being made available worldwide. This presents a truly revolutionary opportunity to place convenient high-speed wireless capabilities in the hands of users around the globe.

### **Local Area Network (LAN)**

A LAN is a group of personal computers, each equipped with the appropriate network adapter card connected by cable/air, that share applications, data, and peripherals. All connections are made via cable or wireless media, but a LAN does not use telephone services. It typically spans a single building or campus.

### **Network**

A network is a system of personal computers that is connected. Data, files, and messages can be transmitted over this network. Networks may be local or wide area networks.

### **Protocol**

A protocol is a standardized set of rules that specify how a conversation is to take place, including the format, timing, sequencing and/ or error checking.

### **SSID**

A Network ID unique to a network. Only clients and Access Points that share the same SSID are able to communicate with each other. This string is case-sensitive.

### **Static IP Addressing**

A method of assigning IP addresses to clients on the network. In networks with Static IP address, the network administrator manually assigns an IP address to each personal computer. Once a Static IP address is assigned, a personal computer

uses the same IP address every time it reboots and logs on to the network, unless it is manually changed.

### **Temporal Key Integrity Protocol (TKIP)**

The Temporal Key Integrity Protocol, pronounced tee-kip, is part of the IEEE 802.11i encryption standard for wireless LANs. TKIP is the next generation of WEP, the Wired Equivalency Protocol, which is used to secure 802.11 wireless LANs. TKIP provides per-packet key mixing, a message integrity check and a re-keying mechanism, thus fixing the flaws of WEP.

### **Transmission Control Protocol / Internet Protocol (TCP/IP)**

TCP/IP is the protocol suite developed by the Advanced Research Projects Agency (ARPA). It is widely used in corporate Internet works, because of its superior design for WANs. TCP governs how packet is sequenced for transmission the network. The term "TCP/IP" is often used generically to refer to the entire suite of related protocols.

### **Transmit / Receive**

The wireless throughput in Bytes per second averaged over two seconds.

### **Wi-Fi Alliance**

The Wi-Fi Alliance is a nonprofit international association formed in 1999 to certify interoperability of wireless Local Area Network products based on IEEE 802.11 specification. The goal of the Wi-Fi Alliance's members is to enhance the user experience through product interoperability. The organization is formerly known as WECA.

### **Wi-Fi Protected Access (WPA)**

The Wi-Fi Alliance put together WPA as a data encryption method for 802.11 wireless LANs. WPA is an industry-supported, pre-standard version of 802.11i utilizing the Temporal Key Integrity Protocol (TKIP), which fixes the problems of WEP, including using dynamic keys.

### **Wide Area Network (WAN)**

A WAN consists of multiple LANs that are tied together via telephone services and / or fiber optic cabling. WANs may span a city, a state, a country, or even the world.

### **Wired Equivalent Privacy (WEP)**

Now widely recognized as flawed, WEP was a data encryption method used to protect the transmission between 802.11 wireless clients and APs. However, it used the same key among all communicating devices. WEP's problems are well-known, including an insufficient key length and no automated method for distributing the keys. WEP can be easily

cracked in a couple of hours with off-the-shelf tools.

### **Wireless LAN (WLAN)**

A wireless LAN does not use cable to transmit signals, but rather uses radio or infrared to transmit packets through the air. Radio Frequency (RF) and infrared are the commonly used types of wireless transmission. Most wireless LANs use spread spectrum technology. It offers limited bandwidth, usually under 11Mbps, and users share the bandwidth with other devices in the spectrum; however, users can operate a spread spectrum device without licensing from the Federal Communications Commission (FCC).

### **Fragment Threshold**

The proposed protocol uses the frame fragmentation mechanism defined in IEEE 802.11 to achieve parallel transmissions. A large data frame is fragmented into several fragments each of size equal to fragment threshold. By tuning the fragment threshold value, we can get varying fragment sizes. The determination of an efficient fragment threshold is an important issue in this scheme. If the fragment threshold is small, the overlap part of the master and parallel transmissions is large. This means the spatial reuse ratio of parallel transmissions is high. In contrast, with a large fragment threshold, the overlap is small and the spatial reuse ratio is low. However high fragment threshold leads to low fragment overhead. Hence there is a trade-off between spatial re-use and fragment overhead.

