

Retevis RT29D

Retevis RT29D DMR 2 Way Radio User Manual

Model: RT29D

Brand: Retevis

1. INTRODUCTION

The Retevis RT29D is a professional-grade DMR (Digital Mobile Radio) two-way radio designed for reliable and secure communication in various demanding environments. Featuring IP67 waterproofing, high power output for extended range, and a long-lasting 3200mAh battery, this radio is built to meet the needs of business, outdoor, and emergency service users. This manual provides essential information for setting up, operating, maintaining, and troubleshooting your RT29D radio.

What's in the Box

- 2x RT29 Two Way Radio and Antenna
- 2x 3200 mAh Battery
- 2x Desktop Charger and Adapter, Belt clip
- 2x English User Manual



Figure 1.1: Package Contents of the Retevis RT29D

2. KEY FEATURES

The Retevis RT29D incorporates several advanced features to ensure optimal performance and user convenience.

2.1 Digital (DMR) and Analog Modes

The RT29D supports both digital and analog modes, offering enhanced sound quality, improved communication security, and better battery life in digital mode. It maintains compatibility with existing analog radio fleets, working with Tier I & II walkie-talkies.



Figure 2.1: Digital and Analog Mode Compatibility

2.2 High Power and Long Range

Equipped with high power DMR technology, the RT29D provides extended communication distance, making it suitable for large areas and challenging terrains. It is designed to keep your team connected efficiently, whether in the field or at an event.



Figure 2.2: High Power for Extended Range

2.3 IP67 Waterproof and Dustproof

The RT29D boasts an IP67 rating, ensuring maximum robustness against water and dust ingress. This feature allows the radio to operate reliably in severe weather conditions, including rain and wind, making it ideal for outdoor and demanding work environments.

Video 2.1: Demonstration of the RT29D's IP67 Waterproof and Dustproof capabilities, showing its resilience in challenging conditions.

2.4 Durable and Sturdy Construction

Constructed from solid aluminum material, the RT29D is built to be rugged and withstand the rigors of daily use. Its robust design ensures maximum uptime and reliability for business and professional applications.



Figure 2.4: Durable and Sturdy Build

2.5 Long-Lasting 3200mAh Battery

The radio is powered by a high-capacity 3200mAh rechargeable battery, providing up to 14 hours of working time and an impressive 46 hours of standby time. This ensures all-day use without the need for frequent recharging.

3200mAh Rechargeable Battery



Figure 2.5: 3200mAh Rechargeable Battery Performance

2.6 Secure Communication

The RT29D features 32-bit digital encryption, enhancing communication security and privacy. This makes it suitable for commercial or business environments where secure conversations are paramount.

3. SETUP GUIDE

3.1 Battery Installation

To install the battery, align the battery pack with the grooves on the back of the radio. Slide the battery upwards until it clicks securely into place. Ensure the battery release latch is engaged to prevent accidental detachment.



Figure 3.1: Battery and Radio Back Panel

3.2 Charging the Battery

Place the radio with the installed battery into the desktop charger. Ensure the charging contacts on the radio align with those on the charger. The charging indicator light on the charger will typically turn red while charging and green when fully charged. A full charge takes approximately 6 hours.



Figure 3.2: Convenient Charging Setup

3.3 Attaching the Antenna and Belt Clip

Screw the antenna clockwise onto the antenna connector on top of the radio until it is finger-tight. Attach the belt clip to the designated slots on the back of the radio for easy carrying.

4. OPERATING INSTRUCTIONS

4.1 Basic Controls

The RT29D features intuitive controls for ease of use:

- **Power/Volume Knob:** Located on top, rotate clockwise to power on and increase volume, counter-clockwise to decrease volume and power off.
- **Channel Knob:** Located on top, rotate to select desired communication channel.
- **PTT (Push-to-Talk) Key:** Located on the side, press and hold to transmit, release to receive.
- **Side Keys (Programmable):** Two side keys can be programmed for various functions (e.g., zone change, power adjustment) via programming software.
- **Earpiece Jack:** Located on the side, for connecting audio accessories.

4.2 Making a Call

Ensure your radio is powered on and set to the desired channel. Press and hold the PTT key to transmit your message. Speak clearly into the microphone. Release the PTT key to listen for a response.

