

MuRata SPEAKS

TECHNOLOGY | SOLUTIONS | INNOVATIONS

Questions & Answers



1 What is the most challenging aspect of doing a wireless design?

There are many challenging aspects with respect to RF design. This includes RF design, certification, customs import clearance, end customer target prices, development time, feature selection and field results and component leadtime. All these phases are very crucial for time to market. Most of the time, Murata can help customers by providing the right direction, required design support and delivery support. This includes reference designs support, RF expertise support, distributor knowledge along with complete guides and application notes. To ensure that you are choosing the right module/ IC maker, Murata's resources and tech support is globally available.

2 If we use Murata WiFi/BT module, is there any reference antenna design available which we can refer to?

Most of our modules are completely CE/FCC certified. All of Murata's modules and certified antenna designs can be shared with customer. This can be considered as reference as well. Additionally, we do help to validate customer's Antenna or RF feedline for a stable RF performance device. Murata can provide the DXF file for the PCB antenna. Customers can import the file into their CAD programme, where they can use as it is. This will help to ease the approval process of their product certification.

3 If I need to evaluate Murata's new NXP based modules (1ZM, 1YM), which evaluation board should I use?

There are many platforms that can be supported for these two models - 1ZM and 1YM; either through Embedded Artist or NXP Linux hosts like iMX8 or iMX6, for both software and hardware. In the case of using Embedded Artist based platform, the kernel version that support is 5.4.24. For the other NXP iMX boards, Murata supports up to 5.4.47 kernel's.

4 How does Murata ensure inter-operability with other asset management solutions (New and Legacy)?

It depends upon the technology that customer choose. LoRa under LoRaWAN technology is inter operable with standard communication protocols and packets. Of course, its not a pin to pin drop or software stack compatible. Customisation might required in some cases. Please share/contact us with specific use case to get more details.

5 What kind of software support do you offer to various processors, say, STMicro, for the SDIO interface as you have mentioned?

Currently, Murata supports both hardware and software solutions for NXP iMX or Embedded Artist platforms. We do have our own build script and customised software for smoother evaluation. In the case of any other linux/ FreeRTOS hosts you might need to port the driver your self by changing the configurations. You can check with the host providers for the driver support before finalising the module. Our team can reach you once you share the host to be used in details in your design.

6 Does Type 1ZM support SDIO for WIFI and SDIO for BT communication?

1ZM based on 88W8987 NXP chips support both WiFi and BT operation through SDIO interface.

7 Why select Murata Cat-M/NB-IoT module compare to another module available in the market? what is the differentiation?

A: besides Murata's module traditional merits such as small size, high quality, large production capacity and global regulatory certifications, another good reason to choose Murata Cat-M/NB-IoT module is the variety of features to address each specific application requirement:

- 1) Dual mode Cat-M/NB-IoT (1SE/1SC), or NB-IoT (1SS/1YS) only for cost reduction
 - 2) Integrated GNSS (GPS, Glonass), PoLTE (1SC) for tracking
 - 3) Ultra low power (1SC has one of lower PSM flow current in the market) for battery operation
 - 4) eSIM (1SE) or iSIM options with secure element for scalability
 - 5) Partnership with MNOs and MVNOs (Truphone, Arm, etc.) for easy deployment
 - 6) Module operation by AT command or OpenMCU, STM32L4 SW libraries framework (1SE)
 - 7) FOTA service to easy upgrade of a fleet of devices
 - 8) VoLTE over Cat-M1 (1SC)
 - 9) 2G-fallback (2AS) for markets with less Cat-M and NB-IoT coverage
 - 10) Cloud connection (AWS, Azure, Pelion,...) (1SC/1SE)
- and a roadmap to address upcoming 3GPP releases (Rel.15/16 and 5G NR)

8 How do I find out what module qualified with BT SIG (Special Interest Group)?

Go to the website of BT SIG. Input Murata and the answer will pop-up automatically.

9 Any place we can get hold of Type 1SJ module and datasheet information?

Type 1SJ module information and datasheet are available on our website <https://wireless.murata.com/type-1sj.html>

10 If we use Murata Wi-Fi/ BT module, is there any reference antenna design available which we can refer to?

Murata can provide the DXF file for the PCB antenna. Customer can copy that and import it to their CAD programme, then they can use that as it is. It will help for eas of their product certification.

11 When will Murata certified external antenna solution, like stick antenna?

Typically, we only use a couple of different reference antenna – PCB antenna (inexpensive to implement) and pick a couple of antenna. We have to limit it because if we start to add more antennas, the certification cost is going to go up as the complexity of Wi-Fi increases. It can easily cost 2-300 thousand dollars. However, customers can always use our reference antenna and do a FCC-Class2 and apply to any antenna they like.