

# Host Integration Guide

FCC ID: 2AC23-WXT10S

IC: 12290A-WXT10S

The module is not intended for the general public and integrators.

It is generally for industry/commercial use and must be professionally installed.

The module is limited to installation in mobile applications.

Installation must be controlled and requires special training.

According to KDB996369 D03 2.0 INTEGRATION INSTRUCTIONS (2.2-2.12)

## 2.2

This module has been assessed against the following FCC rule parts: CFR 47 FCC Part 15 C (15.247, DTS and DSS) and CFR 47 FCC Part 15 E (NII). It is applicable to the modular transmitter.

## 2.3

This radio transmitter FCC ID: 2AC23-WXT10S has been approved by Federal Communications Commission to

operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

The concrete contents to check are the following three points.

- 1 ) Must use an antenna such as PIFA Antenna with a gain not exceeding 1.72 dBi for BT/BLE, 1.72 dBi for 2.4G WIFI, 2.57dBi for 5G WIFI;
- 2 ) Should be installed so that the end user cannot modify the antenna;
- 3 ) Feed line should be designed in 50ohm

Fine-tuning of return loss etc. can be performed using a matching network.  
The antenna shall not be accessible for modification or change by the end user

## 2.4

The module complies with FCC Part 15.247 / Part 15.407 and applies for Single module approval.

## 2.5

Trace antenna designs: Not applicable, the antennas for this module are integrated into the module. Use of external antennas or antennas integrated into the host circuit board are not an option.

## 2.6

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator & your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

## 2.7

Antenna type and antenna gain:

BLE/BT:

Antenna	Frequency (MHz)	Antenna Type	MAX Antenna Gain (dBi)
3	2402-2480	PIFA	1.72

2.4 G wifi:

Antenna	Frequency (MHz)	Antenna Type	MAX Antenna Gain (dBi)
1	2412-2462	PIFA	1.72
2	2412-2462	PIFA	1.72

5G wifi:

Antenna No.	Frequency Band	Antenna Type	Max Antenna Gain (dBi)
1	5150-5850	PIFA	2.57
2	5150-5850	PIFA	2.57

## 2.8

Please notice that if the FCC identification number is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. This exterior label can use wording such as the following: "Contains FCC ID: 2AC23-WXT10S" Any similar wording that expresses the same meaning may be used.

## 2.9

Testing of the host product with all the transmitters installed – referred to as the composite investigation test- is recommended, to verify that the host product meets all the applicable FCC rules. The radio

spectrum is to be investigated with all the transmitters in the final host product functioning to determine that no emissions exceed the highest limit permitted for any one individual transmitter as required by Section 2.947(f). The host manufacturer is responsible to ensure that when their product operates as intended it does not have any emissions present that are out of compliance that were not present when the transmitters were tested individually.

If the modular transmitter has been fully tested by the module grantee on the required number of channels, modulation types, and modes, it should not be necessary for the host installer to re-test all the available transmitter modes or settings. It is recommended that the host product manufacturer, installing the modular transmitter, perform some investigative measurements to confirm that the resulting composite system does not exceed the spurious emissions limits or band edge limits (e.g., where a different antenna may be causing additional emissions).

The testing should check for emissions that may occur due to the intermixing of emissions with the other transmitters, digital circuitry, or due to physical properties of the host product (enclosure). This investigation is especially important when integrating multiple modular transmitters where the certification is based on testing each of them in a stand-alone configuration.

## 2.10

Any company of the host device which install this modular should perform the test of radiated & conducted emission and spurious emission etc. according to FCC Part 15C: 15.247, 15.209, & 15.207, Part 15E: 15.407, 15B class B requirement, only if the test result complies with FCC part 15C: 15.247, 15.209, & 15.207, Part 15E: 15.407, 15B class B requirement. Then the host can be sold legally.