4.3 Call Types

The RT29D supports various communication methods:

- **Single Call:** Direct communication with a specific individual radio.
- **Group Call:** Communication with a predefined group of radios.
- **All Call:** Broadcast message to all radios within range on the current channel.

4.4 Understanding Radio Range

The effective communication range of your RT29D radio is influenced by several factors, including radio power, signal type (digital vs. analog), horizon distance, atmospheric conditions, antenna quality, and most significantly, terrain and

obstacles.

Video 4.1: An informative video explaining the factors that affect two-way radio range, including terrain, obstacles, and atmospheric conditions.

Terrain and obstacles, such as buildings, hills, and dense foliage, can significantly block radio signals, creating "dead zones" or reducing effective range. The radio horizon also limits line-of-sight communication. To maximize range, consider increasing transmission power (doubling power can extend range by approximately 1.4 times), improving receiver sensitivity (adjusting squelch and using high-gain antennas), transmitting from higher locations, and ensuring your battery is fully charged.

5. MAINTENANCE

5.1 General Care and Cleaning

To ensure the longevity and optimal performance of your RT29D radio, regularly clean its exterior with a soft, damp cloth. Avoid using harsh chemicals or abrasive cleaners. Keep the earpiece jack and charging contacts free from dust and debris.

5.2 Battery Care

For best battery performance, fully charge and then fully drain the battery twice upon initial use. After this conditioning, regular charging is sufficient. Avoid overcharging or completely depleting the battery for extended periods. Store the radio and battery in a cool, dry place when not in use.

5.3 IP67 Waterproof Maintenance

While the RT29D is IP67 rated, it is important to ensure all covers (e.g., earpiece jack cover) are securely closed before exposing the radio to water or dust. After exposure to water, wipe the radio dry with a clean cloth. Do not attempt to charge a wet radio.

6. TROUBLESHOOTING

If you encounter issues with your Retevis RT29D radio, please refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Radio does not power on	Low or depleted battery; improperly installed battery	Charge the battery fully; ensure battery is correctly installed.
No signal or poor reception	Out of range; heavy obstacles; incorrect channel/frequency; weak battery	Move to an open area; check channel settings; ensure battery is charged.
Cannot communicate with other radios	Different firmware (RT29 vs RT29D); incompatible frequency/CTCSS/DCS settings	Ensure all radios are RT29D and have identical frequency and CTCSS/DCS settings. Note: RT29D is not directly compatible with RT29 due to different firmware.
Audio is distorted or too low	Volume too low; earpiece/microphone issue; weak signal	Adjust volume; check earpiece/microphone connection; move closer to other radios.

7. SPECIFICATIONS

Specification	Detail
Item Weight	2.9 pounds
Product Dimensions	1.58 x 2.61 x 5.95 inches
Country of Origin	China
Item model number	RT29D
Batteries	2 Lithium Ion batteries required. (included)
Brand	Retevis
Color	Black
Number of Channels	128
Special Feature	IP67 Waterproof and dustproof; rugged walkie talkies, Single/group/all call, DMR radios; Analogue/Digital, High power long range 2 way radio, 3200mAh Large capacity battery
Talking Range Maximum	5 Mile (Note: Actual range may vary significantly based on terrain and conditions)
Voltage	7.4 Volts (DC)
Water Resistance Level	Waterproof

8. WARRANTY & SUPPORT

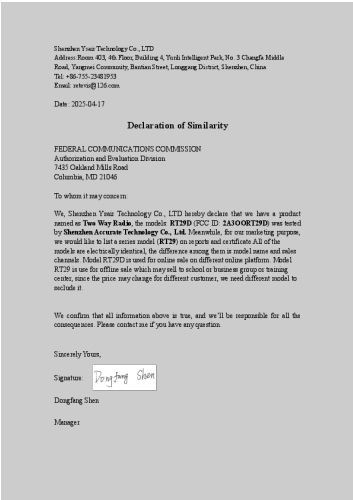
8.1 Warranty Information

Retevis provides a 2-year warranty for the radio body and a 1-year warranty for accessories. Additionally, there is a 30-day no-reason return policy. Beyond the warranty period, maintenance services are still offered, with buyers responsible for associated costs.

8.2 Customer Support

For any questions, technical assistance, or warranty claims, please contact Retevis customer support through Amazon. They aim to reply within 12 hours to provide the most hassle-free service possible.

