XYD1800-V1.1 Wi-Fimodule

Ultra -Low Power 2.4GHZ Wi -Fi

(V1. 1)

version number	date changed	modifier	approval
0PL 1800-V 1.1	**2020-03-20**	JASON	JIM

On March 25th, 2020

1. overview

The XYD 1800-V 1. 1 module is highly integrated with OPL 1800 Price ratio and very low power consumption of the application processing chip SoC, OPL 1800

Protocol'WIFI protocol is integrated for low-powerwireless communication Module, module provides serial port communication, user through
AT instructions to quickly build a wireless environment, fully meet the Internet of Things
For M O + M 3 dual processor
Peripheral interface, support all kinds of information transmission, effective decentralized capital
Material collection and processing, applied to the cloud network system, and provide real-time (real-time) monitoring, with information encryption, message authentication and transmission protocol and other functions.Used for intelligent home appliances, industrial / factory automation, intelligent security alarm and fire linkage system, access control attendance.

2. product characteristics

Dual-core M O + M 3 design

Ultra-low power consumption: WIFI 802.11b Tx ~18mA-2dBm; 115mA @ + 10dBm Rx ~17.5mA

The WiFi has no soft AP

Support for router fast connection-up to 256ms

Optional PCB antenna or external RF antenna

Input voltage: 1.9~3.8VDC

Standby current: 3uA

Ultra-small size of 16mm * 24mm

Operating temperature: -20 ° C ~70 ° C

Storage temperature: -40C ~85C

Appearance dimensions: 24 x 16 x 0.8 mm

Power supply voltage: 2.0~3.6V (3.3V typical)

3. Application fields

The. WiFi Scale

. WiFi Smart door locks

Wearables or health care devices

Industrial remote control, telemetry

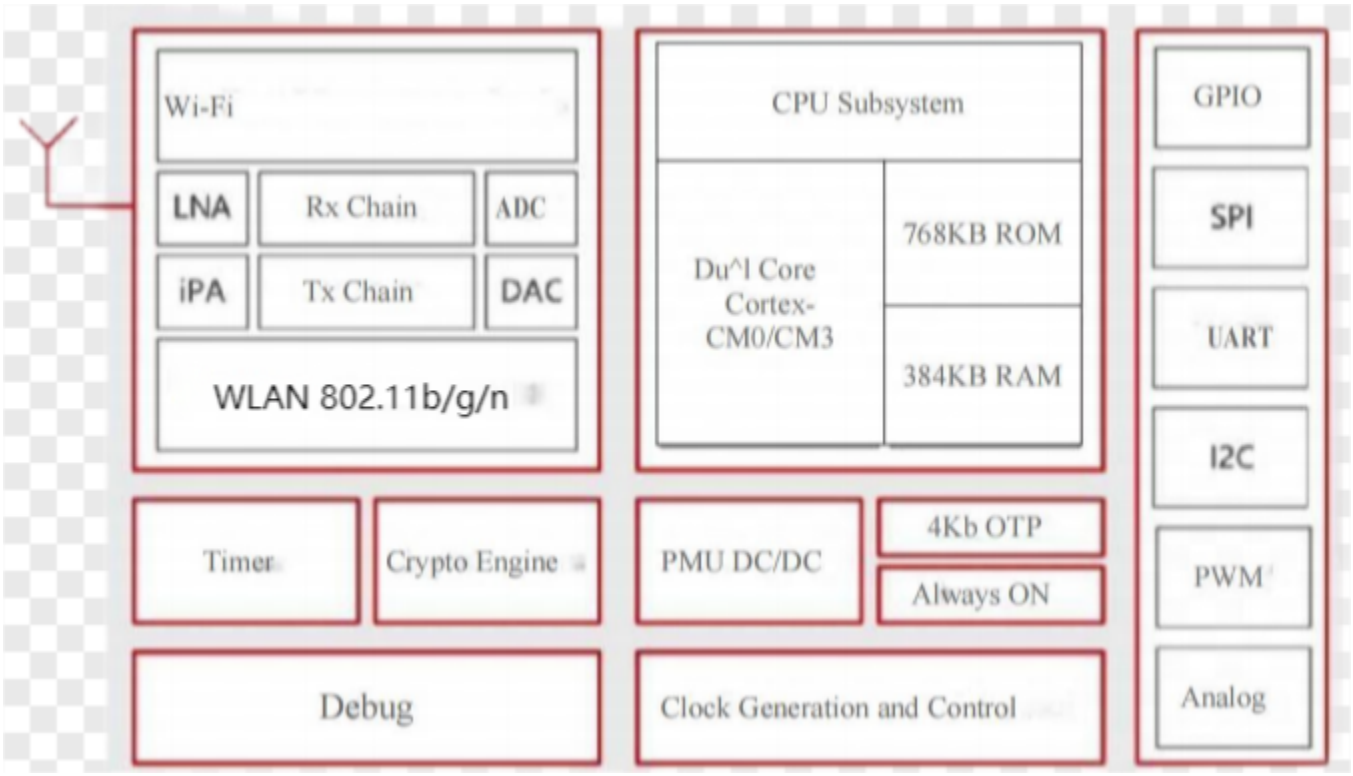
Traffic, underground positioning, alarm;

