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| <b>Applicant/Grantee</b>                    | <b>Qualcomm INC.</b>  |   |                                   |
| <b>FCC ID:</b>                              | <b>J9CCAstra</b>  |   |                                   |
| <b>Section 15.212 Modular Transmitters</b>  |   |   |                                   |
| <b>Request for Modular Approval</b>         |   | <b>Request for Limited Modular Approval</b>   | <b>X</b> <input type="checkbox"/> |
|   | Requirements  | EUT Conditions  | <b>Comply (Y/N)</b>               |
| <b>Single Modular Approval Requirements</b> |   |   |                                   |
| 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.   | The Castra module is fully shielded to prevent interference between the device and the module (See external photos in Exhibit 10).  | <b>yes</b>                        |
| 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.  | The buffer is provided through USB connection. See Exhibit 5 for details.   | <b>yes</b>                        |
| 3   | The modular transmitter must have its own power supply regulation.  | The Castra module has its own power supply regulation through the PMIC chip.  | <b>yes</b>                        |
| 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 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.  | For the cellular and PCS frequency bands, the Castra module has a unique antenna connector. Antenna gain information is listed in the user’s manual and shall not be exceeded. An internal antenna permanently attached to the PCB is used for Zigbee transmissions. The gain of the internal Zigbee antenna is -4.2 dBi. | <b>yes</b>                        |
| 5   | 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 unknown, at least 10 centimeters to insure that there is no coupling between | All tests reported in this application were performed on a stand-alone basis.   | <b>yes</b>                        |

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|   | <p>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>   |  |            |
| 6 | <p>The modular transmitter must be equipped with either a permanently affixed label or must be capable of electronically displaying its FCC identification number.</p> <p><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<br/>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 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:<br/>“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> | <p>Please refer to the FCC ID information in Exhibit 8.</p>  | <p>yes</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 the module to explain any such requirements. A copy of these instructions must be included in the</p>  | <p>The Castra module complies with all of relevant FCC requirements (See Exhibit 2, 3 and 4 for the test results and MPE analysis report), and the adequate instructions to keep the compliance have been provided in the User’s Guide (See Exhibit 11).</p> | <p>yes</p> |

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|   | application for equipment authorization.   |  |     |
| 8 | The modular transmitter must comply with any applicable RF exposure requirements in its final configuration. | The Castra module will be installed in a host product where the transmitting antenna can provide 20 cm separation distance to the body of user. Installation of this module in a portable configuration is not allowed unless proper equipment authorization has been obtained. See Exhibit 4 for MPE analysis | yes |

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.