Fragment threshold is the maximum packet size used for fragmentation. Packets larger than the size programmed in this field will be fragmented. If you find that your corrupted packets or asymmetric packet reception (all send packets, for example). You may want to try lowering your fragmentation threshold. This will cause packets to be broken into smaller fragments. These small fragments, if corrupted, can be resent faster than a larger fragment. Fragmentation increases overhead, so you'll want to keep this value as close to the maximum value as possible.

### **RTS (Request To Send) Threshold**

The RTS threshold is the packet size at which packet transmission is governed by the RTS/CTS transaction. The IEEE 802.11-1997 standard allows for short packets to be transmitted without RTS/CTS transactions. Each station can have a different RTS threshold. RTS/CTS is used when the data packet size exceeds the defined RTS threshold. With the CSMA/CA transmission

mechanism, the transmitting station sends out an RTS packet to the receiving station, and waits for the receiving station to send back a CTS (Clear to Send) packet before sending the actual packet data. This setting is useful for networks with many clients. With many clients, and a high network load, there will be many more collisions. By lowering the RTS threshold, there may be fewer collisions, and performance should improve. Basically, with a faster RTS threshold, the system can recover from problems faster. RTS packets consume valuable bandwidth, however, so setting this value too low will limit performance.

### **Beacon Interval**

In addition to data frames that carry information from higher layers, 802.11 includes management and control frames that support data transfer. The beacon frame, which is a type of management frame, provides the "heartbeat" of a wireless LAN, enabling stations to establish and maintain communications in an orderly fashion. Beacon Interval represents the amount of time between beacon transmissions. Before a station enters power save mode, the station needs the beacon interval to know when to wake up to receive the beacon (and learn whether there are buffered frames at the access point).

### **Preamble Type**

There are two preamble types defined in IEEE 802.11 specification. A long preamble basically gives the decoder more time to process the preamble. All 802.11 devices support a long preamble. The short preamble is designed to improve efficiency (for example, for VoIP systems). The difference between the two is in the Synchronization field. The long preamble is 128 bits, and the short is 56 bits.

### **WPA2**

It is the second generation of WPA. WPA2 is based on the final IEEE 802.11i amendment to the 802.11 standard.

### **Temporal Key Integrity Protocol (TKIP)**

The Temporal Key Integrity Protocol, pronounced tee-kip, is part of the IEEE 802.11i encryption standard for wireless LANs. TKIP is the next generation of WEP, the Wired Equivalency Protocol, which is used to secure 802.11 wireless LANs. TKIP provides per-packet key mixing, a message integrity check and a re-keying mechanism, thus fixing the flaws of WEP.

### **802.1x Authentication**

802.1x is a framework for authenticated MAC-level access control, defines Extensible Authentication Protocol (EAP) over LANs (WAPOL). The standard encapsulates and leverages much of EAP, which was defined for dial-up authentication with Point-to-Point Protocol in RFC 2284.

Beyond encapsulating EAP packets, the 802.1x standard also defines EAPOL messages that convey the shared key information critical for wireless security.

### **Advanced Encryption Standard (AES)**

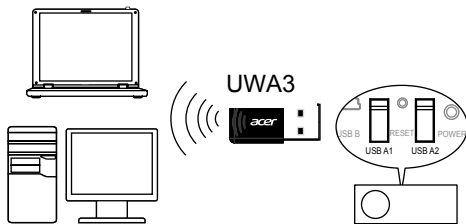
Security issues are a major concern for wireless LANs, AES is the U.S. government's next-generation cryptography algorithm, which will replace DES and 3DES.



## How do I connect to the projector?

- Please refer to the manual on the included CD for more details.