Documents - Retevis – RT29D

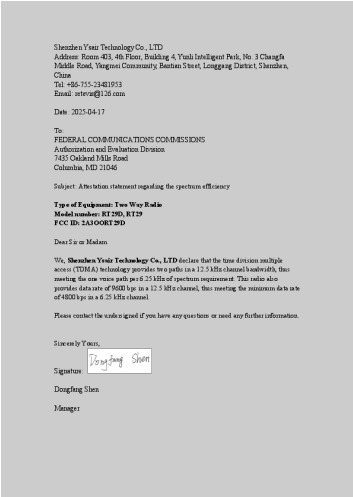


[\[pdf\]](#) Declaration of Conformity

chelsea gao DoS Letter Shenzhen Ysair Technology Co LTD RT29D Two Way Radio 2A3OORT29D rt29d

Shenzhen Ysair Technology Co., LTD Address:Room 403, 4th Floor, Building 4, Yunli Intelligent Park, ... Ysair Technology Co., LTD hereby declare that we have a product named as Two Way Radio, the models: **RT29D** FCC ID: 2A3OORT**29D** was tested by Shenzhen Accurate Technology Co., Ltd. Meanwhile, for our m...

lang:en score:32 filesize: 129.73 K page_count: 1 document date: 2025-05-23

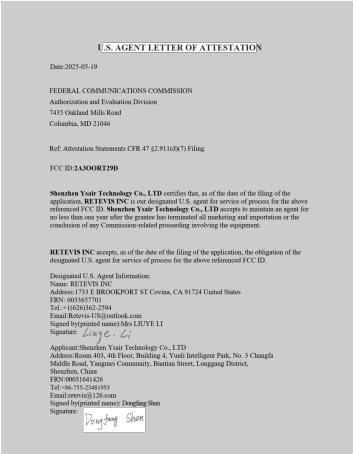


[\[pdf\]](#) Declaration of Conformity

bacl Declaration Letter Shenzhen Ysair Technology Co LTD RT29D Two Way Radio 2A3OORT29D rt29d

Shenzhen Ysair Technology Co., LTD Address: Room 403, 4th Floor, Building 4, Yunli Intelligent Park, ... estation statement regarding the spectrum efficiency Type of Equipment: Two Way Radio Model number: **RT29D**, RT29 FCC ID: 2A3OORT**29D**
Dear Sir or Madam We, Shenzhen Ysair Technology Co., LTD declare that...

lang:en score:30 filesize: 80.53 K page_count: 1 document date: 2025-05-22



[\[pdf\]](#) Agent Authorization

Note Please print this letter with your company s paper US Agent Attestation Letter Shenzhen Ysair Technology Co LTD RT29D Two Way Radio 2A3OORT29D rt29d

U.S. AGENT LETTER OF ATTESTATION Date:2025-05-19 FEDERAL COMMUNICATIONS COMMISSION Authorization and Evaluation Division 7435 Oakland Mills Road Columbia, MD 21046 Ref: Attestation Statements CFR 47.2.911 d 7 Filing FCC ID:2A3OORT**29D** Shenzhen Ysair Technology Co., LTD certifies that, as of the dat...

lang:en score:17 filesize: 145.74 K page_count: 1 document date: 2025-05-23

Shenzhen Ysair Technology Co., LTD
Address: Room 403, 4th Floor, Building 4, Yunli Intelligent Park, No. 3 Changfa Middle Road, Yangmei Community, Shenzhen
Bantian, Longgang District, Shenzhen, China
Tel: +86-755-23481953
Email: retevis@126.com

Date: 2025-05-19

FEDERAL COMMUNICATIONS COMMISSIONS
Authentication and Evaluation Division
1435 Oakland Mills Road
Columbia, MD 21046

Subject: Extended Frequencies Justification

Dear Sir/Madam,

The Radio with FCCID: **2A3OORT29D** was designed to operate in the frequency bands 400-480MHz

The said equipment information is other countries which accept the United States FCC Grant for Certification,
Shenzhen Ysair Technology Co., LTD is requesting that the FCC limit the frequency 400-480 MHz, under
FCC Rule Part 90 on the FCC Grant


