

ShenZhen HaiLingKe Electronic co., Ltd.

HLK-MP02

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1. Product introduction

HLK-MP02 uses a Mini wireless router developed by Ralink's RT5350 main chip. 5V power supply, using the 2.4GHz ISM band, in line with the IEEE802.11b/g/n standard protocol wireless module. This module allows users to easily access the 802.11b/g/n wireless network to achieve access to the Internet.

- Main application areas:
- The mobile power supply WIFI;
- The portable wireless router;
- The wireless WIFI repeater amplifier;
- The 3G to WIFI;
- The wireless receiver, cable to WIFI Bridge

2. Block diagram

Product	type	
Network	standard	
Wired	standard:	
The	wireless	
Channel	number	
Frequency	range	
Emission	power	
Interface	1	
Antenna	type	
WDS	functions	
Wireless	Secure	
64/128/152	bit	

WPA-PSK/WPA2-PSK,	WPA/WPA2	
Network	management	
WEB	software	
Comiguiation	file	
State	indicator	
	standard	
Environmental Working	humidity:	
Storage	humidity:	
Storage	temperature:	
Other	performance	

3. Mechanical size





4. Definition of physical and pin





TOP and BTTOM physical drawings

Pin No:	Description	Pin No:	Description
1	GND	8	WAN_TX-
2	DM-	9	WAN_TX+
3	DP+	10	WAN_RX-
4	+5V	11	WAN_RX+
5	RST	A1	GP10
6	WIFI_LED	A2	UATR_TX
7	WAN_LED	A3	UATR_RX

Pin definition list

5. **RF performance test**



The performance test of RF is mainly done by the professional wireless comprehensive testing instrument IQ-VIEW, which is tested by LITEPOINT WIFI.

44		👝 🛃 IQsignal Vector Signal Analyzer		
		File Setup Tools Help		
潮的要	8 3		Trigger Settings 902.41 ab/g	
		Stop O Cont V Analyze A/G V RF Input B (2437 MH7 - 28 dBm - 10 dB	Signal Trigger	
		Auto Range Single Manalyze B [IQ Swap 07 2401 minz]	- 25 dBmax	
			-25 ubiliax	
SHERINE			1 & Power	
-		30 Mea	surement Single Avg. 1	
			4 all -31.16 -31.16 dB	
NIL AN			2.77 2.77 %	
10.000			2.77 2.77 %	
-11-1			1 pilots -31.34 -31.34 dB 2.71 2.71 %	
<u> </u>			ak Power 21.74 21.74 dBm	
回收应			. Power (no gap) 13.30 13.30 dBm	
			and the second second	
(2)		20 and - 20	Aatch	
0			Single	
Bapl or a	11 BUM 27		hitude Imb -0.12 %	
_			EVM best case -58.37 dB	
Å		50 100 150 200 250 300 350 Phe	ase Imb 0.50 Deg FVM best case -47.22 dB	
Adobe	llu	Ime [Us] Uspiay Packet information	I (Combined) -46.90 dB	
Reader	X			
			a	
Miceros Defei an	Ral	ink 9A Test Program	Single	
Caracter			2.95 ppm	
TT.	TX/KX	EEPROM MAC BBP Page 1 BBP Page 2 BBP Page 3 RF Page 1 RF Page 2 NDMM Test Page About	0.87 Deg	
When as	MAC	Address 0475FC1FFFFFF Set		
0.5 il es				
	Char	nnel <u>6 2437-MHz</u> Mode OFDM v Rate MCS=7; 54 Mbps v Bandwidth 20 v TxBandSel Lower v	Zoom (time)	
antin:	TX		Analysis Mode	
MTaull_2	F	Frame Type [20] User4 (Data+CRI V Set TxD Ext ALC Int ALC STBC V 2.46 Side Band Optic	80211 abin	
	2 E	TX frame setting		
lane		FC Dur Address1 (6) Address2 Address3 (6) Seq Function to Compare the second	Right	
		0800 0000 FFFFFFFFFF 0475FCAFEFFF 0000A40AABBCC 0000 F wat to be t	1/Q Signals	
BEAD		Payload Payload Repeat SW CRC Check Total		
		Debug Inf h		
-		IRC Ashdom		
ISISTER CONTRACTOR	Re	epeat 00 LoopBack IPG 200 TX Power0 TX Power1 Freq		
Single		Stop TX Transmitted 1920820 Conti. 1 Carrier to 0.5dB 00.1dB 0.5dB 00.1dB C Both DACs		
<u>S</u>	-	Carrier Suppress: Calibrate Calibrate CDAC 1		
		Juay move		
996804	-RX			
	-	RX Error (Dropped) RX Okay RSSI tune		
ni		FCS error 0 / 0 U2M DATA : 0 / 0 RSST1 = vy /Re Office 00 Calibrate		
the second		RX overflow 0/0 Other DATA : 0/0 PSST2 = vy Re Offer 0 - Our of all broad	the second s	
±m∎		PhY error : 0 / 0 Beacon : 0 / 0 PSCT0 = vv 30 Official Calibrate	A second s	
and the				والتماسين الخديدان
H H	始	😂 📱 🚳 🛃 IQsignel Vector 👝 E:\QA 程序\新建 🔤 C:\WINDOWS\syste 🔤 C:\WINDOWS\syste	ink RT5350 QA 💼 🧔	🛅 🦥 😼 14:26



As shown in Figure 2, the average output power of the EVM is still up to the -31.16dB.

13.3dBm. Frequency error: 2.95ppm, far below the maximum limit specified by IEEE (+ 20ppm). As shown

in Figure 1, the reception sensitivity can also be reached to -72dBm @54Mbps.

FCC Warning

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

NOTE 1: 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 or more 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.

NOTE 2: Any changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Please notice that if the FCC identification number is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. This exterior label can use wording such as the following: "Contains FCC ID: 2AD56HLK-MP02" any similar wording that expresses the same meaning may be used.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator & your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. The module is limited to OEM installation ONLY.

The OEM integrator is responsible for ensuring that the end-user has no manual instruction to remove or install module.

The module is limited to installation in mobile application;

A separate approval is required for all other operating configurations, including portable configurations with respect to Part 2.1093 and difference antenna configurations.

There is requirement that the grantee provide guidance to the host manufacturer for compliance with Part 15B requirements.