endrichnews

OUR PRODUCT OF THE MONTH:

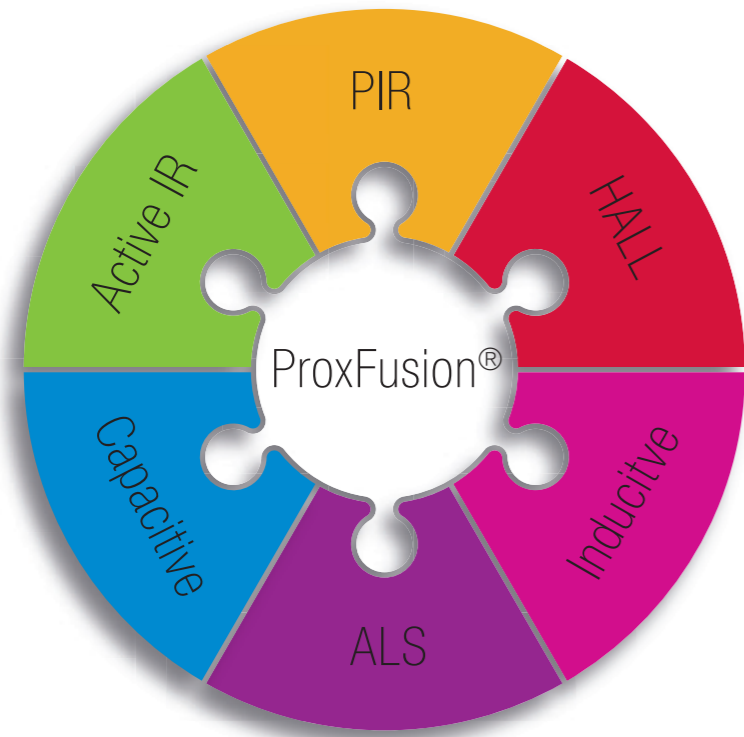## MA510-GL-00 – GLOBAL CERTIFIED NBIOT MODULE

FEATURES

- Triple mode module for Cat.M1, Cat.NB2, EGPRS
- Dimension: 22.2 x 20.2 x 2.1 mm with LCC + LGA footprint
- GNSS support
- Operating temperature: -40 °C to +85 °C
- Global certifications

PROXFUSION® GENERATION 1 - 4 SENSORS WITH A SINGLE IC

Replace up to 4 sensors with a single IC
- Reduce BOM
- Low Power Consumption
- High Reliability
- Less Board Space
- Less GPIO to MCU
- Reduce Cost

APPLICATIONS

- PC Peripherals
- IoT
- Mobile Application
- White Goods
- Home Automation

The first generation of ProxFusion® offers capacitive sensing, Hall-effect, IR, PIR, inductive, temperature and ambient light sensing.

IC NAME	IQS620A WLCSP	IQS620A	IQS621	IQS622	IQS624	IQS680
POTENTIAL MARKET	Tablet/Phone Wearable IoT	Tablet/Phone Wearable IoT	White Goods IoT	Mobile Phone Wearables IoT	Mouse wheel/ Rotary switches	Under Cabinet Lighting
SENSOR TECHNOLOGY	Capacitive Inductive Hall Switch	Capacitive Inductive Hall Switch	Capacitive Inductive Hall Switch ALS	Capacitive Hall Switch ALS (16 level) IR	Capacitive Inductive Hall Rotation	Capacitive Inductive PIR
INTERFACE	I²C GPIO	I²C GPIO	I²C GPIO	I²C	I²C GPIO	I²C GPIO
PACKAGE	WLCSP9 1.0 x 1.5 mm	DFN10 3.0 x 3.0 mm	UOLG9 2.8 x 2.5 x 0.6 mm	DMA9 3.94 x 2.36 x 1.37 mm	DFN10 3.0 x 3.0 mm	DFN10 3.0 x 3.0 mm

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MA510-GL SERIES – GLOBAL CERTIFIED NBIOT MODULES

HAVE A LOOK

Fibocom has developed the brand new LPWA module series named MA510-GL which will be available in several versions. The derivates enable your application to connect to the network types LTE Cat.M1, LTE Cat.NB2 and EGPRS.

The triple-mode (LTE Cat.M1, LTE Cat.NB2 and EGPRS), the dual-mode (LTE Cat.M1 and LTE Cat.NB2), as well as the single-mode module (LTE Cat.M1) are all compatible.

The series is based on Qualcomm IC MDM9205, available with LCC and LGA footprint (22.2 x 20.2 x 2.1 mm), supports GNSS (GPS / GLONASS / BeiDou / Galileo), and has given all needed global certifications.

