

Confidential Level: Top Secret() Confidential()

User Guide for RK2928 wireless HDMI dongle (Lollipop)

(TV Department)

Document Status:	Document ID:	User Guide for rk2928 HDMI wireless dongle
[] Draft		(Lollipop)
[√] Release	Version:	1.0
[] Under modify	Author:	陈智(Roger Chen)
	Date:	2013-07-08
	Reviewer:	黄激流(Aaron Huang)
	Review Date:	2013-07-10



Version	Author	Date	Description
V0.1	陈智(Roger Chen)	2013/6/5	Created
V0.2	周小丽(Lily zhou)	2013/7/4	Add Chapter 3
V0.3	陈智(Roger Chen)	2013/7/5	Modify Chapter 3
V0.4	陈智(Roger Chen)	2013/7/9	Modify 2.2 (2), 2.2(3), 2.4
V1.0	陈智(Roger Chen)	2013/7/10	Release

History



Content

1 INTRODUCTION4
2 HOW TO USE DONGLE
2.1 MIRACAST(WFD)
2.2 DLNA
1) CONNECT TO DONGLE
2) CONNECT TO INTERNET
3) APPLICATIONS FOR DLNA
4) MEDIA CONTROL PANEL ON WEB
2.3 AIRPLAY (THIRD PARTY)14
2.4 Switching mode
3 COMPATIBLE DEVICES17
3.1 Devices list
3.2 How to use
3.2.1 LG NEXUS 4
3.2.2 SAMSUNG Note2/Galaxy S3/GalaxyS421
3.2.3 SONY Xperia Z24
3.2.4 MI 2/ MI 2s
3.2.5 GIONEE
3.2.6 OPPO find5
3.2.7 ZTE nubia37
3.2.8 AMOI N828



1 Introduction

This document helps user to understand how to use RK2928 wireless HDMI dongle and what kind of devices they need to work with the dongle. Basically, RK2928 wireless HDMI dongle have implemented three features, Miracast(WiFi Display or WFD), DLNA and Airplay which are running on separate function mode, or rather, two different WIFI working model. Chapter 2 describes how to play WFD /DLNA/Airplay on the dongle, and also describes how to switch function modes. Chapter 3 lists the compatible devices that are able to work with the dongle and shows user how to use such devices.



2 How to use dongle

Miracast(WFD) and DLNA/Airplay are running on the different WIFI working models. Miracast's connection is over WiFi direct and DLNA/Airpaly's connection is over WiFi softap(hotspot). These two WiFi working models are not able to be concurrent. In this chapter, each features of the dongle will be described first and then showing how to switch modes between two WiFi working models.

2.1 Miracast(WFD)



Power on the dongle and wait until the status "Waiting for connection..." appears. Meanwhile, make a connection request from WFD source device, i.e. mobile phone. About the operation on WFD source device, please refer to chapter 3 for details. When connection between the mobile phone and the dongle is established, WFD source device's MAC address, IP address and



device Name will be shown on the screen as the picture below.

Device Name:	LOLLIPOP-80833
Status: Mode:	Ready to display Miracast
Peer Device Name:	Android_9847
Peer Device MAC:	aa:16:b2:8e:4c:f4
eer Device IP:	192.168.49.192:7236

2.2 DLNA

1) Connect to dongle

Enable WiFi on the mobile phone/laptop/tablet, search for the AP with the SSID named by dongle's device name, for example, LOLLIPOP-80833. Dongle is now working as a soft AP. So connect to the soft AP with the default password 12345678.

2) Connect to Internet

Upon the connection between mobile/laptop/table and dongle is completed, open web browser on the mobile phone/laptop/tablet and visit http://192.168.49.1. What you will see is as below.





Touching the icon $\widehat{}$ will make the web browser jump to another page as below.





Touch "Scan" and follow the instructions to connect to a WiFi AP which is able to access Internet through WAN. Please pay an attention that when the connection between dongle and AP is established, the connection between dongle and mobile phone/laptop/table may be disconnected. The reason is that the connection channel between dongle and mobile phone is different from the channel between dongle and AP. In this case, mobile phone/laptop/tablet should be connected to dongle by soft AP again.