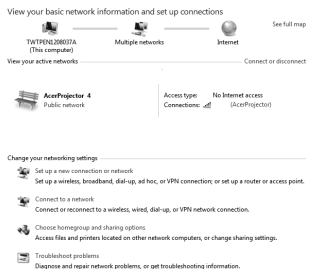
### 1 Plug the dongle UWA3 into a USB port on the projector



Branchez la clé dans un port USB sur le projecteur  
Schließen Sie das Dongle an einen USB-Port des Projektors an  
Collegare il trasmettitore ad una porta USB sul proiettore  
Conecte el dispositivo en el puerto USB del proyector  
Ligue o adaptador à porta USB do projector  
Steek de dongle in een usb-poort van de projector  
Colokkan dongle ke port USB pada proyektor  
Připojte vysílač do portu USB na projektoru  
Podłącz nadajnik do portu USB projektora  
Подсоедините адаптер к порту USB на проекторе  
Harici aygıtı, projektördeki bir USB bağlantı noktasına takın  
Συνδέστε τον πομπό σε θύρα USB του προβολέα  
Csatlakoztassa a háttértároló eszközt a projektor USB portjába  
Zapojte adaptér do portu USB na projektoru  
Plugg donglen inn i en USB-port på projektoren  
Sæt dongle'n i en USB-port på projektoren

Liitä käyttöavain projektorin USB-porttiin  
Anslut hårdvarunyckeln till en USB-port på projektorn  
Вставьте заглушку в порт USB на проекторе  
Cắm bộ thu phát vào cổng USB trên máy chiếu  
Utaknite modul u USB priključak projektoru  
Conectați cheia la un port USB al proiecteurului  
Vstavite ključ v vrata USB na projektorju  
Включете ключа в USB порта на проектора  
Predajnik umetnite u USB priključak na projektoru  
將發射器插入投影機上的USB端口  
將傳輸器插入投影機上的USB連接埠  
プロジェクトのUSBポートにトランスミッターを接続します  
동글을 USB 포트에 연결  
เสียบดอกลงในพอร์ต USB บนโปรเจคเตอร์  
طاقسما إلى USB منفذ لاسرإلما زاهج لىصوتب حق

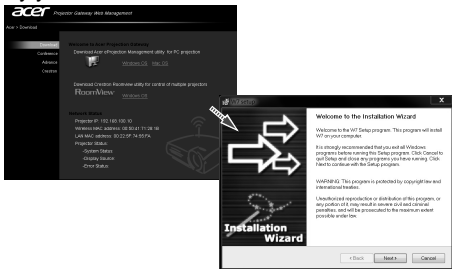
### 2 Connect your device to projector using Wi-Fi



Connectez votre appareil au projecteur via Wi-Fi  
Verbinden Sie Ihr Gerät über Wi-Fi mit dem Projektor  
Collegare il dispositivo al proiettore tramite Wi-Fi  
Conecte su dispositivo al proyector a través de Wi-Fi  
Ligue o seu dispositivo ao projector através de Wi-Fi  
Sluit uw apparaat op de projector aan via wi-fi  
Sambungkan perangkat pada proyektor menggunakan Wi-Fi  
Připojte zařízení k projektoru pomocí Wi-Fi  
Połącz urządzenie z projektorem przez Wi-Fi  
Подключите ваше устройство к проектору посредством Wi-Fi  
Aygıtınızı Wi-Fi kullanarak projektöre bağlayın  
Συνδέστε τη συσκευή σας στον προβολέα μέσω Wi-Fi  
Csatlakoztassa a készülékét a projektorhoz WiFi-n keresztül  
Připojte zariadenie k projektoru pomocou Wi-Fi  
Koble enheten til projektoren ved hjelp av Wi-Fi  
Opret forbindelse fra enheden til projektoren med Wi-Fi

Liitä laite projektoriin Wi-Fi-yhteydellä  
Anslut din enhet till projektorn genom att använda Wi-Fi  
Підключіть пристрій до проектора через Wi-Fi  
Kết nối thiết bị của bạn với máy chiếu qua mạng Wi-Fi  
Povežite uređaj s projektorom pute Wi-Fi veze  
Conectați dispozitivul la proiector prin Wi-Fi  
Svojo napravo priključite na projektor preko brezžičnega omrežja  
Свържете устройството към проектора чрез Wi-Fi  
Povežite svoj uređaj sa projektorom koristeći Wi-Fi  
用Wi-Fi连接设备至投影机  
使用Wi-Fi將裝置連線至投影機  
Wi-Fiを使ってデバイスをプロジェクトに接続します  
Wi-Fi를 사용하여 장치를 프로젝터에 연결  
เชื่อมต่ออุปกรณ์ของคุณเข้ากับโปรเจคเตอร์โดยใช้ Wi-Fi  
Wi-Fi مادخستب اطاقسما لىصوتب حق

