Applicant/Grantee	**Samsung Electronics Co., Ltd.**		
FCC ID:	**A3LWCF930M**		
Modular Transmitters			
Request for Modular Approval	☒	**Request for Limited Modular Approval**	☐
	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.	Refer to the external photo	**Y**
	Details: The module contains a NON RF section on FR4 carrier PCB and a RF section built by the mmW RF system in Package (SiP), where the BGT60LTR11 Systen on Chip (SoC) is extended by the package with mmW TX and RX antenna In the NON RF section there are only assisting components e.g. for clock generation (crystal resonator), LDO section, Vcc filter elements and hard coded ports to select the autonomous working mode without external software. The RF section, based on the mmW "Field distribution sensor" (FDS) System in Package (SiP) BGT60LTR11AIP with TX and RX antenna in package. The naming Short Range Radar is common as well. This RF radar chip includes the state machine for process control, the entire TX and RX mmW section with on chip antennas, crystal oscillator (w.o.crystal resonator) and the baseband signal processing. The mmW Si chip is working in a shielded area. Description: Between the entire active area (the silicon die)and the on chip antennafor TX and RX, aground plane for shielding is placed.Blow this shield GND, the Si mmW chip is located. Furthermore the mentioned shield GND is connected with vertical package through vias to the GND plane on the FR4 PCB. Bothshield GND planes (the above the Si mmW Chip and the below one) are combined together viaverticalpackage throughvias and GND solderballs. Thesemeasuresgeneratesa 3D Faraday cagewith the active RF silicon in the center. The radiation of the on chip antennas keeps unaffected. We referre strongly to the drawing in fileddocument. "Autonomous_BGT60LTR11AIP_Principle_Block diagram.docx"		
2	The modular transmitter must have buffered modulation/data inputs (if such inputs are provided) to ensure that the module will comply with modular approval requirements under conditions of excessive data rates or over-modulation.	All input to the modules are buffered through microprocessor inputs.	**Y**
3	The modular transmitter must have its own power supply regulation.	Internal power regulators Refer to the Block-diagram	**Y**
4	The modular transmitter must comply with the antenna and transmission system requirements.	Refer to the internal photo	**Y**

5	The modular transmitter must be tested in a stand-alone configuration, *i.e.*, the module must not be inside another device during testing. 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 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)).	The EUT was tested in a standalone configuration via a SD extension cable Refer to the test setup photo	**Y**
6	The modular transmitter must be equipped with either a permanently affixed label or must be capable of electronically displaying its FCC identification number. *(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 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.* *(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.*	Refer to the external photo	**Y**
7	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	Refer to the user manual	**Y**

	along with 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 the RF exposure statement for more details.	**Y**
A **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 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.			

Jenni Chun, General manager
November 22, 2024