

Industrial communication networks - Wireless
communication networks - Part 2: Coexistence
management

EESTI STANDARDI EESSÕNA

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English Version

**Industrial communication networks - Wireless communication
networks - Part 2: Coexistence management
(IEC 62657-2:2013 , modified)**

Réseaux de communication industriels - Réseaux de
communication sans fil - Partie 2: Gestion de coexistence
(IEC 62657-2:2013 , modifiée)

Industrielle Kommunikationsnetze - Funk-
Kommunikationsnetze - Teil 2: Koexistenz-Management
(IEC 62657-2:2013 , modifiziert)

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Foreword

This document (EN 62657-2:2015) consists of the text of IEC 62657-2:2013 prepared by SC 65C "Industrial networks" of IEC/TC 65 "Industrial-process measurement, control and automation", together with the common modifications prepared by CLC/TC 65X "Industrial-process measurement, control and automation".

The following dates are fixed:

- latest date by which the document has to be implemented at national level (dop) 2016-03-16
by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2018-03-16

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The text of the International Standard IEC 62657-2:2013 was approved by CENELEC as a European Standard with agreed common modifications.

COMMON MODIFICATIONS

1 Scope

Delete Examples 1 and 2.

3 Terms, definitions, abbreviated terms and conventions

In 3.2, **delete** the term 'R&TTE'.

4 Coexistence concept in industrial automation

In 4.2, **replace** the first paragraph by the following:

This part of EN 62657 gives guidance to manufacturers of wireless automation devices on how to fulfill requirements of applicable regional and local regulations.

7 Coexistence management process

In 7.1.1, **replace** the last paragraph by the following:

In all phases, the local and regional legal and regulatory issues shall be considered and shall be fulfilled.

Bibliography

Add the following notes for the standards indicated:

IEC 61360 Series	NOTE	Harmonized in EN 61360 Series (not modified).
IEC 61784-1	NOTE	Harmonized as EN 61784-1.
IEC 61784-2	NOTE	Harmonized as EN 61784-2.
IEC 62591	NOTE	Harmonized as EN 62591.

Replace the text of entries [20] and [21] by 'Void'.

CONTENTS

FOREWORD.....	6
INTRODUCTION.....	8
1 Scope.....	10
2 Normative references	10
3 Terms, definitions, abbreviated terms and conventions.....	10
3.1 Terms and definitions	10
3.2 Abbreviated terms	15
3.3 Conventions	16
4 Coexistence concept in industrial automation	16
4.1 Overview.....	16
4.1.1 General	16
4.1.2 Manual coexistence management.....	18
4.1.3 Automated non-collaborative metrics-based coexistence management.....	18
4.1.4 Automated collaborative metrics-based coexistence management	18
4.2 Objective.....	18
4.3 Necessity to implement a coexistence management	20
4.4 Interference potential	22
4.5 Ancillary conditions	24
4.6 Best practices to achieve coexistence	24
4.7 Coexistence conceptual model	27
4.8 Coexistence management and selection of a wireless communication solution	29
4.9 Coexistence management system	31
5 Coexistence management parameters	31
5.1 General.....	31
5.2 Explanation of coexistence parameters	31
5.2.1 Adjacent channel selectivity.....	31
5.2.2 Antenna gain	31
5.2.3 Antenna radiation pattern	32
5.2.4 Bandwidth	32
5.2.5 Bit rate of physical link	32
5.2.6 Centre frequency.....	32
5.2.7 Characteristic of the area of operation	32
5.2.8 Communication load	32
5.2.9 Cut-off frequency.....	33
5.2.10 Data throughput.....	34
5.2.11 Duty cycle	34
5.2.12 Effective radiated power (EIRP, ERP).....	35
5.2.13 Frequency hopping procedure	36
5.2.14 Future expansion plan	36
5.2.15 Geographical dimension of the plant.....	36
5.2.16 Infrastructure components	36
5.2.17 Initiation of data transmission	36
5.2.18 Length of user data per transmission interval	36
5.2.19 Limitation from neighbors of the plant.....	36
5.2.20 Maximum dwell time	37