### 3 Install the projection application required by your device



Installez l'application de projection requise par votre appareil  
Installieren Sie die Projektionsapplikation, welche von Ihrem Gerät benötigt wird

Installare l'applicazione di proiezione richiesta dal dispositivo  
Instalare la aplicación de proyección requerida por su dispositivo  
Instale a aplicação de projecção para o seu dispositivo  
Installeer de projectietoepassing die nodig is voor uw apparaat  
Instal aplikasi proyeksi yang diminta perangkat Anda  
Nainstalujte projekčnú aplikáciu požadovanú vaším zariadením  
Zainstalujcie wymagana przez urządzenie aplikację do projekcji  
Установите приложение для проецирования, необходимое для вашего устройства

Aygitinizin gerektirdiği projeksiyon uygulamasını yükleyin  
Εγκαταστήστε την εφαρμογή προβολής που χρειάζεται η συσκευή σας  
Telepítse a készüléke által igényelt kivetítő alkalmazást  
Nainštalujte aplikáciu na premiatanie vyžadovanú zariadením  
Installer projektsjonsapplikasjonen som enheten krever  
Installer projektionsprogrammer, som krævet af enheden

Asenna laitteesi vaatima projektiosovellus  
Installera det projektionsprogram som krävs av enheten  
Иnstalюйте задачу проеції на вимогу пристрою  
Cài đặt ứng dụng chiếu như yêu cầu bởi thiết bị của bạn  
Instalirajte potrebnu aplikaciju za projekciju na uređaju  
Instalați aplicația de proiectie necesară pentru dispozitivul dumneavoastră  
Nameštite projekcijsko aplikacijo, ki jo zahteva naprava  
Инсталирайте приложението за проектиране, което се изисква от Вашето устройство  
Instalirajte aplikaciju za projekcije koje zahteva vaš uređaj  
安装设备所需的投影机应用程序  
安裝裝置所需要的投影應用程式  
デバイスが必要とする投写アプリケーションをインストールします  
장치에 필요한 영상 응용 프로그램 설치  
ติดตั้งแอปพลิเคชันที่จัดการฉายโดยอุปกรณ์ของคุณ  
لنءاج ىدل بولطءل طاقسإلآ قىبءطءء ءىبءءب مقى

### 4 Use the installed App to start projection



Utilisez l'appli installée pour démarrer la projection  
Verwenden Sie die installierte Applikation, um mit der Projektion zu beginnen

Utilizzare l'applicazione installata per avviare la proiezione  
Utilice la aplicación instalada para iniciar la proyección.  
Utilize a aplicação instalada para iniciar a projecção  
Gebruik de geïnstalleerde app om de projectie te starten  
Gunakan Aplikasi yang diinstal untuk memulai proyeksi  
Pomocí aplikace zahajte projekci  
Użyj zainstalowanej aplikacji do rozpoczęcia projekcji  
Начните проецирование при помощи установленного приложения  
Projeksiyonu başlatmak için yüklü uygulamayı kullanın  
Χρησιμοποιήστε την εγκατεστημένη εφαρμογή για έναρξη της προβολής  
Használja a telepített alkalmazást a vetítés megkezdéséhez  
Použite nainštalovanú aplikáciu na spustenie premiatania  
Bruk den installerte applikasjonen til å starte projeksjon  
Brug det installerede program til at starte projektionen

Aloita projektorin käyttö asentamalla sovelluksella  
Använd installerad app för att starta projektionen  
Починайте работи проецію з інстанованою задачею  
Sử dụng ứng dụng vừa cài để bắt đầu chiếu  
Uz pomoć instalirane aplikacije pokrenite projekciju  
Utilizați aplicația instalată pentru a începe proiectia  
Nameščeno aplikacijo uporabite za začetek projekcije  
Използвайте инсталираното приложение, за да стартирате проектирането  
Pomoću instalirane aplikacije pokrenite projekciju  
用已安装的应用程序启动投影机  
使用已安裝的應用程式開始投影  
インストールしたアプリを使って投写を開始します  
설치된 응용 프로그램으로 영상 시작  
ใช้แอปพลิเคชันที่ติดตั้งเพื่อเริ่มฉายภาพ  
طاقسإلآ ءءبل ءءبءطءلآ قىبءطءلآ ءءبءءب مقى