

RF Exposure Requirements

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant: Dongguan Hualang Electronic Technology Co., Ltd
Address of applicant: Changping Jewelry Cultural Industry Center, No. 568 Huanchangbei Road, Changping Town, Dongguan City, Guangdong Province, China

Manufacturer: Dongguan Hualang Electronic Technology Co., Ltd
Address of manufacturer: Changping Jewelry Cultural Industry Center, No. 568 Huanchangbei Road, Changping Town, Dongguan City, Guangdong Province, China

General Description of EUT

Product Name: Tablet Keyboard Case
Trade Name: /
Model No.: HL-201
Adding Model(s): HL-202, HL-203, HL-204, HL-205 HL-301, HL-302, HL-303, HL-305
Rated Voltage: DC 3.7V from Battery
Power Adapter Model: /
Serial number: S-001
FCC ID: 2BEEYHL-201

Technical Characteristics of EUT	
Bluetooth Version:	BLE
Frequency Range:	2402-2480MHz
RF Output Power:	-3.05dBm
Data Rate:	1Mbps
Modulation:	GFSK
Quantity of Channels:	40
Channel Separation:	2MHz
Type of Antenna:	PCB
Antenna Gain:	1.87dBi

1.2 Standard Applicable

According to §1.1307(b)(1) and KDB 447498 D01 General RF Exposure Guidance v06, the following RF exposure evaluation shall to demonstrate RF exposure compliance.

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$$

Where

-f(GHz) is the RF channel transmit frequency in GHz

-Power and distance are rounded to the nearest mW and mm before calculation

-The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm, and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm according to 4.1 f) is applied to determine SAR test exclusion.

1.3 Calculation Method

Bluetooth

Tx frequency range: 2402~2480MHz

Min. test separation distance: 5mm

Maximum Tune-up Conducted Output Power: -3dBm

RF channel transmit frequency: 2480MHz

Result: 0.1579

Limit: 3.0

So the transmitter complies with the RF exposure requirements and the SAR is not required.