

Accelerate and simplify your IoT product development with



Questions & Answers

- 1 What is the requirement to have the certified by AWS IoT Core? Whether the end product is required to go through process again for the certificate AWS IoT Core if already using the certified AWS IoT Core Murata module?**

The requirements are informed at this link: <https://aws.amazon.com/partners/dqp/using>
Using Murata qualified module that is the gate to AWS IoT Core, it would be simpler to extend AWS qualification to the end device if applicable.

- 2 How do we participate in the AWS Murata IoT Acceleration Program?**

Please contact us. We will send you the documentation by email.

- 3 What are the costs involved? How much AWS subscription fees per device? Is it monthly or yearly basis or based on data usage?**

For AWS IoT services, some examples of pricing can be found at this link: <https://aws.amazon.com/iot-core/pricing/>

- 4 In terms of software integration to the hardware, are there fees to get the SDK from AWS?**

There is no extra fee for accessing the SDK including AWS IoT libraries with Murata qualified modules.

- 5 In case customer wants to get bigger RAM and ROM in the module, are we able to do?**

It is possible to extend memory using I/F on the module, such as SPI, I2C, etc.

- 6 What is best suited for smart home solutions?**

In term of connectivity, WiFi/BT would be suitable to connect to internet using the home router. Then selection of suitable module would depend on data rate required by the application. For smart product, meaning consumer segment, the vast majority of appliances are running on Wi-Fi as most commonly used for smart home appliances. AWS IoT Core works with many different wired or wireless communication protocol that are capable of sending MQTT or HTTP messages.

- 7 For oil/gas application, your module has its own explosive-proof cert?**

No, Murata modules do not take explosive-proof certification such as ATEX. Certification needs to be applied at the end device level.

- 8 I would like to know the NB-IoT application for both NB1 and NB2 and cloud SW services.**

NB-IoT is suitable for applications requiring long range (up to several kms), low data rate (up to 25 kbps for download, and 60kbps for upload), lower power consumption (eventually battery powered). NB2 has improvement compare to NB1 in term of data rate (x5 for download up to 130kbps, x3 for upload up to 160kbps), mobility support, and location based services.

RF cellular technology is more meant for MNOs. In the case of NB-1/2, it runs in the guard band of LTE, and it typically uses CoAP/ UDP protocol to connect and device manage. At AWS, we used partner broker solution to ingest CoAP/UDP to communicate to AWS IoT core.

- 9 We have not been able to maintain consistent connectivity from our boards to internet in-spite of availability of network signals. Why is that so?**

It depends on the network signal quality. Murata modules have a fine receiver sensitivity, therefore if the network signal quality is good, there is no reason for disconnection. Disconnection may be caused by poor signal quality, or obstacles in between the transmitter and receiver that may block the signal occasionally. There are commands available in the 1SC module to check signal quality.

- 10 Can I interface i.MXRT1020 with Murata Wi-Fi module and connection to AWS IoT Cloud?**

Several MCU from NXP like (MIMX)RT1060-EVK, (MIMX)1050RT-EVKB, and i.MXRT106A have been FreeRTOS qualified. I would suggest to consider using these MCU to connect to AWS with our hosted modules. Several of our hosted modules are already ported to i.MXRT MCUs, including Type 1DX (b/g/n), 1LV (802.11a/b/g/n), and 1MW (a/b/g/n/ac).

https://www.murata.com/en-sg/products/connectivitymodule/wireless_solution/nxp_imx

Besides we are also collaborating with Embedded Artists to provide the plug&play solution to connect our modules to i.MX Platforms evaluation boards, including M.2 modules evaluation boards.

- 11 We need connect from our smartwatch to our cloud platform. Only data is required. What is the best connectivity?**

Type 1SC would be a suitable solution thanks to the very small form factor and lower power consumption.

This module supports a number of protocols (MQTT, HTTP/S, TLS/DTLS, CoAP, LwM2M, etc.) that can allow connection to the cloud platform.

We will send you the module brochure and are available to discuss about your project requirements in order to provide recommendations.

- 12 How to assess security of a wireless network?**

One way to confirm the security is monitoring the device activities and traffics, especially accessing from external. AWS device defender provides easiest way to do such monitoring. Please find our demo video on device defender. Also, if you would like to get sort of security score of your entire system, some companies offer such a service. You can approach to them. Choosing AWS will help you to make your system secure easily.

- 13 What are the application in the security system?**

Thank you for your request, we will consider it as a reference for our next webinar.

For your information, this following past webinar by AWS may interest you - Building Home Security Solutions at Scale:

<https://www.youtube.com/watch?v=WvURDV9Ezsc>

- 14 How security evolves for NB-IoT network authentication and enterprise cloud authentication?**

In terms of hardware aspect, secure element will be the standard for PKI (TLS) basis authentication. Other technology like PUF are still under investigation.

For cellular IoT, eSIM/iSIM can provide more secure hardware and user-convenience as well. This change would have a big impact to kinds of authentication process in a broad sense.

We will keep communicating with each major Telco companies closely.

(*ALT1250 has both functions.)

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15 What and how's the proper approach to have manage the MIoT with secure manner?

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For your information, this following past webinar by AWS may interest you - Unlock the Power of Connected Vehicle Data with the AWS Connected Mobility Solution-
<https://www.youtube.com/watch?v=lit9NFAm6CU>