The host product manufacturer is responsible for compliance to any other FCC rules that apply to the host not covered by the modular transmitter grant of certification. If the grantee markets their product as being Part 15 Subpart B compliant (when it also contains unintentional-radiator digital circuitry), then the grantee shall provide a notice stating that the final host product still requires Part 15 Subpart B compliance testing with the modular transmitter installed.

## 2.11

The host manufacture is recommended to use 996369 D04 Module Integration Guide v02 recommending as "best practice" RF design engineering testing and evaluation in case non-linear interactions generate additional non-compliant limits due to module placement to host components or properties.

## 2.12

This module is stand-alone modular. If the end product will involve the Multiple simultaneously transmitting condition or different operational conditions for a stand-alone modular transmitter in a host, host manufacturer have to consult with module manufacturer for the installation method in end system.

Separate approval is required for all other operating configurations, including portable configurations with respect to Part 2.1093 and different antenna configurations.

The module is limited to OEM installation only.

The OEM integrator is responsible for ensuring that the end-user has no manual instruction to remove or install the module.

Must use the device only in host devices that meet the FCC/ISED RF exposure category of mobile, which means the device is installed and used at distances of at least 20 cm from persons.

The end user manual shall include FCC Part 15 /ISED RSS GEN compliance statements related to the transmitter as shown in this manual.

The host manufacturer is responsible for compliance of the host system with the module installed with all other applicable requirements for the system such as Part 15 B, ICES 003.

Any company of the host device that installs this modular should perform the test of radiated and conducted emission and spurious emission etc. according to FCC Part 15C: 15.247, 15.209, & 15.207, Part 15E: 15.407, 15B class B requirement, only if the test result complies with FCC part 15C: 15.247, 15.209, & 15.207, Part 15E: 15.407, 15B class B requirement. Then the host can be sold legally.

The host product manufacturer is responsible for compliance with any other FCC rules that apply to the host not covered by the modular transmitter grant of certification. If the grantee markets their product as being Part 15 Subpart B compliant (when it also contains unintentional radiator digital circuitry), then the grantee shall provide a notice stating that the final host product still requires Part 15 Subpart B compliance testing with the modular transmitter installed.

This modular transmitter is only FCC-authorized for the specific rule parts (47CFR Part 15.247 and 15.407) listed on the grant, and that the host product manufacturer is responsible for compliance to any other FCC rules that apply to the host not covered by the modular transmitter grant of certification.

Host manufacturer is strongly recommended to confirm compliance with FCC/ISED requirements for the transmitter when the module is installed in the host.

The use condition limitations extend to professional users, then instructions must state that this information also extends to the host manufacturer's instruction manual.

This module is a stand-alone modular. If the end product will involve Multiple simultaneous transmitting condition or different operational conditions for a stand-alone modular transmitter in a host, host manufacturer has to consult with the module manufacturer for the installation method in the end system.

Refer to the minimum antenna gain requirements and antenna type (PCB) that are approved for use with this module detailed in the previous sections. The use of other antennas will require additional certification procedures for the host system with FCC and ISED Canada.

This equipment complies with FCC and ISED-Canada radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed in host systems that are installed and operated with a minimum distance of 20cm between the radiator & people. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter except as permitted by FCC and ISED-Canada multiple-transmitter rules.

The module is limited to installation in mobile applications.

For a normal application, for example, A television, host systems that are installed and operated with a minimum distance of 20cm between the radiator & people.

If the end-user really needed to install in host systems that are installed and operated with a distance less than 20cm between the radiator & people, for example, a cell phone or laptop, the host systems need to comply with the requirements in KDB 996369 D03 OEM Manual v01 and KDB 996369 D04 Module Integration Guide v02.

The module is not intended for the general public, it must be professionally installed.