FUZHOU ROCKCHIP ELECTRONIC CO., LTD









Device Name:	LOLLIPOP-80833
Status:	Connected to AP
Mode:	DLNA
Device IP0:	192.168.49.1
AP SSID:	TP-LINK_ROGER
Device IP1:	192.168.1.104

Till now, dongle is able to access Internet through the AP . AP's SSID and dongle's IP address dispatched from AP ("**Device IP1**") will be shown on the screen. Because of dongle's AP bridge function, the mobile phone/laptop/tablet connected to dongle is able to access Internet too.

3) Applications for DLNA

As we known, dongle is work as DLNA DMR, so there should be DMC and DMS to work with DMR. There are so many DMC/DMS applications on each kind of OS. Some of them are listed as below.

A. Streaming from local storage:







B. Streaming from web streaming client:



IOS



4) Media control panel on web



Let's back to http://192.168.49.1, touch icon and the web browser will jump to the page as below.





The media control panel can be used to control dongle to PLAY/PAUSE/STOP/FFW/REWPREV/NEXT /VOL UP/VOL DOWN when streaming video or audio.

2.3 AirPlay (Third party)

As the same as DLNA, Airplay's connection between MAC/ipad/itouch/iphone and dongle is over soft AP. Please refer to 2.2. RK2928 wireless dongle is able to render pictures and videos sharing from IOS devices. Audio has not been supported yet. Some web streaming clients which are able to share contents by



Airplay is listed as below.



2.4 Switching mode

As described above, Miracast and DLNA/Airplay are working on the different WiFi working models. There are two methods to make switching:

A. By the key on PCB: The mode alternates between Miracast and

DLNA/Airplay by pressing the key.

B. By web: Visit http://192.168.49.1 by web browser when the connection between the dongle and mobile phone/laptop/tablet is established whatever

under the Miracast mode or DLNA/Airplay mode. Touch the icon and the switching will be undergoing. Please pay attention that the web browser will show something error when switching. The reason is that the wifi driver should be loaded again when switching to a new mode. So the connection between devices and dongle is disconnected.





Device Name:	LOLLIPOP-80833
Status: Mode:	switching mode
Peer Device Name: Peer Device MAC: Peer Device IP:	

Device Name:	LOLLIPOP-80833
Status: Mode:	Disconnected from Al DLNA
Device IP0: AP SSID: Device IP1 :	192.168.49.1



3 Compatible devices

3.1 Devices list

In order to use the function of Miracast (also called WiFi Display or WFD) with the RK2928 wireless HDMI dongle, a compatible device which supports Miracast and acts as the role of Miracast source is needed.

The following devices are compatible with RK2928 wireless HDMI dongle and have been fully tested.

vendor	model	type
LG	Nexus4	mobile phone
	Galaxy S3	mobile phone
SAMSUNG	Galaxy S4	mobile phone
	Note2	mobile phone
SONY	Xperia Z	mobile phone
vicemi	MI 2 (小米2)	mobile phone
xiaomi	MI 2s (小米 2S)	mobile phone
OPPO	Find 5	mobile phone
Gionee (金立)	GN708W	mobile phone
ZTE (中兴)	Nubia Z5 NX501	mobile phone
AMOI (夏新)	N828	mobile phone



3.2 How to use

3.2.1 LG NEXUS 4

First, open "Settings" and turn on "Wi-Fi".







Second, click "Display" on the menu and then "Wireless display".

Thirdly, enable "**Wireless display**" and pick up an available device to connect to. Please pay attention that the devices which have been connected before will be under the tab of "**PAIRED DISPLAYS**" and the devices which have never been connected before will be under the tab of "**AVAILABLE DEVICES**". When the devices under the tab of "**PAIRED DISPLAYS**" are ready to be connected, "**Available**" will be showing under the device name.



FUZHOU ROCKCHIP ELECTRONIC CO., LTD



Last, wait until the status indiction turns to "Connected".

	•
1 (E) (E) (A)	😨 😪 🕯 🕯 17:1
🛃 Wireless display	ON
PAIRED DISPLAYS	
LOLLIPOP-96988	茸
LOLLIPOP-49229 Connected	<u></u>
AVAILABLE DEVICES	
LOLLIPOP-94309	
LOLLIPOP-39108	
LOLLIPOP-81341	
SEARCH FOR DIS	PLOS
Ĵ	0



3.2.2 SAMSUNG Note2/Galaxy S3/GalaxyS4

First, open "Settings" and turn on "Wi-Fi".







