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**INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

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**Police digital trunking communication system Technical
requirements and measurement methods for radio frequency
equipment**

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Table of Contents

Foreword...	3
1 Scope...	5
2 Normative References...	5
3 Terms, Definitions, Symbols and Abbreviations...	7
3.1 Terms and Definitions...	7
3.2 Symbols and Abbreviations...	10
4 Classification...	10
5 Requirements...	11
5.1 RF Performance Requirements...	11
5.2 Electromagnetic Compatibility Requirements...	13
5.3 Electrical Safety Requirements...	14
5.4 Environmental Adaptability Requirements...	14
6 RF Performance Parameter Test Conditions and Test Methods...	17
6.1 RF Performance Parameter Test Conditions...	17
6.2 Transmitter RF Performance Parameter Test Methods...	19
6.3 Receiver RF Performance Parameter Test Methods...	26
7 Electromagnetic Compatibility Test Methods...	34
7.1 Conducted Disturbance...	34
7.2 Radiated Disturbance...	34
7.3 Electrostatic Discharge Immunity...	34
7.4 RF Electromagnetic Field Radiation Immunity...	34
7.5 Electrical Fast Transient Pulse Group (Power Port) Immunity...	35
7.6 Surge (Power Port) (Impact) Immunity...	35
7.7 Conducted Disturbance Immunity of RF Induction (Power Port)...	35
7.8 Immunity to Voltage Sags, Short Interruptions and Voltage Variations (Power Port)...	35
8 Electrical Safety Test Methods...	35
9 Environmental Adaptability Test Methods...	35
9.1 Test Methods for Mechanical Environmental Adaptability...	35
9.2 Test Methods for Climate and Environmental Adaptability...	37
9.3 Test Methods for Enclosure Protection Level...	40
9.4 Test Methods for Adaptability to Hazardous Environments...	40

Appendix A (normative) Test Sites and Site Layout Guide for Radiation Test.....	41
Appendix B (normative) General Test Methods for Radiated Spurious Emissions.....	44

1 Scope

This Standard stipulates the terms, definitions, symbols and abbreviations, classification, requirements and measurement methods for radio frequency equipment of the police digital trunking communication system.

This Standard is applicable to the transceiver stations, mobile stations and portable stations of the police digital trunking communication system, as well as their related systems and other equipment.

2 Normative References

The following documents are indispensable to the application of this document. In terms of references with a specified date, only versions with a specified date are applicable to this document. In terms of references without a specified date, the latest version (including all the modifications) is applicable to this document.

GB/T 2423.1-2008 Environmental Testing for Electric and Electronic Products - Part 2.Test Methods - Tests A. Cold

GB/T 2423.2-2008 Environmental Testing for Electric and Electronic Products - Part 2.Test Methods - Tests B. Dry Heat

GB/T 2423.3-2006 Environmental Testing for Electric and Electronic Products - Part 2. Testing Method - Test Cab. Damp Heat, Steady State

GB/T 2423.5-1995 Environmental Testing for Electric and Electronic Products - Part 2.Test Methods - Test Ea and Guidance. Shock

GB/T 2423.8-1995 Environmental Testing for Electric and Electronic Products - Part 2.Test Methods - Test Ed. Free Fall

GB/T 2423.10-2008 Environmental Testing for Electric and Electronic Products - Part 2.Tests

Methods - Test Fc. Vibration (Sinusoidal)

GB/T 2423.17-2008 Environmental Testing for Electric and Electronic Products - Part 2.Test Methods - Test Ka. Salt Mist

3.1.1 Transceiver station

The combination unit of a transmitter that converts baseband signals into radio frequency signals and a receiver that receives radio frequency signals from the antenna feed system and restores them to baseband signals in a radio communication system.

3.1.2 Mobile station

A wireless intercom device with an external antenna interface, usually installed on vehicles such as cars and ships and powered by them.

3.1.3 Portable station

A wireless intercom device with an external antenna interface, which is easy to carry (hand-hold or wear) and powered by a built-in power supply of the device.

3.1.7 Non-weather-protected location

The place of activities directly affected by the weather.

3.1.8 Transmitter power (conducted)

The average power supplied to the transmission line by the transmitter equipped with an antenna port in one RF cycle.

3.1.9 4FSK modulation frequency deviation error

The error ratio between the transmitter 4FSK code modulation frequency deviation and the code modulation frequency deviation specified in GA/T 1056-2013.

3.1.10 4FSK transmitter bit error ratio

The bit error ratio of the signal transmitted by the transmitter.

3.2 Symbols and Abbreviations

The following symbols and abbreviations are applicable to this document.

4 Classification

The transceiver stations, mobile stations and portable stations of the police digital trunking communication system (hereinafter referred to as the PDT equipment) are divided into the following categories according to the applicable climate environment.

5.1.1 Transmitter RF performance requirements

The transmitter RF performance indicators shall comply with the requirements of Table 1.

5.1.2 Receiver RF performance requirements

The receiver RF performance indicators shall comply with the requirements of Table 2.

5.2.3 Electrostatic discharge immunity

The electrostatic discharge immunity test of the transceiver station in operating state shall comply with the requirements of test level 4 in GB/T 17626.2-2006.

5.2.4 RF electromagnetic field radiation immunity

The RF electromagnetic field radiation immunity of the transceiver station and mobile station shall comply with the requirements of test level 3 in 5.1 of GB/T 17626.3-2006.

5.2.5 Electrical fast transient pulse group (power port) immunity

The electrical fast transient pulse group (power port) immunity of the transceiver station shall comply with the requirements of test level 3 in GB/T 17626.4-2008. During the test, the transceiver station allows temporary loss or reduction of functions or performance. After the test is stopped, the transceiver station shall be able to resume normal operating state by itself without human intervention.

5.2.6 Surge (power port) (impact) immunity

The surge (impact) immunity of the transceiver station using AC power supply shall comply with the requirements of test level 3 in GB/T 17626.5-2008. The surge (impact) immunity of the transceiver station using DC power supply shall comply with the requirements of test level

2 in GB/T 17626.5-2008. During the test, the transceiver station allows temporary loss or reduction of functions or performance. After the test is stopped, the transceiver station shall be able to resume normal operating state by itself without human intervention.

The surge (impact) immunity of the mobile station shall comply with the requirements of test level 2 in GB/T 17626.5-2008. During the test, the mobile station allows temporary loss or reduction of functions or performance. After the test is stopped, the mobile station shall be able to resume normal operating state by itself without human intervention.

5.4.1 Test criteria and configuration requirements

In the environmental adaptability test, basic electrical performance (carrier output power, carrier frequency error and static sensitivity) is used as the performance criterion after the