Automatic data acquisition system;

Wireless data transmission; banking system;
Building automation, security, computer room equipment wireless monitoring, access control system;

Smart home, industrial control;

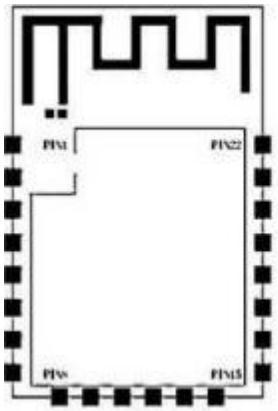
4. box diagram

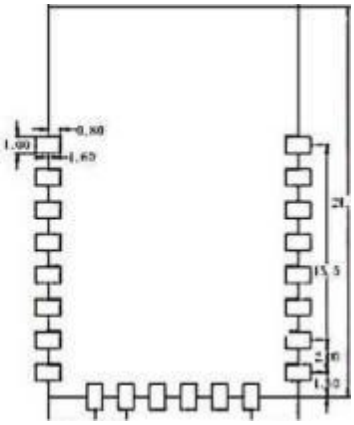


5. Application instructions

6. Functional description of the pipe feet

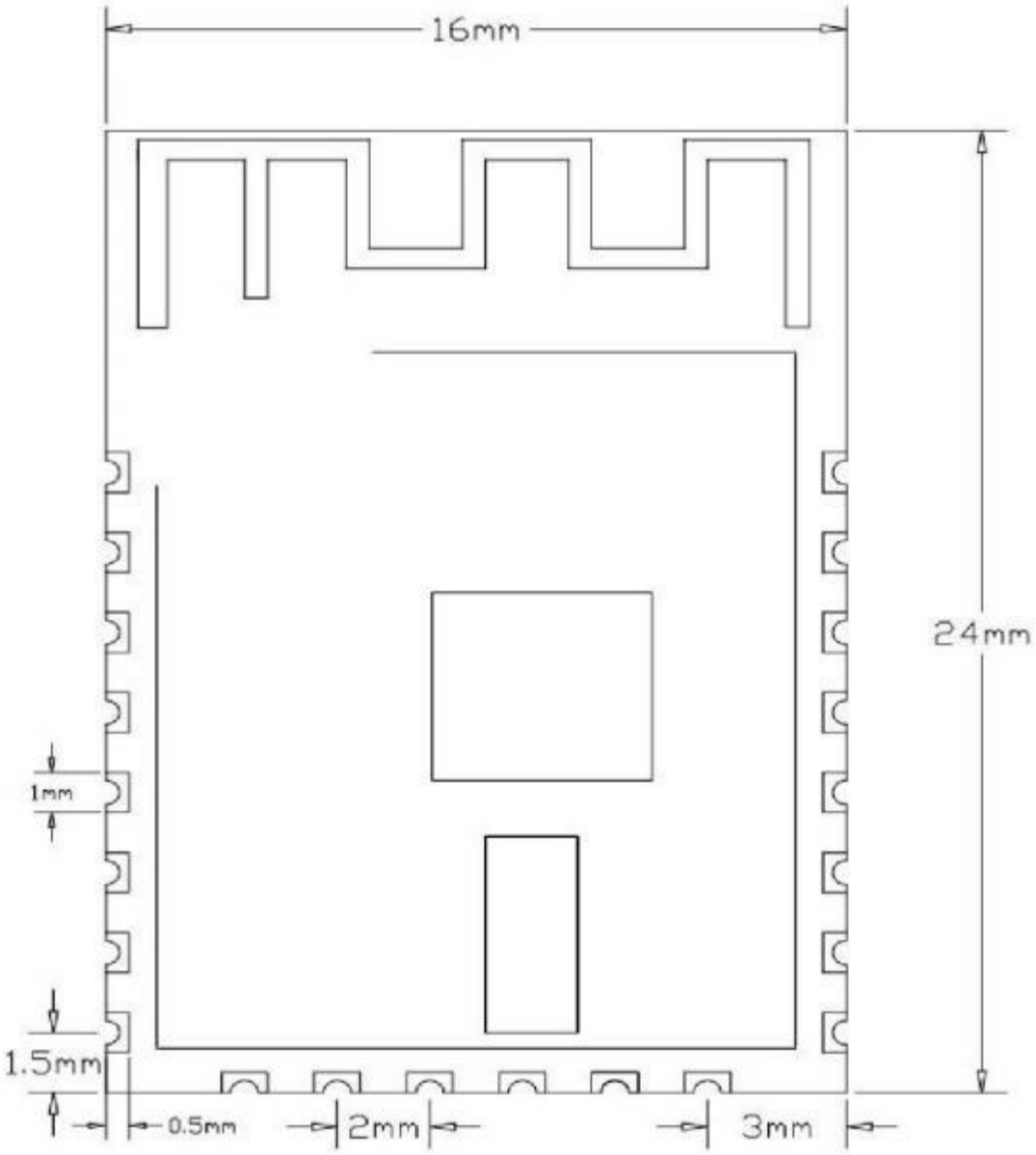
