

Translated English of Chinese Standard: GB15629.1104-2006

www.ChineseStandard.net → Buy True-PDF → Auto-delivery.

Sales@ChineseStandard.net

GB

NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA

ICS 35.110

L 78

GB 15629.1104-2006

**Information Technology – Telecommunications and Information
Exchange between Systems – Local and Metropolitan Area Networks
– Specific Requirements – Part 11: Wireless LAN Medium Access
Control (MAC) and Physical Layer (PHY) Specifications: Further
Higher Data Rate Extension in the 2.4 GHz Band**

信息技术 系统间远程通信和信息交换局域网和城域网 特定要求 第
11 部分：无线局域网媒体访问控制和物理层规范：2.4GHz 频段更高
数据速率扩展规范

(ISO/IEC 8802-11:2005/Amd4:2005, MOD)

Issued on: January 27, 2006

Implemented on: June 8, 2006

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine;**

Standardization Administration of the People's Republic of China.

Table of Contents

Foreword	5
1 Scope	7
2 Normative References	7
3 Terms and Definitions.....	8
4 Abbreviations	8
5 Overview	8
6 Extension Rate PHY Specifications	9
6.1 Overview	9
6.1.1 Introduction	9
6.1.2 Working mode	9
6.1.3 Range.....	11
6.1.4 Extension rate PHY layer functions.....	12
6.2 PHY-specific service parameter list	12
6.3 Extension rate PLCP sublayer	14
6.3.1 Introduction	14
6.3.2 PPDU format	14
6.3.3 PLCP data modulation and rate change	19
6.3.4 PLCP transmit procedure	24
6.3.5 CCA.....	24
6.3.6 PLCP receive procedure	25
6.4 ERP PMD operating specifications (general)	25
6.4.1 Regulatory requirements	25
6.4.2 Operating channel frequencies	26
6.4.3 Transmit and receive in-band and out-of-band spurious emissions	26
6.4.4 Slot time	26
6.4.5 SIFS value.....	26
6.4.6 CCA performance.....	26
6.4.7 PMD transmit specifications	27

6.5 ERP operation specifications.....	27
6.5.1 Receiver minimum input level sensitivity.....	27
6.5.2 Adjacent channel rejection	28
6.5.3 Receive maximum input level capability.....	28
6.5.4 Transmit spectral mask	28
6.6 ERP-PBCC operation specifications	28
6.6.1 Receiver minimum input level sensitivity.....	29
6.6.2 Receiver adjacent channel rejection	29
6.7 DSSS-OFDM operation specifications	29
6.7.1 Overview	29
6.7.2 Single carrier to multicarrier transition requirements.....	30
6.8 ERP PLME	41
6.8.1 PLME SAP	41
6.8.2 MIB.....	41
6.8.3 TXTIME (transmitting time)	42
6.8.4 ERP-OFDM PLCP PSDU definition	46
6.9 Extended Rate PMD sublayer	47
6.9.1 Scope and field of application	47
6.9.2 Overview of service	47
6.9.3 Overview of Interactions.....	47
6.9.4 Basic service and options	47
6.9.5 PMD_SAP detailed service specification	50
Annex A (Normative) Protocol Implementation Conformance Statement (PICS)	
Proforma.....	53
A.1 IUT configuration	53
A.2 MAC protocol capability	53
A.3 ERP Physical Layer functions	58
Annex B (Normative) Modifications to GB 15629.11-2003 and GB 15629.1102-2003	
.....	62
B.1 Frame formats.....	62

B.1.1 Control frames	62
B.1.2 Management frames	62
B.1.3 Management frame body components	65
B.1.4 Information elements	68
B.2 MAC sublayer functional description	72
B.2.1 DCF	72
B.2.2 NAV distribution	73
B.2.3 Determination of PLME aCWmin characteristics	73
B.2.4 Multirate support	73
B.2.5 Frame exchange sequence	74
B.2.6 Protection mechanism	75
B.3 Layer management	76
B.3.1 PLME-DSSSTESTMODE	76
B.4 High Rate direct sequence spread spectrum (HR/DSSS) PHY specification	77
B.4.1 High Rate PLCP sublayer	77
Annex C (Normative) Formal Description of MAC Operation	79
Annex D (Normative) ASN.1 Coding of MAC and PHY MIB	85
Annex NA (Informative) Clause Comparison Table of this Part, ISO/IEC 8802-11:2005/Amd4:2005, and GB 15629.11-2003	90

Foreword

The Subclauses 6.4.1, 6.4.2, 6.4.3 and 6.4.7 of this Part are mandatory, while the rest are recommended.

This Part revised and adopted the international standard ISO/IEC 8802-11:2005/Amd4:2005 *Information Technology – Telecommunications and Information Exchange between Systems – Local and Metropolitan Area Networks – Specific Requirements – Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications: Further Higher Data Rate Extension in the 2.4 GHz Band* (2005 English Edition).

This Part is sub-item of GB 15629.11-2003 *Information Technology - Telecommunications and Information Exchange between Systems - Local and Metropolitan Area Networks - Specific Requirements - Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications*. In addition to the further higher data rate extension in the 2.4 GHz Band must comply with the provisions of this Part, the wireless LAN and other characteristics must comply with the provisions of GB 15629.11-2003 *Information Technology - Telecommunications and Information Exchange between Systems - Local and Metropolitan Area Networks - Specific Requirements - Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications*, Clause 6 of GB 15629.1102-2003 *Information technology--Telecommunications and information exchange between systems--Local and metropolitan area networks--Specific requirements--Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications: Higher-Speed Physical Layer Extension Specification in 2.4 GHz Band*, as well as other national standard on the extension sub-items.