The series is characterized by low power consumption and robust accessibility even inside buildings. In addition, it is very cost effective and has an enormous range, which opens up new possibilities for applications in cities or agriculture.

The modules are primarily recommended for applications in which low data throughput rates have to be transmitted securely, like asset tracking, industrial monitoring and control, security systems, smart home, smart metering, etc.

FEATURES OF MA510-GL-00

- Dimension: 22.2 x 20.2 x 2.1 mm
- Package: LCC + LGA, 86 Pin
- Operating frequency band:
  Cat.M1: B1/B2/B3/B4/B5/B8/B12/B13/B14/B18/B19/ B20/B25/B26/B27/B28/B66/B85
  Cat.NB2: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/ B25/B26/B28/B66/B71/B85
  EGPRS: 850/900/1800/1900MHz
- GNSS: GPS / GLONASS / BeiDou / Galileo
- Power supply: 3.3 V ~ 4.5 V (typical 3.8 V)
- Operating temperature: -40 °C ~ +85 °C
- Cat.M1 (kbps): 589 (DL) / 1119 (UL)
- Cat.NB2 (kbps): 136 (DL) / 150 (UL)
- GPRS (kbps): 107 (DL) / 85.6 (UL)
- EDGE (kbps): 296 (DL) / 236.8 (UL)
- Antenna: Main x 1, GNSS x 1
- Functional interfaces: SIM 1.8V / USB 2.0 x 1 / UART x 3, I2C, I2S, GPIO, SPI / ADC / System Indicator / ANT_TUNER
- Global certifications

APPLICATIONS

- Asset tracking
- Industrial monitoring and control
- Security systems
- Smart home
- Smart metering

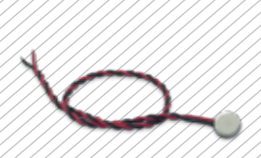# NEW TYPES OF ITEMS WITH HIGH IP / "WATERPROOF LEVEL"

HAVE A LOOK

In the area of acoustics, different markets and applications need more and more better performances. But in addition to the performance, the requirement of high IP / "Waterproof level" is also increasing, which is why our manufacturers have developed suitable components. Herewith we want to show you a small selection.

FEATURES

- Smaller size with higher power and high sensitivity
- Complex cone of carbon fabric, aluminum, plastic, fabric, sponge or PU
- Customized sound box on request
- Wide range of sizes available

- Wire / connector assembly available
- Automotive specification available
- Expert advice & design-in support available
- High IP from 54 up to 67
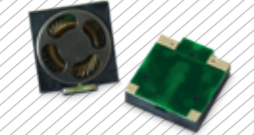
SMART HOME

VMW4015B-RRAC383G-7FA
(Microphone)

32-8C-2-W
(Loudspeaker)

TOYS

28CRG08-2-N50BD-W
(Microloudspeaker)

CSMS18S4.8A-8S0.3-P580F
(SMD Speaker)

MEDICAL DEVICE

CLS87S32.5-8F6-E500R
(Loudspeaker)

CPA26D12-3.2R
(Piezo Alarm Sounder)

APPLICATIONS

- Parking devices
- E-call
- Toys
- Telecommunication
- Security device
- Household appliance (e.g. white goods)
- Smart home
- Medical device

MICROPHONES

PART NO.	DIMENSIONS	CONTACT VERSION	SENSITIVITY (0DB=1V/PA, 1KHZ) [DB ±3]	OPERATING VOLTAGE	MAX. CURRENT CONSUMPTION	DIRECTIVITY	FREQUENCY RANGE
VMW4015B-RRAC383G-7FA	ø 4.0 x 1.5 mm	Wire	-38 ± 3 dB	1.0 V	0.5 mA	Omni directional	50 to 10.000 Hz
VMW6027B-8C464G-7FA	ø 7.2 x 3.3 mm	Wire + Connector	-46 ± 4 dB	1.0 V	0.5 mA	Omni directional	50 to 10.000 Hz

PIEZO ALARM SOUNDERS

PART NO.	MODE	DIMENSIONS	RATED VOLTAGE	OPERATING VOLTAGE	MAX. RATED CURRENT	SOUND OUTPUT@10cm	OPERATING TEMP.	RES. FREQUENCY
CPA26D12-3.2R	Buzzer	ø 26.0 x 15.5 mm	12 V	5V to 30 V	20 mA	94 dB	-30 to +85 °C	3200 ± 500 Hz
CPA36B515TU2C17W80	Buzzer	ø 36.0 x 35.5 mm	12 V	5V to 15 V	80 mA	115 dB	-20 to +65 °C	2900 ± 300 Hz

LOUDSPEAKERS

PART NO.	APPEARANCE	DIMENSIONS	IMPEDANCE ±15%	NORMAL POWER	SPL	OPERATING TEMP.	LOW. RES. FREQ.	FREQUENCY RANGE
20CR08F-1-38ND-W	Round	ø 20.0 x 3.9 mm	8 Ω	1000 mW	81 dB	-25 to +60 °C	700 Hz	450 to 20.000 Hz
28CRG08-2-N50BD-W	Round	ø 28.0 x 4.7 mm	8 Ω	650 mW	88 dB	-40 to +85 °C	650 Hz	650 to 20.000 Hz
28KUG04X-W	Square	28.0 x 28.0 x 11.2 mm	4 Ω	2000 mW	80 dB	-40 to +85 °C	320 Hz	180 to 18.000 Hz
32-8C-2-W	Square	31.7 x 31.7 x 16.45 mm	8 Ω	3000 mW	85 dB	-40 to +85 °C	230 Hz	150 to 20.000 Hz
36CS08FN-21-N50BT-W	Round	ø 36.0 × 4.8 mm	8 Ω	1500 mW	92 dB	-40 to +85 °C	600 Hz	600 to 14.000 Hz
39KUG04XNT-2-W	Square	39.0 x 39.0 x 22.0 mm	4 Ω	5000 mW	85 dB	-20 to +60 °C	250 Hz	250 to 20.000 Hz
40KT08-W	Square	40.0 x 20.0 x 5.7 mm	8 Ω	1000 mW	83 dB	-40 to +85 °C	520 Hz	520 to 33.000 Hz
4028KSG08-W	Square	40.0 x 28.5 x 11.5 mm	8 Ω	2000 mW	86 dB	-25 to +60 °C	700 Hz	150 to 15.000 Hz
CSMS18S4.8-8S0.3-P580F	Square	18.0 x 18.0 x 4.8 mm	8 Ω	300 mW	89 dB	-40 to +85 °C	580 Hz	F0 to 20.000 Hz
CSMS29R8-8S0.6-P700F	Round	ø 28.8 x 8.0 mm	8 Ω	600 mW	87 dB	-40 to +85 °C	700 Hz	F0 to 20.000 Hz
CMS40R5C-8N1-2A600R	Round	ø 40.0 x 5.0 mm	8 Ω	1000 mW	91 dB	-40 to +70 °C	600 Hz	600 to 5.000 Hz
CLS50R14-16N3-T700-C32W150R	Round	ø 50.0 x 14.0 mm	16 Ω	3000 mW	98 dB	-20 to +60 °C	700 Hz	700 to 4.000 Hz
CLS50RN18.2E-8F1.5-B380R	Round	ø 50.0 x 18.25 mm	8 Ω	1500 mW	92 dB	-20 to +60 °C	380 Hz	350 to 5.000 Hz
CLS87S32.5-8F6-E500R	Square	87.0 x 87.0 x 32.5 mm	8 Ω	6000 mW	102 dB	-40 to +74 °C	280 Hz	280 to 10.000 Hz

HIGH-PRECISION GNSS RTK DEAD RECKONING SOLUTION FOR SMART DRIVING & LANE LEVEL NAVIGATION

LOCOSYS RTK-4671-SHDR/MHDR is a high-precision GNSS RTK solution targeting for the smart driving and lane level navigation markets. The newly designed LOCO II engine architecture is optimized to offer a seamless experience in dense urban canyons. The high-precision Positioning/Dead Reckoning receiver offers centimeter-accurate positioning and heading with low-power consumption, takes the shortest time to fix position and continues to work wherever they are.

RTK-4671-SHDR/MHDR not only supports GPS, GLONASS, Beidou, GALILEO, QZSS and SBAS, but also has a flash memory, TCXO, RTC crystal, LNA and SAW filter, and embedded MEMS sensors (6-axis accelerometers + gyros).

FEATURES

- Supports GPS, GLONASS, BeiDou, GALILEO and QZSS L1
- Capable of SBAS (WAAS, EGNOS, MSAS)
  Precise navigation, positioning
- Great anti-jamming performance
  (due to multi-tone active interference canceller)
- Built-in LOCOSYS Dead Reckoning (ADR / UDR)
  both technology software
- Built-in MEMS sensor
  (3-axis gyroscope and 3-axis accelerometer)
- Supports odometer (wheel-tick pulse) input

- Supports MEMS raw data output, high update rate
  (up to 100 Hz)
- Supports sensors data feed through the UART port
- Supports ADR / UDR automatic fast learning calibration
- Low-power consumption and compact size
- Current limited feature (limited to 50 mA typ.)
  with active GNSS antennas
- Industrial operating temperature range -40 °C to +85 °C
- Easy and simply to integrate
- LOCOSYS IATF 16949 certified production sites

