The YoctoHub-GSM-4G is a wireless-enabled module that can host three Yoctopuce modules to access them remotely through a 4G (LTE-M or NB-IoT) or 2G cellular network. It can be powered either by a Micro-B USB cable and a regular phone charger, or a 5V battery pack.

For 4G, the YoctoHub-GSM-4G works on LTE bands 2, 3, 4, 5, 8, 12, 13 and 20 in LTE-M (LTE Cat M1) and NB-IoT (LTE Cat NB1) modes. For 2G, the YoctoHub-GSM-4G works on GSM bands 850 MHz, E-GSM 900 MHz,

DCS 1800 MHz and PCS 1900 MHz (quad band), in GPRS and EGPRS (EDGE) modes. For a detailed list of supported frequency bands by country, consult the Wikipedia pages https://en.wikipedia.org/wiki/LTE_frequency_bands and http://en.wikipedia.org/wiki/GSM_frequency_bands. Note that some countries have not yet deployed LTE-M and/or NB-IoT support.

You can use the YoctoHub-GSM-4G in the same way as a VirtualHub running on a little computer, but it is much easier to setup and maintain than a computer. It is smaller and consumes less. It is compatible out-of-the-box with all existing applications using Yoctopuce API. As for the VirtualHub, it can run autonomously using HTTP callbacks.

Moreover, the YoctoHub-GSM-4G features a built-in clock timer, that makes it possible to put the device into low-power deep sleep and wake-up automatically at predefined times. This makes it possible to reduce power consumption to 15uA while sleeping, which is crucial for applications running on battery or solar panels. The YoctoHub-GSM-4G only needs a few seconds of wake-up time to post data on an web server using the HTTP callback.

You can connect three Yoctopuce modules directly, one of which can be fixed directly on the YoctoHub-GSM-4G and connected using a Board2Board-127 connector. More devices can be connected, thanks to the YoctoHub-Shield extension. The YoctoHub-GSM-4G can power Yoctopuce devices up to 2A.

The device is provided with an articulated antenna (9cm, with SMA connector) and a connection cable (uFL to SMA).

Warning: although the 3 downstream ports hosting Yoctopuce devices use micro-B USB connectors, the YoctoHub-GSM-4G uses a specific protocol simpler than USB to talk to the devices. Therefore, it is not possible to drive or even to power a regular (non-Yoctopuce) device using the YoctoHub-GSM-4G. It is not possible either to use a regular USB hub (such as the Micro-USB-Hub) on the downstream ports. If you need more downstream ports for Yoctopuce devices, you can use a YoctoHub-Shield.

Specifications

Product ID	YHUBGSM5
Hardware release[†]	
USB connector	micro-B
Thickness	9.5 mm
Width	58 mm
Length	60 mm
Weight	33.2 g
Chipset	u-Blox SARA-R412M-02B
Protection class, according to IEC 61140	class III
Normal operating temperature	5...40 °C
Extended operating temperature[‡]	-20...70 °C
USB consumption	50 mA
RoHS compliance	RoHS III (2011/65/UE+2015/863)
USB Vendor ID	0x24E0
USB Device ID	0x0034
Suggested enclosure	YoctoBox-HubWlan-Transp
Harmonized tariff code	8542.3190
Made in	Switzerland

[†] These specifications are for the current hardware revision. Specifications for earlier revisions may differ.

[‡] The extended temperature range is defined based on components specifications and has been tested during a limited duration (1h). When using the device in harsh environments for a long period of time, we strongly advise to run extensive tests before going to production.

For more information: www.yoctopuce.com/EN/products/yoctohub-gsm-4g