



# qiiio Concentrator XN Brief

Empowered by Microsoft Azure Sphere.

Secured series

Revision: Concentrator XN

Date: 08/05/2020

Status: Evaluation





<b>Document Change History</b>			
<b>Date</b>	<b>Release</b>	<b>Changed by</b>	<b>Change Description</b>
06/03/2020	V1.0	Aymen Zayet	Document created.
08/05/2020	V1.1	Felix Adamczyk	Service Update

For any assistance, please contact our company headquarters:

**qiiio AG** - Am Wasser 24, 8049 Zurich  
Switzerland  
info@qiiio.ch  
+41 44 552 02 66

**qiiio LLC** - 121 Alhambra Plaza, 10th Floor  
Coral Gables, FL 33134  
United States of America

INFORMATION CONTAINED HERE IS PROPRIETARY TECHNICAL INFORMATION OF QIIIO AG. TRANSMITTING, REPRODUCTION, DISSEMINATION AND EDITING OF THIS DOCUMENT AS WELL AS UTILIZATION OF THE CONTENT ARE FORBIDDEN WITHOUT PERMISSION. OFFENDERS WILL BE HELD LIABLE FOR PAYMENT OF DAMAGES. ALL RIGHTS ARE RESERVED IN THE EVENT OF A PATENT GRANT OR REGISTRATION OF A UTILITY MODEL OR DESIGN.

qiiio AG 2020. All rights reserved.



## 1. Overview

qiiio designed the Concentrator XN based on Microsoft Azure Sphere with a built-in secured OS to provide a full defense in depth to the assets. Combined with a global cellular connectivity, the qiiio Concentrator XN covers all the major requirements of the secured IoT industry.

## 2. The qiiio Concentrator XN

The *qiiio Concentrator XN* is a complete secure system integrated in a 70x37x3.6 form factor. It also provides several hardware interfaces over the qCON connector, in order to connect sensors, assets and external devices.



### 1.1. General characteristics

Form factor (in mm)	70 x 37 x 3.6
Weight in (g)	30
Temperature range (°C)	-20 to +85 (storage) -20 to +70 (operating)
Power supply (V)	3.3
Electromechanical interface	qCON (M.2 -M key)



## 1.2. Key features

Security	Azure Sphere based on MT3620
Cellular Technologies	<ul style="list-style-type: none"><li>- 2G (GSM, EDGE)</li><li>- 3G (HSPA+, WCDMA)</li><li>- 4G (LTE CAT 1)</li></ul>
Cellular Frequencies	<ul style="list-style-type: none"><li>- 2G: B2 (1900 MHz), B3 (1800 MHz), B5 (850 MHz), B8 (900 MHz)</li><li>- 3G: B1 (2100 MHz), B2 (1900 MHz), B4 (1700 MHz), B5 (850 MHz), B6 (800 MHz), B8 (900 MHz), B19 (800 MHz)</li><li>- 4G (LTE-FDD): B1 (2100 MHz), B2 (1900 MHz), B3 (1800 MHz), B4 (1700 MHz), B5 (850 MHz), B7 (2600 MHz), B8 (900 MHz), B12 (700 MHz), B13 (700 MHz), B18 (850 MHz), B19 (800 MHz), B20 (800 MHz), B26 (850 MHz), B25 (1900 MHz), B28 (700 MHz)</li><li>- 4G (LTE-TDD): B38 (2600 MHz), B39 (1900 MHz), B40 (2300 MHz), B41 (2500 MHz)</li></ul>
Cellular Speed	<ul style="list-style-type: none"><li>- 2G: EDGE: Max 296Kbps (DL)/Max 236.8Kbps (UL) GPRS: Max 107Kbps (DL)/Max 85.6Kbps (UL)</li><li>- 3G: HSDPA: Max 42Mbps (DL) HSUPA: Max 5.76Mbps (UL) WCDMA: Max 384Kbps (DL)/Max 384Kbps (UL)</li><li>- 4G: LTE-FDD: Max 10Mbps (DL)/Max 5Mbps (UL)</li></ul>



	LTE-TDD: Max 8.96Mbps (DL)/Max 3.1Mbps (UL)
WiFi	<ul style="list-style-type: none"><li>- 802.11 b/g/n</li><li>- 2.4GHz, 5.0 GHz</li></ul>
Geopositioning	<ul style="list-style-type: none"><li>- Indoor: qMaps</li><li>- Outdoor: GPS, GLONASS, BeiDou, Galileo</li></ul>
SIM	<ul style="list-style-type: none"><li>- eUICC (eSIM)</li></ul>
Available I/O	<ul style="list-style-type: none"><li>- 6 x GPIO/ADC</li><li>- 6 x PWM</li></ul>
Available interfaces	<ul style="list-style-type: none"><li>- 4 x I2C</li><li>- 4 x SPI</li><li>- 4 x UART</li><li>- 1 x Ethernet (WAN)</li></ul>

### 1.3. Cloud Services

qiiio Zero Touch Provisioning	<ul style="list-style-type: none"><li>- Device integration to Azure with a fully automated zero touch process</li><li>- Customer device software automatically deployed</li></ul>
qiiio Device Health	<ul style="list-style-type: none"><li>- Device Health Monitoring</li><li>- Device Health Prediction</li><li>- Device Health Alerts</li></ul>
qiiio Connectivity Insurance	<ul style="list-style-type: none"><li>- Cellular connectivity improvement for a 50% better coverage</li></ul>