

DATA SHEET GEMALTO CINTERION® ENS22-E WIRELESS MODULE

KEY BENEFITS

Penta Band NB-IoT (3, 5, 8, 20, 28) connectivity with deep indoor coverage and extended range
Advanced Power Management System extends battery lifetime and improves TCO
Incremental Firmware Over The Air (FOTA) updates for saving power, bandwidth and battery life
Optional embedded secure element for an added layer of security for extra-sensitive applications
Optional integrated eSIM and Bearer Independent Protocol support

NETWORK

3GPP Protocol Stack Compliance	Release 13
Support for TS.34 IoT Communication Efficiency	Supported (RPM)
Wireless Protocol Support	
2G/GPRS	None
3G/UMTS	None
4G/LTE	None
NB-IoT	Supported
Frequency Band Support	
2G Bands (MHz)	None
3G Bands (MHz)	None
4G Bands (MHz)	None
NB-IoT Bands (MHz)	B3, B5, B8, B20, B28
3GPP Classes / Categories	
CSD	None
GPRS Multislot Class (DL/UL)	None
EDGE Class (DL/UL)	None
HSDPA Category (DL)	None
HSUPA Category (UL)	None
LTE Category	None
NB-IoT Category	NB1
Short Message Service (SMS)	None
Speech Codecs	None
Protocol Support	CoAP, UDP, LwM2M, DTLA, Non-IP, IPv4, IPv6, TCP
Firmware Updates	Incremental FOTA, UART
Integrated Positioning Technology	
GPS	None
GLONASS	None
Control Plane A-GPS Support	None
SUPL A-GPS Support	None

Regulatory

eCall	None
Standalone / Assisted GNSS	None
TTY	None

HARDWARE

Dimensions (L x W x H, mm)	27.6 x 18.8 x 2.7
Weight (g)	<3
Operating Temperature - Extended Operation (°C)	-40° to +85°
On-board Memory	Supported
Supply Voltage Range (V)	3.1 - 4.2

Interfaces

USB 2.0 (480 Mbps)	None
ASC0 HS Serial Modem	None
GPIO Lines	Supported, 13
UICC and U/SIM (1.8 V/3 V)	1.8 V, 3 V
ADC and I2C	Supported
Serial Interfaces 1.8 V (including automatic baud rate detection)	None
Digital Audio, prepared for Analog Audio	None

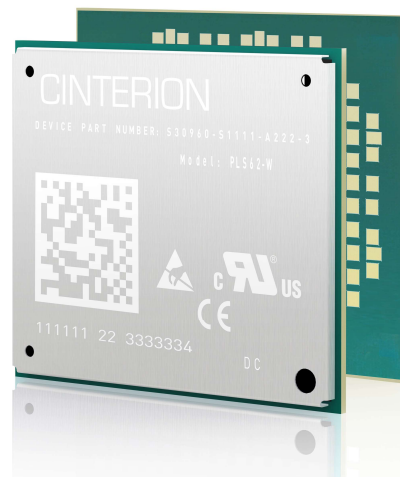


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CERTIFICATION DETAILS

GMA Certification	None
Deutsche Telekom Certification Date (Initial Firmware)	22.03.2019 (01.000)
Certified Deutsche Telekom Affiliates	AT, CZ, DE, HR, NL, PL, SK
Certifying Entity	ITS-IVA
DT Certification Type	Limited
Deutsche Telekom Affiliate Country Codes	
AT	T-Mobile Austria GmbH
CZ	T-Mobile Czech Republic a.s.
DE	Telekom Deutschland GmbH
GR	COSMOTE Mobile Telecommunications S.A.
HR	Hrvatski Telekom d.d.
HU	Magyar Telekom Telecommunications plc
ME	Cmorgski Telekom a.d. Podgorica
MK	Makedonski Telekom AD – Skopje
NL	T-Mobile Netherlands B.B.
PL	T-Mobile Polska S.A.
RO	Telekom Romania Mobile Communications S.A.
SK	Slovak Telekom, a.s.



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