Pin assignments ˆ; Dimension

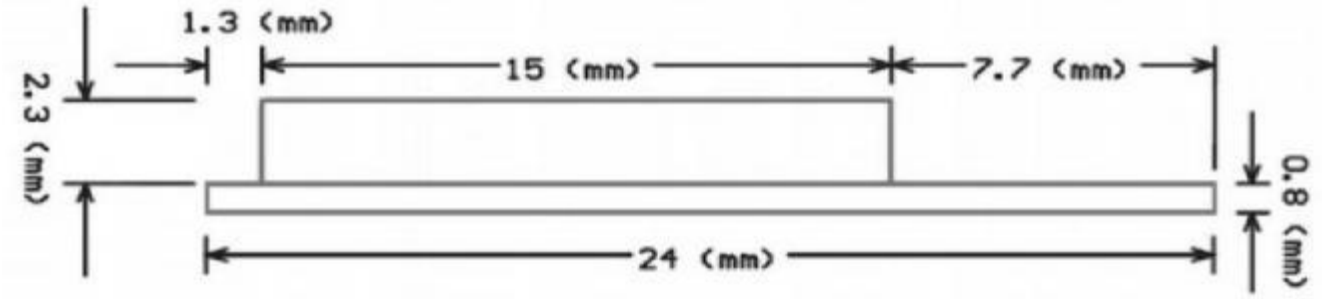




Pin Name	AD C	SP I	U ART	ICE MODE	V OL	P WM	Flash Prg
RST N							
GPIO 5	Y ES	C S					
CHIP EN							
GPIO 7	Y ES	C S					
GPIO 4	Y ES	CLK					
GPIO 3	Y ES	MISO	R xO				
GPIO 2	Y ES	MOS I	T xO				
V BAT					1.9V -3.8V		
G ND							
GPIO 20		MOS I					
GPIO O			DEBUG -TX				
GPIO 1			DEBUG -RX				
GPIO 21		MISO					
GPIO 22						Y ES	
GPIO 9	Y ES		Rx 1				
GPIO 8			Tx 1				