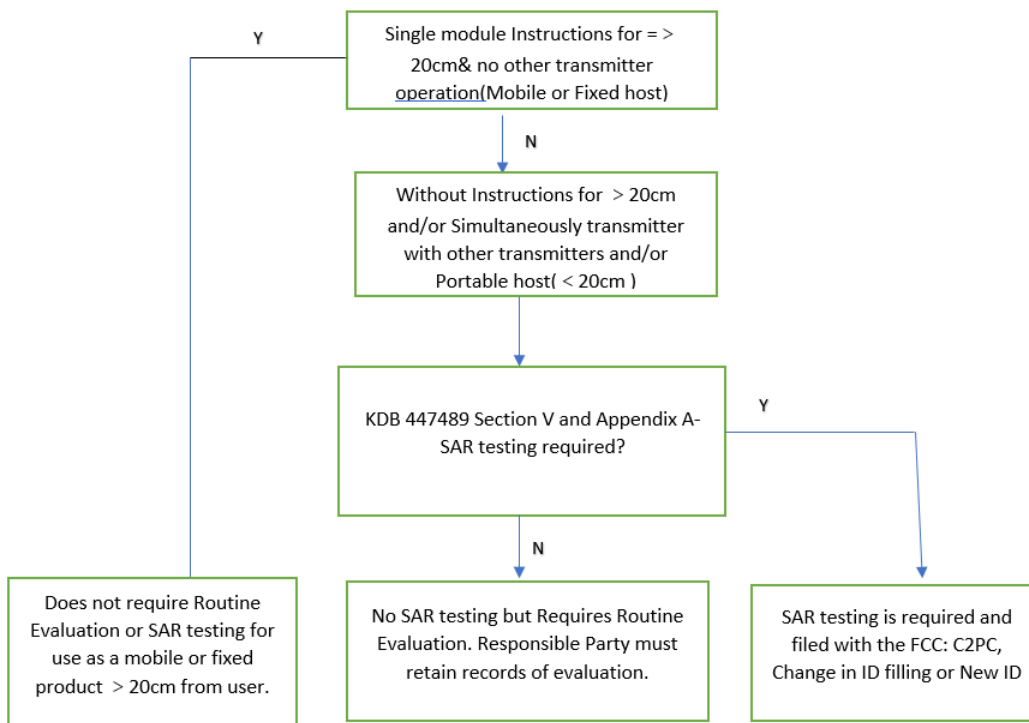
The typical application for the module:

Television	Monitor
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For other devices, A special driver needs to be installed on the host before starting normal use for the module, and it is different for different kinds of hosts.

Please contact us for more details before installing a host.

Here is a general guide to determining RF exposure compliance:



For more information, please refer to the in KDB 996369 D03 OEM Manual v01 and KDB 996369 D04 Module Integration Guide v02.

The end user manual shall include FCC Part 15 /ISED RSS GEN compliance statements related to the transmitter as shown in below in addition to any other relevant statements or labeling requirements from e.g FCC Part 15 or the Canadian ICES standards.

*This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.*

*This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:*

- 1. This device may not cause interference.*
- 2. This device must accept any interference, including interference that may cause undesired operation of the device.*

*To ensure compliance with FCC and ISED RF exposure requirements this device must be installed to provide a minimum of 20cm between the device and people.*

*The device for operation in the band 5150–5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems*

Host manufacturer is strongly recommended to confirm compliance with FCC/ISED requirements for the transmitter when the module is installed in the host according to FCC Part 15.247, RSS-247, RSS-248 and FCC part 15 E.

This modular transmitter is only FCC authorized for the specific rule parts (47CFR Part 15.247 and 15.407) listed on the grant, and that the host product manufacturer is responsible for compliance to any other FCC rules that apply to the host not covered by the modular transmitter grant of certification such as ICES-003 and FCC Part 15 B.

The use condition limitations extend to professional users, then instructions must state that this information also extends to the host manufacturer's instruction manual.

This module is stand-alone modular. If the end product will involve the Multiple simultaneously transmitting condition or different operational conditions for a stand-alone modular transmitter in a host, host manufacturer have to consult with module manufacturer for the installation method in end system.



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