Dmitriy Moskovkin
Manager Codes Standards & Compliance

Applicant/Grantee	**Leviton Manufacturing Co Inc**		
FCC ID:	**2ASLN-C3648**		
Section 15.212 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.	The device does not have a shield, hence does not meet this requirement. The module cannot be tested standalone and has to be tested with the module installed in a representative host device – limited modular approval is requested.	**No**
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 module is tested for LE Bluetooth 5.x & ZigBee protocol and all the TX-RX modulation schemes were found in compliance.	**Yes**
3	The modular transmitter must have its own power supply regulation.	The module integrates on-board linear regulator and radio circuit power supplies to maintain power supply requirements.	**Yes**
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.	The module includes an internal PCB antenna on the variant with set of antenna tuning values to maintain compliance for different host devices.	**Yes**
5	The modular transmitter must be tested in a stand-alone configuration, *i.e.*, 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 the case of the module and supporting equipment. Any accessories, peripherals, or support equipment connected to the module during	As the device has no shield and cannot be tested standalone, limited modular applies and requires testing of the device in a representative host system. Testing has been performed on the module in two different host devices to represent all-different hosts – refer to additional details at the end of this document.	**No**

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	testing shall be unmodified and commercially available (see Section 15.31(i)).		
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.*	The module has a label affixed. Please see the label exhibit for the label module and end-product label.	**Yes**
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 along with the module to explain any such requirements. A copy of these instructions must be included in the application for equipment authorization.	The module is compliant with all applicable FCC rules. Detailed instructions for remaining compliance are given in the User Manual (datasheet).	**Yes**
8	The modular transmitter must comply with any applicable RF exposure requirements in its final configuration.	The module complies with RF exposure requirement. The module's application is intended to be used in wall mount products	**Yes**

		maintaining >20 cm distance from the user. RF exposure is addressed in the RF exposure exhibition.	
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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Host Device Considerations:

As this module has no shield it is subject to **limited modular approval** with approvals limited only to the host device, and substantially equivalent hosts, in which it was tested for compliance with radiated spurious emissions requirements.

The module is designed for use in Leviton's wall-mount & ceiling-mount products and there are currently fourteen different models of hosts that will use this module. Testing was performed on the module installed in units which we consider representing all different models.

The RF module itself consists of the RF circuitry and logic circuitry with some slightly different stuffing options on the logic circuitry. These changes do not affect the RF circuitry and are within the scope of a Permissive Change. In addition, based on the variant the RF circuitry consists of an internal PCB antenna with a set of antenna matching circuitry which is used to best match antenna and RF output based on the power board portion of the host switch. Full details are provided in the Operational Description exhibit.

The end-product assembly (host) can support switch functions, flash, dimming functions. The different options for each of the fourteen-host end-product assemblies are described below.

The host versions tested are –
Zigbee + BLE: ZB700-D0z, ZB700-30z, ZK700-D0z, ZBS00-D0z, ZKS00-D0z, ZBM00-10z, ZKM00-10z
BLE only: SB700-D0z, SB700-30z, SK700-D0z, SBS00-D0z, SKS00-D0z, SBM00-10z, SKM00-10z.

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	LIMITED MODULAR CERTIFICATION APPLIED TO RADIO / LOGIC PCB# C3648 ONLY														
	Product ID			Comparison Information											
				Configuration				Radio / Logic PCB					Power PCB & Assembly#	Mobile Application	
FCC ID#:	ISED ID#:	Serial#	Host HVIN Model# / Cat#	Product Marketing Name Description	Radio	Voltage	Dimming	Switch	PCB#	Assembly Variant#	Antenna Tuning#	Assembly Difference			
			Zigbee + BLE												
Contains FCC ID: 2ASLN-C3648	Contains IC: 25037-C3648	1	ZB700-D0z	Lumina RF 0-10V Wall Dimmer, 120-277VAC	Zigbee & BLE	120-277VAC	Yes, 0-10V	Switch & Dimmer	C3648	D01	Tuning #1	--	B1674 var 01	Leviton's mobile app	
		2	ZB700-30z	Lumina RF 0-10V Wall Dimmer, 347VAC		347VAC				D01	Tuning #1	--	B1674 var 02		
		3	ZK700-D0z	Lumina RF 10A 0-10V Dimming Power Pack, 120-277VAC		120-277VAC				D21	Tuning #3	D01 with ceiling mount config	B7707 var 01		
		4	ZBS00-D0z	Lumina RF Decora Wall Switch, 120-277VAC		120-277VAC	NO	Switch		D02	Tuning #2	D01 with NO dimming config	B1677 var 01		
		5	ZKS00-D0z	Lumina RF 20A ON/OFF Switching Power Pack, 120-277VAC						D22	Tuning #4	D01 with ceiling mount config & no dimming	B1677 var 21		
		6	ZBM00-10z	Lumina RF 1000W Traditional Dimmer, 120VAC		120VAC	Yes, Phase Cut	Switch & Dimmer		D07	Tuning #2	D01 with phase cut control config	A9800 var 03		
		7	ZKM00-10z	Lumina RF Phase Cut Dimmer, Nipple Mount, 120VAC						D23	Tuning #5	D01 with ceiling mount config and phase control config	A9800 var 02		
			BLE Only												
Contains FCC ID: 2ASLN-C3648	Contains IC: 25037-C3648	8	SB700-D0z	Lumina RF 0-10V Wall Dimmer, 120-277VAC, BLE only	BLE	120-277VAC	Yes, 0-10V	Switch & Dimmer	C3648	D31	Tuning #1	D01 with BLE only config	B1674 var 01	Leviton's mobile app	
		9	SB700-30z	Lumina RF 0-10V Wall Dimmer, 347VAC, BLE only		347VAC				D31	Tuning #1	D01 with BLE only config	B1674 var 02		
		10	SK700-D0z	Lumina RF 10A 0-10V Dimming Power Pack, 120-277VAC, BLE only		120-277VAC				D51	Tuning #3	D31 with ceiling mount config	B7707 var 01		
		11	SBS00-D0z	Lumina RF Decora Wall Switch, 120-277VAC, BLE only		120-277VAC	NO	Switch		D32	Tuning #2	D31 with NO dimming config	B1677 var 01		
		12	SKS00-D0z	Lumina RF 20A ON/OFF Switching Power Pack, 120-277VAC, BLE only						D52	Tuning #4	D31 with ceiling mount config & no dimming	B1677 var 21		
		13	SBM00-10z	Lumina RF 1000W Traditional Dimmer, 120VAC, BLE only		120VAC	Yes, Phase Cut	Switch & Dimmer		D37	Tuning #2	D31 with phase cut control config	A9800 var 03		
		14	SKM00-10z	Lumina RF Phase Cut Dimmer, Nipple Mount, 120VAC, BLE only						D53	Tuning #5	D31 with ceiling mount config and phase control config	A9800 var 02		

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Sincerely,

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