Compared with ISO/IEC 8802-11:2005/Amd4:2005, the major technical differences of this Part are as follows: Add relevant Chinese contents in the Clauses and Annexes related to the radio emission.

For the ease of use, compared with ISO/IEC 8802-11:2005/Amd4:2005, the structure of this Part has made the editorial adjustments, which can be referred to in Annex NA. The Annex NA lists the clause correspondence between this Part and GB 15629.11-2003.

In this Part, Annexes A, B, C and D are normative; while the Annex NA is informative.

This Part was proposed by Ministry of Industry and information Technology of the People's Republic of China.

This Part shall be under the jurisdiction of China Electronics Standardization Institute.

Drafting organization of this Part: China IWNCOMM Co., Ltd.

Participating drafting organizations of this Part: State Radio Monitoring Center; Commercial Cryptography Testing Center of State Cryptography Administration; China Electronics Standardization Institute; Xidian University; Xi'an University of Posts & Telecommunications;

**Information Technology – Telecommunications and Information
Exchange between Systems – Local and Metropolitan Area Networks
– Specific Requirements – Part 11: Wireless LAN Medium Access
Control (MAC) and Physical Layer (PHY) Specifications: Further
Higher Data Rate Extension in the 2.4 GHz Band**

1 Scope

This Part specifies the high-performance extension specification of the physical layer of the direct sequence spread spectrum system (DSSS) wireless LAN, which is a modification to the physical layer of the wireless LAN specified in Clause 15 of GB 15629.11-2003 and Clause 6 of GB 15629.1102-2003. The physical layer is referred to as Extension Rate PHY (ERP) in this Part. The physical layer operates in the 2.4 GHz ISM band.

This Part applies to the 2.4 GHz band wireless LAN higher data rate extension.

2 Normative References

The provisions in following documents become the provisions of this Part through reference in this Part. For dated references, the subsequent amendments (excluding corrigendum) or revisions do not apply to this Part, however, parties who reach an agreement based on this Standard are encouraged to study if the latest versions of these documents are applicable. For undated references, the latest edition of the referenced document applies.

GB 15629.11-2003 Information Technology - Telecommunications and Information Exchange between Systems - Local and Metropolitan Area Networks - Specific Requirements - Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications

GB 15629.1101-2006 Information technology - Telecommunications and Information Exchange between Systems - Local and Metropolitan Area Networks - Specific Requirements - Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications: High-Speed Physical Layer Extension Specification in 5.8 GHz Band

GB 15629.1102-2003 Information technology--Telecommunications and information exchange between systems--Local and metropolitan area networks--Specific requirements--Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer

(PHY) Specifications: Higher-Speed Physical Layer Extension Specification in 2.4 GHz Band

3 Terms and Definitions

In addition to the following terms and definitions, the terms and definitions given in GB 15629.11-2003 are applicable to this Part.

3.1 Protection mechanism

Any procedure that attempts to update the NAV of all receiving STAs prior to the transmission of a frame that may or may not be understood by receivers.

3.2 Protection mechanism frame

Any frame that is sent as part of a protection mechanism procedure.

4 Abbreviations

In addition to the following abbreviations, the abbreviations in Clause 4 of GB 15629.11-2003 and Clause 4 of GB 15629.1102-2003 are applicable to this Part.

DSSS-OFDM: PHYs using DSSS-OFDM modulation under 6.7 rules.

ERP: extended rate PHYs conforming to Clause 6.

ERP-PBCC: PHYs using extended rate PBCC modulation under 6.6 rules.

ERP-CCK: PHYs using CCK modulation under Clause 6 rules.

ERP-DSSS: PHYs using DSSS modulation under Clause 6 rules.

ERP-DSSS/CCK: PHYs using DSSS or CCK modulation under Clause 6 rules.

ERP-OFDM: PHYs using OFDM modulation under 6.5 rules.

EVM: error vector magnitude.

NonERP: non-extended rate PHYs conforming to Clause 15 of GB 15629.11-2003 or Clause 6 of GB 15629.1102-2003, but not to Clause 6 of this Part.

5 Overview

This Part, as a modification of GB 15629.11-2003 and GB 15629.1102-2003, defines a higher data rate extension physical layer specification for wireless LAN in the 2.4 GHz band, where

This is an excerpt of the PDF (Some pages are marked off intentionally)

Full-copy PDF can be purchased from 1 of 2 websites:

1. <https://www.ChineseStandard.us>

- SEARCH the standard ID, such as GB 4943.1-2022.
- Select your country (currency), for example: USA (USD); Germany (Euro).
- Full-copy of PDF (text-editable, true-PDF) can be downloaded in 9 seconds.
- Tax invoice can be downloaded in 9 seconds.
- Receiving emails in 9 seconds (with download links).

2. <https://www.ChineseStandard.net>

- SEARCH the standard ID, such as GB 4943.1-2022.
- Add to cart. Only accept USD (other currencies - <https://www.ChineseStandard.us>).
- Full-copy of PDF (text-editable, true-PDF) can be downloaded in 9 seconds.
- Receiving emails in 9 seconds (with PDFs attached, invoice and download links).

Translated by: Field Test Asia Pte. Ltd. (Incorporated & taxed in Singapore. Tax ID: 201302277C)

About Us (Goodwill, Policies, Fair Trading...): <https://www.chinesestandard.net/AboutUs.aspx>

Contact: Wayne Zheng, Sales@ChineseStandard.net

Linkin: <https://www.linkedin.com/in/waynezhengwenrui/>

----- The End -----