Shenzhen Ysair Technology Co., LTD certifies that the radio will not be marketed to USA users with the
frequency band which is not allowed by the rule part 90

For the FCC's (FCC8348) guidance, as an alternative to listing the exact frequencies, we acknowledge that it's
a violation of the FCC Rule 2.5 for device operation on unlicensed frequencies

Frequency Range (MHz)	FCC Rule Part
400-405	For FEDERAL
480-485	FCC Part 90
400-480	FCC Part 90
480-485.5375	FCC Part 90
480.1375-485.5375	FCC Part 90
480.1375-480	FCC Part 90

Also, equipment programming is the responsibility of Authorized Service Personnel, the radio complies
with 47 CFR Part 90.203(a), so that the operator cannot directly program the licensed frequency using the
normally accessible external controls

Sincerely Yours,

Signature: 

Dongfeng Shen

Message:

[pdf]

Dear Sir Madam karen Frequency Justification Shenzhen Ysair Technology Co LTD RT29D Two Way
Radio 2A3OORT29D rt29d

Shenzhen Ysair Technology Co., LTD Address: Room 403, 4th Floor, Building 4,
Yunli Intelligent Park, ... MD 21046 Subject: Extended Frequencies Justification Dear
Sir/Madam, The Radio with FCC ID: **2A3OORT29D** was designed to operate in the
frequency bands 400-480MHz To aid equipment authorization in o...

lang:en score:17 filesize: 158.07 K page_count: 1 document date: 2025-05-23

Shenzhen Ysair Technology Co., LTD
Address: Room 403, 4th Floor, Building 4, Yunli Intelligent Park, No. 3 Changfa Middle Road,
Yangmei Community, Bantian Street, Longgang District, Shenzhen, China
Tel: +86-755-23481953
Email: retevis@126.com

Attestation Letter


Date: 2025-05-19

FEDERAL COMMUNICATIONS COMMISSIONS
Authentication and Evaluation Division
1435 Oakland Mills Road
Columbia, MD 21046

Ref: Attestation Statement CFR 47 § 2.111(d)(5)(i) Filing
FCCID: **2A3OORT29D**

Shenzhen Ysair Technology Co., LTD certifies that the equipment for which authorization is
sought **Agg** "covered" equipment published from covering an equipment information present to
section 1.102 of the FCC rule

Sincerely Yours,

Signature: 

Dongfeng Shen

Message:

[pdf]

Rachel Chen 2 911 d 5 i Attestation Statement Shenzhen Ysair Technology Co LTD RT29D Two Way
Radio 2A3OORT29D rt29d

Shenzhen Ysair Technology Co., LTD Address:Room 403, 4th Floor, Building 4, Yunli
Intelligent Park, ... Mills Road Columbia, MD 21046 Ref: Attestation Statements CFR
47 2.911 d 5 i Filing FCC ID: **2A3OORT29D** Shenzhen Ysair Technology Co., LTD
certifies that the equipment for which authorization is sou...

lang:en score:17 filesize: 75.65 K page_count: 1 document date: 2025-05-22

Shenzhen Ysair Technology Co., LTD
Address: Room 403, 4th Floor, Building 4, Yunli Intelligent Park, No. 3 Changfa Middle Road,
Yangmei Community, Bantian Street, Longgang District, Shenzhen, China
Tel: +86-755-23481953
Email: retevis@126.com

Attestation Letter


Date: 2025-05-19

FEDERAL COMMUNICATIONS COMMISSIONS
Authentication and Evaluation Division
1435 Oakland Mills Road
Columbia, MD 21046

Ref: Attestation Statement CFR 47 § 2.111(d)(5)(i) Filing
FCC ID: **2A3OORT29D**

Shenzhen Ysair Technology Co., LTD certifies that as of the date of the filing of the application, the
applicant **Agg** identified on the Covered List as an entity producing "covered" equipment.
And our product does not use frequency software information

Sincerely Yours,

Signature: 

Dongfeng Shen

Message:

[pdf]

Rachel Chen 2 911 d 5 ii Attestation Statement Shenzhen Ysair Technology Co LTD RT29D Two Way
Radio 2A3OORT29D rt29d

