

Special Documentation

Cellular Radio Module

CRM-02

NB-Iot / LTE Cat M1 / GSM transceiver module for
measuring instruments



1 About this document

1.1 Document function

This document is a part of the Operating Instructions and serves as a reference for the use of the cellular radio module.

1.2 Symbols

1.2.1 Symbols for certain types of Information

Symbol	Meaning
	Tip Indicates additional information.
	Notice or individual step to be observed

1.3 Supplementary documentation

 For an overview of the scope of the associated Technical Documentation, see the Device Viewer:

www.endress.com/deviceviewer

- Enter the serial number from the nameplate of the measuring device in which the cellular radio module is used.

2 Declaration of Conformity

The cellular radio module meets all the applicable EC directives.

3 Product description

The cellular radio module connects a measuring device to an external terminal and enables the bidirectional exchange of data via the cell phone network. The cellular radio module is installed in a measuring device.

4 Technical data

Function	LPWAN: LTE Cat M1 (3GPP release 14) - Maximum 375 kbps (download), maximum 1.12 Mbps (upload) (half-duplex) - LTE FDD: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B26/B27/B28/B66/B85
	LPWAN: LTE Cat NB1 (3GPP release 14) - Maximum 32 kbps(download), maximum 70 kbps(upload) - LTE FDD: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B28/B66/B71/B85
	LPWAN: LTE Cat NB2 (3GPP Release 14) - Maximum 136 kbps(download), maximum 150 kbps(upload) - LTE FDD: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B28/B66/B71/B85
	GPRS: - Maximum 85.6 kbps(download), maximum 21.4 kbps(upload) (limited to multiSlot class 8) 850/900/1800/1900MHz
	EGPRS: EGPRS (EDGE) - Maximum 236.8 kbps(download), maximum 59.2 kbps(upload) (limited to multiSlot class 8) 850/900/1800/1900MHz
Antenna	Manufacturer/model 2J antennas/2J2024B
SIM interface	1,8V 4FF nano SIM card and internal eUICC (M2M) (SIM PIN deactivated)

5 Radio approvals

5.1 Argentina

 RAMATEL H-32041

5.2 Australia



A0046304

5.3 New Zealand

R-NZ

A0046306

5.4 Europe

This device meets the requirements of the Telecommunications Directive RED 2014/53/EU (incl. RED DA 2022/30).

5.5 Japan

Japanese Radio Law and Japanese Telecommunications Business Law Compliance.

This device is granted pursuant to the Japanese Radio Law (電波法) and the Japanese Telecommunications Business Law (電気通信事業法).

This device should not be modified (otherwise the granted designation number will become invalid).



003-200139
D200116003

A0046302

5.6 Canada and USA

5.6.1 English

This device complies with Part 15 of the FCC Rules and with Industry Canada licence-exempt RSS standard(s).

Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation.



Changes or modifications made to this equipment not expressly approved by Endress+Hauser Flowtec AG may void the FCC authorization to operate this equipment.



This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.



Radiofrequency radiation exposure information

This equipment complies with FCC and IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

5.6.2 Français

Le présent appareil est conforme aux CNR d'industrie Canada applicables aux appareils radio exempts de licence.

L'exploitation est autorisée aux deux conditions suivantes :

- L'appareil ne doit pas produire de brouillage, et
- L'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.



Les changements ou modifications apportés à cet appareil non expressément approuvés par Endress+Hauser Flowtec AG peuvent annuler l'autorisation FCC d'utiliser cet appareil.



Déclaration d'exposition aux radiations

Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.

Ce transmetteur ne doit pas être placé au même endroit ou utilisé simultanément avec un autre transmetteur ou antenne.

5.7 South Africa



CRM-02-01: TA-2021 / 0258

A0046309

5.8 Thailand



เครื่องวิทยุคมนาคมนี้ ได้รับยกเว้น ไม่ต้องได้
รับใบอนุญาตให้มี ใช้ซึ่งเครื่องวิทยุคมนาคม
หรือตั้งสถานีวิทยุคมนาคมตามประกาศ กสทช.
เรื่อง เครื่องวิทยุคมนาคม และสถานีวิทยุ
คมนาคมที่ได้รับยกเว้นไม่ต้องได้รับใบอนุญาต
วิทยุคมนาคมตามพระราชบัญญัติวิทยุคมนาคม
พ.ศ. 2498



nanb. | โทรคมนาคม
กำกับดูแลเพื่อประชาชน
Call Center 1200 (Inswr)

A0048466



CLASS B
NTC ID. B69013-22-0208

A0050609

 1 CRM-02-01

5.9 United Arab Emirates



TRA - United Arab Emirates
Dealer ID: DA37063/14
TA RTTE: ER94788/21
Model: CRM-02-01
Type: Cellular Radio Module CRM-02



A0046313

5.10 Mexico

IFT: ENENCR24-04003



A0034100

5.11 Singapore



A0059100

5.12 Saudi Arabia

It is permitted to use the device in Saudi Arabia.

6 Availability

 Contact the local telecommunications authority to find out if the permanent use of an internal eUICC is permitted as part of the roaming services. If this method cannot be applied on a permanent basis, a fourth form factor external SIM ("4FF") can be used in the device.

Contact your Sales Center for details or if you have any questions.

6.1 Africa

La Reunion	South Africa	-
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6.2 Asia

China	Hong Kong	Japan
Saudi Arabia	Singapore	Thailand
United Arab Emirates	-	-

6.3 Europe

Andorra	Azores	Belgium
Bosnia-Herzegovina	Bulgaria	Denmark
Germany	Estonia	Finland
France	Georgia	Greece
Ireland	Iceland	Italy
Channel Islands	Kosovo	Croatia
Latvia	Liechtenstein	Lithuania
Luxembourg	Malta	Macedonia
Monaco	The Netherlands	Norway
Austria	Poland	Portugal
Romania	San Marino	Sweden
Switzerland	Slovakia	Slovenia
Spain	Czech Republic	Hungary
Vatican City	United Kingdom	Cyprus

6.4 America

Argentina	French Guyana	Guadeloupe
Canada	Martinique	Mexico
Saint-Barthélemy	Saint Martin	United States

6.5 Australia and Oceania

American Samoa	Australia	Micronesia
New Hebrides	New Zealand	Vanuatu



71715859

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