Items to be covered	Answer from applicant
1. The modular transmitter must have its own RF shielding. This is intended to ensure that the module does not have to rely upon the shielding provided by the device into which it is installed in order for all modular transmitter emissions to comply with Part 15 limits. It is also intended to prevent coupling between the RF circuitry of the module and any wires or circuits in the device into which the module is installed. Such coupling may result in non-compliant operation.	The module has a shielding. Please refer to EUT Photo.
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 data inputs consist of a UART interface. The data is packet based. Not valid packets on the UART interface will be dropped. The UART and RF data rate are independent of each other. The UART supply voltage is independent of the RF supply voltage.
3. The modular transmitter must have its own power supply regulation. This is intended to ensure that the module will comply with Part 15 requirements regardless of the design of the power supplying circuitry in the device into which the module is installed.	The used system on chip has internal regulators for RF, IO and MCU.
4. The modular transmitter must comply with the antenna requirements of Section 15.203 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). Any antenna used with the module must be approved with the module, either at the time of initial authorization or through a Class II permissive change. The "professional installation" provision of Section 15.203 may not be applied to modules.	The "unique" antenna coupler consists of three coplanar SMD pads that are soldered to a defined antenna feed line. The specified PCB antenna or the whip antenna is permanently attached (soldered) to this feed line. The specified dipole antennas are connected by a reverse polarity SMA connector to the feed line and the harmonics filter. No external amplifier will be used with this application.
5. The modular transmitter must be tested in a stand-alone configuration, i.e., the module must not be inside another device during testing. This is intended to demonstrate that the module is capable of complying with Part 15 emission limits regardless of the device into which it is eventually installed. 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	The module was tested in a stand-alone-configuration as far as possible (soldered onto a minimum adapter PCB). The USB to UART converter used is available as EOP 350 commercially.

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 length typical of actual use or, if that length is 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 or commercially available (see Section 15.31(i)).	
6. The modular transmitter must be labeled with its own FCC ID number, and, if the FCC ID 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 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.	The module is labelled with its own FCC ID (see attached Label). The user manual gives clear advice on labelling requirements (chapter 6.2.2). An example label is also shown there.
7. The modular transmitter must comply with any specific rule or operating requirements applicable to the 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. For example, there are very strict operational and timing requirements that must be met before a transmitter is authorized for operation under Section 15.231. For instance, data transmission is prohibited, except for operation under Section 15.231(e), in which case there are separate field strength level and timing requirements. Compliance with these requirements must be assured.	The modular transmitter is compliant. The user manual of the module also gives clear instructions about duty cycle. The module limits the duty cycle by itself.
8. The modular transmitter must comply with any applicable RF exposure requirements. For example, FCC Rules in Sections 2.1091, 2.1093 and specific Sections of Part 15, including 15.319(i), 15.407(f), 15.253(f) and 15.255(g), require that Unlicensed PCS,	The module fulfils thiese requirements, but must not be used within a separation distance of 20cm or less between the user and/or bystander and the antenna and/or radiating element.

UNII and millimeter wave devices perform routine environmental evaluation for RF Exposure to demonstrate compliance. In addition, spread spectrum transmitters operating under Section 15.247 are required to address RF Exposure compliance in accordance with Section 15.247(b)(4). Modular transmitters approved under other Sections of Part 15, when necessary, may also need to address certain RF Exposure concerns, typically by providing specific installation and operating instructions for users, installers and other interested parties to ensure compliance.	Calculation of max. e.i.r.p. (maximum effective isotropic radiated power): conducted output power: 2.9dBm maximum gain of antenna: 5.0dBi maximum e.i.r.p.: 7.9dBm maximum e.i.r.p. in Watts: 0.00617W Details are given in the user manual.

Note: If compliance with one or more of the numbered requirements, listed above, cannot be demonstrated, it may be possible to obtain a "Limited Modular Approval" (LMA).

Name and surname of applicant (or authorized representative):

Armin Anders (VP Business Development)

Date: 08/28/2017 Signature: