Cinterion BGS12

Marketing Package
July, 2019

THALES

gemalto
a Thales company

Optimized Quad-band GSM / GPRS solution

BGS12

Optimized 2G solution

Applications and use cases

- Track and Trace
- Smart meters
- Remote Maintenance & Control

Global Operation

Quad-band support
Full Type Approval and certification

Efficient Power Consumption

Optimizes battery usage
Lower down device BOM cost

Advanced Security

TLS/DTLS support for IP services
Jamming detection

Customer Manufacturing Support

Easy test method
Simplifies manufactory setup

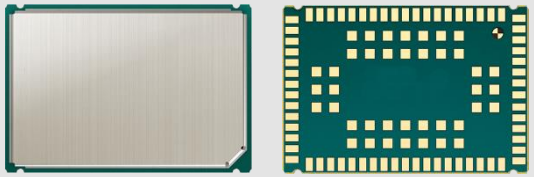
Multi-design capability

Industry proven footprint
Full compatibility within Industrial family

Proprietary & Confidential - Under NDA

BGS12 Rel.1

2G Quad-Band GPRS SMT Module for Global Usage



Dimensions: 27.6 x 18.8 x 2.3 mm

GENERAL FEATURES

- 3GPP R99 Compliant Protocol Stack
- Quad-Band GSM (850, 900, 1800, 1900MHz)
- GPRS multi-slot class 12
- Control via standardized and extended AT commands (Hayes, TS 27.007 and 27.005)
- Embedded IP stack with IPv4 support
- TCP/IP stack access via AT command and transparent TCP/UDP services
- Internet Services TCP/UDP server/client, HTTP client, FTP client, DNS, IMCP, TLS1.2
- SIM Application Toolkit, letter classes C, E with BIP support
- LGA pad soldering mount, MSL4
- Supply voltage range: 3.4V~4.2V(normal);3.2V~3.4V,4.2v~4.35V(extend)
- Dimension: 27.6 x 18.8 x 2.7 mm
- Weight: approx. 2.29 g
- Operating temperature: -20°C to 85°C

SPECIFICATION

- GPRS class 12 data rates

  DL: max.85.6 kbps, UL: max 85.6kbps

  Mobile Station Class B

  PPP-Stack for GPRS data transfer
- High quality voice support for handset and hand free operation.
- Supplementary services & USSD support
- SMS text and PDU mode, Cell broadcast

SPECIAL FEATURES

- RLS Monitoring (Jamming detection)
- Dual SIM with smart network switching
- Informal Network Scan
- Real time clock with alarm functionality
- Firmware update via serial interface
- Multiplexer according to 3GPP TS 27.010
- Customer Manufacturing Test Support (RF TX Wave Generation / RX Power Measurement)

DRIVERS

- MUX driver for Windows® 7 / Windows® 8 / Windows® 10

INTERFACES (SMT-LGA)

- Power Supply
- Pad for GSM Antenna
- ~~Digital I2S and~~ Analog Audio Interface with microphone feeding
- 2 High speed serial interfaces (ASC0, ASC2)
- 6 GPIO lines shared with an I2C interface, Network-Status-Indication, Jamming-Indication
- UICC and U/SIM card interface 1.8V / 3V
- Fast- Shutdown by hardware signal and AT command
- Switch-on by Hardware signal ON, Switch-off by AT command; Automatic switch-off in case of critical temperature and voltage conditions.
- Emergence off by hardware signal
- Orderly shutdown and reset by AT command

APPROVALS

- RED, GCF, CE, FCC, PTCRB
- EuP, RoHS, REACH compliant

Migration Paths

2G Europe => 2G Global
+ Same footprint
+ Extend product to LATAM region

BGS1-E

Extended product lifecycle

BGS12

Chipset platform evolution
+ Same footprint family
+ Optimized performance
+ Reduced cost

BGS2

Optimized cost

BGS12

2G => NB-IOT / CatM1
+ Same footprint family
+ Same AT command set

BGS12

Technology upgrade

ENS22/EXS82-W

Product Features comparison

	BGS12	BGS1-E R2	BGS2-W R4
Regional focus	Worldwide	Europe	Worldwide
Frequency Bands	2G Quad Band 850/900/1800/1900 MHz	2G Dual Band 900/1800 MHz	2G Quad Band 850/900/1800/1900 MHz
Certifications	• RED, GCF, CE, FCC, PTCRB • EuP, RoHS, China RoHS and REACH compliant, • Anatel	• GCF, CE, RED • RoHS, China-RoHS and REACH compliant	• CE,R&TTE,GCF,FCC • PTRCB,UL,IC • RoHS and EuP complient
Audio	Analog	Analog	Analog/Digital
ADC	Not support	Support	Support
VDIG	Not support (fixed at 2.8v)	Support	Support
Emergency Reset	Reset	Reset	Switch off
Secure connection	TLS1.2 and DTLS	SSL3.0	TLS
UDP	Support	Not support	Support
Customer flash storage	Not support	Not support	Support

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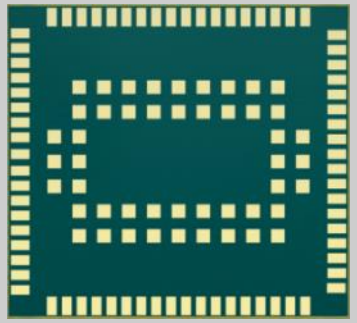
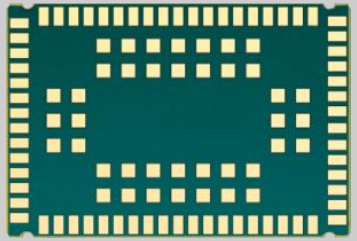
Multi Design Capability within Industrial family



ELS61 / EHS6 /
EHS8 / EXS81



ELS31 / EMS31 / ENS22
EHS5 / BGSx

LTE

ELS81
ELS61

ELS31

EXS82
EMS31
ENS22

3G

EHS6
EHS8

EHS5

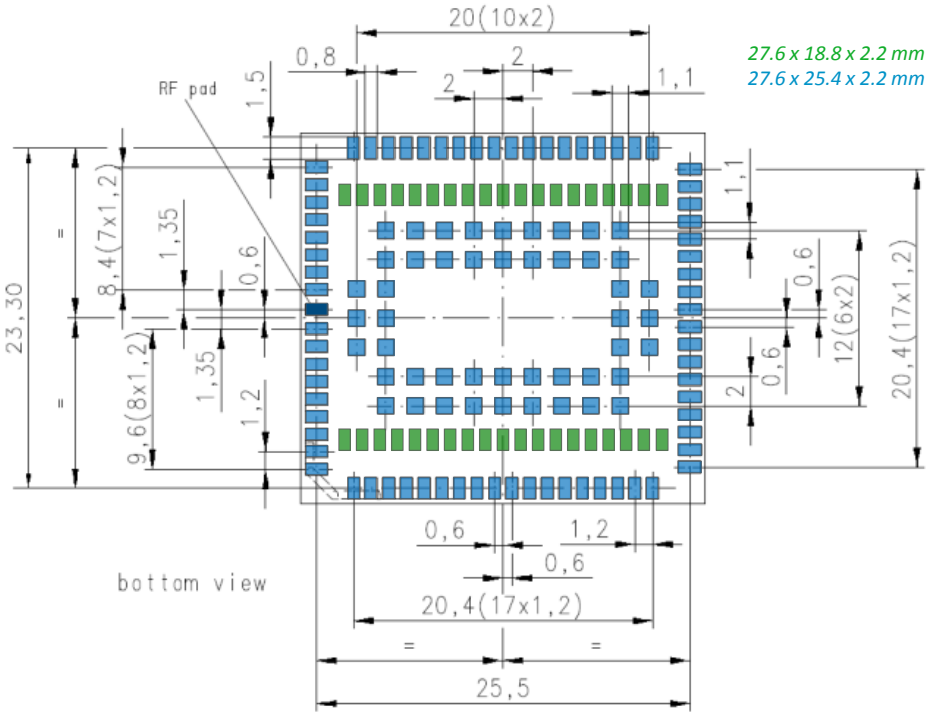
2G

BGS5

BGS2

BGS12

ALL TECHNOLOGIES
IN ONE DESIGN



The Multi Design LGA footprint supports flexible application design;
a single PCB design can support all family members
of the Industrial product line.