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Information technology — Automatic identification and data capture techniques — QR Code 2005 bar code symbology specification

Technologies de l'information — Techniques d'identification automatique et de capture des données — Spécification de la symbologie de code à barres QR Code 2005

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Foreword

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International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

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ISO/IEC 18004 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 31, *Automatic identification and data capture techniques*.

This second edition cancels and replaces the first edition (ISO/IEC 18004:2000), which has been technically revised.

Introduction

It is necessary to distinguish four technically different, but closely related members of the QR Code family, which represent an evolutionary sequence.

— QR Code Model 1 was the original specification for QR Code and is described in AIM International Symbology Specification 97-001.

— QR Code Model 2 was an enhanced form of the symbology with additional features (primarily the addition of alignment patterns to assist navigation in larger symbols), and was the basis of the first edition of ISO/IEC 18004.

— QR Code 2005 (the basis of this second edition of ISO/IEC 18004) is closely similar to QR Code Model 2 and, in its QR Code format, differs only in the addition of the facility for symbols to appear in a mirror image orientation, for reflectance reversal (light symbols on dark backgrounds) and the option for specifying alternative character sets to the default.

— The Micro QR Code format (also specified in this International Standard), is a variant of QR Code 2005 with a reduced number of overhead modules and a restricted range of sizes, which enables small to moderate amounts of data to be represented in a small symbol, particularly suited to direct marking on parts and components, and to applications where the space available for the symbol is severely restricted.

QR Code 2005 is a matrix symbology. The symbols consist of an array of nominally square modules arranged in an overall square pattern, including a unique finder pattern located at three corners of the symbol (in Micro QR Code symbols, at a single corner) and intended to assist in easy location of its position, size and inclination. A wide range of sizes of symbol is provided for, together with four levels of error correction. Module dimensions are user-specified to enable symbol production by a wide variety of techniques.

QR Code Model 2 symbols are fully compatible with QR Code 2005 reading systems.

Model 1 QR Code symbols are recommended only to be used in closed system applications and it is not a requirement that equipment complying with this International Standard should support Model 1. Since QR Code 2005 is the recommended model for new, open systems application of QR Code, this International Standard describes QR Code 2005 fully, and lists the features in which Model 1 QR Code differs from QR Code 2005 in Annex N.