7. external dimensions





8. LAYOUT Notes

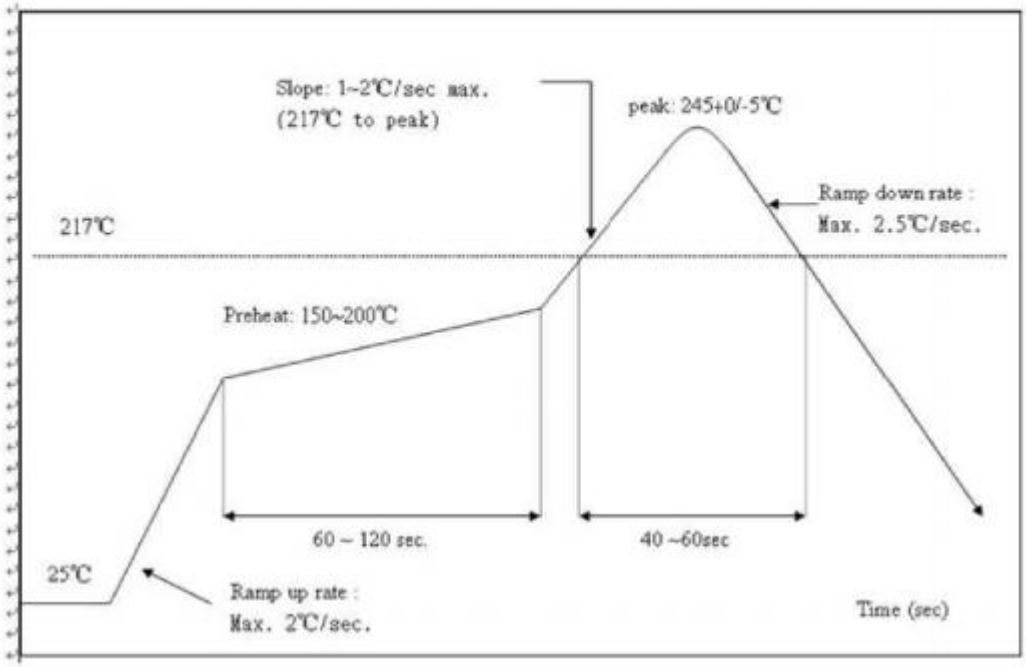
XYD1800-V 1. 1 module works in 2. 4G wireless frequency band, and should avoid the influence of various factors on wireless sending and receiving. Pay attention to the following points:

1. Avoid the use of metal in the product shell surrounding the module. When some metal shell is used, try to keep the module antenna part away from the metal part.
2. The metal cables or metal screws inside the product should be kept away from the antenna part of the module as far as possible.
3. The module antenna shall be placed around the PCB of the carrier board, not allowed in the plate, and the carrier board is empty under the antenna. In the direction parallel to the antenna, copper laying or wiring is not allowed on the plate.It is also a good choice to expose the antenna part directly to the carrier plate.
4. Spread a large GND below the module, and extend the line to the periphery as far as possible.
5. It is recommended to use insulation material for isolation in the module mounting position on the substrate

9.User'sManual

Recommended Reflow Profile

Referred to IPC/JEDEC standard.
Peak Temperature： <250℃
Number of Times： ≤2 times



Integration instructions for host product manufacturers according to KDB 996369 D03 OEM Manual vO1

1.2 List of applicable FCC rules
FCC Part 15 Subpart C 15.247& 15.209

1.3 Specific operational use conditions
The module is a WI-FI module
Operation Frequency: 2412-2462MHz
Number of Channel: 11
Modulation: IEEE 802.11b: DSSS (CCK, QPSK, BPSK)
IEEE 802.11g: OFDM (64QAM, 16QAM, QPSK, BPSK)
IEEE 802.11n HT20, : OFDM (64QAM, 16QAM, QPSK, BPSK)
Type: PCB Antenna
Gain: 1 dBi Max.
The module can be used for mobile or fixed installation with a maximum 1.0dBi antenna. The host manufacturer installing this module into their product must ensure that the final composit product complies with the FCC requirements by a technical assessment or evaluation to the FCC rules, including the transmitter operaition. The host manufacturer has to be aware not to provide information to the end user regarding how to install or remove this RF module in the user's manual of the end product which integrates this module. The end user manual shall include all required regulatory information/warning as show in this manual.