5.2.21	Maximum number of retransmissions	37
5.2.22	Maximum transmitter sequence	37
5.2.23	Mechanisms for adaptivity	38
5.2.24	Medium access control mechanism.....	39
5.2.25	Modulation.....	39
5.2.26	Natural environmental conditions	39
5.2.27	Device characterization parameters	39
5.2.28	Other frequency users	39
5.2.29	Packet loss rate (PLR).....	39
5.2.30	Physical links	40
5.2.31	Positions of wireless devices and distances between them	40
5.2.32	Power spectral density (PSD)	40
5.2.33	Purpose of the automation application	41
5.2.34	Radio channel	41
5.2.35	Radio propagation conditions	41
5.2.36	Receiver blocking	42
5.2.37	Receiver maximum input level	42
5.2.38	Receiver sensitivity.....	42
5.2.39	Regional radio regulations	42
5.2.40	Relative movement.....	42
5.2.41	Reliability required.....	42
5.2.42	Response time	43
5.2.43	Security level required.....	43
5.2.44	Spatial coverage of the wireless communication network.....	43
5.2.45	Spurious response.....	43
5.2.46	Topology	44
5.2.47	Total radiated power (TRP).....	44
5.2.48	Transmission gap	44
5.2.49	Transmission interval.....	45
5.2.50	Transmission time	45
5.2.51	Transmitter spectral mask	47
5.2.52	Type of antenna	48
5.2.53	Update time.....	48
5.2.54	Used frequency bands	49
5.2.55	Wireless devices	49
5.2.56	Wireless communication networks	49
5.2.57	Wireless technology or standard.....	50
6	Coexistence management information structures.....	50
6.1	General.....	50
6.2	General plant characteristic.....	51
6.3	Application communication requirements.....	52
6.3.1	Overview	52
6.3.2	Requirements influencing the characteristic of wireless solutions	52
6.3.3	Performance requirements	53
6.4	Characteristic of wireless system type and wireless device type	53
6.4.1	Overview	53
6.4.2	Characteristic of wireless system type	54
6.4.3	Characteristic of wireless devices type	55
6.5	Characteristic of wireless communication solution	57

6.5.1	Overview	57
6.5.2	Characteristic of a wireless network solution	58
6.5.3	Characteristic of wireless devices solution	58
7	Coexistence management process	59
7.1	General	59
7.1.1	Overview	59
7.1.2	Documentation	60
7.1.3	Suitable documentation method	62
7.1.4	Application of tools	63
7.2	Establishment of a coexistence management system	63
7.2.1	Nomination of a coexistence manager	63
7.2.2	Responsibility of a coexistence manager	64
7.2.3	Support by radio experts	64
7.2.4	Training	64
7.3	Maintaining coexistence management system	65
7.4	Phases of a coexistence management process	65
7.4.1	Investigation phase	65
7.4.2	Planning phase	68
7.4.3	Implementation phase	70
7.4.4	Operation phase	71
8	Coexistence parameter templates	73
	Bibliography	77
	Figure 1 – Area of consideration	20
	Figure 2 – Examples of wireless equipment in industrial environments	21
	Figure 3 – Progression of expense to achieve coexistence corresponding to the application classes	24
	Figure 4 – Separation of wireless communication systems according to frequency and time	25
	Figure 5 – Coexistence conceptual model	28
	Figure 6 – Flow chart of the coexistence conceptual model	29
	Figure 7 – Selection of a wireless communication system in the coexistence management process	30
	Figure 8 – Communication load in case of two wireless devices	33
	Figure 9 – Communication load in the case of several wireless devices	33
	Figure 10 – Cut-off frequencies derived from maximum power level	34
	Figure 11 – Duty cycle	35
	Figure 12 – Maximum dwell time	37
	Figure 13 – Maximum transmitter sequence	38
	Figure 14 – Distance of the radio components	40
	Figure 15 – Power spectral density of an IEEE 802.15.4 system	41
	Figure 16 – Minimum transmission gap	44
	Figure 17 – Communication cycle, application event interval and machine cycle	45
	Figure 18 – Example of the density functions of transmission time	46
	Figure 19 – Example of the distribution functions of transmission time	47
	Figure 20 – Transmitter spectral mask of an IEEE 802.15.4 system	48

