



Applicant/Grantee		Microsoft Corporation	
FCC ID:		C3K1575	
Section 15.212 Modular Transmitters			
Request for Modular Approval	<input type="checkbox"/>	Request for Limited Modular Approval	<input checked="" type="checkbox"/>
	Requirements	EUT Conditions	Comply (Y/N)
Single Modular Approval Requirements			
1	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.	Device does not have its own RF shield. Radiated & conducted emissions (15.205, 15.209, 15.207) testing outside and installed in host system.	N
2	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.	All inputs to the module are buffered through logic or microprocessor inputs.	Y
3	The modular transmitter must have its own power supply regulation.	Internal 1.8V power regulator. 12MHz crystal provides reference to generate LO frequencies.	Y
4	The modular transmitter must comply with the antenna and transmission system requirements of Sections 15.203, 15.204(b) and 15.204(c). The antenna must either be	Antennas are permanently connected and non replaceable by the user.	Y

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	<p>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 Section 15.203 is not applicable to modules but can apply to limited modular approvals under paragraph (b) of this section.</p>		
<p>5</p>	<p>The modular transmitter must be tested in a stand-alone configuration, <i>i.e.</i>, the module must not be inside another device during testing for compliance with Part 15 requirements. Unless the transmitter module will be battery powered, it must comply with the AC line conducted requirements found in Section 15.207. AC or DC power lines and data input/output lines connected to the module must not contain ferrites, unless they will be marketed with the module (see Section 15.27(a)). The length of these lines shall be the length typical of actual use or, if that length is</p>	<p>Device was tested both standalone with Laptop support device and installed in the host system.</p>	<p>Y</p>

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	<p>unknown, at least 10 centimeters to insure that there is no coupling between the case of the module and supporting equipment. Any accessories, peripherals, or support equipment connected to the module during testing shall be unmodified and commercially available (see Section 15.31(i)).</p>		
<p>6</p>	<p>The modular transmitter must be equipped with either a permanently affixed label or must be capable of electronically displaying its FCC identification number. <i>(A) If using a permanently affixed label, the modular transmitter must be labeled with its own FCC identification number, and, 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 Transmitter Module FCC ID: XYZMODEL1" or "Contains FCC ID: XYZMODEL1." Any similar wording that expresses the same meaning may be used. The Grantee may either provide such a label, an example of</i></p>	<p>Refer to label format exhibit</p>	<p>Y</p>

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	<p><i>which must be included in the application for equipment authorization, or, must provide adequate instructions along with the module which explain this requirement. In the latter case, a copy of these instructions must be included in the application for equipment authorization.</i></p> <p><i>(B) If the modular transmitter uses an electronic display of the FCC identification number, the information must be readily accessible and visible on the modular transmitter or on the device in which it is installed. If the module is installed inside another device, then the outside of the device into which the module is installed must display a label referring to the enclosed module. This exterior label can use wording such as the following: "Contains FCC certified transmitter module(s)." Any similar wording that expresses the same meaning may be used. The user manual must include instructions on how to access the electronic display. A copy of these instructions must be included in the application for equipment authorization.</i></p>		
7	<p>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</p>	<p>There are no adjustments or user accessible controls in hardware or software that will influence operation of the transmitter.</p>	Y

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	the module to explain any such requirements. A copy of these instructions must be included in the application for equipment authorization.		
8	The modular transmitter must comply with any applicable RF exposure requirements in its final configuration.	Refer to RF exposure calculation exhibit.	Y

A **limited modular approval** may be granted for single or split modular transmitters that do not comply with all of the above requirements, *e.g.*, shielding, minimum signaling amplitude, buffered modulation/data inputs, or power supply regulation, if the manufacturer can demonstrate by alternative means in the application for equipment authorization that the modular transmitter meets all the applicable Part 15 requirements under the operating conditions in which the transmitter will be used. Limited modular approval also may be granted in those instances where compliance with RF exposure rules is demonstrated only for particular product configurations. The applicant for certification must state how control of the end product into which the module will be installed will be maintained such that full compliance of the end product is always ensured.

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