1.4 Limited module procedures
The module is a limited module,The host integrator installing the module into their product, a Class II Permissive Change (C2PC) must be filed with the FCC, or a new FCC authorization must be applied.

1.5 Trace antenna designs
Not applicable. The module has its own antenna, and doesn't need a host's printed board microstrip trace antenna etc.

1.6 RF exposure considerations
The module must be installed in the host equipment such that at least 20CM ismaintained between the antenna and users1 bodyand if RF exposure statement or module layout is changedthen the host product manufacturer required to take responsibility of the module through a change in FCC ID or new application. he FCC ID of the module cannotbe used on the final product. In these circumstances, the host manufacturer will be responsible for re-evaluating theend product (including the transmitter) and obtaining a separate FCC authorization.

1.7 Antennas
Antenna Specification are as follows:
Type: PCB Antenna
Gain: 1 dBi
This device is intended only for host manufacturers under the following conditions:
The transmitter module may not be co-located with any other transmitter or antenna;
The module shall be only used with the internal antenna(s) that has been originally tested and certified with this module. The antenna must be either permanently attached or employa 'unique1 antenna coupler.

As long as the conditions above are met, further transmitter test will not be required. However, the host manufacturer is still responsible for testing their end-product for any additional compliance requirements required with this module installed (for example, digital device emissions, PC peripheral requirements, etc.).

2.8 Label and compliance information
Host product manufacturers need to provide a physical or e-label stating "Contains FCC ID: 2A7KD-XYD1800" with their finished product.

2.9 Information on test modes and additional testing requirements

Operation Frequency: 2412-62MHz
Number of Channel: 11
Modulation: IEEE 802.11b: DSSS (CCK, QPSK, BPSK)
IEEE 802.11g: OFDM (64QAM, 16QAM, QPSK, BPSK)
IEEE 802.11n HT20, : OFDM (64QAM, 16QAM, QPSK, BPSK)
Host manufacturer must perfom test of radiated & conducted emission and spurious emission, etc according to the actual test modes for a stand-alone modular transmitter in a host, as well as for multiple simultaneously transmitting modules or other transmitters in a host product.
Only when all the test results of test modes comply with FCC requirements, then the end product can be sold legally.

2.10 Additional testing, Part 15 Subpart B disclaimer

The modular transmitter is only FCC authorized for FCC Part 15 Subpart C 15.249& 15.209 and that the host product manufacturer is responsible for compliance to any other FCC rules that apply to the host not covered by the modular transmitter grant of certification. If the grantee markets their product as being Part 15 Subpart B compliant (when it also contains unintentional-radiator digital circuity), then the grantee shall provide a notice stating that the final host product still requires Part 15 Subpart B compliance testing with the modular transmitter installed.

Federal Communication Commission Statement (FCC, U.S.)

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.

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.

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

IMPORTANT NOTES

Co-location warning:
This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

OEM integration instructions:
This device is intended only for OEM integrators under the following conditions:

The transmitter module may not be co-located with any other transmitter or antenna. The module shall be only used with the external antenna(s) that has been originally tested and certified with this module.

As long as the conditions above are met, further transmitter test will not be required. However, the OEM integrator is still responsible for testing their end-product for any additional compliance requirements required with this module installed (for example, digital device emissions, PC peripheral requirements, etc.).

Validity of using the module certification:
In the event that these conditions cannot be met (for example certain laptop configurations or co-location with another transmitter), then the FCC authorization for this module in combination with the host equipment is no longer considered valid and the FCC ID of the module cannot be used on the final product In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate FCC authorization.

End product labeling:
The final end product must be labeled in a visible area with the following: "Contains Transmitter Module FCC ID: 2A7KD-XYD1800.

Information that must be placed in the end user manual:
The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module in the user's manual of the end product which integrates this module. The end user manual shall include all required regulatory information/warning as show in this manual.