Figure 21 – Example of distribution functions of the update time	49
Figure 22 – Principle for use of coexistence parameters	50
Figure 23 – Parameters to describe the general plant characteristic	51
Figure 24 – Parameters to describe application communication requirements	52
Figure 25 – Parameters to describe wireless network type and device type	54
Figure 26 – Power spectral density and transmitter spectral mask of a DECT system	56
Figure 27 – Medium utilization in time and frequency of a DECT system	56
Figure 28 – Parameters to describe a wireless communication solution	58
Figure 29 – Relations of the documents in a coexistence management system specification	62
Figure 30 – Planning of a wireless communication system in the coexistence management process	69
Figure 31 – Implementation and operation of a wireless communication system in the coexistence management process	72
Table 1 – Classification of application communication requirements	19
Table 2 – Application profile dependent observation time values	35
Table 3 – List of parameters used to describe the general plant characteristic	51
Table 4 – List of parameters used to describe the requirements influencing the characteristic of wireless solutions	53
Table 5 – List of parameters used to describe performance requirements	53
Table 6 – List of parameters used to describe the wireless system type	55
Table 7 – List of parameters used to describe the transmitter of a wireless device type	57
Table 8 – List of parameters used to describe the receiver of a wireless device type	57
Table 9 – List of parameters used to describe a wireless network solution	58
Table 10 – List of parameters used to describe the transmitter of a wireless device solution	59
Table 11 – List of parameters used to describe the receiver of a wireless device solution	59
Table 12 – Template used to describe the general plant characteristic	73
Table 13 – Template used to describe the application communication requirements	74
Table 14 – Template used to describe the wireless system type	74
Table 15 – Template used to describe a wireless device type	75
Table 16 – Template used to describe the wireless network solution	75
Table 17 – Template used to describe a wireless device solution	76

INTRODUCTION

The market is in need of network solutions, each with different performance characteristics and functional capabilities, matching diverse application requirements. Industrial automation applications cover different industrial application domains like:

- process automation, covering for example the following industry branches
 - oil & gas, refining,
 - chemical,
 - pharmaceutical,
 - mining,
 - pulp & paper,
 - water & wastewater,
 - steel
- electric power like
 - power generation (for example wind turbine),
 - power distribution (grid),
- factory automation, covering for example the following industry branches
 - food & beverage,
 - automotive,
 - machinery,
 - semiconductor.

Industrial automation applications require behaviors of wireless communication networks that are different from those that are used for example in telecommunications or for commercial like a remote control or toy. These industrial automation requirements are identified and provided in IEC/TS 62657-1.

In industrial automation, many different wireless communication networks may operate in the same premises. Examples of these networks are IEC 62591 [6]¹ (WirelessHART^{®2}), IEC 62601 [7] (WIA-PA) and IEC/PAS 62734 [9] (ISA100.11a); all these networks use IEEE 802.15.4 [18] for the process automation applications. Other examples of wireless networks are specified in IEC 61784-1 [3] and IEC 61784-2 [4] CPs that use IEEE 802.11 [14] and IEEE 802.15.1 [16] for factory automation applications. Different to wired fieldbuses, the wireless communication interfaces can interfere with others on the same premises or environment, disturbing each other. Therefore, without a predictable assuredness of coexistence, it could be problematic to have multiple wireless communication networks in the same facility or environment, especially because the time-criticality, the safety and the security of the operation may not be ensured in such an environment.

This part of the IEC 62657 addresses the coexistence management for a predictable assuredness of coexistence.

¹ Figures in square brackets refer to the Bibliography.

² WirelessHART is the registered trade name of the HART Communication Foundation. This information is given for the convenience of users of this document and does not constitute an endorsement by IEC of the product named. Equivalent products may be used if they can be shown to lead to the same results.

The IEC 62657 series has two parts:

- Part 1: Wireless communication requirements and spectrum considerations
- Part 2: Coexistence management

IEC/TS 62657-1 [8] provides general requirements of industrial automation and spectrum considerations that are the basis for industrial communication solutions. This second part of IEC 62657 specifies the coexistence management with a predictable assuredness of coexistence. It is intended to facilitate harmonization of future adjustments to international, national, and local regulations.

This Part 2 of IEC 62657 provides the coexistence management concept and process. Based on the coexistence management process, a predictable assuredness of coexistence can be achieved for a given spectrum with certain application requirements.

This Part 2 of IEC 62657 provides guidance to the users of wireless communication networks on selection and proper use of wireless communication networks. To provide suitable wireless devices to the market, it also serves vendors in describing the behaviors of wireless devices to build wireless communication networks matching the application requirements.

This Part 2 of IEC 62657 is based on analyses of a number of International Standards, which focus on specific technologies. The intention of this standard is not to invent new parameters but to use already defined ones and to be technology independent.