

## MODULAR APPROVAL LETTER

Modular Approval Requirement	Yes/No	Comments
(i) The radio elements of the modular transmitter must have their own shielding. The physical crystal and tuning capacitors may be located external to the shielded radio elements.	<b>Yes</b>	The module contains a metal shield which covers all RF components and circuitry. The shield is located on the top of the board next to antenna connector.
(ii) The modular transmitter must have buffered modulation/data inputs (if such inputs are provided) to ensure that the module will comply with part 15 requirements under conditions of excessive data rates or over-modulation.	<b>Yes</b>	Data to the modulation circuit is buffered as described in the operational description provided with the application.
(iii) The modular transmitter must have its own power supply regulation.	<b>No</b>	The module must be powered by the end product.
(iv) The modular transmitter must comply with the antenna and transmission system requirements of §§ 15.203, 15.204(b) and 15.204(c). The antenna must either be permanently attached or employ a "unique" antenna coupler (at all connections between the module and the antenna, including the cable). The "professional installation" provision of § 15.203 is not applicable to modules but can apply to limited modular approvals under paragraph (b) of this section.	<b>Yes</b>	The antenna of BLE is an integrated antenna, while the antenna of SRD is an external antenna. Please refer to the description in the manual for the detailed connection circuit of SRD external antenna.
(v) The modular transmitter must be tested in a stand-alone configuration	<b>No</b>	The product module can't be powered on independently, but only through the end product, and it will only be assembled on the end product shown in the figure, so the test is carried out in the form of loading the module on the end product.
(vi) The modular transmitter must be equipped with either a permanently affixed label or must be capable of electronically displaying its FCC identification number.	<b>Yes</b>	There is a label on the module as shown in the labeling exhibit filed with this application. Host specific labeling instructions are shown in the installation manual .filed with this application.
(vii) The modular transmitter must comply with any specific rules or operating requirements that ordinarily apply to a complete transmitter and the manufacturer must provide adequate instructions along with the module to explain any such requirements. A copy of these instructions must be included in the application for equipment authorization.	<b>Yes</b>	The module complies with FCC Part 15C requirements. Instructions to the OEM installer are provided in the installation manual filed with this application.
(viii) The modular transmitter must comply with any applicable RF exposure requirements in its final configuration.	<b>Yes</b>	The module meets Portable exclusion levels as shown in the RF exposure information filed with this application.

The letter must be on the applicant's letterhead and signed by the grantee code contact.

*Alyssa Yang*

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Limited Module Description – When Applicable

\* If a module does NOT meet one or more of the above 8 requirements, the applicant may request Limited Modular Approval (LMA).

This Limited Modular Approval (LMA) is applied with the understanding that the applicant will demonstrate and will retain control over

the final installation of the device, such that compliance of the end product is always assured. The operating condition(s) for the LMA;

the module is only approved for use when installed in devices produced by grantee. A description regarding how control of the end

product, into which the module will be installed, will be maintained by the applicant/manufacturer, such that full compliance of the end

product is always ensured should be provided here.

<b>Software Considerations – KDB 594280 / KDB 442812 (One of the following 2 items must be applied)</b>		
Requirement	Requirement Met (Yes/No/N/A)	Comments
For non-Software Defined Radio transmitter modules where software is used to ensure compliance of the device, technical description must be provided about how such control is implemented to ensure prevention of third-party modification; see KDB Publication 594280.	Yes	The firmware of the device can not be modified or adjusted by the end user as described in operation description.
For Software Defined Radio (SDR) devices, transmitter module applications must provide a software security description; see KDB Publication 442812.	N/A	N/A

Split Modular Requirements		
Requirement	Requirement Met (Yes/No/N/A)	Comments
For split modular transmitters, specific descriptions for secure communications between front-end and control sections, including authentication and restrictions on third-party modifications; also, instructions to third-party integrators on how control is maintained.	N/A	N/A

Sincerely,

By: 

Certification Engineer

Alyssa Yang

(Print name)

**OEM Integration Manual Guidance – KDB 996369 D03 Section 2**  
**Clear and Specific Instructions Describing the Conditions,**  
**Limitations, and Procedures**  
**for third-parties to use and/or integrate the module into a host**  
**device.**

## Requirement

<p>Is this module intended for sale to third parties?</p>	<p><input type="checkbox"/> - YES</p>	<p><input checked="" type="checkbox"/> - No,</p> <p>If No, and LMA applies, the applicant can optionally choose to not make the following detailed info public. However there still needs to be basic integration instructions for a users manual and the information below must still be included in the operational description. If the applicant wishes to keep this info confidential, this will require a separate statement cover letter explaining the module is not for sale to third parties and that integration instructions are internal confidential documents.</p>
<p>1. List of applicable FCC rules. KDB 996369 D03, Section 2.2</p> <p>a. Only list rules related to the transmitter.</p>		
<p>2. Summarize the specific operational use conditions. KDB 996369 D03, Section 2.3</p> <p>a. Conditions such as limits on antennas, cable loss, reduction of power for point to point systems, professional installation info</p>		<p><input type="checkbox"/> - All Items shown to the left are provided in the Modular Integration Guide (or UM) for Full Modular Approval (MA) or LMA.</p>
<p>3. Limited Module Procedures. KDB 996369 D03, Section 2.4</p> <p>a. Describe alternative means that the grantee uses to verify the host meets the necessary limiting conditions</p> <p>b. When RF exposure evaluation is necessary, state how control will be maintained such that compliance is ensured, such as Class II for new hosts, etc.</p>		<p><input checked="" type="checkbox"/> - An LMA applies and is approved ONLY for use by the grantee in their own products, and not intended for sale to 3 rd parties as provided in</p>
<p>4. Trace antenna designs. KDB 996369 D03, Section 2.5</p> <p>a. Layout of trace design, parts list, antenna, connectors, isolation requirements, tests for design verification, and production test procedures for ensuring compliance. If confidential, the method used to keep confidential must be identified and information provided in the operational description.</p>		<p>a separate cover letter. Therefore the information shown to the left is found in the theory of operation.</p>
<p>5. RF exposure considerations. KDB 996369 D03, Section 2.6</p> <p>a. Clearly and explicitly state conditions that allow host manufacturers to</p>		

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use the module. Two types of instructions are necessary: first to the host manufacturer to define conditions (mobile, portable – xx cm from body) and second additional text needed to be provided to the end user in the host product manuals.	
6. Antennas. KDB 996369 D03, Section 2.7  a. List of antennas included in the application and all applicable professional installer instructions when applicable. The antenna list shall also identify the antenna types (monopole, PIFA, dipole, etc – note that “omni-directional” is not considered a type)	
7. Label and compliance information. KDB 996369 D03, Section 2.8  a. Advice to host integrators that they need to provide a physical or e-label stating “Contains FCC ID: “ with their finished product	
8. Information on test modes and additional testing requirements. KDB 996369 D03, Section 2.9  a. Test modes that should be taken into consideration by host integrators including clarifications necessary for stand-alone and simultaneous configurations.  b. Provide information on how to configure test modes for evaluation	
9. Additional testing, Part 15 Subpart B disclaimer. KDB 996369 D03, Section 2.10	