MODEL	RTK-4671-SHDR	RTK-4671-MHDR
Type	Embedded Board	Embedded Board
GNSS Frequency	Single-band	Multi-band
Dead Reckoning	▪	▪
Base Station/Rover	▪	▪
Constellations	GPS, GLONASS, Galileo, BeiDou, QZSS	GPS, GLONASS, Galileo, BeiDou, QZSS
GNSS Position Accuracy	1.5 m CEP	1.5 m CEP
RTK Accuracy	0.01 m + 1 ppm CEP	0.01 m + 1ppm CEP
ADR Accuracy	0.5 %	0.5 %
UDR Accuracy	5 %	5 %
Updeate Rate	1HZ	1HZ / 4HZ
RTCM Input	▪	▪
Windows Software	▪	▪
Operating Temp.	-40 °C to +85 °C	-40 °C to +85 °C
Dimension	46.0 x 71.0 x 7.7 mm	46.0 x 71.0 x 7.7 mm
Manufactured	IATF 16949	IATF 16949

APPLICATIONS

- Autonomous Vehicle Guidance
- Autonomous Vehicle
- Internet of Vehicles
- Unmanned Aerial Vehicles
- Precision Agriculture
- Hand-Held Device
- AGV Robotics
- V2V / V2X System
- Geographical Measurement
- Geographical Survey Points
- Offshore / Marine Applications
- Tracker

HIGH-PRECISION GNSS RTK BOARD FOR CENTIMETER-LEVEL POSITIONING & HEADING SOLUTION

FEATURES

- Low cost, commercial chip level, with high precision and accuracy
- Centimeter-level positioning in RTK mode
- Supports GPS, GLONASS, BeiDou, GALILEO and QZSS L1
- Capable of SBAS (WAAS, EGNOS, MSAS)
  Precise navigation, positioning
- Great anti-jamming performance
  (due to multi-tone active interference compensator)
- Dual antenna input and precise heading calculation
- Current limited feature (limited to 50 mA typ.)
- 2 x 99 channels each independent signal chains
- Heading accuracy (RMS) < 0.2 degree
- Industrial operating temperature range -40 °C to +85 °C
- Low-power consumption and compact size
- Easy and simple to integrate
- LOCOSYS IATF 16949 certified production sites

LOCOSYS RTK-4671-SHPF/MHPF is a high-precision GNSS RTK board for accurate positioning and heading and direction. It supports GPS, GLONASS, BeiDou, GALILEO, QZSS and SBAS constellations to improve the continuity and reliability of the RTK solution even in harsh environment. This board offers real-time, cost-efficient and cm-level-positioning. It supports flexible interfaces, inside great anti-jamming performance (thanks to multi-tone active interference compensator) for a variety of applications, such as precision navigation, precision agriculture, surveying and UAVs.

MODEL	RTK-4671-SHPF	RTK-4671-MHPF
Type	Embedded Board	Embedded Board
GNSS Frequency	Single-band	Multi-band
Heading	▪	▪
Base Station/Rover	▪	▪
Constellations	GPS, GLONASS, Galileo, BeiDou, QZSS	GPS, GLONASS, Galileo, BeiDou, QZSS
GNSS Position Accuracy	1.5 m CEP	1.5 m CEP
RTK Accuracy	0.01 m + 1 ppm CEP	0.01 m + 1ppm CEP
Heading Accuracy	< 0.2 deg	< 0.2 deg
Updeate Rate	1HZ	1HZ / 4HZ
RTCM Input	▪	▪
Windows Software	▪	▪
Operating Temp.	-40 °C to +85 °C	-40 °C to +85 °C
Dimension	46.0 x 71.0 x 7.7 mm	46.0 x 71.0 x 7.7 mm
Manufactured	IATF 16949	IATF 16949

APPLICATIONS

- Autonomous Vehicle Guidance
- Unmanned Aerial Vehicles
- Precision Agriculture
- AGV Robotics
- V2X / ETC / 5G Station
- Structural / Land Monitoring
- Offshore / Marine Application

DISTRIBUTOR OF THE YEAR 2019

On September 12, 2019, the award ceremony of the magazine Elektronik for "Distributor of the Year" took place.

We would like to thank you very much for your trust! Thanks to your votes we were awarded 3 prizes which we see as a confirmation of our efforts to support you as a reliable partner! We will continue to offer our customers the best possible service, from the component up to the finished solution for their applications.

1st place
Active Components:
Technical Competence & Support

2nd place
Active Components:
Delivery service Volume

3rd place
Active Components:
Samples delivery service