RF Exposure for simultaneous transmission statement

FCC ID:	BKEBEE001	Applicant:	Nintendo Co., Ltd.		
FCC Report No.:	14827216S-A-R2	Type of Equipment:	Game Console	Model No.	BEE-001

Nintendo Co., Ltd. declares that Model: BEE-001 complies with FCC radiation exposure requirement specified in the FCC Rule 2.1093 (for portable use).

BEE-001 can transmit BT & WLAN of BEE-001 and RFID of BEE-014 simultaneously when BEE-014 is connected. At this time, BT of BEE-014 cannot transmit simultaneously. Simultaneous transmission scenarios are shown in the table below. For SAR results of RFID for BEE-014, see report number: 15512871H-A-R2. The followings are information on device that transmit simultaneously with BEE-001.

FCC ID:	BKEBEE014	Applicant:	Nintendo Co., Ltd.		
FCC Report No.:	15512871H-A-R2	Type of Equipment:	Game Controller	Model No.	BEE-014

BEE-001 alone has a simultaneous transmission SAR1g exceeding 1.6 W/kg, but the antenna separation distance is sufficiently large to reduce the SPLSR of the antenna pair to less than 0.04. When BEE-014, which transmits RFID, is connected, the simultaneous transmission SAR1g also exceeds 1.6W/kg, but the antenna separation distance between BEE-001 and BEE-014 is also sufficiently large, so the SPLSR of the antenna pair is less than 0.04.

No.	Simultaneous transmission scenarios	Ant.#	1	0						2					BEE -014	SUM SAR1g [W/kg]							
																Antenan Pair (SPLSR)							Ant. All
		Mode	BT(1)	BT(0)	WLAN					WLAN					RFID	0	0+1	0+2	1+2	0 +RFID	1 +RFID	2 +RFID	0+1+2 +RFID
		Band (GHz)	2.4	2.4	2.4 (Low)	2.4 (NML)	5	6	6	2.4 (Low)	2.4 (NML)	5	6	6	0.013	(All bands shown left) Antenna separation distance [mm] (Figure in parentheses shows SPLSR) Limit SAR1g: 1.6 W/kg, SPLSR: 0.04							(All bands)
		Exp.type (SAR[W/kg]) (PD[w/m2])	1g	1g	1g	1g	1g	1g	APD	1g	1g	1g	1g	APD	1g	1	117	153	62	191	58	41	1g
1	W2.4(0)+BT(1) +RFID		0.076			0.606									0.049	0.606 (<limit)	0.682 (<limit)	0.606 (<limit)	0.076 (<limit)	0.655 (<limit)	0.125 (<limit)	0.049 (<limit)	0.731 (<limit)
2	W2.4(2)+BT(0) +RFID			0.089							0.986				0.049	0.089 (<limit)	0.089 (<limit)	1.075 (<limit)	0.986 (<limit)	0.138 (<limit)	0.049 (<limit)	1.035 (<limit)	1.124 (<limit)
3	W2.4(2)+BT(1) +RFID		0.076								0.986				0.049	0 (<limit)	0.076 (<limit)	0.986 (<limit)	1.062 (<limit)	0.049 (<limit)	0.125 (<limit)	1.035 (<limit)	1.111 (<limit)
4	W2.4(2)+BT(0/1) +RFID		0.076	0.089							0.986				0.049	0.089 (<limit)	0.165 (<limit)	1.075 (<limit)	1.062 (<limit)	0.138 (<limit)	0.125 (<limit)	1.035 (<limit)	1.200 (<limit)
5	W2.4(0/1)+BT(1) +RFID		0.076			0.114					0.196				0.049	0.114 (<limit)	0.19 (<limit)	0.31 (<limit)	0.272 (<limit)	0.163 (<limit)	0.125 (<limit)	0.245 (<limit)	0.435 (<limit)
6	W5(0)+W2.4(2) +RFID						0.859				0.986				0.049	0.859 (<limit)	0.859 (<limit)	1.845 (0.016)	0.986 (<limit)	0.908 (<limit)	0.049 (<limit)	1.035 (<limit)	**1.894** (0.016)
7	W5(2)+W2.4(0) +RFID					0.606						1.303			0.049	0.606 (<limit)	0.606 (<limit)	1.909 (0.017)	1.303 (<limit)	0.655 (<limit)	0.049 (<limit)	1.352 (<limit)	**1.958** (0.017)
8	W5(0)+W2.4(2)+BT(0) +RFID			0.089			0.859				0.986				0.049	0.948 (<limit)	0.948 (<limit)	1.934 (0.018)	0.986 (<limit)	0.997 (<limit)	0.049 (<limit)	1.035 (<limit)	**1.983** (0.018)
9	W5(0)+W2.4(2)+BT(1) +RFID		0.076				0.859				0.986				0.049	0.859 (<limit)	0.935 (<limit)	1.845 (0.016)	1.062 (<limit)	0.908 (<limit)	0.125 (<limit)	1.035 (<limit)	**1.970** (0.016)
10	W5(0)+W2.4(2)+BT(0/1) +RFID		0.076	0.089			0.859				0.986				0.049	0.948 (<limit)	1.024 (<limit)	1.934 (0.018)	1.062 (<limit)	0.997 (<limit)	0.125 (<limit)	1.035 (<limit)	**2.059** (0.018)
11	W5(0)+BT(0) +RFID			0.089			0.859								0.049	0.948 (<limit)	0.948 (<limit)	0.948 (<limit)	0 (<limit)	0.997 (<limit)	0.049 (<limit)	0.049 (<limit)	0.997 (<limit)
12	W5(0)+BT(1) +RFID		0.076				0.859								0.049	0.859 (<limit)	0.935 (<limit)	0.859 (<limit)	0.076 (<limit)	0.908 (<limit)	0.125 (<limit)	0.049 (<limit)	0.984 (<limit)
13	W5(2)+BT(0) +RFID			0.089								1.303			0.049	0.089 (<limit)	0.089 (<limit)	1.392 (<limit)	1.303 (<limit)	0.138 (<limit)	0.049 (<limit)	1.352 (<limit)	1.441 (<limit)
14	W5(2)+BT(1) +RFID		0.076									1.303			0.049	0 (<limit)	0.076 (<limit)	1.303 (<limit)	1.379 (<limit)	0.049 (<limit)	0.125 (<limit)	1.352 (<limit)	1.428 (<limit)
15	W5(0)+BT(0/1) +RFID		0.076	0.089			0.859								0.049	0.948 (<limit)	1.024 (<limit)	0.948 (<limit)	0.076 (<limit)	0.997 (<limit)	0.125 (<limit)	0.049 (<limit)	1.073 (<limit)
16	W5(2)+BT(0/1) +RFID		0.076	0.089								1.303			0.049	0.089 (<limit)	0.165 (<limit)	1.392 (<limit)	1.379 (<limit)	0.138 (<limit)	0.125 (<limit)	1.352 (<limit)	1.517 (<limit)
17	W5(0/2)+BT(0) +RFID			0.089			0.768					1.295			0.049	0.857 (<limit)	0.857 (<limit)	2.152 (0.021)	1.295 (<limit)	0.906 (<limit)	0.049 (<limit)	1.344 (<limit)	**2.201** (0.021)
18	W5(0/2)+BT(1) +RFID		0.076				0.768					1.295			0.049	0.768 (<limit)	0.844 (<limit)	2.063 (0.019)	1.371 (<limit)	0.817 (<limit)	0.125 (<limit)	1.344 (<limit)	**2.188** (0.019)
19	W5(0/2)+BT(0/1) +RFID		0.076	0.089			0.768					1.295			0.049	0.857 (<limit)	0.933 (<limit)	2.152 (0.021)	1.371 (<limit)	0.906 (<limit)	0.125 (<limit)	1.344 (<limit)	**2.277** (0.021)