Shenzhen Ysair Technology Co., LTD Address:Room 403, 4th Floor, Building 4, Yunli
Intelligent Park, ... Mills Road Columbia, MD 21046 Ref:Attestation Statements CFR
47 2.911 d 5 ii Filing FCC ID: **2A3OORT29D** Shenzhen Ysair Technology Co., LTD
certifies that as of the date of the filing of the applica...

lang:en score:17 filesize: 208.69 K page_count: 1 document date: 2025-05-23

Shenzhen Ysair Technology Co., LTD
Address: Room 403, 4th Floor, Building 4, Yunli Intelligent Park, No. 3 Changfa Middle Road,
Yangmei Community, Bantian Street, Longgang District, Shenzhen, China
Tel: +86-755-23481953
Email: retevis@126.com

FCC Authorization

Date: 2025-05-19

FEDERAL COMMUNICATIONS COMMISSIONS
Authentication and Evaluation Division
1435 Oakland Mills Road
Columbia, MD 21046

Subject: Agent Authorization


To whom it may concern:

We, **Shenzhen Ysair Technology Co., LTD**, the undersigned, hereby authorize
Shenzhen Aisai Technology Co., Ltd. to act on its behalf in all matters relating to
application for equipment authorization, including the signing of all documents relating
to these matters. All acts carried out by **Shenzhen Aisai Technology Co., Ltd.** on
our behalf shall have the same effect as our own actions.

We, the undersigned, hereby certify that we are not subject to a civil or federal sanction,
that includes FCC's ban, pursuant to Section 1501 of the Anti-Drug Abuse Act of 1988,
21 U.S.C. 882.

This authorization is valid until further written notice from the applicant

Sincerely Yours,

Signature: 

Dongfeng Shen

Message:

[pdf] Agent Authorization

Note Please print this letter with your company s paper FCC Agent Authorization Letter Shenzhen
Ysair Technology Co LTD RT29D Two Way Radio 2A3OORT29D rt29d

Shenzhen Ysair Technology Co., LTD Address:Room 403, 4th Floor, Building 4, Yunli
Intelligent Park, No. 3 Changfa Middle Road, Yangmei Community, Bantian Street,
Longgang District, Shenzhen, China Tel: 86-755-23481953 Email: retevis 126.com
Date: 2025-05-19 FCC Authorization FEDERAL COMMUNICATIO...

lang:en score:16 filesize: 75.94 K page_count: 1 document date: 2025-05-22

Shenzhen Ysair Technology Co., Ltd.
Address: Room 403, 4th Floor, Building 4, Yunli Intelligent Park, 36-2 Dongpu Middle Road,
Yongqian Community, Shennan Street, Longgang District, Shenzhen, China
Tel: +86-755-22423873
Email: ysair@ysair.com

FCC Confidential Authorization

Date: 2025-05-12

FEDERAL COMMUNICATIONS COMMISSIONS
Authentication and Evaluation Division
7437 Oakland Mills Road
Columbia, MD 21046

Subject: Confidentiality Request regarding application for certification of
FCC ID: **2A3OORT29D**

In accordance with Sections 0.457 and 0.459 of the Commission's Rules, Shenzhen Ysair Technology Co., LTD hereby requests long-term confidential treatment of information accompanying this application as outlined below:

- Block Diagrams
- Schematics
- Operation Descriptions
- Part List/Assembly Procedures

As well as short-term confidential treatment of information accompanying this application for a period of 120 days after grant is issued as outlined below:

- Internal Photos
- User's Manual
- External Photos
- Test Set-up Photos

The above materials contain proprietary and confidential information not customarily shown to the public. The public disclosure of these materials provides significant benefit to its competitors in the market.

Sincerely Yours,

Signature:  Shen

Dongfeng Shen

Manager

[\[pdf\]](#) Confidentiality Request Letter

Note Please print this letter with your company's paper FCC Long and Short term Confidentiality

Request Shenzhen Ysair Technology Co LTD RT29D Two Way Radio 2A3OORT29D rt29d

Shenzhen Ysair Technology Co., LTD Address: Room 403, 4th Floor, Building 4, Yunli

Intelligent Park, ... , MD 21046 Subject: Confidentiality Request regarding application

for certification of FCC ID: 2A3OORT**29D** In accordance with Sections 0.457 and

0.459 of the Commission's Rules, Shenzhen Ysair Technolo...

lang:en **score:16** filesize: 147.67 K page_count: 1 document date: 2025-05-23