Second, click "More settings"

	🛜 al 🛓 17:59
🔅 Settings	
Wireless and networks	
🌍 Wi-Fi	
8 Bluetooth	0
🖬 Data usage	
🔤 More settings	
Device	
🔝 Home screen mo	de
😑 Blocking mode	0
國 Sound	
🔯 Display	
\! Storage	

Third, enable "AllShare Cast" and pick up an available device to connect to.

SAMSUNG 全局間間 第二章 117:59	Ý 🗟 🕅 🖾 🔹 🍸 🖉 17/59
< 💿 Wireless and networks	< 🗔 AllShare Cast
Tetriering and portable notspot	Available devices
USB, Wi-Fi or Bluetonth	Android_9a17
VPN	Tap to connect
Set up and manage Virtual Private Networks (VPNs)	Android_ca17 Tap to connect
File/data transfer	LOLLIPOP-39108
NFC	Tap to connect
device touches another device	LOLLIPOP-49229
S Beam	Tap to connect
0/1	LOLLIPOP-81341
Media share	Tap to connect
Nearby devices Share your media files via DLNA	
AllShare Cast	
Share your device's screen with another device	
Connect to the Kies on your PC via Wi-Fi	
network to manage your device data and synchronise it with your PC	Scan Help



Last, wait until "Connected" showing under the device name.





68

0

Ū

3.2.3 SONY Xperia Z

First, open "Settings" and turn on "Wi-Fi"





Second, click the "Xperia" and then "Screen mirroring".







Third, turn on "**Screen mirroring**" and pick up an available device to connect to.





Last, wait until "Mirroring" showing on the menu.





3.2.4 MI 2/ MI 2s

First, open "Settings" and enable "WLAN"







Second, click the menu button and then select "WLAN Display".

io SIM card. 🚥 📓 🍎 💋	\$ 😤 k 🗰 9:45AM
< WLAN	
Enable WLAN	
DIRECT-2Q-Android_ Sector with Wind Corts motion	920 m (2)
dink-hyl terrestativy/www.www.com/com/	
DLink_2.4G	
FAST_6A22F4 Booccas with Wellawing (W	
hardware	
Scan	
WLAN Direct	
WLAN Display	
ADDRESS OF TAXABLE	and the second second second
= 0	5

Third, pick up an available device to connect to.

No SIM card. 🚥 🐹 🝎 👘 🔏	♥.ik @#9:45AN
K WLAN Display	
Available devices	
LOLLIPOP-39108 Available	\$ >
LOLLIPOP-81341 Avaitable	\$\$
LOLLIPOP-89178 Available	$\langle \gamma_{i} \rangle$
LOLLIPOP-94309 Available	R >
0 ×	
Searching. Dis	CONTRACTOR OF



Last, wait until "Session connected" showing under the device name.





3.2.5 GIONEE

First, open "Settings" and enable "WLAN"





Second, click the "Display" and then "Wireless display".



Thirdly, turn on "**Wireless display**" and pick up an available device to connect to.





Last, wait until "Connected" showing under the device name.





3.2.6 OPPO find5

First, open "Settings" and enable "WLAN"







Second, back to "Settings" menu and then click "WLAN Display".



Third, turn on "**WLAN Display**" and then click "**SEARCH FOR DEVICES**", pick up available device to connect to.





Last, wait until "Connected" showing under the device name.

WLAN Display		
Devices		
LOLLIPOP-89178 Connected		
Android_fa62		
LYL.Nexus4		
Android_b706		
COLLIPOP-81059		
LOLLIPOP-81341		
SEARCH FOR DEVICES		
e a 5		



3.2.7 ZTE nubia

First, launch the application called "**Screen proje**" which comes with the system.





Second, turn on "screen projection" and click "**Open WLAN**" if WLAN has not been enabled yet.





Third, pick up an available device to connect to.

🐱 🖞 🕸 👹	🛱 🛜 🛍 💌 9:33 AM	
C Screen projecti	on 🦳	
Scan <u>for nearby de</u> vices		
LOLLIPOP-94309Available		
LOLLIPOP-81341Available		
Open WLAN	Shortcuts	





Last, wait until "Projecing" showing.





FUZHOU ROCKCHIP ELECTRONIC CO., LTD

3.2.8 AMOI N828

(Refer to LG Nexus4)