*. W2.4: WLAN 2.4GHz band, W2.4L: WLAN 2.4GHz band with lower power operation, W5: WLAN 5GHz band, (0): Antenna 0, (1): Antenna (1), (2): Antenna 2, (0/1): Antenna 0+1 (dual), (0/2): Antenna 0+2 (MIMO), NML: Normal power operation.

*. The WLAN 2.4 GHz power is reduced by firmware to a maximum power of 10 dBm, when the simultaneous transmission is executed. (The table above does not include this simultaneous transmission scenario.)

*. The highest SUM SAR is marked with yellow marker (x.xxx).

*. According to KDB 447498, when the sum of SAR is greater than the limit, SAR test exclusion is determined by the SAR to peak location separation ratio (SPLSR), and the simultaneously transmitting antennas must be considered one pair at a time. The ratio is determined by {(SAR1+SAR2)^1.5} / (separation distance between the peak SAR locations for the antenna pair, mm), round to two decimal digits, and must be s 0.04 for all antenna pairs in the configuration to qualify for 1g SAR test exclusion.

*. The SAR1g distribution of antenna 0 and antenna 2 wasn't overlapped in this setup condition because the distance between the antenna 0 and antenna 2 was away sufficiently (153 mm). The number of antenna separation distance is the design based. Decimal points in the antenna separation distance were rounded up.

*. Antenna 1 supports Bluetooth (1) alone. Antenna 0 supports WLAN and Bluetooth (0). An antenna 2 is only supported WLAN. WLAN 2.4 GHz and Bluetooth (0) cannot transmit simultaneously on an antenna 0.

*. For SAR measurement, simultaneous transmission SAR measurement (Volume Scan) is not required for antenna pair because the either sum of the SAR(1g) is < 1.6 W/kg or the SPLSR is < 0.04 (when sum of the SAR(1g) is over 1.6 W/kg) for all circumstances that require SPLSR calculation.

*. Calculating formula: SPLSR = (SAR1 + SAR2)^1.5 / (minimum antenna separation distance, mm)

Result: The simultaneous transmitted SAR satisfies a total SAR(1g) of <1.6W/kg or, if the total SAR(1g) exceeds 1.6W/kg, the SPLSR of the pair of antennas is <0.04.

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Evaluated by:

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